NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, NY 14414-9516
P: (585) 226-5353 I F: (585) 226-8139
www.dec.ny.gov

February 7, 2020

Carolyn Vitale
Jefferson Wollensack LLC
312 State Street
Rochester, New York 14608

Re: Interim Remedial Measure RAOC #1 Design Document
Former Wollensack Optical Site
Site No.: C828209
City of Rochester, Monroe (C)

Dear Ms. Vitale:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) (collectively known as the State) have completed their review of the January 7, 2020 Interim Remedial Measure RAOC #1 Design Document (Document) for the Former Wollensack Optical site (Site) located at 872 and 886 Hudson Avenue, City of Rochester. Based on the information presented in the Document, the Document is approved with the following modifications and clarifications.

1. The State understands that all imported fill material will be imported to the Site in accordance with DER-10 Section 5.4(e). The Request to Import/Reuse Fill/Soil Material will be submitted to the Department for review and approval prior to import of any soil/fill material to the Site.

2. The State understands that the USEPA UIC approval will be provided to the State prior to the commencement of injections at the Site.

3. The State understands that the first round of injections will be low pressure pumped into the injection wells. With that said daylight monitoring needs to be conducted in the boiler room given that there has been previous infiltration of petroleum product in the boiler basin.

4. The State understands that the potable water to be used for the injections will be the City of Rochester drinking water.

5. The State understands that all sub-slab and wall pipe penetrations will be properly sealed to ensure the sub-slab depressurization system will operate properly.

6. The State understands that groundwater levels will be collected in the injection wells (overburden and bedrock) prior to injections and again before the injection wells are sealed below the concrete slab of the building. The groundwater elevations will assist in determining that the seal remains competent between the bedrock over burden injection wells.

7. The State is requesting that preliminary laboratory data from the groundwater performance monitoring events is submitted to the Department upon receipt from the laboratory.

8. The State understands that the 1st groundwater monitoring sampling event will be conducted 6 weeks after the last day of injections are completed.

9. The State understands that there are 2 proposed groundwater performance monitoring events scheduled for the Site. The State is requesting that after completion of the 12-week post-injection groundwater sampling event the groundwater performance monitoring will be conducted quarterly until there is another round of injections completed at the Site or the Site's final Site Management Plan is approved. Based on the schedule provided in the Document the next groundwater performance monitoring event will occur in the 3rd quarter of 2020 (July, August, September 2020).

10. Based on the approved August 2019 Interim Remedial Measures Work Plan, the State understands that the groundwater sampling will be lowflow. The State requests that the depth of the intake is indicated on all of the groundwater sampling logs.

11. The State understands that the laboratory data packages will be Category B and the laboratory will be ELAP certified. A DUSR will be prepared. As stated in the approved August 2019 Interim Remedial Measures Work Plan the analytical parameters will be TCL VOCs plus TICs.

12. The State also understands that the quarterly groundwater performance monitoring data will be submitted to the State in quarterly letter reports or the subsequent Site monthly progress report. The submittal will include but not limited to the laboratory data package, associated field documentation, and the associated DUSR.

13. During all field work activities associated with the IRM completed under a State approved work plan there will be a qualified environmental professional as defined in 6 NYCRR Part 375-1.2(ak) or an individual who is a direct report to the QEP on the property to supervise the activities undertaken.

14. The State understands that the IRM injection activities will be documented in a Construction Completion Report or in the Final Engineering report as per DER-10 Section 5.8. The CCR and/or FER will included all NYS licensed PE stamped and signed as-built drawings and the appropriate certification language as presented in DER-10 Section 1.5. The State also understands that the CCR will also include all activities completed in associated with the radiation decontamination activities completed at the Site. The State also understands that the CCR documenting the IRM activities at the Site will include all supporting documentation including, but not limited to, bills of lading, off-site waste disposal records, CAMP monitoring data, daily field logs, etc.

Within fifteen (15) days of the date of this letter, the Applicant must elect in writing (electronic notification is acceptable) one of the following options:

- Option A: Accept the modified work plan;
- Option B: Invoke dispute resolution as set forth in 6 NYCRR Part 35-1.5(b)(2); or
- Option C: Terminate the Brownfield Cleanup Agreement in accordance with 6 NYCRR Part 375-3.5.

If the Applicant chooses to accept Option A then this letter becomes part of the approved Interim Remedial Measure RAOC #1 Design Document. Also, if Option A is chosen then a copy of the approved Interim Remedial Measure RAOC #1 Design Document along with this letter attached must be placed in the document repository within 1 week of accepting Option A. Please provide notification to the Department that the approved Interim Remedial Measure RAOC #1 Design Document and a copy of this letter have been placed in the document repository (electronic notification is acceptable).

State seeks to resolve any outstanding differences in a mutually agreeable manner which addresses the requirements of the Brownfield Cleanup Agreement and associated work plans. If you have any questions or concerns regarding this letter, the BCP requirements, or need further assistance with the Site, please feel free to contact me at 585-226-5354 or via e-mail at charlotte.theobald@dec.ny.gov.

Sincerely,

Charlotte B. Theobald
Assistant Engineer

ec:
Chris Roland (Edgemere Development)
Jennifer Gillen (LaBella)
Ann Aquilina (LaBella)
Dan Noll (LaBella)
Amy Reichhart (Nixon Peabody, LLC)
Carlos Barbosa (NYSHCR)
Melissa Doroski (NYS. Dept. of Health – Albany)
Arunesh Ghosh (NYS Dept. of Health - Albany)
John Frazer (MCHD)
Wade Silkworth (MCHD)
Kieran McCarthy (NYSDEC)
David Pratt (NYSDEC)
Mike Zamiarski (NYSDEC)
Todd Caffoe (NYSDEC)

January 7, 2020

Ms. Charlotte Theobald
NYSDEC – Region 8
6274 East Avon Lima Road
Avon, New York 14414

RE: IRM RAOC #1 Design Document
Former Wollensack Optical Site
BCP Site No. C828209
872 & 886 Hudson Avenue, Rochester, New York
LaBella Project #2182207

Dear Ms. Theobald,

LaBella is submitting this design letter on behalf of Jefferson Wollensack LLC to provide additional detail on the planned Interim Remedial Measure (IRM) for Remedial Area of Concern (RAOC) #1 at the Former Wollensack Optical Site located at 872 & 886 Hudson Avenue, Rochester, New York which is designated New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site #C828209. An IRM Work Plan for RAOC #1 and RAOC #2 dated August 2019 was submitted to NYSDEC and approved with modifications and conditions in a letter dated November 5, 2019. The approval letter requested a design document be developed for the in-situ chemical oxidation (ISCO) treatment system which is the planned IRM for RAOC #1. This document provides additional details for the IRM for RAOC #1. The objective of this IRM is to treat chlorinated volatile organic compounds (CVOCs) in soil and groundwater at the Site. Refer to the August 2019 IRM Work Plan for details regarding contaminants in RAOC #1.

