

**Board of Trustees**  
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*Providing a Better Environment for South Central DuPage County*

## **COST REIMBURSEMENT PROGRAM FOR THE INSTALLATION OF OVERHEAD SEWERS OR BACKFLOW PREVENTION DEVICES**

The Downers Grove Sanitary District provides a Cost Reimbursement Program for the Installation of Overhead Sewers or Backflow Prevention Devices. If you are interested in this important program, carefully review the enclosed material which includes the following:

- Application for Participation
- Summary Outline
- Program Requirements - Cost Reimbursement Program for the Installation of Overhead Sewers or Backflow Prevention Devices
- Agreement - Cost Reimbursement Program for the Installation of Overhead Sewers or Backflow Prevention Devices (SAMPLE, DO NOT COMPLETE)
- Building Sanitary Service Access Agreement (SAMPLE, DO NOT COMPLETE)
- Program Requirements - Private Property Infiltration and Inflow Removal Program
- Sanitary Sewer Backup Handbook

This program has been implemented as a part of the District's ongoing efforts to reduce infiltration and inflow of storm water into the sanitary sewer system. During periods of heavy rainfall, infiltration and inflow of storm water overloads the sanitary sewer system and contributes to sanitary sewer backup problems. The District will continue to address sanitary sewer backup problems through an aggressive sanitary sewer maintenance and rehabilitation program. However, despite the District's efforts, sanitary sewer backups can occur and residents should consider installation of overhead sewers or backflow prevention devices.

After review of the enclosed material, please call our office if you have any questions or need any additional information. If you would like to participate in this program, **please complete the one page Application for Participation Form and return to the District in the envelope provided.**

**Be sure that all pets are confined for our arrival, and for the duration of the inspection, to an area where your pets will not have contact with our personnel for the safety of our personnel and your pets.**

APPLICATION FOR PARTICIPATION IN DOWNERS GROVE SANITARY DISTRICT  
COST REIMBURSEMENT PROGRAM FOR THE INSTALLATION  
OF OVERHEAD SEWERS OR BACKFLOW PREVENTION DEVICES

I/We hereby request participation in the Downers Grove Sanitary District Cost Reimbursement Program for the Installation of Overhead Sewers or Backflow Prevention Devices, hereinafter called the ("Program").

I/We own, and this Application is for, the following described property:

Street Address: \_\_\_\_\_

City, Zip: \_\_\_\_\_

Parcel Number (P.I.N.): \_\_\_\_\_

➤ You may obtain the Parcel Number (P.I.N.) for your property from your real estate tax bill.

➤ You may also search for your Parcel Number (P.I.N.) at the DuPage County Treasurer's Website <http://www.dupageco.org/PropertyInfo/PropertyLookup.aspx>

I/We have received copies of the Program Requirements for the Overhead Sewer Program and for the Private Property Infiltration and Inflow Removal Program attached to and made a part of this Application.

I/We agree to be sure that all pets are confined, for District Personnel arrival and the duration of the inspection, to an area where my/our pets will not have contact with District Personnel for the safety of my/our pets and District Personnel.

I/We have received sample copies of the Agreement for Cost Reimbursement Program for the Installation of Overhead Sewers or Backflow Prevention Devices and the Building Sanitary Service Access Agreement, and understand that said Agreements must be signed upon notice of preliminary approval as detailed in the Program Requirements.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**OWNER(S)**

_____	_____
Printed Name	Signature

_____	_____
Printed Name	Signature

.....

_____	_____
Telephone Number	Alternate Number

\_\_\_\_\_

Email Address

**Preferred method of contact: (please circle one)**

Telephone Number	Alternate Number	Email Address
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.....

**NOTE:** If this property is held in a **trust**, or the owner is a **corporate entity**, please contact **Kimberly Giardini** at **630-353-3604** to obtain a form to provide required additional information. The above mentioned Overhead Sewer Program and Access Agreements cannot be prepared without this additional information.

DOWNERS GROVE SANITARY DISTRICT COST REIMBURSEMENT PROGRAM FOR  
THE INSTALLATION OF OVERHEAD SEWERS OR BACKFLOW PREVENTION  
DEVICES

SUMMARY OUTLINE

Owner submits completed Application for Participation.

District performs initial inspection of the building.

District performs second inspection of the building, including inserting a small television camera into the building sanitary service pipe from inside the building and injecting water into the ground in the area over this pipe on the outside of the building to identify and locate any leaks.

District issues a Notice of Eligibility or Non-eligibility for the Overhead Sewer Program and issues written findings of the inspections.

If Owner receives a Notice of Eligibility, the Owner has six months from the date of the Notice to submit the required information. Owner is given instructions on how to obtain and submit proposals.

Upon receipt of all required information, the District issues preliminary approval and sends to the Owner for signature the Program Agreement, Building Sanitary Service Access Agreement and the selected contractor proposal. Owner must return signed Agreements and signed proposal within thirty days of the date of the preliminary approval.

Upon submittal to the District of the signed Agreements and signed proposal with selected contractor, Owner and contractor must obtain all permits, complete the work, request inspection by the District and the building authority, and submit paid receipt within six months of the date of the preliminary approval.

Upon acceptance, the District pays the Owner for the appropriate portion of the overhead sewer work.

If owner fails to comply within any of the allotted time frames detailed above, funding priority ceases and Owner must submit new Application for Participation and such application will be treated as a new application for determination of funding eligibility.

APPROVED AUGUST 1997  
REVISED OCTOBER 2001  
REVISED APRIL 2005

DOWNERS GROVE SANITARY DISTRICT  
COST REIMBURSEMENT PROGRAM FOR THE INSTALLATION  
OF OVERHEAD SEWERS OR BACKFLOW PREVENTION DEVICES

PROGRAM REQUIREMENTS

The District will provide funds to building owners who have or may experience sanitary sewer backups during periods of heavy rainfall for the installation of overhead sewers or backflow prevention devices.

The District has determined that certain requirements for the cost reimbursement program are necessary to protect the District's sanitary sewer system, the integrity of such a program and the financial well-being of the District.

A cost reimbursement program for the installation of overhead sewers or backflow prevention devices is hereby implemented in accordance with the following requirements:

- 1) The District will reimburse an owner up to \$3,000, or 50% of the cost, whichever is less, of installing a District approved overhead sewer system or backflow prevention device.
- 2) The program applies to all buildings connected to the Downers Grove Sanitary District collection system and constructed prior to July 17, 1996.
- 3) The program shall apply to installations of overhead sewers or backflow prevention devices made on or after July 17, 1996.
- 4) Financial participation of the District is limited to funds budgeted for the program. Said funding level may be changed or eliminated based on the District's annual review of the program.
- 5) Applications will be classified into the following priority groups for purposes of determining funding eligibility.
  - a) First priority – One or more sanitary sewer backups have occurred at the building and been reported to the District. The owner must provide documentation of previous sanitary sewer backups. Prior reports of sewer backups to the District, either by telephone at the time of the backup or by submittal of a Sanitary Sewer Backup Report shall constitute adequate documentation of a sanitary sewer backup.

Upon initial approval of the program, the District will mail a notice of availability of the program to all users who reported a backup during the July 17-18, 1996, or February 21, 1997, storm events. Thereafter, and for as long as the program remains in effect, the District will notify all users who report backups of the availability of the program.

- b) Second priority – The following applications will be classified as second priority:
  - 1. Any building which has the potential to experience sanitary sewer backups as a result of an insufficient elevation differential between the building's internal plumbing and the District's sanitary sewer system. No sanitary sewer backups have occurred at the property, but the owner is desirous of installing an overhead sewer or backflow prevention device as a preventive measure.
  - 2. A building for which the overhead sewer or backflow prevention device was installed from July 17, 1996, to the date of approval of this policy.
  - 3. At least one reimbursement has been made for the building and the application is a second or succeeding request for reimbursement for the same building.

Between May 1 and the following February 28 of each fiscal year, applications from the first priority group will be funded on a first come, first served basis within available budget limitations. If budget funds remain, on March 1, applications from both priority groups will be funded between March 1 and April 30 of each fiscal year on a first come, first served basis within available budget limitations. Applications not funded in a fiscal year will be carried over to the next fiscal year and funded in accordance with the above procedures.

- 6) An owner desiring to participate in this program must complete the following steps:
  - a) Owner submits a complete and signed Application for Participation form.
  - b) District inspects the building, as described in the Program Requirements for the Private Property Infiltration and Inflow Removal Program, and issues a notice of eligibility or noneligibility to the owner. Said notice may include the sources or potential sources of infiltration and inflow which must be removed as a requirement of this program.
  - c) Upon receipt of a notice of eligibility from the District, the owner obtains proposals from contractors as described in Item 13. If the owner does not submit all of the required information within six (6) months of the date of the notice of eligibility, the owner must resubmit an application for participation form and such application will be treated as a new application for determination of funding eligibility.

