Wolverine GSI Summary and Work Plan Review

Richard R. Rediske, Ph.D.

Wolverine Community Advisory Group

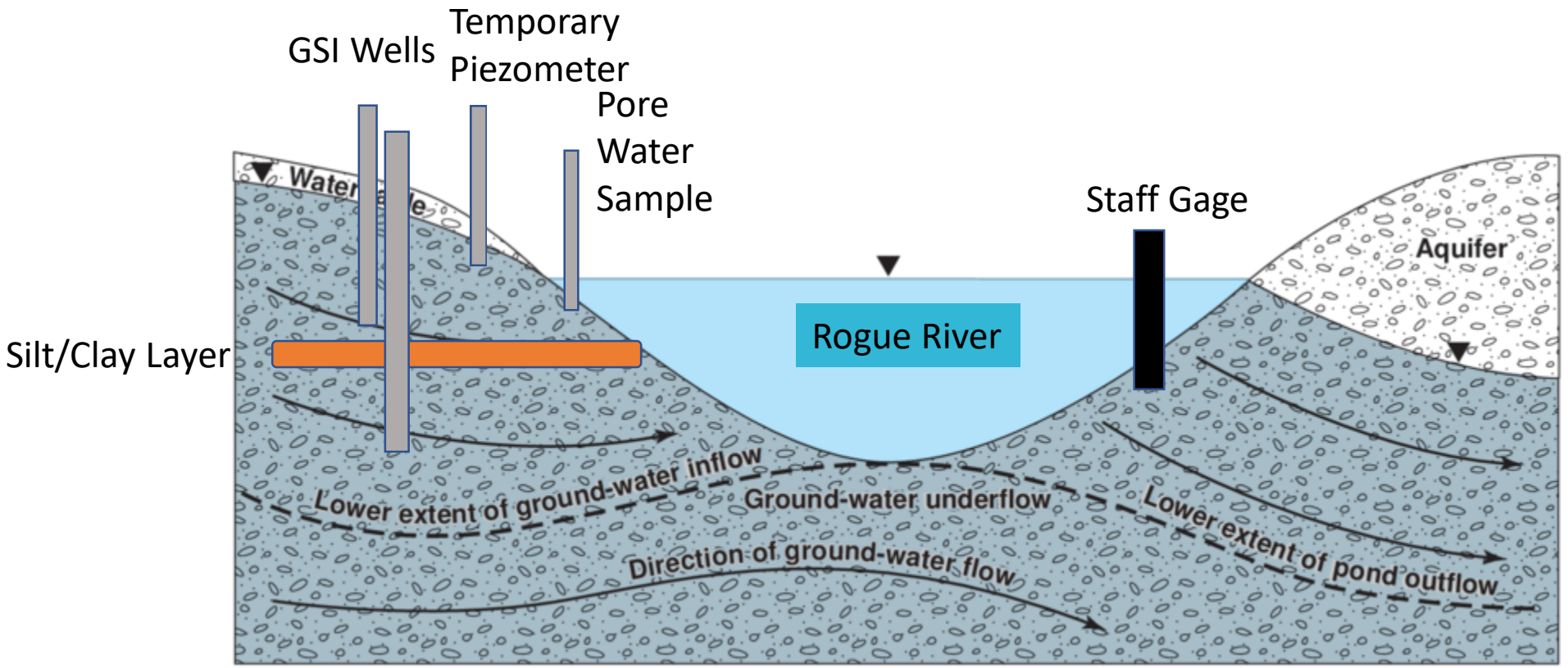
Consent Decree

- Defendant shall conduct a study of the potential for groundwater contamination to discharge to surface water in accordance with Appendix S— Statement of Work for GSI Investigation and the Response Activity (porewater sampling)
- Within ninety (90) Days of completing the work required by Paragraph 7.10(a), Defendant shall submit a work plan for the installation of needed permanent GSI wells to MDEQ for its review and approval. The work plan shall provide for the installation of **GSI wells at up to forty (40) locations with 1-3 wells per location with a cap of 80 wells total**. **(Wolverine is proposing only 17 GSI wells)**
- Upon MDEQ's approval for the permanent GSI well work plan submitted hereunder, the Defendant shall initiate the work outlined in the plan in accordance with the approved implementation schedule.