It should be noted that the IRM Work Plan was submitted prior to receipt of all bedrock data. Based on the cumulative bedrock data for the Site, a bedrock treatment design has been developed in the event that treatment of shallow bedrock is necessary. The overburden treatment is anticipated to treat the uppermost portion of bedrock. Following overburden injections and post-injection monitoring, the data will be evaluated to determine if bedrock treatment is warranted. Based on the ongoing redevelopment of the Site which in the near future will prohibit installation of bedrock injection wells, bedrock injection infrastructure will be installed as part of this IRM for potential future use.

1. ISCO SUMMARY

ISCO will be implemented as an IRM for overburden CVOC impacts. This IRM will consist of the introduction of an oxidant, sodium permanganate, in the overburden within the southwestern portion of the Site Building which is the inferred source of CVOCs in soil and groundwater. One (1) round of overburden treatment is anticipated to be completed as part of this IRM. Two (2) rounds of post-treatment groundwater monitoring will be performed to assess the effectiveness of the IRM and determine the need for subsequent overburden and/or bedrock treatment. Subsequent treatment and/or long-term monitoring will be detailed in the Site Management Plan (SMP). It is anticipated up to two (2) additional rounds of overburden injections may be completed following implementation of this IRM and will be specified in a SMP or Remedial Action Work Plan (RAWP).

The IRM for RAOC #1 will consist of installation of approximately seventeen (17) overburden and seven (7) bedrock treatment wells within the southwestern portion of the Site Building on the ground level (i.e., first floor). Overburden treatment wells will be spaced approximately 12 to 16-feet apart. The anticipated overburden treatment volume is 2,800 square feet to depths of 6.5-21.5-ft bgs. The anticipated potential bedrock treatment volume is 1,400 square feet to depths of 21.5-31.5-ft bgs. Top of bedrock in this area of

the Site is approximately 21.5-ft bgs. As noted above, the need for bedrock treatment will be determined following overburden injections and subsequent groundwater monitoring. Refer to Figure 1 for RAOC #1 treatment areas.

Sodium permanganate will be introduced via permanent treatment wells installed in the locations shown on Figure 1. The material will be either gravity fed or pumped at a low pressure into the treatment wells to prevent daylighting. The Site Building is being redeveloped into an apartment building; as such, treatment wells will be accessed through horizontal piping routed beneath the floor to the eastern exterior of the Site Building. This will allow future treatments to take place via this horizontal piping into the treatment wells without having to disrupt building occupants. Trenching for the treatment well piping will be completed through the existing floor slab as shown on Figure 2. An EPA Inventory of Injection Wells form will be completed and sent to EPA prior to treatment. A copy of the EPA approval will be sent to NYSDEC prior to implementation.

Utility lines are located in the right-of-ways to the west and south of the Site building (i.e., Avenue D and Hudson Ave). It should be noted that unlike other oxidants, sodium permanganate does not generate heat during reaction and it will not be introduced to the subsurface at high concentrations. In addition, based on information from the chemical vendor, permanganate is not known to react with the piping typically associated with water, sewer and electric lines. Utilities in the area of injections are above the treatment interval. As such, it does not appear that the introduction of sodium permanganate to the subsurface will damage the utilities.

2. TREATMENT WELL INSTALLATION

A total of seventeen (17) overburden and seven (7) bedrock injection wells will be installed, consisting of 2-inch diameter PVC (refer to Figure 1 for locations). Seven (7) of the seventeen (17) injection well locations will be a nested pair with an overburden and bedrock well. The remaining ten (10) locations will have an overburden injection well only. Boreholes for injection well installation will be drilled using a Deidrich 25 drill rig.

Overburden only treatment well locations will be drilled using 4 ¼ inch hollow stem augers. In the seven (7) locations with the nested wells (overburden and bedrock) 6 ¼ inch hollow stem augers will be used. Overburden wells will be constructed with 15-ft of 2-inch diameter 0.020-slot PVC connected to an appropriate length of solid PVC riser to complete the well. A sand pack will be placed around the screened section to 2-ft above the top of the screen. A 2-ft bentonite seal will be placed above the sand pack. The remaining approximately 2.5-ft will be left open to be filled with pea stone during the trenching (refer to Section 5). The riser will terminate above the floor surface initially with a PVC cap to be connected below the slab following the first round of treatment via trenching (refer to Section 5).

Bedrock treatment wells will be constructed in the same borehole as the overburden wells. Bedrock will be cored using an H core barrel (3.75-inch diameter), or similar, to depths up to 10-feet below top of bedrock. Bedrock injection wells will be constructed with 8.5-ft of 2-inch diameter 0.020-slot PVC connected to an appropriate length of solid PVC riser to complete the well. A sand pack will be placed around the screened section and 1-ft above the top of the screen. A grout seal will be placed above the sand pack to seal out the overburden. The overburden will be filled with approximately 17-ft of sand and sealed with 2-ft of bentonite. The remaining approximately 2.5-ft will be left open to be filled with pea stone during the trenching (refer to Section 5). The riser will terminate above the floor surface with a PVC cap to be connected below the slab following the first round of treatment via trenching (refer to Section 5).

Refer to Figure 6 for well construction diagrams.

3. TREATMENT CHEMICAL

The main contaminants of concern at the Site are CVOCs. Permanganate natural oxidant demand (PNOD) analysis was completed by Carus Remediation Technologies (Carus) for a soil sample collected from RIBW-B.

The 48-hour PNOD was 0.5 g/kg. Generally, remediation sites with a soil demand of less than 20 g/kg are favorable for in situ chemical oxidation with permanganate. The PNOD was less than 1 g/kg and ISCO with permanganate is highly recommended by Carus as soil contribution to the demand is very low.