- d) District reviews proposals, provides owner with preliminary approval, and provides agreements for owner signature. Owner must return signed agreements and signed proposal with selected contractor within thirty (30) days of the date of the preliminary approval.
  - e) Owner and contractor obtain all permits and complete the work.
  - f) Upon completion of the work, premises are inspected by the District and the appropriate building authority. Upon approval by the District and the appropriate building authority, acceptance by the owner, and submission of a paid receipt from the contractor to the owner, reimbursement will be made directly to the owner. (The owner is also encouraged to obtain an appropriate waiver of lien from the contractor for the owner's protection.) Said reimbursement will be made in the District's normal course of business.
  - g) Owner must complete the items described in Items e and f above within six (6) months of the date of the preliminary approval described in Item d above, or the funding commitment shall be withdrawn and the owner must reapply and such application will be treated as a new application for determination of funding eligibility.
- 7) Owners of the building where the overhead sewer or backflow prevention device is installed must execute an agreement which includes a clause whereby the Owners release and waive any claim of liability against the District from any previous sanitary sewer backups or any consequence of the selection of the system to be installed, the contractor to be utilized, installation of the system, operation or maintenance of the system once it is installed, or the eligibility, participation or funding priority in this program.
- If a backflow prevention device is installed, the District will record a memorandum of the agreement against the property. Said memorandum shall serve as notice that a backflow prevention device has been installed on the property which requires maintenance for proper operation.
- 8) No owner shall be eligible for participation unless the owner and the building where the overhead sewer or backflow prevention device is or has been installed are in compliance with all District ordinances, including but not limited to payment of all fees and charges due to the District.
  - 9) An owner shall be eligible for participation more than once for the same property, however, in no case, shall the total reimbursement from the District for any one property exceed the limits prescribed in Paragraph 1 above.
  - 10) The program will be evaluated annually and the District may change or eliminate the program.

- 11) The owner must comply with the District's Private Property Infiltration and Inflow Removal Program.
- 12) The program is limited to the actual cost of the overhead sewer or backflow prevention device installation, subject to the funding limitations contained herein, but does not include incidental costs such as landscape restoration, painting, tile, carpeting, etc.
- 13) The owner must provide the District with proposals from a minimum of two contractors (three proposals are recommended) for the type of backup prevention selected by the owner prior to authorizing the work. If the desired backup prevention is not an overhead sewer, a proposal for an overhead sewer conversion must also be submitted. An overhead sewer does not rely upon a backflow valve or device and is believed to be the best backup prevention method. All proposals must provide sufficient detail for the District to determine the exact method of installation, the costs for labor and materials, the portion of the work not eligible for this program under Item 12 above, and compliance with all District ordinances and conditions, including this program.
- 14) The owner must obtain a no-charge District sewer permit for the work and must obtain a permit from the appropriate building authority (i.e., municipality or county), if required. After issuance of the permits, any changes or modifications to the work will require review and approval of the District and the appropriate building authority.
- 15) The contractor hired by the owner to perform the work must be bonded with the District, and the appropriate building authority, if required.
- 16) The District is not a party to any contract between the owner and the contractor.
- 17) In order to be eligible for this program, the installation of an overhead sewer shall meet the following requirements:
  - a) Overhead sanitary sewers must be provided to all floor levels that are less than one foot (1') above the elevation of the rim of the District manhole immediately upstream of the point of connection of said building into the District sanitary sewer system. Plumbing fixtures on a building floor level below an overhead sewer shall drain into an ejector pit. The elevations described above shall be included in the contractor's proposal.
  - b) A properly vented ejector basin shall be installed for all installations under this program. Ejector basins must comply with all District and appropriate building authority requirements. Ejector basins must be at least ten (10) feet from any storm water sump pits. The District shall maintain a list of ejector basins approved for use under this program.

- c) The manufacturer and model number of the proposed ejector pump must be specified in the contractor's proposal. The pump curve for the proposed ejector pump must be provided with the contractor's proposal. All ejector pumps must be able to pass a two inch solid. The smallest capacity pump suitable for the proposed installation must be specified. The capacity of the ejector pump shall not exceed 89 gallons per minute at a total head of ten feet. The ejector pump must be selected and installed in accordance with the manufacturer's requirements.
  - d) Connections to the proposed ejector pump must be specifically listed on the contractor's proposal and all such connections shall be for the disposal of sanitary wastes only.
  - e) A sketch indicating the proposed work must be included with each proposal.
  - f) The District shall have the right to enter the building for inspection upon completion of the work and to impose penalties if the capacity of the ejector pump exceeds the capacity allowed by Item c. above. All such penalties shall be imposed in accordance with District ordinances prescribing penalties for ordinance violations as may be in effect at the time the violation of this section is discovered.
- 18) All work under this program must comply with District and applicable municipal or county ordinances, codes and requirements. In the event of any conflict between the District and municipal or county ordinances, codes or requirements, the District shall prevail.
- 19) The owner may elect to proceed with the work even though funding is not available. Reimbursement will be made when budgeted funds become available in accordance with this program. Such installations must comply with all requirements of this program in order to be eligible for future reimbursement.
- 20) The General Manager may, in his discretion, provide a waiver of those program requirements listed above which he deems appropriate based on his evaluation of the individual circumstances related to a request for reimbursement.
- 21) The District shall have the sole authority to determine eligibility for participation, prioritization of requests and compliance with all District ordinances.



AGREEMENT  
FOR COST REIMBURSEMENT PROGRAM FOR THE INSTALLATION  
OF OVERHEAD SEWERS OR BACKFLOW PREVENTION DEVICES

This Agreement is made this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between the Downers Grove Sanitary District ("District") and \_\_\_\_\_ and \_\_\_\_\_ ("Owners") of the premises located at:

Property Address: \_\_\_\_\_  
\_\_\_\_\_

Legal Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

P.I.N.: \_\_\_\_\_

Whereas, the District has a Cost Reimbursement Program for the Installation of Overhead Sewers or Backflow Prevention Devices ("Program"), and

Whereas, Owners desire to participate in the Program.

Now, therefore, in consideration of the mutual covenants contained herein, the District and the Owners hereby agree to the following terms and conditions:

- 1) Owners have read and understand the Cost Reimbursement Program for the Installation of Overhead Sewers or Backflow Prevention Devices Program Requirements ("Program Requirements") attached to and made a part of this Agreement.
- 2) Owners understand that participation in this Program requires compliance with the District's Private Property Infiltration and Inflow Removal Program.
- 3) Owners understand that participation in the Program requires execution of a Building Sanitary Service Access Agreement.
- 4) Upon compliance of Owners with all terms and conditions as stated in the Program information, the District will provide a reimbursement to the Owners as allowed by the Program.
- 5) Owners agree to release and waive any claim, suit or liability and to indemnify and hold harmless the District, its trustees, officers, employees, engineers and agents, from and against all liability, damage, loss, claims, demands and actions of any nature whatsoever which arise out of or are connected with, or are claimed to arise out of or be connected with any previous sanitary sewer backups or the undersigned's

participation in this Program. This covenant shall include, but not be limited to, any consequence of the inspection of the premises, selection of the system installed or the contractor utilized, installation of the system, operation, maintenance or failure of the system once it is installed, or eligibility for, participation in or funding priority in the Program.

- 6) Owners state that they are the owners of the premises listed above, that they have read and understand this Agreement.
- 7) If a backflow prevention device is installed, a Memorandum of Agreement will be recorded with the DuPage County Recorder. This Memorandum shall serve as notice to future property owners that a backflow prevention device has been installed on the property and that the backflow prevention device requires maintenance to insure proper operation.

DOWNERS GROVE SANITARY DISTRICT

OWNERS

\_\_\_\_\_  
General Manager

STATE OF ILLINOIS )  
                                  ) SS  
COUNTY OF DUPAGE)

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO HEREBY CERTIFY that \_\_\_\_\_, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that he signed and delivered the said instrument as his own free and voluntary act for the uses and purposes therein set forth.

GIVEN under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

AFFIX NOTARY SEAL BELOW



STATE OF ILLINOIS    )  
                                      ) SS  
COUNTY OF DUPAGE)

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO  
HEREBY CERTIFY that \_\_\_\_\_, personally known to me to be the  
same person whose name is subscribed to the foregoing instrument, appeared before me this day  
in person and acknowledged that she signed and delivered the said instrument as her own free  
and voluntary act for the uses and purposes therein set forth.

GIVEN under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

AFFIX NOTARY SEAL BELOW



STATE OF ILLINOIS    )  
                                      ) SS  
COUNTY OF DUPAGE)

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO  
HEREBY CERTIFY that, Nicholas J. Menninga as the General Manager of DOWNERS  
GROVE SANITARY DISTRICT, a body politic and corporate of DuPage County, Illinois,  
personally known to me to be the same person whose name is subscribed to the foregoing  
instrument, as such officer appeared before me this day in person and acknowledged that he  
signed and delivered the said instrument as his own free and voluntary act, and as the free and  
voluntary act of said municipal corporation, for the uses and purposes herein set forth.