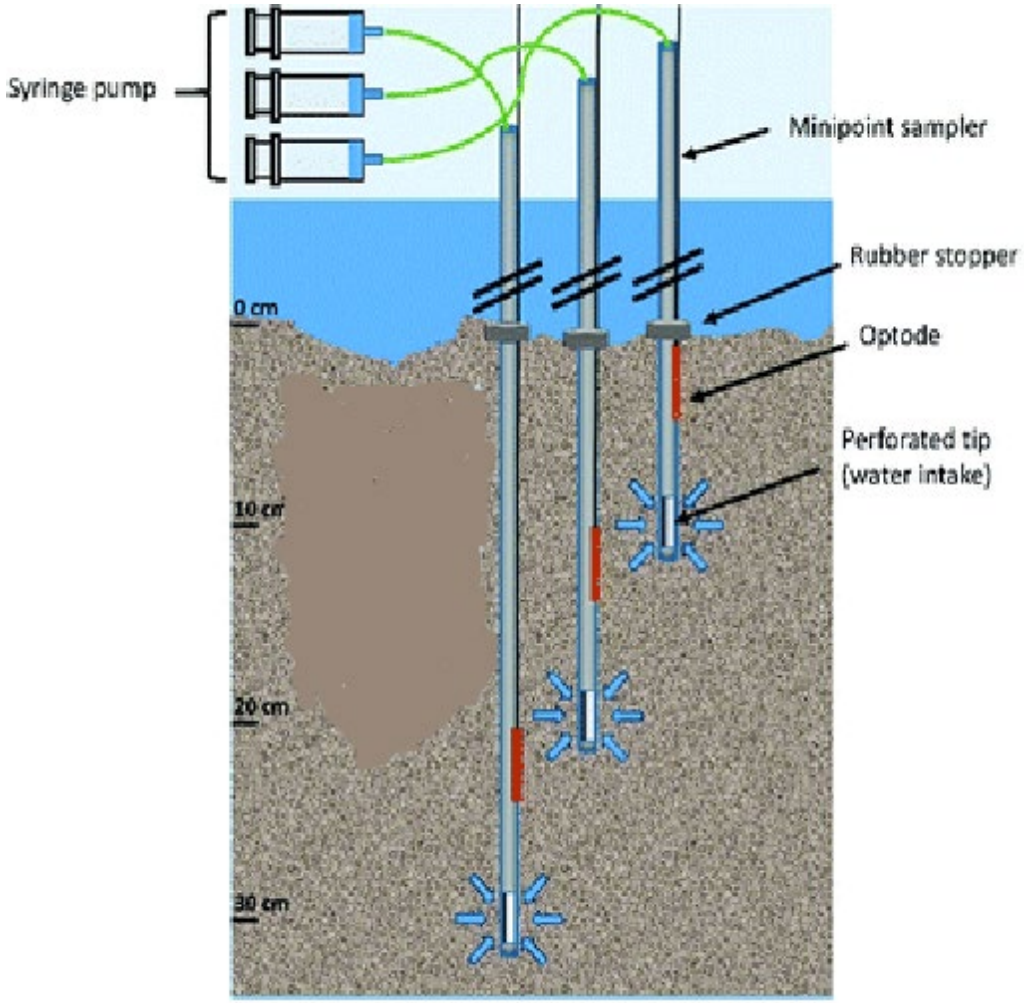
Consent Decree

- Defendant shall conduct quarterly sampling at the installed GSI wells for one (1) year.
- **Based on the information gathered from the work conducted under Paragraphs 7.10(b), 7.10(c), and 7.10(d), Defendant may submit a work plan to MDEQ that proposes to install interceptor systems or undertake other Response Activities to stop the venting of contaminated groundwater containing PFAS Compounds above applicable criteria into surface water no later than two (2) years after approval of the Completion Report submitted pursuant to Paragraphs 7.12(a)(vii). Any work undertaken by Defendant under this Paragraph shall be conducted pursuant to a work plan reviewed and approved by MDEQ.**

Groundwater Surface Water Interface (GSI)

