August 21, 2025

To Whom It May Concern:

ADDENDUM #1
Manganese Removal Systems for Drinking Water
26-0003WW

I. INSTRUCTIONS

A. The following additions, deletions, revisions, and/or amendments to the original drawings and specifications are hereby made a part thereof, and a part of the contract documents. All provisions of said documents shall remain in force and effect, except as herein amended.

B. This supplement to the specifications is issued prior to the receipt of proposals. All work covered in this supplement shall be included in the original quotation; and the supplement will be considered part of the Contract Documents. Proposer must acknowledge receipt of this Addendum on the Proposal Form. Please consider the following and incorporate it into your proposal:

II. NON-MANDATORY PRE-PROPOSAL MEETING MINUTES

Location:	John W. Pitts Center, 10 Electric Avenue, Dover, DE 19904
Speakers:	Barry Wolfgang- City of Dover Central Services Department Kate Mills, P.E.- City of Dover Department of Water & Wastewater
Date:	August 07, 2025
Time:	11:00 A.M. – 11:40 A.M.
Regarding:	Non-Mandatory Pre-Proposal Meeting for the Manganese Removal Systems for Drinking Water Project Proposal No.: 26-0003WW.

Mr. Barry Wolfgang, City of Dover:

- Mr. Wolfgang started by introducing himself, Ms. Lekha Zallipalli and Ms. Kate Mills and stated that the project is listed as a sealed proposal**.**
- In order for the proposal to be acceptable, three (3) paper copies and one (1) electronic copy must be submitted in a sealed envelope on the outside of which shall be plainly marked “Sealed Proposal: Manganese Removal Systems for Drinking Water Project, Proposal Opening date/time, Proposal No.: 26-0003WW”, together with the name and address of the company submitting the proposal.
- Sealed Proposals, three (3) paper copies and one (1) electronic “PDF” or Microsoft Word copy will be received by the City of Dover (City), City of Dover Procurement Office, 710 William Street, Dover, DE no later than **2:00 P.M**. on **Thursday, September 04, 2025,** for the Manganese Removal Systems for Drinking Water Project.
- PROPOSAL SUBMISSION - All proposals should be delivered to:
  Barry Wolfgang
  Contract and Procurement Manager
  City of Dover Central Services Department
  710 William Street

Dover, Delaware 19904

- The Proposal Bond is 10% of the total price required for each proposal.
- Proposers are fully responsible for the timely delivery of proposals. Late proposals will not be accepted and will be returned to the proposer unopened. Telegraph, telephone, facsimile machine, and electronic mail proposals will not be accepted under any circumstances.
- Mr. Wolfgang emphasized that all proposers who will be submitting a proposal for this project must complete and submit the Intent to Submit Proposal and Freedom of Information Act (FOIA) Forms included in the proposal package posted on the City of Dover's website.
- All questions must be submitted by **Thursday, August 14, 2025,** at which time they will be compiled and answered in the form of an addendum to this Proposal on **Thursday, August 21, 2025**, if necessary. The questions must be directed to Barry Wolfgang, email preferred, doverwhse@dover.de.us
- Once opened, the proposal status will be posted on the City web site, www.cityofdover.com/bid-tabulation. The status will be updated as required.
- Minority owned vendor preference shall be three percent (3%) of the value of the award. The vendor must identify qualification and claim to the preference on the submitted proposal documents. The vendor must provide authoritative proof of minority ownership such as identification in the certification directory maintained by the State of Delaware, Department of Administrative Services, Office of Minority and Women Business Enterprises to qualify for this preference. This preference is to be considered as a standalone and cannot be added to any other preference that may be allowed. This preference shall not apply to subcontractors
- Local vendor preference shall be considered for materials, equipment, construction contracts, and utility contracts. Local vendor preference shall be three percent (3%) of the annual value of the award. The term local vendor is defined as a gradually increasing range with preference assigned as follows:
  - Rule 1: Vendor located within the city limits of the City of Dover.
  - Rule 2: Vendor located within Kent County, Delaware (applicable only if no vendor qualifies under rule 1).
  - Rule 3: Vendor located within State of Delaware (applicable only if no vendor qualifies under rule 1 or 2).

  If in the event no vendor qualifies under rules 1, 2, or 3, no local vendor preference will be awarded. The vendor must identify qualification and claim to the preference on the submitted proposals documents. This preference is to be considered as standalone and cannot be added to any other preferences that may be allowed.

Ms. Kate Mills, City of Dover:

- Ms. Mills provided an overview of the project- design/build upgrade for five (5) of the city's deep wells. This project includes the installation of manganese removal systems at each well, over five (5) years, starting FY26, to comply with the state's maximum contaminant limit for manganese.
- The schedule for completion is five (5) years, starting in fiscal year 26, which is the current fiscal year.
- Ms. Mills provided that the site is located at various locations around the City of Dover.
- The manganese treatment will be installed at existing, functioning, deep well sites. The decision to make this a five (5) year project was to ensure that there would be consistency in design for the five (5) wells, when feasible. The order of the well projects should be followed, as the city is scheduling these wells around various operational events and criticality of the manganese treatment.
- Well #9 is currently under construction for site improvements to raise the well house out of the flood plain. Plans for this well are attached, **see Attachment A**. Also in this attachment is the anticipated

location of a stormwater culvert being designed for this area, set to be installed over the next three (3) years. Note that these are not as-builts for the well.

- If the Contractor would like to store material on site, this can be discussed with the City of Dover for approval, but the City of Dover will not be paying for any stored material.
- Work hours are Monday through Friday, 7:00am to 3:30pm. Any work done outside of these normal working hours must be approved by the City of Dover. The city's water treatment division does have work hours to 7:00pm Monday through Thursday, so upon request, the city could allow contract work past 3:30pm on those days.
- It will be the responsibility of the Contractor to protect existing facilities and equipment.
- Ms. Mills stated that noise control, safety requirements, and secure storage of materials are the responsibility of the contractor.
- The City requires the AIA G702/G703 Application for Payment form.
- All Proposers should emphasize review of the following prior to submitting proposals to ensure requirements are being met:
    a. Request for Proposal section 3.01, section 10 and section 13
    b. Scopes of Proposals
    c. Summary
- Ms. Mills emphasized that nothing at the pre-proposal meeting will change the project documents unless a subsequent addendum is issued.
- Ms. Mills closed her portion by stating that site visits were available. If interested, please contact her to schedule a visit.

Meeting was adjourned at 11:40 A.M.

Submitted Questions

Q1: In 3.02 of the RFP (Section 00 11 19), it says the individual or entity that will be providing Design Professional Services shall be listed in the Proposal. We have been approached by multiple contractors (Proposers) to be their engineer for the project. Are we allowed to be included as the engineer on more than one proposal?

A: You can be listed in multiple proposals as the engineer as long as you are not the primary contractor.

Q2: Section 00 52 53 identifies an agreement form – Design / Build (Single-Prime Contract) but the only form included is the City of Dover Agreement for Professional Services. Is there a draft of the Design / Build (Single Prime Contract) [assuming it would be an EJCDC contract]? The proposal form (Section 00 42 53) requires the identification of the design professional services and thus the design professional would be a sub-contractor to the Proposer and is contracted through them per the Design / Build (Single Prime Contract). The Agreement for Professional Services would then also have the design professional contracted by the City of Dover including basis of payment (attachment A). Is the intent of the City to have the design builder be under contract for both the DB team and the City of Dover?

A: The Agreement for Professional Service is the standard contract agreement that the City of Dover uses for all projects going through our Procurement office. The Proposer shall submit the Agreement for Professional Services. This shall be the only agreement between the City of Dover and the awarded Proposer. Any contracts between the Proposer and any subcontractors shall not be submitted to the City of Dover. Any and all costs associated with the Design/Build RFP, including design professional services shall be included in the Contract Price section of the Proposal Form and shall be the basis for payment.

Q3: Can the City please confirm how long each of the wells can be out of service?
A: With only one (1) well taken out of service each year of the contract, the awarded contractor should be able to have this well out of service for the entirety of the year.

Q4: **Can the city confirm the intent of the system design for this effort? I.e. is it the intent of the City to be provided with systems that can be only maintained by a single vendor? Or is the City looking for engineered treatment systems that are, like the plant on the East side of the City, maintained and operated by City Personnel?**
A: The intent of this RFP is to install manganese removal systems that meet the State of Delaware's MCL for manganese. The contractor should be looking to find a balance between capital costs for the designed system and continuing operational costs. Operational costs are requested to be submitted as part of this RFP so that city personnel can review during the proposal selection process.

Q5: Does the City have any preferences regarding the materials of construction proposed for equipment? I.e. Steel Vs. Fiberglass Tanks? Sch 80 PVC, Ductile Iron, Steel piping? Etc.
A: No preferences as long as the materials meet drinking water requirements (e.g. NSF 61), but the city would want the contractor to take into account durability, replacement costs, and availability of components/equipment/materials if and when replacement is necessary.

Q6: Can the City confirm if there are instantaneous flow restrictions for backwash water? Also, is there a total restriction on backwash water (Gal/Day?) This would be applicable to each individual location.
A: Without knowing the proposed backwash gallons per minute entering the sanitary sewer system, the city cannot provide a definitive answer. Per Appendix A of the RFP, the Proposer can find the sanitary sewer main size closest to the individual wells. All five (5) locations are in the same sewer basin. The pump station for this sewer basin would be able to handle an additional waste stream. For the six-inch (6") City of Dover force main on South Little Creek Rd near Well 8R, it can handle a total of 362 gallons per minute (gpm), but the pumps at the pump station for this force main are only rated for 260 gpm. The current maximum flow at this pump station is 225 gpm, so introducing additional flow would require upgrades to the station. Any sanitary sewer system upgrades should be included in the Design/Builder costs. See Question 7 below to contact Kent County Public Works to determine any quality or quantity concerns about backwash flow going to the Kent County Wastewater Treatment Plant.

Q7: Is Kent Co. aware of this project and the possibility of backwash from treatment systems being sent to the sewer system? Are there any water quality concerns with backwash that should be taken into consideration?
A: Kent County is aware of this project, but design criteria were not discussed in detail. The Proposer should contact Kent County to discuss backwash-related questions in further detail. See Section 00 24 16 Scopes of Proposals, Part 1.03.I.3 for further information. Also visit https://www.kentcountyde.gov/My-Government/Departments/Public-Works for contact information.

Q8: Can the City provide an estimate of cost associated with fees related to backwash disposal to sewer? This will be required to generate an estimate of O&M costs as required.
A: Visit https://www.cityofdover.com/WaterandWastewater for sewer rates. Scroll down to Water/Waste Water Rates document.

Q9: Is it correct to assume that, In City – Owned force main/gravity sewer, that connections will be made in accordance with City of Dover standards?

A: Yes, but any roadway disturbance in a State-owned roadway will need to be restored per DelDOT requirements. The City of Dover's Water / Wastewater Handbook can be found here: https://www.cityofdover.com/WaterandWastewater.

Q10: Can the City confirm any potential fees per thousand gallons associated with the disposal of backwash water?

A: Visit https://www.cityofdover.com/WaterandWastewater for sewer rates. Scroll down to Water/Waste Water Rates document.

Q11: Will the Design/Build Firm be responsible for confirming the downstream capacity of pumping stations?

A: No, but the Firm should provide the anticipated backwash flow to the city's sanitary sewer system, if applicable, for each location.

Q12: There is conflicting information between the allocated capacity of each well, the average daily production demand in the RFP, and the actual production flow for each well. Can the City please confirm what capacity should be used for sizing the treatment systems? Also, if the daily production demand from historical data is to be used, can the City please provide a runtime per day as that will be necessary in calculating the hydraulic capacity of the treatment systems?

A: Design/Builder should use the data in Appendix C, showing the average, minimum and maximum flow data. The table provided on the first page of this appendix provides information on the pump design. The design flow and design total dynamic head for Well #3 is unknown, so the city provided the allocated flow for that well. ***Note that Well #1 data is included in this table in error and is not included in this Design/Build project.**

Please see **Attachment B** for the runtime information for each well.

Q13: Is soils information available for the Well #9 site?

A: Soil information is not yet available for this site. It will be provided to the awarded Proposer once available. But any excavation activities in this location will require compliance with the attached Contaminated Material Management Plan. **See Attachment C**.

Q14: Please confirm the duration of time in which the substation can be shut down to safely conduct over-head/crane work at Well #3.

A: After speaking with the City of Dover Electric Department (Electric), they will be able to coordinate a shutdown in this location that could span more than a few days, but duration would need to be discussed once the schedule is known. Electric did state that shutdowns during the peak usage time (summer) would be difficult and should be avoided.

Q15: Can the City confirm the responsibility of costs associated with the modification of, or issuance of Easements?

A: Any new or modified easements and associated costs would be the responsibility of the City of Dover.

Q16: Can the City confirm if the school is opposed to the expansion of the easement at Well 8R?

A: The Capital School District is willing to discuss a modification to the existing easement at Well 8R if more space is needed.

Q17: Section 01-10-00 lists that the systems will not be integrated with the City's SCADA system. Is this something that the City may connect in the future? Should expandability for this functionality to control systems be included?
A: The city may consider this in the future, but the Proposer should not include this in their proposal, only local control, if necessary to the proposed design.

Q18: It does not appear that a clause for cost escalation is included within the Contract Documents. As the project occurs over a period of five (5) years, it is not possible to provide accurate pricing for the entire duration of the project. Will an escalation clause be part of this project as a result of market volatility?
A: Please review Section 00 11 19 Request for Proposal, 13.01.F. The city is requesting the Proposer to include an escalator percentage to be applied to for operations and maintenance costs. For the lump sum cost of the construction, the Proposer should be accounting for escalation in the price they provide in Table 4.01 of the Proposal Form. Please see the revised Proposal Form in **Attachment D**. This shall be the new proposal form submitted with the proposal. Include the escalator used in Table 4.01 for Year 2 – 5.

Q19: Does the city own the land at the well locations?
A: Well #3- Yes, Well 8R- City has an easement on the property that matches the existing fence location, Well 9- Yes, Well 13R- Yes, Well 15- City owns land that is highlighted in **Attachment E**.

Q20: For Well 13R, could the Design/Builder utilize the sanitary sewer manhole located in the Wawa parking lot?
A: This sanitary sewer is privately-owned. The city does not want to acquire additional infrastructure to maintain outside of what is installed for the manganese removal system, so this manhole shall not be considered for sanitary sewer connection.

Q21: Will the city accept two different options for the water treatment equipment being proposed?
A: The Proposer may submit one (1) proposal with multiple options included in the proposal. Do not submit separate proposals.

III. ATTENDANCE ROSTER

CITY OF DOVER

MANGANESE REMOVAL SYSTEMS FOR DRINKING WATER (26-0003WW)

The following is a list of attendees for the **NON-MANDATORY** pre-proposal meeting for the Manganese Removal Systems for Drinking Water on Thursday August 07, 2025, at 11:00 a.m. The meeting was conducted at the JW Pitts Center, 10 Electric Avenue, Dover, DE

PRINTED NAME, COMPANY	ADDRESS	PHONE	FAX	E-MAIL
Kate Mills, P.E., City of Dover	P.O. Box 475 Dover, DE 19903	304 736-7562	302-736-4212	kmills@dover.de.us
Barry Wolfgang, City of Dover	710 William Street, Dover, DE 19904	302-736-7795	302-736-7178	bwolfgang@dover.de.us
Srilekha Zallipalli, City of Dover	P.O. Box 475 Dover, DE 19903	302-736-7025	302-736-4212	szallipalli@dover.de.us
Eddie Porter, Peninsula Water	216 S Division St, Fruitland MD 21826	410-251-3134	410-341-6003	sales@peninsulawater.com
Matt Hall, Somerset Well	30170 Ritzel Rd P.O. Box 67, Westover MD 21871	443-783-9950	410-651-5255	matt@somersetwell.com
Mike Papciak, Keystone Engineering	12000 Old Vine Blvd, Unit 116, Lewes DE 19958	302-291-9092		mpapciak@kegi.net
J.B Moore, GMB	206 W Main St, Salisbury MD 21801	302-257-9978		jmoore@gmbnet.com
Kegan Wise, Sharp Water Culligan	129 Columbia Rd, Salisbury MD 21801	443-552-6686		kwise@sharpwaterculligan.com
Tom Manzi, Sharp Water Culligan	624 Main St, Dover DE 19904	443-880-2398	302-239-3441	tmanzi@sharpwaterculligan.com
Ring Lardner, Davis Bowen & Freidel	1 Park Ave, Milford DE 19963	302-929-1991	302-929-0930	rwl@dbfinc.com

End of Addendum #1

If you have any questions, please contact me at (302) 736-7795 or email bwolfgang@dover.de.us.

Sincerely,

Barry Wolfgang
Contract and Procurement Manager
City of Dover
(302) 736-7795
Fax (302) 736-7178
bwolfgang@dover.de.us
www.cityofdover.com

Addendum Receipt Record

Proposal 26-0003WW

We have received and reviewed the following Addenda (if applicable):

1. _Addendum #1_____, dated _August 21, 2025__.
2. _____, dated _____.
3. _____, dated _____ .

FIRM NAME: _____

BY: _____

PRINTED: _____

TITLE: _____

DATED: _____

ADDRESS: _____

_____

PHONE: _____

FAX: _____

FEDERAL ID#: _____

ATTACHMENT A

Well #9 Construction Drawings and Stormwater Culvert Location

DOVER WELL #9 IMPROVEMENTS

CITY OF DOVER
DOVER, DELAWARE
OCTOBER 2023

GENERAL NOTES:

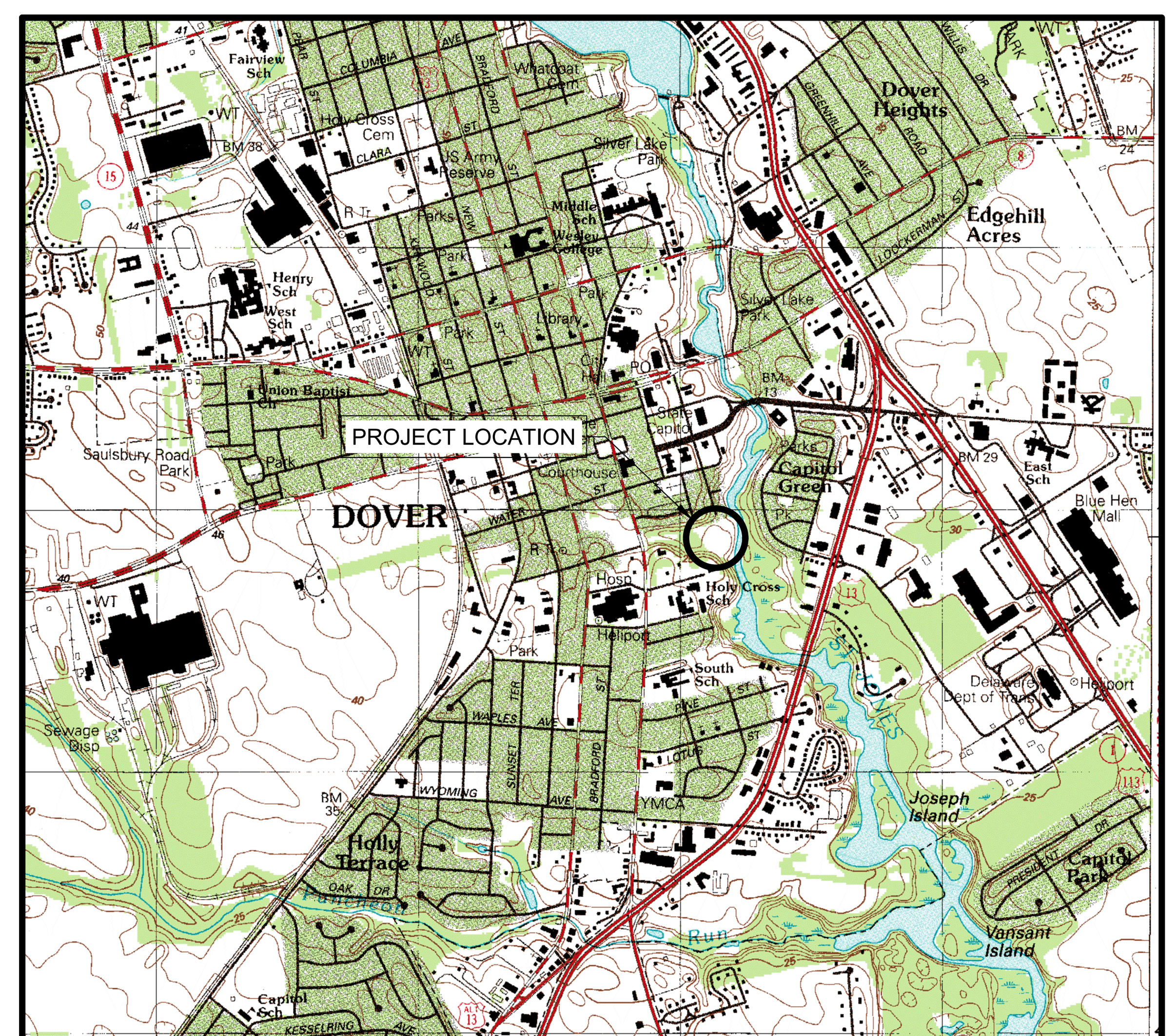
1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO ORDERING AND/OR FABRICATION OF ANY MATERIALS.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
3. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND WILL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION, EXCEPT FOR EROSION AND SEDIMENT SEQUENCE OF CONSTRUCTION WHICH WILL BE CONDUCTED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN/DETAILS.
4. THE CONTRACTOR SHALL PATCH, REPAIR, AND FINISH ALL DAMAGED SURFACES CAUSED BY THE WORK, USING MATERIALS OF THE SAME KIND.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICES. ANY DAMAGE DONE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT CONTRACTORS EXPENSE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF DAMAGED OR DESTROYED LANDSCAPE.
7. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AREAS WITH 6" OF TOP SOIL THEN SEED AND MULCH.
8. EXCAVATIONS SHALL BE KEPT DRY.
9. ALL PIPING SHALL BE HYDROSTATICALLY PRESSURE TESTED PRIOR TO USE.
10. THESE PLANS ARE BASED ON INFORMATION AVAILABLE AT THE TIME THEY WERE PREPARED. ACTUAL CONDITIONS MAY VARY.
11. CONSTRUCTION SURVEY STAKING TO BE PROVIDED BY THE CONTRACTOR.
12. EXISTING CONDITIONS ARE SHOWN IN LIGHT-LINE AND/OR SCREENED. NEW FACILITIES ARE SHOWN HEAVY LINED.
13. COMPLETE CONSTRUCTION IN ACCORDANCE WITH LOCAL BUILDING CODES AND OSHA REQUIREMENTS.
14. FABRICATE AND INSTALL MATERIALS, EQUIPMENT, PRODUCTS AND FINISHES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
15. STRICTLY ADHERE TO PLAN LOCATIONS AND DIMENSIONS UNLESS OTHERWISE DIRECTED BY THE SITE REPRESENTATIVE IN WRITING.
16. OBTAIN NECESSARY PERMITS REQUIRED FOR CONSTRUCTION PRIOR TO THE INITIATION OF WORK.
17. NOTIFY THE OWNER 48 HOURS IN ADVANCE OF WORK TO BE COMPLETED ON THE EXISTING STRUCTURES OR PIPING.
18. PROTECT UTILITY LINES AND APPURTENANCES THAT ARE TO REMAIN. LOCATE AND VERIFY EXISTING UTILITIES. CONTACT THE NATIONAL CONSTRUCTION ALERT SYSTEM FOR UTILITIES AT 811. APPLY APPROPRIATE SURFACE GEOPHYSICAL METHODS TO LOCATE SUBSURFACE UTILITIES. REPAIR DAMAGE EXCEPT WHEN UTILITY IS TO BE ABANDONED IN PLACE.

PROFESSIONAL CERTIFICATION:

I hereby certify that these documents were prepared and approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland.

KEMEI (KAREN) DU, P.E.

License No.: 14864 Expiration Date: 03-20-2024



LOCATION MAP

SCALE: 1" = 2000'
TAKEN FROM DOVER, DE USGS QUAD MAP

GENERAL NOTES:

1. TAX PARCEL NUMBER: ED05-077.13-01-50.00
2. SITE ADDRESS:
   106 ELM TERRACE
   DOVER, DE 19903
3. BENCHMARK #4:
   LAT: N39° 09' 12.00"
   LONG: E75° 31' 09.85"
4. ZONING: IO

INDEX OF DRAWINGS

AECOM

PROJECT

DOVER WELL #9 IMPROVEMENTS
Dover, Delaware

CLIENT

CITY OF DOVER
Weyandt Hall - 5 E. Reed St.
Dover, DE 19901
302.736.7025 tel 302.736.7092 fax
www.cityofdover.com/WaterandWastewater

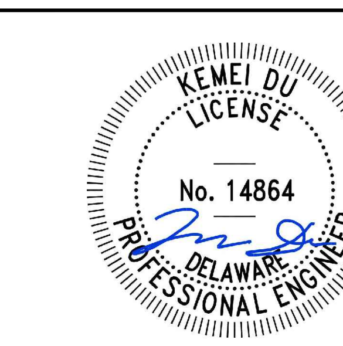
CONSULTANT

AECOM
248 Chapman Road Suite 101
Newark, DE 19702
Phone: (302) 781-5900 Fax: (302) 781-5901
www.aecom.com

CONSULTANTS

MEP
KEYSTONE ENGINEERING GROUP
The Vinyards
12000 Old Vine Blvd, Commercial Unit #116
Lewes, Delaware 19958
302.291.9090 tel
www.kegi.net

REGISTRATION



KEMEI (KAREN) DU, P.E. 10-20-2023
REG. PROF. ENGR DE LIC. No. 14864 DATE

ISSUE/REVISION

0	2023-10-20	ISSUE FOR BID
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60693284

Designed By:	A. COLBY
Drawn By:	D. KATZMIRE
Dept Check:	K. PAMPUCH
Proj Check:	K. DU
Date:	2023-10-20
Scale:	AS NOTED

DISCIPLINE

GENERAL

SHEET TITLE

COVER SHEET

SHEET NUMBER

G-001

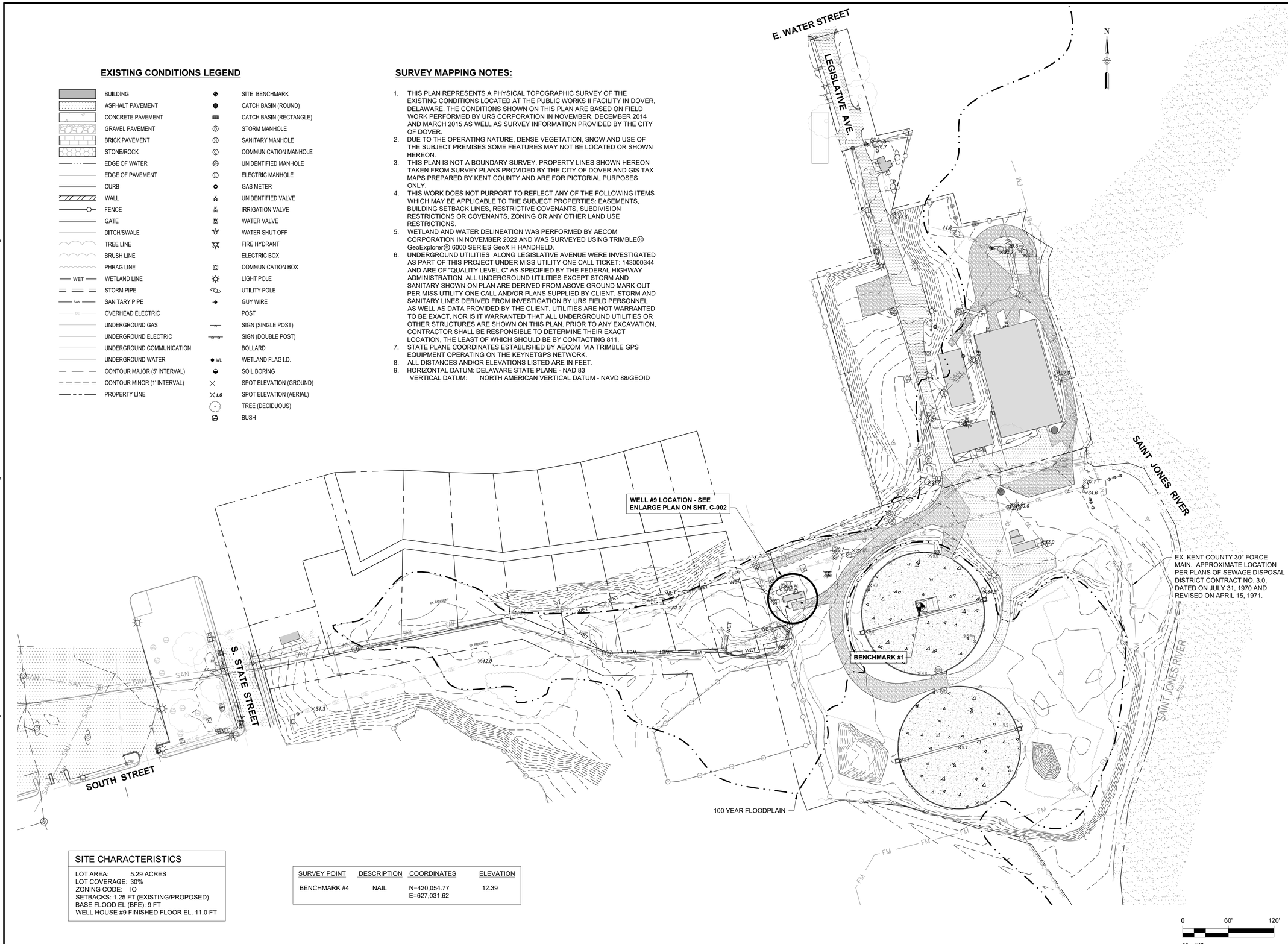
PATH/FILENAME: C:\USERS\DAVE.KATZMIRE\ONEDRIVE - AECOM\CIVIL 3D PROJECTS\DOVER WELL 9\SHEETS\G-001 COVER.DWG
LAST UPDATE: Monday, October 16, 2023 5:32:26 PM
PLOT DATE: Tuesday, October 17, 2023 5:05:16 PM

EXISTING CONDITIONS LEGEND

BUILDING	SITE BENCHMARK
ASPHALT PAVEMENT	CATCH BASIN (ROUND)
CONCRETE PAVEMENT	CATCH BASIN (RECTANGLE)
GRAVEL PAVEMENT	STORM MANHOLE
BRICK PAVEMENT	SANITARY MANHOLE
STONE/ROCK	COMMUNICATION MANHOLE
EDGE OF WATER	UNIDENTIFIED MANHOLE
EDGE OF PAVEMENT	ELECTRIC MANHOLE
CURB	GAS METER
WALL	UNIDENTIFIED VALVE
FENCE	IRRIGATION VALVE
GATE	WATER VALVE
DITCH/SWALE	WATER SHUT OFF
TREE LINE	FIRE HYDRANT
BRUSH LINE	ELECTRIC BOX
PHRAG LINE	COMMUNICATION BOX
WET WETLAND LINE	LIGHT POLE
STORM PIPE	UTILITY POLE
SAN SANITARY PIPE	GUY WIRE
OE OVERHEAD ELECTRIC	POST
UNDERGROUND GAS	SIGN (SINGLE POST)
UNDERGROUND ELECTRIC	SIGN (DOUBLE POST)
UNDERGROUND COMMUNICATION	BOLLARD
UNDERGROUND WATER	WL WETLAND FLAG I.D.
CONTOUR MAJOR (5' INTERVAL)	SOIL BORING
CONTOUR MINOR (1' INTERVAL)	SPOT ELEVATION (GROUND)
PROPERTY LINE	1.0 SPOT ELEVATION (AERIAL)
	TREE (DECIDUOUS)
	BUSH

SURVEY MAPPING NOTES:

1. THIS PLAN REPRESENTS A PHYSICAL TOPOGRAPHIC SURVEY OF THE EXISTING CONDITIONS LOCATED AT THE PUBLIC WORKS II FACILITY IN DOVER, DELAWARE. THE CONDITIONS SHOWN ON THIS PLAN ARE BASED ON FIELD WORK PERFORMED BY URS CORPORATION IN NOVEMBER, DECEMBER 2014 AND MARCH 2015 AS WELL AS SURVEY INFORMATION PROVIDED BY THE CITY OF DOVER.
2. DUE TO THE OPERATING NATURE, DENSE VEGETATION, SNOW AND USE OF THE SUBJECT PREMISES SOME FEATURES MAY NOT BE LOCATED OR SHOWN HEREON.
3. THIS PLAN IS NOT A BOUNDARY SURVEY. PROPERTY LINES SHOWN HEREON TAKEN FROM SURVEY PLANS PROVIDED BY THE CITY OF DOVER AND GIS TAX MAPS PREPARED BY KENT COUNTY AND ARE FOR PICTORIAL PURPOSES ONLY.
4. THIS WORK DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING ITEMS WHICH MAY BE APPLICABLE TO THE SUBJECT PROPERTIES: EASEMENTS, BUILDING SETBACK LINES, RESTRICTIVE COVENANTS, SUBDIVISION RESTRICTIONS OR COVENANTS, ZONING OR ANY OTHER LAND USE RESTRICTIONS.
5. WETLAND AND WATER DELINEATION WAS PERFORMED BY AECOM CORPORATION IN NOVEMBER 2022 AND WAS SURVEYED USING TRIMBLE® GeoExplorer® 6000 SERIES GeoX H HANDHELD.
6. UNDERGROUND UTILITIES ALONG LEGISLATIVE AVENUE WERE INVESTIGATED AS PART OF THIS PROJECT UNDER MISS UTILITY ONE CALL TICKET: 143000344 AND ARE OF "QUALITY LEVEL C" AS SPECIFIED BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL UNDERGROUND UTILITIES EXCEPT STORM AND SANITARY SHOWN ON PLAN ARE DERIVED FROM ABOVE GROUND MARK OUT PER MISS UTILITY ONE CALL AND/OR PLANS SUPPLIED BY CLIENT. STORM AND SANITARY LINES DERIVED FROM INVESTIGATION BY URS FIELD PERSONNEL AS WELL AS DATA PROVIDED BY THE CLIENT. UTILITIES ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN. PRIOR TO ANY EXCAVATION, CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THEIR EXACT LOCATION, THE LEAST OF WHICH SHOULD BE BY CONTACTING 811.
7. STATE PLANE COORDINATES ESTABLISHED BY AECOM VIA TRIMBLE GPS EQUIPMENT OPERATING ON THE KEYNETGPS NETWORK.
8. ALL DISTANCES AND/OR ELEVATIONS LISTED ARE IN FEET.
9. HORIZONTAL DATUM: DELAWARE STATE PLANE - NAD 83
   VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM - NAVD 88/GEOID



SITE CHARACTERISTICS

LOT AREA: 5.29 ACRES
LOT COVERAGE: 30%
ZONING CODE: IO
SETBACKS: 1.25 FT (EXISTING/PROPOSED)
BASE FLOOD EL (BFE): 9 FT
WELL HOUSE #9 FINISHED FLOOR EL. 11.0 FT

SURVEY POINT	DESCRIPTION	COORDINATES	ELEVATION
BENCHMARK #4	NAIL	N=420,054.77 E=627,031.62	12.39

AECOM

PROJECT

DOVER WELL #9 IMPROVEMENTS
Dover, Delaware

CLIENT

CITY OF DOVER
Weyandt Hall - 5 E. Reed St.
Dover, DE 19901
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REGISTRATION

KEMEI DU LICENSE No. 14864 DELAWARE PROFESSIONAL ENGINEER

KEMEI (KAREN) DU, P.E. — 10-20-2023
REG. PROF. ENGR DE LIC. No. 14864 — DATE

ISSUE/REVISION

0	2023-10-20	ISSUE FOR BID
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60693284

Designed By:	A. COLBY
Drawn By:	D. KATZMIRE
Dept Check:	K. PAMPUCH
Proj Check:	K. DU
Date:	2023-10-20
Scale:	AS NOTED

DISCIPLINE

CIVIL

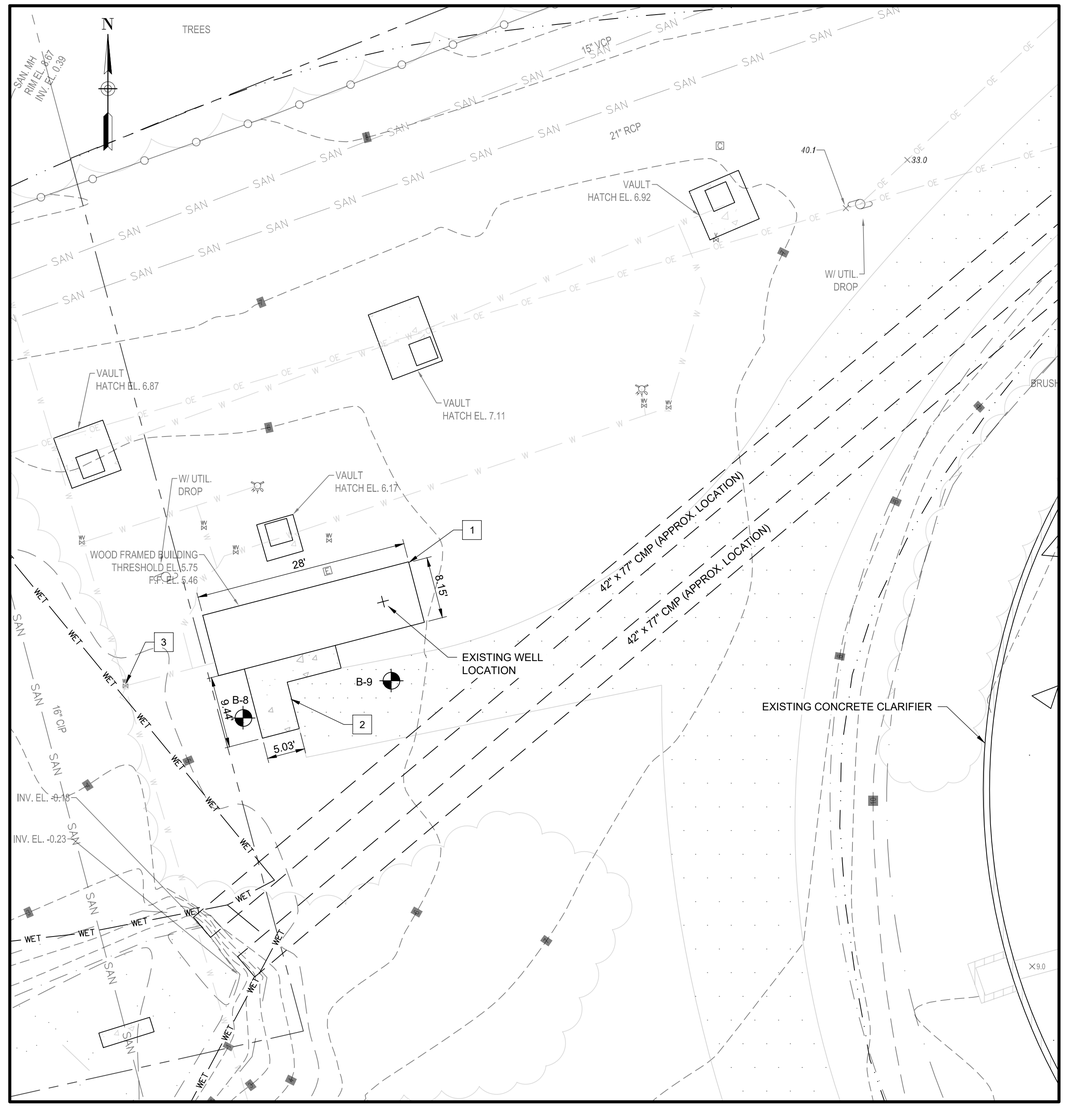
SHEET TITLE

WELL HOUSE #9 OVERALL SITE PLAN

SHEET NUMBER

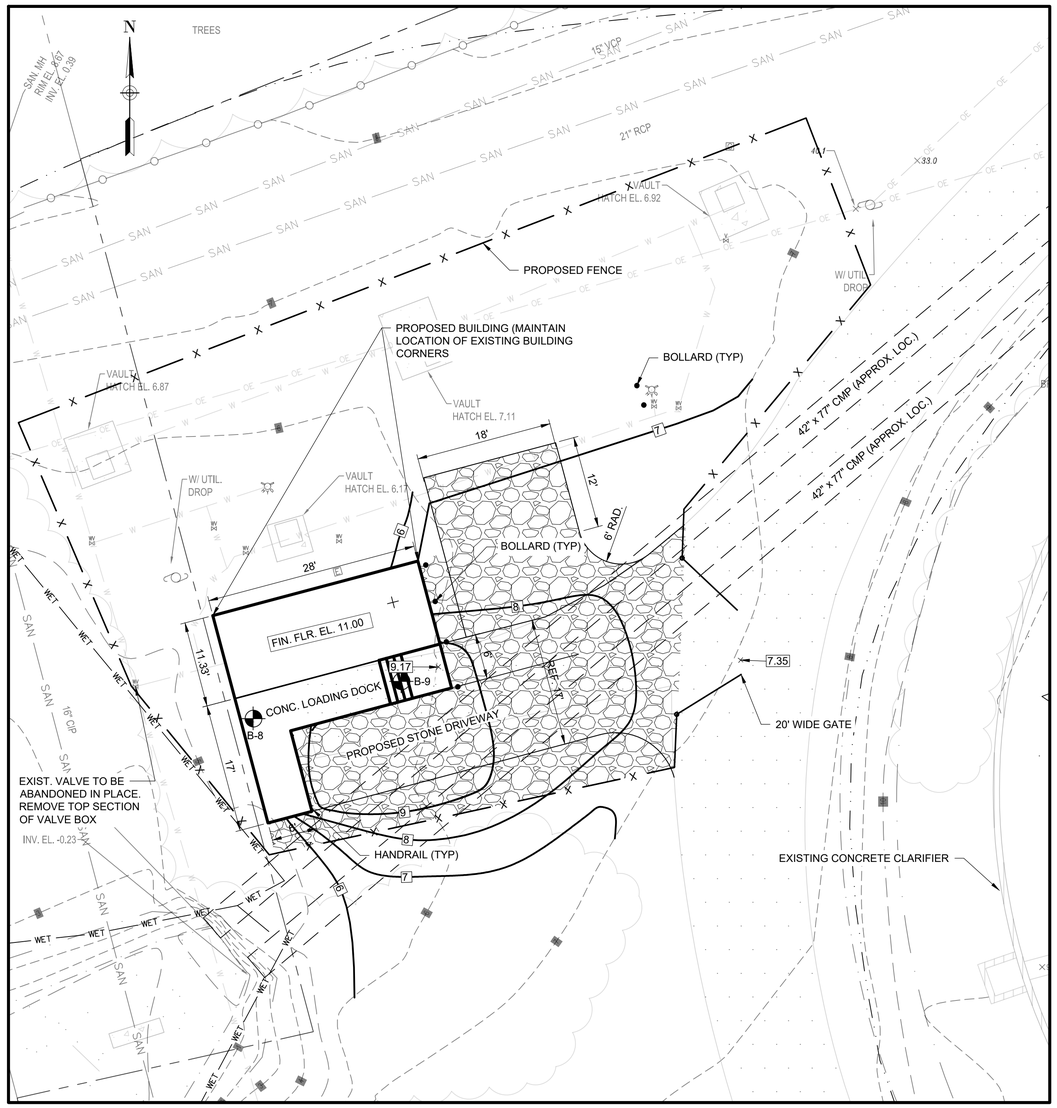
C-001

PATH/FILENAME: C:\USERS\DAVE.KATZMIRE\ONEDRIVE - AECOM\CIVIL 3D PROJECTS\DOVER WELL 9\SHEETS\C-000 OVERALL SITE.DWG
LAST UPDATE: Monday, October 16, 2023 4:18:19 PM
PLOT DATE: Monday, October 23, 2023 8:05:48 AM



