

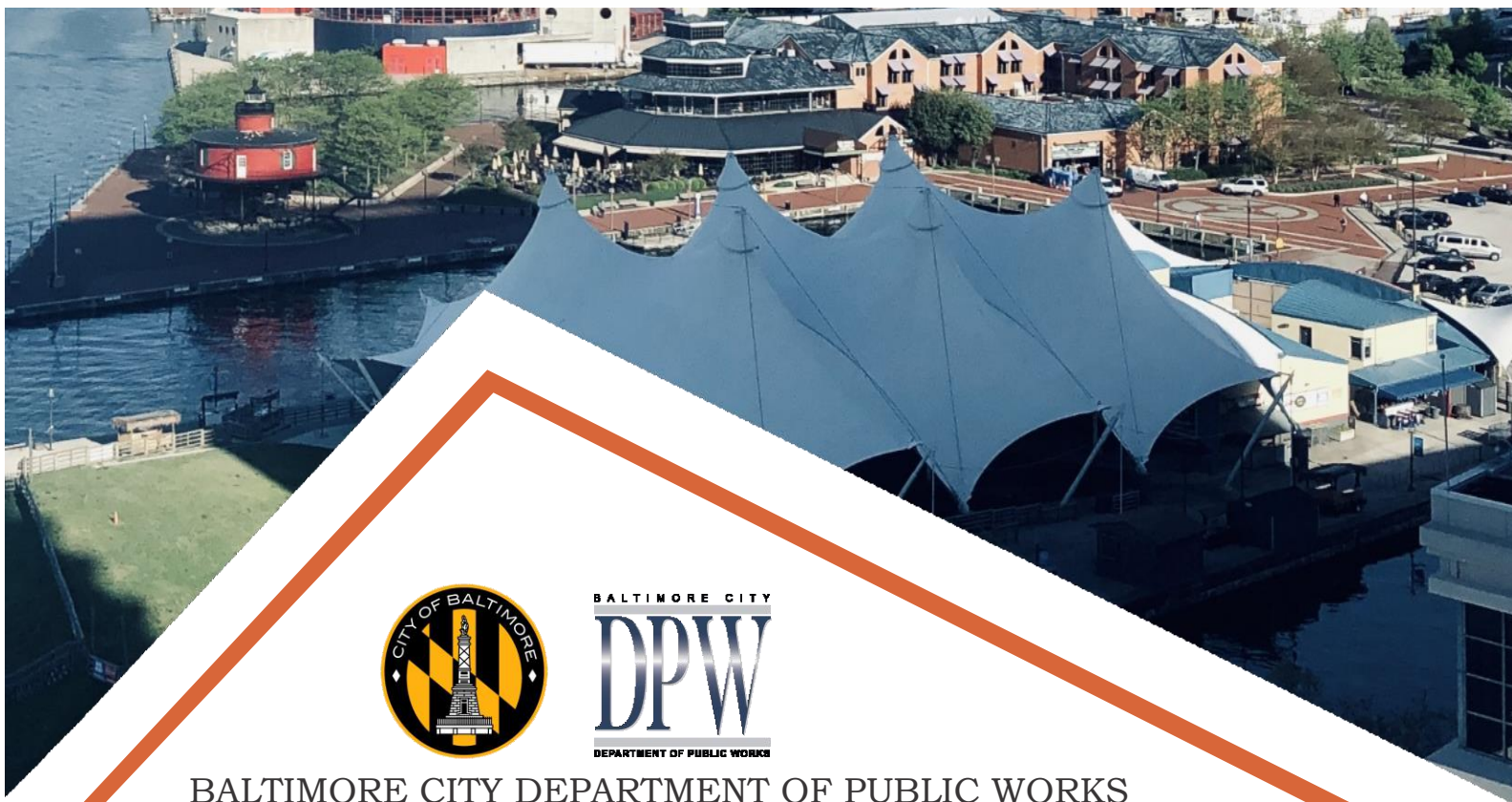
MAYOR AND CITY COUNCIL OF BALTIMORE CITY

ORDINANCE 21-044

OCTOBER 2021



A REPORT ON SEWAGE BACKUP EXPEDITED REIMBURSEMENT AND
DIRECT ASSISTANCE PROGRAM



BALTIMORE CITY DEPARTMENT OF PUBLIC WORKS

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BACKGROUND:

In 2002, Baltimore City entered into a Consent Decree with the Environmental Protection Agency (“EPA”) and the Maryland Department of the Environment (“MDE”) to address violations of the Federal Clean Water Act and Sections 9-322 and 9-323 of the Environment Article, Annotated Code of Maryland from discharges of untreated sewage from Baltimore City’s wastewater collection system into the Back River, Patapsco River, the Chesapeake Bay, and other waters of the United States.

Under the 2002 Consent Decree, Baltimore’s Department of Public Works (“DPW”) was required to conduct a thorough investigation of its wastewater collection system and undertake certain systematic and operational improvements to eliminate sanitary sewer overflows (SSO) and achieve compliance with the Clean Water Act and analogous State law.

In 2017, the City entered into a Modified Consent Decree (MCD) with the EPA and MDE that set forth new requirements and deadlines for the City to achieve compliance into two phases. The deadline for completion of Phase I was January 1, 2021, and Phase II is to be completed by December 31, 2030.

Pursuant to the MCD, DPW is required to establish a “Building Backup Expedited Reimbursement Program” (the “Program” or “BBERP”) to reimburse City homeowners, renters, non-commercial occupants, and residents for the costs of cleaning up and disinfecting after certain building sewage backups that are the result of surcharging in the collection system caused by wet weather events.

The Program has been in a three-year pilot stage between April 2018 and April 2021. After three years, the City, MDE, and EPA must agree on a permanent version of the program that will remain in effect for the rest of the term of the MCD. The City is currently reviewing the program to finalize a permanent plan.

On March 23, 2021, DPW launched a new pilot program, titled Sewage Onsite Support (SOS) Cleanup Program. This program aims to provide professional cleaning, disinfection, and disposal services from a third-party vendor at no cost to Baltimore City residents impacted by capacity-related sewage backup damages caused as a result of heavy wet weather (rain/snowmelt) events.

On May 3, 2021, the City Council of Baltimore introduced Council Bill 21-0075 which was signed into Ordinance 21-044 by the Mayor of Baltimore City on October 4, 2021. The Ordinance required DPW to submit a report, within a 60-day timeframe, containing a comprehensive feasibility study to implement the BBERP to reimburse City homeowners, renters, non-commercial occupants, and residents for the costs of cleaning and disinfecting building sewage backups caused by both wet and dry weather events; and also a comprehensive feasibility study to implement a modified SOS cleanup Program that would provide professional cleaning, disinfection, and disposal services from a third-party vendor at no cost to Baltimore City residents impacted by sewage backup damage caused by both wet and dry weather events. DPW has now prepared and is submitting this feasibility study report.

SEWAGE BASEMENT BACKUP

Definition

The term sewage basement backup (also referred to as “building backup”) refers to sewage (that should be conveyed from a home to a sewer collection system) flowing back towards the home through a home’s sewer lateral pipes.

Causes of basement backups

The causes of sewage backups include:

- **Pipe blockages:** A pipe blockage in internal plumbing, a sewer lateral or a sewer main, can cause basement backups on single or multiple homes. A sewer pipe blockage can be caused by inappropriate disposal of wastes such as fats, oils and grease (FOG); diapers, wipes, rags, sanitary products etc. Pipe blockage may also be caused by root intrusion in sewer laterals or sewer mains.

- **Pipe failures:** Failure of a sewer lateral or a sewer main can cause a basement backup on single or multiple homes. Pipe failure may happen when the sewer pipe is cracked, crushed or collapsed.

- **Inflow and infiltration:** Stormwater and groundwater entering the sewer system during wet weather can cause basement backups that can result in a sewer system surcharge that can result in a loss in pipe capacity. These storm water and groundwater flows may occur directly (through illegal connections to the sanitary sewer system) or indirectly (through cracks and loose joints).

Types of basement backups

Sewer basement backups can be classified into two general categories; dry weather basement backups or wet weather basement backups.

A dry weather basement backup event occurs when there is a pipe blockage or a pipe failure in the City's sewer system or a private sewer lateral that causes a sewer backup. This type of backup occurs in the absence of a rain event or during sporadic rain with less than ¼ inch of precipitation recorded within a 24 hours period.

A wet weather basement backup event occurs when there is a pipe blockage, pipe failure or inflow and infiltration in the sewer system thereby creating a sewer backup. This type of backup happens to occur when there is at least ¼ inch of precipitation recorded within a 24-hour period. However, the wet-weather basement backup may be primarily caused by factors other than wet-weather.

A wet weather capacity-related basement backup event occurs when inflow and infiltration enters the sewer system and causes it to surcharge, or overflow. In this type of event, all laterals and sewer mains, both upstream and downstream, are surcharged. This type of event causes the sewer system to lose available pipe capacity to accommodate and contain the sewage.

DPW investigators can identify a wet weather capacity-related event by checking upstream and downstream manholes at the basement backup location. A basement backup is classified as a 'wet weather capacity-related event' if the upstream and downstream manholes are surcharging and thereby creating a pipe capacity deficit in the sewer collection system. This type of event can also be identified through a Hydraulic model analysis of the system.

Nature of basement backup: Private vs Public sewer side

To further understand the nature of basement backups, it is important to distinguish between the private and public side of the sewer system. The City is responsible for maintaining the sewer system within the public right-of-way. This includes the sewer laterals under the sidewalk and the sewer main to which all private sewer laterals are connected.

The figure below depicts a typical layout of private and public assets associated with the sewer system. The prominent features on the private side, that are the property owner's responsibility to maintain, includes the sewer laterals between the home and the sewage cleanout (or between the home and the property line if no cleanout is present), and the cleanout.

