

Addendum No. 3

FROM: Mahmudul Hasan

TO: Interested Parties

DATE: 06/13/2025

RE: Addendum #3 to the Request for Proposals (RFP) 1385R

Project: Design, Build, Finance, Operate, and Maintain (DBFOM) Sludge Processing and Disposal Facility at Back River WWTP

The City of Baltimore Department of Public Works is issuing this Addendum No. 3 to provide responses to additional questions submitted by prospective proposers. These inquiries were received following the second pre-proposal meeting and site visit, which took place on Wednesday, April 2, 2025, at 10:00 AM at the Back River Wastewater Treatment Plant.

This addendum supplements the information previously provided in Addendum Nos. 1 and 2 and is intended to ensure transparency and equal access to information for all interested parties.

Please note that proposals are due by Friday, August 8, 2025, at 12:00 PM (NOON).

Thank you for your interest in partnering with the City of Baltimore in this important project.

Attachments:

1. Sign-In Sheet- Second Pre-Proposal Meeting
2. Responses to Submitted Questions

APPROVED:

Steve Sharkey

Steve Sharkey
Interim Bureau Head
Bureau of Water and wastewater

Khalil Zaied

Khalil Zaied
Director
Department of Public Works

4/2/2025

REQUEST FOR PROPOSAL - PROJECT NO. 1385R
DESIGN, BUILD, FINANCE, OPERATE AND MAINTAIN (DBFOM) SLUDGE PROCESSING AND DISPOSAL AT THE CITY OF
BALTIMORE BACK RIVER WASTEWATER TREATMENT PLANT
BACK RIVER WWTP
8201 EASTERN AVENUE, BALTIMORE MD 21224
(2ND PRE-PROPOSAL MEETING)

NAME	ORGANIZATION	EMAIL	PHONE
DAN SULZBACH	SYNARGO	DSULZBACH@SYNARGO.COM	443 690 6267
SCOTT LUCO	EFI GROUP	SLUCO@EFIGROUP.COM	443-707-6565
Herb BERWALD	SYNARGO	HBERWALD@SYNARGO.COM	410 596 5880
Deena Joyce	DPW-DBC	Deena.Joyce@balto.md.gov	410 396-6883
Anita Joykin	DPW OBC	ANITA	410-396-6883
Philip Jackson	DPW OBC	philip.jackson@baltimorecity.gov	410-396-6883
MICHAEL AUGINS	DPW OBC	MAUGINS@BALTIMORECITY.GOV	410-396-6883
NICK HEDRICK	USC	NHEDRICK@ULLMANSCHUTTE.COM	919-413-1936
JAY SPARKING	Veolia	Jay.Sparking@veolia.com	973-570-1056
Brock King	Kiewit	Brock.King@Kiewit.com	647-668-6034
MIKE ETHEER	KIEWIT	mike.ethier@kiewit.com	312-617-9684
Lee Tharps	JACOBS	LEE.THARPS@JACOBS.COM	215 694 3180
Dom D'Orazio	JACOBS	dominic.dorazio@jacobs.com	856 304 3064

4/2/2025

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NAME	ORGANIZATION	EMAIL	PHONE
FRANCIS BURMAN	BURNHAM RMC	FRANCIS@BURNHAMRMC.COM	336-955-7422
Justin Hopkins	Burnham RMC	jhopskins@burnhamrmc.com	310-741-8279
Michael Nicholson	Ecoremedy	mnicholson@ecoremedy.com	419 349-5402
Glen Knecht	Denali Water	glen.knecht@denalivater.com	518-222-5452
AET Shapiro	DME	ashapiro@dmeconsulting-us.com	443-862-7280
Hatim Fadlalla	DME	hfadlalla@dmeconsulting-us.com	667 257 7503
ABRAHAM NAQEEB	DME	anaqeeb@dmeconsulting-us.com	303-557-8521
Brews Mearns	Jacobs	brews.mearns@jacobs.com	313-281-7330
Sean Sweeney	Earthcore Solutions	ssweeney@earthcore-solutions.com	77-418-2939
JOE HURT	Synagro	jhurt@synagro.com	410-271-9451
Matt Tabisz	Synagro	mtabisz@synagro.com	443-248-3827
Justin Wintanen	Baltimore County	jwintanen@baltimorecountymd.gov	410-887-1837
Julia Petterson	Baltimore County	jpetterson@baltimorecountymd.gov	410-887-8650
Andrew Brown	Baltimore County	tbrown9@baltimorecountymd.gov	410-887-3781

4/2/2025

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NAME	ORGANIZATION	EMAIL	PHONE
Amanh Bintel	CSA group	abintel@CSAgroup.com	210-308-2129

Questions from Interested Vendors: RFP 1385R

- 1. Inquiry:** When determining financing costs, potential lenders typically seek a defined, annual capital recovery payment in the service contract to support the debt service which the contractor is obligated to pay. Will the City guarantee payment of a capital recovery fee which is not tied to volume processed?

Response: The City anticipates including a “Put or Pay” structure in the final agreement, with a minimum processing amount specified in the contract.

- 2. Inquiry:** Under the Financial Capacity and Qualifications section, the City requests a “comprehensive financial plan.” Will the City provide the model (Excel or other) to be used as the comprehensive financial plan by the respondents? This will provide a baseline for evaluation by the City.

Response: The City does not provide a standard financial model. Proposers should submit a comprehensive financial plan in a format that aligns with the RFP requirements and reflects their approach.

- 3. Inquiry:** In the initial round of questions, the City indicated that “letters of intent from financial partners will be accepted.” Similar procurements require a letter of intent from a surety company in an amount equal to the annual operations and maintenance costs. Will the City require a letter from a surety for this purpose?

Response: The City has not required a surety letter explicitly for annual O&M costs. Letters of intent from financial partners or banks to demonstrate financial capacity will be accepted.

- 4. Inquiry:** Efficient operation of both existing and emerging technologies requires consistent biosolids. Please confirm the City will certify the biosolids being delivered to the Contractor as Class B, anaerobically digested biosolids.

Response: The City anticipates that biosolids delivered to the Contractor will be stabilized to Class B standards through anaerobic digestion system. While every effort will be made to maintain consistency in biosolids quality, certification and operational conditions may vary over time based on system performance and regulatory requirements.

- 5. Inquiry:** In addition to the Class B certification, will the City agree to provide biosolids within a range for:
 - % solids;
 - Volatile solids;

- Grit;
- Trash.

Having this baseline would help the City evaluate any variable pricing received based on the quality characteristics of incoming biosolids.

Response: The City has not committed to provide future biosolids within defined quality ranges. However, historical data from 2018–2022, including total and volatile solids, is included in the RFP. However, the City would consider proposals with variable pricing based on sludge quality.

6. Inquiry: During the first pre-bid meeting the City indicated it would like pricing for 3 volume ranges:

- 45-60 DTPD
- 60-75 DTPD
- 75-90 DTPD

Does the City intend to distribute a pricing form for each potential respondent to complete?

Response: The City does not intend to provide a specific pricing form but encourages proposers to submit detailed cost breakdowns and is open to phased approaches with pricing aligned to volume ranges. The City recognizes that pricing strategies may vary by proposer and may result in differing or consistent rates across volume tiers. All proposals will be evaluated based on clarity, completeness, and overall value.

