INDEX TO EXHIBITS

Docket Nos. C-2022-3036934/ C-2022-3036935

Hearing Date: April 6, 2023

ECKERT SEAMANS
ATTORNEYS AT LAW

Eckert Seamans Cherin & Mellott, LLC
213 Market Street, 8th Floor
Harrisburg, PA 17101

TEL: 717 237 6000
FAX: 717 237 6019

Bryce R. Beard
717.237.6041
bbeard@eckertseamans.com

March 30, 2023

Via Email
Deputy Chief Administrative Law Judge Mark A. Hoyer
c/o Nick Miskanic
Office of Administrative Law Judge
Pennsylvania Public Utility Commission
Piatt Place, 301 5th Avenue, Suite 220
Pittsburgh, PA 15222
nmiskanic@pa.gov

RE: Ronald H. Schad v. The Pittsburgh Water and Sewer Authority
Docket Nos. C-2022-3036935 and C-2022-3036934

Dear Judge Hoyer:

Per the Prehearing Order dated February 24, 2023, enclosed please find the proposed hearing exhibits that The Pittsburgh Water and Sewer Authority ("PWSA") may present into evidence during the telephonic hearing scheduled for Thursday, April 6, 2023 at 10:00 a.m., in the above-referenced proceeding.

PWSA Hearing Exhibits:	
1	PWSA's Answers to Complaint
2A&B	Complainant's April 14 and June 15 Letters to PWSA
3A&B	PWSA's May 13 and September 27 Letters to Complainant
4	Excerpt from PWSA's Wastewater Tariff
5	Complainant's Account History
6	Complainant's December 2022 – March 2023 Bills
7	Excerpt from PWSA's Stormwater Tariff
8	Complainant's property imagery and impervious surface area
9	PWSA's Accepted Stormwater BMP Structures for Volume Credits

Please contact me with any questions or concerns. Thank you.

Sincerely,

Bryce R. Beard
Bryce R. Beard
cc: Certificate of Service (with Enclosures)

PWSA Exhibit No. 1

PWSA's Answers to Complaint

ECKERT SEAMANS
ATTORNEYS AT LAW

Eckert Seamans Cherin & Mellott, LLC
213 Market St., 8th Floor
Harrisburg, PA 17101

TEL: 717 237 6000
FAX: 717 237 6019

December 19, 2022

Karen O. Moury
717.237.6036
kmoury@eckertseamans.com

Via Electronic Filing
Rosemary Chiavetta, Secretary
Pa. Public Utility Commission
400 North Street
Harrisburg, PA 17120

RE: Ronald H. Schad v. The Pittsburgh Water and Sewer Authority
Docket No. C-2022-3036934

Dear Secretary Chiavetta:

Enclosed for electronic filing please find The Pittsburgh Water and Sewer Authority's Answer with regard to the above-referenced matter. Copies to be served in accordance with the attached Certificate of Service.

Sincerely,

/s/ *Karen O. Moury*

Karen O. Moury

Enclosure

cc: Certificate of Service (with Enclosures)

CERTIFICATE OF SERVICE

I hereby certify that this day I served a copy of the foregoing Answer upon the persons listed below in the manner indicated in accordance with the requirements of 52 Pa. Code Section 1.54.

Via Email Only

Ronald H. Schad
2509 Greenboro Lane
Pittsburgh, PA 15220
schadr@comcast.net

Hon. Charles E. Rainey, Jr.
Chief Administrative Law Judge
Pa. Public Utility Commission
400 North Street
Harrisburg, PA 17120
bobbwillia@pa.gov

Date: December 19, 2022

/s/ *Karen O. Moury*
Karen O. Moury, Esquire
Counsel for
The Pittsburgh Water and Sewer Authority

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Ronald H. Schad, Complainant,	:	
v.	:	Docket No. C-2022-3036934
The Pittsburgh Water and Sewer Authority, Respondent.	:	

THE PITTSBURGH WATER AND SEWER AUTHORITY'S
ANSWER TO THE FORMAL COMPLAINT

Pursuant to the regulations of the Pennsylvania Public Utility Commission ("Commission" or "PUC") at 52 Pa. Code § 5.61, The Pittsburgh Water and Sewer Authority ("PWSA") submits this Answer to the Formal Complaint of Ronald H. Schad ("Mr. Schad" or "Complainant") served on November 28, 2022. In support of this Answer, PWSA avers as follows:

INTRODUCTION

The Complainant is disputing his responsibility to pay wastewater conveyance charges for water that passes through his by-pass meter, which waters his lawn, and he also disputes the amount of his stormwater fee. The Complainant does not believe he should have to pay the wastewater conveyance charges because PWSA is not transporting the water. Mr. Schad states the water goes onto his lawn. Mr. Schad seeks to be credited for all water that passes through the by-pass meter and requests that PWSA come out to measure impervious surfaces and charge him for the correct equivalent residential units ("ERUs").

PWSA requests that the case be dismissed. The wastewater conveyance charges are based on the water meter readings that PWSA receives from Pennsylvania American Water Company (PAWC") and PWSA does not offer any credit on wastewater conveyance charges for water used by lawn sprinklers. Additionally, the Complainant was correctly assessed stormwater charges based on

impervious area on his property under PWSA's PUC-approved stormwater tariff. Mr. Schad mailed several letters addressing his concerns regarding his by-pass meter, ERU assessment, and omni stone driveway. PWSA responded to those letters after further investigation. The response letters provided specific details regarding Mr. Schad's impervious area calculation, driveway, and denial of a lawn sprinkler system credit, which are attached hereto as Attachments A and B. PWSA advised Mr. Schad that impervious area is calculated using aerial imagery and, even if his driveway was removed from his total square footage of impervious surface, he would remain in the same stormwater Tier.

By way of background, on April 13, 2021, PWSA filed a rate request with the PUC, which included the introduction of a stormwater charge. This request was approved by the Commission on November 18, 2021, with rates effective as of January 12, 2022.[1] Historically, PWSA has funded stormwater services from wastewater rates that are based on water usage. The new stormwater charge is based on the hard or impervious surfaces on a property. This ensures that all property owners in Pittsburgh contribute a share that is proportional to the amount of runoff generated by their property. The Complainant is the owner of the property. As the owner of the property, Mr. Schad is responsible to pay a monthly stormwater charge, which is based on the impervious surface area of the property. PWSA determined that 1,650 square feet is equal to one ERU, which is the unit of measurement that PWSA uses to calculate the stormwater charge for each property at the rate of $5.96 in 2022. The impervious area of Mr. Schad's property is 3,596 square feet placing his parcel in Tier 3, which is charged 2 ERUs, resulting in a stormwater charge of $11.92 per month. Mr. Schad was properly assessed a stormwater charge and billed for consumption at the property in accordance with PWSA's PUC approved tariff, and the Complaint should be dismissed.

[1] *Pa. P.U.C. v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2021-3024773, R-2021-3024774 and R-2021-3024779 (Order entered November 18, 2021); *Pa. P.U.C. Pittsburgh Water and Sewer Authority*, Docket No. R-2021-3024779 (Secretarial Letter dated January 11, 2022) (approving the Storm Water Tariff).

The Complainant is responsible to pay the charges for services related to wastewater conveyance and stormwater assessed at the property. Additionally, if the Complainant is not required to pay for services related to wastewater and stormwater at the property, other customers will be unfairly required to shoulder the burden for this uncollectible amount.

ANSWER

1. To the best of PWSA's knowledge and belief, the name and contact information for the Complainant is accurate. Per the Allegheny County Real Estate Assessment website, the Complainant is the owner of the subject single-family residential property located at 2509 Greenboro Lane ("the Property").[2]

2. It is admitted that the Formal Complaint is directed at PWSA. By way of further answer, PWSA is a municipal authority created in 1984 and is responsible for producing and supplying water along with maintaining and operating the water and sewer infrastructure in Pittsburgh. Effective April 1, 2018, PWSA became subject to the jurisdiction of the Commission as a regulated public utility. 66 Pa. C.S. §§ 3201-3209. PWSA's currently approved water, wastewater and stormwater tariffs became effective on January 12, 2022 (see January 11, 2022 Secretarial Letters entered at Docket Numbers: R-2021-3024773 [water], R-2021-3024774 [wastewater] and R-2021-3024779 [stormwater]).

3. It is admitted that PWSA provides wastewater conveyance and stormwater services to the subject property. Complainant's bill also includes sewage treatment charges from the Allegheny County Sanitary Authority ("ALCOSAN"), which are established by ALCOSAN and paid by PWSA to ALCOSAN. By way of further response, PAWC provides water to the subject property.

---

[2] *See* Allegheny County tax records for 2509 Greenboro Lane, Pittsburgh (Parcel ID: 0036-F-00012-0000-00), which are available at: http://www2.alleghenycounty.us/RealEstate/search.aspx.

4. The allegations in Paragraph 4 of the Formal Complaint are admitted and denied consistent with the following:[3]

Account Details

(a) It is admitted that PWSA's wastewater conveyance charges are based on 1,000-gallon increments of water consumption. By way of further response, this billing practice is consistent with PWSA's Commission-approved tariff.[4] PWSA is required by the Public Utility Code to follow its tariff, which the appellate courts have described as having the force of law and being binding on both the utility and its customer.[5] PWSA bills Mr. Schad for monthly wastewater conveyance and sewage treatment charges based on the meter readings provided by PAWC.

(b) It is denied that ALCOSAN does not charge to treat the water. On the contrary, Complainant's bill includes sewage treatment charges from ALCOSAN. By way of further response, ALCOSAN offers customers an option to install a credit meter to measure water used by lawn sprinklers. PWSA would subsequently apply quarterly adjustments to the account based upon usage information provided to PWSA by ALCOSAN.

(c) It is admitted that PWSA does not offer a credit to wastewater conveyance bills for water used by lawn sprinklers. By way of further answer, PWSA does not apply credits for water consumed by a sprinkler system because the charges are based on the water consumption that is provided from PAWC. All sewage customers pay sewer system maintenance charges (wastewater conveyance). This charge funds the maintenance, repair, and replacement of PWSA's sewer infrastructure.

(d) It is denied that PWSA is overcharging Mr. Schad for stormwater service. On the contrary, the total impervious area of Mr. Schad's property is 3,596 square feet. If the impervious area is equal to or greater than 2,710 square feet, the parcel is in Tier 3, which is charged 2 ERUs ($11.92/month). Mr. Schad is being billed $11.92 per month for stormwater service.[6]

(e) It is admitted that PWSA did not send anyone to the property to verify the square footage of impervious surface. By way of further answer, based on the information provided in Mr. Schad's letters, an inspection of the property was not warranted. The Complainant did not

---

3 This Complaint was submitted on the Commission's Formal Complaint form. The allegations within each numbered paragraph of that the Formal Complaint are not styled in numbered paragraphs. PWSA is answering the allegations within the numbered paragraphs under separate headings for ease of reference.

4 The wastewater tariff is on PWSA's website at this link. The applicable tariff provision is attached as Attachment C.

5 66 Pa.C.S. § 1303; *See, e.g., Brockway Glass Co. v. Pennsylvania Public Utility Commission*, 63 Pa. Cmwlth, 238, 242, 437 A.2d 1067 (1981).

6 The stormwater tariff is on PWSA's website at this link. The applicable tariff provision is attached as Attachment D.

provide information that his property contains a stormwater best management practice ("BMP") that is specifically designed to control ¾ inch of runoff from the property's impervious surfaces. Without a BMP in place, Mr. Schad is not eligible for a stormwater credit under PWSA's PUC-approved stormwater tariff, and no inspection is necessary. PWSA calculated Mr. Schad's impervious area using aerial imagery. Additionally, if PWSA would deduct 603 square feet of driveway that is billed as impervious surface, decreasing the impervious area from 3,596 square feet to 2,993 square feet, Mr. Schad's stormwater Tier would remain the same because the total impervious area would remain above 2,710 square feet. To drop down to Tier 2, Mr. Schad's impervious area would have to be equal to or greater than 1,015 square feet but less than 2,710 square feet.

Additional Responses By PWSA

(a) No response is required to the legal conclusions in the Formal Complaint.

(b) After reasonable investigation, PWSA does not have sufficient information to form a belief as to the truth of the remaining factual allegations in the Formal Complaint. Such allegations are, therefore, denied. Strict proof of said allegations is demanded at the time of hearing in this matter.

(c) The Formal Complaint fails to allege a violation by PWSA of PWSA's tariff.

(d) The Formal Complaint fails to allege a violation by PWSA of the Public Utility Code, another statute administered by the Commission, the Commission's Regulations and/or the Commission's Orders.

5. It is denied that Complainant is entitled to relief. The Formal Complaint fails to allege that PWSA has violated Pennsylvania law or Commission regulations. The impervious area of Mr. Schad's property is 3,596 square feet placing it in Tier 3, which is charged for 2 ERUs, resulting in a stormwater charge of $11.92 per month. Additionally, PWSA does not offer a wastewater conveyance credit for sprinkler systems. Thus, the Complainant was accurately billed for stormwater at the subject property. By way of further answer, PWSA incorporates herein its response to Paragraph 4, above.

6-10. No response is required to Paragraphs 6 through 10 of the Formal Complaint. To the extent such allegations are deemed factual, the factual allegations in Paragraphs 6 through 10 of the Formal Complaint are admitted or denied consistent with Paragraphs 1 through 5 of this Answer. By way of further answer, PWSA denies that this Complaint is related to a prior decision of the BCS.

CONCLUSION

WHEREFORE, The Pittsburgh Water and Sewer Authority respectfully requests that the Commission (a) dismiss the Complaint; and, (b) grant any other relief deemed appropriate. Notwithstanding PWSA's requests for dismissal of the Complaint, PWSA is willing to work with the Complainant to resolve this matter and therefore requests that the Office of Administrative Law Judge issue an "Interim Order Setting Resolution Conference" directing the parties to hold a conference about resolving the case.

Respectfully submitted,

/s/ *Karen O. Moury*

Karen O. Moury, Esquire (I.D. No. 36879)
Bryce R. Beard (I.D. 325837)
Eckert Seamans Cherin & Mellott, LLC
213 Market St., 8th Floor
Harrisburg, PA 17101
(717) 237-6036 (phone)
(717) 237-6019 (fax)
kmoury@eckertseamans.com
bbeard@eckertseamans.com

Date: December 19, 2022

Counsel for
The Pittsburgh Water and Sewer Authority

Verification

I, Julie A. Mechling, am the Director of Customer Service for The Pittsburgh Water and Sewer Authority ("PWSA" or "Authority"), and I hereby state that the facts set forth in the foregoing **Answer** are true and correct to the best of my knowledge, information and belief and that I expect the Authority to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: December 19, 2022

/s/ *Julie A. Mechling*
Julie A. Mechling
Director of Customer Service
The Pittsburgh Water and Sewer Authority

Attachment A

Pittsburgh Water & Sewer Authority

Mr. Ronald Schad
2509 Greenboro Lane
Pittsburgh, PA 15220-4043
Parcel number: 0036F00012000000
PWSA Account Number: 5094831

Dear Mr. Schad,

Thank you for your letter dated April 14, 2022 with questions about your stormwater fee.

We addressed your questions below:

1. **Impervious Area Calculation**

Below is the image of your property with the outline of the impervious surfaces in blue. Customers can access this tool, the "Stormwater Fee Finder" on PWSA's Stormwater Fee site here - https://www.pgh2o.com/your-water/stormwater/stormwater-fee and enter their address to see their impervious area outline and calculation.

As you can see above, PWSA's stormwater fee for your parcel does not include the parking pad because it is outside your parcel boundary. PWSA's stormwater fee does include the walkway and patio, even though it is surrounded by grass, flower beds, or bushes. Please refer to the guidance below –

What does PWSA consider to be an impervious surface to be included on the stormwater bill?
For the purposes of PWSA's stormwater fee, an impervious surface is any manmade or altered surface, resulting from parcel improvements, which prevents or limits the infiltration of water into the ground, including:

- private streets,
- driveways,
- concrete pads,
- structures,
- mobile homes,

Pittsburgh Water & Sewer Authority

- private sidewalks/walkways,
- parking lots,
- patios and decks,
- athletic facilities and artificial turf
- pools (above ground and in-ground)
- compacted earth or clay, gravel that is installed and maintained for vehicle travel or parking, and
- trails (paved or unpaved).

2. Driveway

There is approximately approx. 603 square feet of driveway that is billed as impervious surface for your stormwater fee. Can you please provide more information about the Omni-stone driveway? For example, is it built with Eco-Tek Omnistone pavers?

https://www.omnipropittsburgh.com/index.php/eco-tek-driveway-stones

If so, we can deduct this impervious area from that calculated (3,596 square fee) for your property. However, you would still be in Tier 3 with about 2,993 square feet of impervious surface.

As you can see in an example below, permeable paver driveways are specifically designed with joints filled with stone between the pavers and a layer of stone below to function as a reservoir to provide infitration and detention of stormwater. They are a great way to manage stormwater and seem to work well in the Pittsburgh area. See the attached information for more specifications on permeable paver driveways.

3. Lawn Sprinkler System Credit

Unfortunately, PWSA does not offer a credit to water bills for underground lawn sprinklers.

You can contact Alcosan at (412) 766-4810 to inquire about their Credit Meter program?

Pittsburgh Water & Sewer Authority

Sincerely,

PWSA Customer Service

Attachment

Technical Specifications for Construction of Permeable Interlocking Concrete Pavement Systems

Penn Liberty Plaza I
1200 Penn Avenue
Pittsburgh PA 15222

info@pgh2o.com
T 412.255.2423
F 412.255.2475

www.pgh2o.com
@pgh2o

Customer Service /
Emergencies:
412.255.2423

Attachment B

PGH2O Pittsburgh Water & Sewer Authority

Mr. Ronald Schad
2509 Greenboro Lane
Pittsburgh, PA 15220-4043
Parcel number: 0036F00012000000
PWSA Account Number: 5094831
September 27, 2022

Dear Mr. Schad,

We have received your letter dated June 15, 2022 with your questions about your stormwater fee.

We addressed your questions below:

1. **Impervious Area Calculation**

In your letter you provided a calculation of impervious area for your property. Please note that PWSA uses our aerial imagery data for all impervious area calculations for our customers' stormwater bills. As indicated by the "Stormwater Fee Finder" on PWSA's Stormwater Fee site here - https://www.pgh2o.com/your-water/stormwater/stormwater-fee the impervious area for your property is 3,596 square feet, so this is the number that we are required to use for your stormwater bill. We also note that the estimates that you provided seem low (For example 21 sf for the front walk and 148 sf for the rear patio. By contrast, we have 174 sf for the front walk and 658 sf for the rear patio.)

2. **Omni Stone Driveway**

As for the Omni Stone parking area, our aerial imagery shows that PWSA is billing you for approximately 603 square feet of driveway impervious surface for your stormwater fee. Even if this were deducted from the total impervious area for your property (3,596 square feet) you would still be in Tier 3 ($11.92 monthly stormwater fee) with about 2,993 square feet of impervious surface.

Note that not all interlocking pavers are capable of managing significant quantities of stormwater. But if you would still like us to remove 603 square feet from the impervious area calculated for your driveway, please provide documenation that specifies that the pavers were specifically installed to infiltrate, detain and treat stormwater. These paver projects are designed with larger joints filled with stone between the pavers and a layer of stone below to function as a reservoir to provide infitration and detention of stormwater.