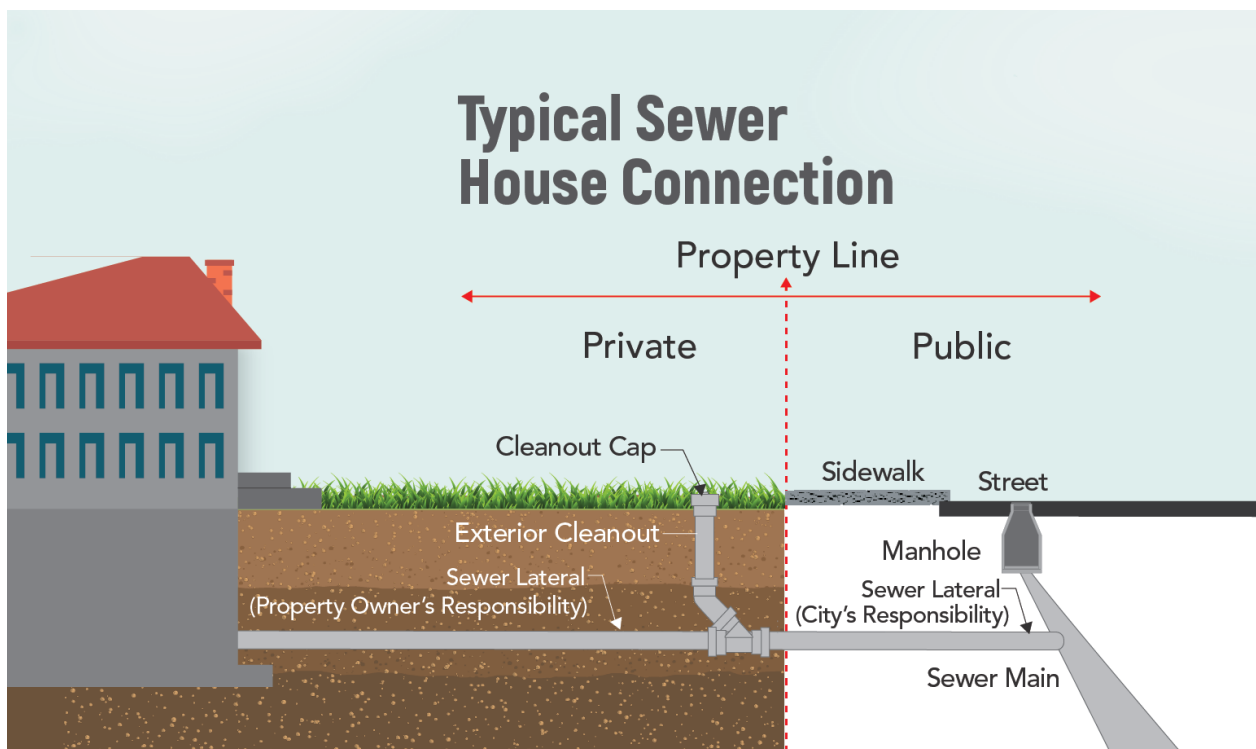


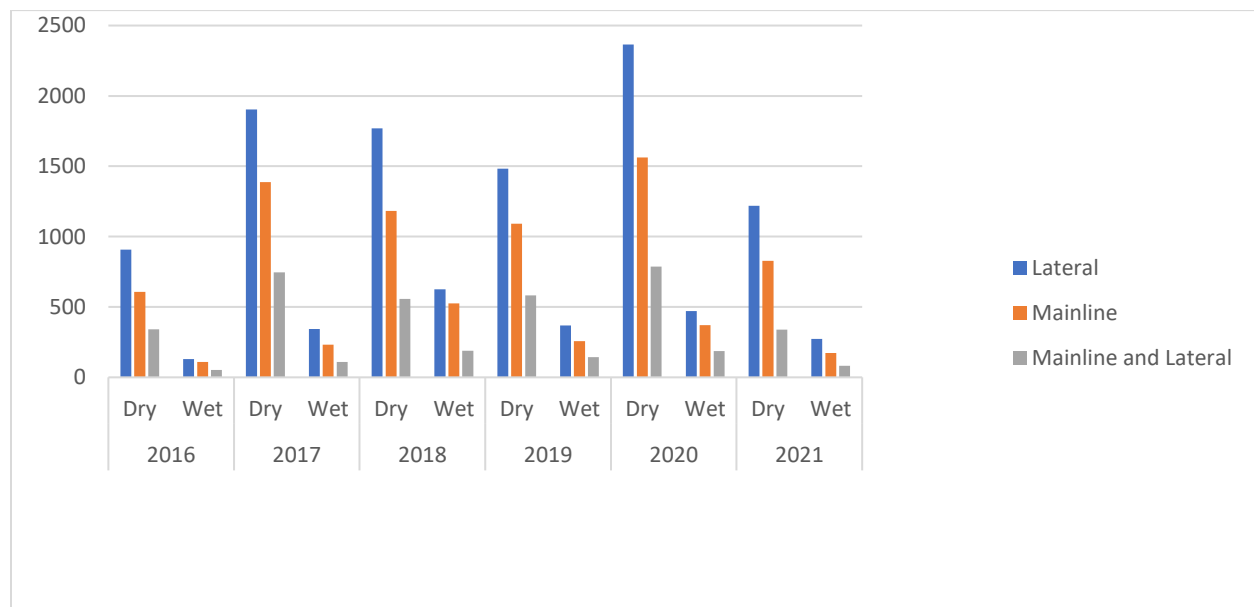
Figure 2.1: Typical Sewer House connection

Both dry and wet weather events can occur on the public and private side of the sewer system.

Basement backup history:

Row Labels	Count of Cause of basement backups, if identified			Grand Total
	Lateral	Mainline	Mainline and Lateral	
2016	1038	718	394	2150
Dry weather basement backup	907	608	341	1856
Wet weather basement backup	131	110	53	294
2017	2247	1620	855	4722
Dry weather basement backup	1903	1388	746	4037
Wet weather basement backup	344	232	109	685
2018	2396	1708	747	4851
Dry weather basement backup	1770	1182	558	3510
Wet weather basement backup	626	526	189	1341
2019	1852	1348	727	3927
Dry weather basement backup	1483	1091	583	3157
Wet weather basement backup	369	257	144	770
2020	2837	1934	974	5745
Dry weather basement backup	2366	1563	787	4716
Wet weather basement backup	471	371	187	1029
2021	1493	1001	421	2915
Dry weather basement backup	1220	829	340	2389
Wet weather basement backup	273	172	81	526
Grand Total	11863	8329	4118	24310

Table 2.2 Basement back up history based on cause of the backup



Graph: 2.2 Basement back up history based on cause of the backup

BASEMENT BACKUP EXPEDITED REIMBURSEMENT PROGRAM (BBERP)

Introduction

The BBERP was started by the City of Baltimore upon approval of the MCD. The goal of the BBERP is to financially assist customers who experience a sewage backup as a result of a capacity-related wet weather event. The program reimburses residential customers, up to a maximum of \$5,000 for reasonable interior space cleanup and disinfection expenses related to a sewage backup.

An affected resident can apply for expedited reimbursement of expenses related to cleaning and sanitizing costs after the sewage cleanup has been completed. The residential customer must have notified the City about the sewage backup via 311, submitted their application within 90 days of discovering the damage, and have properly documented the clean-up and disinfection costs. DPW then verifies the cause of the basement backup was due to a loss of public sewer capacity during a wet weather event, and confirms the accuracy of the information provided in the BBERP application form. Upon determination that the applicant does qualify for reimbursement, a payment will be issued to them to help cover the costs of the clean-up.

The BBERP reimburses eligible residents for the cost of disinfection and cleaning of sewage and disposal of materials in the homes affected by a verified capacity-related wet weather basement backup. The BBERP provides an expedited reimbursement for the eligible costs with a review time of 60 days and additional time to make the payment. The payments are made from the operating funds of the wastewater enterprise.

If a resident incurs additional costs related to property damage and repairs, the resident would have to pursue a General liability claim with the Baltimore City’s law department. A copy of the General liability application form is attached as an appendix to the report.

Eligibility requirements

The eligibility criteria for BBERP is stated as below:

- Damage was caused by a capacity-related wet weather event
- Applicant is a City residential customer (i.e., homeowner or tenant).
- Sewage backup event occurred after April 6, 2018
- Applicant reported incident via 311 or www.baltimorecity.gov/311-services

BBERP application summary:

Fiscal Year	Amount paid to date	Number of applications received	Number of applications approved
FY 2018	\$4,500.00	14	2
FY 2019	\$10,275.00	61	9
FY 2020	\$1108.43	22	2
FY 2021	\$18,784.00*	39	7
FY 2022	\$0	25 (9 applications pending review)	0
Total	\$34,667.43	Average reimbursement	\$1,733.37

Note: A number of applications were denied under BBERP as the basement backups for the submitted events were caused by dry weather events or non-capacity-related wet-weather basement backups. Applications were also rejected if the applications were not submitted within 90 days of the occurrence of the basement backup event. All denied BBERP applications would still have an opportunity to pursue a General liability claim under City Law Department for up to 1 year from the date of the incident/backup.

SEWAGE ON-SITE SUPPORT (SOS) PROGRAM

Introduction

The SOS Program was launched by the Mayor of Baltimore City on March 23, 2021, as a pilot program to assist residents by providing direct cleaning and disinfection services at no cost. To qualify under the SOS program, the residents (homeowner or tenants) must have been impacted by sewage backup caused by a capacity-related wet weather event. The services are provided by 3rd party professional cleaning vendors hired by DPW under this program.

In contrast to the BBERP, the SOS Program provides direct assistance by dispatching professional 3rd party contractors to clean and disinfect the affected property thereby preventing the residents from out-of-pocket expenses for the cleanup. The cleanup service is provided and paid for by the City of Baltimore. To get help with a sewage backup via the SOS Program, residents need to call 311 to report the sewage backup. Once a call is received, DPW will send an inspector to determine the cause of the sewage backup. The inspector will determine whether or not the sewage backup qualifies for the SOS Program. Upon confirmation of eligibility, cleaning services are offered by DPW. This cleaning services involves disinfection and cleaning, disposal and removal of soiled property, deodorization, dehumidifying, and drying.

Similar to the BBERP, residents are only eligible for the SOS Program if their sewage backup was caused by a capacity related wet-weather event. The SOS Program helps promote health of residents by professionally removing potentially harmful sewage and also simplifies matters for the homeowner since the homeowner will not have to contact private insurance and pay a deductible to clean-up sewage backups. As with the BBERP program, the payments made under the SOS Program are from the operating funds of the wastewater enterprise fund.

The BBERP and SOS Program have similar goals but different methods of achieving those goals. Each Program differs in customer use and experience, as detailed below. By evaluating the effectiveness of both Programs, it can be determined what the best next step is for each, especially in terms of expansion to include dry weather events and continued funding.

If a resident incurs additional costs related to property damage and repairs, the resident would have to pursue a General liability claim with the Baltimore City’s law department. A copy of the General liability application form is attached as an appendix to the report.

SOS program summary:

Fiscal Year	Timeline	Number of Cleanups offered	Number of Cleanups completed
FY- 21	Mar 2021 – June 2021	17	11
FY-22	July 2021 – November 2021	4	3

Note: Every resident that reports a sewer basement backup to 311 is proactively offered the SOS Program if they qualify based on the Program criteria. The UMD investigators based on their site investigation establish that the backup was caused by a wet-weather capacity-related event then they offer the Program to the resident. The SOS program staff also reviews the rain data and the hydraulic model information to qualify the resident under the SOS Program.

FEASIBILITY STUDY OF BASEMENT BACKUP EXPEDITED REIMBURSEMENT PROGRAM AND MODIFIED SEWAGE ON-SITE SUPPORT (SOS) PROGRAM

Current Cost of BBERP:

The cost of addressing each basement backup includes multiple components as indicated below:

Cost type	Cost per backup
311 support	\$2
Cost of investigation	\$100
Cost of relief for a basement backup	\$2,267.74
Cost of reviewing the BBERP application	\$320
Average cost of BBERP reimbursement	\$1,733.37
Total costs for addressing each wet weather capacity related basement backup through BBERP	\$4,423.11

Note: The detailed estimate for the above costs are prepared and tabulated in the appendix.

Cost of Expansion for the BBERP

The total cost of BBERP reimbursement per application, per event is \$2,053.37. This cost is calculated without including the costs of 311 support, investigation and relief for a basement backup, as these costs are being incurred by the City outside of the BBERP.

The cost of covering all wet weather, dry weather, and private side backup events, in addition to the BBERP Program, is as indicated in the table below.

Cost type	Average number of events	Total cost (Annually)
Expanding the BBERP to all wet weather basement backups	774*	\$1,589,308.38
Expanding the BBERP to all dry weather basement backups	3277*	\$4,216,328.36
Expanding the BBERP to all basement backups	4051*	\$8,318,201.87

*Average number of events per year based on events that occurred in the last 6 years

Cost Analysis of Dry and Wet Weather events in the Public and Private System for the BBERP:

A typical sewer collection system contains sewer laterals and sewer mains. Sewer laterals are the pipes that connect a property’s internal plumbing to the sewer mains. While sewer mains located within the public right-of-way are the public portion of the system and maintained by the City, sewer laterals have both a private and a public component, as illustrated in Figure 2.1 of this report. The responsibility of maintaining the sewer lateral can differ from property to property, but in general, the property owner is responsible for the sewer lateral from the home to the cleanout or, absent a cleanout, to the property line.

For the sake of completing a cost analysis for this report, all reported sewer lateral issues were considered to be private systems and all sewer main issues were considered to be public systems. Table 2.2, below, uses this approach to classify the basement backups reported for the years of 2017 through 2021.

Row Labels	Count of Cause of basement backups, if identified			Grand Total
	Lateral (Private System)	Mainline (Public System)	Mainline and Lateral (Public and Private system combined)	
2016	1038	718	394	2150
Dry weather basement backup	907	608	341	1856
Wet weather basement backup	131	110	53	294
2017	2247	1620	855	4722
Dry weather basement backup	1903	1388	746	4037
Wet weather basement backup	344	232	109	685
2018	2396	1708	747	4851
Dry weather basement backup	1770	1182	558	3510
Wet weather basement backup	626	526	189	1341
2019	1852	1348	727	3927
Dry weather basement backup	1483	1091	583	3157
Wet weather basement backup	369	257	144	770
2020	2837	1934	974	5745
Dry weather basement backup	2366	1563	787	4716
Wet weather basement backup	471	371	187	1029
2021	1493	1001	421	2915
Dry weather basement backup	1220	829	340	2389
Wet weather basement backup	273	172	81	526
Grand Total	11863	8329	4118	24310

The cost analysis of creating reimbursement programs for wet and dry weather basement backups not covered by the BBERP Program, with the above assumption of the public and private system classification, is shown in the table, below.

	Dry Weather	Wet Weather
Public Side	Number of average events annually = 1110	Number of average events annually = 278
	\$2,279,240.70	\$570,836.86
Private Side	Number of average events annually = 1608	Number of average events annually = 369
	\$3,301,818.96	\$757,693.53
Public and Private	Number of average events annually = 559	Number of average events annually = 127
	\$1,147,833.83	\$260,777.99

Note: The detailed estimate for the above costs are prepared and tabulated in the appendix.

Current Cost of SOS program:

The cost of addressing each basement backup includes multiple components as below

Cost type	Cost per backup
311 support	\$2
Cost of investigation	\$100
Cost of relief for a basement backup	\$2,267.74
Cost of processing SOS request	\$320
Cost of average SOS cleanup through a SOS contractor	\$3,316.11
Total costs for addressing each wet weather capacity related basement backup through a SOS program	\$6,005.85

Note: The detailed estimate for the above costs are prepared and tabulated in the appendix.

Cost of Expansion for the SOS program:

The total cost of SOS cleanup per resident per event is \$3636.11. This cost is calculated without including the costs of 311 support, investigation and relief for a basement backup, as these costs are being incurred by the City outside of the SOS program.