EXISTING CONDITIONS/DEMOLITION PLAN

Scale" 1"= 10'



PROPOSED SITE PLAN

Scale" 1"= 10'

DEMOLITION NOTES:

1. REMOVE AND DISPOSE OF EXISTING WOOD FRAMED BUILDING INCLUDING ROOF, WALLS AND BLOCK FOUNDATION. SEE PROCESS, MECHANICAL, PLUMBING AND ELECTRICAL PLANS OR SPECIFICATIONS REGARDING EQUIPMENT TO BE RE-USED AND RELOCATED TO THE NEW BUILDING. CARE SHOULD BE TAKEN NOT TO DISTURB THE EXISTING VERTICAL TURBINE WELL PUMP THAT WILL BE RE-USED AND RAISED TO A NEW ELEVATION IN THE PROPOSED BUILDING. PROTECT THE WELL HEAD FROM ANY POTENTIAL SOURCES OF CONTAMINATION. REFER TO PROCESS, PLUMBING, MECHANICAL AND ELECTRICAL DISCIPLINES FOR MORE DETAILED DEMOLITION NOTES.
2. REMOVE AND DISPOSE OF EXISTING CONCRETE SIDEWALK.
3. EXISTING VALVE TO BE ABANDONED IN PLACE. REMOVE TOP SECTION OF VALVE BOX WITH COVER.

PROPOSED SHEET LEGEND

- 6 — PROPOSED CONTOUR
- 7.35 — PROPOSED SPOT ELEVATION
- PROPOSED STONE DRIVEWAY
- WET — DELINEATED WETLANDS LINE
- B-8 — SOIL BORING LOCATION

0 10' 20'

1" = 10'

AECOM

PROJECT

DOVER WELL #9
IMPROVEMENTS
Dover, Delaware

CLIENT

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Dept Check:	K. PAMPUCH
Proj Check:	K. DU
Date:	2023-10-20
Scale:	AS NOTED

DISCIPLINE

CIVIL

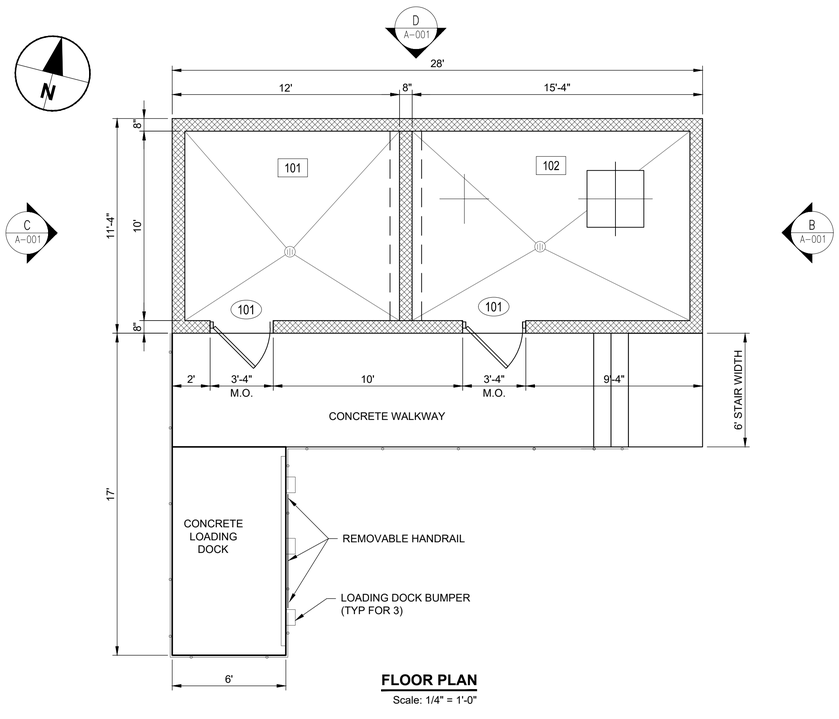
SHEET TITLE

EXISTING CONDITIONS, DEMOLITION & PROPOSED SITE PLAN

SHEET NUMBER

C-002

PATH/FILENAME: C:\USERS\DAVE.KATZMIRE\ONEDRIVE - AECOM\CIVIL 3D PROJECTS\DOVER WELL 9\SHEETS\C-001.DWG
LAST UPDATE: Monday, October 16, 2023 4:58:46 PM
PLOT DATE: Monday, October 16, 2023 5:04:15 PM

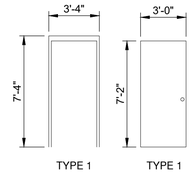


FLOOR PLAN
Scale: 1/4" = 1'-0"

A
A-001

ROOM FINISH SCHEDULE								
ROOM NUMBER	ROOM NAME	FLOOR - BASE		WALLS		CEILING		
		MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT
101	CHEMICAL ROOM	CONC	S	CMU	P	NVS	N/A	10'
102	WELL PUMP ROOM	CONC	S	CMU	P	NVS	N/A	10'

DOOR SCHEDULE								
DOOR NUMBER	NOMINAL SIZE (WIDTH x HEIGHT x THICKNESS)	TYPE	QTY.	MATERIAL	GLAZING	FIRE RATED	INSULATED	HARDWARE SET
101	3'-0" x 7'-2" x 1-3/4"	1	2	STEEL	NONE	NO	YES	K,E,L,C

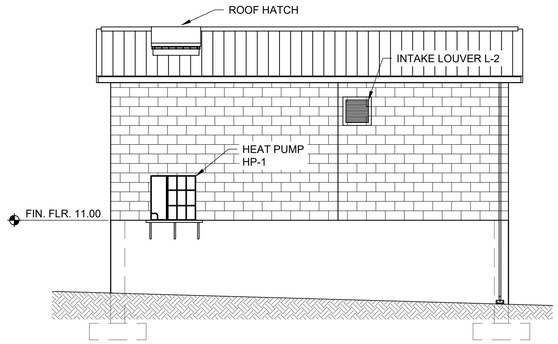


ROOM FINISH ABBREVIATIONS:

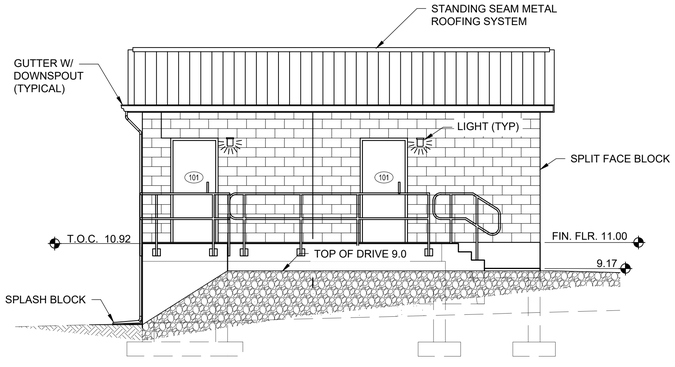
AFF	ABOVE FINISHED FLOOR
A.F.	ACRYLIC FINISH
ALUM.	ALUMINUM
C	CONCRETE
CB	6" HIGH RUBBER COVE BASE
O.C.	ON CENTER
C.J.	CONTROL JOINT
CL.	CLEAR
CMU	CONCRETE MASONRY UNITS
S	CONCRETE SEALER
CONC.	CONCRETE
E	EPOXY FLOORING SYSTEM
F.D.	FLOOR DRAIN
FIN. FLR.	FINISHED FLOOR
GB	GYPSUM BOARD
M.O.	MASONRY OPENING
NVS	NON-VENTILATED SOFFIT MATERIAL
P	PAINTED
PBJ	PREMOLDED BITUMINOUS JOINT
PLY	PLYWOOD
RF	RESILIENT FLOORING
SC	SUSPENDED CEILING
T.O.B.	TOP OF BLOCK

DOOR HARDWARE ABBREVIATIONS:

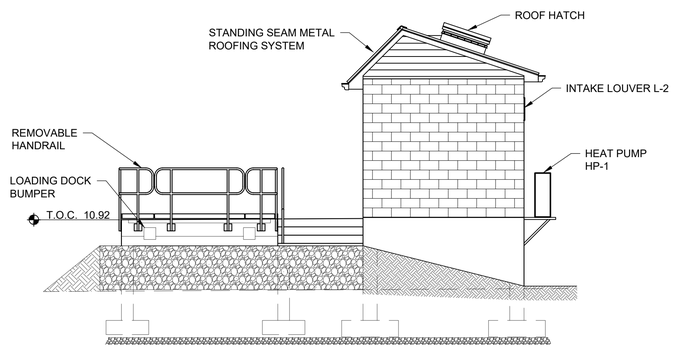
C	CLOSER, SS ARM
E	EXIT DEVICE W/PULL HANDLE AND THUMB LATCH
K	KICK PLATE
L	STANDARD PASSAGE & STANDARD LOCKSET
P	PUSH/PULL SET



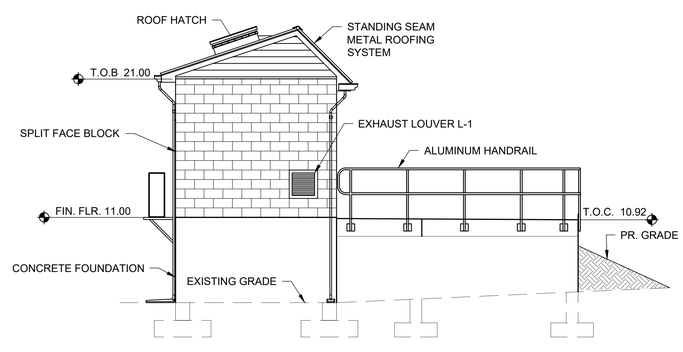
D | **NORTH ELEVATION**
C-001 | Scale: 3/16" = 1'-0"



A | **SOUTH ELEVATION**
C-001 | Scale: 3/16" = 1'-0"



B | **EAST ELEVATION**
C-001 | Scale: 3/16" = 1'-0"



C | **WEST ELEVATION**
C-001 | Scale: 3/16" = 1'-0"

0 4' 8'
3/16" = 1'-0

0 4' 8'
1/4" = 1'-0

AECOM

PROJECT

DOVER WELL #9
IMPROVEMENTS
Dover, Delaware

CLIENT

CITY OF DOVER
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REGISTRATION

KEMEI DU LICENSE No. 14864 PROFESSIONAL ENGINEER DELAWARE

KEMEI (KAREN) DU, P.E. 10-20-2023
REG. PROF. ENGR DE LIC. No. 14864 DATE

ISSUE/REVISION

I/R	DATE	DESCRIPTION
0	2023-10-20	ISSUE FOR BID

PROJECT NUMBER

60693284

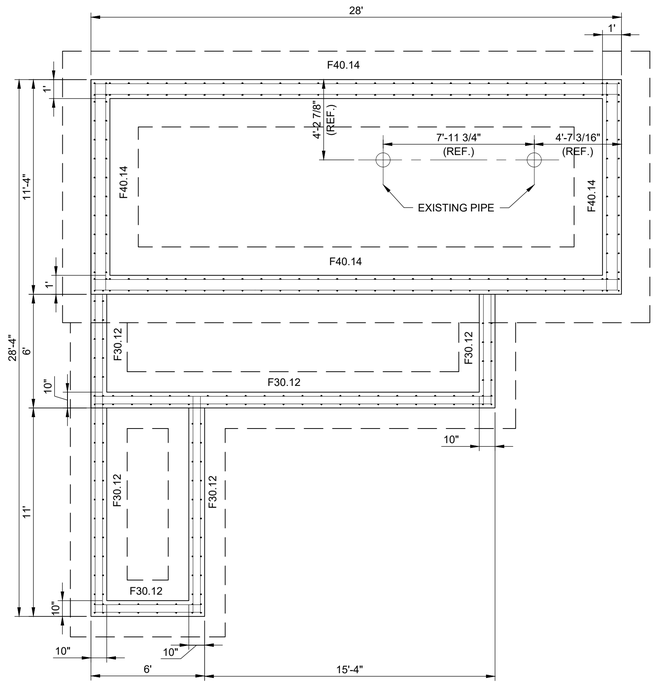
Designed By:	A. COLBY
Drawn By:	D. KATZMIRE
Dept Check:	K. PAMPUCH
Proj Check:	K. DU
Date:	2023-10-20
Scale:	AS NOTED

DISCIPLINE
ARCHITECTURAL
SHEET TITLE

FLOOR PLANS, SCHEDULES & ELEVATIONS
SHEET NUMBER

A-101

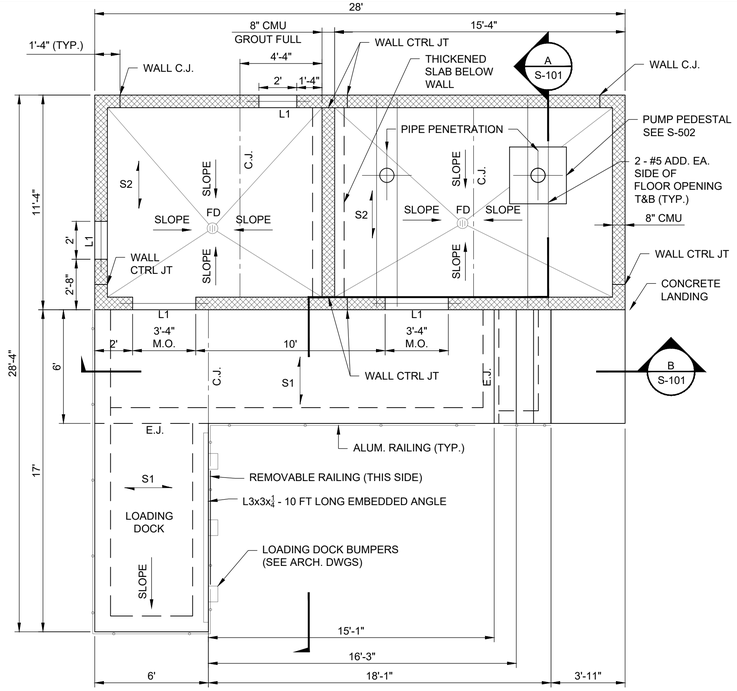
PATH/FILENAME: C:\USERS\DAVE.KATZMIRE\ONEDRIVE - AECOM\CIVIL 3D PROJECTS\DOVER WELL 9\SHEETS\ARCHITECTURAL.DWG
LAST UPDATE: Tuesday, October 17, 2023 3:47:15 PM
PLOT DATE: Tuesday, October 17, 2023 3:48:00 PM



FOUNDATION PLAN

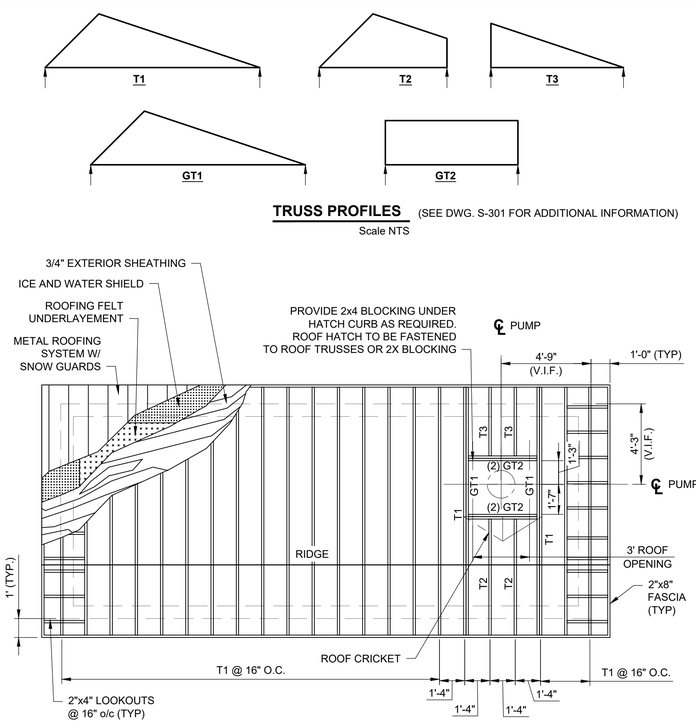
Scale 1/4" = 1'-0"

(SEE DWG. S-301 FOR FOOTING AND SLAB SCHEDULE)



FLOOR PLAN

Scale 1/4" = 1'-0"



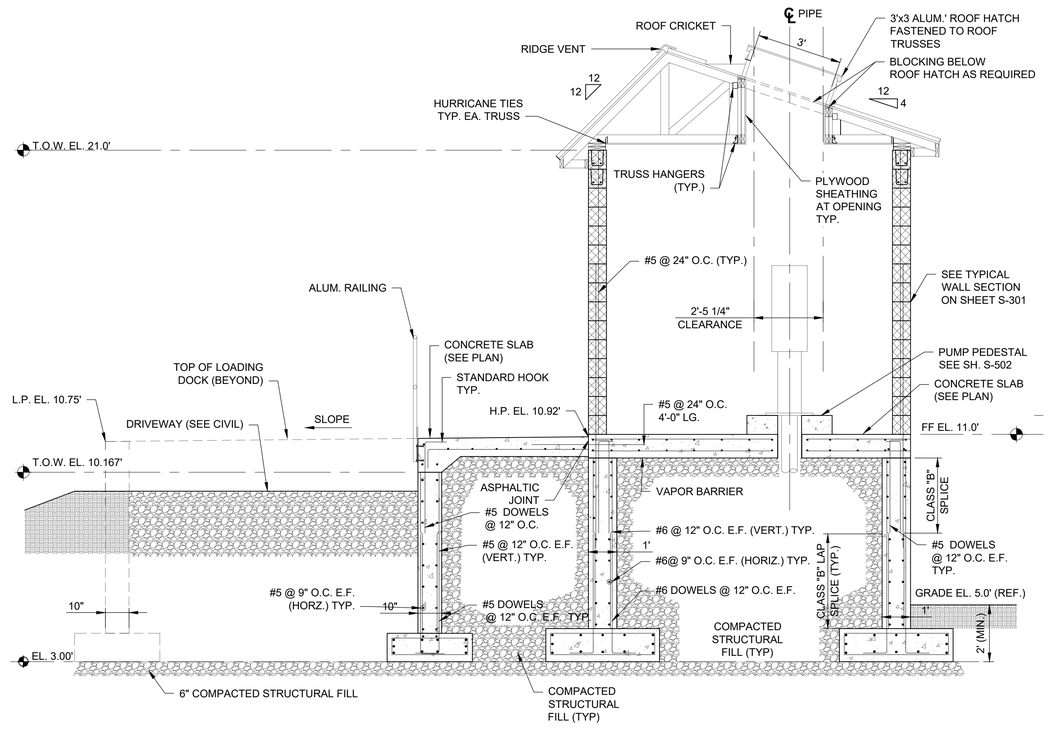
TRUSS PROFILES

(SEE DWG. S-301 FOR ADDITIONAL INFORMATION)

Scale NTS

ROOF PLAN

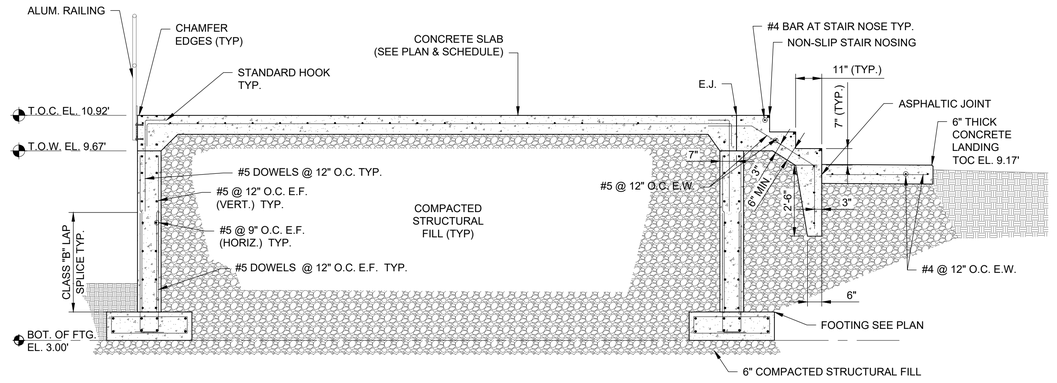
Scale 1/4" = 1'-0"



A SECTION

S-003

Scale 3/8" = 1'-0"



B SECTION

S-003

Scale 3/8" = 1'-0"

NOTES:
1. GRADE ELEVATIONS SHOWN FOR REFERENCE ONLY. COORDINATE WITH CIVIL DRAWINGS.
2. COORDINATE THIS DRAWING WITH ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS.
3. PROVIDE ASPHALTIC COATING ON FOUNDATION SURFACES BELOW GRADE.