3. **Lawn Sprinkler System Credit**

Unfortunately, PWSA does not offer a credit to wastewater conveyance charges for water used by lawn sprinklers.

Sincerely,

PWSA Customer Service

Penn Liberty Plaza I
1200 Penn Avenue
Pittsburgh PA 15222

info@pgh2o.com
T 412.255.2423
F 412.255.2475

www.pgh2o.com
@pgh2o

Customer Service /
Emergencies:
412.255.2423

Attachment C

Supplement No. 8
Tariff Wastewater - Pa. P.U.C. No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF WASTEWATER CONVEYANCE SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: December 30, 2021 Effective: January 12, 2022

BY: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This tariff makes increases and changes in existing rates, rules, and regulations as approved by the Commission in its Final Order dated November 18, 2021 at Docket No. R-2021-3024774.

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Wastewater Conveyance

1. Minimum Charge*: Each customer will be assessed a service charge based upon the size of the customer's water meter as follows except that residential customers residing in newly constructed townhomes who are required to install a meter larger than 5/8" for fire protection and due to City ordinance requirements, may request assessment of the 5/8" minimum charge and usage allowance:

Meter Size	Minimum Gallons	Minimum Charge Per Month		(C)
		Effective January 12, 2022	**Effective January 1, 2023**	(C)
5/8"	1,000	$8.09	$7.32	(D)/(D)
3/4"	2,000	$15.27	$11.70	(D)/(D)
1"	5,000	$35.01	$24.27	(D)/(D)
1 1/2"	10,000	$70.91	$46.19	(D)/(D)
2"	17,000	$119.36	$76.29	(D)/(D)
3"	40,000	$271.91	$173.03	(D)/(D)
4"	70,000	$465.73	$297.52	(D)/(D)
6"	175,000	$1,120.70	$725.62	(D)/(D)
8"	325,000	$2,035.83	$1,330.48	(D)/(D)
10" or Larger	548,000	$3,361.79	$2,218.44	(D)/(D)

2. Conveyance Charge: In addition to the Minimum Charge, the following wastewater conveyance charges (based on water consumption/usage or wastewater flows, at the Authority's discretion) will apply for each 1,000 gallons above the Minimum Gallons for each meter size:

Customer Class	Conveyance Charge Rate Per 1000 Gals.		
	Effective January 12, 2022	**Effective January 1, 2023**	(C)
Residential	$6.99	$5.81	(D)/(D)
Commercial*	$6.22	$5.28	(D)/(D)
Industrial	$5.76	$5.05	(D)/(D)
Health or Education	$7.71	$6.38	(D)/(D)

** Rate applies to City of Pittsburgh Municipal Accounts but bills will be calculated based on a phase-in factor pursuant to 71 P.S. §§ 720.211 to 720.213.*

(D)= Decrease

Attachment D

THE PITTSBURGH WATER AND SEWER AUTHORITY

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF STORM WATER COLLECTION, CONVEYANCE,

TREATMENT AND/OR DISPOSAL SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: December 30, 2021 Effective: January 12, 2022

By: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

Filed in compliance with the Order of the Pennsylvania Public Utility Commission entered November 18, 2021 at Docket No. R-2021-3024779.

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Storm Water Management Service Charge

Section A.1 – Residential Service

1. Applicability:

The rates under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

The rates under this schedule are available to residential customers.

3. Rate:

Each residential customer receiving service under this schedule will be assessed a monthly service charge at the following rate. Rates shall be calculated based upon the Equivalent Residential Unit (ERU) as determined by the Authority.

Service Charge

	Effective January 12, 2022	**Effective January 1, 2023**
Tier 1 (Impervious area of 400 square feet to less than 1,015 square feet, 0.5 ERUs)	$2.98	$3.98
Tier 2 (Impervious area of 1,015 square feet to less than 2,710 square feet, 1 ERU)	$5.96	$7.95
Tier 3 (Impervious area greater than or equal to 2,710 square feet, 2 ERUs)	$11.92	$15.90

ECKERT SEAMANS
ATTORNEYS AT LAW

Eckert Seamans Cherin & Mellott, LLC
213 Market St., 8th Floor
Harrisburg, PA 17101

TEL: 717 237 6000
FAX: 717 237 6019

December 19, 2022

Karen O. Moury
717.237.6036
kmoury@eckertseamans.com

Via Electronic Filing
Rosemary Chiavetta, Secretary
Pa. Public Utility Commission
400 North Street
Harrisburg, PA 17120

RE: Ronald H. Schad v. The Pittsburgh Water and Sewer Authority
Docket No. C-2022-3036935

Dear Secretary Chiavetta:

Enclosed for electronic filing please find The Pittsburgh Water and Sewer Authority's Answer with regard to the above-referenced matter. Copies to be served in accordance with the attached Certificate of Service.

Sincerely,

/s/ *Karen O. Moury*

Karen O. Moury

Enclosure

cc: Certificate of Service (with Enclosures)

CERTIFICATE OF SERVICE

I hereby certify that this day I served a copy of the foregoing Answer upon the persons listed below in the manner indicated in accordance with the requirements of 52 Pa. Code Section 1.54.

Via Email Only

Ronald H. Schad
2509 Greenboro Lane
Pittsburgh, PA 15220
schadr@comcast.net

Hon. Charles E. Rainey, Jr.
Chief Administrative Law Judge
Pa. Public Utility Commission
400 North Street
Harrisburg, PA 17120
bobbwillia@pa.gov

Date: December 19, 2022

/s/ *Karen O. Moury*
Karen O. Moury, Esquire
Counsel for
The Pittsburgh Water and Sewer Authority

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Ronald H. Schad, Complainant,	:	
v.	:	Docket No. C-2022-3036935
The Pittsburgh Water and Sewer Authority, Respondent.	:	

THE PITTSBURGH WATER AND SEWER AUTHORITY'S ANSWER TO THE FORMAL COMPLAINT

Pursuant to the regulations of the Pennsylvania Public Utility Commission ("Commission" or "PUC") at 52 Pa. Code § 5.61, The Pittsburgh Water and Sewer Authority ("PWSA") submits this Answer to the Formal Complaint of Ronald H. Schad ("Mr. Schad" or "Complainant") served on November 28, 2022. In support of this Answer, PWSA avers as follows:

INTRODUCTION

The Complainant is disputing his responsibility to pay wastewater conveyance charges for water that passes through his by-pass meter, which waters his lawn, and he also disputes the amount of his stormwater fee. The Complainant does not believe he should have to pay the wastewater conveyance charges because PWSA is not transporting the water. Mr. Schad states the water goes onto his lawn. Mr. Schad seeks to be credited for all water that passes through the by-pass meter and requests that PWSA come out to measure impervious surfaces and charge him for the correct equivalent residential units ("ERUs").

PWSA requests that the case be dismissed. The wastewater conveyance charges are based on the water meter readings that PWSA receives from Pennsylvania American Water Company (PAWC") and PWSA does not offer any credit on wastewater conveyance charges for water used by lawn sprinklers. Additionally, the Complainant was correctly assessed stormwater charges based on

impervious area on his property under PWSA's PUC-approved stormwater tariff. Mr. Schad mailed several letters addressing his concerns regarding his by-pass meter, ERU assessment, and omni stone driveway. PWSA responded to those letters after further investigation. The response letters provided specific details regarding Mr. Schad's impervious area calculation, driveway, and denial of a lawn sprinkler system credit, which are attached hereto as Attachments A and B. PWSA advised Mr. Schad that impervious area is calculated using aerial imagery and, even if his driveway was removed from his total square footage of impervious surface, he would remain in the same stormwater Tier.

By way of background, on April 13, 2021, PWSA filed a rate request with the PUC, which included the introduction of a stormwater charge. This request was approved by the Commission on November 18, 2021, with rates effective as of January 12, 2022.[1] Historically, PWSA has funded stormwater services from wastewater rates that are based on water usage. The new stormwater charge is based on the hard or impervious surfaces on a property. This ensures that all property owners in Pittsburgh contribute a share that is proportional to the amount of runoff generated by their property. The Complainant is the owner of the property. As the owner of the property, Mr. Schad is responsible to pay a monthly stormwater charge, which is based on the impervious surface area of the property. PWSA determined that 1,650 square feet is equal to one ERU, which is the unit of measurement that PWSA uses to calculate the stormwater charge for each property at the rate of $5.96 in 2022. The impervious area of Mr. Schad's property is 3,596 square feet placing his parcel in Tier 3, which is charged 2 ERUs, resulting in a stormwater charge of $11.92 per month. Mr. Schad was properly assessed a stormwater charge and billed for consumption at the property in accordance with PWSA's PUC approved tariff, and the Complaint should be dismissed.

[1] *Pa. P.U.C. v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2021-3024773, R-2021-3024774 and R-2021-3024779 (Order entered November 18, 2021); *Pa. P.U.C. Pittsburgh Water and Sewer Authority*, Docket No. R-2021-3024779 (Secretarial Letter dated January 11, 2022) (approving the Storm Water Tariff).

The Complainant is responsible to pay the charges for services related to wastewater conveyance and stormwater assessed at the property. Additionally, if the Complainant is not required to pay for services related to wastewater and stormwater at the property, other customers will be unfairly required to shoulder the burden for this uncollectible amount.

ANSWER

1. To the best of PWSA's knowledge and belief, the name and contact information for the Complainant is accurate. Per the Allegheny County Real Estate Assessment website, the Complainant is the owner of the subject single-family residential property located at 2509 Greenboro Lane ("the Property").[2]

2. It is admitted that the Formal Complaint is directed at PWSA. By way of further answer, PWSA is a municipal authority created in 1984 and is responsible for producing and supplying water along with maintaining and operating the water and sewer infrastructure in Pittsburgh. Effective April 1, 2018, PWSA became subject to the jurisdiction of the Commission as a regulated public utility. 66 Pa. C.S. §§ 3201-3209. PWSA's currently approved water, wastewater and stormwater tariffs became effective on January 12, 2022 (see January 11, 2022 Secretarial Letters entered at Docket Numbers: R-2021-3024773 [water], R-2021-3024774 [wastewater] and R-2021-3024779 [stormwater]).

3. It is admitted that PWSA provides wastewater conveyance and stormwater services to the subject property. Complainant's bill also includes sewage treatment charges from the Allegheny County Sanitary Authority ("ALCOSAN"), which are established by ALCOSAN and paid by PWSA to ALCOSAN. By way of further response, PAWC provides water to the subject property.

[2] *See* Allegheny County tax records for 2509 Greenboro Lane, Pittsburgh (Parcel ID: 0036-F-00012-0000-00), which are available at: http://www2.alleghenycounty.us/RealEstate/search.aspx.

4. The allegations in Paragraph 4 of the Formal Complaint are admitted and denied consistent with the following:[3]

Account Details

(a) It is admitted that PWSA's wastewater conveyance charges are based on 1,000-gallon increments of water consumption. By way of further response, this billing practice is consistent with PWSA's Commission-approved tariff.[4] PWSA is required by the Public Utility Code to follow its tariff, which the appellate courts have described as having the force of law and being binding on both the utility and its customer.[5] PWSA bills Mr. Schad for monthly wastewater conveyance and sewage treatment charges based on the meter readings provided by PAWC.

(b) It is denied that ALCOSAN does not charge to treat the water. On the contrary, Complainant's bill includes sewage treatment charges from ALCOSAN. By way of further response, ALCOSAN offers customers an option to install a credit meter to measure water used by lawn sprinklers. PWSA would subsequently apply quarterly adjustments to the account based upon usage information provided to PWSA by ALCOSAN.

(c) It is admitted that PWSA does not offer a credit to wastewater conveyance bills for water used by lawn sprinklers. By way of further answer, PWSA does not apply credits for water consumed by a sprinkler system because the charges are based on the water consumption that is provided from PAWC. All sewage customers pay sewer system maintenance charges (wastewater conveyance). This charge funds the maintenance, repair, and replacement of PWSA's sewer infrastructure.

(d) It is denied that PWSA is overcharging Mr. Schad for stormwater service. On the contrary, the total impervious area of Mr. Schad's property is 3,596 square feet. If the impervious area is equal to or greater than 2,710 square feet, the parcel is in Tier 3, which is charged 2 ERUs ($11.92/month). Mr. Schad is being billed $11.92 per month for stormwater service.[6]

(e) It is admitted that PWSA did not send anyone to the property to verify the square footage of impervious surface. By way of further answer, based on the information provided in Mr. Schad's letters, an inspection of the property was not warranted. The Complainant did not

---

[3] This Complaint was submitted on the Commission's Formal Complaint form. The allegations within each numbered paragraph of that the Formal Complaint are not styled in numbered paragraphs. PWSA is answering the allegations within the numbered paragraphs under separate headings for ease of reference.

[4] The wastewater tariff is on PWSA's website at this link. The applicable tariff provision is attached as Attachment C.

[5] 66 Pa.C.S. § 1303; *See, e.g., Brockway Glass Co. v. Pennsylvania Public Utility Commission*, 63 Pa. Cmwlth, 238, 242, 437 A.2d 1067 (1981).

[6] The stormwater tariff is on PWSA's website at this link. The applicable tariff provision is attached as Attachment D.

provide information that his property contains a stormwater best management practice ("BMP") that is specifically designed to control ¾ inch of runoff from the property's impervious surfaces. Without a BMP in place, Mr. Schad is not eligible for a stormwater credit under PWSA's PUC-approved stormwater tariff, and no inspection is necessary. PWSA calculated Mr. Schad's impervious area using aerial imagery. Additionally, if PWSA would deduct 603 square feet of driveway that is billed as impervious surface, decreasing the impervious area from 3,596 square feet to 2,993 square feet, Mr. Schad's stormwater Tier would remain the same because the total impervious area would remain above 2,710 square feet. To drop down to Tier 2, Mr. Schad's impervious area would have to be equal to or greater than 1,015 square feet but less than 2,710 square feet.

Additional Responses By PWSA

(a) No response is required to the legal conclusions in the Formal Complaint.

(b) After reasonable investigation, PWSA does not have sufficient information to form a belief as to the truth of the remaining factual allegations in the Formal Complaint. Such allegations are, therefore, denied. Strict proof of said allegations is demanded at the time of hearing in this matter.

(c) The Formal Complaint fails to allege a violation by PWSA of PWSA's tariff.

(d) The Formal Complaint fails to allege a violation by PWSA of the Public Utility Code, another statute administered by the Commission, the Commission's Regulations and/or the Commission's Orders.

5. It is denied that Complainant is entitled to relief. The Formal Complaint fails to allege that PWSA has violated Pennsylvania law or Commission regulations. The impervious area of Mr. Schad's property is 3,596 square feet placing it in Tier 3, which is charged for 2 ERUs, resulting in a stormwater charge of $11.92 per month. Additionally, PWSA does not offer a wastewater conveyance credit for sprinkler systems. Thus, the Complainant was accurately billed for stormwater at the subject property. By way of further answer, PWSA incorporates herein its response to Paragraph 4, above.

6-10. No response is required to Paragraphs 6 through 10 of the Formal Complaint. To the extent such allegations are deemed factual, the factual allegations in Paragraphs 6 through 10 of the Formal Complaint are admitted or denied consistent with Paragraphs 1 through 5 of this Answer. By way of further answer, PWSA denies that this Complaint is related to a prior decision of the BCS.

CONCLUSION

WHEREFORE, The Pittsburgh Water and Sewer Authority respectfully requests that the Commission (a) dismiss the Complaint; and, (b) grant any other relief deemed appropriate. Notwithstanding PWSA's requests for dismissal of the Complaint, PWSA is willing to work with the Complainant to resolve this matter and therefore requests that the Office of Administrative Law Judge issue an "Interim Order Setting Resolution Conference" directing the parties to hold a conference about resolving the case.

Respectfully submitted,

/s/ *Karen O. Moury*

Karen O. Moury, Esquire (I.D. No. 36879)
Bryce R. Beard (I.D. 325837)
Eckert Seamans Cherin & Mellott, LLC
213 Market St., 8th Floor
Harrisburg, PA 17101
(717) 237-6036 (phone)
(717) 237-6019 (fax)
kmoury@eckertseamans.com
bbeard@eckertseamans.com

Date: December 19, 2022

Counsel for
The Pittsburgh Water and Sewer Authority

Verification

I, Julie A. Mechling, am the Director of Customer Service for The Pittsburgh Water and Sewer Authority ("PWSA" or "Authority"), and I hereby state that the facts set forth in the foregoing **Answer** are true and correct to the best of my knowledge, information and belief and that I expect the Authority to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: December 19, 2022

/s/ *Julie A. Mechling*
Julie A. Mechling
Director of Customer Service
The Pittsburgh Water and Sewer Authority

Attachment A

Pittsburgh Water & Sewer Authority

Mr. Ronald Schad
2509 Greenboro Lane
Pittsburgh, PA 15220-4043
Parcel number: 0036F00012000000
PWSA Account Number: 5094831

Dear Mr. Schad,

Thank you for your letter dated April 14, 2022 with questions about your stormwater fee.

We addressed your questions below:

1. **Impervious Area Calculation**

Below is the image of your property with the outline of the impervious surfaces in blue. Customers can access this tool, the "Stormwater Fee Finder" on PWSA's Stormwater Fee site here - https://www.pgh2o.com/your-water/stormwater/stormwater-fee and enter their address to see their impervious area outline and calculation.

As you can see above, PWSA's stormwater fee for your parcel does not include the parking pad because it is outside your parcel boundary. PWSA's stormwater fee does include the walkway and patio, even though it is surrounded by grass, flower beds, or bushes. Please refer to the guidance below –

What does PWSA consider to be an impervious surface to be included on the stormwater bill?
For the purposes of PWSA's stormwater fee, an impervious surface is any manmade or altered surface, resulting from parcel improvements, which prevents or limits the infiltration of water into the ground, including:

- private streets,
- driveways,
- concrete pads,
- structures,
- mobile homes,

Pittsburgh Water & Sewer Authority

- private sidewalks/walkways,
- parking lots,
- patios and decks,
- athletic facilities and artificial turf
- pools (above ground and in-ground)
- compacted earth or clay, gravel that is installed and maintained for vehicle travel or parking, and
- trails (paved or unpaved).

2. Driveway

There is approximately approx. 603 square feet of driveway that is billed as impervious surface for your stormwater fee. Can you please provide more information about the Omni-stone driveway? For example, is it built with Eco-Tek Omnistone pavers?

https://www.omnipropittsburgh.com/index.php/eco-tek-driveway-stones

If so, we can deduct this impervious area from that calculated (3,596 square fee) for your property. However, you would still be in Tier 3 with about 2,993 square feet of impervious surface.

As you can see in an example below, permeable paver driveways are specifically designed with joints filled with stone between the pavers and a layer of stone below to function as a reservoir to provide infitration and detention of stormwater. They are a great way to manage stormwater and seem to work well in the Pittsburgh area. See the attached information for more specifications on permeable paver driveways.

3. Lawn Sprinkler System Credit

Unfortunately, PWSA does not offer a credit to water bills for underground lawn sprinklers.

You can contact Alcosan at (412) 766-4810 to inquire about their Credit Meter program?