Additionally, while the system is expected to handle 90 dry tons per day, it must be capable of accommodating up to 130 dry tons per day to support potential excess sludge processing. Proposers are encouraged to account for this in both their design and pricing considerations.

7. Inquiry: Please confirm that consumption of natural gas and/or electricity will be based on a meter owned by the City of Baltimore. If yes, please provide current cost in dollars per dekatherm and dollars per kWh.

Response: The facility is expected to establish its own dedicated utility feeds for electricity and natural gas. Consumption will not be measured through City-owned meters. Proposers should plan accordingly and coordinate with utility providers as needed.

8. Inquiry: Please provide the current rate(s) for any potable water, non-potable/process water and/or wastewater usage.

Response: The City does not charge for process water usage at the facility; however, the current rate of potable water and wastewater charges usage is included in Appendix A.

9. Inquiry: Will the City provide a minimum expected annual property lease payment?

Response: The minimum annual property lease payment will be \$30,000.

10. Inquiry: The RFP indicates 10 points will be awarded for “Performance Guarantee”. Can you provide guidance on how this portion will be evaluated?

Response: Evaluation will be based on the proposer’s plan to meet technical, operational, and compliance targets.

11. Inquiry: The City has indicated the final price for the contract will not be decided until after selection and award of the contract. Given that price is 30% of the evaluation criteria, how does the City intend to ensure all respondents are evaluated equally? How will the City handle a situation where the selected respondent significantly increases its pricing after award?

Response: The City strongly encourages proposers to submit firm, well-supported pricing. In cases where budgetary ranges are submitted, detailed and transparent cost breakdowns are required to allow for meaningful comparison among all proposals. Any adjustments to pricing during the negotiation phase will be carefully reviewed to ensure alignment with the original proposal, with the City’s commitment to fairness and best value to the City.

12. Inquiry: Has the City set an MBE participation requirement for this project?

Response: Specific participation targets for MBE/WBE goals will be established following contractor selection. Proposers are encouraged to engage certified MBE/WBE firms in anticipation of these requirements.

13. Inquiry: Will the service provider be responsible for testing the sludge quality?

Response: Yes. The service provider is responsible for conducting and providing laboratory testing of solids in the scope of service area. That also includes regulatory reporting of sludge quality.

14. Inquiry: Will the service provider be responsible for the costs associated with the disposal of contaminated sludge?

Response: Yes

15. Inquiry: Please provide a rough estimate for future expansion.

Response: An estimate is up to 130 dry tons per day, which includes capacity for potential increases in sludge processing and overall system growth.

16. Inquiry: From the previous biosolids processing unit, is there existing infrastructure that can be reused? (i.e. Transformers, concrete pads, truck loading site etc.)

Response: The potential reuse of existing infrastructure may be considered; however, the City does not guarantee the availability, condition, or suitability of any specific components. Proposers are responsible for conducting their own assessments to determine the viability of reuse. To ensure transparency and fairness in evaluation, any proposed reuse should be clearly documented, including expected cost implications, integration plans, and the projected design life of reused components.

17. Inquiry: Is there demolition and/or remediation required of existing infrastructure?

Response: The proposed project site is anticipated to be located near Tank 26. While the RFP does not specifically include demolition or remediation of existing infrastructure within the defined project scope, proposers are encouraged to assess site conditions and include any related costs in their proposals as appropriate.

18. Inquiry: Please provide existing plant drawings and any underground utilities in the location.

Response: Historic utility service drawings are included in Appendix B for reference. However, the City cannot confirm the current accuracy or completeness of these drawings due to potential changes over time. Also, as requested during the site visit, wetland maps are included in Appendix C.

19. Inquiry: The site currently has a cogeneration facility to turn methane gas into power. Will methane be diverted from there to our heaters?

Response: The City is interested in utilizing biogas. Integration with cogeneration systems is encouraged as part of sustainability and energy efficiency goals.

20. Inquiry: Costs of diverting methane?

Response: It is the proposer's responsibility to assess integration feasibility of this project with the cogeneration facilities and to include any associated costs within their financial plan.

21. Inquiry: Please provide past geotech/survey information for the site.

Response: The City does not have geotechnical or survey data available at present.

22. Inquiry: Will the service provider have to go through normal commercial utility applications or will it fall under the City/wwtp?

Response: The service provider will be required to obtain utilities through the standard commercial application process.

23. Inquiry: What does the City consider a prime contractor versus a subcontractor in this context? Is there a threshold where a subcontractor must be a JV partner instead?

Response: In accordance with the RFP, proposals must be submitted by either a single firm or a formal Joint Venture (JV) established at the time of submission. Subcontractors may be included as part of a proposer's team without forming a JV, provided they are not acting in a co-prime capacity. The City encourages proposers to clearly define the roles and relationships of all participating entities within their submission to ensure compliance with procurement requirements.

24. Inquiry: We are planning to bid as the owner and as the owner plan to hire an operator, a design-build firm, and a hauling and marketing firm as subcontractors. We will rely on the qualifications of the combined team. Can we submit this way, or would a formal JV be required?

Response: A formal Joint Venture is required at the time of submission if multiple firms wish to apply jointly. An owner-led team with subcontractors is not sufficient unless structured as a JV.

25. Inquiry: In the RFP, the City defines a principal as "any individual owning 5% or more of the outstanding stock of an entity, a partner of a partnership, a 5% or more shareholder of a sub-chapter 'S' Corporation, or an individual." A) What is a principal used for the purpose of reviewing price proposals and invoices? and B) Our company is owned by institutional investors and has no individual that owns more than 5%. Will and how will our ownership structure impact evaluation of our proposal?

Response: The City defines a principal as any individual owning 5% or more of an entity's stock, a partner in a partnership, or similar. If no individual meets the 5% threshold (e.g., institutional ownership), the proposal should explain the ownership structure. This does not disqualify a firm but must be transparently disclosed.

26. Inquiry: The RFP indicates the City reserves the right to reassess the property lease fee annually. We are concerned the unpredictability of this fee could materially impact project economics and potentially make the project unfeasible. Would the City consider proposals that include a fixed lease fee that is not subject to annual reassessment and/or allowing lease rate increases to be a pass-through cost back to the City?

Response: The City is open to reviewing proposals that include alternative lease structures—such as fixed lease fees or escalation mechanisms—with appropriate justifications. Any such terms will be evaluated during the negotiation phase, with consideration given to their impact on project feasibility and long-term value to the City.

27. Inquiry: Will the City charge the project for treatment of filtrate returned to the plant (e.g., from dewatering processes)? If so, how will these utility backcharges be calculated or structured?

Response: Filtrate treatment is not within the defined scope of this project. However, returned flows must meet the City's standard of $TS < 0.2\%$. At this time, no utility backcharges are anticipated if this standard is met. Should a proposer include filtrate treatment as part of their

integrated biosolids processing solution, all related costs should be reflected in the overall project proposal.

28. Inquiry: Does the city have a preferred idea in mind for the delivery and business model of the project? How does this compare to the city's current arrangement for biosolids disposal?