The Cost analysis of expanding the SOS program beyond the current qualification of wet-weather capacity related events, to include dry weather and wet weather events in the public and private systems is reflected below:

Cost type	Average number of events (Annually)	Total cost (Annually)
Expanding the SOS program to all wet weather basement backups	774*	\$2,814,349.14
Expanding the SOS program to all dry weather basement backups	3277*	\$11,915,532.47
Expanding the SOS program to all basement backups	4051*	\$14,729,881.61

*Average number of events per year based on events that occurred in last 6 years

Cost Analysis of Dry and Wet Weather Events in the Public and Private System for the SOS Program:

A typical sewer collection system contains sewer lateral and sewer mains. City owns and maintains the sewer mains and the mains can be considered as public side. However, the sewer laterals are owned by both the property owner and the City. The responsibility of maintaining the sewer lateral differs at every location. As illustrated in the Figure 2.1 of this report, the portion of the lateral located on the City's right-of-way is owned and operated by the City. The portion of the lateral located on the private property is owned by the property owner and it is the property owner's responsibility to maintain the sewer lateral for that portion. So, in case of sewer laterals, it is difficult to demarcate the maintenance responsibility. It is difficult to define what could be considered a private system as the limits of private system differs for every home.

For the sake of completing a cost analysis, if all the sewer laterals are considered to be private system and all sewer mains are considered to be public systems, then the basement backups occurred in the past as reflected on table 2.2 of this report can be further classified as below

Row Labels	Count of Cause of basement backups, if identified			Grand Total
	Lateral (Private System)	Mainline (Public System)	Mainline and Lateral (Public and Private system combined)	
2016	1038	718	394	2150
Dry weather basement backup	907	608	341	1856
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Dry weather basement backup	1220	829	340	2389
Wet weather basement backup	273	172	81	526
Grand Total	11863	8329	4118	24310

The Cost analysis of expanding the SOS program beyond the current qualification of wet-weather capacity related events, with the above assumption, for dry weather and wet weather and in the public and private system is as below

	Dry Weather	Wet Weather
Public Side	Number of average events annually = 1110	Number of average events annually = 278
	\$4,036,082.10	\$1,010,838.58
Private Side	Number of average events annually = 1608	Number of average events annually = 369
	\$5,846,864.88	\$1,341,724.59
Public and Private *	Number of average events annually = 559	Number of average events annually = 127
	\$2,032,585.49	\$461,785.97

* - Backups caused by issues on both mainline and lateral

Note: The detailed estimate for the above costs are prepared and tabulated in the appendix.

Funds expended in Litigation Costs

The data regarding sewer backup general liability claims within Baltimore City Law Department was analyzed for the last 10 years. In those 10 years, there were 1,012 total claims related to sewage backups. Of these claims, 847 involved no payment by the City. Of these 847 claims, 39 are currently open pending review and/or payment. Of the original 1,012 claims, 165 resulted in claims payment, and, of those claims that involved payment, 60 required litigation. Considering the claims that resulted in payment, \$1,225,360 was paid in total for sewer backup damages. The average amount paid was \$7,426. It is important to note that the four most expensive sewer backup claims totaled \$631,685 and account for 52% of the total amount paid. Litigation costs are not tracked like City attorney time on cases that go to suit, so this information is not available.

Much of the determination of payment in the case of sewer backups is based upon liability. General liability sewer backup claims against the City are denied, or closed, if it is determined that there is a lack of negligence on the part of the City. Claim denials may be based on the following:

- the claim investigation determines that the City did not cause the backup;
- the City responded to the backup in a reasonable manner;
- the City did not have prior notice of defect that caused the backup (such as tree roots, a cracked or collapsed line, rags/grease/debris building up); or
- the backup was determined to be within the claimant's own sewer line/lateral.

The information above is only based on sewer backups for which general liability claims were filed against the City, and may not be an effective indicator to project the cost of an expanded, no-fault SOS Program. Other indicators, like 311 calls, may be better suited to predict the possible

cost of exemption of the BEERP or SOS Program. Consideration should be given to costs due to the following two anecdotal situations that are denied under the general liability program.

Feasibility of expanding the BBERP and SOS Programs

When looking into the expansion of the BBERP and SOS Programs, one major factor affecting expansion is the source of funding. Specifically, a proposed expansion of these programs using the wastewater enterprise fund may not be permissible.

The BBERP was established in response to concerns raised by advocacy groups about a lengthy general liability claims process. Advocates had lobbied for a more expansive requirement, but the program was ultimately narrowed in scope based on legal theories of negligence¹ Although the Program does not require a specific negligence analysis, the foundation of the Program is premised upon basic concepts of liability. Specifically, the City agreed to expedite reimbursement for the cleaning and disinfection of a very narrow class of basement backups where the City's hydraulic model provided (or should have provided) constructive notice of capacity deficiencies during wet weather events. The City's new SOS program adopted this same narrow scope to ensure that DPW was appropriately expending enterprise funds.

¹Liability for negligence is established where: 1) the City has a duty to maintain the utility in good condition; 2) the City breached that duty; 3) the resident suffered damages; and 4) the damages were proximately caused by the City's breach of its duty. *Colbert v. Mayor and City Council of Baltimore*, 235 Md. App. 581, 588 (2018). With regard to basement backups, the most frequently contested component of this four-pronged test is whether the City has breached a duty to properly maintain the utility. In the case of an underground utility, the issue is often whether the City had actual or constructive knowledge of a defect or condition within the sanitary sewer system that caused the basement backup. *Id.*; see also, *Williams v. Mayor and City Council of Baltimore*, No. 3095, Sept.term,2018, 2020 WL 790606 (Md. Ct. Spec. App. Feb. 18, 2020), supplanted, published at 245 Md. App. 428, 226 A.3d 858 (2020) (noting that even where there is a showing that the City had notice of a defective condition, the plaintiff must still show that the specific defect caused the alleged damage). Such a determination often requires a significant investigation to determine the cause of the basement backup, and if the City knew, or should have known, of the conditions within the sanitary sewer system prior to the incident. These determinations are best left to the Baltimore City Law Department to make through the general liability claims process.

Article II, § 31 of the Baltimore City Charter authorizes the City, “to make charges for the use of said sewers, drains and sewerage disposal facilities.” Thus, the Charter anticipates charges for the use of the sewer system. Consistent with that concept, Article VI, § 18(a) of the Baltimore City Charter provides that the sanitary sewer, storm sewer, and water utilities shall be operated as separate enterprises and “[e]ach of the utilities shall be financially self-sustaining and shall be operated without profit or loss to the other funds or programs of the City.” This is echoed in Article 24, § 3-1 of the Baltimore City Code which requires the Board of Estimates to “establish rates and charges to make each utility financially self-sustaining at all times.” Accordingly, the City is authorized to establish charges for the use of sewers and consumption of water, and the Charter establishes a framework through which each utility shall establish rates that will fund the proper operation and maintenance of the specific utility without profit or loss. The Charter specifically provides that the enterprise funds cannot be used as a mechanism to pay for other City programs, which is consistent with the creation of usage fees. Indeed, if funds are diverted to other programs, then the enterprise fund would not have sufficient revenue to properly operate and maintain the utility. This is such a fundamental concept, that the City requires other City agencies to budget and pay for services related to the utilities.

The expansion of these basement backup programs without regard for liability, or some other legal obligation attributable to the wastewater utility, transforms the current programs into social programs whereby assistance is provided without regard to any legal requirement. Although this may be a laudable goal, the Charter prohibits the use of enterprise funds to support such a social program. To comply with the terms of the Charter, the programs would need to be financed through the General Fund and administered by an agency that does not operate on enterprise funds.

The creation of basement backup programs to address the dry weather and all wet-weather basement backups may also impact the bond covenants of the wastewater enterprise funds.

Another major factor that could make additional reimbursement programs difficult to implement is the need for increased resources. This is true both internally to the Bureau of Water and Wastewater and externally to the partners DPW has. Specifically, when looking at expanding the cleaning and disinfecting of wet and dry basement backups, these needs could possibly overwhelm the capacity of local contractors. Since the current SOS Program directly connects professionals with residents, there is a possibility that the need for professionals could create challenges on their availability. Thus, there could be logistical issues and delays in response times in helping residents clean their sewage backups addressed promptly.

The issue of private side sewer backup assistance is also a barrier in the proposed coverage expansion. As previously mentioned, the use of enterprise funds to facilitate work on private infrastructure appears to be in variance to the City Charter. It is also likely that funding work on private infrastructure could create a continuous cycle of sewage backup cleanups if the residents dispose un-flushable materials in the sewage system or if deteriorated pipe conditions on a private lateral go unaddressed. Under an expanded program, the City may be obligated to pay for cleanup in the following scenarios: when the blockage is on the resident's own sewer line from sources like debris, grease, or rags that the resident or neighbors flushed into the line, damage to the resident's sewer lateral due to earth movement, or damage from tree roots on the resident's property.

It should also be considered that if the BBERP and the SOS programs are expanded, the City may be obligated to pay for any sudden, unforeseeable, and catastrophic events such as a major failure in a pumping station or sinkhole collapse, major storms that leads to sewer backups

that affect numerous homes. These situations could raise costs of either the BBERP or SOS Program significantly and should not be ignored while the expansion of these programs is considered.

DPW also believes that the expansion of BBERP and the SOS programs may lead to further rate increases of wastewater bill, which is not recommended under the current and post economic crisis of COVID-19 pandemic. This will add additional burden to the rate payers for having them to pay for basement cleanups and general liability that the City and the rate payers are currently not liable.

Finally, the expansion of either or both programs has the potential to invite advocacy for coverage of property and appliance damage costs, and further, and unnecessarily, entrench the City in liability.

Future of basement backups and other DPW initiatives:

Basement backups can damage City's homes and businesses and the Department of Public works is aware of the challenges that the homeowners have to face to address basement backups. City in the best interest of the public and in effort to continue to enhance water quality and has negotiated a Modified Consent Decree (MCD) with the Environmental Protection Agency and the Department of Justice to implement an adaptive management plan to improve water quality and reduce Collection system discharges. Under the adaptive management plan, the City will improve the system in two different phases; Phase I and Phase II.

The City's sewer system is divided into 8 sewersheds. During the sewershed studies conducted by the City between 2005 – 2010, a number of issues were identified in the City's sewer

system. The Phase I includes improvements to the sewer system by addressing structural issues in multiple sewer basins, comprehensive inflow and infiltration (I&I) rehabilitation in 24 basins, conveyance upgrades in some areas of the City that faced chronic basement backup issues due to lack of conveyance capacity in the sewer system and construction of Headworks facility. City has implemented 36 Capital Improvement Projects (CIP) under Phase I for an expenditure of over \$1 Billion with Headworks projects alone estimated around \$450 million. The phase I of the MCD has been completed on January 1, 2021.

The DPW team is currently working on the Phase I post-construction flow monitoring (PCFM) to evaluate the improvements in the sewer system obtained by implementation of Phase I projects. The Phase I PCFM has begun on January 1, 2021 and will be completed by June 30, 2022. The DPW team, based on the adaptive management approach, will then prepare a scope of work for projects that will be implemented under the Phase II along with a Phase II plan report which will be finalized by December 31, 2022.

The Phase II plan will include projects to improve conveyance capacity in the sewer system to reduce basement backups and sanitary sewer overflows (SSO). The additional sewage that will be conveyed to the wastewater treatment plant can be treated in the Headworks facility that was constructed under Phase I. The Phase II plan will also include other improvements in the system to reduce the ground water infiltration into the sewer system through comprehensive I&I rehabilitation. The phase II will begin on January 1, 2023 and will be completed by December 31, 2030.

Besides the capital improvement projects, DPW is also improving the system by introducing various operation and maintenance programs like Root control program, FOG

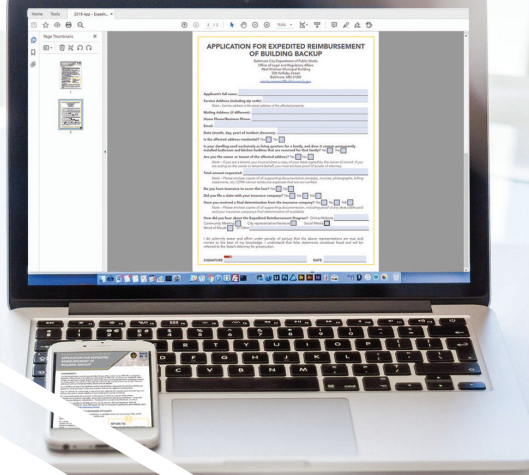
program, proactive inspection and cleaning program to upkeep the sewer system, which will lead to further reduction of dry-weather and wet-weather basement backups and SSO's in the City.