GIVEN under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

**SAMPLE – DO NOT SIGN AT THIS TIME**

**BUILDING SANITARY SERVICE ACCESS AGREEMENT**

In consideration of good and valuable consideration, receipt and sufficiency of which are hereby expressly acknowledged, \_\_\_\_\_ and \_\_\_\_\_ (hereinafter referred to as "Grantors"), legal owners of the below described property, hereby warrant, grant and convey to the DOWNERS GROVE SANITARY DISTRICT, a body politic and corporate of DuPage County, Illinois, (hereinafter referred to as "District") its engineers, contractors, agents, successors and assigns, the right to inspect, test, measure flows or otherwise monitor each underground building sanitary service and the right of access thereto, in, upon, under, over, through and across the land over each building sanitary service from the property line to each building located on the following described property:

Legal Description: \_\_\_\_\_

\_\_\_\_\_

P.I.N.: \_\_\_\_\_

Property Address: \_\_\_\_\_

The access for said building sanitary service, herein granted, is subject to the following terms and covenants, which the District expressly acknowledges, undertakes and agrees to fulfill, to-wit:

1. This access shall not unreasonably interfere with the use and enjoyment of the Grantors' property, by the Grantors, their successors and assigns.
2. In the event that a building sanitary service requires repair, reconstruction, rehabilitation or replacement, Grantors agree to cooperate with the Sanitary District to allow reasonable additional access for such work. The responsibility for the repair, reconstruction, rehabilitation or replacement shall be governed by ordinances of the Sanitary District in effect as of the date of this Agreement and as subsequently amended from time to time.
3. If the surface of the subject property is disturbed by the Sanitary District, its engineers, contractors, agents, successors or assigns, at any time, and from time to time, by the inspection, testing, reconstruction, rehabilitation, repair or replacement in connection with said building sanitary service, the Sanitary District shall, at its sole cost and expense, repair and restore any disturbed property to substantially the same condition that existed immediately prior to such disturbances, including, without limitation, necessary repairs and replacement of paving and landscaping.
4. Grantors agree that the operation and maintenance of said building sanitary service shall be governed by ordinances of the Sanitary District in effect as of the date of this Agreement and as subsequently amended from time to time.

The Sanitary District, as a condition of rights granted to it by this Agreement, hereby agrees to protect, indemnify and hold the owners of the above-described property harmless from and against any and all claims, demands, causes of action, losses, suits, liabilities, judgments and decrees relating to the use of this Agreement, and the costs and expenses (including attorney's fees) incident to the defense of and by such owners, in any manner caused by, resulting from, growing out of, connected with, or in any way attributable to its use of this Agreement.

"Grantors" do hereby warrant that they are the legal owners of the above-described property. "Grantors" when used herein is intended to refer to the holder or holders from time to time of title to the Tract and to any portions thereof. All provisions of this Agreement, including the benefits of burdens, are hereby declared to run with the land and shall be binding upon and inure to the benefit of the respective successors and assigns of the parties hereto, as well as, the future owners of the

above-described property. This Agreement will be recorded with the DuPage County Recorder of Deeds to serve as notice to future owners of the subject property.

For the consideration expressed herein, the Sanitary District joins in the execution of this document for the purpose of accepting, consenting and agreeing to the terms and obligations contained in this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed as of this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
DOWNERS GROVE SANITARY DISTRICT

BY: \_\_\_\_\_  
General Manager

**SAMPLE – DO NOT SIGN AT THIS TIME**

ATTEST: \_\_\_\_\_  
Assistant Clerk

STATE OF ILLINOIS )  
                                  ) SS  
COUNTY OF DUPAGE )

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO HEREBY CERTIFY that \_\_\_\_\_, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that he signed and delivered the said instrument as his own free and voluntary act for the uses and purposes therein set forth.

GIVEN under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

AFFIX NOTARY SEAL BELOW



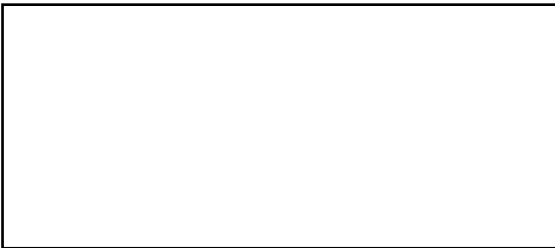
\_\_\_\_\_  
Notary Public

STATE OF ILLINOIS    )  
  ) SS  
COUNTY OF DUPAGE )

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO HEREBY CERTIFY that \_\_\_\_\_, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that she signed and delivered the said instrument as her own free and voluntary act for the uses and purposes therein set forth.

GIVEN under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

AFFIX NOTARY SEAL BELOW



\_\_\_\_\_  
Notary Public

STATE OF ILLINOIS    )  
  ) SS  
COUNTY OF DUPAGE )

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO HEREBY CERTIFY that, Nicholas J. Menninga as the General Manager of DOWNERS GROVE SANITARY DISTRICT, a body politic and corporate of DuPage County, Illinois, and William Clay Campbell as the Assistant Clerk of said body, personally known to me to be the same persons whose names are subscribed to the foregoing instrument, as such officers appeared before me this day in person and acknowledged that they signed and delivered the said instrument as their own free and voluntary act, and as the free and voluntary act of said municipal corporation, for the uses and purposes herein set forth.

GIVEN under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

Prepared By: W. Clay Campbell, Attorney at Law, 2710 Curtiss Street, Downers Grove, Illinois 60515  
Mail To: Downers Grove Sanitary District, 2710 Curtiss Street, Downers Grove, Illinois 60515

APPROVED MAY 2001  
REVISED OCTOBER 2001  
REVISED JANUARY 2006

DOWNERS GROVE SANITARY DISTRICT  
PRIVATE PROPERTY INFILTRATION AND INFLOW REMOVAL PROGRAM

PROGRAM REQUIREMENTS

BACKGROUND

District ordinances prohibit the discharge of any stormwater, surface water, ground water, roof runoff water, subsurface drainage, runoff water from ground or paved areas, cistern overflow or any flows other than wastewater into the District sanitary sewer system. These flows, referred to as infiltration and inflow or I/I, overload the sanitary system, resulting in the backup of raw sewage into basements and the overflow of raw sewage from manholes. Infiltration and inflow (I/I) can be contributed from private property through direct footing drain connections, indirect footing drain connections, sump pumps, downspouts or roof drains, driveway drains, area drains, patio or yard drains, leaking sanitary or ejector sump pits, leaks in subsurface sanitary waste piping or the building sanitary service, etc. In 1973, the District began inspecting buildings to identify downspout and sump pump connections which contributed I/I to the sanitary sewer system. Property owners were requested to correct any downspout or sump pump connection which contributed I/I and these corrections have been completed at the property owner's expense. A copy is attached of those sections of District ordinances which prohibit the discharge of I/I into the sanitary sewer system, provide for District inspections to identify such sources and require the correction of any such illegal connections.

Unfortunately, the District sanitary sewer system continues to receive high levels of I/I. Normal flows to the District Wastewater Treatment Center during dry weather average 8 million gallons per day. During significant rainfall or snow melting events, these flows reach peak flow rates in excess of 80 million gallons per day. The majority of these I/I flows are coming from private property. As a result, in order to reduce I/I, the District must now identify and correct the remaining I/I sources, such as direct footing drain connections, indirect footing drain connections, driveway drains, area, patio or yard drains, and leaks in subsurface sanitary waste piping or the building sanitary service. These sources have not previously been addressed because of the cost of identification and correction. The District developed this Private Property Infiltration and Inflow Removal Program to address these I/I sources.

PROGRAM REQUIREMENTS

The District will provide assistance to property owners to identify and remove infiltration and inflow sources located on their property as detailed in this program. This program is being implemented to recognize that the removal of infiltration and inflow from the District sanitary sewer system benefits all users of the system and, therefore, the costs of this removal should be borne by all users as a system cost. This program will also provide a mechanism to insure that this work is performed properly and in a manner which protects the integrity of the District sanitary sewer system.



The District has determined that certain requirements for the Private Property Infiltration and Inflow Removal Program are necessary to protect the integrity of such a program and the financial well being of the District.

A private property infiltration and inflow removal assistance program is hereby implemented under the following conditions and requirements:

- 1) The following I/I sources are eligible for removal under this program: direct footing drain connections, indirect footing drain connections, driveway drains, area drains, patio or yard drains, leaking plumbing waste lines, or leaks in subsurface sanitary waste piping or the building sanitary service. The following I/I sources are not eligible for removal under this program and must be removed at the owner's sole expense: sump pumps, downspouts, or roof drains.
- 2) This program applies to all buildings connected to the Downers Grove Sanitary District sanitary sewer system which meet one of the following criteria:
  - a) Building is located within an area selected by the District for infiltration and inflow removal.
  - b) Building owner has applied for the District Cost Reimbursement Program for the Installation of Overhead Sewers or Backflow Prevention Devices.
- 3) This program shall be effective June 4, 2001.
- 4) The program will be evaluated annually and the District may change or eliminate the program.
- 5) This program is limited to funds budgeted for the program. Funding levels may be changed or eliminated based on the District's annual review of the program.
- 6) Prioritization of applications shall be at the sole discretion of the District. For purposes of prioritizing applications, the District may consider the severity of the I/I flows, costs for corrective measures, time constraints, and such other considerations as the District deems necessary.
- 7) An owner desiring to participate in this program must sign an Agreement for Private Property Infiltration and Inflow Removal (hereinafter referred to as the "Program Agreement") and a Building Sanitary Service Access Agreement (hereinafter referred to as the "Access Agreement"). Said Program Agreement shall include, among other items, a clause whereby the Owner releases and waives any claim of liability against the District from any consequence of their participation in the program including, the District's determination of corrective actions, selection of the contractor to be utilized, implementation and completion of the corrective action, or the owner's eligibility, participation or funding priority in this program.