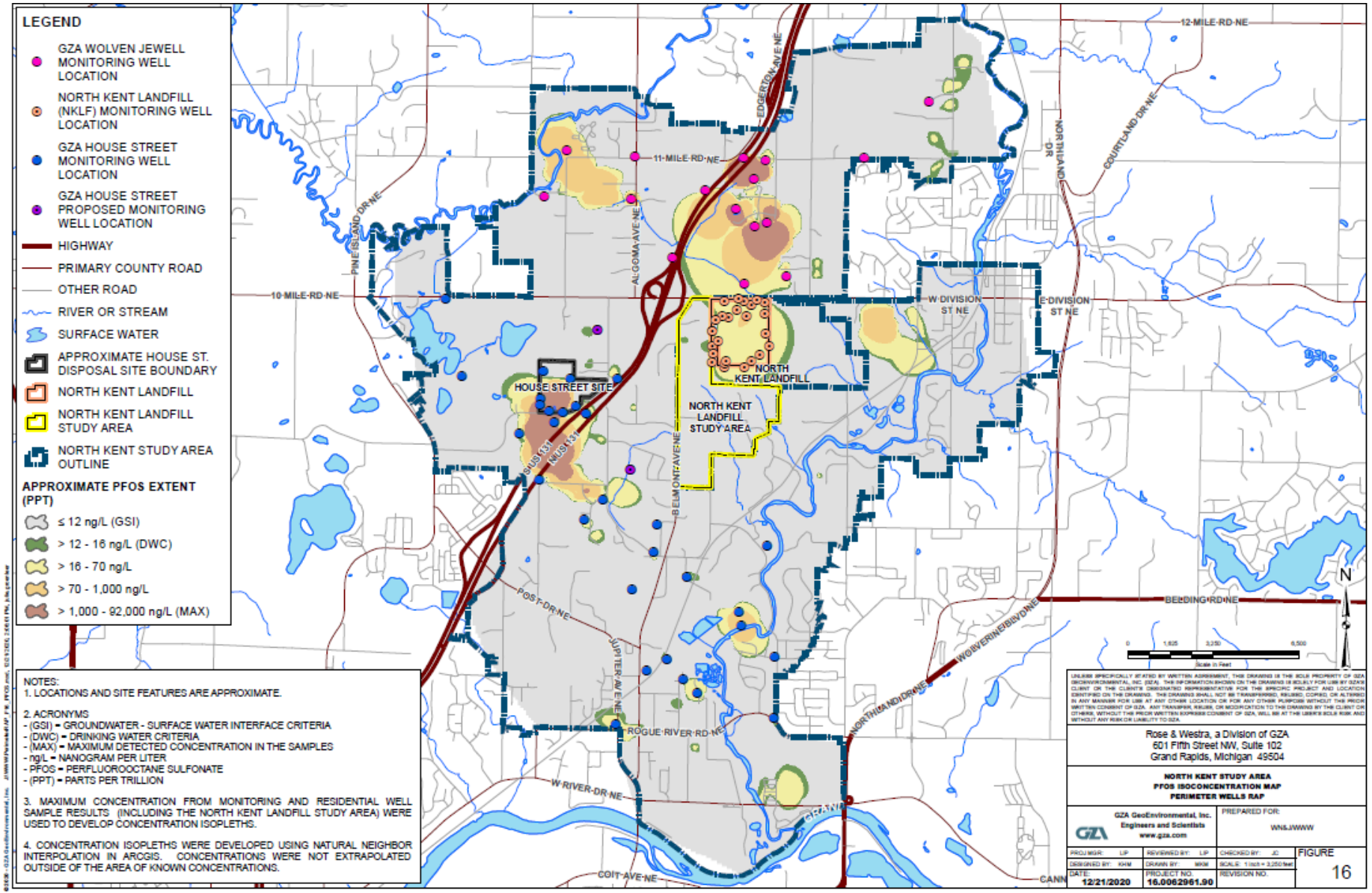


Pore Water Sampling

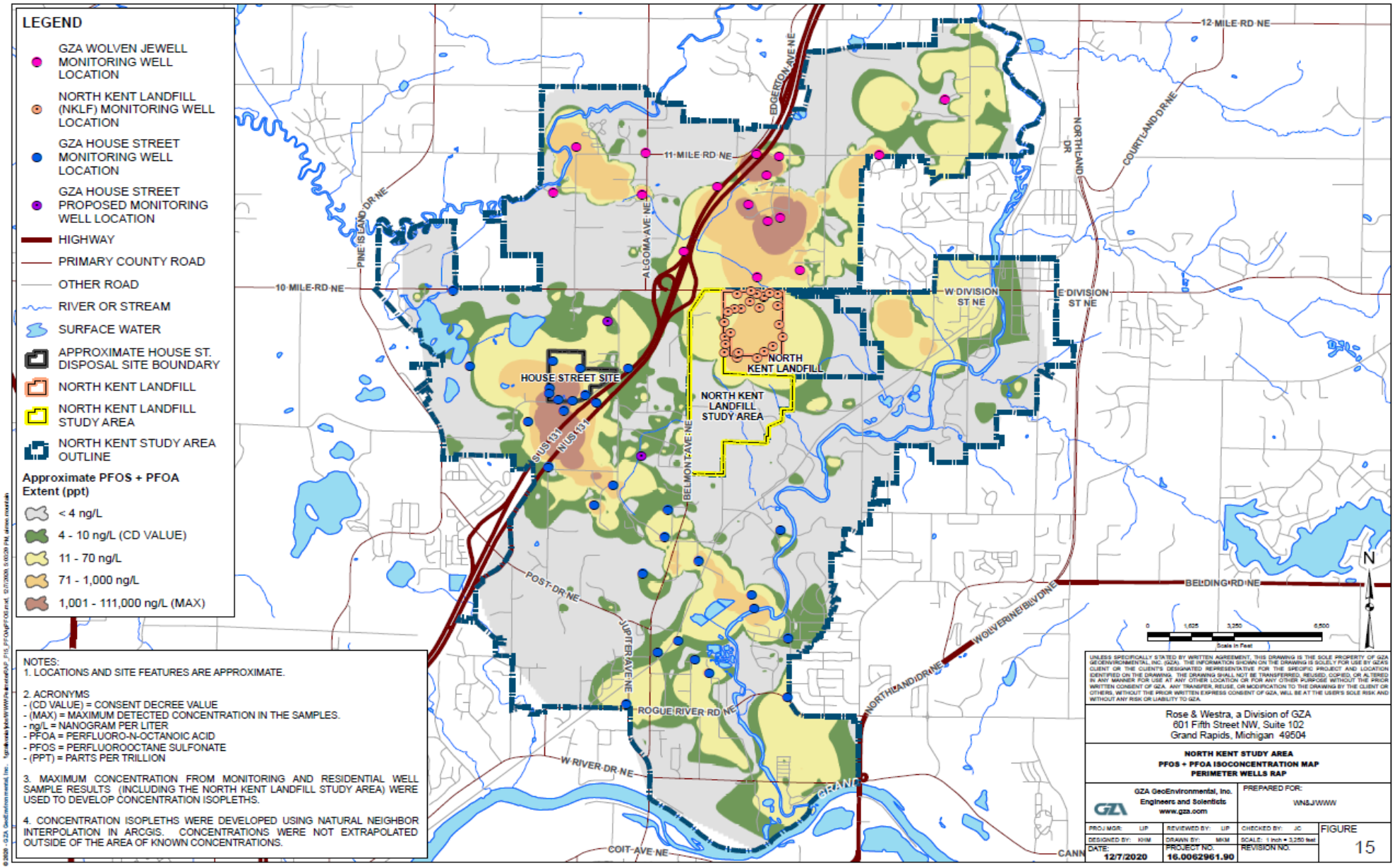


- Using a multiparameter meter (as specified in the QAPP) with a flow-through cell, R&W/GZA will measure pH, temperature, conductivity, dissolved oxygen and ORP from the pore-water interval and will compare it to measurements collected concurrently from the river. Both readings will be documented on a field data sheet.
- Once the field readings from the pore water have stabilized and the pore water readings are distinguishable from the river readings (i.e., >10% difference for parameters except for temperature), the pore water will be sampled.
- **R&W/GZA did not include this important data in the report.**