City has also introduced various educational initiatives for the residents, like 'Trash the wipes' and 'Fats, Oils and Grease' programs to educate the residents about various aspects of the sewer system. Copies of the flyers are attached in the appendix.

APPENDIX

1. BBERP brochures and application form
2. SOS program brochures
3. General Liability application form
4. 'Trash the wipes' flyer
5. 'Fats, Oils and Grease (FOG)' flyer
6. Detailed cost calculations

APPENDIX I
BBERP BROCHURES



APPLICATION SUBMITTAL

- Contact 311 as soon as possible after discovery of backup.
- Submit a complete application within 90 days of reporting the event.

Email: reimbursement@baltimorecity.gov

Mail: Bureau of Water or Wastewater
200 Holliday Street,
Baltimore MD 21202

- Make copies of all cleaning and disinfection receipts arising from the backup. Keep the originals and submit copies with your application.
- Submit any documentation submitted to and received from your insurance company, including documentation of any deductible paid.

FAILURE TO SUBMIT ALL REQUIRED ITEMS MAY RESULT IN A DELAY OR DENIAL OF YOUR REIMBURSEMENT.

LEGAL

Baltimore City is not liable for unforeseen events, including flood damage or sewage backups. For legal clarification on matters related to a sewage backup or flooding, or to file a claim, please contact the Baltimore City Law Department at 410-396-3400. The Law Department will investigate claims for merit, but filing a claim is NOT a guarantee of reimbursement.

ANTI-DISCRIMINATION NOTICE

The U.S. Environmental Protection Agency's External Civil Rights Compliance Office (ECRCO) is responsible for enforcing several civil rights laws which, together, prohibit discrimination against the public on the basis of race, color, or national origin (including on the basis of limited English proficiency), sex, disability and age by applicants for and recipients of federal financial assistance from EPA. The Baltimore City Department of Public Works (DPW) is a recipient of federal financial assistance. As such, any aid, benefit or service that DPW provides must be administered in a nondiscriminatory manner.

DPW takes all allegations of discrimination seriously. If you feel that you have been discriminated against you may file a complaint of discrimination. Allegations of discrimination based on the components listed above will be investigated by the DPW Office of Equity and Environmental Justice. Complaints must be filed with the Department within 180 days of the alleged discriminatory act.

Please direct all inquiries to:

Baltimore City Department of Public Works
Office of Equity and Environmental Justice
ATTN: Equity Coordinator
200 Holliday Street
Baltimore MD 21202

You may also direct inquiries to 410-396-3310.



BALTIMORE CITY
Department of Public Works

SEWAGE BACKUP EXPEDITED REIMBURSEMENT PROGRAM

PUBLICWORKS.BALTIMORECITY.GOV
Call 311 to Report Backups

SEWAGE BACKUP EXPEDITED REIMBURSEMENT PROGRAM

The Baltimore City Department of Public Works (DPW) wants to help customers understand sewage backups. A sewage backup occurs when water is pushed up into your home through the pipes from a sanitary sewer or drainage system. Dealing with a sewage backup is one of the most challenging incidents a homeowner or tenant can face.

DPW offers an Expedited Reimbursement Program for sewage backups caused by capacity-related wet weather (rain/snowmelt) events. This program reimburses residential customers for reasonable interior space cleanup and disinfection expenses related to a sewage backup. The maximum reimbursement is \$5,000 per residence, per occurrence.

Determinations for reimbursement must be made by DPW within 60 days of receipt of all submitted documentation.

APPLICATION SUBMITTAL PROCESS

Call
311

Submit
Application

Review
Application

Verify
Eligibility of
Applicant

Verify
Severity of
Event

Determine
Cause of
Backup

Confirm
Accuracy of
Receipts

Issue
Determination



HOW DOES DPW DETERMINE MY REIMBURSEMENT ELIGIBILITY?

Once DPW receives a completed application, the following information is checked:

- Applicant is a verifiable residential customer (homeowners, tenants, other residential).
- Applicant notified the City via 311 and received a Service Request Number (SR #). Applicants are encouraged to notify DPW as soon as possible after discovery to allow expeditious investigation of the backup.
- Applicant submitted the application within 90 days of discovering the damage.
- Building backup resulted from water entering the sanitary sewer system caused by a wet weather event (rain/snowmelt) and no blockage was present.
- Clean-up and disinfection costs were appropriately documented.

HOW DO I GET AN APPLICATION?



Scan this QR code or visit the DPW website to download the application.

publicworks.baltimorecity.gov/sewer-consent-decree/building-backups

- Pick up application in the Lobby of the Abel Wolman Municipal Building - 200 Holliday St. Baltimore MD.
- Call 410-396-3500 and get application mailed to you.

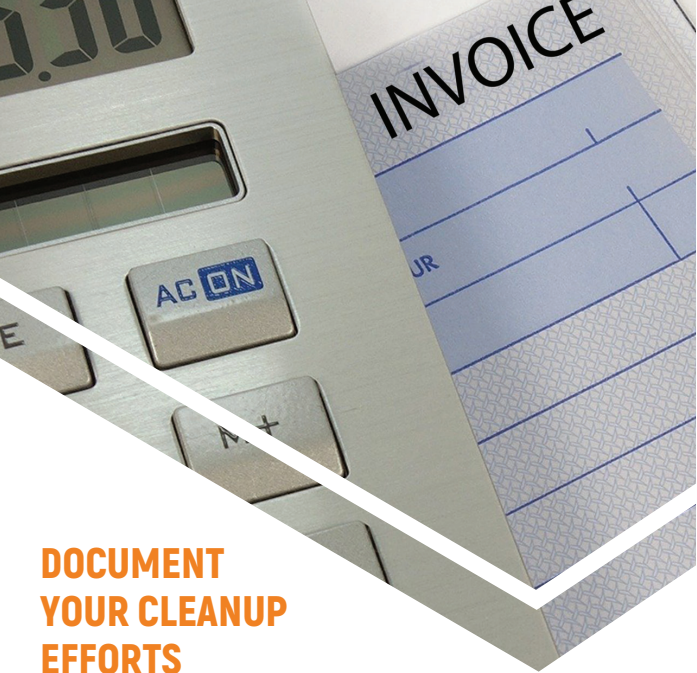
HOW DOES DPW VERIFY THE CAUSE OF THE BACKUP?

- Consult data from various weather sources to determine the severity of the weather event.
- Analyze laterals via an exterior cleanout, if present.
- Look for other reported backups in the area.
- Verify if property is in vulnerable low-lying area.
- Search for historical records of similar backups.
- Look for other potential causes of the damage (overgrown tree roots, cracked pipe, blockage, etc).

HOW DO I VERIFY MY ADDRESS?

You may verify your address with the City using:

- A signed copy of your lease.
- A copy of your water bill in your name.



DOCUMENT YOUR CLEANUP EFFORTS

Document all costs related to the sewage backup. DPW has a Sewage Backup Expedited Reimbursement Program for qualified applicants to receive funds to cover the cost of cleanup and disinfection. To request reimbursement, an applicant must follow the appropriate process required by the City. Document and take pictures of all property damage and the affected area. Documentation is vital to file claims with either the City or your insurance company.

LEGAL

Baltimore City is not liable for unforeseen events, including flood damage or sewage backups. For legal clarification on matters related to a sewage backup or flooding, or to file a claim, please contact the Baltimore City Law Department at 410-396-3400. The Law Department will investigate claims for merit, but filing a claim is NOT a guarantee of reimbursement.

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Office of Equity and Environmental Justice
ATTN: Equity Coordinator
200 Holliday Street, Baltimore MD 21202

You may also direct inquiries to 410-396-3310.



BALTIMORE CITY
Department of Public Works

HANDLING SEWAGE BACKUPS

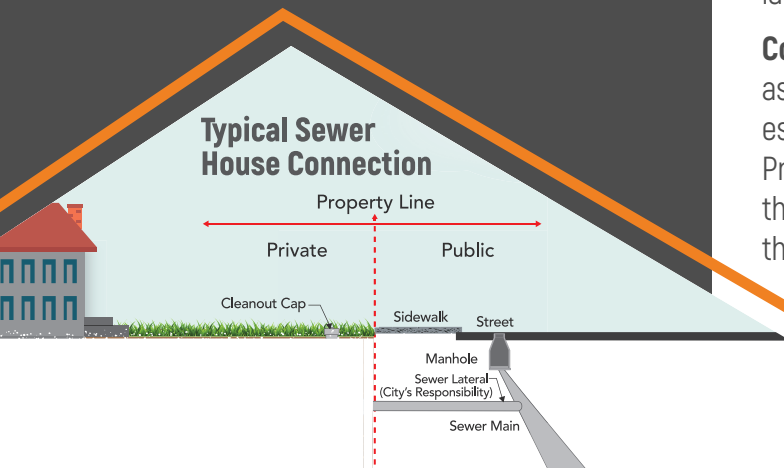
PUBLICWORKS.BALTIMORECITY.GOV
Call 311 to Report Backups

The Baltimore City Department of Public Works (DPW) prepared this brochure to provide customers with step-by-step information on what to do in the event of a sewage backup at their property. This document will guide you through the process – from documentation of the event to the solicitation of a professional to perform the actual cleanup.

TIPS TO AVOID CAUSING BACKUPS

Customers can unwittingly cause backups by placing things in their sinks, toilets, bathtubs, or other drains that clog the sewer system. Additionally, the connection of unapproved devices can have unintended consequences. Follow these tips to reduce additional damage to your system:

- **Do not flush wipes.** Many wipes labeled as “flushable” do not dissolve properly in the sewer system. Instead, these wipes accumulate inside pipes and pump systems, causing back-ups and overflows.
- **Do not connect sump pumps, gutters, roof drainage, and similar drainage systems to the sanitary sewer system without a permit from DPW.** These connections can overwhelm your sewer system during wet weather events.



WHAT TO DO IF YOU HAVE A SEWAGE BACKUP

Prevent Electrocutation: IMMEDIATELY turn off the power if there is standing water or electrical wires near the backup. This is critical as the wires may come into contact with water or soggy materials creating an imminent danger.

Distance Yourself: Keep all children and pets away from the sewage.

Identify Cleanout/Lateral: Confirm the presence of the cleanout or lateral on your property. See graphic below as a guide.

Notify DPW: Call “311” or go to the 311 website www.baltimorecity.gov/311-services.

Protect Yourself: Put on protective eyewear, gloves, and boots to avoid unprotected contact with sewage. Also cover all cuts, scrapes, and open wounds. Immediately wash hands and disinfect any wound that comes into contact with sewage.

TAKE PRECAUTIONS

Limit Exposure. Stop using plumbing and appliances that drain into the sewer system, including sinks, showers, toilets, dishwashers and laundry machines.

Contact A Professional: Contact a plumber to assess the extent of the damage and provide an estimate to complete a comprehensive clean up. Prior to hiring a professional, it is recommended that property owners get estimates from at least three individuals or companies.

SEWAGE CLEANUP

Contamination risks increase the longer sewage remains in contact with building interiors which can lead to other health risks to humans and pets. After the incident, you will need to hire/procure a cleanup professional to restore your property to safe conditions.

WHO SHOULD DO THE CLEANUP?

You may wish to call your insurance provider to determine whether your policy covers sewage backup cleanup. The State of Maryland does not certify cleanup companies. However, the Institute of Inspection Cleaning and Restoration Certification (IICRC) provides education and standards for contractors who perform this work, and you may ask your contractor to follow these guidelines. The IICRC also lists cleanup companies organized by zip code and provides other useful information on its website: www.iicrc.org. You may also call the IICRC at (844) 464-4272. Note: This number is not toll-free.

If the work is not covered by insurance, you may decide to hire a private contractor. Prior to doing so, you may wish to call the Consumer Protection Division of the Maryland Attorney General's Office at (410) 576-6557 or go to their website www.marylandattorneygeneral.gov. Ask if the contractor has a complaint history file.

Be sure to keep copies of any receipts or invoices for your records.



HEALTH RISKS

Raw sewage may contain bacteria, viruses, and other pollutants that can cause disease and contaminate property. Health risk factors to individuals depends on:

1. The amount of sewage that enters the property.
2. The types of germs/contaminants
3. The length of time sewage has been in contact with materials in your home or business.
4. How much contact you came into with the sewage and the duration of your exposure.

LEGAL

Baltimore City is not liable for unforeseen events, including flood damage or sewage backups. For legal clarification on matters related to a sewage backup or flooding, or to file a claim, please contact the Baltimore City Law Department at 410-396-3400. The Law Department will investigate claims for merit, but filing a claim is NOT a guarantee of reimbursement.

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200 Holliday Street, Baltimore MD 21202

You may also direct inquiries to 410-396-3310.



BALTIMORE CITY
Department of Public Works

UNDERSTANDING AND PREVENTING SEWAGE BACKUPS

PUBLICWORKS.BALTIMORECITY.GOV
Call 311 to Report Backups

The Baltimore City Department of Public Works (DPW) prepared this brochure to provide customers with information regarding sewage backups and how to prevent them.