Pittsburgh Water & Sewer Authority

Sincerely,

PWSA Customer Service

Attachment

Technical Specifications for Construction of Permeable Interlocking Concrete Pavement Systems

Penn Liberty Plaza I
1200 Penn Avenue
Pittsburgh PA 15222

info@pgh2o.com
T 412.255.2423
F 412.255.2475

www.pgh2o.com
@pgh2o

Customer Service /
Emergencies:
412.255.2423

Attachment B

PGH2O Pittsburgh Water & Sewer Authority

Mr. Ronald Schad
2509 Greenboro Lane
Pittsburgh, PA 15220-4043
Parcel number: 0036F00012000000
PWSA Account Number: 5094831
September 27, 2022

Dear Mr. Schad,

We have received your letter dated June 15, 2022 with your questions about your stormwater fee.

We addressed your questions below:

1. **Impervious Area Calculation**

In your letter you provided a calculation of impervious area for your property. Please note that PWSA uses our aerial imagery data for all impervious area calculations for our customers' stormwater bills. As indicated by the "Stormwater Fee Finder" on PWSA's Stormwater Fee site here - https://www.pgh2o.com/your-water/stormwater/stormwater-fee the impervious area for your property is 3,596 square feet, so this is the number that we are required to use for your stormwater bill. We also note that the estimates that you provided seem low (For example 21 sf for the front walk and 148 sf for the rear patio. By contrast, we have 174 sf for the front walk and 658 sf for the rear patio.)

2. **Omni Stone Driveway**

As for the Omni Stone parking area, our aerial imagery shows that PWSA is billing you for approximately 603 square feet of driveway impervious surface for your stormwater fee. Even if this were deducted from the total impervious area for your property (3,596 square feet) you would still be in Tier 3 ($11.92 monthly stormwater fee) with about 2,993 square feet of impervious surface.

Note that not all interlocking pavers are capable of managing significant quantities of stormwater. But if you would still like us to remove 603 square feet from the impervious area calculated for your driveway, please provide documenation that specifies that the pavers were specifically installed to infiltrate, detain and treat stormwater. These paver projects are designed with larger joints filled with stone between the pavers and a layer of stone below to function as a reservoir to provide infitration and detention of stormwater.

3. **Lawn Sprinkler System Credit**

Unfortunately, PWSA does not offer a credit to wastewater conveyance charges for water used by lawn sprinklers.

Sincerely,

PWSA Customer Service

Penn Liberty Plaza I
1200 Penn Avenue
Pittsburgh PA 15222

info@pgh2o.com
T 412.255.2423
F 412.255.2475

www.pgh2o.com
@pgh2o

Customer Service /
Emergencies:
412.255.2423

Attachment C

Supplement No. 8
Tariff Wastewater - Pa. P.U.C. No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF WASTEWATER CONVEYANCE SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: December 30, 2021 Effective: January 12, 2022

BY: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This tariff makes increases and changes in existing rates, rules, and regulations as approved by the Commission in its Final Order dated November 18, 2021 at Docket No. R-2021-3024774.

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Wastewater Conveyance

1. Minimum Charge*: Each customer will be assessed a service charge based upon the size of the customer's water meter as follows except that residential customers residing in newly constructed townhomes who are required to install a meter larger than 5/8" for fire protection and due to City ordinance requirements, may request assessment of the 5/8" minimum charge and usage allowance:

Meter Size	Minimum Gallons	Minimum Charge Per Month		(C)
		Effective January 12, 2022	**Effective January 1, 2023**	(C)
5/8"	1,000	$8.09	$7.32	(D)/(D)
3/4"	2,000	$15.27	$11.70	(D)/(D)
1"	5,000	$35.01	$24.27	(D)/(D)
1 1/2"	10,000	$70.91	$46.19	(D)/(D)
2"	17,000	$119.36	$76.29	(D)/(D)
3"	40,000	$271.91	$173.03	(D)/(D)
4"	70,000	$465.73	$297.52	(D)/(D)
6"	175,000	$1,120.70	$725.62	(D)/(D)
8"	325,000	$2,035.83	$1,330.48	(D)/(D)
10" or Larger	548,000	$3,361.79	$2,218.44	(D)/(D)

2. Conveyance Charge: In addition to the Minimum Charge, the following wastewater conveyance charges (based on water consumption/usage or wastewater flows, at the Authority's discretion) will apply for each 1,000 gallons above the Minimum Gallons for each meter size:

Customer Class	Conveyance Charge Rate Per 1000 Gals.		
	Effective January 12, 2022	**Effective January 1, 2023**	(C)
Residential	$6.99	$5.81	(D)/(D)
Commercial*	$6.22	$5.28	(D)/(D)
Industrial	$5.76	$5.05	(D)/(D)
Health or Education	$7.71	$6.38	(D)/(D)

** Rate applies to City of Pittsburgh Municipal Accounts but bills will be calculated based on a phase-in factor pursuant to 71 P.S. §§ 720.211 to 720.213.*

(D)= Decrease

Attachment D

Tariff Storm Water - Pa. P.U.C. No. 1
Original Page No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF STORM WATER COLLECTION, CONVEYANCE,

TREATMENT AND/OR DISPOSAL SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: December 30, 2021 Effective: January 12, 2022

By: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

Filed in compliance with the Order of the Pennsylvania Public Utility Commission entered November 18, 2021 at Docket No. R-2021-3024779.

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Storm Water Management Service Charge

Section A.1 – Residential Service

1. Applicability:

The rates under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

The rates under this schedule are available to residential customers.

3. Rate:

Each residential customer receiving service under this schedule will be assessed a monthly service charge at the following rate. Rates shall be calculated based upon the Equivalent Residential Unit (ERU) as determined by the Authority.

Service Charge

	Effective January 12, 2022	**Effective January 1, 2023**
Tier 1 (Impervious area of 400 square feet to less than 1,015 square feet, 0.5 ERUs)	$2.98	$3.98
Tier 2 (Impervious area of 1,015 square feet to less than 2,710 square feet, 1 ERU)	$5.96	$7.95
Tier 3 (Impervious area greater than or equal to 2,710 square feet, 2 ERUs)	$11.92	$15.90

PWSA Exhibit No. 2A

Complainant's April 14, 2022 Letter to PWSA

PWSA Exhibit No. 2A

2509 Greenboro Lane
Pittsburgh, PA 15220-4043
April 14, 2022

Mr. Will Pickering, Chief Executive Officer
Pittsburgh Water and Sewer
1200 Penn Avenue
Pittsburgh, PA 15222

Re: Account No. 5094831-1144808

Dear Sir:

I am writing to you to request an appeal of the assessment square footage I am being charged. I measured my property's surfaces that I feel stormwater would run off into stormwater system.

No. 1 - Our home frontage is 47.5 ft. and side is 34.5 ft. equaling 1,638.75 sq. ft.

No. 2 - Sunroom in rear of house, which was constructed in 1999-2000 is 23.5 ft. X 14 ft. equaling 329 sq. ft.

No. 3 - Front walk, patio and driveway should not be included in stormwater runoff because walk and patio are surrounded by grass, flower beds and bushes. The driveway is Omni-stone placed over 15 in. of gravel and 3 in. sand, which allows water to drain through and not run off.

No. 4 - A parking pad of concrete off Winchester Dr. Is 12.5 ft. X 29 ft. equaling 362.5 sq. ft.

If you add all areas that drain storm water (rain) into street you have:

House	1,638.75
Parking Pad	362.50
Sunroom	329.00
TOTAL	2,330.25 square feet

This figure 2,330.25 sq. ft. places us in Residential Tier 2 (>= 1015 to <2,710 sf), which means we are being overcharged by $5.96 a month. We are requesting our bills for Year 2022, which have been overcharged, be credited to our account.

If you doubt my measurements and comprehension of what hard surfaces drain rain into storm sewers, please feel free to send a representative with a tape measurer to affirm my figures.

Also, we had an unground lawn sprinkler system several years ago. I withdrew from this program with Alcosan as the fee wasn't saving us anything. Now that your rates and Alcosan's have gone up, it might do to start this program again. I have emailed inquiries to PWSA asking if they had anything in the way of a program to accommodate with no response. Have emailed Alcosan on their web page inquiring about cost, etc., again, no response. Let me ask, how would you consider the customer performance of PWSA and Alcosan if you were in my place?

Sincerely,

Ronald H. Schad

Ronald H. Schad

PWSA Exhibit No. 2B

Complainant's June 15, 2022 Letter to PWSA

2509 Greenboro Lane
Pittsburgh, PA 15220-4043
June 15, 2022

Mr. Will Pickering, Chief Executive Officer
Pittsburgh Water and Sewer Authority
1200 Penn Avenue
Pittsburgh, PA 15222

Re: Account No. 5094831-1144808

Dear Sir:

This is the third letter I am sending you. The first was sent April 14, 2022, the second, May 6, 2022. All letters were on the same subject "Stormwater Monthly Fee".

I used the photo you included with your reply and had a State Licensed Contractor, Mr. Gregory Sabo, figure the square footage that your photo shows that determines the ERU's.

1. Roof Area 2,100 sq. ft.
2. Front Walk. 21 sq. ft.
3. Rear Patio. 148 sq. ft.
4. Driveway. Omni Stone

Let me explain and include pictures of our driveway. We purchased the Omni Stone from Lampus and had it installed by a contractor from the list of contractors approved and recommended by Lampus. It was installed as per their recommendations, therefore, should not be included in the stormwater ERU's.

Adding the square footage in what you call "Impervious Area Calculation" we come up with 2,269 sq. ft., which places our property in "Residential Tier 2" number of ERU 1 @ $5.96. You have been overcharging us each billing by $5.96, so we expect our July bill to show a credit for all the months you overcharged.

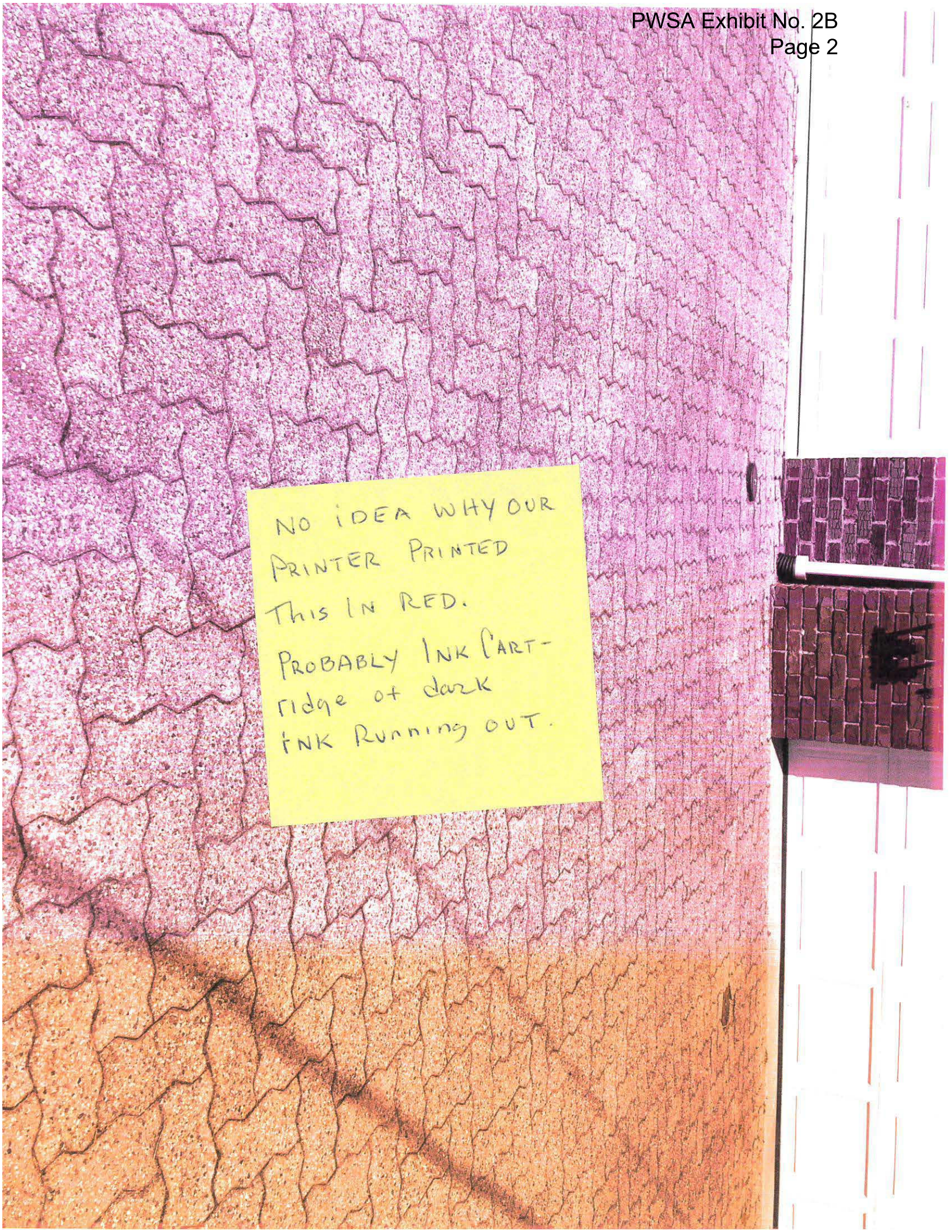
I am also enclosing our Check No. 692 In the amount of $110.00 to cover the fee charged by Alcosan for a water credit meter. We use this to record the water that isn't transported through PWSA sewerage lines to ALCOSAN. We will expect a credit to our PWSA part of bill called Wastewater Conveyance. I will send you a photo of Remote (outside) Reader showing start and finish figures. This will show you the number of gallons of water not considered wastewater at the end of outdoor watering season.

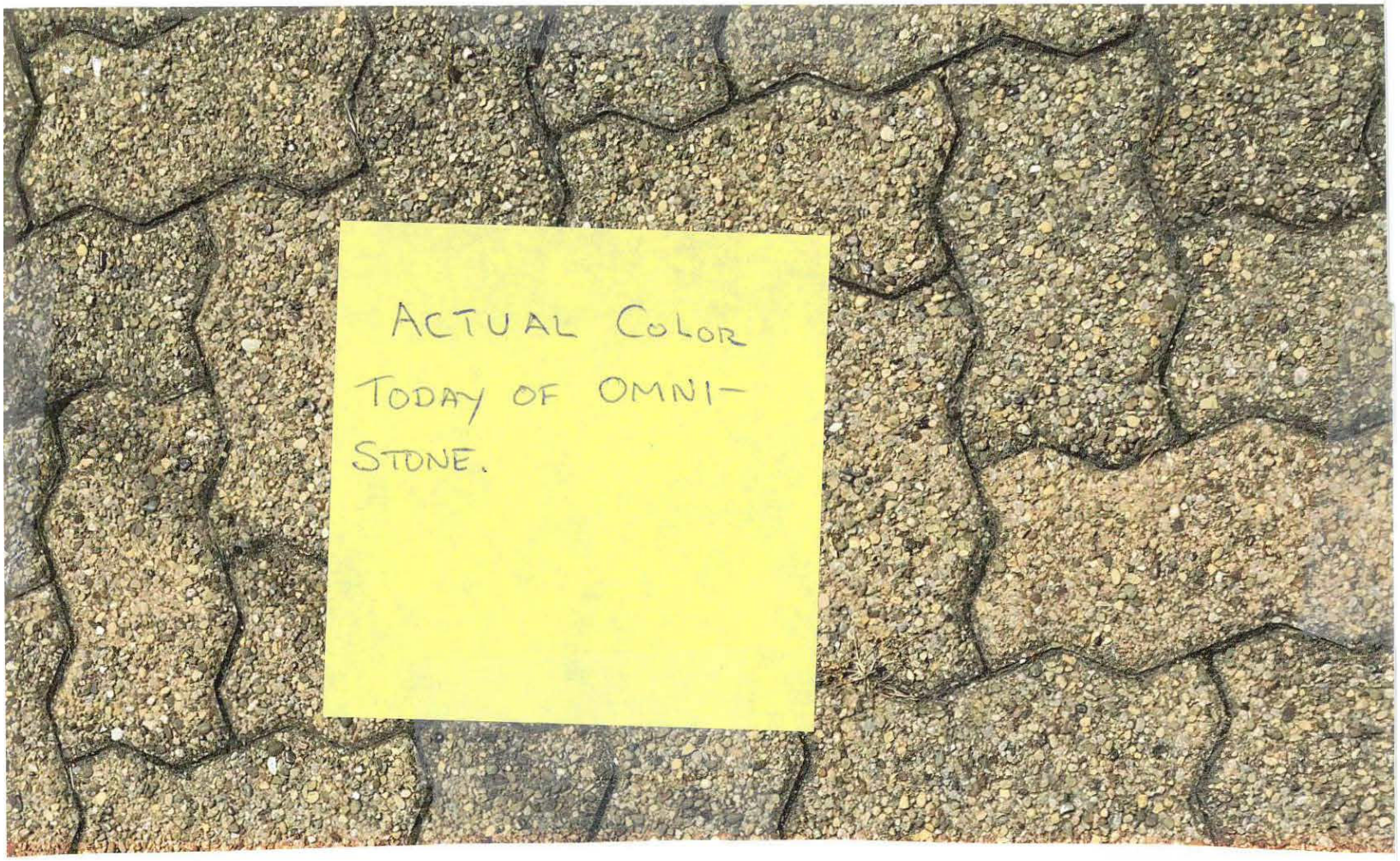
As I've said in previous letters, please send a State Licensed Inspector here to confirm our figures if you so choose. Please advise us of your decisions so we have an official record in writing.

Thank you,

Ronald Schad

Ronald Schad


NO IDEA WHY OUR
PRINTER PRINTED
THIS IN RED.
PROBABLY INK CART-
RIDGE OF DARK
INK RUNNING OUT.


ACTUAL COLOR
TODAY OF OMNI-
STONE.

PWSA Exhibit No. 3A

PWSA's May 13, 2022 Letter to Complainant

Pittsburgh Water & Sewer Authority

Mr. Ronald Schad
2509 Greenboro Lane
Pittsburgh, PA 15220-4043
Parcel number: 0036F00012000000
PWSA Account Number: 5094831

Dear Mr. Schad,

Thank you for your letter dated April 14, 2022 with questions about your stormwater fee.

We addressed your questions below:

1. **Impervious Area Calculation**

Below is the image of your property with the outline of the impervious surfaces in blue. Customers can access this tool, the "Stormwater Fee Finder" on PWSA's Stormwater Fee site here - https://www.pgh2o.com/your-water/stormwater/stormwater-fee and enter their address to see their impervious area outline and calculation.

As you can see above, PWSA's stormwater fee for your parcel does not include the parking pad because it is outside your parcel boundary. PWSA's stormwater fee does include the walkway and patio, even though it is surrounded by grass, flower beds, or bushes. Please refer to the guidance below –

What does PWSA consider to be an impervious surface to be included on the stormwater bill?
For the purposes of PWSA's stormwater fee, an impervious surface is any manmade or altered surface, resulting from parcel improvements, which prevents or limits the infiltration of water into the ground, including:

- private streets,
- driveways,
- concrete pads,
- structures,
- mobile homes,

- private sidewalks/walkways,
- parking lots,
- patios and decks,
- athletic facilities and artificial turf
- pools (above ground and in-ground)
- compacted earth or clay, gravel that is installed and maintained for vehicle travel or parking, and
- trails (paved or unpaved).