Response: The City prefers a DBFOM model to achieve Class A biosolids and marketable end products. Currently, biosolids are partially processed by a third-party dryer and partially composted. The new model transfers full responsibility to the vendor for processing and marketing all biosolids generated at Back River WWTP.

29. Inquiry: In the requested development budget, hard and soft costs are requested: how does Baltimore define hard and soft costs?

Response: For the purpose of proposal preparation, hard costs are generally understood to include construction, equipment, installation, and commissioning, while soft costs typically encompass design, permitting, project management, and financing-related expenses. However, proposers are encouraged to clearly define their cost categorizations to ensure transparency and facilitate evaluation.

30. Inquiry: The RFP states that "All firms listed in this specific proposal (SF255) / (330) for this Project must be prequalified by the Office of Boards and Commissions for each applicable discipline included in the proposal, at time of submittal for this Project." Is this pre-qualification required for all firms in the proposal or just the prime? Are operators and construction contractors required to be pre-qualified at the time of submission?

Response: Prequalification is required for all firms listed in the SF255/SF330, including subcontractors, for each applicable discipline at the time of submission. A current Prequalification Certificate must be included.

31. Inquiry: The RFP states that bidders should "provide one (1) original submittal, along with five (5) copies to the Office of Boards and Commissions." We'd appreciate additional clarity on how to submit the proposal. Should the proposal only be submitted in hard copies, or is there an online procurement portal that should also be used? Who at the Office of Board and Commissions should receive the proposals? Please confirm that this is the correct mailing address for the Office of Board and Commissions: 4 South Frederick Street, 4th Floor Baltimore, MD 21202.

Response: Proposals must be submitted in hard copy only. Respondents must submit one (1) original and five (5) copies to the Office of Boards and Commissions by the submission deadline. The correct address is:

Office of Boards and Commissions
4 South Frederick Street,
4th Floor Baltimore, MD 21202

32. Inquiry: Please clarify how the scoring criteria provided in the original RFP will be updated or modified based on the cities desire to open the responses to “creative, cost-effective solutions that meet project objectives”, as outlined in Addendum 2.

Response: The scoring criteria established in the original RFP will remain in place. However, the City will apply them in a manner that allows for a fair and comprehensive evaluation of all compliant proposals, including those offering innovative approaches.

33. Inquiry: Please confirm the city intends to select one bidder following a comprehensive review of the proposals submitted on August 7, 2025 and if the city were to move forward with an progressive structure there would be appropriate off-ramps to protect the city’s interests in delivering a best value solution.

Response: The City intends to conduct a comprehensive review of all proposals submitted by August 8, 2025, and may invite one or more bidders for further discussions or interviews. While the City may ultimately select a single preferred partner, it reserves the right to pursue a progressive structure with appropriate safeguards and off-ramps to ensure the best value and protect the City’s interests throughout project development.

34. Inquiry: Is it a requirement that this RFP response is revenue generating to the city and the city has no means to fund this project at this time?

Response: Yes, the City expects the project to be privately financed and revenue-generating.

35. Inquiry: Please confirm that while this response does not require recognizing PFAS handling and/or disposal – a response that either provides current or future means to treat or capture the PFAS would be looked upon favorably.

Response: While PFAS handling is not a requirement, the City welcomes proposals that include current or potential future approaches to PFAS treatment, as these may align with the City’s long-term goals. Consideration of such features will be part of the overall evaluation but does not guarantee selection.

36. Inquiry: Please confirm the city is able to receive a draft contract based on an industry precedent contract from proposers as an appendix to the proposals. The intent of the draft contract would be to accelerate the project development and limit costs for both the city and the preferred proponent.

Response: Yes. The proposers can include contracts as appendices.

37. Inquiry: Please confirm the city intends to engage the necessary 3rd party advisors at the appropriate time to support the internal city approvals and the overall development of the project.

Response: The City retains the right to engage consultants, advisors, or representatives during the selection and contract development process and might do so as deemed necessary.

38. Inquiry: Per Addendum #2 – the city refers to providing “creative, cost-effective solutions that meet project objectives”. However, the city has not modified the original RFP or Addendum 1. In the process of providing alternative solutions – it is likely that some or possibly much of the original RFP requirements may not be met in a response. Please clarify that meeting all requirements of the original RFP and Addendum #1 is not necessary for the city to evaluate submitted proposals. If the city intends to deem “alternative....solutions” non-responsive, we request the original RFP and Addendum #1 be re-issued with only critical requirements included.

Response: Not necessarily. Addendum 2 explicitly states that the City is open to “creative, cost-effective solutions that meet project objectives.” While the original scoring criteria remain, proposals that diverge from specific RFP requirements will still be considered if they align with performance goals.

39. Inquiry: Does the City have any preferences or requirements for redundancy in terms of system sizing?

Response: The RFP does not specify a redundancy requirement. However, proposals should ensure reliable operation and include descriptions of system reliability, asset availability, and maintenance strategy as part of the evaluation criteria.