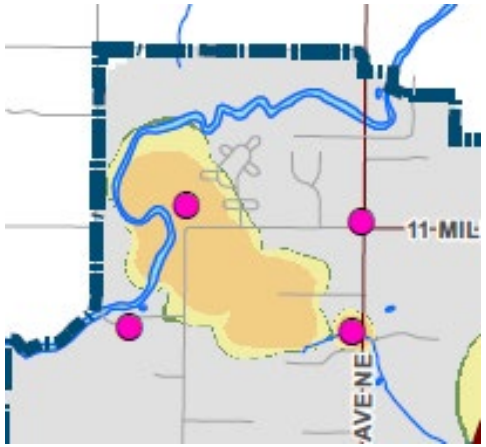
PFOS Extent Map 12/21/20



PFOS+PFOA Plume Map 12/7/20

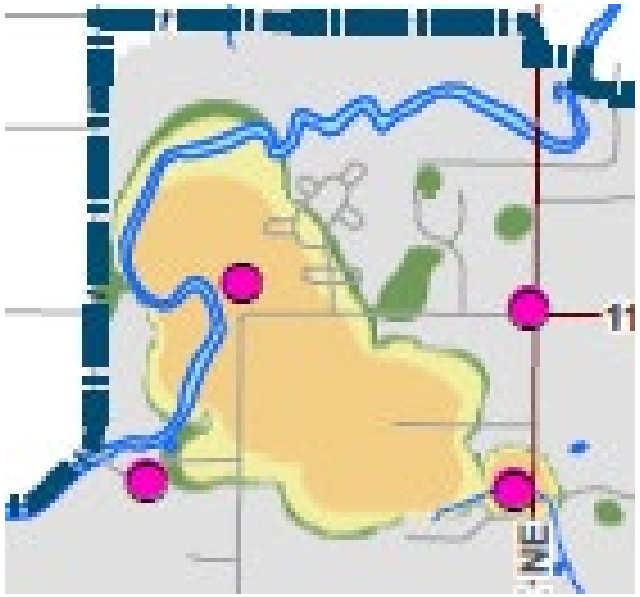


Wolven Jewel West



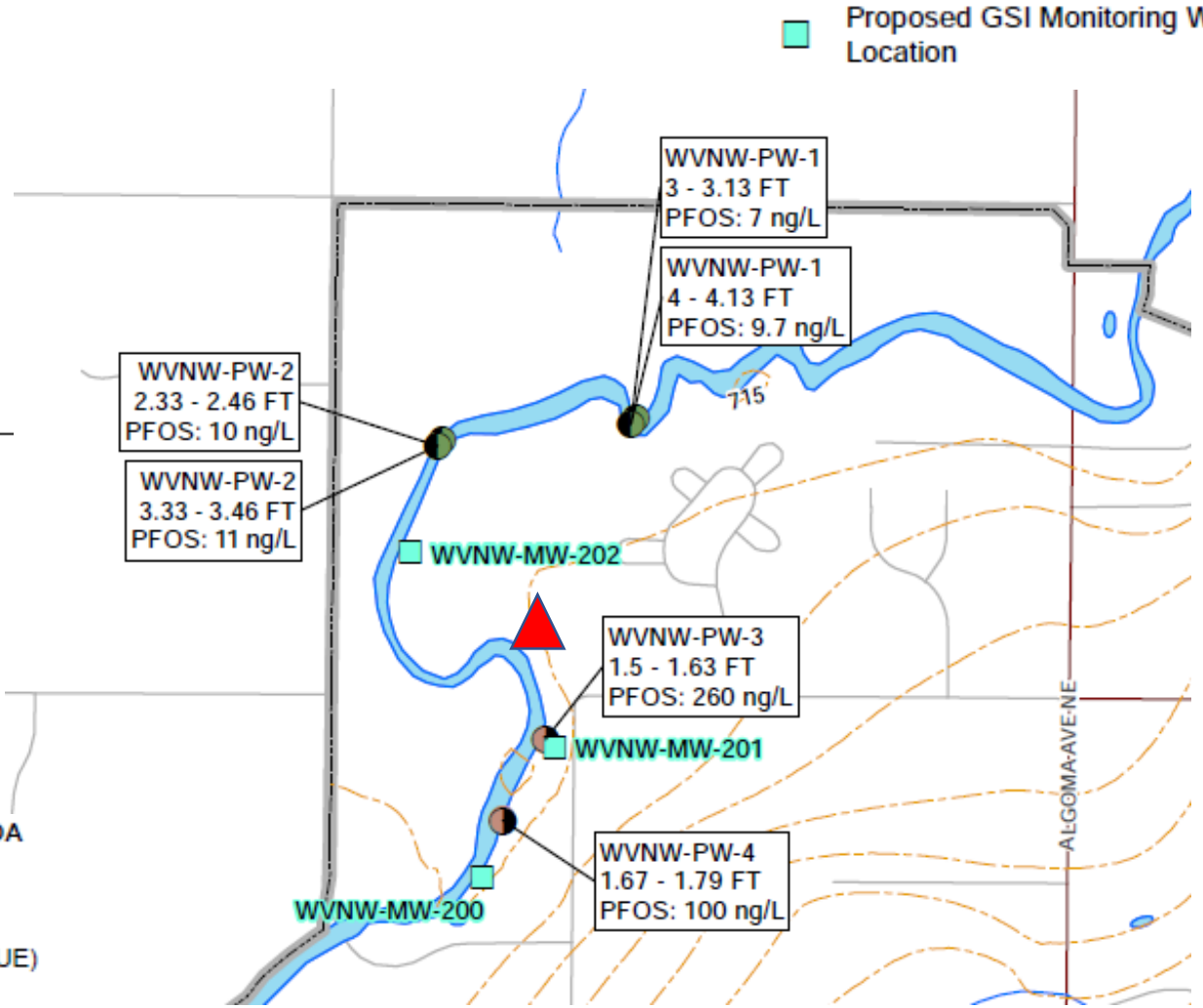
APPROXIMATE PFOS EXTENT (PPT)

- ≤ 12 ng/L (GSI)
- > 12 - 16 ng/L (DWC)
- > 16 - 70 ng/L
- > 70 - 1,000 ng/L
- > 1,000 - 92,000 ng/L (MAX)