2. Driveway

There is approximately approx. 603 square feet of driveway that is billed as impervious surface for your stormwater fee. Can you please provide more information about the Omni-stone driveway? For example, is it built with Eco-Tek Omnistone pavers?

https://www.omnipropittsburgh.com/index.php/eco-tek-driveway-stones

If so, we can deduct this impervious area from that calculated (3,596 square fee) for your property. However, you would still be in Tier 3 with about 2,993 square feet of impervious surface.

As you can see in an example below, permeable paver driveways are specifically designed with joints filled with stone between the pavers and a layer of stone below to function as a reservoir to provide infitration and detention of stormwater. They are a great way to manage stormwater and seem to work well in the Pittsburgh area. See the attached information for more specifications on permeable paver driveways.

3. Lawn Sprinkler System Credit

Unfortunately, PWSA does not offer a credit to water bills for underground lawn sprinklers.

You can contact Alcosan at (412) 766-4810 to inquire about their Credit Meter program?

Pittsburgh Water & Sewer Authority

Sincerely,

PWSA Customer Service

Attachment

Technical Specifications for Construction of Permeable Interlocking Concrete Pavement Systems

Penn Liberty Plaza I
1200 Penn Avenue
Pittsburgh PA 15222

info@pgh2o.com
T 412.255.2423
F 412.255.2475

www.pgh2o.com
@pgh2o

Customer Service /
Emergencies:
412.255.2423

R.I. Lampus Company

Tech Spec 18

icpi
Interlocking Concrete Pavement Institute®

Construction of Permeable Interlocking Concrete Pavement Systems

INTRODUCTION

Permeable interlocking concrete pavement (PICP) is recognized by federal and state stormwater and transportation agencies as a Best Management Practice (BMP) and Low Impact Development (LID) tool to reduce runoff and water pollution. In addition, PICP offers unique design opportunities for addressing combined sewer overflows with green alleys and streets, as well as use in parking lot and pedestrian surfaces. Traditional stormwater management solutions focus on collecting, concentrating and centralizing the disposal of stormwater. As a key BMP and LID tool, PICP helps disconnect, decentralize and more widely distribute runoff through infiltration, detention, filtering and treatment.

The Interlocking Concrete Pavement Institute (ICPI) provides a comprehensive, 92-page manual entitled *Permeable Interlocking Concrete Pavements,* which covers design, specifications, construction and maintenance. This manual is available on www.icpi.org and provides extensive information from academic research and practical field experience. This *Tech Spec* bulletin provides a summary of PICP construction techniques outlined in the manual, as well as further guidance on best construction practices. This bulletin is intended for contractors and for project inspectors.

Figure 1 illustrates a typical PICP cross-section with the individual components defined below.

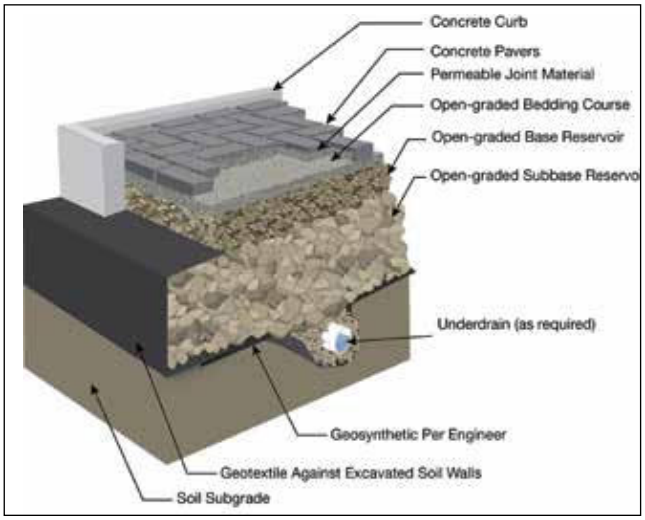


Figure 1. PICP typical cross section.

Concrete pavers—Solid concrete pavers with molded joints and/or openings that create an open area across the pavement surface. Concrete pavers should conform to ASTM C 936 (ASTM 2012) in the U.S. or CSA A231.2 (CSA 2006) in Canada. Pavers are typically a minimum of 3 1/8 in. (80 mm) thick for vehicular areas and pedestrian areas may use 2 3/8 in. (60 mm) thick units. Pavers are manufactured in a range of shapes and colors. Filled with permeable joint material, the openings allow water from storm events to freely infiltrate through the pavement surface. Figure 2 shows several paver configurations.

Permeable Joint Material—The joint material typically consists of angular ASTM No. 8, 89 or 9 stone. The permeable joints allow stormwater to infiltrate through joints in the pavement surface.

Open-graded bedding course—This permeable layer is typically placed as a 2 in. (50 mm) thick lift and provides a setting bed for the pavers. It consists of small-sized, open-graded angular aggregate, typically ASTM No. 8 stone or similar sized material. After compaction this lift will consolidate slightly.

Open-graded base reservoir—This is an aggregate layer that is typically 4 in. (100 mm) thick (for vehicular applications see exception under sub-base definition). The base material is made of crushed stones primarily 1 in. down to 1/2 in. (25 mm down to 13 mm). For pedestrian application the base layer is a minimum of 6 in. (150 mm) and the subbase may be omitted. Besides providing water storage capacity in the spaces among the stones, this highly permeable material also serves as a choking layer between the bedding and subbase layers. The stone size is typically ASTM No. 57 or similar sized material.

Figure 2. Various types of paving units used in PICP

Open-graded subbase reservoir—The stone sizes are larger than the base, primarily 3 in. down to 2 in. (75 mm down to 50 mm), typically ASTM No. 2, 3 or 4 stone. Like the base layer, water is stored in the spaces among the stones. The subbase layer thickness depends on water storage requirements and traffic loads. A subbase layer may not be required in pedestrian or residential driveway applications. In such instances, the base layer thickness is increased to provide water storage and support.

Underdrain (as required)—Where PICP is installed over low-infiltration soils, underdrains facilitate water removal from the base and subbase. The underdrains are perforated pipes that drain to a swale or stream, or connect to an outlet structure. Another option to which underdrains connect is plastic or concrete vaults or plastic crates. These can store significant amounts of runoff.

Geotextile (design option per engineer)—This functions primarily as a separation material between the subbase and subgrade by preventing the migration of soil into the aggregate subbase or base. Geotextiles are required along the sides of most PICP applications.

Subgrade Soil—This is the layer of soil immediately beneath the aggregate base or subbase. The infiltration rate of the saturated subgrade determines how much water can drain from the aggregate into the underlying soils. The subgrade soil is generally not compacted as this can substantially reduce soil infiltration. However, some poorly draining clay soils are often compacted to help ensure structural stability especially when saturated. Since compaction reduces infiltration, managing the excess water must be considered in the hydrologic design via the base/subbase thickness and use of perforated pipe underdrains.

BENEFITS

PICP offers a number of benefits compared to other common pavement systems.

Construction

- Immediately ready for traffic upon completion, no additional time needed for curing
- Can be installed in cold weather if subgrade and aggregates remain unfrozen
- Capable of wet weather (light rain) installation
- No time-sensitive materials that require site forming and management for curing
- Contractor training and credentials available through ICPI

Reduced Runoff

- Up to 100% surface runoff reduction (subject to design requirements)
- Up to 100% infiltration depending on the design and soil subgrade infiltration rate
- Capable of installation over or next to plastic underground storage vaults or crates
- Can be designed with water harvesting systems for site irrigation and gray water uses

Improved Water Quality

- Reduces nutrients, metals and oils
- By storing water below grade, runoff temperatures are not elevated which can damage aquatic life
- Can be used to achieve water quality capture volume
- Can be used to achieve total maximum daily load (TMDL) limits for a range of pollutants

Site Utilization

- Reduces or eliminates unsightly detention/retention ponds
- Increased site and building utilization
- Conservation of space on the site and reduction of impervious cover
- Preserves woods and open space that would have been destroyed for detention ponds
- Promotes tree survival by providing air and water to roots (roots do not heave pavement)

Drainage System

- Reduced downstream flows and stream bank erosion due to decreased peak flows and volumes
- Increased recharge of groundwater
- Decreases risk of salt water incursion and drinking water well pollution in coastal areas
- Reduced peak discharges and stress on storm sewers
- Reduces combined sanitary/storm sewer overflows

Reduced Operating Costs

- Can result in a reduction in overall project costs due to the reduction or elimination of storm sewers and drainage appurtenances
- Lower life-cycle costs than conventional pavements
- Capable of integration with horizontal ground source heat pumps to reduce building heating and cooling energy costs
- Enables landowner credits on stormwater utility fees
- Does not require sealing which lowers maintenance costs

Paver surface units

- 50-year design life based on proven field performance
- Most styles are ADA compliant
- Colored units can mark parking stalls and driving lanes; light colors can reduce night time lighting needs
- Eliminates puddles on parking lots, walkways, entrances, etc.
- Capable of plowing with municipal snow removal equipment
- Durable, high-strength, low-absorption concrete units resist freeze-thaw, heaving and degradation from deicing materials
- Reduced ice and deicing material use/costs due to rapid ice melt and surface infiltration
- Reduced liability from slipping on ice due to rapid ice melt and surface infiltration
- Provides traffic calming
- Paver surface can be coated with photocatalytic materials to reduce air pollution
- Units with high SRI surfaces help reduce micro-climatic temperatures and contributes to urban heat island reduction
- Units manufactured with recycled materials and cement substitutes reduce greenhouse gas emissions

Simpler Maintenance & Repairs

- Paving units and base materials can be removed and reinstated
- Utility cuts into the pavement do not cause damage to the surface that can in turn decrease pavement life
- Capable of winter repairs
- No unsightly patches from utility cuts
- Surface cleaning with standard vacuum equipment
- Clogged surfaces may be restored with vacuum equipment to reestablish high infiltration rates

SYSTEM BASICS

PICP is recommended in the following areas:

- Residential patios, walks and driveways.
- Walks, parking lots, main and service driveways around commercial, institutional, recreational and cultural buildings.
- Low speed (<40 mph or 65 kph) residential roads.
- Non-commercial boat landings and marinas.
- Industrial sites that do not receive hazardous materials, i.e., where there is no risk to groundwater or soils from spills.

Figure 3. A large PICP parking lot manages an overall site slope of 12% using terraced areas.

- Storage areas for shipping containers with non-hazardous contents.

When evaluating a site, the following characteristics should be considered:

- Runoff from contributing at-grade impervious areas does not exceed five times the area of the PICP receiving the runoff.
- The estimated depth from the bottom of the pavement base, for full or partial infiltration systems, to the seasonal high level of the water table is greater than 2 feet (0.6 m). Greater depths may be required to obtain additional filtering of pollutants through the soil.
- PICP is down slope from building foundations and the foundations have piped drainage at the footers. Waterproofing such as an impermeable liner is recommended on basement walls against PICP.
- The slope of the permeable pavement surface is at least 1% and no greater than 12%. Figure 3 illustrates a large unique PICP parking lot near Atlanta, Georgia with a slope of 12% across the site. PICP surface slopes are typically 5% or less. There should be a minimum 1% surface slope to enable removal of water in the extreme case of the entire system filling with water such that it emerges from the surface.
- Land surrounding and draining into the PICP does not exceed 20% slope.
- At least 100 ft (30 m) should be maintained between PICP and water supply wells. (Local jurisdictions may provide additional guidance or regulations.)
- Sites where the owner can meet maintenance requirements.
- Sites where runoff draining onto PICP surface is not from soil erosion, exposed topsoil or mulch.
- Sites where there will not be an increase in impervious cover draining into the PICP (unless the pavement is designed to infiltrate and store runoff from future increases in impervious cover due to future development).
- Sites where space constraints, high land prices, tree/green space conservation, land used by detention facilities, and/or runoff from additional development make PICP a cost-effective solution.
- Sites outside permafrost regions

SITES TO AVOID

PICP is not recommended on any site classified as a storm water hotspot, i.e., if there is any risk that storm water can infiltrate and contaminate groundwater. These land uses and activities may include the following:

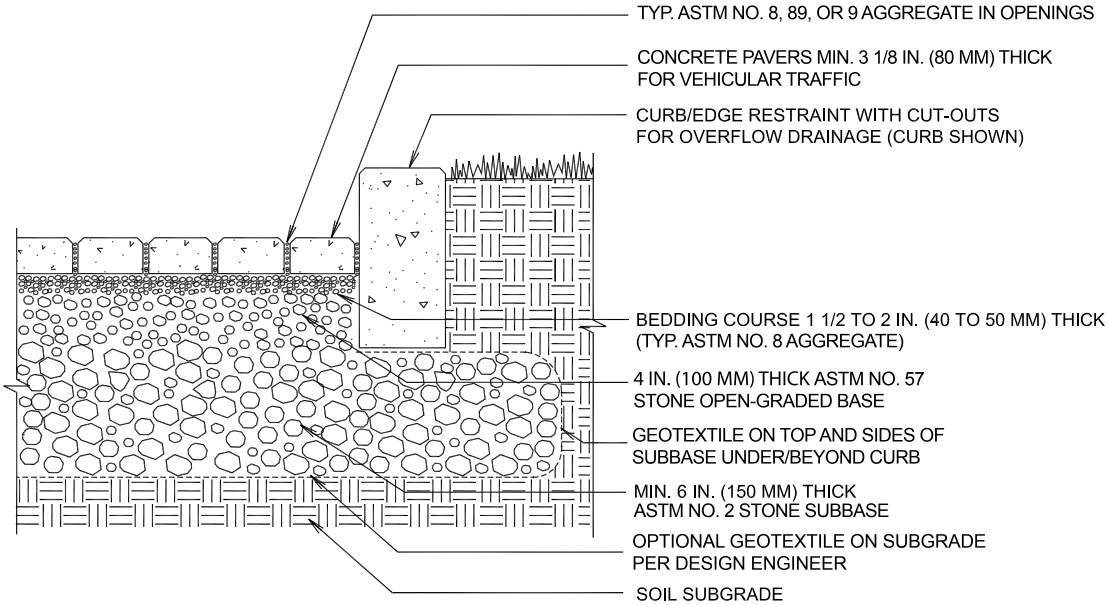


Figure 4. Full infiltration cross section allows storage and infiltration. Overflows are to swales, bioretention areas or storm sewer inlets.

Figure 5. Elmhurst College, Elmhurst, Illinois parking lots uses full infiltration through the soil subgrade with overflows directed through curb inlets into bioretention areas and overflow drains to manage extreme rain events.

- Vehicle salvage yards, recycling facilities, fueling stations, service and maintenance facilities, equipment and cleaning facilities
- Fleet storage areas (bus, truck, etc.)
- Commercial marina service and maintenance areas
- Outdoor liquid container storage areas
- Outdoor unloading facilities in industrial areas
- Public works materials/equipment storage areas
- Industrial facilities that generate or store hazardous materials
- Storage areas for commercial shipping containers with contents that could damage groundwater and soil
- Other land uses and activities not suitable for infiltration as designated by an appropriate review authority

BASIC PICP SYSTEMS

PICP can be built with full, partial or no infiltration of the open-graded stone base into the soil subgrade.

Full Infiltration—Full infiltration directs water through the base/subbase and infiltrates into the soil subgrade. This is the most common application over high infiltration soils such as gravels and sands. Overflows are managed via perimeter drains to swales, bioretention areas, or storm sewer inlets. Figure 4 illustrates schematic cross-section of a full infiltration PICP. Overflow drainage can exit from the surface but is better managed via large drainpipes from within the base. Figure 5 illustrates an example of handling PICP overflows via curb inlets to bioswales.

Partial Infiltration—Partial infiltration relies on drainage of the base/subbase into the subgrade soil and drainage pipes to direct excess water to a sewer, daylight or a stream. This controls the amount of time the subgrade is saturated. This design is common to lower infiltration rate soils such as silts and clays. Perforated drain pipes are typically raised some inches (cm) above the soil subgrade to allow some water capture and infiltration into the soil subgrade below them. When the water level rises to the pipes it drains away through them. Figure 6 illustrates a schematic cross-section of partial infiltration design.

An alternative approach places perforated pipes at the bottom of the subbase drained via riser pipes or sumps. The vertical riser pipes turn horizontal without perforations to drain accumulated water. See Figure 7. When perforated drain pipes are raised, water is typically detained for 24 to 48 hours. Soils with infiltration rates as low as 0.01 in./hr (7 x 10-6 cm/sec) can infiltrate about 0.5 in. (13 mm) over 48 hours. Therefore, this approach can be used in some clay

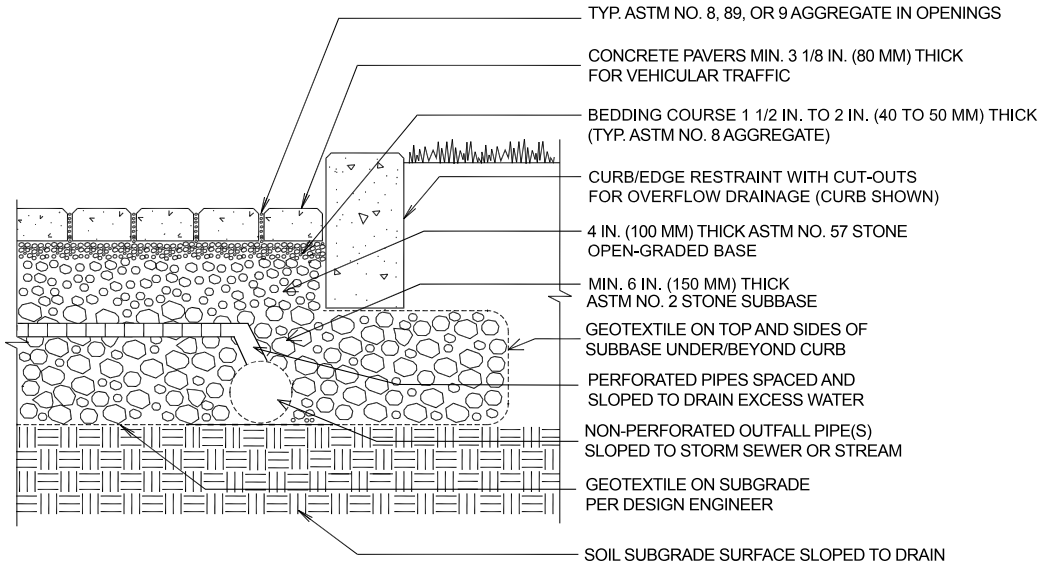


Figure 6. Partial infiltration through the soil subgrade. Perforated pipes can be raised above the soil subgrade to drain water from higher depth rainstorms. Smaller storms which often contain higher pollutant concentrations can be captured below the perforated pipes, stored and infiltrated.