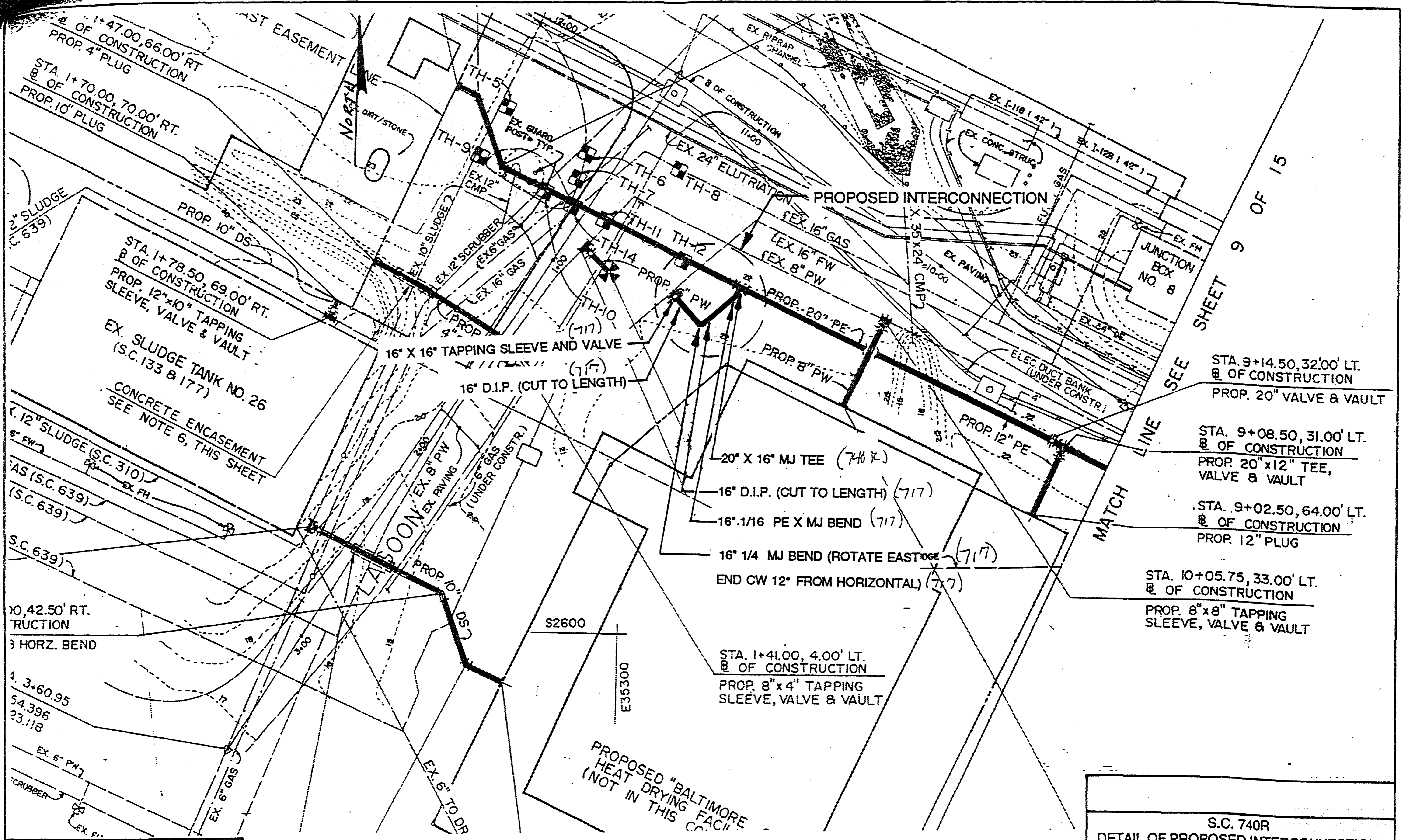
Appendix A

City of Baltimore - Department of Public Works, Bureau of Water and Wastewater

FIXED CHARGE COMPONENTS								
<i>Effective:</i>	FY 2025		FY 2025		FY 2026		FY 2027	
<i>Current</i>	<i>February 1, 2025</i>		<i>July 1, 2025</i>		<i>July 1, 2026</i>			
Account Management Fee (per bill)	\$ 4.73		\$ 4.87		\$ 5.31		\$ 5.79	
Infrastructure Charge	<u>Water</u>	<u>Sewer</u>	<u>Water</u>	<u>Sewer</u>	<u>Water</u>	<u>Sewer</u>	<u>Water</u>	<u>Sewer</u>
	<i>per month</i>	<i>per month</i>	<i>per month</i>	<i>per month</i>	<i>per month</i>	<i>per month</i>	<i>per month</i>	<i>per month</i>
<u>Meter Size</u>								
5/8"	\$ 14.31	\$ 12.09	\$ 14.74	\$ 13.90	\$ 16.07	\$ 15.15	\$ 17.52	\$ 16.51
3/4"	\$ 25.72	\$ 21.73	\$ 26.49	\$ 24.99	\$ 28.87	\$ 27.24	\$ 31.47	\$ 29.69
1"	\$ 57.13	\$ 48.28	\$ 58.84	\$ 55.52	\$ 64.14	\$ 60.52	\$ 69.91	\$ 65.97
1-1/2"	\$ 99.96	\$ 84.45	\$ 102.96	\$ 97.12	\$ 112.23	\$ 105.86	\$ 122.33	\$ 115.39
2"	\$ 228.48	\$ 193.01	\$ 235.33	\$ 221.96	\$ 256.51	\$ 241.94	\$ 279.60	\$ 263.71
3"	\$ 399.79	\$ 337.75	\$ 411.78	\$ 388.41	\$ 448.84	\$ 423.37	\$ 489.24	\$ 461.47
4"	\$ 913.81	\$ 771.92	\$ 941.22	\$ 887.71	\$ 1,025.93	\$ 967.60	\$ 1,118.26	\$ 1,054.68
6"	\$ 1,641.96	\$ 1,387.02	\$ 1,691.22	\$ 1,595.07	\$ 1,843.43	\$ 1,738.63	\$ 2,009.34	\$ 1,895.11
8"	\$ 2,570.00	\$ 2,170.97	\$ 2,647.10	\$ 2,496.62	\$ 2,885.34	\$ 2,721.32	\$ 3,145.02	\$ 2,966.24
10"	\$ 3,640.84	\$ 3,075.51	\$ 3,750.07	\$ 3,536.84	\$ 4,087.58	\$ 3,855.16	\$ 4,455.46	\$ 4,202.12
12"	\$ 6,496.39	\$ 5,487.66	\$ 6,691.28	\$ 6,310.81	\$ 7,293.50	\$ 6,878.78	\$ 7,949.92	\$ 7,497.87
VARIABLE RATE COMPONENTS								
	<u>Water</u>	<u>Sewer</u>	<u>Water</u>	<u>Sewer</u>	<u>Water</u>	<u>Sewer</u>	<u>Water</u>	<u>Sewer</u>
	<i>per Ccf</i>	<i>per Ccf</i>	<i>per Ccf</i>	<i>per Ccf</i>	<i>per Ccf</i>	<i>per Ccf</i>	<i>per Ccf</i>	<i>per Ccf</i>
Volumetric Rate (all units)	\$ 3.97	\$ 10.51	\$ 4.09	\$ 12.09	\$ 4.46	\$ 13.18	\$ 4.86	\$ 14.37
STORMWATER CHARGE								
Stormwater Charge (per ERU)	\$ 7.20		\$ 7.20		\$ 7.45		\$ 7.70	
Tier 1 Residential	\$ 4.75		\$ 4.75		\$ 4.90		\$ 5.05	
Tier 2 Residential: ERU	\$ 7.20		\$ 7.20		\$ 7.45		\$ 7.70	
Tier 3 Residential	\$ 14.34		\$ 14.35		\$ 14.80		\$ 15.25	

Proposed Customer Bill Impacts				
<i>Monthly Charges for 5/8" meter and 6 Ccf</i>				
<i>Effective:</i>	FY 2025		FY 2026	
<i>Current</i>	<i>Feb-1-25</i>		<i>Jul-1-25</i>	
Account Management Fee	\$ 4.73	\$ 4.87	\$ 5.31	\$ 5.79
Water Infrastructure Charge	\$ 14.31	\$ 14.74	\$ 16.07	\$ 17.52
Water Volume Charge	\$ 23.82	\$ 24.54	\$ 26.76	\$ 29.16
Sewer Infrastructure Charge	\$ 12.09	\$ 13.90	\$ 15.15	\$ 16.51
Sewer Volume Charges	\$ 63.06	\$ 72.54	\$ 79.08	\$ 86.22
Stormwater Charge	\$ 7.20	\$ 7.20	\$ 7.45	\$ 7.70
Bay Restoration Fee	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00
Total Bill	\$ 130.21	\$ 142.79	\$ 154.82	\$ 167.90

Appendix B: Utility Service Drawings from Old Project



SHEET 9 OF 15
SEE SHEET 8 OF 15

- STA. 9+14.50, 32.00' LT. OF CONSTRUCTION
PROP. 20" VALVE & VAULT
- STA. 9+08.50, 31.00' LT. OF CONSTRUCTION
PROP. 20"x12" TEE, VALVE & VAULT
- STA. 9+02.50, 64.00' LT. OF CONSTRUCTION
PROP. 12" PLUG
- STA. 10+05.75, 33.00' LT. OF CONSTRUCTION
PROP. 8"x8" TAPPING SLEEVE, VALVE & VAULT

- 20" X 16" MJ TEE (717)
- 16" D.I.P. (CUT TO LENGTH) (717)
- 16" 1/16 PE X MJ BEND (717)
- 16" 1/4 MJ BEND (ROTATE EAST EDGE) (717)
END CW 12" FROM HORIZONTAL (717)

STA. 1+41.00, 4.00' LT. OF CONSTRUCTION
PROP. 8"x4" TAPPING SLEEVE, VALVE & VAULT

PROPOSED "BALTIMORE HEAT DRYING FACI."
(NOT IN THIS CO.)