- 8) The District will pay for the costs of identifying and removing all eligible I/I sources, including testing; televising; installation of storm water sump pits, pumps and piping; disconnection of existing drains from the sanitary sewer and connection to a storm water sump or piping; repair, rehabilitation or replacement of subsurface sanitary waste piping or the building sanitary service, and reasonable restoration. The installation of a footing tile drainage system is not eligible for assistance under this program.
- 9) The property owner retains ownership and operation, maintenance and replacement responsibility for all sump pumps, piping, connections and appurtenances which may be installed under this program. Nothing contained in this program shall transfer ownership or operation, maintenance or replacement responsibility for these facilities to the District.
- 10) The property owner retains ownership and maintenance responsibilities for the building sanitary service serving the subject property and nothing contained in this program shall transfer ownership or maintenance responsibilities of the building sanitary service to the District.
- 11) The District's assistance is limited to the actual costs incurred for the eligible work contained in this program.
- 12) This program includes the following steps:
  - a) Letter is sent to property owner explaining the program and requesting that the owner schedule the preliminary inspection of the building.
  - b) District personnel conduct preliminary inspection of building, take measurements, interview owner, complete inspection form, and take photos or videos, as appropriate. District schedules date for second inspection with the owner.
  - c) District conducts second inspection including televising and locating all subsurface sanitary waste piping and the building sanitary service, dye testing all outside drains and any suspect downspouts, and performing flood and/or dye test to ascertain leaks and footing tile.
  - d) Based upon review of all data, the I/I quantity from each source is estimated and a cost-effective rehabilitation method is developed by the District.
  - e) The District provides the owner with written findings of the inspections, the recommended rehabilitation method(s) and the eligibility of these methods under this program. These items are reviewed and discussed with the owner during a follow-up site visit.

- f) The District schedules site visits with the owner and appropriate contractors to review the proposed work and to assist the contractors in the preparation of proposals for the completion of the recommended repairs.
  - g) The District receives proposals from contractors, evaluates each proposal and selects the lowest, responsible proposals for the work.
  - h) The District prepares and sends to the property owner for signature the Program Agreement and the Access Agreement.
  - i) The property owner signs and returns to the District the Program Agreement and the Access Agreement. The District schedules the work with the owner and the contractors.
  - j) The contractors complete the work. The District inspects the work and performs any appropriate testing. The Village also inspects the work.
  - k) Upon acceptance, the District pays the contractors for the work.
- 13) The General Manager may, in his discretion, provide a waiver of those program requirements listed above which he deems appropriate based on his evaluation of the individual circumstances.
  - 14) The District shall have the sole authority to determine eligibility for participation, prioritization of requests and compliance with all requirements for the program and District ordinances.
  - 15) If a building sanitary service is rehabilitated, repaired or replaced under this program and the existing building is subsequently demolished and a new building is constructed, a service reimbursement charge may be applied if a portion of a District-built building sanitary service is reused, eliminating the need to completely remove and replace the existing service.

## EXCERPT FROM DISTRICT ORDINANCES

### ARTICLE II - USE OF PUBLIC SEWERS

Section 4. No person shall discharge or cause to be discharged into the sanitary sewer system any storm water, surface water, ground water, roof runoff water, subsurface drainage, runoff water from ground or paved areas, cistern overflow or water from air conditioning systems, industrial cooling operations, or any flows other than wastewater.

Section 4.1. The proper maintenance and operation of a building sanitary service to and including the point of connection (such as a wye, tee or break-in connection) to the public sanitary sewer shall be the responsibility of the owner of the premises served by said building sanitary service. Maintenance means keeping the building sanitary service in satisfactory working condition and a good state of repair (including but not limited to preventing any obstruction or extraneous material or flows from entering said facilities, protecting said facilities from any damage and keeping same free from defects or malfunctions), and making necessary provisions and taking necessary precautions to assure that said sanitary sewer facilities are at all times capable of satisfactorily performing the services and adequately discharging the functions and producing the final results and purposes said facilities are intended to perform, discharge or produce. The District may, in its sole discretion, make repairs to any portion of a building sanitary service located within a public right-of-way or public easement which is found during District investigations to allow the entry of extraneous materials or flows into the public sanitary sewer or to pose a health or safety hazard to the general public and the District may seek reimbursement for the costs of any such repairs from the owner of the premises served by said building sanitary service.

Section 4.2. All downspouts or roof drains shall discharge onto the ground or be connected to storm sewers, drainage ditches or storm drainage systems. Footing drains shall be connected to sump pumps and discharge shall be made into storm sewers, drainage ditches or storm drainage systems. Sump pumps installed to receive and discharge ground waters or other storm water shall be connected to storm sewers or discharge onto the ground or into a drainage ditch or storm drainage system through a rigid discharge pipe, without any valving or quick connections for altering the path of discharge. Sump pumps installed to receive and discharge floor drain flow, laundry tubs or other wastewater shall be connected to the sanitary sewers pursuant to this ordinance. A sump pump shall be used for one function only, either the discharge of storm waters or the discharge of wastewater.

Section 4.3. The Manager shall cause to be made periodic visual outside inspections of all properties within the District, with specific attention to downspouts, roof drains and other visible or outside connections and shall request the property owner or property occupant to permit entry into the premises for the making of additional inspection of the premises to ascertain if illegal connections are present. Upon completion of the visual outside and inside inspection, the Manager will advise the property owner, in writing, if any illegal connections are observed, and will advise on the matter of corrections for compliance with the provisions of this ordinance. If corrections are to be made, the District will, at no expense to the owner, make further inspection of the corrections to insure compliance with this ordinance.

Section 4.4. If entrance to property is denied an employee or agent of the District, the Manager shall serve notice requiring, within a period of 30 days, a written affidavit by a Licensed Professional Engineer that the sanitary sewer system of the subject property complies in all respects to the requirements and specifications of this ordinance and that no storm water, surface water, ground water, roof runoff water, subsurface drainage, runoff water from ground or paved areas, cistern overflow or water from air conditioning systems, industrial cooling operations, or any flows other than wastewater are discharged into the sanitary sewer system from the subject property. In the event the property owner fails to provide the aforementioned affidavit within 30 days, the Manager shall commence action to terminate sanitary sewer service to the property remaining in noncompliance.

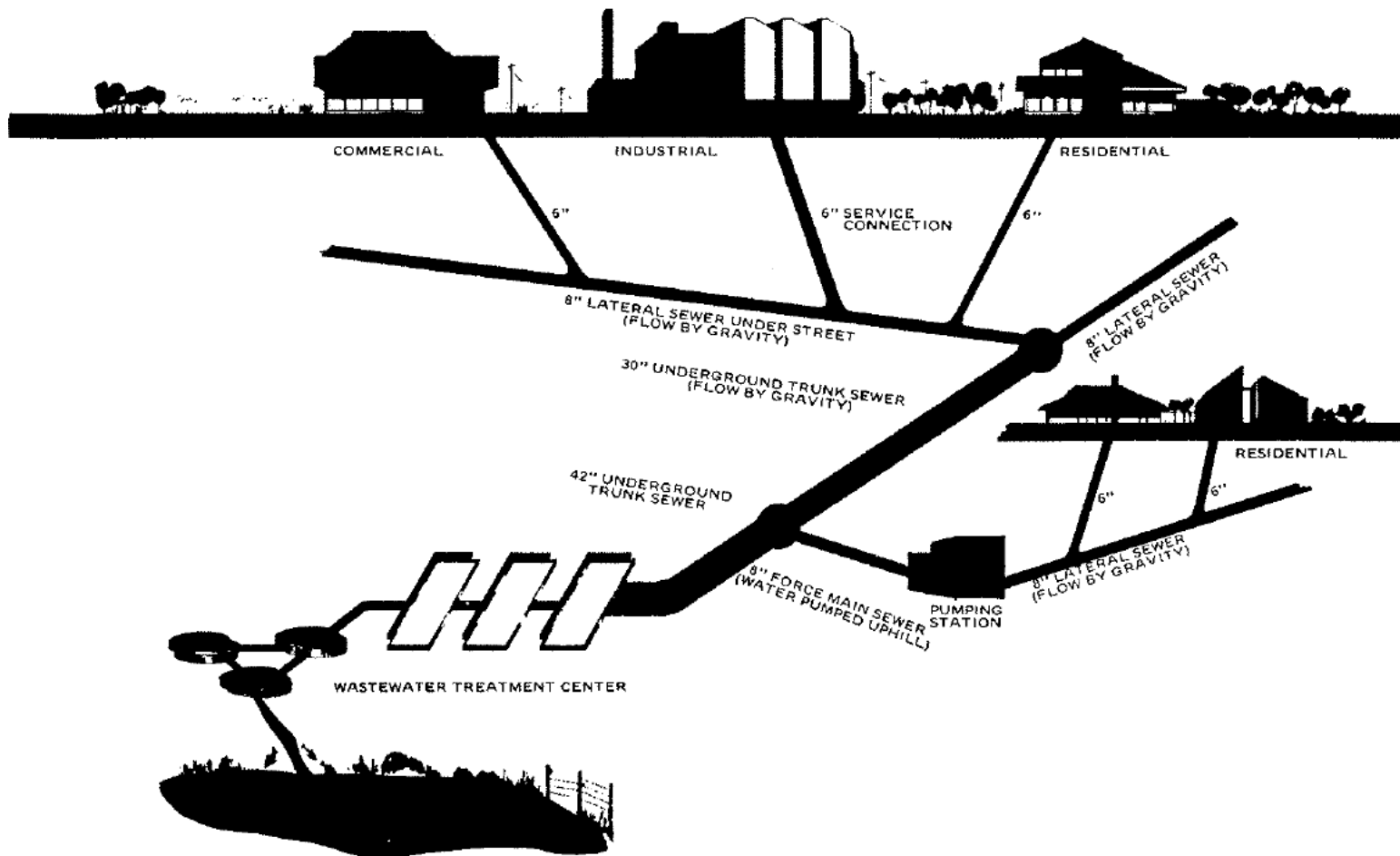
Section 4.5. In the event any property is in noncompliance with the provisions of Subsection 4.3 or 4.4 after the 30 day notice, that property shall be deemed continuing in noncompliance until there is paid to the District a sum in United States currency equal to all costs incurred by the District, including but not limited to clerical costs, mailing costs, service fees, attorneys fees, court costs, and all other reasonable fees and expenses incurred in commencing action to terminate the sanitary sewer service to the property or in terminating or restoring sanitary sewer service to the property in noncompliance.