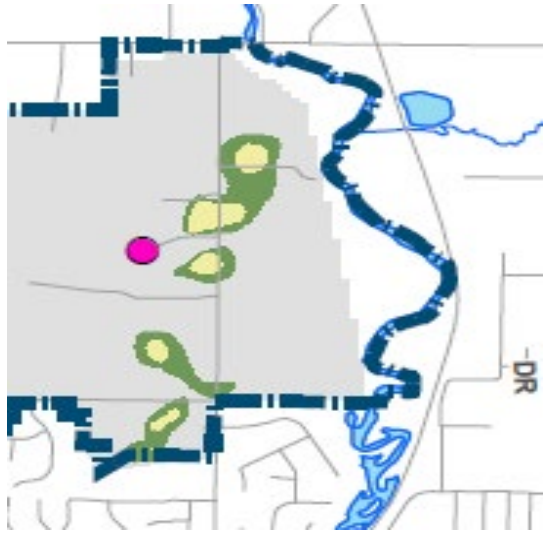


Approximate PFOS + PFOA Extent (ppt)

- < 4 ng/L
- 4 - 10 ng/L (CD VALUE)
- 11 - 70 ng/L
- 71 - 1,000 ng/L
- 1,001 - 111,000 ng/L (MAX)



Wolven Jewel East



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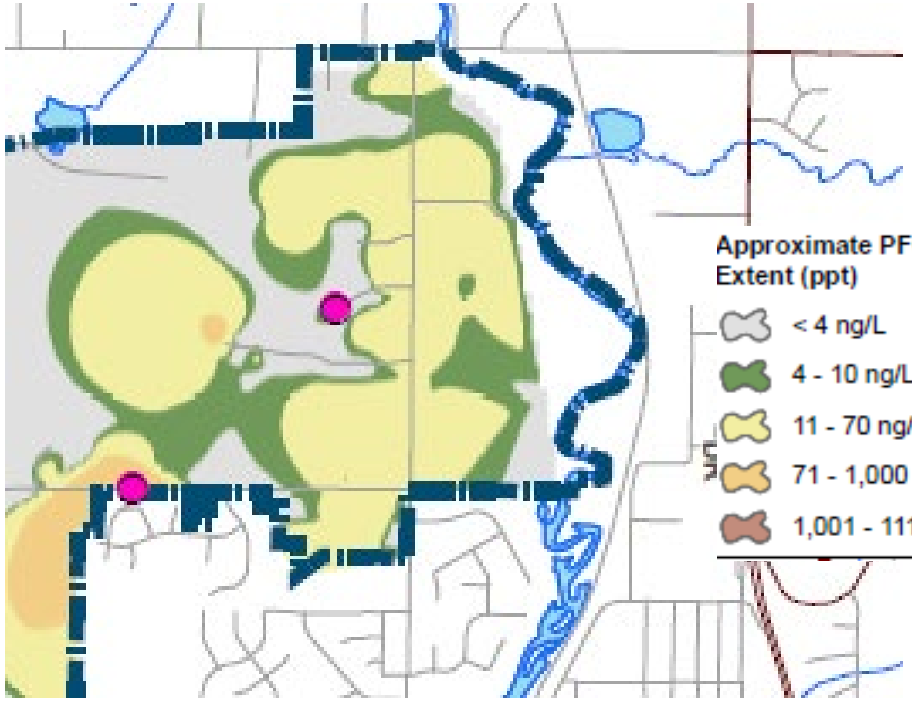