S.C. 740R
DETAIL OF PROPOSED INTERCONNECTION
OF EXISTING 16" FW AND PROPOSED
20" PE MAINS

April 7, 1994 SK-1 OF 2

BEAVIN COMPANY
Engineers - Surveyors
BALTIMORE, MARYLAND

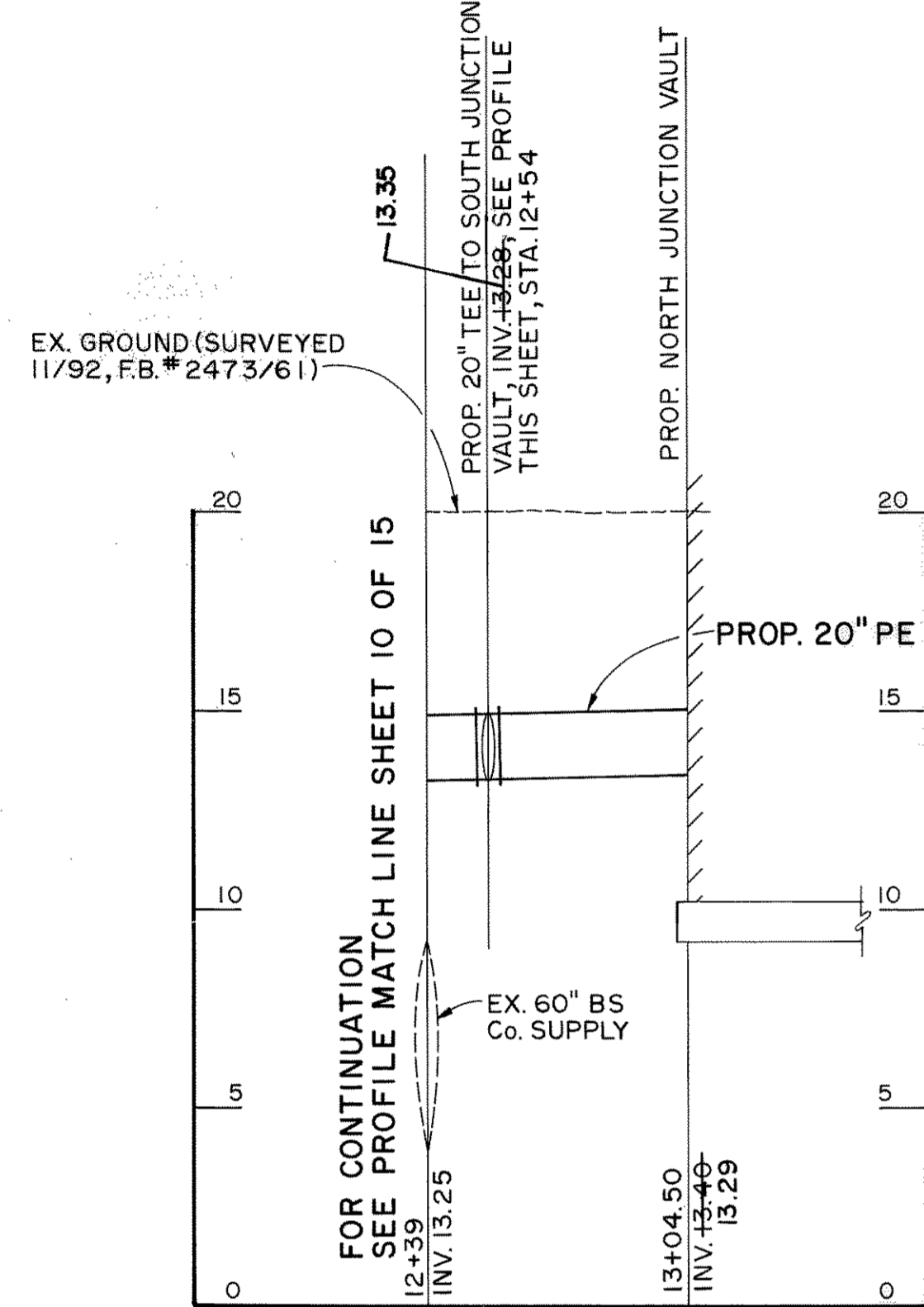
PLAN (FROM DRAWING NO. C-7)
1" = 40' H

Note: This Drawing was Enlarge
from a Half Scale Drawing.

REVISIONS			
NO.	DESCRIPTION	DATE	BY
11	REVISE ALIGNMENT OF 20" PE PER AS BUILT CONDITIONS	0-21-94	C.D.G.