The ISCO process includes the introduction of an oxidant into the subsurface to chemically oxidize contaminants of concern and enhance degradation. A total of approximately 5,400-pounds (lbs) of sodium permanganate ("RemOx® L") will be introduced at a 10% concentration into the seventeen (17) overburden injection wells. The volume and injection concentrations were estimated by the chemical vendor (Carus) using analytical data and the known geology of the Site with the vendor's proprietary algorithm for estimating permanganate mass necessary to degrade the contaminants and to overcome the natural oxidant demand within the soil. A copy of the Carus calculation sheet, RemoOx® L fact sheet and SDS were included in the IRM Work Plan.

Bedrock wells will be installed as part of this IRM for future injections, if necessary. The sodium permanganate injected into the overburden is expected to come into contact with the top of bedrock and provide some treatment of the uppermost portion of the bedrock. If warranted based on post-treatment groundwater monitoring, bedrock treatment will be completed. Post-injection monitoring results will be provided to NYSDEC and evaluated prior to determining the need for bedrock injections. A separate design document will be provided for bedrock treatment if it is determined to be necessary following overburden injections and groundwater monitoring.

If deemed necessary based on post-overburden treatment data, in-situ chemical reduction (ISCR) application (e.g., zero valent iron or similar) for bedrock treatment may be warranted. Bedrock injections may take place following all overburden injections so the presence of the oxidant in the overburden does not affect the ability of ISCR chemical to treat bedrock.

4. FIRST ROUND TREATMENT PROCEDURES

Approximately 5,400 lbs of RemOx® L ISCO Reagent will be injected at a 10% solution. The liquid solution will be shipped at 40% and diluted to 10% on-Site by mixing it with approximately 2,000 gallons of potable water. The treatment chemical will be transported to the Site in five (5) 550 lb drums and one (1) 3,000 lb tote and will be mixed on-Site in 275-gallon totes with potable water to form a 10% solution.

Approximately 145 gallons of 10% solution will be applied to each treatment well. The slurry will be pumped into each well location within the building. Depending on how well the formation accepts the treatment chemical, the chemical may be injected at a higher concentration.

Note that the first round of chemical treatment is anticipated to take place during building renovations and prior to occupancy. As such, this first round of treatment will be completed directly into the treatment wells while any subsequent treatment will be piped to these wells from the building basement via horizontal infrastructure (refer to Sections 5 and 6).

Groundwater monitoring will be completed 6 weeks and 12 weeks following the first treatment event to monitor the groundwater concentrations and determine the need for future injection events. The following wells will be sampled using the procedure specified in the IRM Work Plan:

- BW-01 (exterior)
- BW-03 (exterior)
- RIBW-A (interior)
- RIMW-02 (basement)
- RIMW-04 (basement)
- RIMW-16 (first floor corridor)
- RIMW-17 (first floor community room)
- RIMW-18

- SB-MW-07 (exterior)
- SB-MW-14 (exterior)
- SB-MW-15 (exterior)
- SB-MW-16 (basement)

Future injections will be completed as needed and will be specified along with long-term monitoring in the SMP or RAWP. Groundwater sampling results will be provided to NYSDEC as the data is generated.

Due to the current building construction work and future occupancy of the building, any subsequent injection events after the first injection event, will be completed from the exterior of the Site building. Treatment chemical will be distributed through a piping network installed beneath the floor slab. Refer to Section 5 for piping and trenching details and Section 6 for post-building renovation injection procedures.

5. PIPING AND TRENCHING

Following completion of the first treatment event, trenching will be completed to install horizontal piping beneath the floor slab that will be used for subsequent injection events when the building construction work has been completed. The piping network will allow for the treatment chemical to be pumped from outside of the building.

The concrete floor will be cut to form trenches connecting rows of treatment wells as shown on Figure 2. Trenches will be approximately 6 to 12-inches in width. Trenches will be excavated to the elevation required to set the pipe to obtain a ¼ inch per foot pitch. Refer to Figure 5 for a cross section depicting approximate elevations for a row of piping. Concrete will be containerized in roll-off containers for subsequent characterization and disposal off-Site.

The 2-inch PVC treatment well risers will be cut to below the floor level, within the trenches at the appropriate elevation. A 1-inch diameter PVC pipe will be connected to each 2-inch wellhead using a PVC reducing elbow and 1-inch diameter solid PVC piping will be connected to the elbow and placed in the trench beneath the floor slab. Trenches will be backfilled with pea stone and excavated material. A request to reuse/ import material will be submitted to the NYSDEC for approval prior to importing/ reusing material. Concrete will be restored to the finished floor elevation.

Each well will have a horizontal 1-inch PVC pipe connected to the well head beneath the floor that will be routed to a header pipe in the basement. A corehole will be drilled at the elevation of the trenching through the basement wall which will be approximately 8-feet above the basement floor. The 1-inch diameter pipes connected to each individual well will be routed through the basement wall and connected to one of five header pipes. Valves will be installed on each individual well pipe to open or close the pipes during injections. This will allow specific well locations to be targeted during future treatment events.

The header pipes will be routed within the ceiling of the basement through the eastern exterior building wall. Pipes will be sealed into the wall at the western basement wall and eastern exterior wall. Piping will be installed at a minimum of ¼ inch per foot pitch towards the treatment wells to allow for treatment chemical to gravity drain from the eastern exterior of the Site building into the wells so that treatment chemical will not be trapped within the piping.

On the exterior of the building, pipes will be fitted with an elbow and additional vertical piping and terminate in a vault below ground between the building and the parking lot. The vault will have a secure cover and a lock.

Refer to Figure 4 for a schematic piping diagram. This diagram is not to scale, rather it is intended to detail the planned piping network. Refer to Figure 5 for a cross section of the treatment wells and piping. The location of the cross section is shown in the layout included on Figure 2.

6. POST-BUILDING RENOVATION TREATMENT PROCEDURES

Following the first round of treatment which will be completed inside the building directly at the well heads, subsequent treatments are anticipated to be completed via the sub-slab piping network (refer to Section 5). Treatment chemical will be pumped from within the secondary containment (refer to Section 7) outside of the building. Valves will be installed in the basement on each individual well pipe before the header pipe. The valves will control which wells are opened and closed to ensure each well receives the allocated volume of treatment chemical. The valves will also allow for targeting specific areas if necessary based on VOC concentrations. Once injections at each well have been completed, the line will be flushed with water, and the valve will be closed.

Note that following the first treatment, subsequent treatments may only require introduction of the treatment chemical to select wells and/or the use of less chemical to treat remaining impacts. The treatment chemical vendor and the NYSDEC will be consulted prior to initiating subsequent injections.