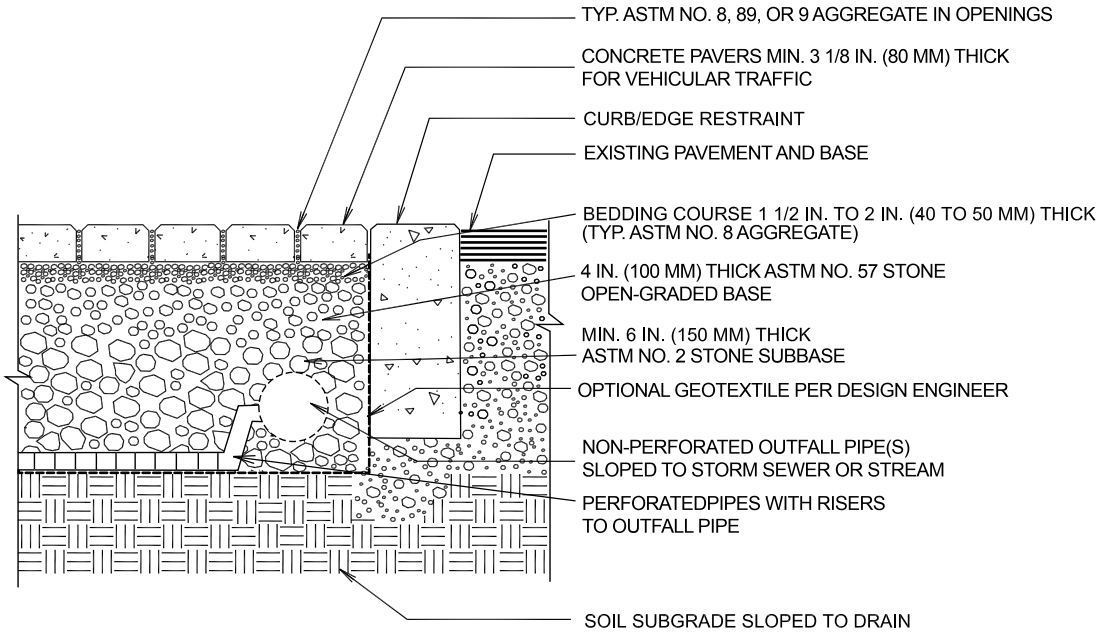


Figure 7. Typical cast-in-place concrete curb divides PICP from an adjacent impervious pavement.

soils. Figure 8 shows a perforated pipe raised over the soil subgrade.

No Infiltration—This is required when the soil has very low permeability or low strength, or there are other site limitations. The assembly is a detention pond with an outlet. An impermeable geomembrane may be used if the pollutant loads are expected to exceed the capacity of the base/subbase and soil subgrade to treat them. The geomembrane can be high density polyethylene (HDPE), ethylene propylene diene monomer (EPDM) or polyvinyl chloride (PVC) or other similar material. Geomembranes typically require a nonwoven geotextile for additional protection during aggregate filling and compaction. No infiltration is also used for creating a reservoir for water harvesting or horizontal ground source heat pumps that augment nearby building heating and cooling needs.

No infiltration designs with geomembranes are recommended in the following sites:

- Over aquifers with insufficient soil depth to filter the pollutants before entering the ground water. These can include karst, fissured or cleft aquifers.
- Over fill soils whose behavior when exposed to infiltrating water may cause unacceptable settling and movement. These might include expansive soils such as loess, poorly compacted soils, gypsiferous soils, etc.

DESIGN CONSIDERATIONS

A preliminary assessment is an essential prerequisite to detailed site, hydrological and structural design. This assessment includes a review of the following:

- Underlying geology and soils maps
- Identifying the NRCS hydrologic soil groups (A, B, C, D)
- Verifying history of fill soil, previous disturbances or compaction
- Review of topographical maps and identifying drainage patterns
- Identifying streams, wetlands, wells and structures
- Confirming absence of stormwater hotspots
- Identifying current and future land uses draining onto the site

PICP design involves structural and hydrological analyses. PICP design merges these two previously disconnected spheres of civil engineering and design. The base/subbase thickness is determined for hydrological and structural

Figure 8. Partial infiltration designs typically use perforated pipes raised above the soil subgrade. This enables capture and infiltration of some runoff.

(vehicular traffic loading) needs, and the thicker section is selected for drawings, specifications and construction. In many cases, the hydrologic requirements will require a thicker base than that required for supporting traffic. The design process for PICP is outlined in the Figure 9 flow chart.

Construction Overview

PICP construction for parking lots and roads involves the steps listed below and explains some variations depending on the application. In addition, a guide specification is available at www.icpi.org and can be downloaded and edited to project conditions.

Pre-construction meeting—For commercial and municipal projects, the specifications should include a pre-construction meeting. The pre-construction meeting is held to discuss methods of accomplishing all phases of the construction operation, contingency planning, and standards of workmanship. The general contractor typically provides the meeting facility, meeting date and time. Representatives from the following entities should be present;

1. "General" Contractor superintendent.
2. PICP subcontractor foreman.
3. Concrete paving unit manufacturer's representative.
4. Testing laboratory(ies) representative(s).
5. Engineer or owner's representative.
6. Other affected trades or representatives who will access PICP area.

The following items should be discussed and determined:

1. Test panel (mock-up) location and dimensions.
2. Methods for keeping all materials free from sediment during storage, placement, and on completed areas.
3. Methods for checking slopes, surface tolerances, and elevations.
4. Concrete paving unit delivery method(s), timing, storage location(s) on the site, staging, paving start point(s) and direction(s).
5. Anticipated daily paving production and actual record.
6. Diagrams of paving laying/layer pattern and joining layers as indicated on the drawings
7. Monitoring/verifying paver dimensional tolerances in the manufacturing facility and on-site if the concrete paving units are mechanically installed.
8. Testing intervals for sieve analyses of aggregates and for the concrete paving units.
9. Method(s) for tagging and numbering concrete unit paving packages delivered to the site.
10. Testing lab location, test methods, report delivery, contents and timing.
11. Engineer inspection intervals and procedures for correcting work that does not conform to the project specifications.
12. Procedure for testing and approval of subgrade, subbase and base.
13. Curb type and installation schedule.

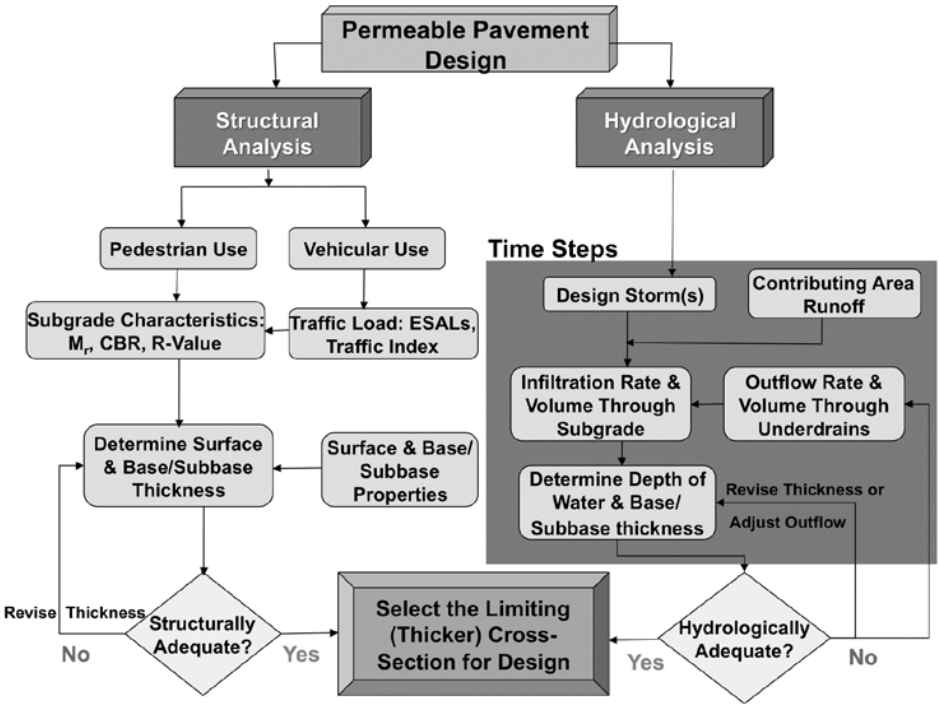


Figure 9. PICP design flow chart. See accompanying text that explains each step.

Figure 10. This temporary permeable edging around bare soil replaces silt fencing because it restrains sediment while allowing water to pass.

Figure 11. Larger PICP projects may require tire washing equipment for trucks to keep mud from contaminating PICP aggregates.

Plan site access and keeping PICP materials free from sediment—Preventing and diverting sediment from entering the aggregates and pavement surface during construction **must be the highest priority**. Extra care must be applied to keeping sediment completely away from aggregates stored on site as well as the PICP. In some cases, it may be necessary to construct PICP before other soil-disturbing construction is completed. The options below are for ensuring that the PICP does not become contaminated with sediment from construction vehicles. The options below are in ascending cost order. One or more of these options should be decided in the project planning stages and included in the specifications and drawings.

1. Install the PICP first and allow construction traffic to use the finished PICP surface. When construction traffic has ceased and adjacent soils are stabilized with vegetation or erosion control mats, clean the PICP surface and joints with a vacuum machine capable of removing an inch (25 mm) of the stone from the joints. Vacuum a test area and inspect the joints when stone is removed to be sure there are no visible traces of sediment on the stone remaining in the joints. If it is visible, then vacuum out jointing stones until no sediment is present. Fill the joints with clean stones and sweep the PICP surface clean.
2. Protect finished PICP system by covering the surface with a woven geotextile and a minimum 2 in. thick No. 8 open-graded aggregate layer. This aggregate layer and geotextile are removed upon project completion and when adjacent soils are stabilized with vegetation or erosion control mats. The PICP surface is swept clean.
3. Construct the aggregate subbase and base and protect the surface of the base aggregate with geotextile and an additional 2 in. (50 mm) thick layer of the same base aggregate over the geotextile. Thicken this layer at transitions to match elevations of adjacent pavement surfaces subject to vehicular traffic. A similar more costly approach can be taken using a temporary asphalt wearing course rather than the additional base aggregate and geotextile. When construction traffic has ceased and adjacent soils are vegetated or stabilized with erosion control mats, remove geotextile and soiled aggregate (or the asphalt) and install the remainder of the PICP system per the project specifications.
4. Establish temporary road or roads for site access that do not allow construction vehicle traffic to ride over and contaminate the PICP base materials and/or surface with mud and sediment. Other trades on the jobsite need to be informed on using temporary road(s) and staying off the PICP. The temporary road is removed upon completion of construction and opening of the PICP surface to traffic.

Other practices such as keeping muddy construction equipment away from the PICP, installing silt fences, staged excavation, and temporary drainage swales that divert runoff away from the area will make the difference between a pavement that infiltrates well or poorly. A simple technology that may be more effective than silt fences can help block sediment from eroding from bare soil. This consists of plastic temporary curbs with fabric in them to block the movement sediment from bare soil. Figure 10 illustrates this device.

Another more involved practice is a washing station for truck tires. Larger PICP projects may require this level of cleanliness as trucks enter a muddy PICP site. Figure 11 illustrates truck washing equipment which naturally requires disposal of dewatered sediment.

Excavate soil or an existing pavement—In some cases, the excavated area for base and PICP can be used as a sediment trap if there is time between the excavation and aggregate base installation. This is done by excavating within

6 in. (150 mm) of the final bottom elevation. This area can contain water during storms over the construction period and exit via temporary drain pipes. Heavy equipment should be kept from this area to prevent compaction. If equipment needs to traverse the bottom of the excavation, tracked vehicles can reduce the risk of soil compaction. As the project progresses, sediment and the remaining soil depth can be excavated to the final grade immediately before installing the aggregate subbase and base. Depending on the project design, this technique might eliminate the need for a separate sediment basin during construction.

Avoid soil compaction unless required in the plans and specifications—As discussed previously, soil compaction as part of the design is the engineer's decision and should be executed according to the project specifications. If compaction is not specified, the initial undisturbed soil infiltration should be carefully maintained during excavation and construction as this will enable the base to drain as designed. If the soil is inadvertently compacted by equipment during construction, there will be substantial loss of infiltration. A loss may be acceptable if the infiltration rate of the soil when compacted was initially considered during design and in drainage calculations.

Compacted soil can be remedied by scarifying to increase its infiltration. This is done by back-dragging loader bucket teeth across the soil prior to placing the aggregate subbase. This loose layer will receive subbase or base aggregate compacted into it to reduce the risk of surface settlement. If another contractor is responsible for the excavation, subgrade preparation and compaction, they should provide the paver contractor written assurance that the subgrade has been prepared to the specification.

Install geotextiles, impermeable liners and drain pipes if required in the plans and specifications—Geotextiles are used in some permeable pavement applications per the design engineer. If there are no concrete curbs and soil is restraining the sides of the base/subbase at its perimeter, then geotextile should be applied to prevent lateral migration of soil into the base/subbase aggregates. Geotextile is applied vertically against the soil with at least 1 ft (0.3 m) extending horizontally under the subbase and resting on the soil subgrade. A minimum 1 ft (0.3 m) overlap is recommended in stronger subgrade soils and 2 ft (0.6 m) overlap on poor-draining weaker soils (CBR<5%).

When specified, impermeable liners require assembly per the manufacturer's instructions at the shop or job site. Once assembled, they should be tested for leaks with special attention to seams and pipe penetrations.

Drain pipes are installed according to plans and specifications and should be rigid PVC. Designs should have curb cutouts or drain pipes from the PICP entering swales or storm sewer catch basins to handle overflow conditions. A minimum of 12 in. (300 mm) aggregate cover is recommended over drainpipes to protect them from damage during subbase or base compaction.

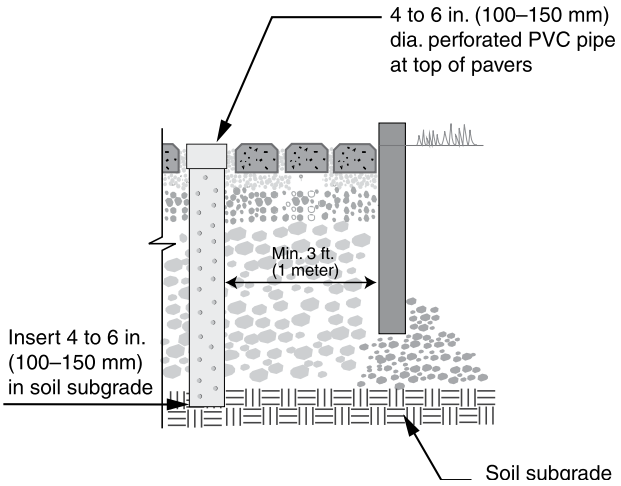


Figure 12. Observation well into PICP base and subbase with top accessible directly from the surface to observe drain down rate.

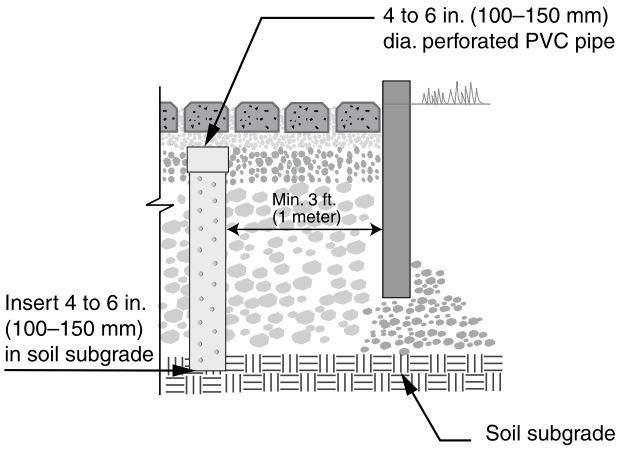


Figure 13. Observation well with top hidden under pavers and bedding to obscure from vandals.

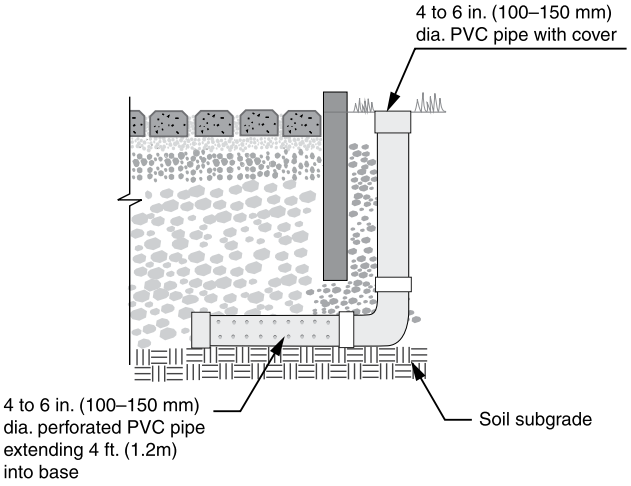


Figure 14. Observation well installed outside of pavement area.

Table 1. Recommended edge restraints for PICP

Edge Restraint Type	Pedestrian Only	Residential Driveway	Parking lot or street
Cast-in-place concrete curb	Yes	Yes	Yes
Precast concrete curb	Yes	Yes	Yes
Cut stone curb	Yes	Yes	Yes
Compacted, dense-graded berms around PICP base perimeter with spiked metal or plastic edging to restrain Pavers	Yes	Yes	No
Troweled concrete toe	Yes	No	No

If there is a risk of drain pipe damage, consider using a heavy gauge pipe or test the pipe and base in a trial area with compaction equipment prior to placing and compacting a large area. Perforations in pipes should terminate 1 ft (0.3 m) short of the sides of the opening for the base. When corrugated metal drain pipes are used, they should be aluminized, and aluminized pipe in contact with concrete should be coated to prevent corrosion. Perforated drain pipes should have caps fastened to the upslope ends. Daylighted drain pipes require wire mesh over the openings to keep out debris and animals.

Observation Wells—A 4 to 6 in. (100 to 150 mm) diameter vertical perforated pipe that serves as an observation well may be specified in PICP subject to vehicular traffic. The pipe should be kept vertical during filling of the excavated area with open-graded aggregate and during compaction. The bottom of the pipe can be forced into the soil subgrade and held in place during base/subbase filling and compaction. The pipe should be located in the lowest elevation and a minimum of 3 ft (1 m) from the PICP side. Figures 12, 13 and 14 illustrate a well accessible from the surface and another with the pipe under the pavers to prevent damage from vandals.

Place and compact the aggregate subbase—ASTM No. 2 subbase material should be spread in lifts up to 6 in. (150 mm). Compaction is typically done with a 10 ton (9 T) steel vibratory roller or a 13,500 lbf (60 kN) plate compactor.

Figure 15. A 10 ton (9 T) vibratory roller compactor settles ASTM No. 2 stone subbase for a large shopping center parking lot.

Greater lift thicknesses are normal (i.e., 12 in. or 0.3 m) when using either of these compactors. When using a roller, the first two passes are in vibratory mode and the last two are in static mode. Compaction is completed when no visible movement can be seen in the base when rolled by the compactor. Figure 15 illustrates a vibratory roller compacted No. 2 stone subbase.