AECOM

PROJECT

DOVER WELL #9 IMPROVEMENTS

Dover, Delaware

CLIENT

CITY OF DOVER

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REGISTRATION

RICHARD J. DOROTHEO LICENSED No. 18160 DELAWARE PROFESSIONAL ENGINEER

RICHARD J. DOROTHEO, P.E. 10-20-23

REG. PROF. ENGR DE LIC. No. 18160 DATE

ISSUE/REVISION

0	2023-10-20	ISSUE FOR BID
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60693284

Designed By:	R.DOROTHEO
Drawn By:	R.DOROTHEO
Dept Check:	M. MILLER
Proj Check:	K. DU
Date:	2023-10-20
Scale:	AS NOTED

DISCIPLINE

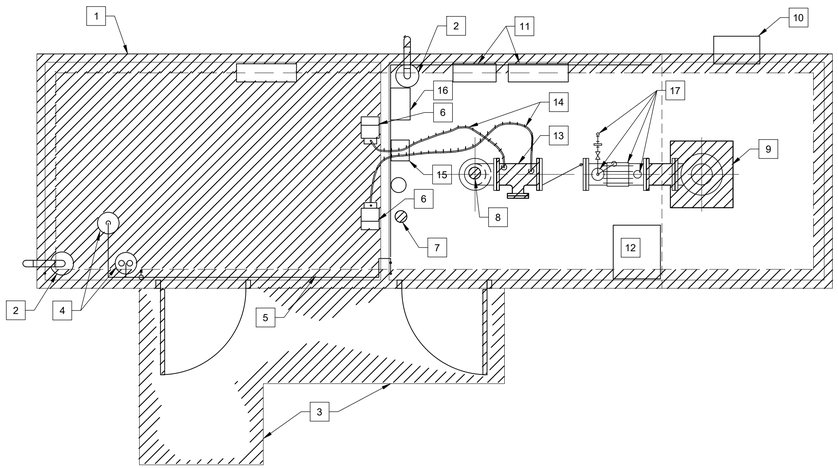
STRUCTURAL

SHEET TITLE

PUMP HOUSE 9 FOUNDATION AND FLOOR PLAN

SHEET NUMBER

S-101

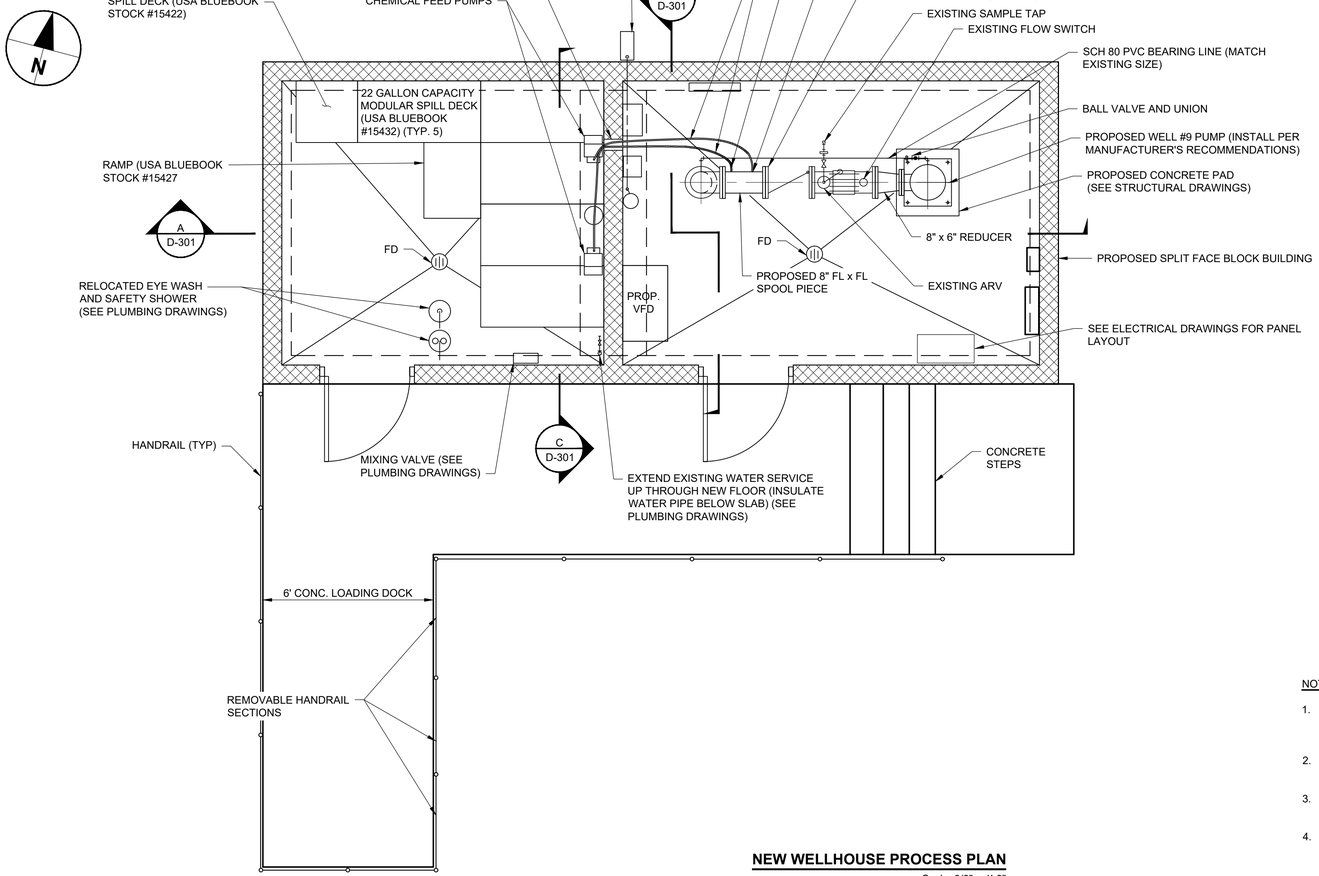


EXISTING WELLHOUSE DEMOLITION PLAN

Scale: 3/8" = 1'-0"

DEMOLITION NOTES:

1. REMOVE AND DISPOSE OF EXISTING BUILDING INCLUDING FRAMING, SIDING, ROOFING , DOORS, CONCRETE FLOOR AND BLOCK FOUNDATION. (TYPICAL)
2. EXISTING SUMP PUMPS TO BE REMOVED AND GIVEN TO THE CITY OF DOVER.
3. REMOVE AND DISPOSE OF EXISTING CONCRETE WALKWAYS.
4. EXISTING EYEWASH AND SAFETY SHOWER TO BE RELOCATED AND RE-USED IN THE NEW BUILDING.
5. REMOVE EXISTING WATER SERVICE TO SAFETY SHOWER.
6. EXISTING CHEMICAL FEED PUMPS TO BE RETAINED AND RE-USED IN THE NEW WELL BUILDING.
7. REMOVE EXISTING RECIRCULATING PUMP AND ASSOCIATED PIPING.
8. REMOVE EXISTING FLOW METER ASSEMBLY.
9. EXISTING MOTOR/ PUMP ASSEMBLY AND PIPING TO BE REMOVED (SEE NEW WORK PLAN ON THIS SHEET).
10. REMOVE EXISTING AIR CONDITIONER AND GIVE TO THE CITY OF DOVER.
11. EXISTING PANEL (SEE ELECTRICAL DEMOLITION PLAN).
12. SEE ELECTRICAL DRAWINGS OR SPECIFICATIONS.
13. REMOVE EXISTING 8" FLANGED DI TEE
14. REMOVE AND REPLACE EXISTING CHEMICAL FEED TUBING
15. EXISTING FLOW TRANSMITTER TO BE RETAINED AND RE-USED IN THE NEW BUILDING.
16. EXISTING CHLORINE ANALYZER TO BE RETAINED AND RE-USED IN THE NEW BUILDING.
17. EXISTING FLOW SWITCH, AIR RELEASE VALVE, COUPLING AND SAMPLE TAP ASSEMBLY AND PIPING TO BE RE-USED



NEW WELLHOUSE PROCESS PLAN

Scale: 3/8" = 1'-0"

NOTES:

1. ALL EXISTING PIPING, FITTINGS AND EQUIPMENT ARE TO BE RELOCATED TO THE NEW STRUCTURE SIMILAR TO THE EXISTING LAYOUT UNLESS NOTED OTHERWISE.
2. SEE MECHANICAL AND ELECTRICAL DRAWINGS OR SPECIFICATIONS FOR ADDITIONAL DEMOLITION AND NEW WORK.
3. SEE STRUCTURAL DRAWINGS FOR NEW CONCRETE FOUNDATION AND LOADING DOCK.
4. SEE ARCHITECTURAL PLAN FOR BUILDING LAYOUT AND SCHEDULES.

0 2' 4'

3/8" = 1'-0

AECOM

PROJECT

DOVER WELL #9 IMPROVEMENTS

Dover, Delaware

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Drawn By:	D. KATZMIRE
Dept Check:	K. PAMPUCH
Proj Check:	K. DU
Date:	2023-10-20
Scale:	AS NOTED

DISCIPLINE

PROCESS

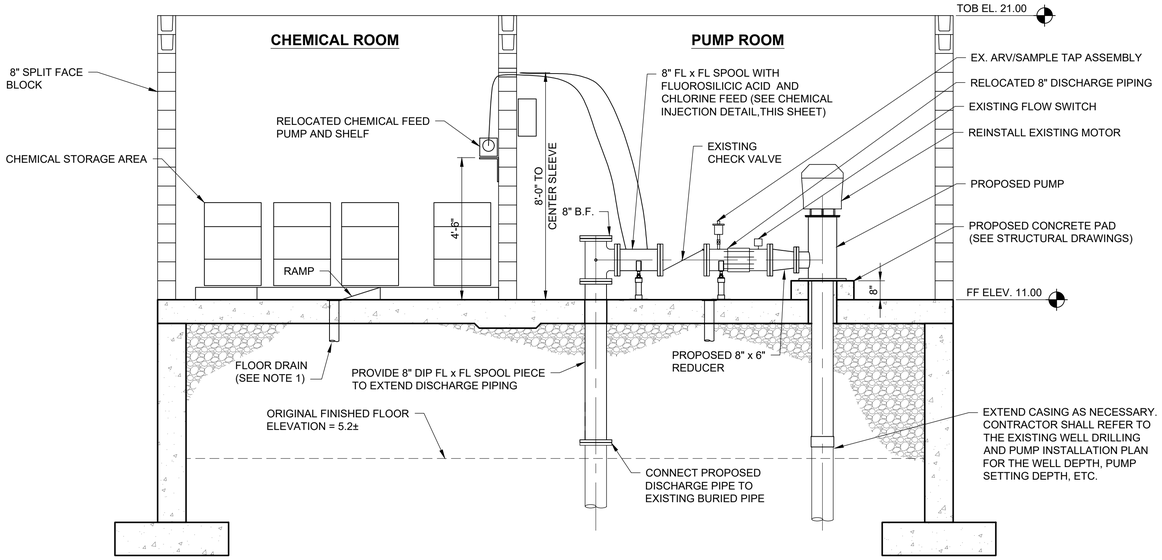
SHEET TITLE

WELL HOUSE #9 DEMOLITION AND NEW PROCESS PLAN

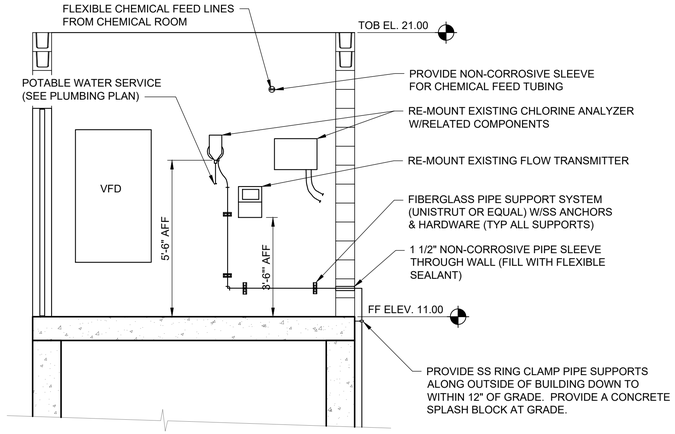
SHEET NUMBER

D-101

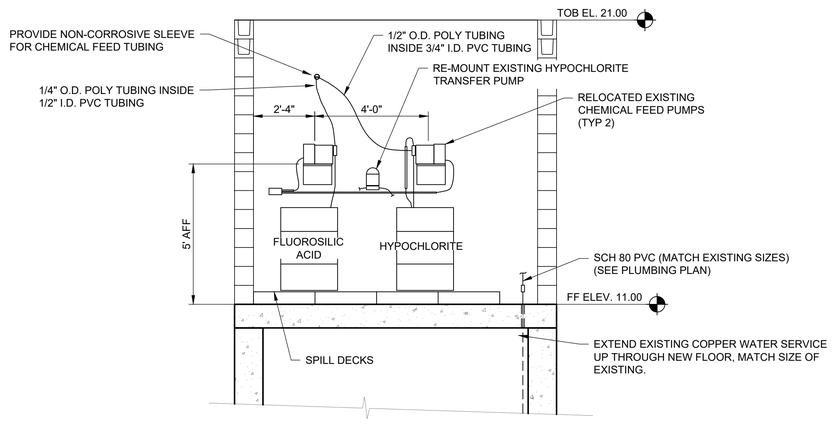
PATH/FILENAME: L:\DCS\PROJECTS\WTR\60693284_DOVER_WELL_9_IMPROV\900_CAD_GIS\910_CAD\SHEETS\D-901.DWG
LAST UPDATE: Tuesday, October 17, 2023 4:31:37 PM
PLOT DATE: Wednesday, October 18, 2023 8:28:25 AM



A | **SECTION**
D-101 | Scale: 3/8" = 1'-0"



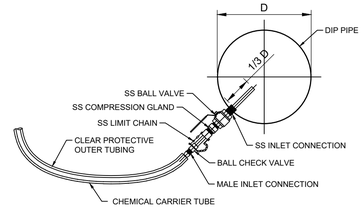
B | **SECTION**
D-101 | Scale: 3/8" = 1'-0"



C | **SECTION**
D-101 | Scale: 3/8" = 1'-0"

NOTES:

1. DAYLIGHT DRAIN LINES TO OUTSIDE BUILDING ABOVE GRADE.
2. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR NEW WORK.



NOTE:
1. DO NOT ALLOW INLET QUILL TO PROTRUDE INTO PIPE FURTHER THAN SHOWN.

TYPICAL CHEMICAL INJECTION DETAIL
NTS

0 2' 4'
3/8" = 1'-0

AECOM

PROJECT

DOVER WELL #9 IMPROVEMENTS
Dover, Delaware

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Date:	2023-10-20
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DISCIPLINE

PROCESS

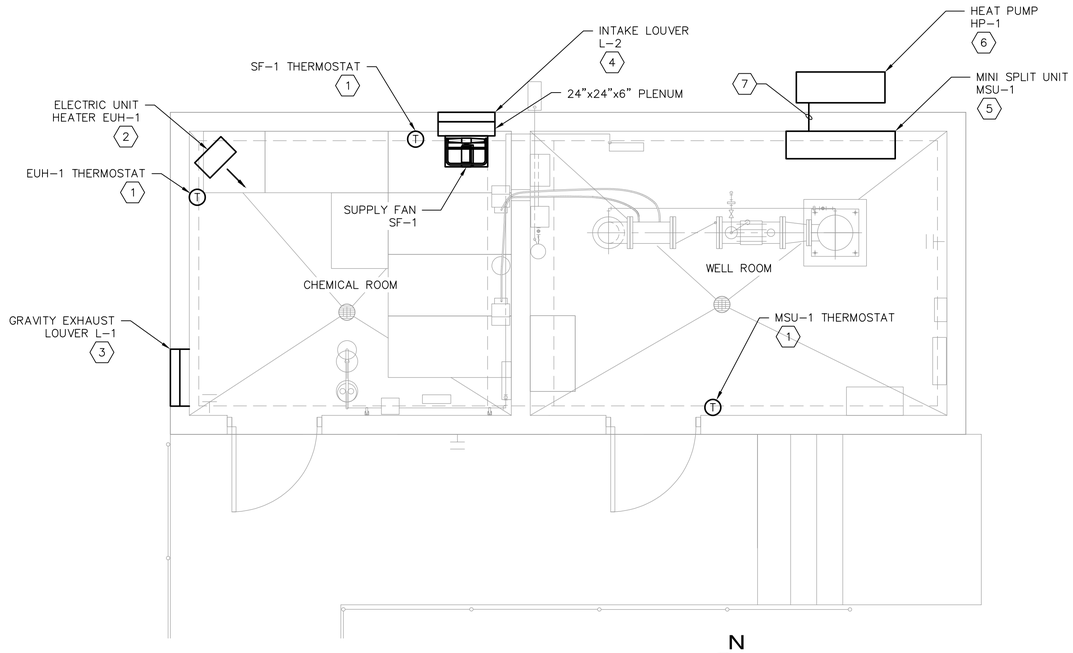
SHEET TITLE

WELL HOUSE #9 SECTIONS & DETAILS

SHEET NUMBER

D-301

PATH/FILENAME: I:\DCS\PROJECTS\WTR\60693284_DOVER_WELL 9_IMPROV\900_CAD_GIS\910_CAD\SHEETS\D-002.DWG
LAST UPDATE: Monday, November 20, 2023 12:21:51 PM
PLOT DATE: Monday, November 20, 2023 12:22:07 PM



BUILDING PLAN – HVAC

3/8"=1'-0" 0 1 2 3 4 5 6

N

KEY NOTES:

1. ALL THERMOSTATS SHALL BE MOUNTED 4'-0" ABOVE FLOOR.
2. INSTALL BOTTOM OF UNIT HEATERS 7'-0" ABOVE FLOOR.
3. INSTALL BOTTOM OF LOUVER 1'-6" ABOVE THE FLOOR.
4. INSTALL BOTTOM OF LOUVER 7'-0" ABOVE THE FLOOR.
5. INSTALL MSU-1 UNIT 7'-0" ABOVE FLOOR. ROUTE REFRIGERANT PIPING TO HP-1 PER MANUFACTURER'S SIZE AND INSTALLATION RECOMMENDATIONS. ROUTE CONDENSATE DRAIN ALONG REFRIGERANT PIPING. ALL CONDENSATE AND REFRIGERANT PIPING SHALL BE INSULATED PER MANUFACTURER'S RECOMMENDATIONS.
6. INSTALL HEAT PUMP ON WALL MOUNTED SHELF PER INSTALLATION DETAIL.
7. ROUTE MANUFACTURER'S RECOMMENDED CONTROL/POWER CABLES FROM HP-1 TO INDOOR MSU-1 ALONG REFRIGERANT PIPING.