7. STORAGE AND SECONDARY CONTAINMENT

This IRM will be completed prior to building occupancy and prior to completion of construction activities. The first round of treatment will be completed at the wells with the treatment chemical and secondary containment inside the building. The trenching and piping infrastructure will be utilized for chemical treatment after the final floor construction is completed. Subsequent chemical treatments will be completed from the exterior of the Site building as shown on Figure 3. It is anticipated treatment will not take place during winter months which may result in freezing of the treatment chemical.

Secondary containment will be setup prior to delivery of sodium permanganate. When the delivery of sodium permanganate arrives, it will be placed directly into the secondary containment. The treatment chemical and mixing tank/ totes will be stored within the secondary containment at all times. Treatment chemical will be mixed in a 275 gallon tote. Extension pipes/ hoses will be connected to the individual injection pipes on the exterior of the building or in the basement and the chemical will be injected from within the secondary containment area.

The secondary containment will consist of a spill containment berm with capacity to contain 110% of the volume of solution that may be present at one time. A Spillguard (refer to Attachment 1) or similar will be utilized. A 12 ft x 16 ft x 1 ft berm has a capacity of 192 ft^3 which is sufficient to contain 110% of the total volume of solution that may be present at one time. The maximum total volume of liquid that may be present includes two (2) 275-gallon totes and five (5) 55-gallon drums which equates to 825 gallons or 110 ft^3. 110% of the maximum volume of liquid is approximately 908 gallons or 121 ft^3. The tanks, totes, and miscellaneous equipment equates to approximately 40 ft^3 (1 ft height). Therefore, the capacity of the berm (190 ft^3) is sufficient to hold 110% of the total volume of liquid plus the volume occupied by tanks, totes, and equipment (161 ft^3).

A neutralizing agent (e.g., sodium thiosulfate) will be made readily available in the event that a spill of the sodium permanganate occurs. The neutralizing agent will only be applied in a diluted form. The neutralizing agent will be stored in a separate secondary containment berm. It is anticipated one 55-gallon drum of sodium thiosulfate will be present and stored in a berm with a minimum of 11 ft^3 capacity (83 gallon).

Security fence (chain link fence) will be installed surrounding the exterior secondary containment areas when sodium permanganate is on Site. The fence will be locked when no one is working in the area of the treatment chemical. Caution signs will be attached to the fence indicating to keep out. When sodium permanganate is inside the building for the first round of treatment, the building will be locked and secured when no one is working on Site.

8. HASP, CAMP & QCP

The Health and Safety Plan (HASP), Community Air Monitoring Plan (CAMP) and Quality Control Plan (QCP) in the IRM Work Plan will be implemented for this work.

9. SCHEDULE

Refer to Attachment 2 for an approximate schedule. Treatment well installation is planned to begin January 13th, 2020. The first round of treatment and two (2) rounds of post-treatment groundwater monitoring are anticipated to be completed in 2020.

10. CERTIFICATION

I, Ann Aquilina certify that I am currently a NYS registered professional engineer and that this Design Document was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

We appreciate your assistance in working toward a successful completion of this project. If you have any questions please do not hesitate to contact me at 585-295-6289.

Respectfully submitted,

LaBella Associates

Ann Aquilina, PE
Environmental Engineer

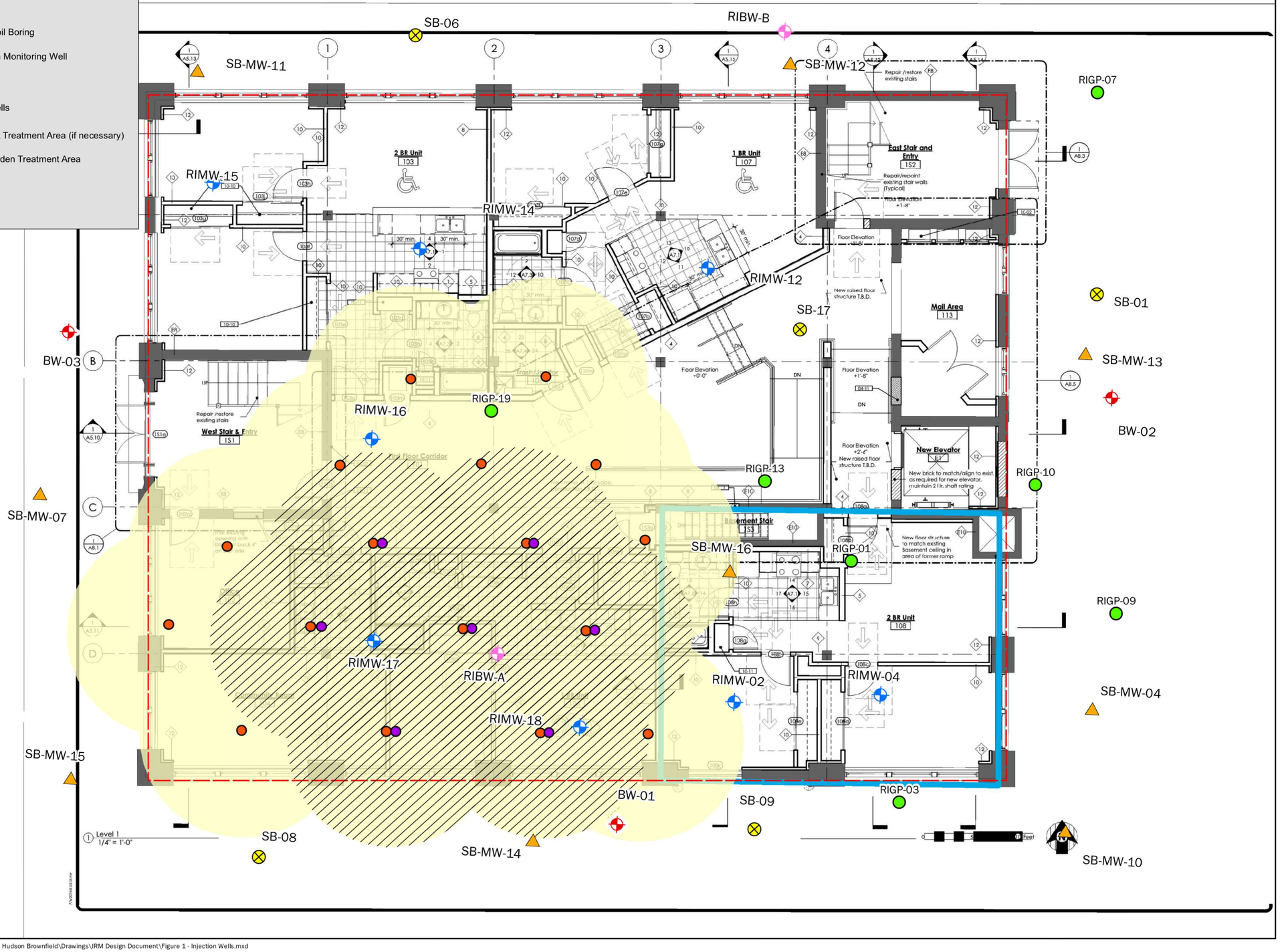
Figure 1 – Treatment Wells and Treatment Area
Figure 2 – Trenching System Layout
Figure 3 – Secondary Containment Area
Figure 4 – Treatment Well Piping
Figure 5 – Treatment System Cross Section
Figure 6 – Treatment Well Details