The term sewage backup describes what happens when water comes up or is pushed into your home through the pipes from sewer or drainage systems. Dealing with a sewage backup is one of the most hazardous and challenging incidents a homeowner can face.

Sewage backups have two primary causes:

- **Pipe blockages or failures.** These problems can be caused by inappropriate disposal of waste like fats/oils/grease (FOG) or wipes/rags/sanitary products. They may also be caused by root intrusion or pipe deterioration.
- **Stormwater and groundwater entering your sewer system during wet weather.** These flows may occur directly (through illegal connections) or indirectly (through cracks and loose joints).



STEPS TO AVOID A SEWAGE BACKUP

- Do not flush grease, rags, disposable diapers, wipes, personal sanitary items, or similar waste.
- Do not plant trees or bushes near sewer lines or laterals. Their roots may grow into the lines and create future blockages.
- Disconnect downspouts and sump pumps from your house connection.
- Hire a licensed plumber to install an exterior cleanout (shown above).
- Consider having a backflow preventer and/or grinder pump installed at your property.

PROTECT YOUR PROPERTY

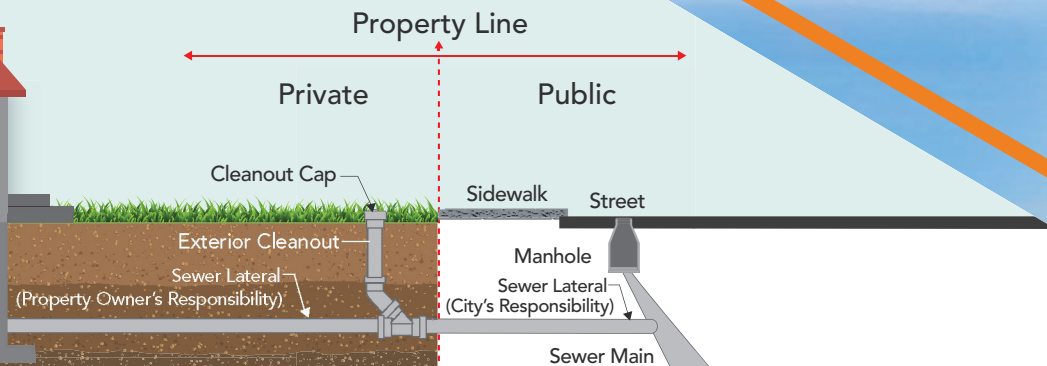
All properties should install an exterior sewer cleanout in accordance with Baltimore City code. An exterior cleanout provides an easy access point to fix your main line sewer issue at ground level.

If a problem occurs in the house connection and an exterior cleanout is not available, you must hire a licensed plumber to assess and resolve the problem.

- Consider purchasing a sewer backup rider for your insurance policy.
- Consider purchasing an extended warranty for your pipes. The City partners with HomeServe USA to offer low cost, extended warranties.

Visit www.homeserveusa.com for more information.

Typical Sewer House Connection



APPENDIX II
SOS BROCHURES

Getting Help with a Sewage Backup

STEP 1

Call 311 or visit the 311 website at 311.baltimorecity.gov to report your sewage backup.

STEP 2

DPW will send an inspector to determine the cause of your sewage backup.

STEP 3

DPW inspector determines the backup is due to a capacity-related wet weather event.

STEP 4

Once cleaning is offered and accepted, the cleaning professionals will schedule a time to provide cleaning services.

Stormwater flooding or sewage backups caused by dry weather events (i.e. grease or debris clogs, root intrusion) are not covered by DPW's SOS Program.

SOS Cleanup Program Frequently Asked Questions

1. Who is eligible for this program?
The SOS Program is available to owners, residents and tenants of property located in Baltimore City impacted by a sewage backup caused by a capacity-related wet weather event.
2. What is a capacity-related wet weather event?
A capacity-related wet weather event occurs when the sewer system is unable to handle the volume of sewage flowing when at least ¼ inch of precipitation is recorded within a 24-hour period.
3. Can this program be used for a flooded basement due to a water main break or stormwater seeping in from outside?
No, this program is designed to support sewer water flooding impacts caused by a wet weather event.
4. How quickly will the cleanup be scheduled and completed after reporting?
Once it has been determined that a wet weather event caused the backup, the inspector will offer to schedule an SOS Program appointment and explain what services are included. The on-call cleaning contractor will contact the resident within approximately one hour of being notified that the customer would like to use the SOS Program. Actual cleaning schedules are dependent upon customer availability for service with the contractors. The contractor offers appointments from 8 a.m. to midnight, seven days a week.
5. Is there a deadline for reporting an issue and getting cleanup services?
Customers are encouraged to contact 311 as soon as the sewage backup is discovered. In the event of an extended period between the backup and the discovery of damage, customers may be able to use DPW's Expedited Reimbursement Program to assist with disinfection and cleanup costs.

DPW's SOS Cleanup Program is a 12-month pilot program.
For more information please visit DPW's website publicworks.baltimorecity.gov/sewer-consent-decree and search for SOS Program.



**SEWAGE ONSITE SUPPORT
CLEANUP PROGRAM**

Professional sewage backup cleaning...
at no cost to you.

**To report a sewage backup,
call 311 or go to
311.baltimorecity.gov**

The Baltimore City Department of Public Works (DPW) is pleased to provide customers with the **Sewage Onsite Support (SOS) Program**. The **SOS Program** will assist with cleanup services in the event of a capacity-related sewage backup at a home or apartment caused by a wet weather event. A wet weather event occurs when at least ¼ inch of precipitation is recorded within a 24-hour period.



Was This A Wet Weather Event?

If there is light rain for 2-3 hours, moderate rain for 30-60 minutes, or heavy rain for 15 minutes, there was likely a wet weather event. You may observe several puddles on the ground that do not disappear easily. Rapid melting of snow could also potentially cause a wet weather event since 10 inches of snow is equivalent to 1 inch of water.

DPW's SOS Program provides cleaning and disinfection services at no cost to the homeowner or tenant. Once the cause of your backup is confirmed to be a wet weather event, DPW will deploy a team of professionals to:

- **Disinfect and Clean:** Eliminate dangerous viruses, bacteria, and other microorganisms from affected areas.
- **Dispose and Remove:** Remove soiled carpet, flooring, furniture and other affected property.
- **Deodorize:** Use professional-grade odor removal equipment, technologies, and processes to tackle unpleasant aromas.
- **Dehumidify and Dry:** Once hazardous materials and excess water have been removed and safely disposed of, completely dry and dehumidify affected areas.

Having professionals thoroughly clean your home protects you from worrisome health risks associated with contacting raw sewage. DPW's SOS Program can help you get your life back to normal as soon as possible.

Did You Know?

According to the Insurance Information Institute, many standard homeowner's insurance policies do not cover sewer backup unless specific (rider/endorsement) coverage is added to the policy. As a protective measure, you may wish to contact your insurance provider to determine whether your policy covers sewage backup cleanup.

To help decide if DPW's SOS Program is right for you, consider the following:

- Raw sewage may contain bacteria, viruses, and other pollutants that can cause disease and contaminate property. The SOS program lets the professionals handle the cleanup for you.
- The SOS Program allows you to avoid contacting your private insurance and having to pay the deductible.
- DPW's SOS Program removes the health risk from your property when you need it most.

Health Risks

Sewage can be a mixture of waste from both household and industrial sources. Sharing the same space as sewage, for any duration of time, often means coming in contact with many harmful bacteria and diseases. Sewage can contain E. coli, tetanus and a host of other dangerous bacteria and viruses that can cause severe health symptoms.

DPW's SOS Cleanup Program Services

Other Independent Services

- | | | |
|-------------------------------------|---|-------------------------------------|
| <input checked="" type="checkbox"/> | Take photos to document all affected areas requiring service | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Remove and dispose of all affected property (cloth, wood, any porous material) | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Disinfect and sanitize exposed affected areas | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Deodorize exposed affected areas | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Dehumidify and dry exposed affected areas | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Take photos to document completion of cleaning services | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Remediate mold and mildew on walls, floors, etc. | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Restore property (floor, drywall, paint walls, etc.) | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Sanitize and restore or replace personal belongings | <input checked="" type="checkbox"/> |

SOS

SEWAGE ONSITE SUPPORT CLEANUP PROGRAM



Frequently Asked Questions (FAQs)

1. What does this program cover?

As part of the new Sewage Onsite Support (SOS) Program, DPW will clean the area impacted by a wet weather event that led to sewage backup inside reported properties. DPW's SOS Program provides cleaning and disinfection services at no additional cost to the homeowner or tenant.

DPW on-call cleaning contractors will be responsible for:

1. Drying out the affected room(s)
2. Disinfecting and sanitizing the affected area
3. Disposing of and removing soiled carpet, flooring, furniture, and other affected property

2. Who is eligible for this program?

The SOS Cleanup Program is available to owners, residents and tenants of properties located in Baltimore City impacted by a sewage backup caused by a wet weather event.

3. Does this include multi-family residential properties as well as single family residential properties?

Yes, DPW's SOS Cleanup Program is available to both multi-family residential and single-family residential properties owners and tenants in Baltimore City.

4. Can this program be used for a flooded basement due to a water main break?

No, this program is designed to support sewer water flooding impacts, not a water main break.

5. How quickly will the cleanup be scheduled and completed after reporting?

Once the cause has been determined, the inspector will provide information on the SOS Cleanup Program and what it includes. The on-call cleaning contractor will contact the customer within one hour of notification about the affected address. Cleaning schedules are dependent upon customer availability for service as contractors offer cleanup appointments from 8 a.m. to midnight, seven days a week.

6. Is there a statute of limitations for reporting an issue and getting cleanup services?

Customers are encouraged to contact 311 as soon as the sewage water damage is discovered. In the event of an extended period between the backup and its discovery, customers may be able to use

DPW's Expedited Reimbursement Program to seek funds to assist with disinfection and cleanup costs.

7. If my insurance company handles cleanup at my property due to a sewage backup flooding event, can my deductible be reimbursed by DPW?

Yes, if the damage is due to a wet weather event. The customer can apply for the Sewage Backup Expedited Reimbursement Program for reimbursement of the insurance deductible.

8. My commercial property was flooded. Would this program cover cleaning services at my business?

No, this program provides sewage cleanup support for residential properties only.

9. What are the differences between the SOS Cleanup Program, the Expedited Reimbursement Program, and the City Law Department's claims process?

- The Sewage Onsite Support (SOS) Cleanup is a cleaning program offered free to DPW's Baltimore City residential customers who have experienced a sewage backup that is caused by a wet weather event.
- DPW's Expedited Reimbursement Program offers up to \$5,000 per home or apartment, for each event, for reasonable and documented, clean-up and disinfection costs for sewage backups caused by wet weather events.
- The City Law Department is for customers seeking compensation for personal property damage. The Law Department considers claims for replacement and restoration of affected property.

10. What do I do if I am dissatisfied with the service I receive?

Following completion of cleanup services, the cleaning contractor will request a signature on a satisfaction / job completion form. Customers may call 410-396-3500 if they have any concerns.

11. Why was my property flooding not covered under this program?

This program only covers damage caused by capacity-related wet weather events. Sewage backups can also occur on a dry or sunny day if pipes are clogged by a blockage, termed dry weather backups. Blockages to pipes can be caused by tree roots, improper disposal of fats/cooking oil or grease poured down drains, and from flushing items in the toilet that are not easily broken down (i.e. tissues, paper towels, "flushable" wipes, feminine hygiene products, medicines, toilet scrub pads, cigarette butts, or diapers). Stormwater flooding may also occur during heavy rain events and will not be covered under the SOS Program.

12. What can I do if I have a dry weather sewage backup?

Most sewage backups are caused by dry weather events (typically created by an existing blockage). If your backup is not covered by DPW's SOS Program or Expedited Reimbursement Program, you may:

- Contact your insurance provider to determine if your policy covers sewage backup cleanup
- Visit the Institute of Inspection, Cleaning and Restoration Certification (IICRC) www.iicrc.org or call **(844) 464-4272** to identify professional cleanup contractors who perform cleanup and restoration services.
- Contact one of the DPW's On-Call Cleaning Contractors and request detailed quotes from the three or more contractors to complete the cleanup and repairs at your property.
- Schedule cleanup and restoration work. Be sure to keep copies of any receipts or invoices for your records

APPENDIX III
GENERAL LIABILITY
APPLICATIONS FORMS

Please read the following entirely before completing the attached claim form. This acknowledges your request for a claim form, which is enclosed. You may otherwise choose to file a claim with your insurance carrier.