FAN SCHEDULE

UNIT NUMBER	MANUFACTURER	BUILDING/ROOM	MODEL NUMBER	PRESSURE DROP		FAN TYPE	COLLAR OPENING (in.)	APPLICATION	DRIVE	CFM	DAMPER SIZE (in.)	MOTOR HP	FAN RPM	ELECTRICAL	NOTES
				EXTERNAL S.P.	TOTAL S.P.									VOLTS-PH-HZ	
SF-1	GREENHECK	CHEMICAL ROOM	SS1-12-432-E	0.259	0.259	SIDEWALL	14.5 x 14.5	SUPPLY	DIRECT	313	–	1/20	1050	120-1-60	BS, OP, SW, T1, Z1

MINI-SPLIT SYSTEM SCHEDULE

UNIT NUMBER	BUILDING/ROOM	INDOOR MINI-SPLIT MODEL No. (M)	OUTDOOR HEAT PUMP/AC MODEL No. (HP/AC)	REFRIG. TYPE	NOMINAL TONS	MINI SEER	COOLING CAPACITY				HEAT PUMP HEATING CAPACITY	FAN				ELECTRICAL CHARACTERISTICS (INDOOR/OUTDOORS)			BASIN OF DESIGN MANUF.	INDOOR UNIT WEIGHT	NOTES
							EVAPORATOR ENT. AIR °F		MBH TOTAL COOL	MBH SENS. COOL											
							DB	WB			KBTU @ 47°F/17°F	TOTAL CFM	OA CFM	E.S.P. IN W.C.	HP	VOLTS	PHASE	MCA			
MSU-1/HP-1	WELL ROOM	PKA-A24KA7	PUZ-A24NHA7-BS	410A	2	21.4	80	67	24	18.5	26/15.7	775	–	–	–	240	1	19	MITSUBISHI	22	1-9

1. ANTI-MOLD WASHABLE FILTER IN INTEGRAL FILTER RACK.
2. DISCONNECTS FOR OUTDOOR UNITS BY E.C.
3. INSULATED DRAIN HOSE.
4. REFRIGERANT PIPING KIT.
5. WIRELESS PROGRAMMABLE THERMOSTAT WITH LCD DISPLAY.
6. LOW AMBIENT OPERATION.
7. FILTER SET (1 YEAR SUPPLY)
8. PROVIDE ASPEN MINI AQUA CONDENSATE PUMP
9. PROVIDE BLUE FIN COATING ON OUTDOOR HEAT PUMP

NOTE:
SUBSTITUTIONS OF FURNACE BRAND AND/OR MODEL MUST MEET OR EXCEED SPECIFIED FAN HORSEPOWER AND STATIC PRESSURE. BLOWER PERFORMANCE INCLUDES FILTER AIR P.D.

UNIT HEATER SCHEDULE

UNIT NUMBER	MANUFACTURER	BUILDING/ROOM	MODEL NUMBER	TYPE	KW	VOLTS	PHASE	AMPS	FAN CFM	NOTES
EUH-1	REZNOR	CHEMICAL ROOM	EGEB-5	ELECTRIC	5	240	3	12.0	310	PROVIDE STEEL CABINET, THERMOSTAT, DISCONNECT SWITCH, AND WALL MOUNT BRACKETS. PROVIDE WALL MOUNT THERMOSTAT MANUFACTURED BY PECO MODEL NUMBER TF115-001 OR APPROVED EQUAL.

LOUVER SCHEDULE

UNIT NUMBER	MANUFACTURER	BUILDING/ROOM	MODEL NUMBER	CFM	LOVER TYPE	FREE AREA VELOCITY (FPM)	S.P. DROP IN.W.C.	NOMINAL SIZE (in.)		DAMPER TYPE	DAMPER VOLTAGE	NOTES
								WIDTH	HEIGHT			
L-1	GREENHECK	CHEMICAL ROOM	GCE-402	313	EXHAUST	235	0.029	24	24	GRAVITY	–	BS, KC, OC
L-2	GREENHECK	CHEMICAL ROOM	GCI-402	313	INTAKE	230	0.230	24	24	GRAVITY	–	BS, KC, OC

FAN STATIC PRESSURE NOTE:

1. THE SUPPLY FAN SHALL BE SIZED TO HANDLE THE EXTERNAL STATIC PRESSURE IN ADDITION TO ANY STATIC PRESSURE RESISTANCE FROM ALL ACCESSORIES WHILE MAINTAINING SCHEDULED REQUIREMENTS. EXTERNAL STATIC PRESSURE INCLUDES, BUT IS NOT LIMITED TO: DUCTWORK, LOUVERS, AND INTAKE HOODS. TOTAL STATIC PRESSURE INCLUDES, BUT IS NOT LIMITED TO: EXTERNAL STATIC PRESSURE, FAN, GRAVITY DAMPER, WALL HOUSING, AND FAN ACCESSORIES.

SUPPLY FAN NOTES KEY:

BS – BIRD SCREEN (INTERNAL)
HP – POLYESTER COATING ON FAN AND ALL ACCESSORIES
OP – OVERLOAD PROTECTION
SW – OSHA MOTOR GUARD
T1 – PROVIDE AN INDUSTRIAL THERMOSTAT MANUFACTURED BY PECO MODEL TF115-001 OR APPROVED EQUAL.
Z1 – INTERLOCK FAN W/THERMOSTAT, MOTOR OPERATED LOUVER, HOA SWITCH, AND TIMER

LOUVER NOTES KEY:

BS – BIRD SCREEN
KC – KYNAR 70% (2 COAT) ON EQUIPMENT AND ALL RELATED ACCESSORIES, OR APPROVED EQUAL
OC – OWNER TO SELECT FINAL COLOR

AECOM

PROJECT

DOVER WELL #9 IMPROVEMENTS
Dover, Delaware

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CURTIS L. JAMES, P.E. 10-20-2023
REG. PROF. ENGR DE LIC. No. 19096 DATE

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PROJECT NUMBER

60693284

Designed By:	B. KAVESKI
Drawn By:	T. O'SHEA
Dept Check:	W. BLEILER
Proj Check:	C. JAMES
Date:	2023-10-20
Scale:	AS NOTED

DISCIPLINE

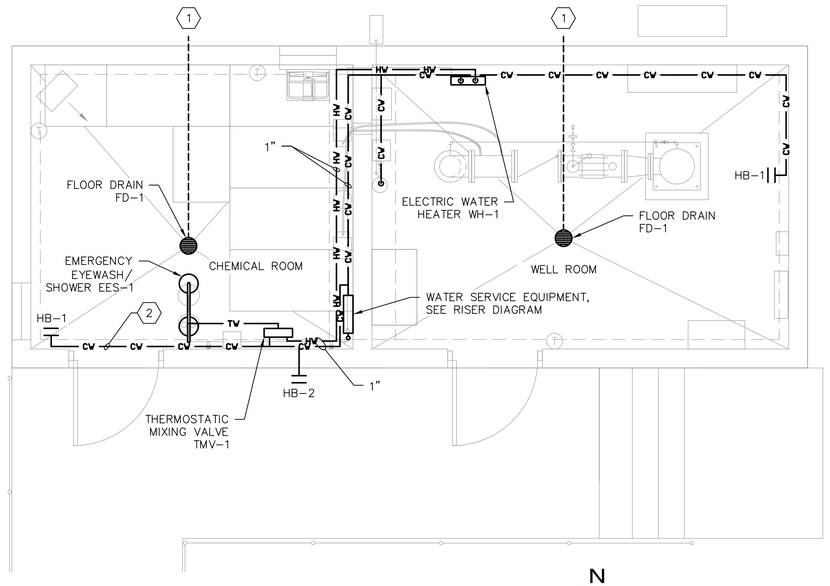
HVAC

SHEET TITLE

BUILDING PLAN - LAYOUT, AND SCHEDULES - HVAC

SHEET NUMBER

M-101



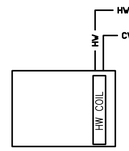
BUILDING PLAN – PLUMBING

3/8"=1'-0" 0 1 2 3 4 5 6

N

KEY NOTES:

1. TERMINATE DRAIN PIPE 0'–4" FROM FOUNDATION.
2. ROUTE PIPING AROUND DOORWAY.

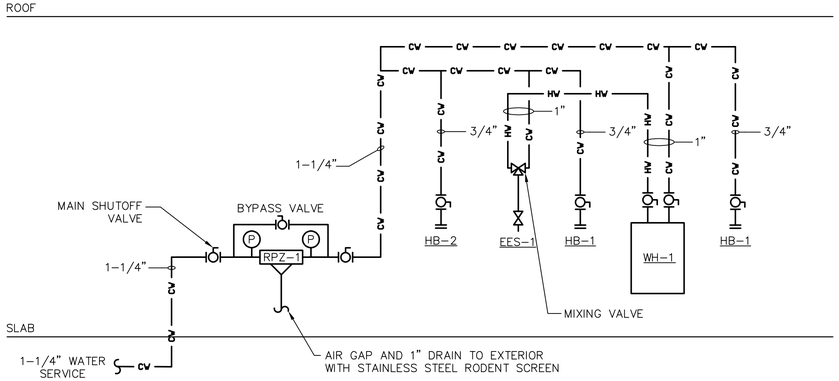


A. GENERAL

1. AS FLOW IS DETECTED, COLD WATER FLOWS THROUGH THE HEAT EXCHANGER AND WATER IS HEATED BY THE ELECTRIC ELEMENTS.
2. WHEN FLOW STOPS THE ELEMENTS SHALL BE DE–ENERGIZED.

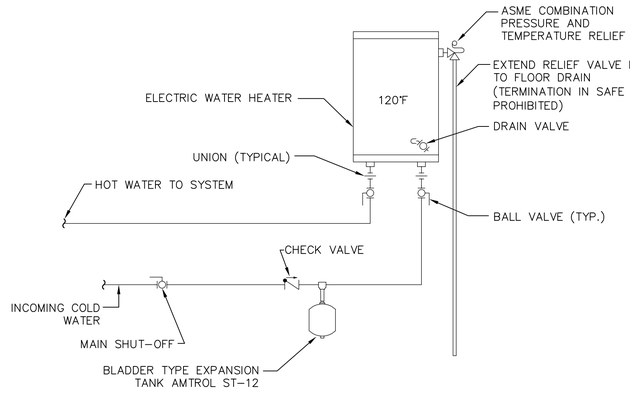
ELECTRIC WATER HEATER CONTROL SCHEMATIC

NOT TO SCALE



POTABLE WATER RISER DIAGRAM

NOT TO SCALE



ELECTRIC WATER HEATER PIPING DETAIL

NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

UNIT NUMBER	FIXTURE	MANUFACTURER	MODEL NUMBER	MATERIAL	FAUCET	MATERIAL	C.W.	H.W.	WASTE	REMARKS / ACCESSORIES
EES–1	EMERGENCY EYEWASH/SHOWER	EXISTING	–	–	–	–	1"	1"	–	REUSE EXISTING EYEWASH AND SHOWER HEAD. CONTRACTOR IS TO BUILD EYEWASH STATION. TEMPERED WATER IS TO BE SUPPLY BY A THERMOSTATIC MIXING VALVE MODEL G3800LF OR APPROVED EQUAL.
FD–1	FLOOR DRAIN	J.R. SMITH	2010–A	CAST IRON	–	–	–	–	–	CAST IRON FLOOR DRAIN WITH 7" ADJUSTABLE NICKEL BRONZE TOP AND DEEP SEAL P–TRAP. PROVIDE PRO–SET "TRAP–GUARD" INSERT.
HB–1	HOSE BIB	WOLVERINE	52161	BRASS	–	–	3/4"	–	–	EZ GRIP HANDLE, BRASS, HOSE BIB WITH BRASS VACUUM BREAKER
HB–2	HOSE BIB	WOLVERINE	58374	BRASS	–	–	3/4"	–	–	HOSE BIB CONSTRUCTED OF HEAVY DUTY FORGED BRASS, ANTI–SIPHON AND FROST RESISTANT WITH BRASS VACUUM BREAKER.
RPZ–1	BACKFLOW PREVENTER	WATTS	LF–009QT	BRONZE	–	–	1"	–	–	LEAD FREE REDUCED PRESSURE ZONE ASSEMBLY WITH QUARTER TURN BALL VALVES, AIR GAP ACCESSORY, AND INTEGRAL TEST COCKS.
WH–1	ELECTIC WATER HEATER	RHEEM	RTEX–36	–	–	–	1"	1"	–	ELECTRIC TANKLESS WATER HEATER. PROVIDE 36 KW HEATING ELEMENT RATED FOR CONTINUOUS OPERATION, 240V, SINGLE PHASE. PROVIDE INLINE FLOW REGULATOR. SET AT 120°F.

AECOM

PROJECT

DOVER WELL #9
IMPROVEMENTS
Dover, Delaware

CLIENT

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CURTIS L. JAMES, P.E. — 10-20-2023
REG. PROF. ENGR DE LIC. No. 19096 — DATE

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Drawn By:	**T. O'SHEA**
Dept Check:	**W. BLEILER**
Proj Check:	C. JAMES
Date:	2023-10-20
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DISCIPLINE

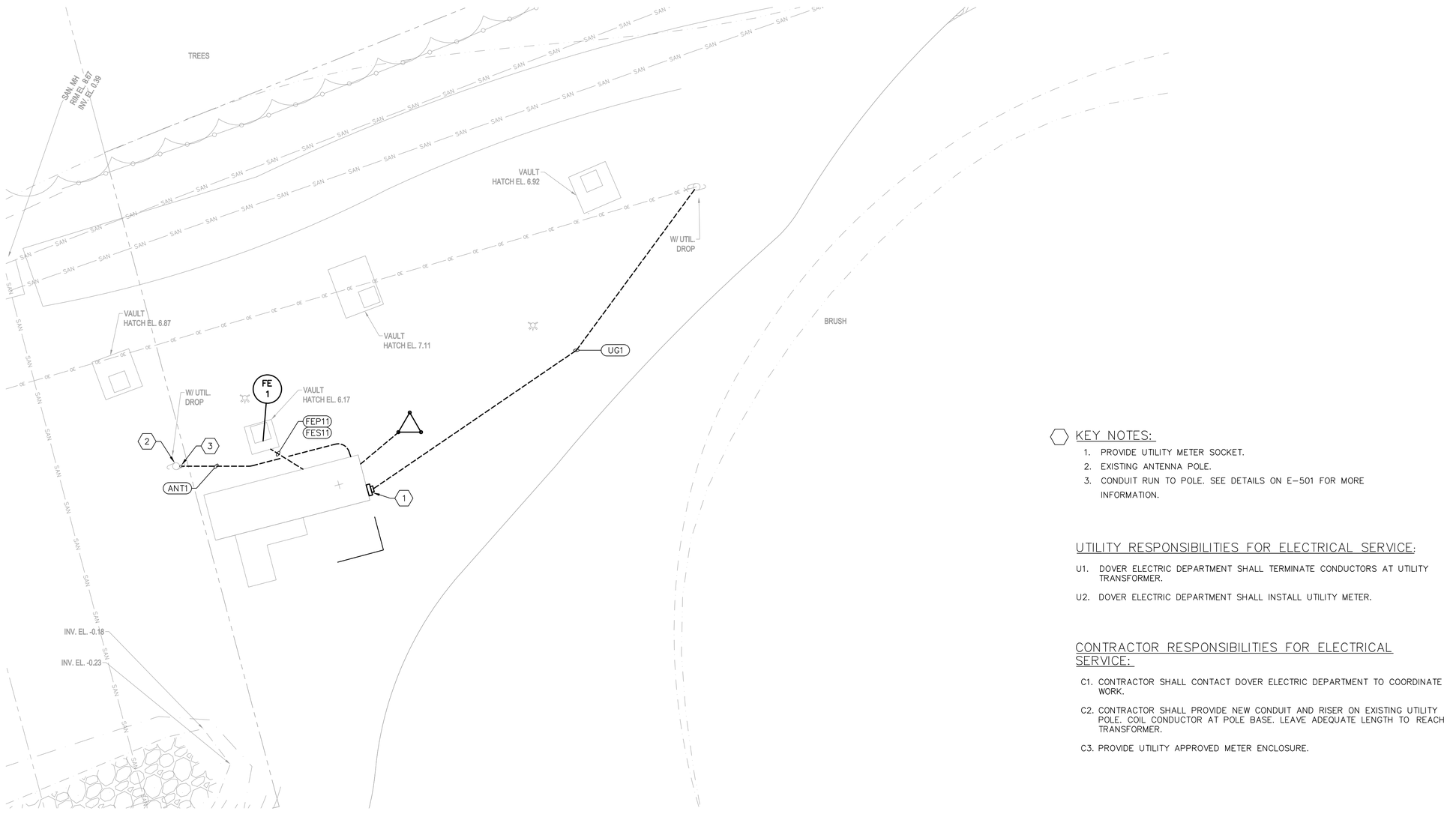
PLUMBING

SHEET TITLE

BUILDING PLAN - LAYOUT, DETAILS AND SCHEDULES - PLUMBING

SHEET NUMBER

P-101



PROPOSED SITE PLAN

SCALE: 1" = 10'

KEY NOTES:

1. PROVIDE UTILITY METER SOCKET.
2. EXISTING ANTENNA POLE.
3. CONDUIT RUN TO POLE. SEE DETAILS ON E-501 FOR MORE INFORMATION.

UTILITY RESPONSIBILITIES FOR ELECTRICAL SERVICE:

U1. DOVER ELECTRIC DEPARTMENT SHALL TERMINATE CONDUCTORS AT UTILITY TRANSFORMER.

U2. DOVER ELECTRIC DEPARTMENT SHALL INSTALL UTILITY METER.

CONTRACTOR RESPONSIBILITIES FOR ELECTRICAL SERVICE:

C1. CONTRACTOR SHALL CONTACT DOVER ELECTRIC DEPARTMENT TO COORDINATE WORK.

C2. CONTRACTOR SHALL PROVIDE NEW CONDUIT AND RISER ON EXISTING UTILITY POLE. COIL CONDUCTOR AT POLE BASE. LEAVE ADEQUATE LENGTH TO REACH TRANSFORMER.

C3. PROVIDE UTILITY APPROVED METER ENCLOSURE.