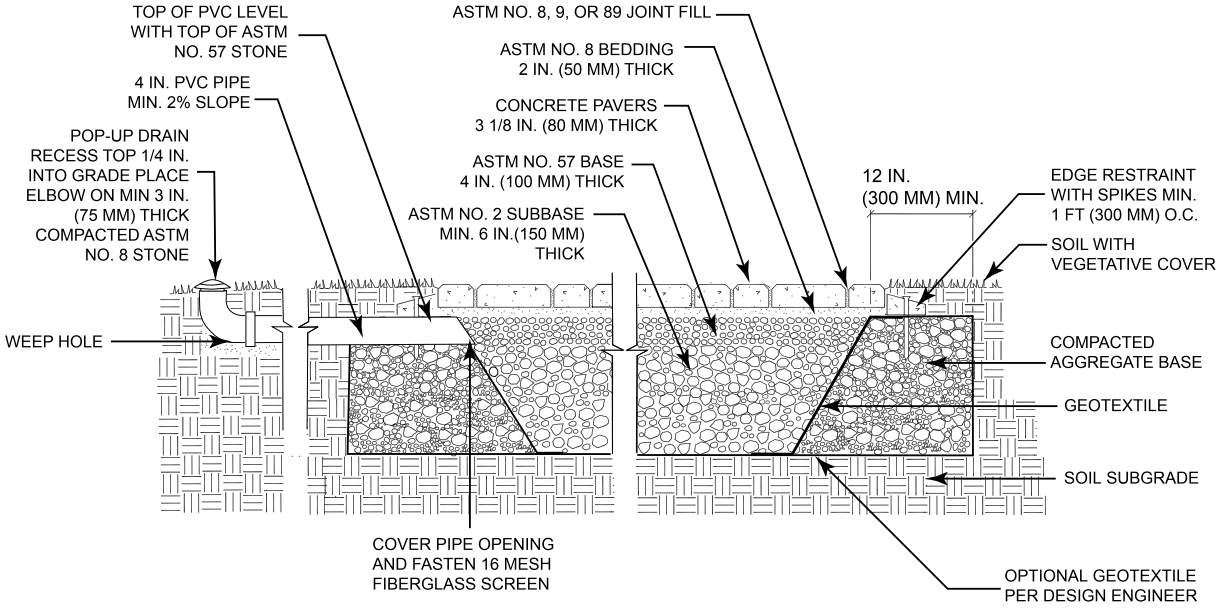
Plate compactors with a minimum compaction force of 13,500 lbf (60 kN) with compaction indicators should be used to determine when compaction is completed. Plate compactors are needed to compact in corners and edges where roller compactors are not effective. Aggregates should not be crushed by the compactor. Surface tolerance of the compacted ASTM #2 shall be +/- 2 1/2 in. (65 mm) over a 10 ft. (3 m) straightedge. If another contractor is responsible for the placement and compaction of the base/subbase, they should provide the paver contractor written assurance that the base/subbase has been prepared to the specification.

Install curbs or other edge restraints—The selection of edge restraints depends on whether the PICP is for pedestrian, residential driveway or vehicular use. Table 1 summarizes recommended by edge restraint type based on the application.

Cast-in-place concrete, precast concrete and cut stone curbs are typically a minimum of 9 in. (225 mm) high and rest on the compacted No. 2 stone subbase. Consideration should be given to installing a concrete haunch under precast concrete or stone curbs. Curbs may be higher than 9 in, (225 mm) if they hold back grass, a sidewalk, bioswale or other structure. Figure 6 illustrates typical curb cross-section.

If PICP is adjacent to existing impervious asphalt or concrete pavement, curbs level with the permeable and impervious surfaces are used. The curb should extend the full depth of the base under the impermeable pavement to protect its base from becoming weakened from excessive water. Another option is to separate the two bases with an impermeable liner. Figure 7 shows a concrete curb between impervious pavement and PICP base and subbase.

The risk of water weakening the base under the impervious pavement can be substantially decreased by sloping the soil subgrade under the PICP away from the impervious pavement base and by using perforated drain pipes to



NOTES:
1. DESIGN, MATERIAL AND CONSTRUCTION GUIDELINES TO FOLLOW ICPI GUIDE SPECIFICATIONS.
2. DAYLIGHT DRAIN PIPE TO DRAINAGE SWALE, USE POP-UP DRAIN IN YARD (AS SHOWN) OR CONNECT TO STORM SEWER.
3. APPLY WATERPROOF MEMBRANE VERTICALLY AGAINST HOUSE FOUNDATION PRIOR TO PLACING SUBBASE AND BASE.
4. ALL SOIL SUBGRADES SHALL SLOPE TOWARD STREET.
5. SUBGRADE SOIL MAXIMUM CROSS SLOPE IS 0.5%. MAXIMUM LONGITUDINAL SLOPE IS 2% TOWARD STREET.
6. USE SOIL BERMS FOR LONGITUDINAL SOIL SUBGRADE SLOPES EXCEEDING 2% TOWARD STREET.
7. 5% MAXIMUM SURFACE SLOPE.
8. THICKER SUBBASSE AND/OR ADDITIONAL DRAIN PIPES MAY BE REQUIRED IF DRIVEWAY RECEIVES RUNOFF FROM ADJACENT IMPERVIOUS SURFACES OR ROOFS.

Figure 16. Typical cross section detail using a dense-graded base berm as a foundation for anchoring metal or plastic edge restraints.

Figure 17. Perimeter berms made with dense-graded base are in place prior to placing open-graded aggregate in the driveway.

Figure 18. Compacting the berms along the perimeter and the PICP base

remove water before it can collect next to the base supporting the impervious pavement. Curbs installed against existing impervious pavement and base may cause erosion and weakening of the base from excavation due to installing the PICP. Eroded spaces can be filled with concrete to support the asphalt or concrete surface and base next to the curb.

For pedestrian areas and residential driveways, an edge restraint option is using compacted, dense graded berms around PICP base perimeter with plastic or metal edging fastened to their surface. The dense-graded base is a foundation for metal or plastic edging secured with steel spikes. These edge restraints are installed on the dense-graded berms in a manner identical to those on interlocking concrete pavement driveways. Figure 16 shows a typical cross-section of this construction and Figure 17 illustrates the berms in place prior to filling the driveway with open-graded aggregate. Figure 18 shows compaction of both types of bases. Figure 19 shows the pavers in place against a plastic edge

Figure 19. Edge restraint is spiked into the dense-graded base berms so it can hold the pavers in place during compaction and service.

Figure 20. A PICP walk with a troweled concrete toe sits next to a driveway with a formed and cast-in-place concrete curb. Concrete toes should only be used for pedestrian applications.

Figure 21. A 10 ton (9 T) roller compacts the ASTM No. 57 base.

Figure 22. A 13,500 (60 kN) vibratory plate compactor is used on this ASTM No. 57 stone base.

restraint spiked or nailed into the dense-graded base. The edge restraint contains some of the bedding layer such that at least the bottom half of the pavers is also contained by the edging.

Figure 20 illustrates a concrete toe placed against a sidewalk behind a driveway with a cast-in-place concrete edge. Concrete toes rest on the base extending at least 6 in. (150 mm) past the paver edges. The concrete should be a minimum of 4 in. (100 mm) wide by 3 in. (75 mm) deep so that it can restrain the pavers. Concrete mixed on the job site should use an approximate 5:1 aggregate to cement content. Once prepared in a concrete mixer, the concrete toe is typically spread with a shovel and smoothed with trowel. Pavers are compacted once the concrete has hardened. This type of edging is not recommended in cold climate regions because of the high risk of cracking.

Place and compact the aggregate base—The ASTM No. 57 base layer is spread and compacted as one 4 in. (100 mm) lift. Like the subbase aggregate, the initial passes with the roller can be with vibration to consolidate the base material as shown in Figure 21. A 13,500 lbf (60 kN) plate compactor (Figure 22) also can be used to compact the No. 57 base layer. Surface tolerance of the compacted No. 57 stone shall be +/- $^{3}/_{4}$ in. (19 mm) over a 10 ft. (3 m) straightedge.

Equipment drivers should avoid rapid acceleration, hard braking, or sharp turning when driving on the compacted No. 2 subbase and on the No. 57 base. Tracked equipment is recommended. If the subbase or base surfaces are disturbed, they should be re-leveled and re-compacted.

A test section of the subbase and base should be constructed initially for compaction monitoring. The section will indicate settlement of the pavement section, and be used to monitor and prevent crushing of the aggregate. The area should be used to train inexperienced construction personnel on compaction techniques.

Some designers prefer field measurement of subbase and base densities after compaction. If nuclear density gauge testing is desired, it cannot effectively be done on the No. 2

Figure 23. Density testing with a nuclear gauge in backscatter mode can help assess consistent density of the ASTM No. 57 base layer.

Figure 24. A base stiffness gauge can also be used to assess compacted density of aggregates.

subbase. However, density testing can be done in backscatter mode on the No. 57 base layer (Figure 23). The guide construction specification includes a compaction testing method for the No. 57 base layer. The purpose of this test method is to attain consistent density. Besides nuclear density gauges, (nonnuclear) stiffness gauges may also be used to assess compacted base density (Figure 24).

Place and screed the bedding layer—When subbase and base lifts are compacted the surface should then be topped with a 2 in. (50 mm) thick layer of No. 8 crushed stone bedding layer. This layer is screeded and leveled over the No. 57 base. Metal rails are placed on the compacted No. 57 layer and are used to guide screeding elevations. Various sizes of screeding equipment can be used ranging from hand tools, bucket screeds powered manually or by machine, or a modified asphalt spreader that uses a laser guidance system to maintain elevations. Figure 25 and 26 illustrate examples of screeding equipment. A moist bedding layer facilitates screeding.

The surface tolerance of the screeded No. 8 bedding material should be $\pm 3/8$ in. over 10 ft. (± 10 mm over 3 m). The concrete pavers should be placed immediately after the No. 8 stone bedding is placed and screeded. Construction equipment and foot traffic should be kept off the screeded layer.

Install the pavers manually or with mechanical installation equipment—After screeding the bedding material, the pavers are placed on this layer. Paver installation can be by hand or with mechanical equipment. Mechanized installation may be a cost-efficient means to install the units and reduces installation time. Figure 27 and 28 shows mechanized equipment placing permeable paver layers manufactured for placement in their final laying pattern. Mechanical installation requires careful planning including selection available paver layer patterns from local manufacturers and well-orchestrated material flow logistics in order to gain efficiencies. For further information on mechanical installation, consult *ICPI Tech Spec 11—Mechanical Installation of Interlocking Concrete Pavements* and *ICPI Tech Spec 15—A Guide for the Construction of Mechanically Installed Interlocking Concrete Pavements*.

Figure 25. Manually screeding the No. 8 stone setting bed.

Figure 26. A screed beam pulled by equipment can be more efficient and productive.


Figure 27 and 28. Mechanical equipment accelerated installation of a parking lot in Illinois and a street in Oregon.



Figure 29. Various methods of filling and sweeping PICP joints.

An important consideration on large mechanical installation projects is monitoring paver production mold wear. *Tech Spec 15* covers managing dimensional growth of pavers and provides means for confirming dimensions of the pavers at the factory and on the job site. Managing paver dimensions should be decided between the paver manufacturer and paver installation contractor and confirmed at the preconstruction meeting.

Border courses consisting of mostly whole (uncut) pavers are typically used against curbs at PICP edges and at transitions to other pavement surfaces. Paving units abutting border courses should be cut to fill spaces prior to compaction. Cuts should provide gaps around the entire perimeter of the stone that are consistent with the typical joint size—this will allow for proper interlock between units and prevent direct paver on paver contact. Cut units should be no smaller than one-third of a whole unit if subject to vehicular traffic. All installed units should have joints filled and compacted within 6 ft (2 m) of the laying face at the end of each day.

Filling the paver joints and sweep the surface clean—The paver joints are filled with ASTM No. 8, 89 or 9 stone. Depending on the PICP area, spreading and sweeping can be done with shovels and brooms, or larger areas with machines and swept into the paver joints with powered brooms or sweepers. Once the joints are full (within $^1/_4$ in. or 6 mm of the paver surface), the surface must be swept clean prior to compaction as loose stones on the surface can mar the pavers when in contact with a plate compactor. Figure 29 illustrates various filling and sweeping methods.

Compact the pavers—After the PICP surface is swept clean, it is compacted with a plate compactor. A minimum of two passes should be made with the second pass in a perpendicular direction from the first pass. The path of the plate compactor should overlap several inches (cm). For paving units 3 $^1/_8$ to 4 in. (80 to 100 mm) thick, the plate compactor should exert a minimum 5,000 lbf (22 kN) at 75 to 90 Hz. Figure 30 shows permeable pavers being compacted for a street project using a large plate compactor.

Top up joints with joint filling stone as needed and sweep the surface clean—Compaction can cause some settlement of the aggregates inside the joints. If the aggregates are more than $^1/_4$ in. (6 mm) from the paver surface, they should be topped up to this level with additional aggregates. The paver surface should be swept clean prior to open-

Figure 30. PICP paver compaction shows that pavers need to be set about 3/4 in. (19 mm) above their final elevation before compaction and 3/8 in. (10mm) after compaction to account for downward movement.

ing the PICP to traffic.

Aggregates in the paver joints can settle in early in the life of the pavement. Some settlement can be reduced through consistent, thorough compaction of the base, pavers and bedding layers. However, it is advisable for the contractor to return to the site after six months, inspect the joints and top them up with aggregate if they have settled to more than 1/4 in. (6 mm) below the paver surface. This service should be included in the construction specifications.

Construction Checklist

The following provides a convenient checklist for contractors and project inspectors.

Pre-construction meeting

- ❑ Walk through site with builder/contractor/subcontractor to review erosion and sediment control plan/stormwater pollution prevention plan or SWPPP)
- ❑ Determine when PICP is built in project construction sequence; before or after building construction, and measures for PICP protection and surface cleaning
- ❑ Aggregate material locations identified (hard surface or on geotextile)
- ❑ Sediment management
  - ❑ Access routes for delivery and construction vehicles identified
  - ❑ Vehicle tire/track washing station (if specified in E&S plan/SWPPP) location / maintenance

Excavation

- ❑ Utilities located and marked by local service
- ❑ Excavated area marked with paint and/or stakes
- ❑ Excavation size and location conforms to plan
- ❑ Sediment management:
  - ❑ Excavation hole as sediment trap: cleaned immediately before subbase stone placement and runoff sources with sediment diverted away from the PICP, or
  - ❑ All runoff diverted away from excavated area.
  - ❑ Temporary soil stockpiles should be protected from run-on, run-off from adjacent areas and from erosion by wind.
  - ❑ Ensure linear sediment barriers (if used) are properly installed, free of accumulated litter, and built up sediment less than 1/3 the height of the barrier.
  - ❑ No runoff enters PICP until soils stabilized in area draining to PICP
- ❑ Foundation walls:
  - ❑ At least 10 ft (3 m) from foundation walls with no waterproofing or drainage
- ❑ At least 100 ft (30 m) from water supply wells
- ❑ Soil subgrade: rocks and roots removed, voids refilled with permeable soil
- ❑ Soil compacted to specifications (if required) and field tested with density measurements per specifications
- ❑ No groundwater seepage or standing water. If so dewatering or dewatering permit may be required.

Geotextile (if specified)

- ❑ Meets specifications
- ❑ Placement and down slope overlap (min. 2 ft or 0.6 m) conform to specifications and drawings
- ❑ Sides of excavation covered with geotextile prior to placing aggregate base/subbase
- ❑ No tears or holes
- ❑ No wrinkles, pulled taught and staked

Impermeable Liner (if specified)

- ❑ Meets specifications
- ❑ Placement, field welding, and seals at pipe penetrations done per specifications

Drain pipes/observations wells

- ❑ Size, perforations, locations, slope, and outfalls meet specifications and drawings
- ❑ Verify elevation of overflow pipes

Subbase, base, bedding and jointing aggregates

- ❑ Sieve analysis from quarry conforms to specifications
- ❑ Storage on hard surface or geotextile to keep sediment-free
- ❑ Thickness, placement, compaction and surface tolerances meet specifications and drawings

Edge restraints

- ❑ Elevation, placement, and materials meet specifications and drawings

Permeable interlocking concrete pavers

- ❑ Meet ASTM/CSA standards (as applicable) per manufacturer's test results
- ❑ Elevations, slope, laying pattern, joint widths, and placement/compaction meet drawings and specifications
- ❑ No cut paver subject to tire traffic is less than 1/3 of a whole paver

- ❑ All pavers within 6 ft (2 m) of the laying face fully compacted at the completion of each day
- ❑ Surface tolerance of compacted pavers deviate no more than ±3/8 (± 10 mm) under a 10 ft (3 m) long straightedge

Final inspection

- ❑ Surface swept clean
- ❑ Elevations and slope(s) conform to drawings
- ❑ Transitions to impervious paved areas separated with edge restraints
- ❑ Surface elevation of pavers 1/8 to 3/8 in. (3 to 10 mm) above adjacent drainage inlets, concrete collars or channels (for non-ADA accessible paths of travel); to 1/4 in. or 6 mm (for ADA accessible paths of travel)
- ❑ Lippage: no greater than 1/8 in. (3 mm) difference in height between adjacent pavers
- ❑ Bond lines for paver courses: ±1/2 in. (±15 mm) over a 50 ft (15 m) string line
- ❑ Stabilization of soil in area draining into permeable pavement (min. 20 ft (6 m) wide vegetative strips recommended)
- ❑ Drainage swales or storm sewer inlets for emergency overflow. If storm sewer inlets are used, confirm overflow drainage to them.
- ❑ Runoff from non-vegetated soil diverted from PICP surface
- ❑ Test surface for infiltration rate per specifications using ASTM C1701; minimum 100 in./hr (2500 mm/ hr) recommended

PICP Specialist Course

ICPI offers a one day PICP Specialist Course for training on PICP best construction practices. Installers who complete the course, pass the exam and meet the minimum experience requirements earn the PICP Specialist designation. This course is referenced as a requirement in an increasing number of commercial, municipal and state specifications. The classroom program is for contractors building residential and/or commercial interlocking concrete pavement installations, and who wish to move into the permeable pavement market. Participants should be experienced contractors, and participants should have completed the ICPI Concrete Paver Installer Course. The PICP Specialist Course is approved for ICPI installer continuing education.

The course cover PICP systems, job planning and documentation, job layout, flow and estimating quantities, soil and site characteristics, subbase and base materials, edge restraints, bedding and jointing materials, paver selection and installation, and maintenance. Participants who take the course receive a student manual and those that earn a passing grade on the exam receive a Record of Completion for the course. A Record of Completion does not expire, and will not require a renewal. Other Installer Development Courses include Concrete Paver Installer, Residential Paver Technician and Commercial Paver Technician courses. Most classes are sponsored by local ICPI manufacturing members. Visit www.icpi.org/picp-course for more information on dates and locations.

REFERENCES

*AASHTO 2010. "Geotextile Spe*cification for Highway Applications," AASHTO Designation M-288, in *Standard Specifications for Transportation Material and Methods of Sampling and Testing*, Part IB: Specifications, 31st Edition, American Association for State Highway and Transportation Officials, Washington, DC.

ASCE 2010. *Structural Design of Interlocking Concrete Pavement for Municipal Streets and Roadways*, ASCE/T&DI/ ICPI Standard 58-10, American Society of Civil Engineers, Reston, Virginia.

ASTM 2009. ASTM C 936, Standard Specification for Solid Concrete Interlocking Paving Units, *Annual Book of ASTM Standards*, Vol. 04.05, American Society for Testing and Materials International, Conshohocken, Pennsylvania.

ASTM 2009. ASTM C 1701 *Standard Test Method for Infiltration Rate of In Place Pervious Concrete*, Annual Book of ASTM Standards, Vol. 04.02, American Society for Testing and Materials International, Conshohocken, Pennsylvania.

CSA 2006. A231.2-06, *Precast Concrete Pavers*, Canadian Standards Association, Rexdale, Ontario.