Return the completed, signed claim form as soon as possible. Include the date, time, and specific location of the incident, the cause of any injury or damages, and the names and addresses of any witnesses or other interested persons. **Submit with your claim form copies of any photographs, bills, receipts, estimates, police reports (or the report number) and other documents in support of your claim. This information may facilitate faster claim processing.**

If you are claiming automobile damage and your vehicle is drivable, send **two repair estimates in addition to the other documents.** If you are claiming bodily injury, send copies of **all medical bills and reports.**

Once your claim form has been received, an investigator will be assigned to your case. The investigator *may* contact you for further information. Upon completion of the investigation, you will be notified of a decision.

Your claim must be received in writing and either hand delivered, mailed or mailed certified, return receipt requested, within one (1) year of the date of incident. **FACSIMILE TRANSMISSION IS NOT ACCEPTABLE.**

It is necessary that you sign and date the claim form where indicated. Notice of claim forms and/or letters not signed will not be processed.

If you have any questions, you may telephone our claims desk between the hours of 8:30 A.M. and 4:30 P.M. at (410) 396-3308 for automobile liability claims or (410) 396-3400 for general liability claims.



MAYOR AND CITY COUNCIL OF BALTIMORE

STATEMENT OF CLAIM

DEPARTMENT OF LAW
CENTRAL BUREAU OF INVESTIGATION (CBI)
7 E. Redwood Street, 6th Floor, Baltimore MD 21202
410-396-3400 / 410-396-3308

FOR OFFICE USE ONLY

Invest: _____
Date: _____
File #: _____

Claimant's full Name: _____
Address (Include postal zone): _____
Email: _____
Home Phone: _____ Cell: _____ Date of Birth: _____
Exact Location of Incident: _____
Date of incident: _____ Time: _____ am pm
The Incident (describe fully)

Property Damaged (describe fully, including photographs)

Do you have Insurance to cover this loss? Yes No Did you file a claim with your Insurance company regarding this loss? Yes No
Name of Insurance company: _____ Policy Number: _____ Effective Dates: _____ to _____
Estimated Damages: (describe fully)

Witnesses Names and Addresses

1. _____
2. _____
3. _____

IF ANYONE WAS INJURED, FILL IN BELOW

Name of Injured Party: _____ Address: _____
Name of Injuries: _____
Attending Doctor's Name: _____
If Treated at Hospital, Give Name and Address: _____
Occupation: _____ Employer's Name and Address: _____
Time lost from work? Yes No Specify Dates: _____ Salary: Wkly: _____ Hrly: \$ _____
Was Incident Reported?: Yes No To Whom?: _____ When: _____


I do solemnly swear and affirm under penalty or perjury that the above representations are true and correct to the best of my knowledge. I understand that false statements constitute fraud and will be referred to the State's Attorney for prosecution. I further swear and affirm that I have not been indemnified by an Insurance company for the loss (es) that I now claim.

Claimant's Signature: _____ Dated: _____



(<http://www.baltimorecity.gov>)

Baltimore City Law Department (/)

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Claims



**FILING A CLAIM WITH THE CITY OF
BALTIMORE FOR PERSONAL
INJURIES OR PROPERTY DAMAGE**

If you think that the City of Baltimore or one of its employees injured you or your property, you may send us a claim.

- You must send a written claim to the City Law Department.
- You may hand deliver the claim or you may send it by certified mail – return receipt requested.
- You cannot send it by regular mail.
- The City Law Department must receive your claim within 180 days from the date of injuries that occurred prior to October 1, 2015. Claims for injuries after that date must be received by the Law Department within a year of their occurrence.

- You may use the claim form prepared by the Law Department. You can get a copy of the claim form by clicking below. You do not have to use this form.
- **You must include in the claim:**
 - the date of the injury
 - who was involved
 - where it occurred and
 - a brief explanation
- An investigator from the Central Bureau of Investigation in the Law Department will investigate the claim
- When the investigator completes his/her investigation, he/she will advise you of the decision.

The steps listed above are steps you may follow to file a complaint with the Law Department. The Law Department is not giving you legal advice. If you think you need legal advice, you should hire your own attorney.



Scroll down to the bottom of the page for forms related to filing a claim. Once complete, mail to:

Department of Law
CENTRAL BUREAU OF INVESTIGATION
7 E. Redwood Street, 6th Floor
Baltimore, MD 21202

(**Note:** Please download form before filling it out or the information you input will not save)

Related Documents



[General Use Claim Form fillable.pdf](#)

(http://law.baltimorecity.gov/sites/default/files/law/attachments/CBI_General_Use_Claim_Form_fillable_0.pdf).



[Claims for Damages Caused By City Owned Vehicles fillable_0.pdf](#)

(http://law.baltimorecity.gov/sites/default/files/law/attachments/CBI_Claims_for_Damages_Caused_By_City_Owned_Vehicles_fillable_0.pdf).



City of Baltimore

City Hall - Room 250

100 N. Holliday St, Baltimore, MD 21202

City Operator: (410) 396-3100

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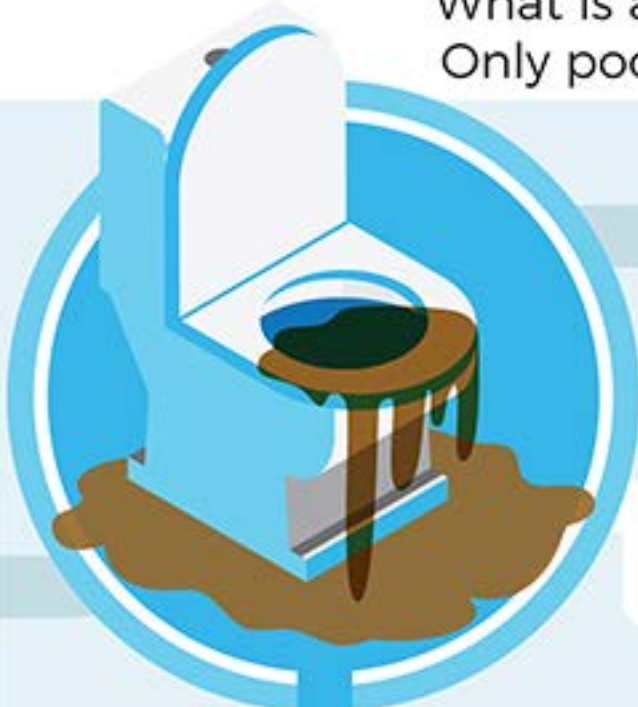
APPENDIX IV
TRASH THE WIPES



TRASH WIPES



What is allowed in the toilet?
Only poo, pee & toilet paper!



What about products labeled as **FLUSHABLE**?

Companies that make wipes may claim their product is flushable, but there is currently no general agreement on what is "flushable." Wipes frequently stay durable through the plumbing system. They can get snagged on globs of fats, oils, and grease, forming "Fatbergs" that clog the sewer and lead to overflows and basement backups. Only flush products that break down in water within seconds, like toilet paper.

FLUSHABLE DOES NOT MEAN BIODEGRADABLE

THINK BEFORE YOU FLUSH

Avoid the **Unflushables**

Unflushables are items that are placed in households sinks and toilets that do not breakdown in water and eventually clog the sewer leading to overflows, basement backups, and costly expenses to residents and the city.

ITEMS THAT CONTRIBUTE TO CLOGS ARE:

Tampons/
Condoms &
Personal
Hygiene



Dental Floss
& Whitening
Strips



Baby,
Cleaning, or
"Flushable"
Wipes



Adult & Baby
Diapers



Cotton Swabs &
Hair



Kitty Litter, Dog
Poo, & Other
Pet Waste.



Bandages &
Medications



Dryer Sheets



CLOG

Additional Unflushables:

- Cigarette Butts
- Facial Tissue & Cotton Balls
- Toilet Scrub Pads
- Napkins (Paper Or Cloth)
- Paper Towels
- Food and Kitchen Waste
- Fats, Oils, or Grease
- Household Chemicals
- Cleaning Products
- Automobile Fluids
- Paints, Solvents, Thinners or Sealants
- Syringes or Needles
- Plastic of any kind
- Vitamins or Supplements
- Medicines or Pharmaceuticals
- Coffee Waste
- Gloves
- Hot Wax



Wipes can cause breakdown of pumps in pump stations.



Wipes can combine with fats and grease in the pipe to form "Fatbergs" and are the primary causes of overflows from the manholes.

APPENDIX V
FATS, OILS AND GREASE (FOG)

CLEAR THE FOG

FATS, OILS, GREASE

Fats, Oils and Grease (FOG) come from food preparation and kitchen clean-up. FOG may look like liquid when drained, but it solidifies when discharged into the sanitary sewer. This results in clogged drains, sewage backups and the discharge of raw sewage into our local waterways.

MYTH

I can pour grease down the drain if I run hot water with it.

I can scrape kitchen waste down the drain if I use the garbage disposal.

Pouring grease down the drain with dish soap will completely dissolve the grease.

I can discard grease in my tub, shower, or toilet.

FACT

Grease poured down the drain, even with hot water, will eventually cool and solidify in the sewer pipe.

The garbage disposal only grinds up items before discharging them to the sewer system but does not eliminate FOG.

Most dish soaps break up grease, but once cooled, the grease will still solidify in the sewer system.

FOG poured in a bathtub, shower, or toilet will end up in the same sewer system that the sink drains to and may cause damage.

WHAT SHOULD I DO?

- Wipe loose food and grease from dishes before washing them in the sink.
- Scrape food scraps into a garbage can or compost bin.
- Pour all grease and cooking oil into a covered container and dispose of it in the garbage.
- Clean grease with absorbent materials, like paper towels, and then throw the material in the garbage.



COST OF FOG

FATS, OILS, GREASE

Don't let FOG clog your pipes, it will cost you:



MONEY

FOG can cause costly repairs for your home and your community.

- Hiring a professional to perform a Camera Inspection - \$450.00
- Repairing a sewer line - \$3,818 (national average).
- A complicated sewer line repair - \$30,000.



TIME

Replacing a sewer line is a large construction project. On average:

- It can take from 3 -5 days to complete.
- Total landscape restoration could take 1 - 6 months to return to pre-existing conditions.



HEALTH

Attempting to clean up a sewer backup can cause serious infections, including viral hepatitis, if not done correctly. It's always best to hire a professional company.

- Never try to clean up sewage backup in your home.
- Items damaged by sewage must be replaced or professionally restored.



CONTACT INFORMATION

To get help with a sewage backup, call **311** or go to the **311 website** www.baltimorecity.gov/311-services to report your sewage event.

To learn more about FOG and other items that cause sewage backups, visit <https://publicworks.baltimorecity.gov/sewer-consent-decree/clean-drain-campaign>

APPENDIX VI
DETAILED COST CALCULATIONS

DETAILED COST CALCULATIONS FOR BBERP

1. 311 support cost: \$2

Average salary of 311 call center operator = \$36,769 per annum

Average hourly rate of call center operator (approximately) = \$20 per hour

311 support cost = average amount of time taken by 311 call center operators to address a 'Sewer water – Water in basement' phone call X Average hourly rate of call center operator

$$= 3 \text{ minutes} / 60 \times \$20 = \$1$$

Adding 100% overhead burden to the cost to include the additional costs for supervisor time, equipment, benefits, insurance, payroll and vehicles makes the 311-support cost \$2

2. Cost of basement backup investigation: \$100

Average salary of a utility investigator = \$48,158

Average hourly rate of a utility investigator (approximately) = \$25/hour

Cost of Investigation = average amount of time taken by utility investigator to investigate a 'Sewer water – Water in basement' request X Average hourly rate of utility investigator

$$= 2 \text{ hours} \times \$25/\text{hour} = \$50$$

Adding 100% overhead burden to the cost to include the additional costs for supervisor time, equipment, benefits, insurance, payroll and vehicles makes the Cost of Investigation = \$100

3. Cost of relief for a basement backup

Work Type	Crew Size	Classification	Hourly Pay	Number of Hours	Labor cost	Equipment	Equipment Cost (Per hour rate)	Equipment costs
House Connection cleaning (Complaint crew)	2	UIR III	\$ 19.00	3	\$57.00	1 Ton Utility Pick-up Truck	\$ 24.10	\$ 72.30
		Laborer	\$ 16.39	3	\$49.17	1 truck with a utility body/ generator	\$ 24.10	\$ 72.30
					Total Labor cost			
					Total labor cost + 100 % overhead burden (A)	\$212.34		Total equipment cost (B)

Bypass Pumping	2	UIR II	\$ 16.50	8	\$132.00	3/4 Ton Utility Pick-up Truck	\$ 33.76	\$ 270.08
		Laborer	\$ 14.77	8	\$118.16			
					Total Labor cost			
					Total labor cost + 100 % overhead burden (C)	\$500.32		Total equipment cost (D)

Sanitary Main Break (Construction crew)	6	Laborer	\$ 18.00	8	\$144.00	Excavator on a trailer	\$ 165.38	\$ 1,323.04
		UIR III	\$ 19.00	8	\$152.00	Dump truck	\$ 60.40	\$ 483.20
		MVD I/ CDL I	\$ 21.00	8	\$168.00	5-ton pick-up truck	\$ 32.64	\$ 261.12
		HEO II / CDL II	\$ 24.00	8	\$192.00			
		MVD I/ CDL I	\$ 21.00	8	\$168.00			
		UIR II	\$ 16.50	8	\$132.00			
					Total Labor cost			
					Total labor cost + 100 % overhead burden (E)	\$ 1,912.00		Total equipment cost (F)

Sanitary Main Choke (Pressure truck crew)	2	Laborer	\$ 18.00	3	\$54.00	Jet-Vac truck	\$ 30.82	\$ 92.46
		CDL II	\$ 24.00	3	\$72.00			
					Total Labor cost			
					Total labor cost + 100 % overhead burden (G)	\$252.00		Total equipment cost (H)

CCTV crew	2	Sewer video inspector tech	\$ 21.00	3	\$ 63.00	CCTV truck	\$ 32.57	\$ 97.71
		Laborer	\$ 18.00	3	\$ 54.00			
					Total Labor cost			
					Total labor cost + 100 % overhead burden (I)	\$ 234.00		Total equipment cost (J)

If the basement backup is caused by a lateral choke, Cost of relief is (Labor + Equipment) (A+B+I+J) \$ 688.65

If the basement back up is caused by a mainline choke, Cost of relief is (Labor + Equipment) (A+B+G+H+I+J) \$ 1,033.11

If the basement backup is caused due to a pipe collapse, Cost of relief is (Labor + Equipment) (C+D+G+H+I+J) \$ 5,081.47

Average cost to relieve a basement backup (Average of above three costs) \$ 2,267.74

4. Cost of reviewing the BBERP application: \$320

Depending on the application being approved or rejected, the amount of time required by the program staff to review the documentation ranges between 2 – 6 hours.