Section 4.6. In addition to visual inspections on the outside and inside of the premises, the District may make other lawful tests and inspections of the sanitary sewer system as it deems necessary in order to locate such illegal connections and sources of extraneous flows as may exist. The District, at its option, may also invoke other legal powers vested in it or implied by the Illinois Compiled Statutes for the protection of the health and welfare of the public, and institute such legal action as it deems necessary to discover and order the disconnection of any illegal connections that may exist.

# Downers Grove Sanitary District Sanitary Sewer Backup Handbook

2710 Curtiss Street  
Downers Grove, Illinois 60515  
630-969-0664

# DOWNERS GROVE SANITARY DISTRICT WASTEWATER COLLECTION SYSTEM



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# I. Foreword

This handbook has been prepared by the Downers Grove Sanitary District to explain the causes of sewer backups that occur in the District during severe rainstorms and to describe steps that are available to homeowners to prevent backups and to protect the contents of their house.

Sanitary sewer backups have three main causes: a blockage located in the private sewer lateral (service line) from the house to the public sewer, a blockage in the public sewer main, or an overloading of the public sewer main during rainstorms.

While this handbook addresses backups which occur during rainstorms, the preventive measures and methods of correction will help to prevent backups caused by blockages of the service line and main sewer.

Even if you do not experience sewer backups, we hope that you will study the information since, quite unknowingly, you may be contributing to the problems. Your house may be contributing storm water runoff or ground water to the sanitary sewer system through plumbing connections that were made when the house was constructed. The storm or ground water may overload the sanitary sewer system and cause backups of sanitary sewage in some other resident's basement. You can help the situation by disconnecting

these storm or ground water sources.

You should report a sanitary sewer backup as soon as it occurs and before you call a plumber. The District's telephone number, 969-0664, is manned at all times. District personnel will respond as discussed on page 16 of this handbook.

It is important to realize that backups may occur at any time due to blockages of your service line or the public sewer main, or during extreme rainstorm events. Therefore, you should consider improvements to your house to prevent future sewer backups. Since the improvements that will solve a problem in one situation may not be effective in other situations, the knowledge and skill of an engineer, a plumber and/or a sewer contractor may be needed to find the proper solution to the problem. Therefore, the only specific recommendation that can be made to all residents is: **secure competent help and advice in determining the proper course of action to be taken.**

The purposes of this handbook are to help you understand the real nature of your specific problem, to suggest methods that you may use to resolve the problem, and to explain when competent help is necessary to solve the problem.

## II. The Nature of the Backup Problems

The Downers Grove Sanitary District owns and maintains a separate sanitary sewer system that is designed to collect only the sewage from the buildings in the District. If that were actually the case, many of the backup problems would not exist. Unfortunately, during rainstorms, storm water gets into the sanitary sewers which causes the basement backups.

The sanitary sewers are designed to collect the wastewater from the bathrooms, kitchens, etc., and transport it to the District's Wastewater Treatment Center for purification and discharge to the DuPage River. The system includes the District's sanitary sewer mains beneath the streets and the individual building services that extend from each house or building to the main sewer. The sanitary sewers are not designed to collect or transport the large amounts of storm water runoff that results from a rainstorm.

Whenever significant amounts of storm water get into the sanitary sewers, the system's capacity is exceeded and surcharging (overloading) of the system and basement backups occur. Normally, the sanitary sewage enters the basement through the floor drain which is the lowest access point. If the surcharge elevation is much higher than the floor drain or if the drain is plugged, the sewage can enter the basement through a shower drain, toilet or laundry tub.

The storm water drainage system includes the storm water inlets in the streets, the storm sewer network, and Lacy, St. Joseph and Prentiss Creeks. The storm water drainage system is designed to collect and carry away the storm water runoff from the streets, driveways, roofs, and yards. The storm drainage systems are the responsibility of the local villages, the County, or special drainage districts.

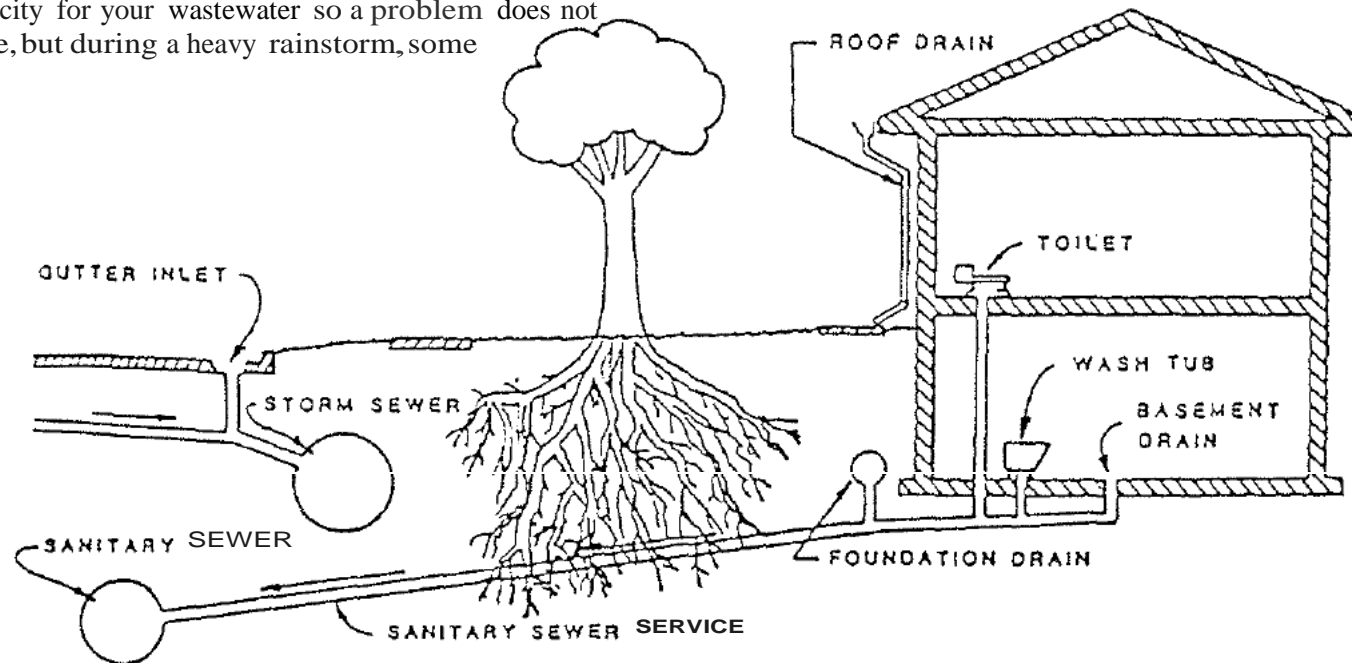
# III. Types of Backups and Their Problems

If you experience a backup during a rainstorm, it is probably caused by (A) a faulty private service pipe; or (B) an overloaded local sanitary sewer main in the street.

## A. Faulty Private Service Pipe

The service line between your house and the District sanitary sewer may be broken or partially plugged with roots. During dry weather, the service has enough capacity for your wastewater so a problem does not arise, but during a heavy rainstorm, some

storm water may be getting into your service and the extra water may exceed its restricted capacity which would cause the water to back up into your basement. If you experienced a backup but your neighbors with a similar basement and plumbing did not, this situation may be causing your problems.



TYPICAL RESIDENCE WITH SANITARY SEWER SERVICE PARTIALLY CLOGGED BY TREE ROOTS AND FOUNDATION DRAIN CONNECTED TO SANITARY SEWER SERVICE

FIGURE 1

*Tree roots can become entangled in sewer lines, thus clogging pipes and causing sewer backup.*

As the maintenance and repair of an individual building service is the responsibility of the building owner, the correction of a backup problem caused by roots or defective service pipes will be your responsibility. If your problem is caused by root blockage, it can be relatively easy and inexpensive to correct depending on which alternative action you choose. First, the sewer must be cleaned with an electric rodding machine using a root cutter that will thoroughly remove the roots that have grown into the pipe. Following that, the homeowner may elect to do the following:

1. **Periodic rodding-** Having the sewer rodded on a regular schedule to cut out all root growth will often be sufficient to keep them under control and reduce the likelihood of sewer backup. No rules can be given on how often this must be done because it depends on how active the roots are and how thorough a job the contractor is able to do. Some homeowners have found it necessary to have the sewer rodded as often as every six months, and others have found that once every few years is enough.
2. **Use of root remover products-** A number of root remover products are available commercially. Be sure to follow all of the manufacturer's instructions. Although these products may not completely eliminate the growth, they may increase the interval between needed rodding.