0 5 10 20 30

SCALE IN FEET

AECOM

PROJECT

DOVER WELL #9
IMPROVEMENTS
Dover, Delaware

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DISCIPLINE

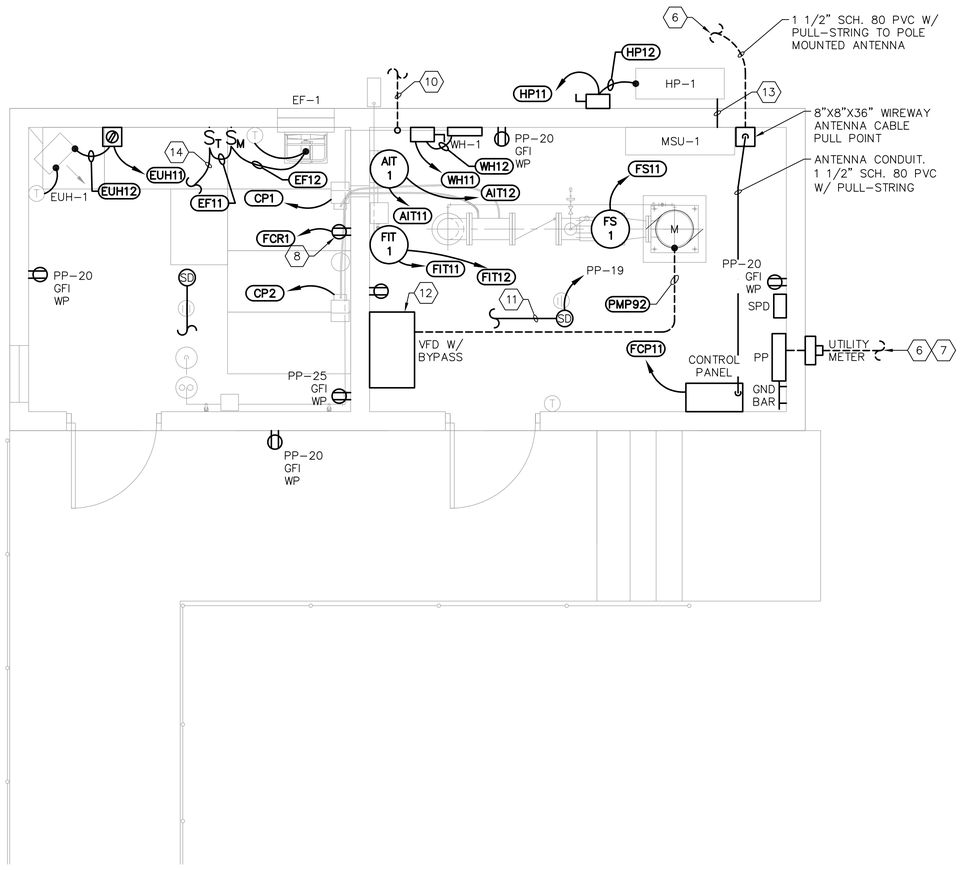
ELECTRICAL

SHEET TITLE

SITE PLAN - ELECTRICAL

SHEET NUMBER

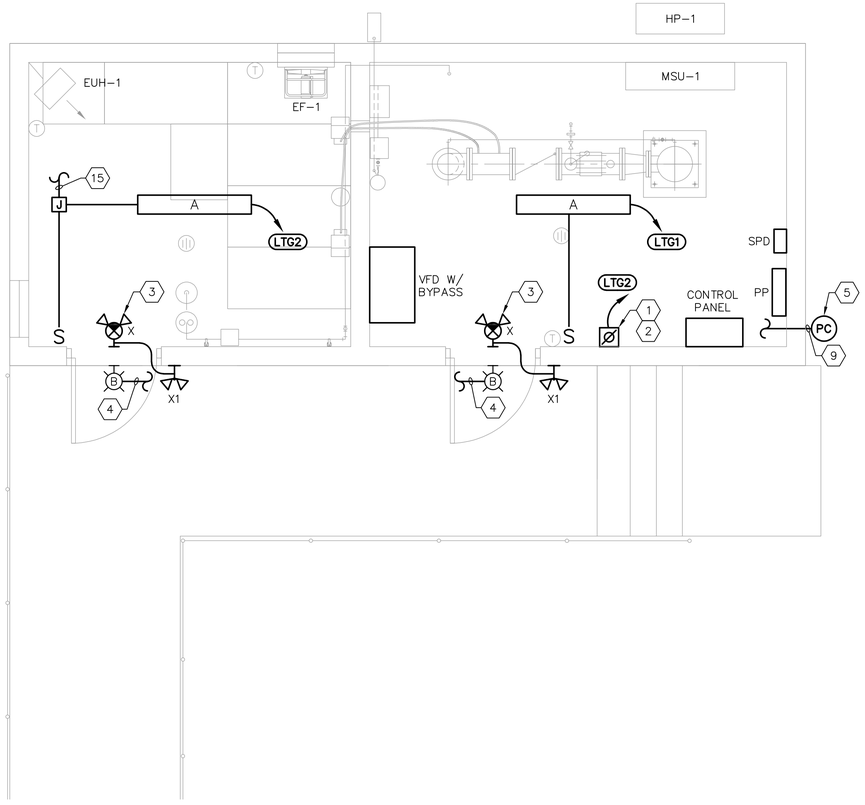
E-101



BUILDING PLAN – POWER

3/8"=1'-0" 0 1 2 3 4 5 6

N



BUILDING PLAN – LIGHTING

3/8"=1'-0" 0 1 2 3 4 5 6

N

KEY NOTES:

1. PROVIDE 3/4"C. 2#12, #12 GND TO EXTERIOR LIGHTING.
2. PROVIDE LIGHTING H-O-A SELECTOR SWITCH.
3. EMERGENCY SIGN SHALL BE SERVED FROM NON-SWITCHED BRANCH LIGHTING CIRCUIT SERVING THIS SPACE.
4. EXTEND BRANCH CIRCUIT TO EXTERIOR LIGHTING FIXTURE. CONDUIT SHALL BE ROUTED INSIDE BUILDING.
5. PROVIDE PHOTOCELL. MOUNT NEAR ROOF LINE TO AVOID EXTERIOR LIGHTING INTERFERENCE.
6. REFER TO SITE PLAN ON DRAWING E-101 FOR MORE INFORMATION.
7. REFER TO SINGLE LINE DIAGRAM ON DRAWING E-601 FOR MORE INFORMATION.
8. MOUNT FLOW CONTROLLED RECEPTACLE ADJACENT DOSING PUMP.
9. REFER TO EXTERIOR LIGHTING CONTROL DETAIL ON E-501 FOR MORE INFORMATION.
10. EXTEND CONDUIT AND CONDUCTORS FROM FLOW INDICATING TRANSMITTER TO FLOW SENSOR IN VALVE VAULT.
11. PROVIDE 3/4"C. 3#12, #12 GND BETWEEN SMOKE DETECTORS.
12. REFER TO SINGLE LINE DIAGRAM ON DRAWING E-601 FOR ADDITIONAL INFORMATION.
13. PROVIDE 3/4"C. CONDUCTORS BY DIV. 23 CONTRACTOR.
14. EXTEND CONDUIT AND CONDUCTORS TO SWITCHED LIGHTING CIRCUIT. SEE WIRING DIAGRAM ON DRAWING E-501.
15. EXTEND CONDUIT AND CONDUCTORS TO EF-1 TIMER.

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DOVER WELL #9
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Proj Check:	C. JAMES
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DISCIPLINE

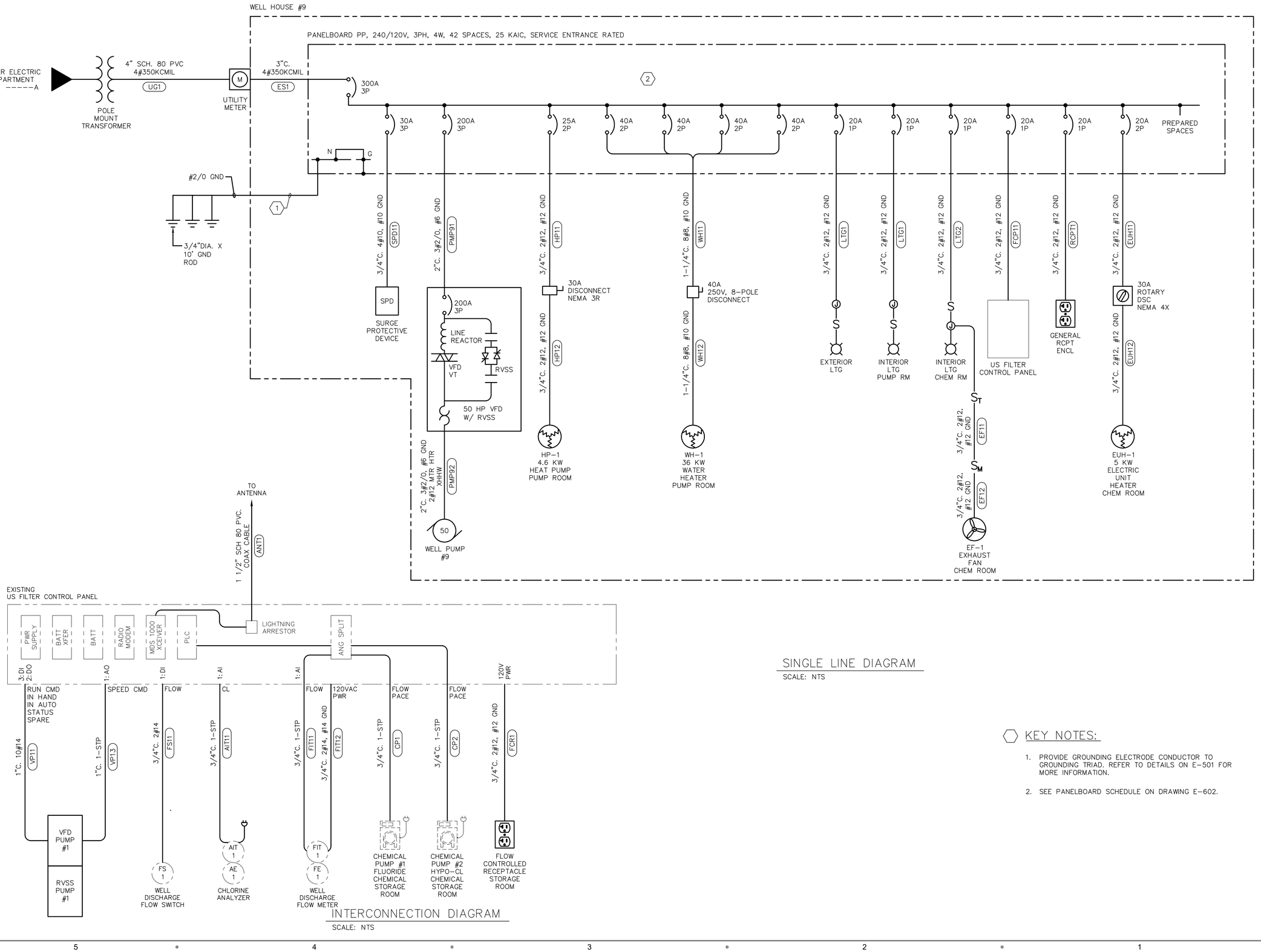
ELECTRICAL

SHEET TITLE

BUILDING PLAN - POWER AND LIGHTING - ELECTRICAL

SHEET NUMBER

E-102



SINGLE LINE DIAGRAM

SCALE: NTS

KEY NOTES:

1. PROVIDE GROUNDING ELECTRODE CONDUCTOR TO GROUNDING TRIAD. REFER TO DETAILS ON E-501 FOR MORE INFORMATION.
2. SEE PANELBOARD SCHEDULE ON DRAWING E-602.

INTERCONNECTION DIAGRAM

SCALE: NTS

AECOM

PROJECT

DOVER WELL #9 IMPROVEMENTS

Dover, Delaware

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DISCIPLINE

ELECTRICAL

SHEET TITLE

SINGLE LINE AND INTERCONNECTION DIAGRAM - ELECTRICAL

SHEET NUMBER

E-601

Solid red line is outline of culvert.

Limit of Excavation (Solid Line)

Est. Limit of Disturbance (Dash Line)

12' trench box for box culvert 96"(W)x54"(H)

SAINT JONES RIVER

LEGEND:
= Groundwater Sample Location
= Test Pit Sample Location
ERA = Ecological Risk Assessement, June 2021 (Surface Soils Finding if Tagged)
LRI = Limited Remedial Investigation, March 2020 (Subsurface Soils & Groundwater Finding if Tagged)
SL = DNREC Screening Level Exceeded for LRI (if Tagged)
10SL = 10-Times DNREC Screening Level Exceeded for LRI (if Tagged)

AREA 3
SCALE: 1" = 30'

ATTACHMENT B

Well Run Time (2025)

Runtime Data

Well #	DNREC ID	Avg Daily Runtime w/out Down Days (Hours)	Avg Daily Runtime w/ Down Days (Hours)	Max Daily Runtime (Hours)	Number of Days Ran	Number of Days Down	Days Excluded for Bad Data
3	10206	15.37	14.78	27.7	350	14	2
8R	221103	23.86	20.34	29.8	306	53	7
9	37893	15.66	15.24	29.1	356	10	0
13R	171720	16.16	15.41	29.7	348	17	1
15 (2022)	171719	16.77	12.73	28.6	277	88	0
15 (2025)*	171719	18.27	12.85	26.9	57	24	11

*May, June & July of 2025

Flow Rate Data

Well #	DNREC ID	Avg Daily Avg GPM	Avg Annual GPM	Max Daily Avg GPM	Max Recorded Instantanious Flow Rate
Calendar Year 2024 data used unless otherwise noted		The average of individual daily Gal Prod / Runtime Min (excluding zeros)	The average of calendar year totals CY Prod / CY Runtime	The maximum individual daily average Gal Prod / Runtime Min	The maximum individual flow rate physically recorded on site
3	10206	166.43	167.25	222.22	197
8R	221103	266.85	268.15	310.40	284
9	37893	510.28	511.43	552.08	568
13R	171720	233.82	233.08	253.21	256
15 (2022)	171719	138.12	134.13	177.02	163
15 (2025)*	171719	167.53	169.68	173.61	172

*May, June & July of 2025

ATTACHMENT C

Contaminated Material Management Plan

COMPLIANCE ENVIRONMENTAL, INC.
150 South Bradford Street, Dover, Delaware 19904
Phone: 302-674-4427 Fax: 302-674-4429
www.compliancecanhelp.com
Science, Technology, Management

FINAL

CONTAMINATED MATERIAL MANAGEMENT PLAN FOR THE WELL No. 9 IMPROVEMENT PROJECT LOCATED AT THE DOVER PUBLIC WORKS YARD PWII (DE-0152) DOVER, DELAWARE

PREPARED FOR: Mr. Jason A. Lyon, P.E., Director
City of Dover Department of Water & Wastewater
5 East Reed Street
Dover, Delaware 19904

PREPARED BY: Compliance Environmental, Inc.
150 South Bradford Street
Dover, Delaware 19904

Valentino P. DeRocili, Ph.D., CHMM
Senior Principal Consultant

DATE: August 18, 2023

COMPLIANCE ENVIRONMENTAL, INC.
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www.compliancecanhelp.com
Science, Technology, Management

TABLE OF CONTENTS

CONTAMINATED MATERIAL MANAGEMENT PLAN
CITY OF DOVER PUBLIC WORKS II (PWII) SITE
WELL No. 9 IMPROVEMENT PROJECT

LIST OF DRAWINGS

AECOM, Erosion & Sediment Control Plan, ES-001, 06/01/2023.

CONTAMINATED MATERIAL MANAGEMENT PLAN
CITY OF DOVER PUBLIC WORKS II (PWII) SITE
WELL No. 9 IMPROVEMENT PROJECT
FINAL
August 18, 2023

1. INTRODUCTION

This Contaminated Material Management Plan (CMMP) is prepared to guide the management of soil and groundwater that may contain substances of environmental concern, if encountered during the improvements project at the City of Dover Public Works II (PWII) site at the potable water well number 9 (Well No. 9) location on the site (herein referred to as the "Facility"). This CMMP was not written to address any other activities at the PWII site except for the improvement project at Well No. 9.

Additionally, Well No. 9 may have asbestos-containing materials and lead-based paint which are not included in this CMMP and must be properly abated according to current State of Delaware regulations prior to their disturbance.

The Facility is located on a site currently engaged in the DNREC Voluntary Cleanup Program. The site is located off of Water Street in downtown Dover and is approximately 7.89 acres and currently contains buildings and building foundations, former wastewater treatment structures and a potable water pumping station (Well No. 9). The site consists of tax parcel numbers 2-05-07709-05-5600-00001 and 2-05-07713-01-5000-00001.

In the 1940s, the site was used for trash incineration and wastewater treatment works. There is also a record of underground storage tanks used at the site. The City of Dover in the past used the site for storage of materials and operates a potable water deep well pumping station (Well No. 9). Several live underground utilities are at the site including an active waste water force main, potable water force main, sanitary sewer, and stormwater sewer system.

In year 1955, a Right to Easement agreement was executed by the City of Dover and property owner, Sarah K. Skull for construction of the SE Dover Interceptor Sewer Project. In 1964, the City of Dover took ownership of the PWII property.

The site is contiguous to the St. Jones River to the east and south, Kent County wastewater pumping station and urban streets to the north, and drainage swale and utility easement to the west. The site is located down gradient from other Hazardous Substance Cleanup Act (HSCA) and leaking underground storage tank sites.

In year 2016, AECOM performed a site evaluation as part of their PWII water quality improvement project. The evaluation included soil test pits, core sampling and laboratory analysis of surface and subsurface soils. The evaluation found that the site contains several areas of buried construction debris. A petroleum sheen was observed on groundwater within a test pit and a composite soil sample indicated lead metal above hazardous concentrations.

This CMMP was prepared and is based on our current understanding of the Facility conditions and future improvement plans provided by others.

In year 2020, CEI and EA Engineering performed a limited remedial investigation at the PWII site. During the field activities, test pits were excavated to evaluate subsurface conditions resulting from the former burial of debris at the PWII site. Soil samples for laboratory analysis were collected at each of the test pit locations. In addition, groundwater samples were collected from monitoring wells across the PWII site and initial risk screening evaluations were completed for human and ecological receptors.

Planned improvement activities at Well No. 9 that may disturb the soil or encounter groundwater includes the following:

a. Building construction and foundations.
b. Miscellaneous footings including fencing, light poles, or signposts.
c. Drainage improvements including storm water management and swales.
d. Select landscaping activities including tree planting or removal.
e. Site grading.
f. Access road installation and widening.
g. Subsurface utility installations and repairs.
h. Dewatering activities if groundwater is encountered.
i. Soil and erosion control.

Available soil and groundwater sampling data from past investigations used to prepare this CMMP was collected on the PWII site in the vicinity of Facility and not at the Facility location itself. The sampling data indicates concentrations of heavy metals, pesticides, volatile organic compounds, and semi volatile organic compounds in the soil and groundwater. Also, a petroleum sheen was observed on groundwater during a test pit excavation. Therefore, these contaminants and conditions may be encountered during the improvements project at the Facility.

This CMMP was prepared to provide guidance to construction workers on the safe handling of potentially contaminated soil and groundwater within the identified areas of the PWII site where improvement activities will occur. The planned disturbance for the Facility project is shown on the attached AECOM drawing E-001. The drawing was prepared as part of the site sediment and erosion control plan. The Limit of Disturbance (LOD) and Limit of Excavation (LOE) locations are shown on the drawing.

We recommend this CMMP be incorporated into construction and maintenance contracts (if any) that include any earth disturbing or groundwater disturbing activities. Copies of this CMMP should be provided by the property owner to all lease holders, site operators, and contractors upon request.

Additionally, if the City of Dover performs any construction or maintenance work at the Facility, we recommend this CMMP be reviewed prior to the work and the provisions implemented during the work for any earth disturbing or groundwater disturbing activities.

CMMP procedures are not required for certain activities including, but not limited to, the following:

a. Routine landscaping activities (e.g., planting, mulching, or vegetation removal)
b. Foundation and/or pavement removal that does not require excavation of the soil.

This CMMP does not address consumptive use of groundwater. Consumptive use of groundwater must be reviewed and permitted by the DNREC-Water Supply Section based on the known impact to groundwater at the Facility.

2. SUMMARY OF ENVIRONMENTAL CONDITIONS

The Facility is currently located at PWII in the western portion of the site. The following chemical impacts to subsurface soil and groundwater have been identified during past investigations in the vicinity of the Facility:

2.1 **Petroleum Products**: A petroleum sheen was observed on groundwater within a test pit construction in year 2016. No sample was collected when the sheen was observed. Therefore, petroleum hydrocarbon impacts to subsurface soil and groundwater may be encountered during the Facility improvement project.

2.2 **Heavy Metals**: Heavy metals have been detected in subsurface soil samples and groundwater samples above the current DNREC screening levels during sampling in year 2019. Additionally, lead metal above hazardous conditions was found on the eastern portion of the site during a year 2016 investigation. The heavy metals detected in soil and groundwater samples included the following:

i. **Aluminum** - Detected from 24.2 micrograms per liter (ug/L) to 2,030 ug/L in groundwater samples.
ii. **Antimony** - Detected from 0.72 milligrams per kilogram (mg/kg) to 68.8 mg/kg in soil samples and from 0.44 ug/L to 5.7 ug/L in groundwater samples.
iii. **Arsenic** - Detected from 5.8 mg/kg to 86.8 mg/kg in soil samples and from 0.87 ug/L to 35.4 ug/L in groundwater samples.
iv. **Barium** - Detected from 307 mg/kg to 3,470 mg/kg in soil samples and from 56.8 ug/L to 1,340 ug/L in groundwater samples.
v. **Cadmium** - Detected from 0.94 mg/kg to 57.5 mg/kg in soil samples and from 0.18 ug/L to 1.4 ug/L in groundwater samples.
vi. **Chromium** - Detected from 13.6 mg/kg to 1,630 mg/kg in soil samples.
vii. **Cobalt** - Detected from 0.24 ug/L to 10.9 ug/L in groundwater samples.
viii. **Copper** - Detected from 49.4 mg/kg to 2,000 mg/kg in soil samples.
ix. **Iron** - Detected from 536 ug/L to 58,400 ug/L in groundwater samples.
x. **Lead** - Detected from 0.065 mg/kg to 20.5 mg/kg in soil samples and from 1.4 ug/L to 139 ug/L in groundwater samples.
xi. **Manganese** - Detected from 55.3 ug/L to 6,110 ug/L in groundwater samples.
xii. **Mercury** - Detected from 269 mg/kg to 26,000 mg/kg in soil samples.
xiii. **Nickel** - Detected from 10.3 mg/kg to 437 mg/kg in soil samples.

xiv. **Thallium** - Detected from 0.11 mg/kg to 0.736 mg/kg in soil samples and from 0.16 ug/L to 0.72 ug/L in groundwater samples.
xv. **Zinc** - Detected from 326 mg/kg to 7,540 mg/kg in soil samples and from 8.7 ug/L to 1,100 ug/L in groundwater samples.