Average hours to review the application – 4 hours

Average salary of the Program staff = \$75,000 per annum

Average hourly rate of Program staff (approximately) = ~ \$40/ hour

Cost of reviewing the BBERP application = average amount of time taken by program staff to review the BBERP application X Average hourly rate of Program staff

$$= \$40/ \text{ hour} \times 4 \text{ hours} = \$160$$

Adding 100% overhead burden to the cost to include the additional costs for supervisor time, equipment, benefits, insurance, payroll makes the Cost of reviewing BBERP applications = \$320

5. Average cost of BBERP reimbursement: \$ 1733.37

Total applications approved since 2018 = 20

Total amount approved under BBERP application since 2018= \$34, 667.43

Average cost of reimbursement = Total amount approved/number of applications approved

$$= \$ 34,667.43 / 20 = \$ 1733.37$$

6. Cost of addressing each basement backup under BBERP

Cost type	Cost per backup
311 support	\$2
Cost of investigation	\$100
Cost of relief for a basement backup	\$2,267.74
Cost of reviewing the BBERP application	\$320
Cost of average BBERP reimbursement	\$1,733.37
Total costs for addressing each wet weather capacity related basement backup through BBERP	\$4,423.11

7. Total cost of BBERP reimbursement per application per event: \$2053.37

Total cost of BBERP reimbursement per application per event = Cost of reviewing the BBERP application + Cost of average reimbursement

$$= \$320 + \$1733.37 = \$2,053.37$$

Basement Backup History:

Count of Cause, if identified	Column Labels			Grand Total
	Lateral	Mainline	Mainline and Lateral	
Row Labels				
2016	1038	718	394	2150
Dry	907	608	341	1856
Wet	131	110	53	294
2017	2247	1620	855	4722
Dry	1903	1388	746	4037
Wet	344	232	109	685
2018	2396	1708	747	4851
Dry	1770	1182	558	3510
Wet	626	526	189	1341
2019	1852	1348	727	3927
Dry	1483	1091	583	3157
Wet	369	257	144	770
2020	2837	1934	974	5745
Dry	2366	1563	787	4716
Wet	471	371	187	1029
2021	1493	1001	421	2915
Dry	1220	829	340	2389
Wet	273	172	81	526
Grand Total	11863	8329	4118	24310

8. Costs calculations of expanding the BBERP program

a) Expanding the BBERP program to all wet weather basement backups: \$1,589,308.38

= Total cost of BBERP reimbursement per application per event X average wet weather basement backups in a year

Average wet-weather basement backups in a year

= total wet-weather basement backups in last 6 years / 6

= $(294 + 685 + 1341 + 770 + 1029 + 526)/6 = 4645/6 = 774$ events/year

Expanding the BBERP program to all wet weather basement backups

= Total cost of BBERP reimbursement per application per event X amount of average wet weather basement backups in a year

= $\$2053.37 \times 774 = \$1,589,308.38$

b) Expanding the BBERP program to all dry weather basement backups: \$4,216,328.36

= Total cost of BBERP reimbursement per application per event X average dry weather basement backups in a year

Average dry-weather basement backups in a year

= total dry weather basement backups in last 6 years / 6

= $(1856 + 4037 + 3510 + 3157 + 4716 + 2389)/6 = 19,665 /6 = 3277$ events/year

Expanding the BBERP program to all dry weather basement backups

= Total cost of BBERP reimbursement per application per event X average dry weather basement backups in a year

= $\$2053.37 \times 3277 = \$4,216,328.36$

c) Expanding the BBERP program to all basement backups: \$8,318,201.87

= Total cost of BBERP reimbursement per application per event X amount of average basement backups in a year

Average basement backups in a year = total basement backups in last 6 years / 6

= $(2150 + 4722 + 4851 + 3927 + 5745 + 2915)/6 = 24310 /6 = 4051$

Expanding the BBERP program to all basement backups

$$= \$2053.37 \quad \times 4051 = \$8,318,201.87$$

Costs calculations of expanding the BBERP program

Cost type	Average number of events	Total cost (Annually)
Expanding the BBERP to all wet weather basement backups	774*	\$1,589,308.38
Expanding the BBERP to all dry weather basement backups	3277*	\$4,216,328.36
Expanding the BBERP to all basement backups	4051*	\$8,318,201.87

*Average number of events per year based on events that occurred in last 6 years

Note: The above costs are calculated without including the cost of 311 support, Cost of investigation and cost of relief for a basement backup as these costs are being incurred by the City outside of BBERP program.

9. Costs calculations of expanding the BBERP program for dry and wet weather Basement backup events in the Public and Private systems.

For the sake of completing a cost analysis, if all the Sewer laterals are considered as a private system and all sewer mains are considered public systems, then the basement backup occurred in the past per table 2.2 of this report can be classified as below

Row Labels	Count of Cause of basement backups, if identified			Grand Total
	Lateral (Private System)	Mainline (Public System)	Mainline and Lateral (Public and Private system combined)	
2016	1038	718	394	2150
Dry weather basement backup	907	608	341	1856
Wet weather basement backup	131	110	53	294
2017	2247	1620	855	4722
Dry weather basement backup	1903	1388	746	4037
Wet weather basement backup	344	232	109	685
2018	2396	1708	747	4851
Dry weather basement backup	1770	1182	558	3510

Wet weather basement backup	626	526	189	1341
2019	1852	1348	727	3927
Dry weather basement backup	1483	1091	583	3157
Wet weather basement backup	369	257	144	770
2020	2837	1934	974	5745
Dry weather basement backup	2366	1563	787	4716
Wet weather basement backup	471	371	187	1029
2021	1493	1001	421	2915
Dry weather basement backup	1220	829	340	2389
Wet weather basement backup	273	172	81	526
Grand Total	11863	8329	4118	24310

a) Expanding the BBERP program to all dry weather basement backups caused by private systems: \$3,301,818.96

= Total cost of BBERP reimbursement per application per event X average dry weather basement backups in a private system in a year

Average dry-weather basement backups in a private system in a year

= total dry -weather basement backups in a private system in last 6 years / 6

= $(907+1903+1770+1483+2366+1220)/6 = 9649/6 = 1608$ events/year

Expanding the BBERP program to all dry weather basement backups caused by private systems:

= Total cost of BBERP reimbursement per application per event X amount of average dry weather basement backups in a private system in a year

= $\$2053.37 \times 1608 = \$3,301,818.96$

b) Expanding the BBERP program to all dry weather basement backups caused by public systems: \$2,279,240.70

= Total cost of BBERP reimbursement per application per event X average dry-weather basement backups in a public system in a year

Average dry-weather basement backups in a public system in a year caused by public systems:

= total dry-weather basement backups in a public system in last 6 years / 6

$$= (608+1388+1182+1091+1563+829)/6 = 6661/6 = 1110 \text{ events/year}$$

Expanding the BBERP program to all dry-weather basement backups caused by public systems

= Total cost of BBERP reimbursement per application per event X amount of average dry-weather basement backups in a public system in a year

$$= \$2053.37 \times 1110 = \$2,279,240.70$$

c) Expanding the BBERP program to all dry-weather basement backups caused by public and private systems: \$1,147,833.83

= Total cost of BBERP reimbursement per application per event X average dry-weather basement backups in a public and private systems in a year

Average dry-weather basement backups in a public and private systems in a year

= total dry-weather basement backups in a public and private systems in last 6 years / 6

$$= (341+746+558+583+787+340)/6 = 3355/6 = 559 \text{ events/year}$$

Expanding the BBERP program to all dry-weather basement backups caused by public and private systems

= Total cost of BBERP reimbursement per application per event X amount of average dry-weather basement backups in a public and private systems in a year

$$= \$2053.37 \times 559 = \$1,147,833.83$$

d) Expanding the BBERP program to all Wet weather basement backups caused by private systems: \$757,693.53

= Total cost of BBERP reimbursement per application per event X average wet weather basement backups in a private system in a year

Average wet-weather basement backups in a private system in a year

= total wet-weather basement backups in a private system in last 6 years / 6

$$= (131+344+626+369+471+273)/6 = 2214/6 = 369 \text{ events/year}$$

Expanding the BBERP program to all wet weather basement backups caused by private systems:

= Total cost of BBERP reimbursement per application per event X amount of average wet weather basement backups in a private system in a year

$$= \$2053.37 \times 369 = \$757,693.53$$

e) Expanding the BBERP program to all Wet weather basement backups caused by public systems: \$570,836.86

= Total cost of BBERP reimbursement per application per event X average wet weather basement backups in a public system in a year

Average wet-weather basement backups in a public system in a year caused by public systems:

= total wet-weather basement backups in a public system in last 6 years / 6

$$= (110+232+526+257+371+172)/6 = 1668/6 = 278 \text{ events/year}$$

Expanding the BBERP program to all Wet weather basement backups caused by public systems

= Total cost of BBERP reimbursement per application per event X amount of average wet weather basement backups in a public system in a year

$$= \$2053.37 \times 278 = \$570,836.86$$

f) Expanding the BBERP program to all Wet weather basement backups caused by public and private systems: \$260,777.99

= Total cost of BBERP reimbursement per application per event X average wet weather basement backups in a public and private systems in a year

Average wet-weather basement backups in a public and private systems in a year

= total wet-weather basement backups in a public and private systems in last 6 years / 6

$$= (53+109+189+144+187+81)/6 = 763/6 = 127 \text{ events/year}$$

Expanding the BBERP program to all Wet weather basement backups caused by public and private systems

= Total cost of BBERP reimbursement per application per event X amount of average wet weather basement backups in a public and private systems in a year

$$= \$2053.37 \times 127 = \$260,777.99$$

The Cost analysis of expanding the BBERP, with the above assumption, for dry weather and wet weather and in the public and private system is as below

	Dry Weather	Wet Weather
Public Side	Number of average events annually = 1110	Number of average events annually = 278
	\$2,279,240.70	\$570,836.86
Private Side	Number of average events annually = 1608	Number of average events annually = 369
	\$3,301,818.96	\$757,693.53
Public and Private	Number of average events annually = 559	Number of average events annually = 127
	\$1,147,833.83	\$260,777.99

Note: The above costs are calculated without including the cost of 311 support, Cost of investigation and cost of relief for a basement backup as these costs are being incurred by the City outside of BBERP program.