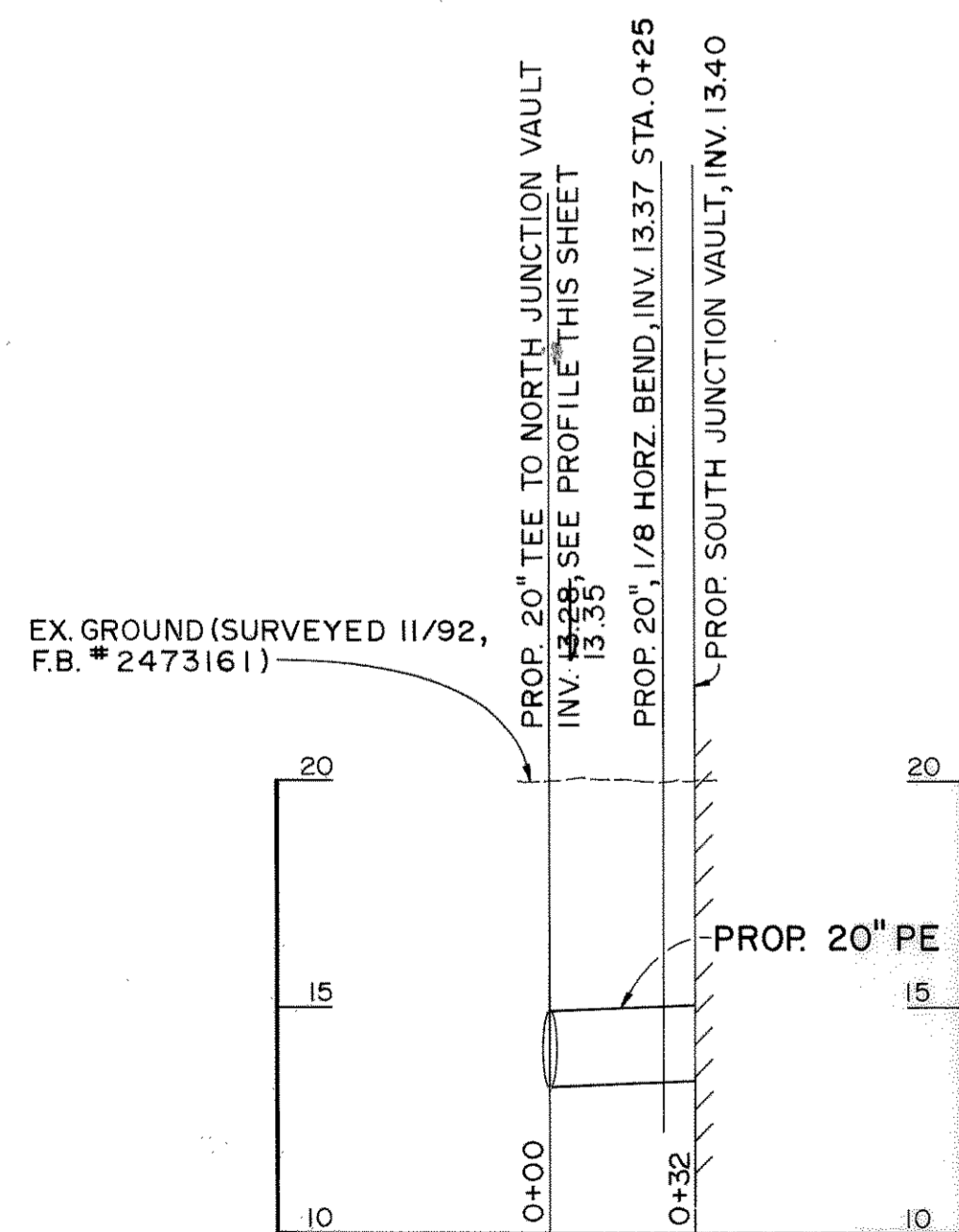
PROPOSED PIPE LEGEND

- DS DIGESTED SLUDGE SUPPLY LINE
- FH FIRE HYDRANT
- FW PLANT FLUSHING WATER
- PE PLANT EFFLUENT SUPPLY LINE
- PW POTABLE WATER SUPPLY LINE
- W WATER (UNKNOWN)



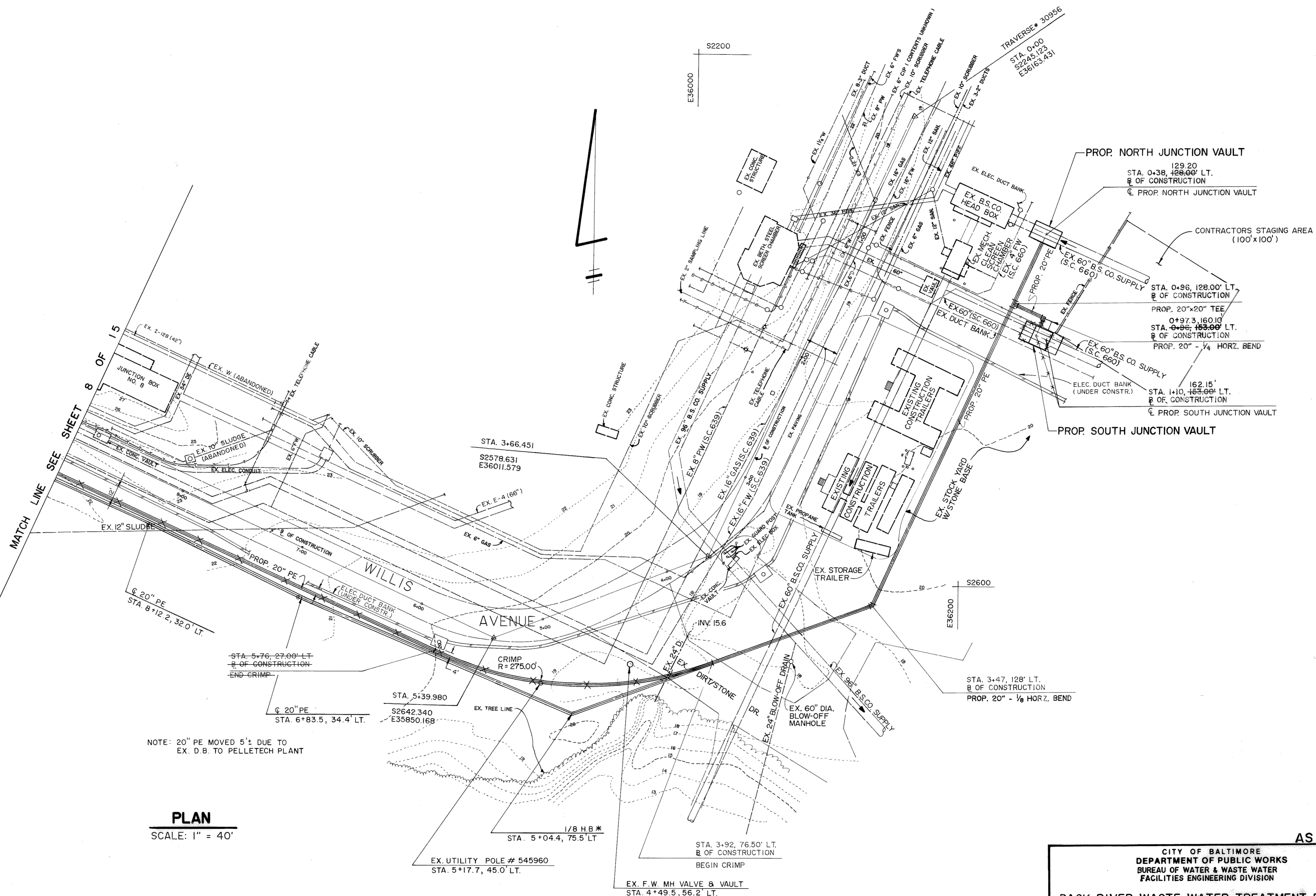
20" PLANT EFFLUENT (TO NORTH JUNCTION VAULT)

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



20" PLANT EFFLUENT (TO SOUTH JUNCTION VAULT)

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

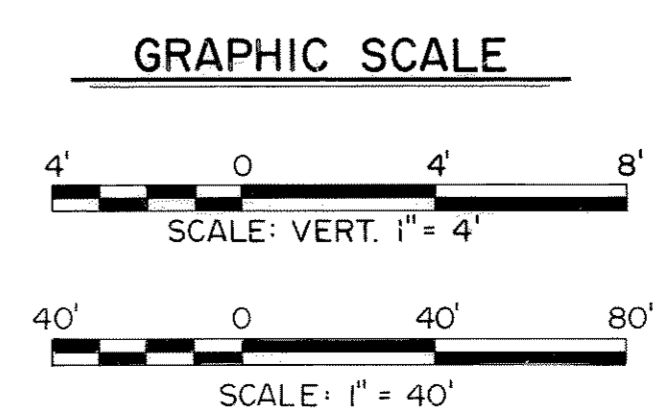


NOTE: 20" PE MOVED 5'± DUE TO EX. D.B. TO PELLETECH PLANT

* NOTE: 1/8 BEND USED DUE TO UTILITY POLE ON Q OF PIPE

PLAN

SCALE: 1" = 40'