2.3 **Volatile Organic Compounds (VOCs):** VOCs have been detected in groundwater samples above the current DNREC screening levels during sampling in year 2019 and include the following:

i. **1,2-Dichloropropane** - Detected at 2 micrograms per liter (ug/L).
ii. **Cis-1,2-Dichloroethene** - Detected at 140 ug/L.
iii. **Tetrachloroethene** - Detected at 13 ug/L.
iv. **Trichloroethene** - Detected at 2 ug/L.
v. **Vinyl chloride** - Detected at 10 ug/L.

2.4 **Semi-Volatile Organic Compounds (SVOCs)**: SVOCs have been detected in soil samples and groundwater samples above the current DNREC screening levels during sampling in year 2019. SVOCs detected in soil and groundwater samples included the following:

i. **Benzo[a]anthracene** - Detected from 0.28 milligrams per kilograms (mg/kg) to 12 mg/kg in soil samples.
ii. **Benzo[a]pyrene** - Detected from 0.31 mg/kg to 15 mg/kg in soil samples.
iii. **Benzo[b]fluoranthene** - Detected from 0.4 mg/kg to 14 mg/kg in soil samples.
iv. **Bis(2-Ethylhexyl) phthalate** - Detected in groundwater at 8 micrograms per liter (ug/L).
v. **Dibenz[a,h]anthracene** - Detected from 0.054 mg/kg to 2.5 mg/kg in soil samples.
vi. **Indeno[1,2,3-c,d]pyrene** - Detected from 0.19 mg/kg to 7.5 mg/kg in soil samples.
vii. **Naphthalene** - Detected in groundwater at 0.9 ug/L.

2.5 **Pesticides**: Pesticides have been detected in soil samples and groundwater samples above the current DNREC screening levels during sampling in year 2019. The pesticides detected in soil and groundwater samples included **4,4-DDD**, found at 0.23 milligrams per kilograms (mg/kg) in soil and 2 micrograms per liter (ug/L) in groundwater.

2.6 **Buried Contaminated Debris**: The site is a confirmed landfill with a non-homogenous mixture of buried debris. This debris may be contaminated with petroleum products, heavy metals, VOCs, SVOCs and pesticides based upon earlier soil and groundwater testing.

3. ACTIVITIES COVERED UNDER THIS CONTAMINATED MATERIAL MANAGEMENT PLAN

Based on the identified environmental conditions and potential future intrusive activities at the PWII site and the Facility, this CMMP describes the procedures to handle and manage soil and groundwater during the Well No. 9 Facility improvements project. The activities covered under this CMMP include the following examples:

a. Installation and management of DNREC approved erosion and sediment controls. Additionally, the installation and management of erosion and sediment controls required by all other applicable agencies.
b. Excavation and management of soil associated with the improvements project at the Facility.
c. Testing of all off-site materials to be imported to the Facility.
d. Construction of the new facility building.
e. Excavation and management of soil associated with the relocation, abandonment, or installation of utilities.
f. Groundwater dewatering activities associated with the improvements project at the facility other than the Well No. 9 project.

No soil, groundwater, solid, or liquid materials shall be transported from or imported to the Facility site without written approval from DNREC.

4. SITE CONTRACTOR RESPONSIBILITIES

Prior to intrusive activities at the Facility, the following requirements must be completed by the contractor. These requirements are not intended to encompass all of the contractors' responsibilities, only those that pertain to the management of impacted soil and groundwater and testing of all off-site materials prior to importing them to the site.

4.1 Coordination and Notification

The contractor is required to coordinate and notify regarding planned activities for the project. Additionally, all unexpected conditions at the Facility site must be reported to the environmental consultant and owner.

4.1.1 The contractor will notify and coordinate with owner, DNREC and the owner hired environmental consultant at least five (5) business days prior to any intrusive work or importing of any material to the project site for work at the Facility. The notification will include the type of intrusive activity being performed, the type and quantity of any planned imported materials to the site and the area of the work activity will occur on the Facility.

4.1.2 The contractor will notify the environmental consultant of all off-site sources of proposed materials including but not limited to, soil backfill materials, stone, concrete, and asphalt. A minimum of two (2) weeks prior to importing any materials to the Facility is required. The notification will include the name of the material, the origin address and telephone number of contractor's vendor for each material. DNREC must approve all off-site materials and may require testing by the environmental consultant prior to approval. The owner reserves the right to deny the contractor the use of any materials not having prior approved from DNREC.

4.1.3 In the event that excavated soil is found to be heavily contaminated with petroleum or chemical compounds or at a point where there is free petroleum product mixed with the soil or grossly contaminated with other contaminants indicated by heavy staining or strong odor, the contractor shall immediately halt the excavation and contact the environmental consultant and DNREC. Excavation activities cannot continue without DNREC approval.

4.2 Testing of On-Site and Imported Materials

Testing of proposed backfill materials including but not limited soil backfill, stone, concrete, and asphalt may be required by DNREC. **Prior to delivery of any material to the Facility, DNREC must approve the material**.

4.2.1 All excavated soils must not be used as fill and should not be considered as clean fill. All excavated soil must be stockpiled at the Facility site. These soils need to be characterized prior to possible re-use or off-site disposal.

4.2.2 The contractor shall provide to the owner and environmental consultant a source of supply list for all materials to be used on the project. The list must include the vendor name and address, contact references and a description of the material to be used on the project. **This list must be approved by DNREC prior to delivery of any materials to the Facility site.**

4.2.3 Representative samples of proposed soil backfill material and other materials may be required by DNREC. Samples if required will be collected by an environmental consultant and sent to a certified laboratory for testing. Test results will be submitted to DNREC for review and approval. **The contractor shall not release the shipment of any material to the project site without DNREC approval.**

4.3 Intrusive Activities

4.3.1 During intrusive activities, the contractor shall do the following:

i. Secure the construction site and equipment. The contractor shall provide adequate protective measures to eliminate potential exposure to environmentally impacted material to site workers and the general public.

ii. Provide the personnel, equipment, and supplies to excavate and properly handle environmentally impacted soils for off-site disposal. The disposal facility will require environmental testing of the soil prior to receiving the soil. Therefore, the environmental consultant will collect samples for the appropriate testing requirements for approval by the off-site disposal facility prior to removing impacted soil from the Facility.

iii. Provide the owner, environmental consultant, and DNREC with copies of all completed waste manifests for all soil, groundwater, and any other material transported to disposal or recycling facilities.

4.4 Excavated Soil Stockpile and Reuse

The movement of material on and off site is covered under the State of Delaware Guidance for Soil/Material Reuse at and from Sites/Facilities Regulated by the Hazardous Substance Cleanup Act (HSCA) and is applicable to this site. Materials not addressed under this guidance would not require written DNREC approval. See the latest version of the guidance for specific requirements.

4.4.1 All excavated soil that is determined by the environmetal consultant not to be environmentally impacted shall be placed in a single stockpile inside the former clarifier tank on the concrete base slab. The soil erosion and control plan prepared and submitted by the contractor or the project engineer shall consider protecting the stockpile from loss of soil through weather erosion.

4.4.2 All excavated soil that is determined by the environmetal consultant to be environmentally impacted shall be handled following Section 5 of this CMMP.

4.4.3 The contractor shall install and maintain all soil erosion control measures to prevent movement of the stockpile from weather erosion.

4.4.4 No excavated soil or any excavated material shall be reused at the Facility without permission from DNREC.

4.4.5 After remediation of the site (post-remediation), the reuse of excavated soils onsite will be evaluated as certain conditions may exist which would allow for the use without prior DNREC approval.

4.5. Groundwater Activities

Groundwater may be encountered during the Facility improvement project. The contractor shall be prepared to perform groundwater activities in this section prior to the start of the project.

4.5.1 The contractor shall perform the following requirements for intrusive activities for where groundwater and/or environmentally impacted groundwater may be encountered:

i. Provide all necessary local permits and approvals.

ii. If dewatering activities are required, the contractor is responsible for obtaining a dewatering permit and a National Pollutant Discharge Elimination System (NPDES) Permit from DNREC-Water Supply Section prior to dewatering activities. All dewatering activities require DNREC Water Supply Section approval. Testing may be required by DNREC prior to granting a dewatering permit.

iii. All groundwater from any excavation must be properly handled during the work. With DNREC's permission, non-odorous and not visibly contaminated groundwater removed by intermittent (non-continuous) pumping using equipment with a float switch can be discharged onto the surface of the site after the groundwater passes through a sediment bag and granular activated carbon filled bag. This discharge may not be performed near the St. Jones River, wetlands, ditches, or near surface water and the runoff controlled not to enter into these areas. Any groundwater removed by continuous pumping must be containerized and tested prior to disposal. Any groundwater removed by well points or wells must be containerized and tested prior to disposal.

iv. If petroleum hydrocarbon-impacted groundwater is encountered, the contractor will cease activities and immediately contact the environmental consultant and DNREC. Samples may need to be collected for analytical testing to determine if on-site treatment or off-site disposal is required.

v. If needed, provide the personnel, equipment, and supplies to pump petroleum hydrocarbon impacted groundwater or chemically impacted groundwater for on-site treatment, temporary water-tight storage tanks, or directly into tank trucks for off-site disposal.

vi. Provide the owner, environmental consultant, and DNREC with copies of all completed waste manifests for all groundwater transported to disposal or recycling facilities.

5. EXCAVATION, HANDLING, AND MANAGEMENT OF CONTAMINATED MATERIALS

This section of the CMMP provides precautions and procedures that are applicable to general environmental conditions and requirements for the Facility. The precautions and procedures described in this section are used for addressing soil and debris excavation, transportation, and disposal for work potentially being conducted at the Facility. While environmental conditions including buried debris and potential chemical hazards have been identified at the PWII site, several considerations are applicable to all intrusive work at the Facility.

5.1 Soil Erosion and Control Plan

An approved soil erosion and control plan from DNREC and other applicable agencies is required for the project.

5.1.1 The contractor or the project engineer shall submit to DNREC a soil erosion and control plan for approval. No work shall begin on the project site without DNREC approval.

5.1.2 The contractor shall install and maintain all soil erosion control measures on the project.

5.2 Excavation and Other Earth Disturbing Activities

The environmental consultant shall be on the site at all times during any excavation or other earth disturbing activities. No excavated materials shall leave the project site or be reused at the project site without written permission from DNREC.

5.2.1 All intrusive earth disturbing activities will be overseen by an environmental consultant. The environmental consultant will screen exposed site materials for conditions of potential concern and provide recommendations to the owner and to DNREC regarding handling of excavated materials.

5.2.2 The environmental consultant will monitor for the presence of volatile organic vapors, combustible gases, and visibly impacted soil when earth-disturbing activities are occurring. The environmental consultant will be equipped with a photoionization detector (PID) and combustible gas meter. Should conditions of potential concern become evident, the consultant will notify the site supervisor of the intrusive work, the owner and the DNREC.

5.2.3 All non-environmentally impacted excavated soil and debris shall be placed in a single stockpile inside the former clarifier tank on the concrete base slab. The soil erosion and control plan shall consider protecting the stockpile from loss of soil through weather erosion.

5.2.4 No excavated materials shall leave the project site without written permission from DNREC.

5.2.5 No excavated materials shall be used at the project site without written permission from DNREC.

5.2.6 Reuse of any excavation soil is prohibited at off-site locations.

5.2.7 The environmental consultant will evaluate all excavated soil and debris to determine if it is environmentally impacted. The soil and debris will be characterized through sampling and testing before the soil is removed from the Facility or reused at the Facility. Characterization requirements will vary and will be adjusted with the concurrence of DNREC to meet the requirements for the intended use of the soil and disposal of the debris.

5.2.8 The environmental consultant will direct the contractor where to place any deemed environmentally impacted soil and debris into a separate stockpile on the concrete slab within the former clarifier tank in the vicinity of the Facility. The contractor shall place the soil on two layers of 6-mil polyethylene sheeting and cover the stockpile at the end of each work day with a single layer of the same material secured by weights to minimize removal of the cover by wind. If the soil or debris is stored for more than 14 days after stockpiling, in addition to the approved site soil erosion control measures, the contractor shall install silt fencing around the stockpile and temporarily stabilize using DNREC approved best management practices.

5.2.9 Environmentally impacted soil and debris that will be moved off-site for treatment and/or disposal will be sampled and characterized according to federal and state regulations to make an appropriate waste determination and in accordance with the treatment and/or disposal facility operating permit requirements. All records associated with the off-site treatment and/or disposal of soil and debris will be maintained according to the applicable regulations.

5.2.10 Provide the owner, environmental consultant, and DNREC with copies of all completed waste manifests for all soil, groundwater, and any other material transported to disposal or recycling facilities.

6. SOIL EXCAVATION, TRANSPORTATION, AND DISPOSAL

Before starting any intrusive earth disturbing activities, the contractor will:

6.1 Provide a health and safety representative to conduct a health and safety briefing. The representative will conduct a pre-construction safety meeting that includes personnel involved in the proposed excavation activities.

6.2 Install and maintain sediment and erosion controls described in DNREC approved Erosion and Sediment Control Plans and all other sediment and erosion controls required by other agencies.

6.3 Be prepared to provide personnel, equipment, and supplies to excavate and stage all excavated soils and other excavated materials at a location designated by the environmental consultant.

6.4 Be prepared to decontaminate equipment appropriately at the completion of soil or groundwater disturbing activities.

6.5 During all soil excavation work, monitoring by the environmental consultant using a PID and combustible gas meter will be performed. Should sustained readings of 20 parts per million or greater be registered by the PID in the breathing zone or sustained combustible gas meter readings greater than 10% of the lower explosive limit (LEL) be registered in the excavation, the work will cease temporarily, and workers will leave the disturbed earth area. The area will be ventilated and then re-evaluated for indications of volatile organic compounds and/or combustible gas. Continued sustained PID readings above 20 parts per million in the breathing zone or continued sustained combustible gas meter readings above 10% LEL in the excavation will require re-evaluation of the work practices.

6.6 Severally impacted soil may be encountered at the project. Indications of potential environmental concern include soil discoloration, presence of debris, atypical odors, sustained PID readings of 20 parts per million or more above ambient atmospheric readings at the soil/atmosphere interface, or indications of combustible gases at sustained readings of 10% of the LEL or more in the excavation.

6.7 For severally environmentally impacted soils, a temporary staging area for the stockpiled soils will be designated on the concrete slab of the former clarifier tank in the vicinity of the Facility. This temporary staging area will be constructed and maintained in compliance with the approved erosion and sediment control requirements for the project. The staging area will be prepared by placing two layers of 6-mil polyethylene sheeting on the ground surface to minimize the potential for impact to underlying soils or pavement. Soil will be staged on top of the sheeting. The stockpile will be covered with a single layer of 6-millimeter polyethylene sheeting at the end of each workday and secured by weights to minimize the potential for removal of the cover by wind.

6.8 In the event debris is encountered during excavation, the debris will be segregated and stockpiled separately from soil and managed in accordance with applicable solid waste regulations. The debris will be stockpiled separately from soil on the concrete slab in the former clarifier tank in the vicinity of the Facility. The contractor shall place the debris on two layers of 6 mil polyethylene sheeting and cover the stockpile at the end of each work day with a single layer of the same material secured by weights to minimize removal of the cover by wind. If the soil is stored for more than 14 days after stockpiling, in addition to the approved site soil erosion control measures, the contractor shall install silt fencing around the stockpile and temporarily stabilize using DNREC approved best management practices.

6.9 If it is anticipated that the environmentally impacted stockpiled soils and debris will be transported for off-site disposal and treatment, the environmental consultant will be responsible for coordinating the characterization of soils. The environmental consultant will also coordinate loading and removal from the Facility for proper disposal and treatment of impacted soil after DNREC review and approval of the work plan for those activities.

6.10 The contractor will prepare manifests (hazardous and non-hazardous wastes) for waste shipments of soils and/or groundwater transported off-site for treatment, disposal, or recycling. Copies of completed manifests will be provided to the owner and environmental consultant. The environmental consultant will provide copies of completed waste manifests in a report to DNREC after the work is concluded.

6.11 The contractor will secure the construction site and the equipment being used. The contractor will provide adequate protective measures to limit potential exposure to site worker and the general public from environmentally impacted materials.

6.12 In the event that light non-aqueous phase liquids (LNAPL) are encountered during intrusive activities the contractor will do the following:

i. If LNAPL is observed during excavation activities, the Contractor will immediately stop work and notify the environmental consultant upon observation of LNAPL-impacted soil. After consultation with DNREC, the environmental consultant will direct the contractor to excavate and stage the impacted soil in the temporary stockpile staging area pending characterization and disposal.

ii. If LNAPL is observed leaching from stockpiled soils, the contractor will immediately notify the environmental consultant and will immediately surround the stockpiled soil area with petroleum absorbent material like booms to absorb and contain the LNAPL. The environmental consultant will periodically evaluate the stockpiled area to verify that these controls are functioning properly. The contractor will replace the saturated absorbent material with new material and containerize the used material in a labeled 55-gallon Department of Transportation-approved drum for off-site disposal.

7. GROUNDWATER MANAGEMENT

Based on the groundwater sampling events at PWII, the depth to groundwater ranges from 3 to 10 vertical feet below ground surface.

Analytical results for groundwater sampling reported elevated concentrations include Aluminum, Antimony, Arsenic, Barium, Cadmium, Cobalt, Iron, Lead, Manganese, Thallium and Zinc. Volatile Organic Compounds (VOCs) were also found in groundwater including 1,2-Dichloropropane, Cis-1,2-Dichloroethene, Tetrachloroethene, Trichloroethene and Vinyl chloride. Semi-Volatile Organic Compounds (SVOCs) were also found including Bis(2-Ethylhexyl) phthalate and Naphthalene. Pesticides found during groundwater sampling included 4,4-DDD.

In addition to the groundwater sampling findings, a petroleum sheen was observed during test pit excavations.

Based upon current information regarding the site, any excavations at 3 vertical feet below ground surface could encounter contaminated groundwater.

The contractor will need to take precautionary measures to prevent the migration of potentially contaminated groundwater onto ground surface, ditches or open water. All potentially contaminated groundwater that is encountered during excavation activities must be collected by the contractor using a pump truck, vacuum tanker, or a temporary water-tight storage tank. The contaminated groundwater will need to be sampled in accordance with the disposal facility parameters and be transported to the approved off-site disposal facility.

If dewatering activities are required, the contractor is responsible for obtaining a Dewatering Permit and a NPDES Permit prior to dewatering activities from DNREC Water Supply Section for approval. As part of the NPDES permit, pre-treatment of the groundwater may be necessary before discharging into the sewer system. Pre-treatment may include a sediment filtration system, sedimentation tank (e.g., three-tier weir tank), an oil/water separator, or granular activated carbon filtration unit(s). Groundwater pumped from any excavations will be treated and sampled, as necessary, to meet the discharge requirements specified by the NPDES permit issued by DNREC Water Supply Section.

Prior to discharge of any groundwater, the groundwater will be sampled for the site-specific constituents of concern and additional constituents required to comply with the NPDES permit requirements. The contractor shall list and comply with all permit requirements and limitations including but not limited to, any pretreatment as necessary. The contractor will submit copies of the NPDES permit reports to the environmental consultant and DNREC.

All groundwater from any excavation must be properly handled during the work. With DNREC's permission, non-odorous and not visibly contaminated groundwater removed by intermittent (non-continuous) pumping using equipment with a float switch can be discharged onto the surface of the site after the groundwater passes through a sediment bag and granular activated carbon filled bag. This discharge may not be performed near the St. Jones River, wetlands, ditches, or near surface water and the runoff controlled not to enter into these areas. Any groundwater removed by continuous pumping must be containerized and tested prior to disposal. Any groundwater removed by well points or wells must be containerized and tested prior to disposal.