ICPI 2011, D. Smith, *Permeable Interlocking Concrete Pavements*, 4th Edition, Interlocking Concrete Pavement Institute, Herndon, Virginia

icpi
Interlocking Concrete Pavement Institute®

14801 Murdock Street
Suite 230
Chantilly, VA 20151

Tel: 703.657.6900
Fax: 703.657.6901
E-mail: icpi@icpi.org
www.icpi.org

In Canada:
P.O. Box 1150
Uxbridge, ON L9P 1N4
Canada

BOD Approved: February 2016

PWSA Exhibit No. 3B

PWSA's September 27, 2022 Letter to Complainant

PGH2O Pittsburgh Water & Sewer Authority

Mr. Ronald Schad
2509 Greenboro Lane
Pittsburgh, PA 15220-4043
Parcel number: 0036F00012000000
PWSA Account Number: 5094831
September 27, 2022

Dear Mr. Schad,

We have received your letter dated June 15, 2022 with your questions about your stormwater fee.

We addressed your questions below:

1. **Impervious Area Calculation**

In your letter you provided a calculation of impervious area for your property. Please note that PWSA uses our aerial imagery data for all impervious area calculations for our customers' stormwater bills. As indicated by the "Stormwater Fee Finder" on PWSA's Stormwater Fee site here - https://www.pgh2o.com/your-water/stormwater/stormwater-fee the impervious area for your property is 3,596 square feet, so this is the number that we are required to use for your stormwater bill. We also note that the estimates that you provided seem low (For example 21 sf for the front walk and 148 sf for the rear patio. By contrast, we have 174 sf for the front walk and 658 sf for the rear patio.)

2. **Omni Stone Driveway**

As for the Omni Stone parking area, our aerial imagery shows that PWSA is billing you for approximately 603 square feet of driveway impervious surface for your stormwater fee. Even if this were deducted from the total impervious area for your property (3,596 square feet) you would still be in Tier 3 ($11.92 monthly stormwater fee) with about 2,993 square feet of impervious surface.

Note that not all interlocking pavers are capable of managing significant quantities of stormwater. But if you would still like us to remove 603 square feet from the impervious area calculated for your driveway, please provide documenation that specifies that the pavers were specifically installed to infiltrate, detain and treat stormwater. These paver projects are designed with larger joints filled with stone between the pavers and a layer of stone below to function as a reservoir to provide infitration and detention of stormwater.

3. **Lawn Sprinkler System Credit**

Unfortunately, PWSA does not offer a credit to wastewater conveyance charges for water used by lawn sprinklers.

Sincerely,

PWSA Customer Service

Penn Liberty Plaza I
1200 Penn Avenue
Pittsburgh PA 15222

info@pgh2o.com
T 412.255.2423
F 412.255.2475

www.pgh2o.com
@pgh2o

Customer Service /
Emergencies:
412.255.2423

PWSA Exhibit No. 4

Excerpt from PWSA's Wastewater Tariff

Supplement No. 8
Tariff Wastewater - Pa. P.U.C. No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF WASTEWATER CONVEYANCE SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: December 30, 2021 Effective: January 12, 2022

BY: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This tariff makes increases and changes in existing rates, rules, and regulations as approved by the Commission in its Final Order dated November 18, 2021 at Docket No. R-2021-3024774.

Supplement No. 8
The Pittsburgh Water and Sewer Authority
Tariff Wastewater - Pa. P.U.C. No. 1
Second Revised Page No. 9
Canceling First Revised Page No. 9

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Wastewater Conveyance

1. Minimum Charge*: Each customer will be assessed a service charge based upon the size of the customer's water meter as follows except that residential customers residing in newly constructed townhomes who are required to install a meter larger than 5/8" for fire protection and due to City ordinance requirements, may request assessment of the 5/8" minimum charge and usage allowance:

Meter Size	Minimum Gallons	Minimum Charge Per Month		(C)
		Effective January 12, 2022	**Effective January 1, 2023**	(C)
5/8"	1,000	$8.09	$7.32	(D)/(D)
3/4"	2,000	$15.27	$11.70	(D)/(D)
1"	5,000	$35.01	$24.27	(D)/(D)
1 1/2"	10,000	$70.91	$46.19	(D)/(D)
2"	17,000	$119.36	$76.29	(D)/(D)
3"	40,000	$271.91	$173.03	(D)/(D)
4"	70,000	$465.73	$297.52	(D)/(D)
6"	175,000	$1,120.70	$725.62	(D)/(D)
8"	325,000	$2,035.83	$1,330.48	(D)/(D)
10" or Larger	548,000	$3,361.79	$2,218.44	(D)/(D)

2. Conveyance Charge: In addition to the Minimum Charge, the following wastewater conveyance charges (based on water consumption/usage or wastewater flows, at the Authority's discretion) will apply for each 1,000 gallons above the Minimum Gallons for each meter size:

Customer Class	Conveyance Charge Rate Per 1000 Gals.		
	Effective January 12, 2022	**Effective January 1, 2023**	(C)
Residential	$6.99	$5.81	(D)/(D)
Commercial*	$6.22	$5.28	(D)/(D)
Industrial	$5.76	$5.05	(D)/(D)
Health or Education	$7.71	$6.38	(D)/(D)

** Rate applies to City of Pittsburgh Municipal Accounts but bills will be calculated based on a phase-in factor pursuant to 71 P.S. §§ 720.211 to 720.213.*

(D)= Decrease

PWSA Exhibit No. 5

Complainant's Account History

Account History: 1104836/2019313, Open Amount 0.00 USD, Amount Due 0.00 USD

RONALD SCHAD / 2019313
2509 GREENBORO LN / PITTSBURGH PA 15220

Account History

Document Number	Posting Date	Consumption	Amount	Current Total	Net Due Date	Origin Text
370000002370	3/20/2023	0	$30.30	$0.00	3/20/2023	Payment Run
530000079090	2/28/2023	2	$30.30	$30.30	3/20/2023	IS-U Invoicing
330000003097	2/21/2023	0	$31.86	$0.00	2/21/2023	Payment Run
500000060164	1/30/2023	2	$31.86	$31.86	2/19/2023	IS-U Invoicing
360000002118	1/18/2023	0	$31.43	$0.00	1/18/2023	Payment Run
550000068094	12/29/2022	2	$31.43	$31.43	1/18/2023	IS-U Invoicing
370000001220	12/20/2022	0	$38.66	$0.00	12/20/2022	Payment Run
560000043326	11/30/2022	1	$38.66	$38.66	12/20/2022	IS-U Invoicing
320000001338	11/16/2022	0	$83.04	$0.00	11/16/2022	Payment Run
520000030594	10/27/2022	3	$83.04	$83.04	11/16/2022	IS-U Invoicing
340000001424	10/19/2022	0	$224.72	$0.00	10/19/2022	Payment Run
500000024761	9/29/2022	12	$224.72	$224.72	10/19/2022	IS-U Invoicing
340000000712	9/19/2022	0	$209.35	$0.00	9/19/2022	Payment Run
560000014016	8/29/2022	11	$209.35	$209.35	9/18/2022	IS-U Invoicing
360000000108	8/16/2022	0	$306.65	$0.00	8/16/2022	Payment Run
BILL00020746309	7/27/2022		$306.65	$306.65		IS-U Invoicing
PYMT00009904755	7/20/2022		$112.06	$0.00		Payment Run
BILL00020604333	6/30/2022		$112.06	$112.06		IS-U Invoicing
PYMT00009803978	6/16/2022		$60.85	$0.00		Payment Run
BILL00020458684	5/27/2022		$60.85	$60.85		IS-U Invoicing
PYMT00009703545	5/18/2022		$74.51	$0.00		Payment Run
BILL00020328309	4/28/2022		$74.51	$74.51		IS-U Invoicing
PYMT00009598133	4/18/2022		$62.57	$0.00		Payment Run
BILL00020197081	3/29/2022		$62.57	$62.57		IS-U Invoicing
PYMT00009500586	3/17/2022		$57.44	$0.00		Payment Run
BILL00020032447	2/25/2022		$57.44	$57.44		IS-U Invoicing
PYMT00009400636	2/17/2022		$57.39	$0.00		Payment Run
BILL00019855172	1/28/2022		$57.39	$57.39		IS-U Invoicing

PWSA Exhibit No. 6

Complainant's December 2022 – March 2023 Bills showing ALCOSAN credits

PGH2O

Bill Date
12/29/2022

Account Number
2019313

Billing Statement for RONALD SCHAD

Service Location: 2509 GREENBORO LN

Need Assistance?

Contact Center

412-255-2423 - Press Menu Option #5

Pay-By-Phone 24 hours a day / 7 days a week

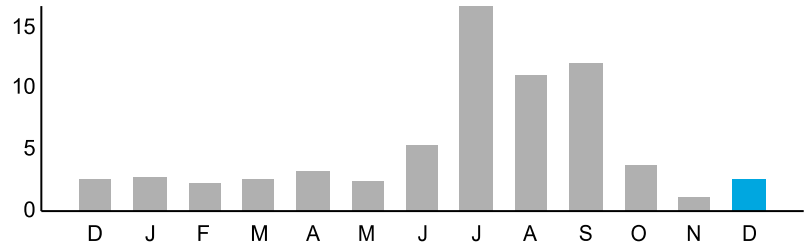
1-833-660-1366

Billing Summary

PRIOR BALANCE	-	PAYMENTS	=	ACCOUNT BALANCE	+	CURRENT CHARGES	=	TOTAL BALANCE
$38.66		$38.66		$0.00		$31.43		$31.43

My Water Usage

Average Monthly Usage in 1,000 Gallons



2,500
Total gallons used this period

83
Average gallons used per day

2,500 Gallons / 30 Days = 83 Average Daily Gallons

Customer Assistance Programs

Having difficulty paying your PWSA bill?

Contact PGH2O Cares at 412-255-2457 or cares@pgh2o.com to see if you qualify for:

1. Relief from your fixed, monthly PWSA charges plus forgiveness on past due balances if you are on an active payment plan
2. A hardship grant to help pay past due charges
3. Protection from shut-off in winter months
4. Reimbursement for private side lead line replacement

PGH2O

1200 Penn Avenue, Pittsburgh, PA 15222

MAKE CHECK OR MONEY ORDER
PAYABLE TO: PWSA

Account Number
2019313

DO NOT PAY

TOTAL BALANCE
$31.43

A 10% annual late payment charge applies to all unpaid bills.

RONALD SCHAD
2509 GREENBORO LN
PITTSBURGH PA 15220-4043

Your account is set on Auto Pay.

0000000201931301182023100000031434

My Billing Details

Previous Balance	$38.66
Payment - 12/20/2022 - Thank You	-$38.66
ALCOSAN Meter Credit	-$31.14
Current Charges	$62.57
Total Due On or Before 01/18/2023	**$31.43**

Current Charges	**$62.57**
PWSA	
Wastewater Conveyance Minimum	$8.09
1,500 gallons @ $6.99 per 1,000 gallons	$10.49
Stormwater Fee: 2.000 @ 5.96 per ERU	$11.92
Distribution System Improvement Charge	$0.93

Allegheny County Sanitary Authority

Charges billed on behalf of ALCOSAN	
Sewage Treatment	$31.14

My Meter Readings

Meter #: 9240437942 Type: Residential

Current:	6,857.00	12/10/2022	Actual
Previous:	6,832.00	11/11/2022	Actual
Usage:	2,500.00		
Days of Service:	30		

PGH2O

How to Pay Your Bill

Enroll in paperless billing at myaccount.pgh2o.com, sign up for Zipcheck, or mail your bill coupon with payment to:

The Pittsburgh Water and Sewer Authority
1200 Penn Avenue, Pittsburgh, PA 15222

Pay-By-Phone
1-833-660-1366 - 24 hours a day / 7 days a week

Customer Assistance Programs

If you are having difficulty paying your PWSA bill, contact PGH2O Cares at 412-255-2457 or cares@pgh2o.com to see if you qualify for our assistance programs. pgh2o.com/CAP

Customer Service

412-255-2423 (Press Option #5) or info@pgh2o.com
Monday through Friday from 8 AM to 6 PM

24/7 Water/Sewer Emergency

412-255-2423 (Press Option #1)

Credits and Incentives

PWSA offers a stormwater credit and incentive program to encourage all customers to install stormwater solutions on their property. Doing so could reduce your bill while helping to control stormwater.
pgh2o.com/stormwater-fee

Please register any questions or complaints about your bill prior to the due date. Visit pgh2o.com for more information or to view a current rate brochure.

PWSA bills on behalf of ALCOSAN for sewage treatment. ALCOSAN's rates are separate from PWSA. Their rates are set annually and the amount that they charge for sewage treatment is reflected in your bill from PWSA. If you have any questions regarding your ALCOSAN charges, please contact ALCOSAN at 412-766-6696.

Per Section A.1.a of PWSA's Supplemental Service Conditions, "...unpaid water, wastewater and/or stormwater charges are a lien against the property." PWSA may record a lien on the property if you or, if applicable, your tenant fails to respond to our normal collection process.

PAY YOUR PITTSBURGH WATER AND SEWER AUTHORITY BILL WITH CASH AT PARTICIPATING STORES.

powered by KUBRAEZ-PAY

Bring this barcode with you to make a payment.
Payments are recognized immediately and are posted on the next business day.

Retailer Instructions:
1. SCAN the customer's barcode.
2. The register will PROMPT you to enter an amount.
3. ENTER the amount the customer wants to pay.
4. COLLECT the desired cash amount (and fee, if applicable).
5. When the transaction is COMPLETE hand customer the receipt.

A $1.49 processing fee will be added.

Walmart, CVS, DOLLAR GENERAL, Walgreens, FAMILY DOLLAR, 7-ELEVEN

79936643802000637168279472395O

By accepting or using this barcode to make a payment, you agree to the full terms and conditions, available at vanilladirect.com/pay/terms. After successful payment using this barcode, you may retrieve your full detailed e-receipt at vanilladirect.com/pay/ereceipt.
For PWSA Customer Service, please call 412-255-2423 and press option 5.

Other convenient ways to pay:

Make one time payments via pgh2o.com.

Enroll in eBilling to go green, make fee free payments, and view bills and inserts via pgh2o.com.

Make payment via telephone at 412-255-2423 and press option 2.

PLEASE MAIL TO BELOW ADDRESS.

THE PITTSBURGH WATER AND SEWER AUTHORITY
PO BOX 747055
PITTSBURGH, PA 15274-7055

PGH2O

Bill Date
01/30/2023

Account Number
2019313

Billing Statement for RONALD SCHAD

Service Location: 2509 GREENBORO LN

Need Assistance?

Contact Center

412-255-2423 - Press Menu Option #5

Pay-By-Phone 24 hours a day / 7 days a week

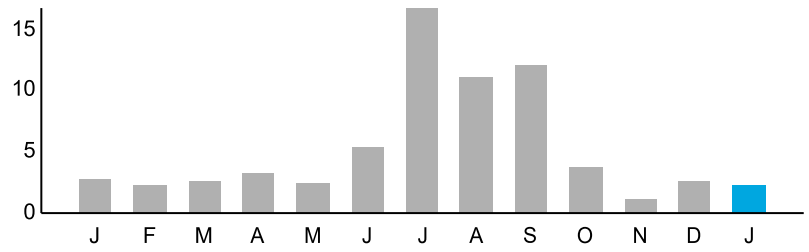
1-833-660-1366

Billing Summary

PRIOR BALANCE		PAYMENTS		ACCOUNT BALANCE		CURRENT CHARGES		TOTAL BALANCE
$31.43	-	$31.43	=	$0.00	+	$31.86	=	$31.86

My Water Usage

Average Monthly Usage in 1,000 Gallons



2,200
Total gallons used this period

66
Average gallons used per day

2,200 Gallons / 33 Days = 66 Average Daily Gallons

PWSA's PUC-approved rates for water, wastewater conveyance, and stormwater as well as ALCOSAN's new sewage treatment rates went into effect on January 1, 2023.

Please view the rate brochure in your bill insert for important rate information.

www.pgh2o.com/rates

PGH2O

1200 Penn Avenue, Pittsburgh, PA 15222

MAKE CHECK OR MONEY ORDER
PAYABLE TO: PWSA

Account Number
2019313

Please notify PWSA before the due date if you wish to stop the Zipcheck transaction by calling 412-255-2423 and choosing Option 5.

DO NOT PAY

TOTAL BALANCE
$31.86

A 10% annual late payment charge applies to all unpaid bills.

RONALD SCHAD
2509 GREENBORO LN
PITTSBURGH PA 15220-4043

Your account is enrolled in Zipcheck.

0000000201931302192023100000031869

My Billing Details

Previous Balance	$31.43
Payment - 01/18/2023 - Thank You	-$31.43
ALCOSAN Meter Credit	-$28.92
Current Charges	$60.78
Total Due On or Before 02/19/2023	**$31.86**

Current Charges	**$60.78**
PWSA	
Wastewater Conveyance Minimum	$7.81
Sewer Conveyance Charge	$7.88
Stormwater Charges	$15.39
Distribution System Improvement Charge	$0.78

Allegheny County Sanitary Authority
Charges billed on behalf of ALCOSAN

Sewage Treatment	$28.92

My Meter Readings

Meter #: 9240437942 Type: Residential

Current:	6,879.00	01/12/2023	Actual
Previous:	6,857.00	12/11/2022	Actual
Usage:	2,200.00		
Days of Service:	33		

PGH2O

How to Pay Your Bill
Enroll in paperless billing at myaccount.pgh2o.com, sign up for Zipcheck, or mail your bill coupon with payment to:

The Pittsburgh Water and Sewer Authority
1200 Penn Avenue, Pittsburgh, PA 15222

Pay-By-Phone
1-833-660-1366 - 24 hours a day / 7 days a week

Customer Assistance Programs
If you are having difficulty paying your PWSA bill, contact PGH2O Cares at 412-255-2457 or cares@pgh2o.com to see if you qualify for our assistance programs. pgh2o.com/CAP

Customer Service
412-255-2423 (Press Option #5) or info@pgh2o.com
Monday through Friday from 8 AM to 6 PM

24/7 Water/Sewer Emergency
412-255-2423 (Press Option #1)

Credits and Incentives
PWSA offers a stormwater credit and incentive program to encourage all customers to install stormwater solutions on their property. Doing so could reduce your bill while helping to control stormwater.
pgh2o.com/stormwater-fee

Please register any questions or complaints about your bill prior to the due date. Visit pgh2o.com for more information or to view a current rate brochure.

PWSA bills on behalf of ALCOSAN for sewage treatment. ALCOSAN's rates are separate from PWSA. Their rates are set annually and the amount that they charge for sewage treatment is reflected in your bill from PWSA. If you have any questions regarding your ALCOSAN charges, please contact ALCOSAN at 412-766-6696.

Per Section A.1.a of PWSA's Supplemental Service Conditions, "...unpaid water, wastewater and/or stormwater charges are a lien against the property." PWSA may record a lien on the property if you or, if applicable, your tenant fails to respond to our normal collection process.

PAY YOUR PITTSBURGH WATER AND SEWER AUTHORITY BILL WITH CASH AT PARTICIPATING STORES.

powered by KUBRAEZ-PAY

Bring this barcode with you to make a payment.
Payments are recognized immediately and are posted on the next business day.

Retailer Instructions:
1. SCAN the customer's barcode.
2. The register will PROMPT you to enter an amount.
3. ENTER the amount the customer wants to pay.
4. COLLECT the desired cash amount (and fee, if applicable).
5. When the transaction is COMPLETE hand customer the receipt.

A $1.49 processing fee will be added.

Walmart
CVS
DOLLAR GENERAL
Walgreens
FAMILY DOLLAR
7-ELEVEN

79936643802000637168279472395O

By accepting or using this barcode to make a payment, you agree to the full terms and conditions, available at vanilladirect.com/pay/terms. After successful payment using this barcode, you may retrieve your full detailed e-receipt at vanilladirect.com/pay/ereceipt.
For PWSA Customer Service, please call 412-255-2423 and press option 5.