FIGURES

Legend

- Proposed Bedrock Treatment Wells
- Proposed Overburden Treatment Wells
- RI Bedrock Wells
- RI Soil Boring
- RI Monitoring Well/Soil Boring
- Pre-BCP Overburden Monitoring Well
- Pre-BCP Soil Boring
- Pre-BCP Bedrock Wells
- Approximate Bedrock Treatment Area (if necessary)
- Approximate Overburden Treatment Area
- Basement (Approx.)
- Site Building

NOTES:
1) Property boundaries obtained from Monroe County GIS and are considered approximate.
2) Treatment well locations are approximate and subject to change based on site conditions.
3) Layout from Barkstrom Lacroix Architects dated July 2018 and is approximate.
4) Treatment areas assume a 10-ft radius of influence and are approximate. Radius of influence is estimated.



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PROJECT:
INTERIM REMEDIAL MEASURES
WORK PLAN
DESIGN DOCUMENT

FORMER WOLLENSACK OPTICAL
NYSDEC BCP C828209
872 & 886 HUDSON AVENUE
ROCHESTER, NEW YORK

DRAWING NAME:

TREATMENT WELLS
AND TREATMENT AREA

PROJECT #/DRAWING #/ DATE

2182207

FIGURE 1

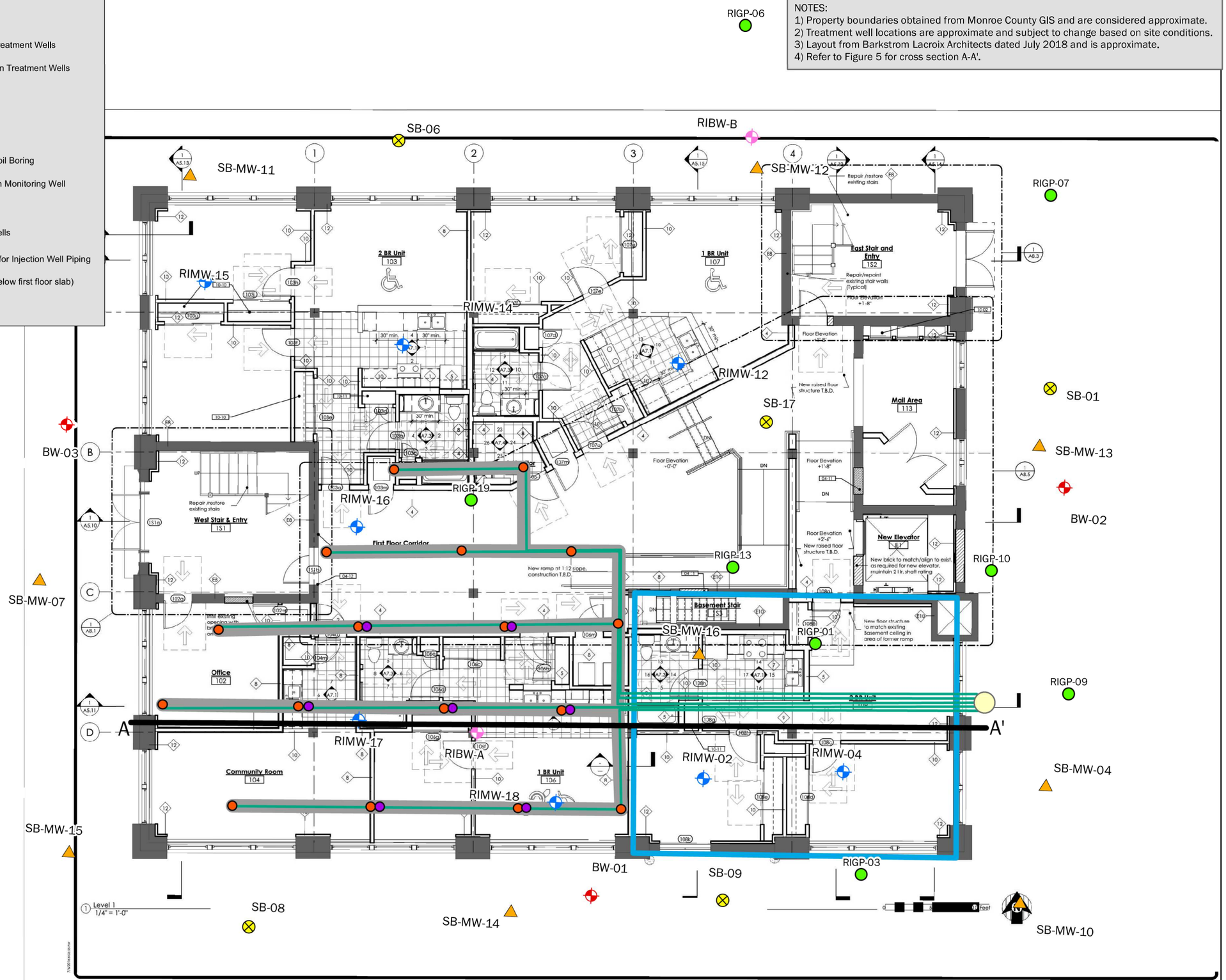
12/30/2019

I:\Jefferson Wollensack LLC\2182207 - 872 & 886 Hudson Brownfield\Drawings\IRM Design Document\Figure 1 - Injection Wells.mxd

Legend

- Proposed Bedrock Treatment Wells
- Proposed Overburden Treatment Wells
- RI Bedrock Wells
- RI Soil Gas Point
- RI Soil Boring
- RI Monitoring Well/Soil Boring
- Pre-BCP Overburden Monitoring Well
- Pre-BCP Soil Boring
- Pre-BCP Bedrock Wells
- Proposed Trenching for Injection Well Piping
- 1 inch PVC piping (below first floor slab)
- Basement (Approx.)