3. **Sewer pipe replacement-** The surest method of permanently correcting the problem is to have the sewer pipe dug up and replaced at the location where the roots are getting in. The new pipe used for replacement has a new type of joint that is tightly sealed to completely eliminate future entrance of roots. The sewer contractor or whoever performs the repair must be bonded with the Downers Grove Sanitary District and a Sewer Permit must be obtained from the District, at no charge. This is not, however, an inexpensive solution.
4. Any ground water or storm water which enters the sanitary sewer, such as foundation drains, roof downspouts, or sump pumps must be removed from the sanitary sewer. These types of connections are in violation of District ordinances and contribute significantly to the overloading of the sanitary sewer system.

Blockage of house sewers is also occasionally caused by broken or separated pipe. This is usually the result of soil settlement under the pipe or poor installation of the pipe. In these cases, there is little alternative than to dig up the pipe at the damaged location and make repairs.

A professional firm specializing in sewer repair can best advise on the type of blockage in a sewer, the location and the probability that it will recur. Before making any decision on how to proceed, we would strongly advise the homeowner to get more than one opinion (and cost estimate) on work needed to be done.

## B. Overloaded Sanitary Sewer Main

The sanitary sewer main in the street may be overloaded during wet weather periods because the sewer system cannot handle the extra storm water that gets into the system. Much of the storm water gets into the system through plumbing connections that were made when the houses were first constructed, particularly the houses that were built prior to 1960. Prior to that time, it was common practice to connect the foundation drain to the sanitary sewer service. If your house has a basement but no sump pump or other direct outlet for the foundation drain, it is likely that

your drains are directly connected to the sanitary sewers. Some houses have direct connections between the sanitary sewer service and the roof downspouts and/or an area drain. Each of these connections will contribute large amounts of storm water to the sanitary sewer system. **These connections are violations of District ordinances and must be disconnected.**

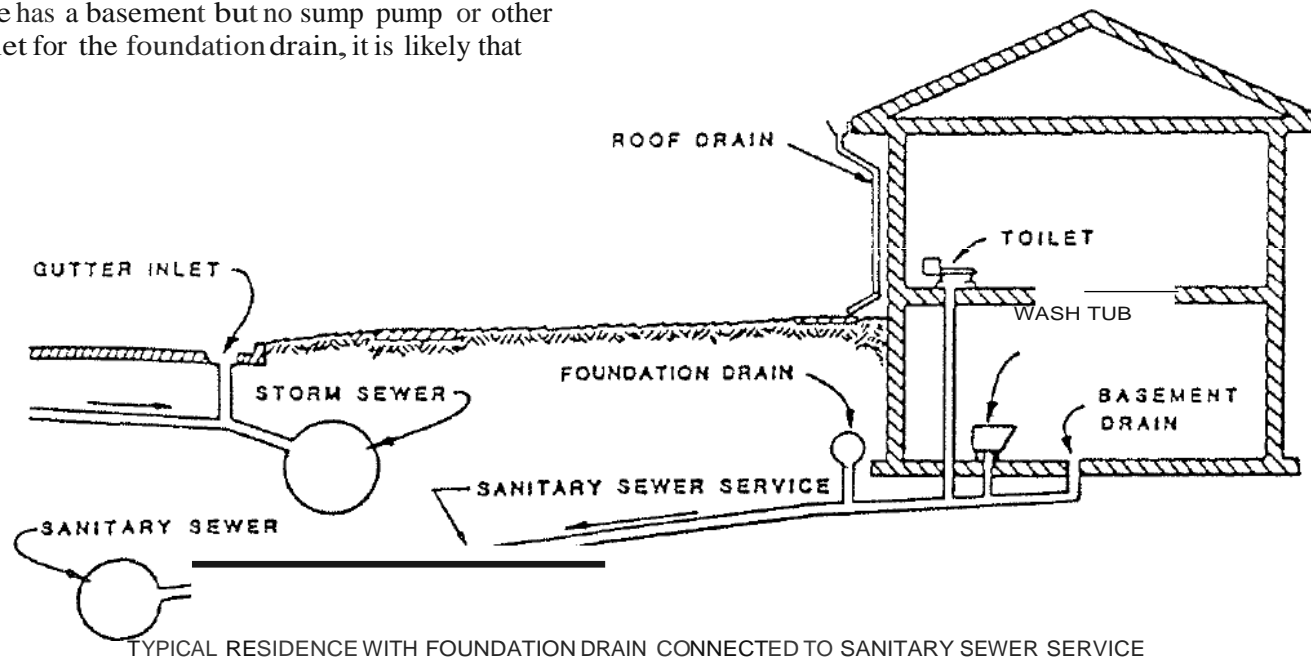


FIGURE 2

If an overloaded sanitary sewer main is the cause of your sewer backup, your neighbors probably experienced similar problems. If so, you can either protect the contents of your basement and let the sewer continue to backup, or you can prevent the backups. If you want to simply protect the contents of your basement from damage, please refer to the tasks, warnings, advantages and disadvantages discussed in a subsequent section of this report. If you want to prevent the backups, several alternative procedures are available.

**1. Plugs or Standpipes:** Since the basement floor drain is the lowest opening to the sewer in your house, it is the first place of entry for the backup. The floor drain can be closed with a rubber plug or with a standpipe during heavy rainstorms. Some drains are specifically threaded for a screw-in plug or a standpipe. This is the simplest and least expensive way to stop backups through the drain, but it is effective only until the sewage level rises up to the level of the next opening, probably a shower, toilet, or sink. At that level, the sewage will overflow into your basement.

If you use a plug or a standpipe, you must consider and protect against the possible uplift pressure on your basement floor. To be effective, a plug or standpipe confines the sewage to the pipes under the basement. If these pipes are watertight, the sewage won't leak out

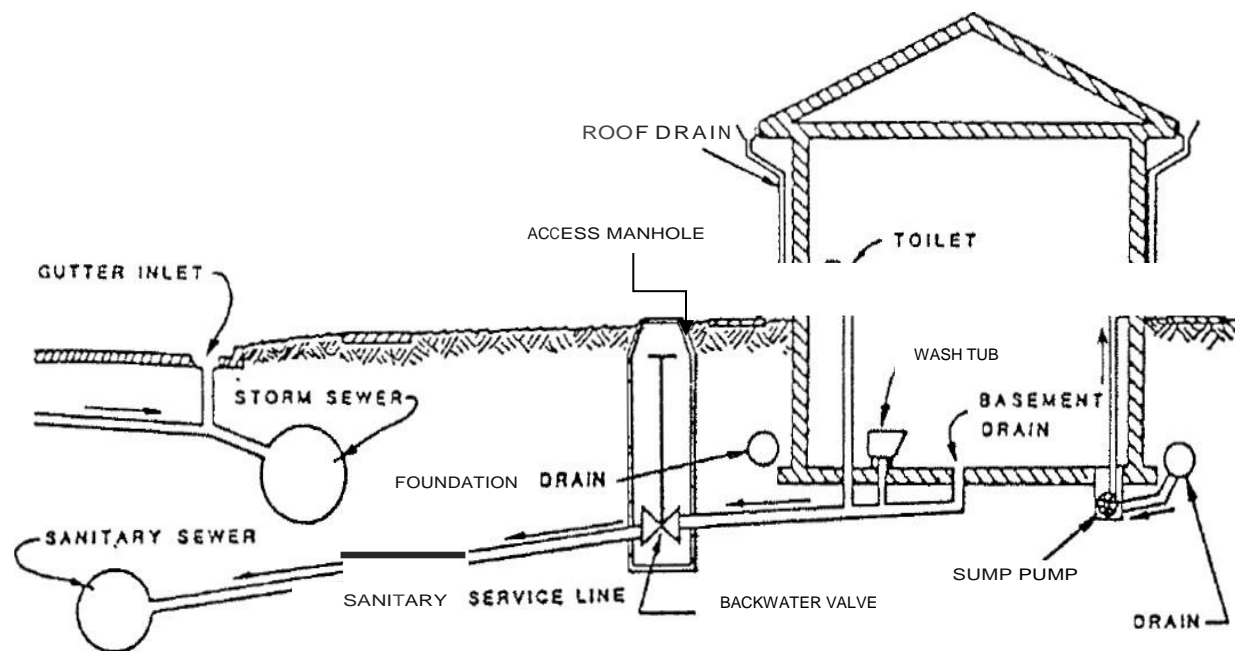
so no uplift pressure will develop. If the pipes are not watertight, the sewage will leak out of the pipes and saturate the ground beneath the floor. This sewage will then push up on your floor and if the pressure is large enough, your floor may buckle which would cause more damage than a basement backup. Since it is difficult to determine the condition of the pipes beneath your basement floor, plugs or tall standpipes should be used with caution. A "rule of thumb" which may be used as a guide is that a water level six inches higher than the basement floor level will not exert significant uplift pressure on the floor so, under normal conditions, a six-inch standpipe may reduce minor flooding without damage to the floor.

**2. Valve:** Since the sewer backup comes through the service line, an obvious solution is to install a valve in that line and to close that valve when flooding is imminent. The valve is normally installed in a manhole that is located outside the house where it is easier to install and maintain. Some valves are manual and others operate automatically such as a "check valve." The manual valves are not effective unless someone is available to close them. The automatic valves sometimes fail to close completely because sewage solids get jammed in the valve. In those cases, the valves may not prevent the backup.

When the valve is tightly closed, the sewage backup into the house is cut off, but the sewage flow from the house to the sewer is also cut off. Thus, the household plumbing cannot be used unless a pumped bypass is provided. Also, all storm water sources such as the foundation drain and roof downspout must be disconnected from the sanitary service, otherwise the storm water will back up into the basement through the floor drain. In addition, this connection is a violation of District ordinances.