8. TRANSPORTATION AND OFF-SITE DISPOSAL OF CONTAMINATED MATERIALS

This section details the procedures to be followed during loading and transporting of environmentally impacted materials to an approved off-site recycling or disposal facility.

8.1 Petroleum and Chemically Impacted Soil & Debris

8.1.1 Petroleum and chemically impacted soil and debris will be temporarily stockpiled at the site on a concrete surface in the former clarifier tank pending transportation to an approved off-site disposal facility. The environmental consultant will review the loading and stockpiling of soils that require off-site disposal. The following are general guidelines to be observed:

i. The contractor is responsible for the excavation, stockpiling, loading and monitoring of all contaminated materials.

ii The trucks shall be loaded so that the solids are at least six (6) inches below the top of the trailer bed.

iii. All trucks will be covered prior to leaving the Facility and during transportation.

iv. No free liquids will be leaking from and trucks during the transportation of soil.

v. The contractor must ensure that the contaminated materials waste complies with the requirements of the disposal facility prior to transporting from the Facility.

vi. In the event that materials spill outside the designated loading area, the contractor will provide a cleanup response to capture spilled materials and completely document the spill event. This response will also include public or private roadways as well as the Facility.

vii. The contractor shall remove accumulated material from the truck tires prior to the trucks leaving the site. Soil and debris removed from the truck tires shall be collected and managed in accordance with this plan.

viii. The contractor shall keep at all times roadways entering and leaving the site free from soil. If necessary, a tracking pad or street sweeper will be used to prevent any soil tracked on roadways from trucks leaving the site. Any collected soil or debris shall be managed in accordance with this plan.

ix. Soils will be transported by the contractor under appropriate manifest or shipping documents to the receiving facility.

x. All manifests and shipping documents will be signed by an authorized agent of the owner or property prior to the materials leaving the Facility.

8.2 Petroleum and Chemical Impacted Groundwater

8.2.1 Petroleum and chemically impacted groundwater may be encountered during work at the Facility. All groundwater encountered during work shall be containerized, characterized, and transported to a treatment, recycling, or disposal facility acceptable to DNREC or be treated on-site from dewatering activities.

8.2.3 The contractor will prepare manifests (hazardous and non-hazardous wastes) for waste shipments of groundwater transported off-site for treatment, disposal, or recycling. Copies of completed manifests will be provided to the owner and environmental consultant. The environmental consultant will provide copies of completed waste manifests in a report to DNREC after the work is concluded.

8.2.4 For transporting petroleum and chemically impacted groundwater from the Facility, the following are general guidelines to be observed:

i. The contractor is responsible for loading and monitoring of impacted groundwater.

ii. All trucks will be leak free prior to leaving the Facility and during transportation.

iii. No free liquids will be leaking from and trucks during the transportation.

iv. The contractor must ensure that the impacted groundwater waste complies with the requirements of the disposal facility prior to transporting from the Facility.

v. In the event that materials spill outside the designated loading area, the

contractor will provide a cleanup response to capture free liquids and completely document the spill event. This response will also include public or private roadways as well as the Facility.

vi. The contractor shall remove accumulated materials from the truck tires prior to the trucks leaving the site. Soil and debris removed from the truck tires shall be collected and managed in accordance with this plan.

vii. The contractor shall keep at all times streets entering and leaving the site free from soil. If necessary, a tracking pad or street sweeper will be used to prevent any soil tracked on streets from trucks leaving the site. Any collected soil or debris shall be managed in accordance with this plan.

viii. Groundwater will be transported by the contractor under appropriate manifest or shipping documents to the receiving facility.

ix. All manifests and shipping documents will be signed by an authorized agent of the owner or property prior to the materials leaving the Facility.

9. HEALTH AND SAFETY

This section provides health and safety considerations for only the handling of contaminated materials at the Facility and does not completely address the needs of other project activities.

9.1 All excavation and backfilling activities shall be conducted under the guidance of a Health and Safety Plan prepared by the contractor in accordance to OSHA and all other requirements.

9.2 The Health and Safety Plan should indicate what level of training the worker would need such as OSHA 24-hour HAZWOPER training or 40-hour HAZWOPER training.

9.3 For this project, as a minimum, a modified level D OSHA personal protective equipment (PPE) within project work areas is required. However, a higher level of protection may be required based on the contaminants as indicated in the Health and Safety Plan.

9.4 In accordance with OSHA requirements, the contractor shall determine and provide the adequate protective measures to limit potential worker and public exposure to environmentally impacted materials.

9.5 The contractor shall provide a Health and Safety Officer (HSO) during all field work. The HSO shall be appropriately credentialed and trained in accordance with all Federal and State regulations. The HSO shall provide daily job safety talks with all site workers at the beginning of each daily shift.

10. REFERENCES

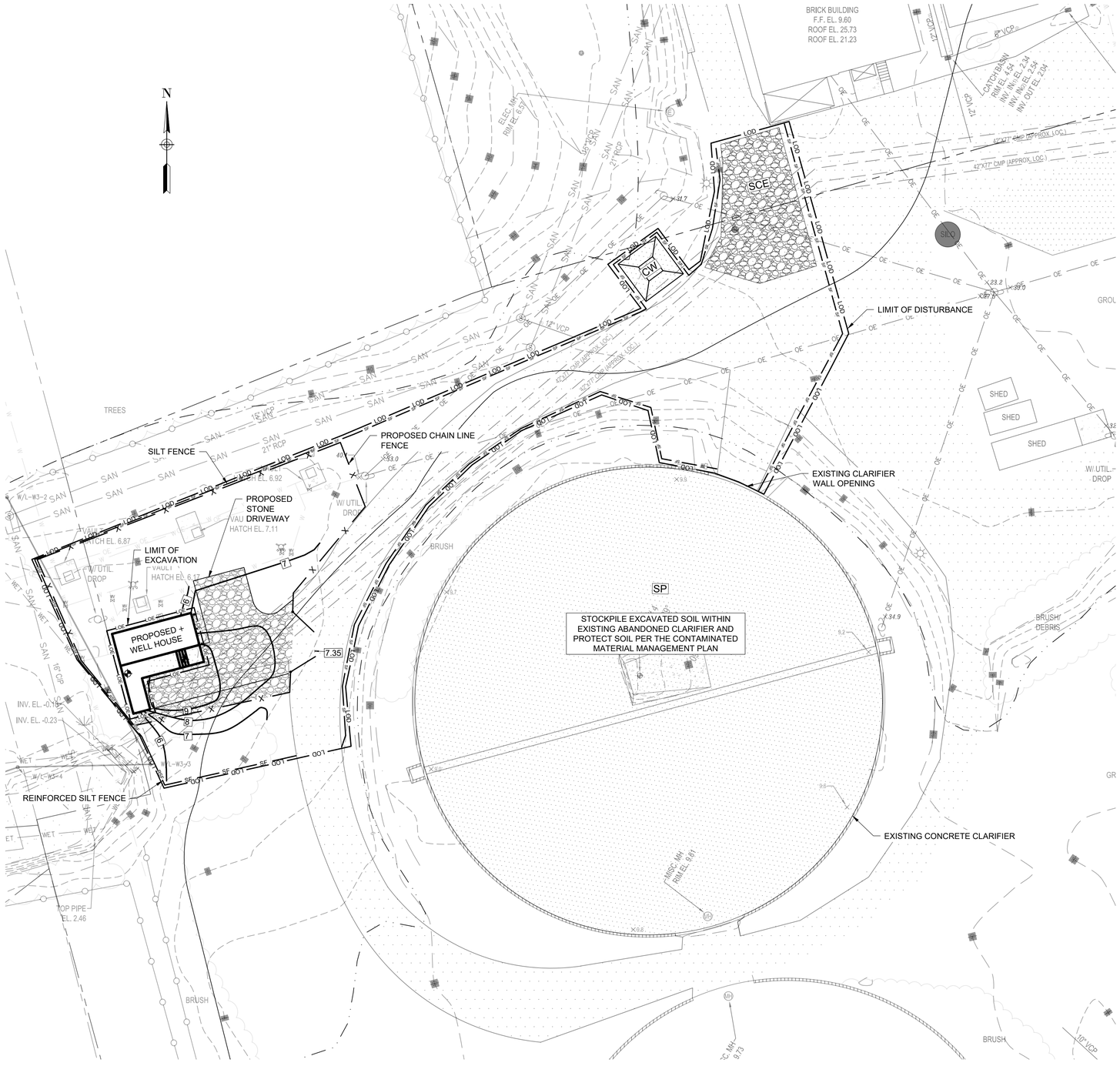
AECOM, 2016, Pre-Construction Material Characterization, PWII Water Quality Project, June 2016.

AECOM, 2016, Environmental Risk Assessment, PWII Water Quality Project, June, 2016.

Compliance Environmental, Inc., and EA Engineering, 2020, Limited Remedial Investigation Report, Dover Public Works Yard (PWII) (DE-0152), Dover, Delaware, March 2020.

CONTAMINATED MATERIAL MANAGEMENT PLAN
CITY OF DOVER PUBLIC WORKS II (PWII) SITE
WELL No. 9 IMPROVEMENT PROJECT
FINAL
August 18, 2023

DRAWINGS



SITE PLAN
Scale: 1" = 20'

SEQUENCE OF CONSTRUCTION:

1. CONTACT KENT CONSERVATION DISTRICT TO SCHEDULE A PRE-CONSTRUCTION SITE MEETING. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER CONTROL PLAN.
2. PERFORM REQUIRED UTILITY LOCATION WITH ONE-CALL.
3. CLEAR AND GRUB AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
4. INSTALL THE APPROVED EROSION & SEDIMENT (E&S) CONTROLS. ALL PERIMETER CONTROLS ARE TO BE REVIEWED BY THE AGENCY CONSTRUCTION SITE REVIEWER AND APPROVED PRIOR TO PROCEEDING WITH FURTHER SITE DISTURBANCE OR CONSTRUCTION.
5. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT AREA.
6. E&S MEASURES WILL BE EVALUATED DAILY AND REQUIRED REPAIRS WILL BE MADE DAILY. ACCUMULATED SEDIMENT SHOULD BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR REPAIR MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
7. DEMOLISH EXISTING WELL HOUSE BUILDING AND CONCRETE WALKWAY. CONTRACTOR TO ENSURE THAT THERE IS NO PUDDLING OR POOLING WATER AT THE WELLHEAD DURING DEMOLITION OF EXISTING FACILITIES OR CONSTRUCTION OF THE NEW WELL HOUSE.
8. CONSTRUCT NEW WELL HOUSE BUILDING INCLUDING CONCRETE LOADING DOCK.
9. REFER TO CONTAMINATED MATERIALS MANAGEMENT PLAN (CMMP) FOR SPECIFIC REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL, DEWATERING, AND SOIL STOCKPILING.
10. CONSTRUCT NEW STONE DRIVEWAY AREAS.
11. CONSTRUCT NEW CHAIN LINK FENCE AND GATE.
12. ALL DISTURBED AREAS OUTSIDE WETLANDS, UNLESS OTHERWISE INDICATED ON THE PLANS, SHALL BE RESTORED WITH GRASS.
13. PERFORM PERMANENT SITE RESTORATION TO REMAINING DISTURBED AREAS. ONCE 70% GROWTH IS ACHIEVED, A FINAL INSPECTION WILL BE SCHEDULED AND E&S CONTROLS WILL BE REMOVED ONCE KENT CONSERVATION DISTRICT IS IN AGREEMENT THAT STABILIZATION HAS BEEN COMPLETED.

LIMIT OF DISTURBANCE	
LOD =	18,397 SF OR 0.42 Ac.
LOE =	729 SF OR 0.017 Ac.

LEGEND

6	EXISTING MINOR CONTOUR
10	EXISTING MAJOR CONTOUR
6	PROPOSED CONTOUR
7.35	PROPOSED SPOT ELEVATION
	PROPOSED STONE DRIVEWAY
WET	DELINEATED WETLANDS LINE
SF	SILT FENCE
RSF	REINFORCED SILT FENCE
LOD	LIMIT OF DISTURBANCE
LOE	LIMIT OF EXCAVATION
SP	SOIL STOCKPILE
CW	CONCRETE WASHOUT
SCE	STABILIZED CONSTRUCTION ENTRANCE

TIDAL ELEVATIONS (NAVD88)	
HIGH TIDE =	1.53 FT.
LOW TIDE =	2.40 FT.
TIDAL RANGE =	±4.0 FT.

TIDAL INFORMATION BASED ON AN ACTUAL FIELD STUDY, INFORMATION GATHERED 2/24/2015 THROUGH 3/3/2015. EQUIPMENT USED: SCHLUMBERGER WATER SERVICES MICRO-DIVER, SERIAL #00-h9889 215. INFORMATION OBTAINED AT ST. JONES RIVER.

0 20' 40'
1" = 20'

AECOM

PROJECT

DOVER WELL #9 IMPROVEMENTS
Dover, Delaware

CLIENT

CITY OF DOVER
Weyandt Hall - 5 E. Reed St.
Dover, DE 19901
302.736.7025 tel 302.736.7092 fax
www.cityofdover.com/WaterandWastewater

CONSULTANT

AECOM
248 Chapman Road Suite 101
Newark, DE 19702
Phone: (302) 781-5900 Fax: (302) 781-5901
www.aecom.com

CONSULTANTS

MEP
KEYSTONE ENGINEERING GROUP
The Vinyards
12000 Old Vine Blvd, Commercial Unit #116
Lewes, Delaware 19958
302.291.9090 tel
www.kegi.net

REGISTRATION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
0	2023-06-01	ISSUE FOR BID

PROJECT NUMBER

60693284

Designed By:	A. COLBY
Drawn By:	D. KATZMIRE
Dept Check:	K. PAMPUCH
Proj Check:	K. DU
Date:	DATE
Scale:	AS NOTED

DISCIPLINE

CIVIL

SHEET TITLE

EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER

ES-001

PATH/FILENAME: C:\USERS\DAVE.KATZMIRE\ONEDRIVE - AECOM\CIVIL 3D PROJECTS\DOVER WELL 9\SHEETS\ES-01.DWG
LAST UPDATE: Thursday, May 04, 2023 6:59:11 AM
PLOT DATE: Wednesday, May 24, 2023 8:11:23 AM

ATTACHMENT D

Revised Proposal Form

SECTION 00 42 53

PROPOSAL FORM – DESIGN/BUILD (SINGLE-PRIME CONTRACT)

P-1 PROJECT IDENTIFICATION:

Manganese Removal Systems for Drinking Water

Proposal Number: 26-0003WW

P-2 THIS PROPOSAL IS SUBMITTED TO:

Barry Wolfgang
City of Dover Department of Central Services
710 William Street
Dover, Delaware 19904
(302) 736-7795
Fax (302) 736-7178

P-3 PROPOSER'S OBLIGATIONS AND REPRESENTATIONS

3.01 The undersigned Proposer proposes and agrees, if this Proposal is accepted, to enter into an Agreement with Owner in the form included in the Contract Documents to perform all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Times indicated in this Proposal and in accordance with the other terms and conditions of the Contract Documents.

3.02 Proposer accepts all of the terms and conditions of the Proposal documents, including without limitation those dealing with the disposition of the Proposal security. This Proposal will remain subject to acceptance for 90 days after the day of Proposal opening. Proposer will sign and deliver the required number of counterparts of the Agreement with any Bonds and other documents required by the Request for Proposal and Proposal Form within 15 days after the date of Owner's Notice of Award.

3.03 In submitting this Proposal, Proposer represents and agrees, as more fully set forth in the Agreement, that:

A. Proposer has examined and carefully studied the Proposal Documents and the following Addenda (receipt of all which is hereby acknowledged)

Addendum No.	Addendum Date
_____	_____
_____	_____

B. Proposer has visited the Site(s) and become familiar with the general, local and Site conditions that may affect cost, progress, performance and furnishing of the Work.

C. Proposer is familiar with all applicable federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

D. Proposer has carefully studied all available reports and all available drawings of the existing Site(s) which have been identified or made available by Owner.

E. Proposer is aware of the general nature of the work to be performed by Owner and others at the Site that relates to Work for which this Proposal is submitted as indicated in the Contract Documents.

F. Proposer has correlated the information known to Proposer, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.

G. Proposer has given Owner written notice of all conflicts, errors, ambiguities or discrepancies that Proposer has discovered in the Contract Documents and the written resolution thereof by Owner is acceptable to Proposer, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Proposal is submitted.

H. This Proposal is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Proposer has not directly or indirectly induced or solicited any other Proposer to submit a false or sham Proposal; Proposer has not solicited or induced any individual or entity to refrain from submitting a Proposal; and Proposer has not sought by collusion to obtain for itself any advantage over any other Proposer or over Owner.

P-4 CONTRACT PRICE

4.01 Proposer will complete the Design/Build Work in accordance with the Contract Documents for the following prices:

YEAR/WELL	UNIT	COST	ESCALATOR USED IN COST (%)*
1 – WELL 8R	**LS**		**N/A**
2 – WELL 3	**LS**		
3 – WELL 9	**LS**		
4 – WELL 13R	**LS**		
5 – WELL 15	**LS**		
GRAND TOTAL			

All specific cash allowances shall be included in the prices set forth above and have been computed in Accordance with paragraph 10.02 of the General Conditions.

***The Proposer shall adjust the contract cost, after Year 1, by adding an inflation escalator. If during the term of this agreement, the cost of goods or materials increases by more than 5%, as evidenced by the Consumer Price Index, the cost shall be negotiated per General Conditions Article 11.**

P-5 CONTRACT TIMES

5.01 Proposer agrees that the Work will be substantially completed and ready for final payment for each location according to the above schedule in accordance with paragraphs 13.05 and 13.08 of the General Conditions on or before the dates or within the number of calendar days indicated below.

5.02 Proposer hereby agrees to commence WORK under this contract on or before a date to be specified in the Notice to Proceed and to fully complete this entire Project within _One thousand twenty-five_ (1,825) calendar days thereafter. Liquidated damages of $500 per day will be in effect with this PROJECT for each and every day that the Design / Builder is in default in completing the Contract.

P-6 EXHIBITS

6.01 The following documents are attached to and made a condition of this Proposal:

A. Required Proposal security in the form of _____.

B. The individual or entity providing the Design Professional Services will be_____. Please note that the Design Professional and Design/Builder can be a single entity.

C. A tabulation of Subcontractors, Suppliers and others required to be identified in this Proposal.

D. Required Proposer's Qualification Statement with supporting data (See Section 00 11 19, 3.01).

E. Technical Exhibits are identified as follows:

1. List of key personnel and a description of their project roles and responsibilities.

2. Proposed technical approach.

3. Five project abstracts for similar water supply and treatment projects.

4. List of three (3) references.

F. Required information listed in the Request for Proposal (See Section 00 11 19, 13.01).

P-7 TERMINOLOGY

7.01 The terms used in this Proposal which are defined in the General Conditions of the Contract Between Owner and Design/Builder ("General Conditions") included as part of the Contract Documents have the meanings assigned to them in the General Conditions. Terms defined in the Request for Proposal are used with the same meaning in this Proposal.

P-8 VENDOR PREFERENCE

Local Vendor Preference

Circle One: Rule 1 Rule 2 Rule 3 None

Minority Vendor Preference

Circle One: Yes No

P-8 SUBMISSION

SUBMITTED on

State Contractor License No. (If Applicable).

State Certificate of Authority for Corporate Engineering Practice (If Applicable):

If Proposer is:

An Individual

By: _____ **(SEAL)**

(Individual's Name)

doing business as _____

Business address: _____

Phone No.: _____

Facsimile No.: _____

A Partnership

By: _____ **(SEAL)**

(Firm Name)

_____

(general partner)

Business address: _____

Phone No.: _____

Facsimile No.: _____

A Corporation

By: _____ **(SEAL)**

(Corporation Name)

(state of incorporation)

By: _____ **(SEAL)**

(name of person authorized to sign)

_____

(Title)

(Corporate Seal)

Attest _____

(Secretary)

Business address: _____

_____

Phone No.: _____

Facsimile No.:

Date of Qualification to do business as a foreign (out-of-state) corporation in state where Project is located (if applicable):

A Joint Venture

By: _____ **(SEAL)**

(Name)

_____

(Address)

By: _____ **(SEAL)**

(Name)

_____

(Address)

Business address: _____

_____

Phone No.: _____

Facsimile No.: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

END OF SECTION

ATTACHMENT E

Well #15 Map

Well #15 Land Ownership

8/18/2025, 3:10:04 PM

1:624

P In Service

Dover Parcels

0 30 60 120 ft

0 10 20 40 m

State of Delaware, Maxar, Microsoft