NOTES:
1) Property boundaries obtained from Monroe County GIS and are considered approximate.
2) Treatment well locations are approximate and subject to change based on site conditions.
3) Layout from Barkstrom Lacroix Architects dated July 2018 and is approximate.
4) Refer to Figure 5 for cross section A-A'.



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STATE OF NEW YORK
ANN AQUILINA
100521
LICENSED PROFESSIONAL ENGINEER

N W E S

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PROJECT:
INTERIM REMEDIAL MEASURES
WORK PLAN
DESIGN DOCUMENT

FORMER WOLLENSACK OPTICAL
NYSDEC BCP C828209
872 & 886 HUDSON AVENUE
ROCHESTER, NEW YORK

DRAWING NAME:

TREATMENT SYSTEM LAYOUT

PROJECT #/DRAWING #/ DATE

2182207

FIGURE 2

12/30/2019

I:\Jefferson Wollensack LLC\2182207 - 872 & 886 Hudson Brownfield\Drawings\IRM Design Document\Figure 2 - Trenching.mxd

NOTES:
1) Property boundaries obtained from Monroe County GIS and are considered approximate.
2) April 2018 aerial image obtained from Pictometry International, Inc. and may not represent current conditions.
3) Containment area is approximate and subject to change.

I:\Jefferson Wollensack LLC\2182207 - 872 & 886 Hudson Brownfield\Drawings\IRM Design Document\Figure 3 - Containment.mxd

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STATE OF NEW YORK
ANN AQUILINA
100521
LICENSED PROFESSIONAL ENGINEER

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W E
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0 20
Feet
1 inch = 20 feet
INTENDED TO PRINT AS: 11" X 17"

PROJECT:
INTERIM REMEDIAL MEASURES
WORK PLAN
DESIGN DOCUMENT

FORMER WOLLENSACK OPTICAL
NYSDEC BCP C828209
872 & 886 HUDSON AVENUE
ROCHESTER, NEW YORK

DRAWING NAME:

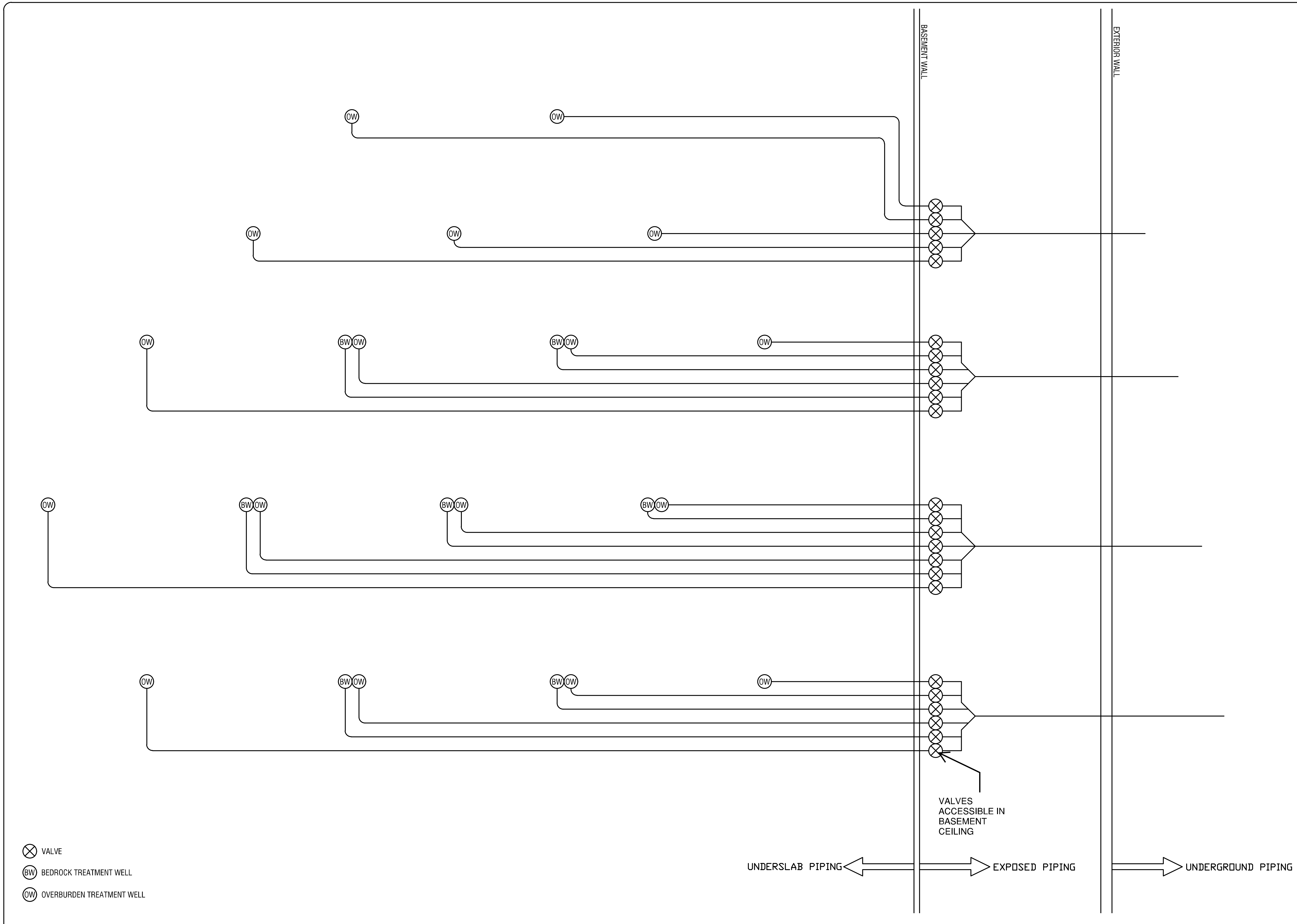
SECONDARY
CONTAINMENT AREA

PROJECT #/DRAWING #/ DATE

2182207

FIGURE 3

12/30/2019



NO	REVISION	BY	DATE
-			
-			
-			
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-			