Valves installed in sewer lines sometimes become "jammed" with debris and fail to close completely. In this case, the valve may slow down the backflow of sewage, but not stop it completely. For this reason, a valve installed on a sewer line should not be depended on for 100 percent protection, and an access manhole should always be provided for service and repair work.

A sanitary sewer permit, at no charge, is required from the District for this type of work.



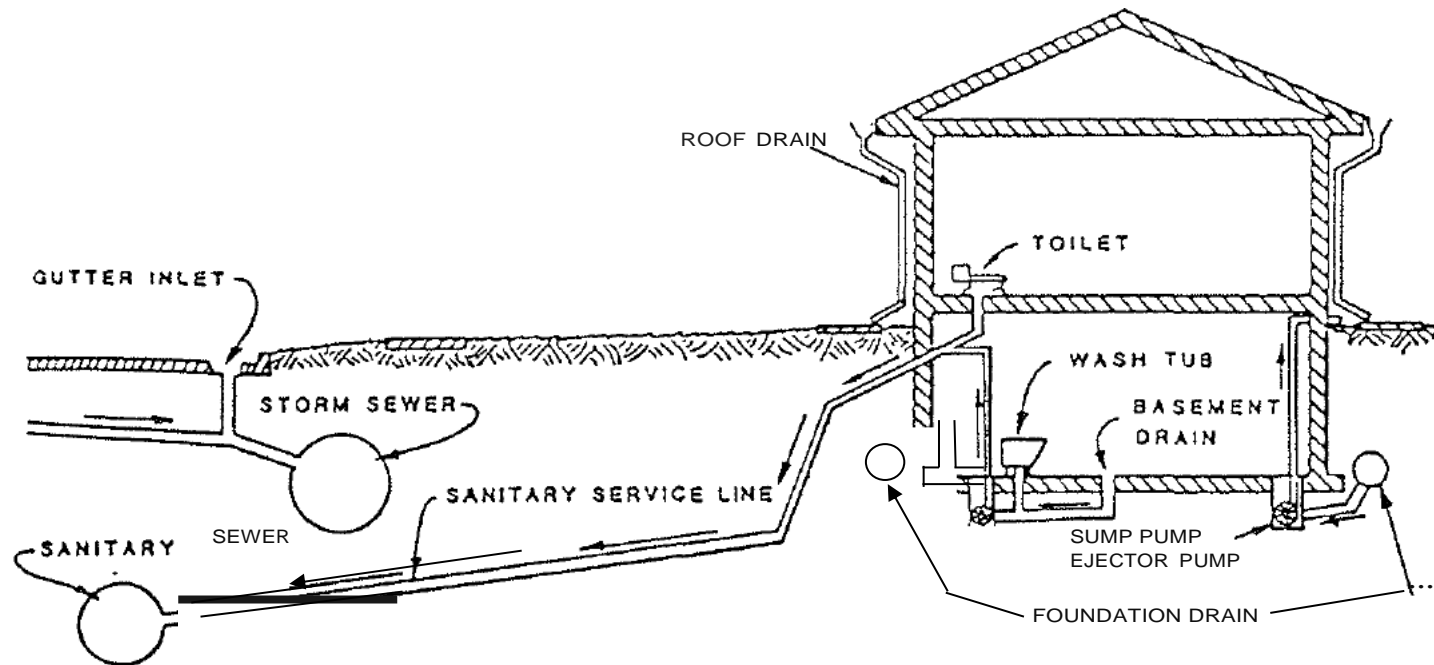
TYPICAL RESIDENCE WITH BACKWATER VALVE

FIGURE 3

3. **Overhead Sewer:** The term "overhead sewer" means that there are no direct openings to the sanitary sewer in the basement. All of the wastewater that is collected in the basement is discharged into a separate sump pit and pumped into the sanitary service line so the basement drainage is dependent on a pump and a continuous electric power supply. Generally, the plumbing from the fixtures on the main floor is installed just below the basement ceiling (hence, the term "overhead"), and is routed to the outside service line through an opening high up on the basement wall.

Converting your plumbing to an overhead sewer is one of the most expensive ways to prevent basement backups. Nevertheless, it is generally considered to be the best method available.

A sanitary sewer permit, at no charge, is required from the District for this type of work.



TYPICAL RESIDENCE WITH OVERHEAD SEWER

FIGURE 4



## IV. Storm Water Flooding/Seepage

Apparent basement backups can be caused by ground water that enters the basement through cracks in the walls or through the basement sump or by storm water runoff flowing overland that enters the house through windows, doorways, or other openings.

Ground water is always present but the depth of the ground water is dependent on the soil type, ground surface elevation, surrounding topography and previous rainfall amounts. During rainstorms, some of the rainfall percolates into the ground which raises the ground water level. Since a basement is essentially a concrete bowl in the ground, the basement may become surrounded by ground water. If there are cracks in the basement walls or leaks between the walls, floor or foundation, the ground

water will enter the basement. Minor leaks can be corrected by the careful application of special hydraulic cements, which must be applied in strict accordance with the manufacturer's recommendations to be effective.

At the base of most houses, there is a pipe that is laid all around the outside of the foundation. The pipe may be perforated or may have open joints so that the ground water can easily enter it. This foundation drain protects the house by draining the ground water away from the basement.

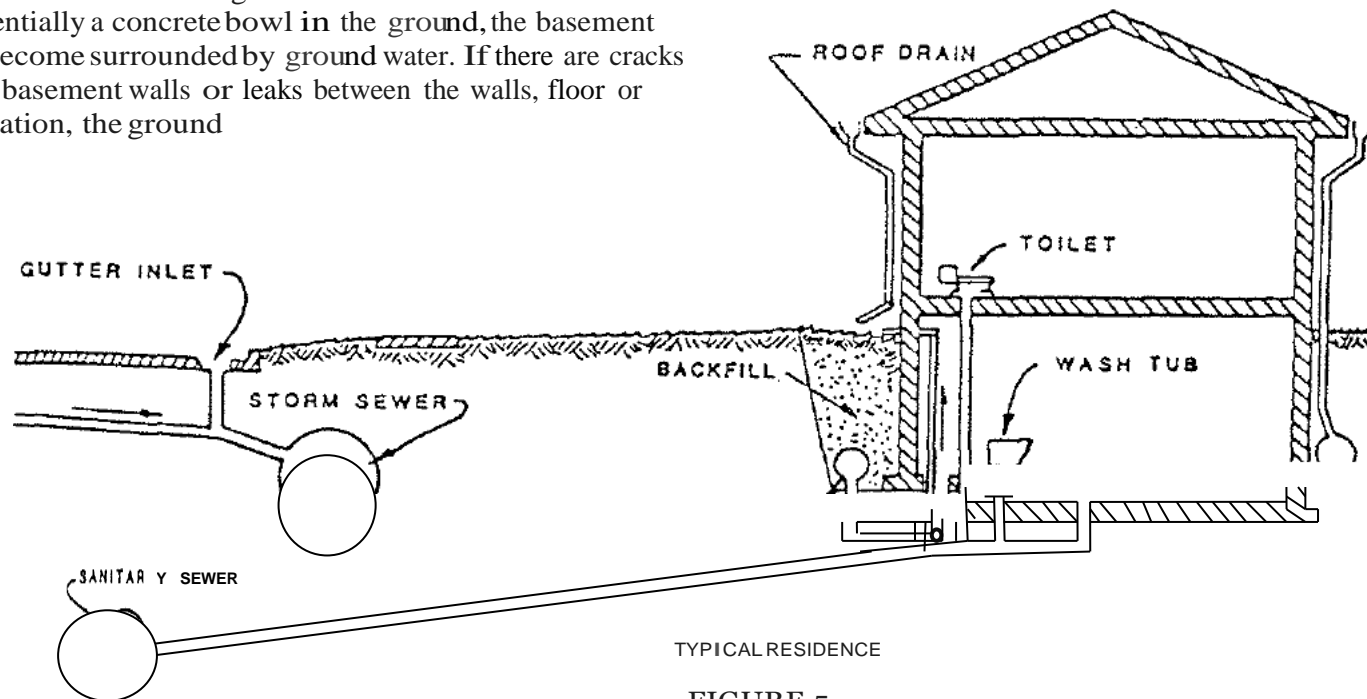


FIGURE 5

In many cases, the foundation drain is directly connected to the sump pump and all of the drainage must be pumped out of the basement.

Any flooding through the basement sump is either caused by: (1) a pump that does not work properly; or (2) by water entering the sump at a rate that exceeds the capacity of the pump. If you rely on a sump pump to keep water out of your basement, you may want to start a routine maintenance program to be sure that the pump will operate when needed. Such a program should follow the pump manufacturer's instructions. It could consist of:

1. Every month, pour some water into the pump to make sure that the pump operates and that it quickly empties the sump.
2. Every six months, check and clean the strainer on the suction side of the pump.

If the pump is working properly, the flooding could be caused by water entering the sump at a rate that exceeds the pump's capacity. The excess water floods the basement floor. The large amounts of water may be coming from the foundation drain, the roof downspouts, or both.

**Grading**• After construction of a house, the space around the basement is filled with backfill. In some cases, this backfill will settle, creating a low area adjacent to the basement walls. Any storm water runoff that gets into the low area will rapidly percolate down along the basement walls and will enter the foundation drain. This situation can be corrected by filling the low area with soil to create a slope away from the basement walls that will divert storm water runoff away from the basement and foundation drain.