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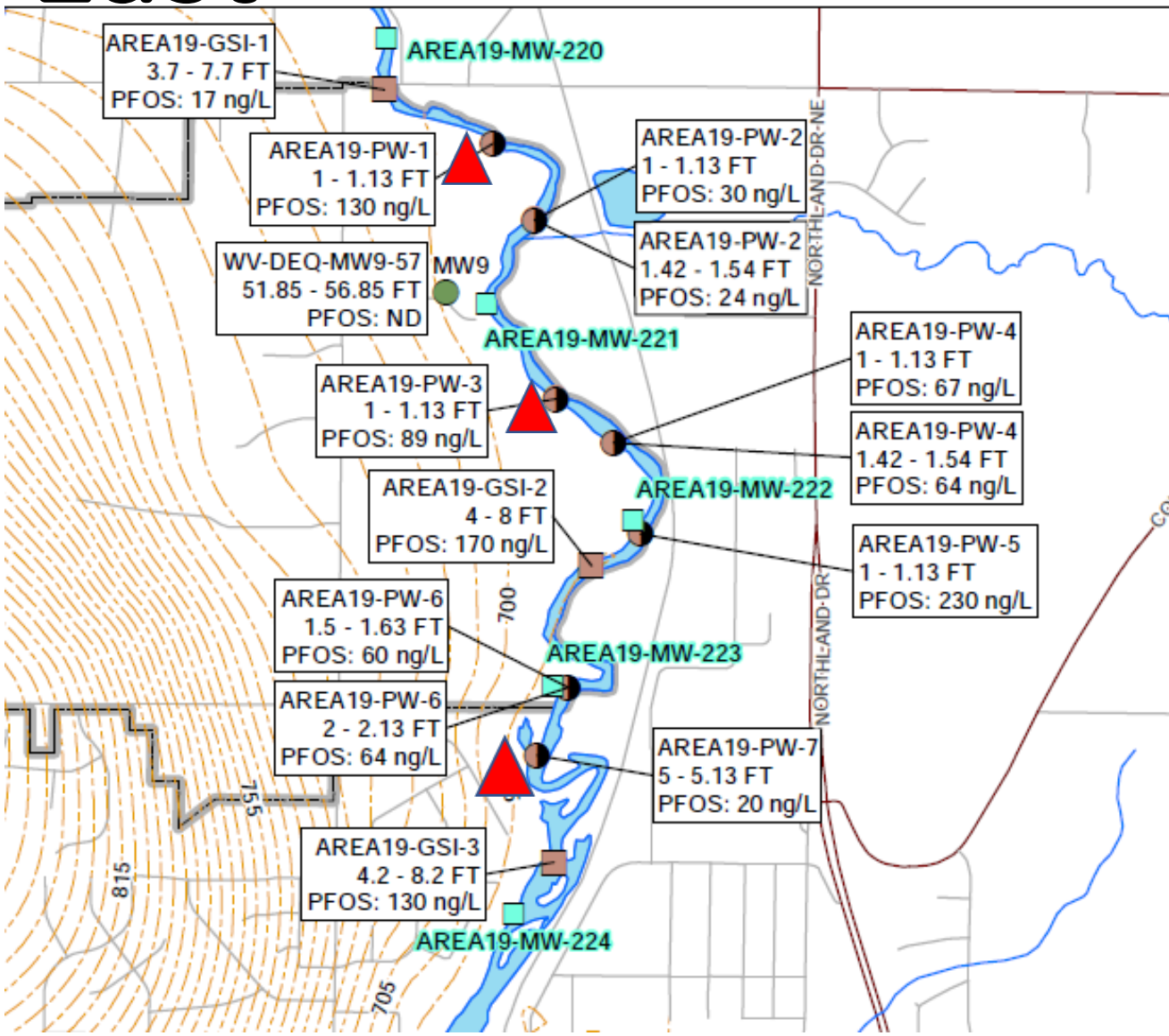
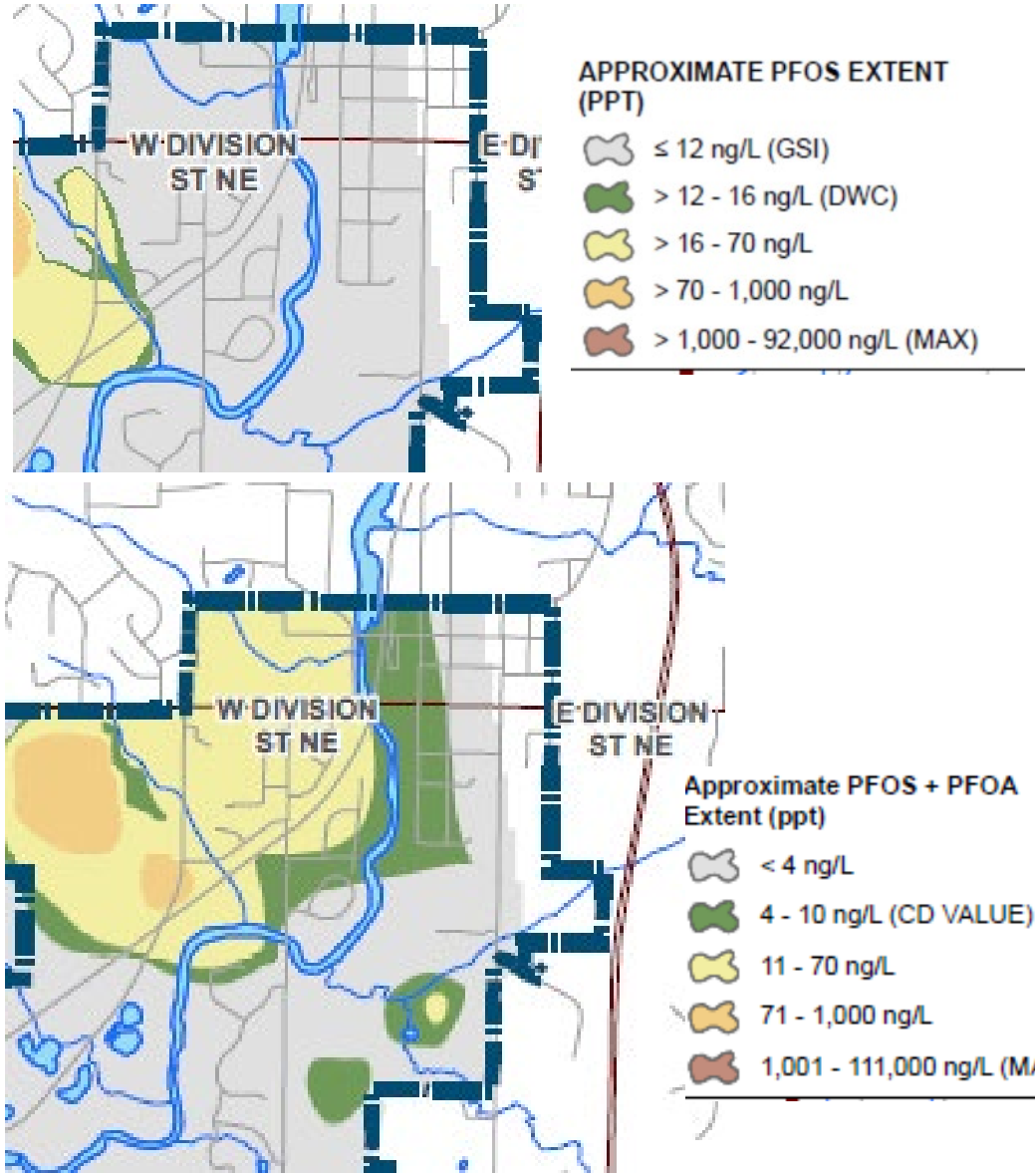
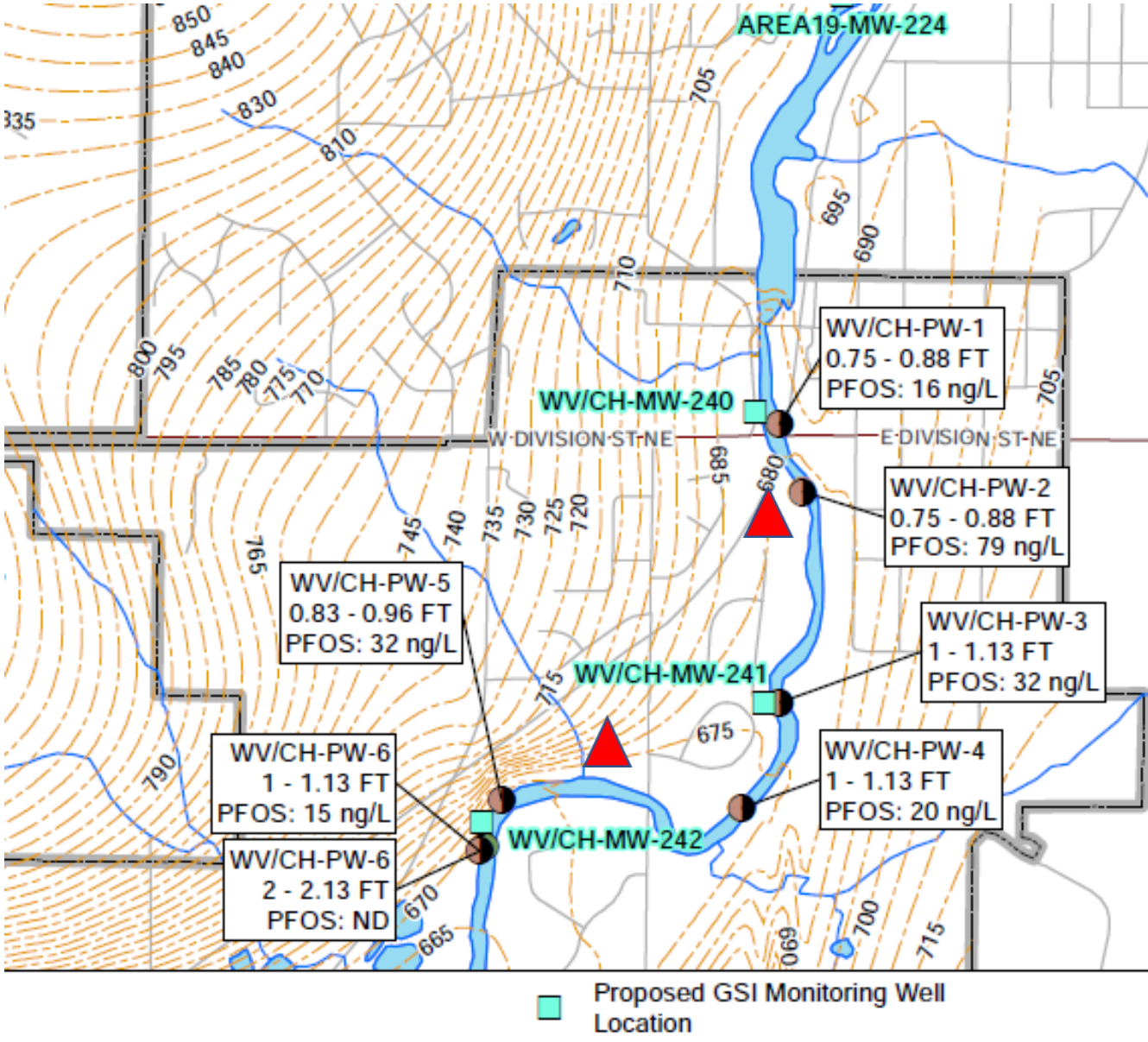