It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

STATE OF NEW YORK · ANN AQUILINA · 100521 · LICENSED PROFESSIONAL ENGINEER

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PROJECT/CLIENT

FORMER WOLLENSACK OPTICAL
872-886 HUDSON AVE,
ROCHESTER NY

IRM WORK PLAN DESIGN DOCUMENT

DRAWING TITLE

TREATMENT WELL PIPING

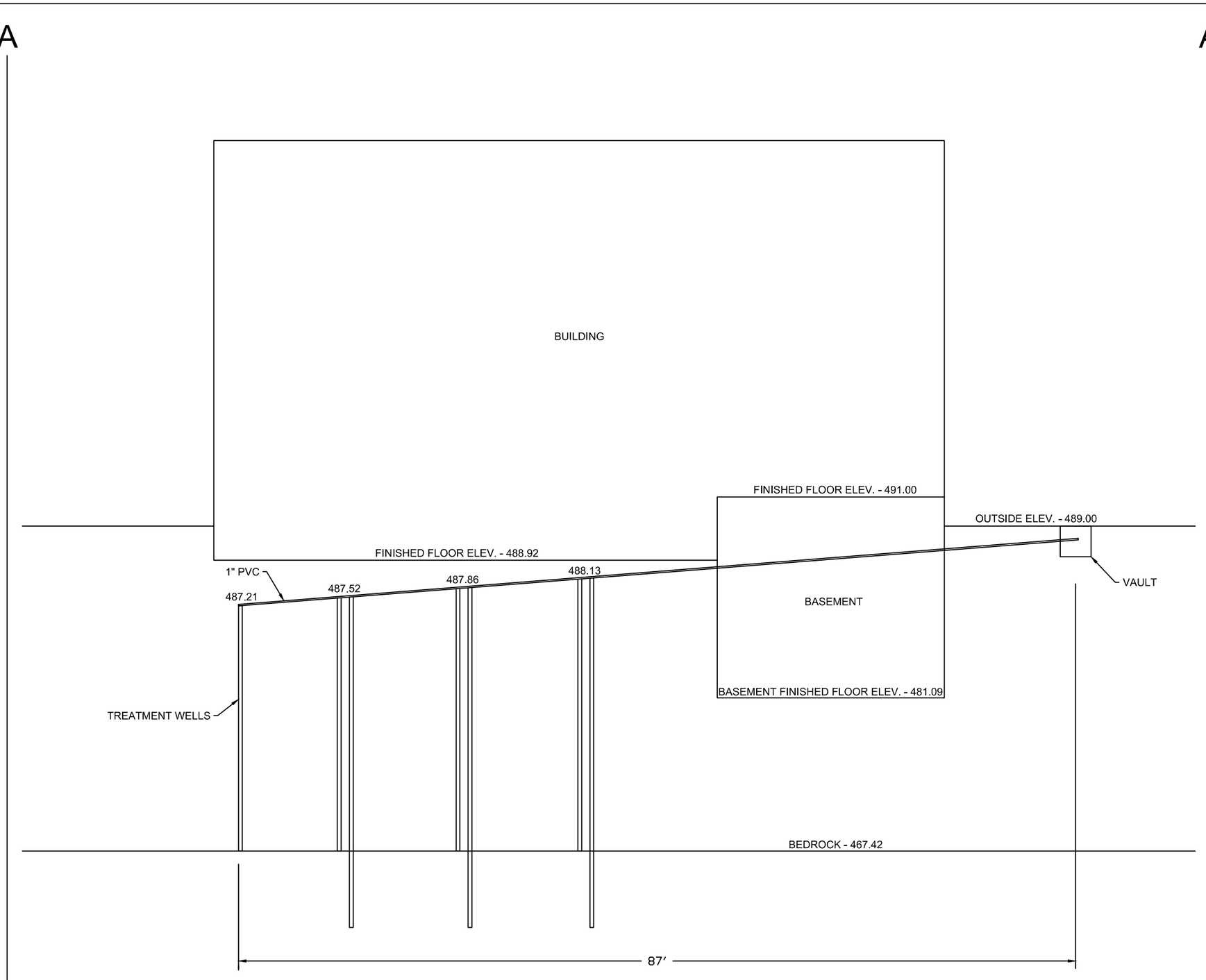
ISSUED FOR: FINAL
DATE: 1-3-2020
DESIGNED BY: AA
DRAWN BY: DRP
REVIEWED BY: AA
SCALE: NTS

D:\Users\DPaye\Desktop\Pipe Design.dwg

PROJECT/DRAWING NUMBER

2182207

FIG 4



NOTES:
1. NOT TO SCALE
2. CROSS SECTION LOOKING NORTH

NO | REVISION | BY | DATE

It is a violation of New York Education Law Article 145 Sec.7209, for any person, unless acting under the direction of a licensed professional engineer or licensed architect, to alter in any way an item bearing the seal of an architect, engineer or land surveyor. If altered, the altering engineer or land surveyor must affix to the item their seal and the notation "altered by" followed by their signature and a specific description of the alteration.

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ANNE AGUILINA
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LICENSED PROFESSIONAL ENGINEER