Other convenient ways to pay:

Make one time payments via pgh2o.com.

Enroll in eBilling to go green, make fee free payments, and view bills and inserts via pgh2o.com.

Make payment via telephone at 412-255-2423 and press option 2.

PLEASE MAIL TO BELOW ADDRESS.

THE PITTSBURGH WATER AND SEWER AUTHORITY
PO BOX 747055
PITTSBURGH, PA 15274-7055

PGH2O

Bill Date
02/28/2023

Account Number
2019313

Billing Statement for RONALD SCHAD

Service Location: 2509 GREENBORO LN

Need Assistance?

Contact Center

412-255-2423 - Press Menu Option #5

Pay-By-Phone 24 hours a day / 7 days a week

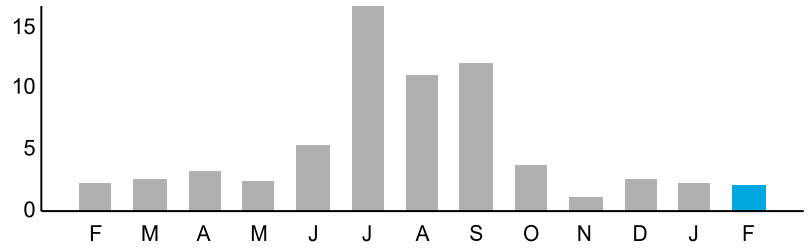
1-833-660-1366

Billing Summary

PRIOR BALANCE		PAYMENTS		ACCOUNT BALANCE		CURRENT CHARGES		TOTAL BALANCE
$31.86	-	$31.86	=	$0.00	+	$30.30	=	$30.30

My Water Usage

Average Monthly Usage in 1,000 Gallons



2,100
Total gallons used this period

72
Average gallons used per day

2,100 Gallons / 29 Days = 72 Average Daily Gallons

PWSA's PUC-approved rates for water, wastewater conveyance, and stormwater as well as ALCOSAN's new sewage treatment rates went into effect on January 1, 2023.

Please view the rate brochure in your bill insert for important rate information.

www.pgh2o.com/rates

PGH2O

1200 Penn Avenue, Pittsburgh, PA 15222

MAKE CHECK OR MONEY ORDER
PAYABLE TO: PWSA

Account Number
2019313

Please notify PWSA before the due date if you wish to stop the Zipcheck transaction by calling 412-255-2423 and choosing Option 5.

DO NOT PAY

TOTAL BALANCE
$30.30

A 10% annual late payment charge applies to all unpaid bills.

RONALD SCHAD
2509 GREENBORO LN
PITTSBURGH PA 15220-4043

Your account is enrolled in Zipcheck.

0000000201931303202023100000030301

My Billing Details

Previous Balance	$31.86
Payment - 02/21/2023 - Thank You	-$31.86
ALCOSAN Meter Credit	-$29.14
Current Charges	$59.44
Total Due On or Before 03/20/2023	**$30.30**

Current Charges	**$59.44**
PWSA	
Wastewater Conveyance Minimum	$7.32
1,100 gallons @ $5.81 per 1,000 gallons	$6.39
Stormwater Fee: 2.000 @ 7.95 per ERU	$15.90
Distribution System Improvement Charge	$0.69

Allegheny County Sanitary Authority

Charges billed on behalf of ALCOSAN	
Sewage Treatment	$29.14

My Meter Readings

Meter #: 9240437942 Type: Residential

Current:	6,900.00	02/10/2023	Actual
Previous:	6,879.00	01/13/2023	Actual
Usage:	2,100.00		
Days of Service:	29		

PGH2O

How to Pay Your Bill

Enroll in paperless billing at myaccount.pgh2o.com, sign up for Zipcheck, or mail your bill coupon with payment to:

The Pittsburgh Water and Sewer Authority
1200 Penn Avenue, Pittsburgh, PA 15222

Pay-By-Phone
1-833-660-1366 - 24 hours a day / 7 days a week

Customer Assistance Programs

If you are having difficulty paying your PWSA bill, contact PGH2O Cares at 412-255-2457 or cares@pgh2o.com to see if you qualify for our assistance programs. pgh2o.com/CAP

Customer Service

412-255-2423 (Press Option #5) or info@pgh2o.com
Monday through Friday from 8 AM to 6 PM

24/7 Water/Sewer Emergency

412-255-2423 (Press Option #1)

Credits and Incentives

PWSA offers a stormwater credit and incentive program to encourage all customers to install stormwater solutions on their property. Doing so could reduce your bill while helping to control stormwater.
pgh2o.com/stormwater-fee

Please register any questions or complaints about your bill prior to the due date. Visit pgh2o.com for more information or to view a current rate brochure.

PWSA bills on behalf of ALCOSAN for sewage treatment. ALCOSAN's rates are separate from PWSA. Their rates are set annually and the amount that they charge for sewage treatment is reflected in your bill from PWSA. If you have any questions regarding your ALCOSAN charges, please contact ALCOSAN at 412-766-6696.

Per Section A.1.a of PWSA's Supplemental Service Conditions, "...unpaid water, wastewater and/or stormwater charges are a lien against the property." PWSA may record a lien on the property if you or, if applicable, your tenant fails to respond to our normal collection process.

PAY YOUR PITTSBURGH WATER AND SEWER AUTHORITY BILL WITH CASH AT PARTICIPATING STORES.

powered by KUBRAEZ-PAY

Bring this barcode with you to make a payment.
Payments are recognized immediately and are posted on the next business day.

Retailer Instructions:
1. SCAN the customer's barcode.
2. The register will PROMPT you to enter an amount.
3. ENTER the amount the customer wants to pay.
4. COLLECT the desired cash amount (and fee, if applicable).
5. When the transaction is COMPLETE hand customer the receipt.

A $1.49 processing fee will be added.

Walmart
CVS
DOLLAR GENERAL
Walgreens
FAMILY DOLLAR
7-ELEVEN

79936643802000637168279472395O

By accepting or using this barcode to make a payment, you agree to the full terms and conditions, available at vanilladirect.com/pay/terms. After successful payment using this barcode, you may retrieve your full detailed e-receipt at vanilladirect.com/pay/ereceipt.
For PWSA Customer Service, please call 412-255-2423 and press option 5.

Other convenient ways to pay:

Make one time payments via pgh2o.com.

Enroll in eBilling to go green, make fee free payments, and view bills and inserts via pgh2o.com.

Make payment via telephone at 412-255-2423 and press option 2.

PLEASE MAIL TO BELOW ADDRESS.

THE PITTSBURGH WATER AND SEWER AUTHORITY
PO BOX 747055
PITTSBURGH, PA 15274-7055

PGH2O

Bill Date
03/29/2023

Account Number
2019313

Billing Statement for RONALD SCHAD

Service Location: 2509 GREENBORO LN

Need Assistance?

Contact Center

412-255-2423 - Press Menu Option #5

Pay-By-Phone 24 hours a day / 7 days a week

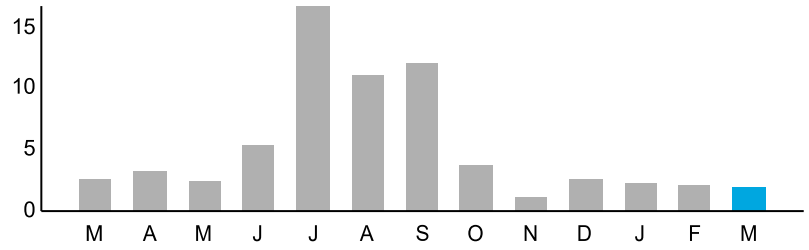
1-833-660-1366

Billing Summary

PRIOR BALANCE	-	PAYMENTS	=	ACCOUNT BALANCE	+	CURRENT CHARGES	=	TOTAL BALANCE
$30.30		$30.30		$0.00		$29.08		$29.08

My Water Usage

Average Monthly Usage in 1,000 Gallons



1,900
Total gallons used this period

70
Average gallons used per day

1,900 Gallons / 27 Days = 70 Average Daily Gallons

Customer Assistance Programs

Having difficulty paying your PWSA bill?

Contact PGH2O Cares at 412-255-2457 or cares@pgh2o.com to see if you qualify for:

1. Relief from your fixed, monthly PWSA charges plus forgiveness on past due balances if you are on an active payment plan
2. A hardship grant to help pay past due charges
3. Protection from shut-off in winter months
4. Reimbursement for private side lead line replacement

PGH2O

1200 Penn Avenue, Pittsburgh, PA 15222

MAKE CHECK OR MONEY ORDER
PAYABLE TO: PWSA

Account Number
2019313

Please notify PWSA before the due date if you wish to stop the Zipcheck transaction by calling 412-255-2423 and choosing Option 5.

DO NOT PAY

TOTAL BALANCE
$29.08

A 10% annual late payment charge applies to all unpaid bills.

RONALD SCHAD
2509 GREENBORO LN
PITTSBURGH PA 15220-4043

Your account is enrolled in Zipcheck.

0000000201931304182023100000029085

My Billing Details

Previous Balance	$30.30
Payment - 03/20/2023 - Thank You	-$30.30
ALCOSAN Meter Credit	-$27.06
Current Charges	$56.14
Total Due On or Before 04/18/2023	**$29.08**

Current Charges	**$56.14**
PWSA	
Wastewater Conveyance Minimum	$7.32
900 gallons @ $5.81 per 1,000 gallons	$5.23
Stormwater Fee: 2.000 @ 7.95 per ERU	$15.90
Distribution System Improvement Charge	$0.63

Allegheny County Sanitary Authority
Charges billed on behalf of ALCOSAN

Sewage Treatment	$27.06

My Meter Readings

Meter #: 9240437942 Type: Residential

Current:	6,919.00	03/09/2023	Actual
Previous:	6,900.00	02/11/2023	Actual
Usage:	1,900.00		
Days of Service:	27		

PGH2O

How to Pay Your Bill
Enroll in paperless billing at myaccount.pgh2o.com, sign up for Zipcheck, or mail your bill coupon with payment to:

The Pittsburgh Water and Sewer Authority
1200 Penn Avenue, Pittsburgh, PA 15222

Pay-By-Phone
1-833-660-1366 - 24 hours a day / 7 days a week

Customer Assistance Programs
If you are having difficulty paying your PWSA bill, contact PGH2O Cares at 412-255-2457 or cares@pgh2o.com to see if you qualify for our assistance programs. pgh2o.com/CAP

Customer Service
412-255-2423 (Press Option #5) or info@pgh2o.com
Monday through Friday from 8 AM to 6 PM

24/7 Water/Sewer Emergency
412-255-2423 (Press Option #1)

Credits and Incentives
PWSA offers a stormwater credit and incentive program to encourage all customers to install stormwater solutions on their property. Doing so could reduce your bill while helping to control stormwater.
pgh2o.com/stormwater-fee

Please register any questions or complaints about your bill prior to the due date. Visit pgh2o.com for more information or to view a current rate brochure.

PWSA bills on behalf of ALCOSAN for sewage treatment. ALCOSAN's rates are separate from PWSA. Their rates are set annually and the amount that they charge for sewage treatment is reflected in your bill from PWSA. If you have any questions regarding your ALCOSAN charges, please contact ALCOSAN at 412-766-6696.

Per Section A.1.a of PWSA's Supplemental Service Conditions, "...unpaid water, wastewater and/or stormwater charges are a lien against the property." PWSA may record a lien on the property if you or, if applicable, your tenant fails to respond to our normal collection process.

PAY YOUR PITTSBURGH WATER AND SEWER AUTHORITY BILL WITH CASH AT PARTICIPATING STORES.

powered by KUBRA EZ-PAY

Bring this barcode with you to make a payment.
Payments are recognized immediately and are posted on the next business day.

Retailer Instructions:
1. SCAN the customer's barcode.
2. The register will PROMPT you to enter an amount.
3. ENTER the amount the customer wants to pay.
4. COLLECT the desired cash amount (and fee, if applicable).
5. When the transaction is COMPLETE hand customer the receipt.

A $1.49 processing fee will be added.

Walmart
CVS
DOLLAR GENERAL
Walgreens
FAMILY DOLLAR
7-ELEVEN

79936643802000637168279472395O

By accepting or using this barcode to make a payment, you agree to the full terms and conditions, available at vanilladirect.com/pay/terms. After successful payment using this barcode, you may retrieve your full detailed e-receipt at vanilladirect.com/pay/ereceipt.
For PWSA Customer Service, please call 412-255-2423 and press option 5.

Other convenient ways to pay:

Make one time payments via pgh2o.com.

Enroll in eBilling to go green, make fee free payments, and view bills and inserts via pgh2o.com.

Make payment via telephone at 412-255-2423 and press option 2.

PLEASE MAIL TO BELOW ADDRESS.

THE PITTSBURGH WATER AND SEWER AUTHORITY
PO BOX 747055
PITTSBURGH, PA 15274-7055

PWSA Exhibit No. 7

Excerpt from PWSA's Stormwater Tariff

Tariff Storm Water - Pa. P.U.C. No. 1
Original Page No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF STORM WATER COLLECTION, CONVEYANCE,

TREATMENT AND/OR DISPOSAL SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: December 30, 2021 Effective: January 12, 2022

By: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

Filed in compliance with the Order of the Pennsylvania Public Utility Commission entered November 18, 2021 at Docket No. R-2021-3024779.

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Storm Water Management Service Charge

Section A.1 – Residential Service

1. Applicability:

The rates under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

The rates under this schedule are available to residential customers.

3. Rate:

Each residential customer receiving service under this schedule will be assessed a monthly service charge at the following rate. Rates shall be calculated based upon the Equivalent Residential Unit (ERU) as determined by the Authority.

Service Charge

	Effective January 12, 2022	**Effective January 1, 2023**
Tier 1 (Impervious area of 400 square feet to less than 1,015 square feet, 0.5 ERUs)	$2.98	$3.98
Tier 2 (Impervious area of 1,015 square feet to less than 2,710 square feet, 1 ERU)	$5.96	$7.95
Tier 3 (Impervious area greater than or equal to 2,710 square feet, 2 ERUs)	$11.92	$15.90

Section B – Storm Water Management Service Charge Credits

B.1 – Residential and Non-Residential Credit

1. Applicability:

The credits under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

This credit is available to non-residential Customers that meet Pittsburgh 2019 stormwater standards in Title Thirteen of the Pittsburgh Zoning Code, or more recent or restrictive standards, by controlling at least 1" of runoff from impervious surfaces on the property for which a credit is sought, if (i) Best Management Practices (BMPs) located on the property have been constructed in compliance with approved plans, (ii) the Customer is current with payments owed on all billed charges and fees on the Customer's account and are otherwise in compliance with the Rules and Regulations of this Tariff; (iii) the Customer remains responsible for all cost of operation and maintenance of the BMP; (iv) the Authority is granted access to the BMP for purpose of inspecting adherence to design, maintenance and operating standards; and (v) there is no significant change in land use draining to the BMP or alterations made to the approved BMP without prior approval of the Authority. This credit is also available to residential customers who disconnect downspouts and redirect property drainage to street planters, or who control at least ¾" of runoff from impervious surfaces on the property for which a credit is sought. A similar credit is available for properties meeting the 2016 storm water standards that were replaced by the Pittsburgh 2019 storm water standards in Title Thirteen of the Pittsburgh Zoning Code.

agreement, which renders the Tenant responsible for the payment of storm water charges.

31. Guarantor: A Property Owner who guarantees payment of storm water by a Guaranteed Lessee.

32. Health Department: The Allegheny County Health Department, Allegheny County, Pennsylvania.

33. Illegal Surface Storm Water Connection: Any connection to the Authority's Sanitary Sewers that allows surface storm water to be discharged into the separate Sanitary Sewer system from sources including, but not limited to, downspout drainage, roof drainage, and areaway drainage.

34. Impervious Area or IA: A manmade surface resulting from parcel improvements which prevents or limits the infiltration of water into the ground including compacted or covered semi-pervious surfaces such as compacted earth or clay, gravel that is installed and maintained for vehicle travel or parking, most conventionally hardscaped surfaces such as: streets, driveways, roofs, sidewalks, parking lots, walkways, patio areas, attached and detached structures, and other similar surfaces.

35. Infiltration: Process by which rainfall and runoff enters the subsurface soil and recharges water sources such as rivers, streams, lakes, and aquifers.

36. Inspection(s): Examination of storm water facilities, best management practices, conveyance systems, or control measures, including but not limited to, during application, installation/construction, and post-construction to ensure compliance with applicable Authority regulations and standards.

37. Interference: A discharge which, alone or in conjunction with a discharge from other sources, does the following:

    a. Inhibits or disrupts the storm water treatment facilities, its treatment processes or operations or its biosolids processes, use or disposal; or

PWSA Exhibit No. 8

Complainant's property imagery and impervious surface area

X:\StormwaterFee\ImperviousAdjustmentRequests\2509_Greenboro_Lane\Greenboro_portrait.mxd

PGH2O
Pittsburgh Water & Sewer Authority

Drawn by: MRH Date: 3/29/2023

N
W E
S

0 15 30 Feet

2509 Greenboro Lane
Parcel Boundary
2017 Imagery

X:\StormwaterFee\ImperviousAdjustmentRequests\2509_Greenboro_Lane\Greenboro_portrait.mxd

Pittsburgh Water & Sewer Authority

Drawn by: MRH Date: 3/29/2023

N W E S

0 15 30 Feet

2509 Greenboro Lane
Impervious Area
2017 Imagery

X:\StormwaterFee\ImperviousAdjustmentRequests\2509_Greenboro_Lane\Greenboro_portrait.mxd

Pittsburgh Water & Sewer Authority

Drawn by: MRH Date: 3/29/2023

N W E S

0 15 30 Feet

2509 Greenboro Lane
Impervious Area
2017 Imagery

X:\StormwaterFee\ImperviousAdjustmentRequests\2509_Greenboro_Lane\Greenboro_portrait.mxd

Pittsburgh Water & Sewer Authority

Drawn by: MRH Date: 3/29/2023

N W E S

0 15 30 Feet

2509 Greenboro Lane
Impervious Area
2017 Imagery

PWSA Exhibit No. 9

PWSA's Accepted Stormwater BMP Structures for Volume Credits

WORKSHEET 5 . STRUCTURAL BMP VOLUME CREDITS

PROJECT: _____

SUB-BASIN: (Optional) _____

Required Control Volume (ft^3) - *from Worksheet 4*: _____

Non-structural Volume Credit (ft^3) - *from Worksheet 3*: - 0

Structural Volume Requirement (ft^3): 0

(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft^2)	Storage Volume (ft^3)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin		
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretention		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforestation		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (ft^3): 0

Structural Volume Requirement (ft^3): - 0

DIFFERENCE: 0

CERTIFICATE OF SERVICE

I hereby certify that this day I served a copy of the foregoing **Proposed Hearing Exhibits** upon the persons listed below in the manner indicated in accordance with the requirements of 52 Pa. Code Section 1.54.

Via Email

Ronald H. Schad
2509 Greenboro Lane
Pittsburgh, PA 15220
schadr@comcast.net

/s/ *Bryce R. Beard*

Date: March 30, 2023

Bryce R. Beard, Esquire
Attorney for
The Pittsburgh Water and Sewer Authority