AS BUILT

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
BUREAU OF WATER & WASTE WATER
FACILITIES ENGINEERING DIVISION

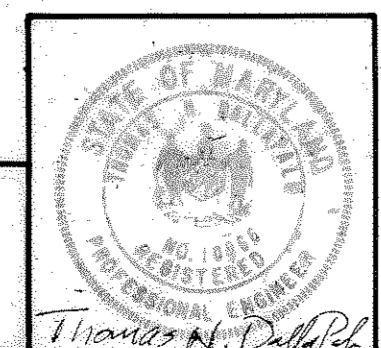
**BACK RIVER WASTE WATER TREATMENT PLANT
SANITARY CONTRACT NO. 740R**

**PIPING PLAN NO. 2
FOR
UTILITY SERVICES FOR SLUDGE
HEAT DRYING CONTRACT**

SCALE: 1" = 40'
DRAWING NO. C-8
SHEET 9 OF 15

DRAWN BY CDT/DAW/BEAVIN / GLYNDON
EXAMINED BY PKS/DFC

BEAVIN COMPANY
Engineers - Surveyors
BALTIMORE, MARYLAND



REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	REVISE ALIGNMENTS OF 8" PW, 20" PE, 12" PE, 4" PW &		
10	DS PER AS BUILT CONDITIONS	10-21-94	C.D.G.

BENCH MARKS (BM)

BM 9670	Square Cut on Northwest Corner of Concrete Pad, 300'± South of Bethlehem Steel Building on East Side of Willis Avenue.	Elev. 18.12
BM 9696	Square Cut on Step to Diluted Water Pumping Station (Northeast Corner of Step), at the Southeast Corner of Filter Creek Lane and Willis Avenue.	Elev. 25.86
BM 9695	Brass Screw on Sanitary Sewer Box Next to Junction Box No. 8, ±150' from Turn in Road (Willis Avenue).	Elev. 24.42

NOTES

- Refer to Drawing No. C-5 for Erosion and Sediment Control Plan.
- Vaults for 12-inch Diameter and Smaller Valves (Including the Potable Water, Digested Sludge, and Plant Effluent Mains) Shall Be Furnished in Accordance with the Following Standards:
 - Tapping Valves . . . Standards BC-890.09, 836.20, 836.21
 - Other Valves . . . Standards BC-890.09, .01, .02, .03, .04, .05, .06, .07 and .08
- Vault for 20-inch Diameter Plant Effluent Valve Shall Be Furnished in Accordance with Standard BC-836.05.
- Fire Hydrants Shall Be Furnished in Accordance with Standard BC-835.01.
- Buttresses and Anchorage Shall Be Furnished for All Horizontal and Vertical Bends, Tees and Caps and Shall Be Furnished in Accordance with Standards BC-837.01 through BC-837.24 for Soil Bearing Pressure of 2,000 PSF and the Specified Hydrostatic Test Pressure.
- The Entire Length of the Proposed 4-inch and 6-inch PW Line for the "Baltimore 1 Site" Located Within Ten Feet of the Existing 10-inch Sludge Line Shall Be Encased in Concrete (Minimum 6-inch Thickness).
- The Entire Length of the Proposed 10-inch DS Line for the "Baltimore 2 Site" Located Within Ten Feet of the Existing 8-inch PW Line Shall Be Encased in Concrete (Minimum 6-inch Thickness).

TEST HOLE DATA

TEST HOLE NO.	NOMINAL DIAMETER AND MATERIAL	DEPTH OF COVER (Ft.)
TH-1	54" CI	8.93
TH-2	24" CI	5.63
TH-3	54" CI	8.02
TH-4	24" CI	6.10
TH-5	10" CI	3.64
TH-6	10" CI	7.46
TH-7	Not Found	-
TH-8	16" G	4.50
TH-9	10" DI	4.11
TH-10	12" DI	6.84
TH-11	16" DI	7.06
TH-12	16" DI	4.07
TH-13	8" DI	6.30
TH-14	20" DI	3.95
TH-15	2' Wide x 1.3' TH., DB	2.47
TH-16	2.1' TH., DB	3.53
TH-17	2.5' TH., DB	4.62
TH-18	0.7' TH., DB	1.50