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872-886 HUDSON AVE,
ROCHESTER NY
IRM WORK PLAN DESIGN DOCUMENT

DRAWING TITLE
TREATMENT SYSTEM CROSS SECTION

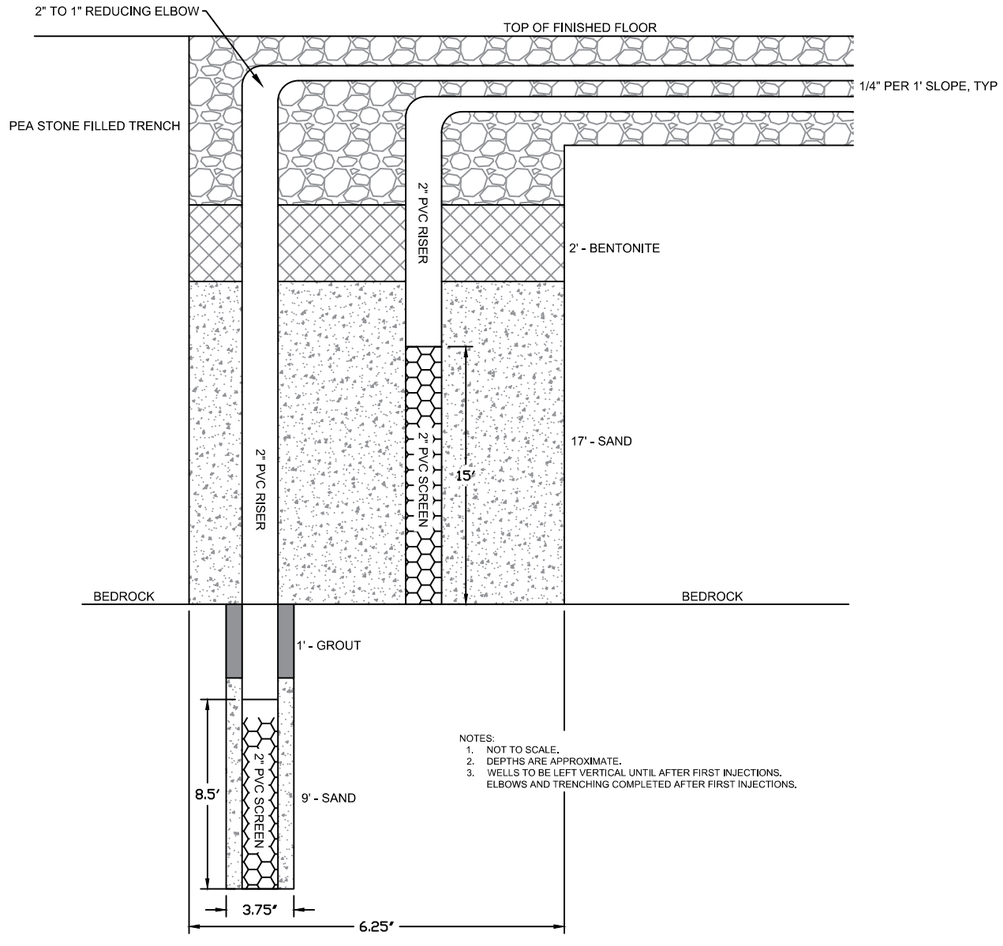
ISSUED FOR:
FINAL

DATE:
1-3-2020

DESIGNED BY: AA
DRAWN BY: DRP
REVIEWED BY: AA
SCALE: NTS

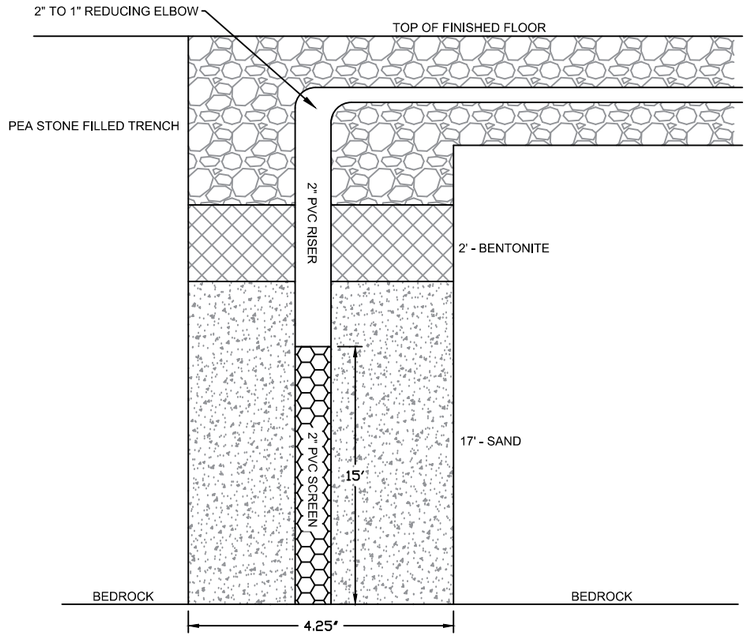
PROJECT/DRAWING NUMBER
2182207

FIG 5



NOTES:
1. NOT TO SCALE.
2. DEPTHS ARE APPROXIMATE.
3. WELLS TO BE LEFT VERTICAL UNTIL AFTER FIRST INJECTIONS. ELBOWS AND TRENCHING COMPLETED AFTER FIRST INJECTIONS.

NESTED PAIR OVERBURDEN AND BEDROCK TREATMENT WELL



NOTES:
1. NOT TO SCALE.
2. DEPTHS ARE APPROXIMATE.
3. WELLS TO BE LEFT VERTICAL UNTIL AFTER FIRST INJECTIONS. ELBOWS AND TRENCHING COMPLETED AFTER FIRST INJECTIONS.

OVERBURDEN TREATMENT WELL

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DRAWING TITLE
TREATMENT WELL DETAILS

ISSUED FOR: FINAL
DATE: 1-3-2020
DESIGNED BY: AA
DRAWN BY: DRP
REVIEWED BY: AA
SCALE: NTS

PROJECT/DRAWING NUMBER
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FIG 6

APPENDIX 1

Secondary Containment Information

Spillguard

12’ x 16’ x 12”

Overview:

The 12’ x 16’ x 12” Spillguard is a patented one-piece, heat-welded berm with permanently attached support legs and reinforced seams. In an effort to carry over our vision of an environmentally safe and incident-free workplace, our exclusive patented Spillguard comes in both standard and acid resistant models.

Features:

- Wrap around corners to prevent leaks
- Chemically resistant containment fabric
- Safety orange support straps
- Sturdy tie-down grommets
- Available in acid and standard tan models

Specs:

- Acid model Spillguards approved for a temperature range of -10 to 160 degrees Fahrenheit.
- Standard model (tan) Spillguards are approved for use in temperatures ranging from -50 to 160 degrees Fahrenheit.
- All Spillguard models feature chemical compatibility for use with Sodium Hydroxide, Water and Fertilizer solutions.
- Acid model Spillguards can be used in applications with Sulfuric acid, Sodium Hydroxide, Hydrochloric acid and Sodium Hypochlorite.
- Standard model spillguards require engineering review prior to use with Diesel, Gasoline, Crude oil and Mineral-based Hydraulic Fluid.

Accessories:

- Hose bridge
- Modular spillguards to run under pipeline
- Puncture resistant track belts
- Puncture-resistant ground mats
- SolidGround™ Traction Mats
- Spillguard Hose Bridge

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APPENDIX 2

Schedule

ID	Task Name	Duration	Start	Finish
1	Treatment Well Installation	31 days	1/15/20	2/26/20
2	First Round Chemical Treatment	14 days	2/27/20	3/17/20
3	Trenching, horizontal piping connections, floor restoration	30 days	3/18/20	4/28/20
4	First Round Groundwater Monitoring	2 days	4/29/20	4/30/20
5	Second Round Groundwater Monitoring	2 days	6/10/20	6/11/20
6	Construction Completion Report	30 days	6/12/20	7/23/20