DETAILED COST CALCULATIONS FOR SOS PROGRAM

1. 311 support cost: \$2

Average salary of 311 call center operator = \$36,769 per annum

Average hourly rate of call center operator (approximately) = \$20 per hour

311 support cost = average amount of time taken by 311 call center operators to address a ‘Sewer water – Water in basement’ phone call X Average hourly rate of call center operator

$$= 3 \text{ minutes} / 60 \times \$20 = \$1$$

Adding 100% overhead burden to the cost to include the additional costs for supervisor time, equipment, benefits, insurance, payroll and vehicles makes the 311-support cost \$2

2. Cost of basement backup investigation: \$100

Average salary of a utility investigator = \$48,158

Average hourly rate of a utility investigator (approximately) = \$25/hour

Cost of Investigation = average amount of time taken by utility investigator to investigate a ‘Sewer water – Water in basement’ request X Average hourly rate of utility investigator

$$= 2 \text{ hours} \times \$25/\text{hour} = \$50$$

Adding 100% overhead burden to the cost to include the additional costs for supervisor time, equipment, benefits, insurance, payroll and vehicles makes the Cost of Investigation = \$100

3. Cost of relief for a basement backup

Work Type	Crew Size	Classification	Hourly Pay	Number of Hours	Labor cost	Equipment	Equipment Cost (Per hour rate)	Equipment costs
House Connection cleaning (Complaint crew)	2	UIR III	\$ 19.00	3	\$57.00	1 Ton Utility Pick-up Truck	\$ 24.10	\$ 72.30
		Laborer	\$ 16.39	3	\$49.17	1 truck with a utility body/ generator	\$ 24.10	\$ 72.30
					Total Labor cost			
					Total labor cost + 100 % overhead burden (A)	\$212.34		Total equipment cost (B)

Bypass Pumping	2	UIR II	\$ 16.50	8	\$132.00	3/4 Ton Utility Pick-up Truck	\$ 33.76	\$ 270.08
		Laborer	\$ 14.77	8	\$118.16			
					Total Labor cost			
					Total labor cost + 100 % overhead burden (C)	\$500.32		Total equipment cost (D)

Sanitary Main Break (Construction crew)	6	Laborer	\$ 18.00	8	\$144.00	Excavator on a trailer	\$ 165.38	\$ 1,323.04
		UIR III	\$ 19.00	8	\$152.00	Dump truck	\$ 60.40	\$ 483.20
		MVD I/ CDL I	\$ 21.00	8	\$168.00	5-ton pick-up truck	\$ 32.64	\$ 261.12
		HEO II / CDL II	\$ 24.00	8	\$192.00			
		MVD I/ CDL I	\$ 21.00	8	\$168.00			
		UIR II	\$ 16.50	8	\$132.00			
					Total Labor cost			
					Total labor cost + 100 % overhead burden (E)	\$ 1,912.00		Total equipment cost (F)

Sanitary Main Choke (Pressure truck crew)	2	Laborer	\$ 18.00	3	\$54.00	Jet-Vac truck	\$ 30.82	\$ 92.46
		CDL II	\$ 24.00	3	\$72.00			
					Total Labor cost			
					Total labor cost + 100 % overhead burden (G)	\$252.00		Total equipment cost (H)

CCTV crew	2	Sewer video inspector tech	\$ 21.00	3	\$ 63.00	CCTV truck	\$ 32.57	\$ 97.71
		Laborer	\$ 18.00	3	\$ 54.00			
					Total Labor cost			
					Total labor cost + 100 % overhead burden (I)	\$ 234.00		Total equipment cost (J)

If the basement backup is caused by a lateral choke, Cost of relief is (Labor + Equipment) (A+B+I+J) \$ 688.65

If the basement back up is caused by a mainline choke, Cost of relief is (Labor + Equipment) (A+B+G+H+I+J) \$ 1,033.11

If the basement backup is caused due to a pipe collapse, Cost of relief is (Labor + Equipment) (C+D+G+H+I+J) \$ 5,081.47

Average cost to relieve a basement backup (Average of above three costs) \$ 2,267.74

4. Cost of processing the SOS request - \$320

The average time to dispatch a contractor, complete Customer Journey Mapping (CJM), review and process contractor invoices – 4 hours

Average salary of the staff = \$75,000 per annum = ~ \$40/ hour

Cost of reviewing the BBERP application = \$40 X 4 = \$160

Adding 100% overhead burden to the cost to include the additional costs for supervisor time, equipment, benefits, insurance, payroll makes the Cost of reviewing BBERP applications = \$320

5. Average cost of SOS Cleanup: \$ 3316.11

Total number of SOS Cleanups since March 23, 2021 =14

Total number of SOS Cleanups invoices received from the contractor to-date =7

Total amount paid to the contractors for the above cleanups = \$23,212.77

Average cost of SOS cleanup = Total amount paid to the contractor/number of applications for which the invoices are received

= \$ 23,212.77 / 7 = \$ 3316.11

6. Cost of addressing each basement backup under SOS Program

Cost type	Cost per backup
311 support	\$2
Cost of investigation	\$100
Cost of relief for a basement backup	\$2,267.74
Cost of processing SOS request	\$320
Cost of average SOS cleanup through a SOS contractor	\$3,316.11
Total costs for addressing each wet weather capacity related basement backup through a SOS program	\$6005.85

7. Total cost of SOS cleanup per event: \$3636.11

Total cost of SOS cleanup per event = Cost of processing a SOS cleanup + Cost of average reimbursement

$$= \$320 + \$3316.11 = \$3636.11$$

Basement Backup History:

Count of Cause, if identified Row Labels	Column Labels			Grand Total
	Lateral	Mainline	Mainline and Lateral	
2016	1038	718	394	2150
Dry	907	608	341	1856
Wet	131	110	53	294
2017	2247	1620	855	4722
Dry	1903	1388	746	4037
Wet	344	232	109	685
2018	2396	1708	747	4851
Dry	1770	1182	558	3510
Wet	626	526	189	1341
2019	1852	1348	727	3927
Dry	1483	1091	583	3157
Wet	369	257	144	770
2020	2837	1934	974	5745
Dry	2366	1563	787	4716
Wet	471	371	187	1029
2021	1493	1001	421	2915
Dry	1220	829	340	2389
Wet	273	172	81	526
Grand Total	11863	8329	4118	24310

8. Costs calculations of expanding the SOS program

a) Expanding the SOS program to all wet weather basement backups: **\$2,814,349.14**

= Total cost of SOS cleanup per event X amount of average wet weather basement backups in a year

Average wet weather basement backups in a year = total wet weather basement backups in last 6 years / 6

$$= 4645/6 = 774$$

Expanding the SOS program to all wet weather basement backups

= Total cost of SOS cleanup per event X amount of average wet weather basement backups in a year

$$= \$3636.11 \times 774 = \$2,814,349.14$$

b) Expanding the SOS program to all dry weather basement backups: **\$11,915,532.47**

= Total cost of SOS cleanup per event X amount of average dry weather basement backups in a year

Average dry weather basement backups in a year = total dry weather basement backups in last 6 years / 6

$$= 19,665 / 6 = 3277$$

Expanding the SOS program to all dry weather basement backups

$$= \$3636.11 \times 3277 = \$11,915,532.47$$

c) Expanding the SOS program to all basement backups: **\$14,729,881.61**

= Total cost of SOS cleanup per event X amount of average basement backups in a year

Average basement backups in a year = total basement backups in last 6 years / 6

$$= 24310 / 6 = 4051$$

Expanding the SOS program to all basement backups

$$= \$3636.11 \times 4051 = \$14,729,881.61$$

Cost type	Average number of events (Annually)	Total cost (Annually)
Expanding the SOS program to all wet weather basement backups	774*	\$2,814,349.14
Expanding the SOS program to all dry weather basement backups	3277*	\$11,915,532.47
Expanding the SOS program to all basement backups	4051*	\$14,729,881.61

Note: The above costs are calculated without including the cost of 311 support, Cost of investigation and cost of relief for a basement backup as these costs are being incurred by the City outside of SOS program.

9. Costs calculations of expanding the SOS program for dry and wet weather Basement backup events in the Public and Private systems.

For the sake of completing a cost analysis, if all the Sewer laterals are considered as a private system and all sewer mains are considered public systems, then the basement backup occurred in the past per table 2.2 of this report can be classified as below

Row Labels	Count of Cause of basement backups, if identified			Grand Total
	Lateral (Private System)	Mainline (Public System)	Mainline and Lateral (Public and Private system combined)	
2016	1038	718	394	2150
Dry weather basement backup	907	608	341	1856
Wet weather basement backup	131	110	53	294
2017	2247	1620	855	4722
Dry weather basement backup	1903	1388	746	4037
Wet weather basement backup	344	232	109	685
2018	2396	1708	747	4851
Dry weather basement backup	1770	1182	558	3510

Wet weather basement backup	626	526	189	1341
2019	1852	1348	727	3927
Dry weather basement backup	1483	1091	583	3157
Wet weather basement backup	369	257	144	770
2020	2837	1934	974	5745
Dry weather basement backup	2366	1563	787	4716
Wet weather basement backup	471	371	187	1029
2021	1493	1001	421	2915
Dry weather basement backup	1220	829	340	2389
Wet weather basement backup	273	172	81	526
Grand Total	11863	8329	4118	24310

a) Expanding the SOS program to all dry weather basement backups caused by private systems: \$5,846,864.88

= Total cost of SOS cleanup per event X average dry weather basement backups in a private system in a year

Average dry-weather basement backups in a private system in a year

= total dry -weather basement backups in a private system in last 6 years / 6

= (907+1903+1770+1483+2366+1220)/6 = 9649/6 = 1608 events/year

Expanding the SOS program to all dry weather basement backups caused by private systems:

= Total cost of SOS cleanup per event X amount of average dry weather basement backups in a private system in a year

= \$3636.11 X 1608 = \$5,846,864.88

b) Expanding the SOS program to all dry weather basement backups caused by public systems: \$4,036,082.10

= Total cost of SOS cleanup per event X average dry-weather basement backups in a public system in a year

Average dry-weather basement backups in a public system in a year caused by public systems:

= total dry-weather basement backups in a public system in last 6 years / 6

$$= (608+1388+1182+1091+1563+829)/6 = 6661/6 = 1110 \text{ events/year}$$

Expanding the SOS program to all dry-weather basement backups caused by public systems

= Total cost of SOS cleanup per event X amount of average dry-weather basement backups in a public system in a year

$$= \$3636.11 \quad X \quad 1110 = \$4,036,082.10$$

c) Expanding the SOS program to all dry-weather basement backups caused by public and private systems: \$2,032,585.49

= Total cost of SOS cleanup per event X average dry-weather basement backups in a public and private systems in a year

Average dry-weather basement backups in a public and private systems in a year

= total dry-weather basement backups in a public and private systems in last 6 years / 6

$$= (341+746+558+583+787+340)/6 = 3355/6 = 559 \text{ events/year}$$

Expanding the SOS program to all dry-weather basement backups caused by public and private systems

= Total cost of SOS cleanup per event X amount of average dry-weather basement backups in a public and private systems in a year

$$= \$3636.11 \quad X \quad 559 = \$2,032,585.49$$

d) Expanding the SOS program to all Wet weather basement backups caused by private systems: \$1,341,724.59

= Total cost of SOS cleanup per event X average wet weather basement backups in a private system in a year

Average wet-weather basement backups in a private system in a year

= total wet-weather basement backups in a private system in last 6 years / 6

$$= (131+344+626+369+471+273)/6 = 2214/6 = 369 \text{ events/year}$$

Expanding the SOS program to all wet weather basement backups caused by private systems:

= Total cost of SOS cleanup per event X amount of average wet weather basement backups in a private system in a year

$$= \$3636.11 \times 369 = \$1,341,724.59$$

e) Expanding the SOS program to all Wet weather basement backups caused by public systems: \$1,010,838.58

= Total cost of SOS cleanup per event X average wet weather basement backups in a public system in a year

Average wet-weather basement backups in a public system in a year caused by public systems:

= total wet-weather basement backups in a public system in last 6 years / 6

$$= (110+232+526+257+371+172)/6 = 1668/6 = 278 \text{ events/year}$$

Expanding the SOS program to all Wet weather basement backups caused by public systems

= Total cost of SOS cleanup per event X amount of average wet weather basement backups in a public system in a year

$$= \$3636.11 \times 278 = \$1,010,838.58$$

f) Expanding the SOS program to all Wet weather basement backups caused by public and private systems: \$461,785.97

= Total cost of SOS cleanup per event X average wet weather basement backups in a public and private systems in a year

Average wet-weather basement backups in a public and private systems in a year

= total wet-weather basement backups in a public and private systems in last 6 years / 6

$$= (53+109+189+144+187+81)/6 = 763/6 = 127 \text{ events/year}$$

Expanding the SOS program to all Wet weather basement backups caused by public and private systems

= Total cost of SOS cleanup per event X amount of average wet weather basement backups in a public and private systems in a year

$$= \$3636.11 \times 127 = \$461,785.97$$

The Cost analysis of expanding the SOS program, with the above assumption, for dry weather and wet weather and in the public and private system is as below

	Dry Weather	Wet Weather
Public Side	Number of average events annually = 1110	Number of average events annually = 278
	\$4,036,082.10	\$1,010,838.58
Private Side	Number of average events annually = 1608	Number of average events annually = 369
	\$5,846,864.88	\$1,341,724.59
Public and Private *	Number of average events annually = 559	Number of average events annually = 127
	\$2,032,585.49	\$461,785.97

* - Backups caused by issues on both mainline and lateral

Note: The above costs are calculated without including the cost of 311 support, Cost of investigation and cost of relief for a basement backup as these costs are being incurred by the City outside of SOS program.