* AS BUILT INFORMATION NOT OBTAINED DUE TO INSTALLATION AND BACKFILLING ON WEEKEND
* High Ground Water Level

ABBREVIATIONS

- CI Cast Iron
- DI Ductile Iron
- DB Duct Bank

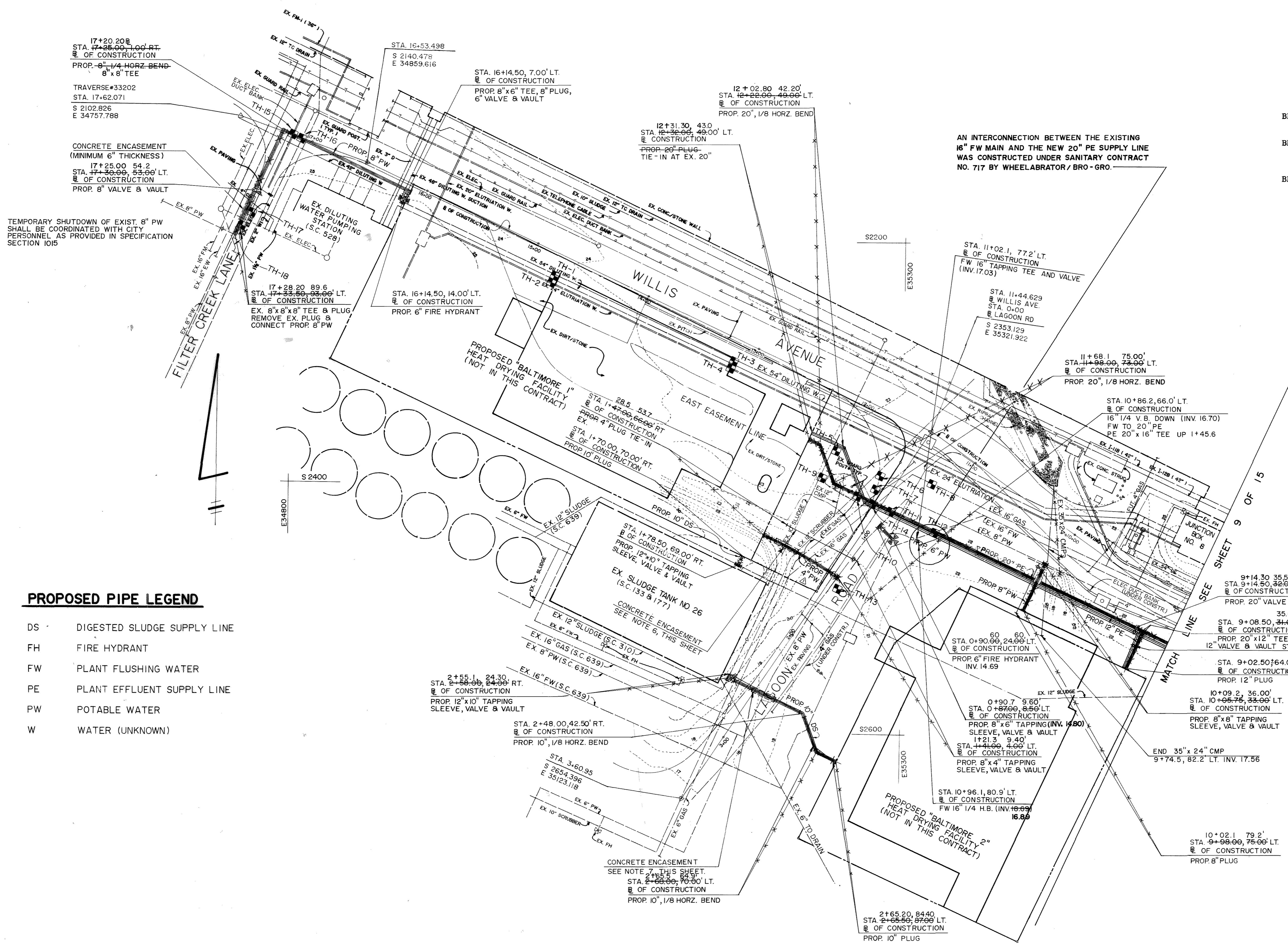
AS BUILT

CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
BUREAU OF WATER & WASTE WATER
FACILITIES ENGINEERING DIVISION

BACK RIVER WASTE WATER TREATMENT PLANT
SANITARY CONTRACT NO. 740R

PIPING PLAN NO. 1
FOR
**UTILITY SERVICES FOR SLUDGE
HEAT DRYING CONTRACT**

SCALE: 1" = 40' DATE: _____
DRAWING NO. C-7 SHEET 8 OF 15



AN INTERCONNECTION BETWEEN THE EXISTING 16" FW MAIN AND THE NEW 20" PE SUPPLY LINE WAS CONSTRUCTED UNDER SANITARY CONTRACT NO. 717 BY WHEELABRATOR / BRO - GRO.

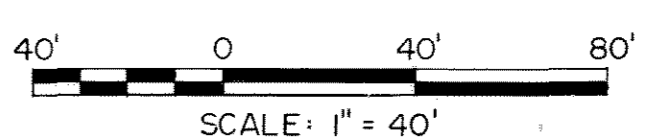
PROPOSED PIPE LEGEND

- DS DIGESTED SLUDGE SUPPLY LINE
- FH FIRE HYDRANT
- FW PLANT FLUSHING WATER
- PE PLANT EFFLUENT SUPPLY LINE
- PW POTABLE WATER
- W WATER (UNKNOWN)

PLAN

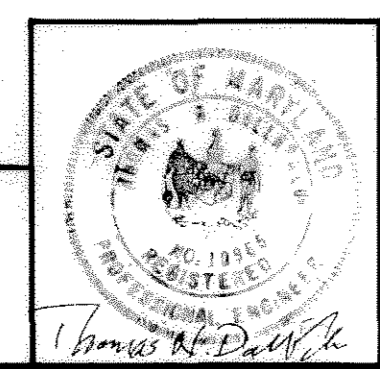
SCALE: 1" = 40'

GRAPHIC SCALE



DRAWN BY DB / GLYNDON CDT / BEAVIN
EXAMINED BY PKS / DFC

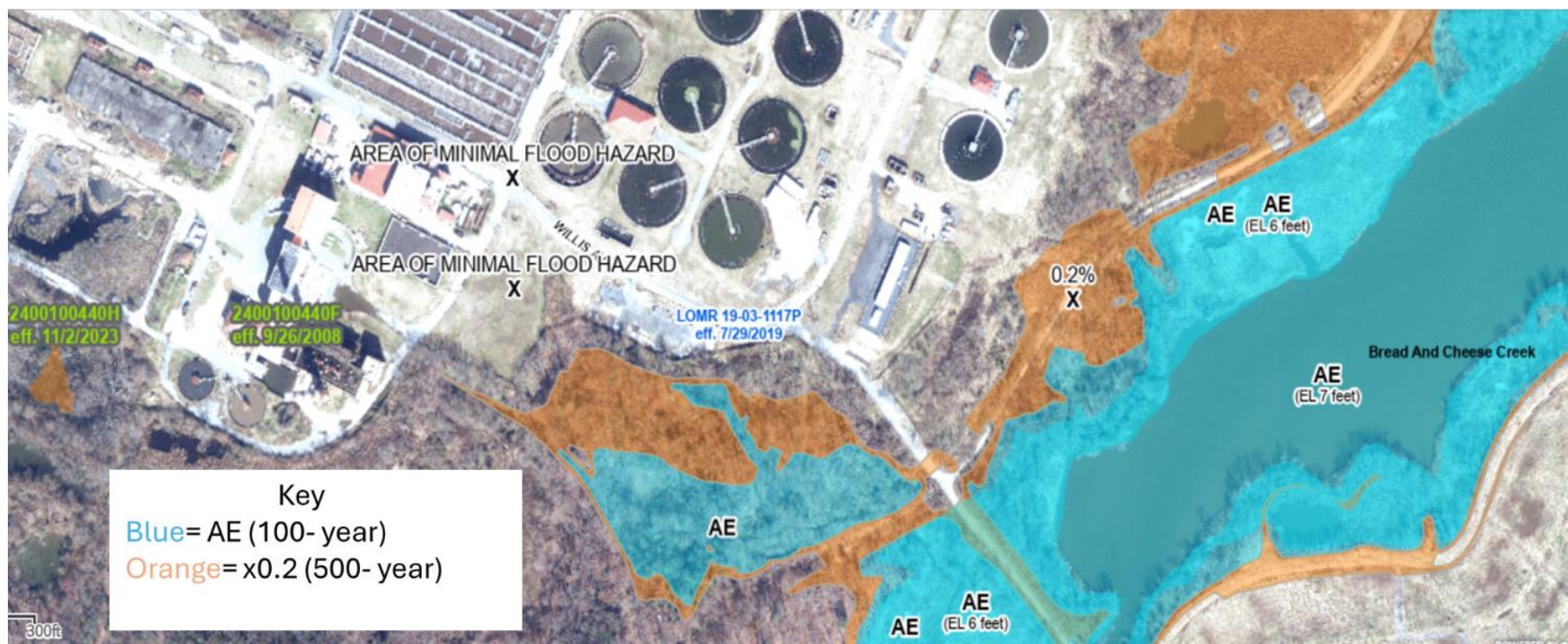
BEAVIN COMPANY
Engineers - Surveyors
BALTIMORE, MARYLAND



Appendix C: Flood and Wetland Map

FEMA Flood Insurance Rate Map for Back River Wastewater Treatment Plant

(online map available at: [Baltimore County DFIRM](https://bc-gis.maps.arcgis.com/apps/webappviewer/index.html?id=66c733159a024a9cbb20134f93610b4e))



Online link: <https://bc-gis.maps.arcgis.com/apps/webappviewer/index.html?id=66c733159a024a9cbb20134f93610b4e>

Wetlands map

(online map available at: [National Wetlands Inventory](https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/))



LEGEND

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Online link: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>