▲ Recommended GSI Well Location

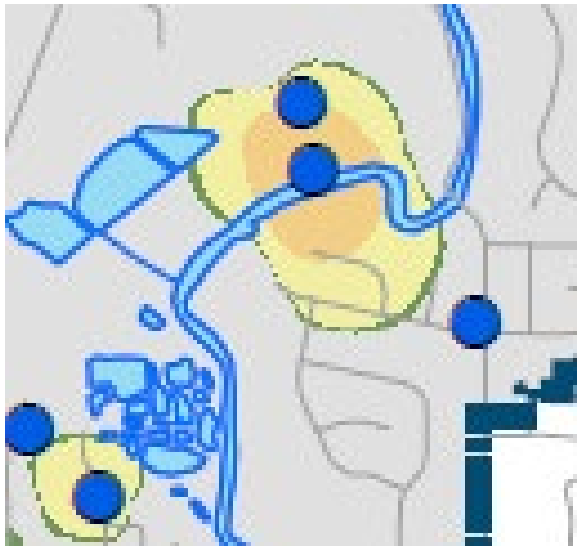
□ Proposed GSI Monitoring Well Location

Tannery South





House Street Plume



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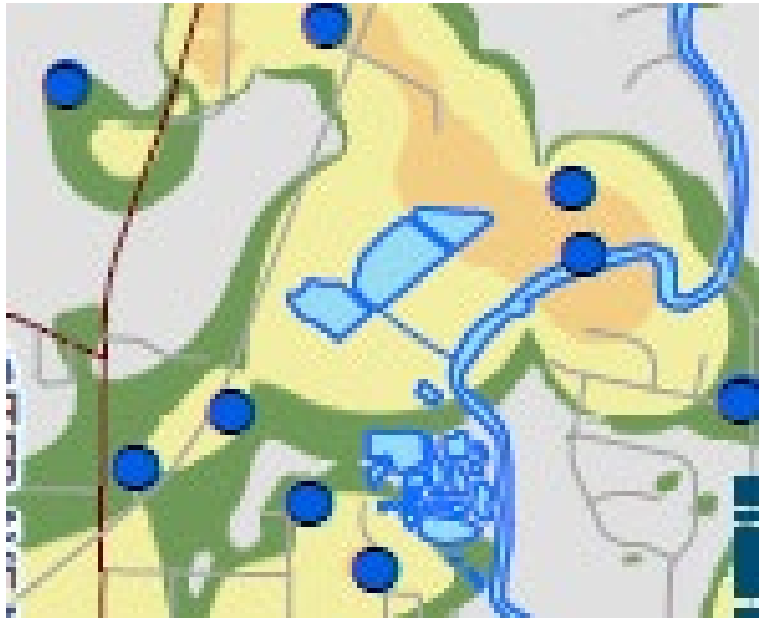