**Roof Downspouts**• The roof downspouts can have a substantial impact on the flow from a foundation drain. In some cases, as shown on the right side of Figure 5, the roof downspouts are directly connected to the foundation

drains. During an intense rainstorm, this type of downspout can discharge thousands of gallons of rainwater to the sump pit which can exceed the pump's capacity and cause basement flooding. To eliminate this problem, the downspout should be cut off above the ground surface and the drain pipe into the ground should be carefully sealed. An elbow and an extension should be installed on each downspout to direct the rainwater away from the basement. The extension should reach well beyond the old excavation.

If the existing downspout is not fitted with an extension as shown in the left side of Figure 5, the rainwater may collect near the basement wall and percolate directly to the foundation drain. To correct this situation, an extension should be installed on the elbow to direct the rainwater away from the basement walls.

If the house does not have roof gutters and downspouts, the rainwater falls directly off the roof and percolates along the basement wall. To correct this situation, gutters and downspouts with extensions will prove beneficial.

The importance of proper grading and proper discharge of the roof downspouts cannot be over-emphasized and the problems can be alleviated by simple measures performed by the homeowner.

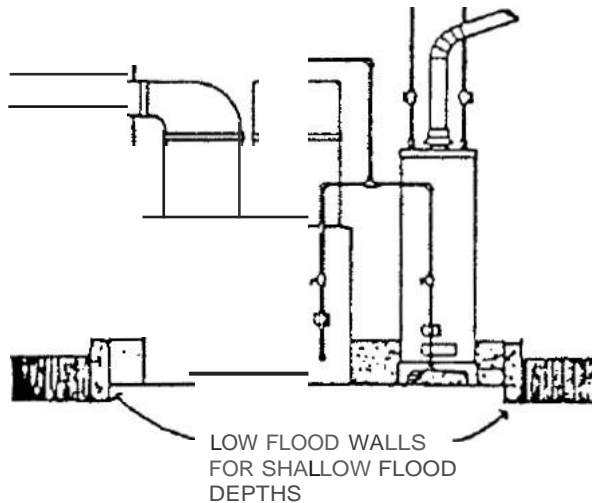
**Overland Flow**• Storm water flooding can be caused by water runoff that exceeds the capacity of the drainage system. The excess runoff flows overland and enters houses through windows, doors, or other openings. Generally, this type of flooding is more difficult and expensive to prevent than the flooding by ground water that was discussed above.

Basement flooding, caused by storm water runoff or seepage, is not a sanitary sewer backup. Flooding problems should be directed to your local village or other agency responsible for the storm drainage system in your area.

# V. How To Minimize Damage From Backups

If it is impossible or prohibitively expensive to prevent a backup in your house, the damages can be minimized by measures aimed at protecting the house and its contents.

There are five main tasks to protect your house to reduce sewer backup damage. (These tasks may also help protect your home from flooding caused by storm water runoff or seepage.)



- 1.. Relocate expensive items that are subject to water damage. Freezers, washers, dryers, furniture, power tools, large appliances and similar items should be permanently moved to higher floors.

2. Protect what cannot be moved. A floodwall or protection closet could be built around valuable, immovable equipment. Such protection walls must withstand all the pressure caused by the flood waters.

Another alternative is to place the equipment on a pedestal above the flood height. Some equipment can be protected by a coating of grease or covering with plastic bags or plastic sheets.

3. Relocate or adjust your utilities. Either move all electrical outlets above the flood level or install a control panel where the power can be shut off easily in time of flood. If your furnace, water heater, dryer, and other gas appliances are not all elevated, make sure there is an accessible gas shut-off valve.
4. Seal off the sewer and water systems to prevent health hazards caused by interflows with flood waters. A water heater moved to an attic can act as an emergency storage tank for a gravity-fed potable water supply. Heating and air conditioning ducts should have removable plugs along the bottom to permit water to drain out when the flood recedes.
5. Store things that are very quick to remove or items that won't be damaged; garden tools, metal furniture or cabinets, spare tires, boats, or floatable items (if water is shallow), plastic curtains, etc.

If you rebuild or improve the floodable area, use the following types of materials:

Concrete, concrete block or glazed brick; clay, concrete or ceramic tile; mastic, silicone or polyurethane formed-in-place flooring; terrazzo, rubber, vinyl or vinyl-asbestos floor covering with waterproof adhesives; stone, slate or cast stone (with waterproof mortar); glass or glass block; metal doors and window frames; foam or closed cell type insulation; polyester-epoxy or other waterproof type paint; indoor-outdoor carpeting (be able to remove it so the debris can be hosed out of it).

Do not use the following types of materials because they dissolve and decompose when wet or they absorb and retain too much water:

Wood, chipboard; gypsum products; cork; fabrics, carpeting, felt based floor coverings; linoleum; fiberboard, paperboard, strawboard; batt, blanket, and other types of insulation; wallpaper.

Certain items should not be stored in the floodable area because they would become especially hazardous or create health or pollution problems during a flood:

- Hazardous chemicals: chlorine, fluorine, acids, sulfur products, magnesium, many industrial chemicals.
- Hazardous household products: lye, pesticides, poisons, calcium hypochlorite (swimming pool chlorine), bleach, ammonia, lime detergents.

- Charcoal, coal, coal dust, coke, and hay are subject to spontaneous combustion when wet or moist.
- Gasoline, acetone, benzene.
- Drugs, food (unless in tin cans).
- Storage tanks and buoyant materials can float and cause damage to walls, ceilings, and other contents.

Finally, here is a list of products that are particularly subject to flood damage. They should be removed, if possible, from any flood-prone areas as an extra precaution:

Appliances, clocks and other electric motors; art works, musical instruments; books, magazines, papers; clothing, curtains; televisions, radios, electronic equipment; upholstered furniture, mattresses; cabinets, pool tables, and similar wood furniture that would become useless with only a little warping.

**Never enter a flooded basement unless absolutely necessary, and then only with extreme caution. The possibility of electrocution is always present. Always wear rubber boots. When cleaning the basement after water has receded, use caution around electrical outlets and appliances, and disconnect power from electrical equipment as quickly as possible.**

## VI. Cleaning Up Following A Backup

Shovel out any mud and debris while it is still moist and hose down the walls to remove silt. To get rid of any odor that may accompany a backup, scrub all interior wetted surfaces. Use hot sudsy water followed by double strength sanitizing solution, or use a household disinfectant, following manufacturer's directions. Repeat scrubbing and rinsing if necessary. You may also try sprinkling liberally with baking soda. Odors in the basement may be harder to treat. If the above approaches don't work, sprinkle bleaching powder (chlorine or lime) over the floor. Let it dry then sweep it up. Remember, bleaching powder is caustic and poisonous. Follow all the precautions on the label.

Wooden floors dry very slowly. Assuming your furnace is operational, keep the house at 60-70 degrees F. to hasten drying but don't overheat the house as this could cause cracking or splitting. All loose plaster should be removed because plaster board and drywall can be ruined if immersed for a long time. Removal will also speed drying of the walls and will enable you to inspect the insulation in the exterior walls. Any waterlogged insulation must be replaced.

Mildew may appear if a warm spell follows a flood. Scrub mildewed floors or woodwork with a mild alkali solution such as washing soda or tri-sodium phosphate (four to six

tablespoons to a gallon of water). Badly stained walls will need new paint.

All electric motors that have gotten wet should be disconnected and thoroughly cleaned to get rid of dirt and grit. After cleaning, the motors should be re-oiled and allowed to dry for two weeks. You can shorten the drying time by using a fan or hair dryer.

Washers should be sanitized by pouring a disinfectant such as chlorine, pine oil, or phenolic into the empty washing machine, and then complete a 15-minute cycle at the hot setting. The dryer can be cleaned by wiping the drum with a cloth dipped in a disinfectant solution, rinse with cloth dipped in clear water. Leave washer and dryer doors open, preferably overnight, until all parts are dry.

Clothing, sheets, etc., should be hosed or rinsed with cool water to get as much mud out as possible. Then wash with as much detergent as possible. Bleach or other disinfectant should be used to kill bacteria. After drying, rugs and carpets can be cleaned with a vacuum cleaner and then shampooed.

Gasoline engines need to be thoroughly inspected and cleaned. All electrical parts must be dry. Grit or silt must be removed from the oil, transmission or gas lines.

## VII. Summary

Problems which cause the sanitary sewers to occasionally back up are many and they are often interrelated. Many residents of the District may be worried and inconvenienced by the occurrence of a sewer backup in their basement or crawl space. It is our hope that if you have such a problem, you have found some suggestions in this report which may be of help. If you have a question regarding the connections in your home, call our office at 969-0664 during our regular business hours, 8:00 A.M. to 4:30 P.M., Monday through Friday.

In conclusion, please remember that the District's telephone number, 969-0664, is manned 24 hours a day, seven days a week, in the event you must contact the District to report a sanitary sewer backup or other emergency. **Call this number as soon as the backup occurs and before you call a plumber.** District personnel will respond as promptly as possible. If the backup is caused by a blockage located in the public sewer main, the problem will be corrected. If, however, the backup is caused by an overloading of the public sewer main during a rainstorm, the problem cannot be relieved and your backup will not recede until the rainstorm stops and overloading of the sewer main subsides, which may take several hours. If the backup is caused by a blockage in your private service lines, you must take appropriate measures to eliminate the problem.