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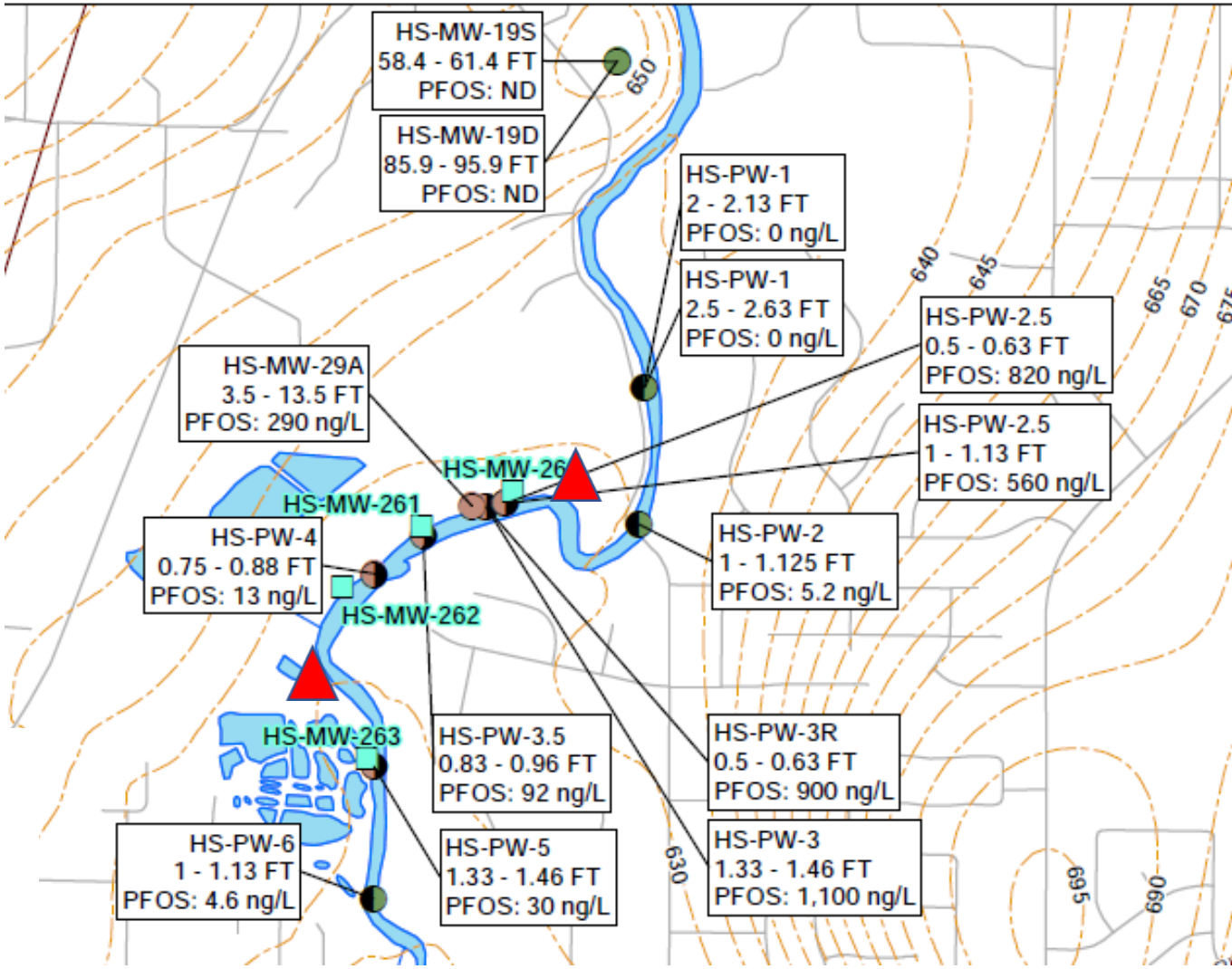

Recommended GSI Well Location

Proposed GSI Monitoring Well Location

Lower Rogue

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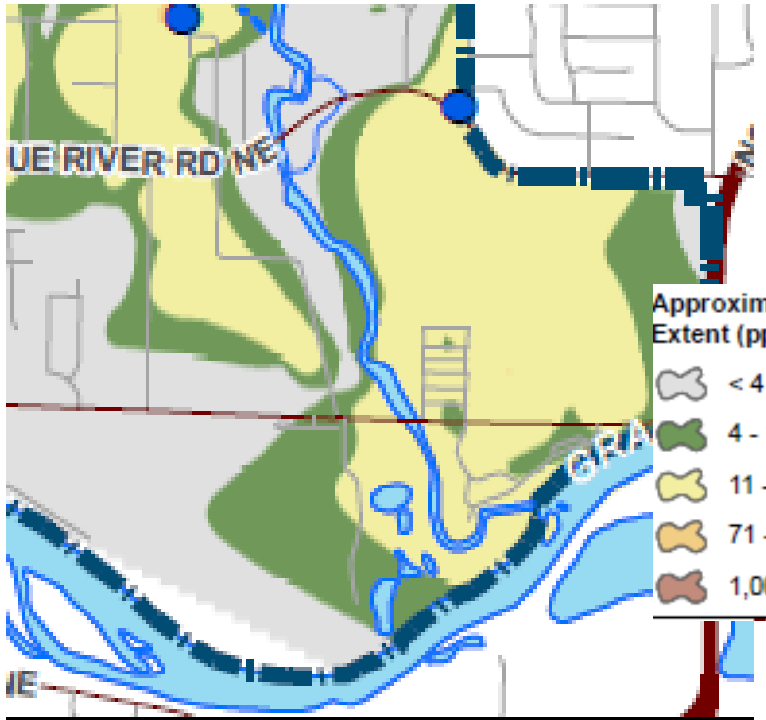

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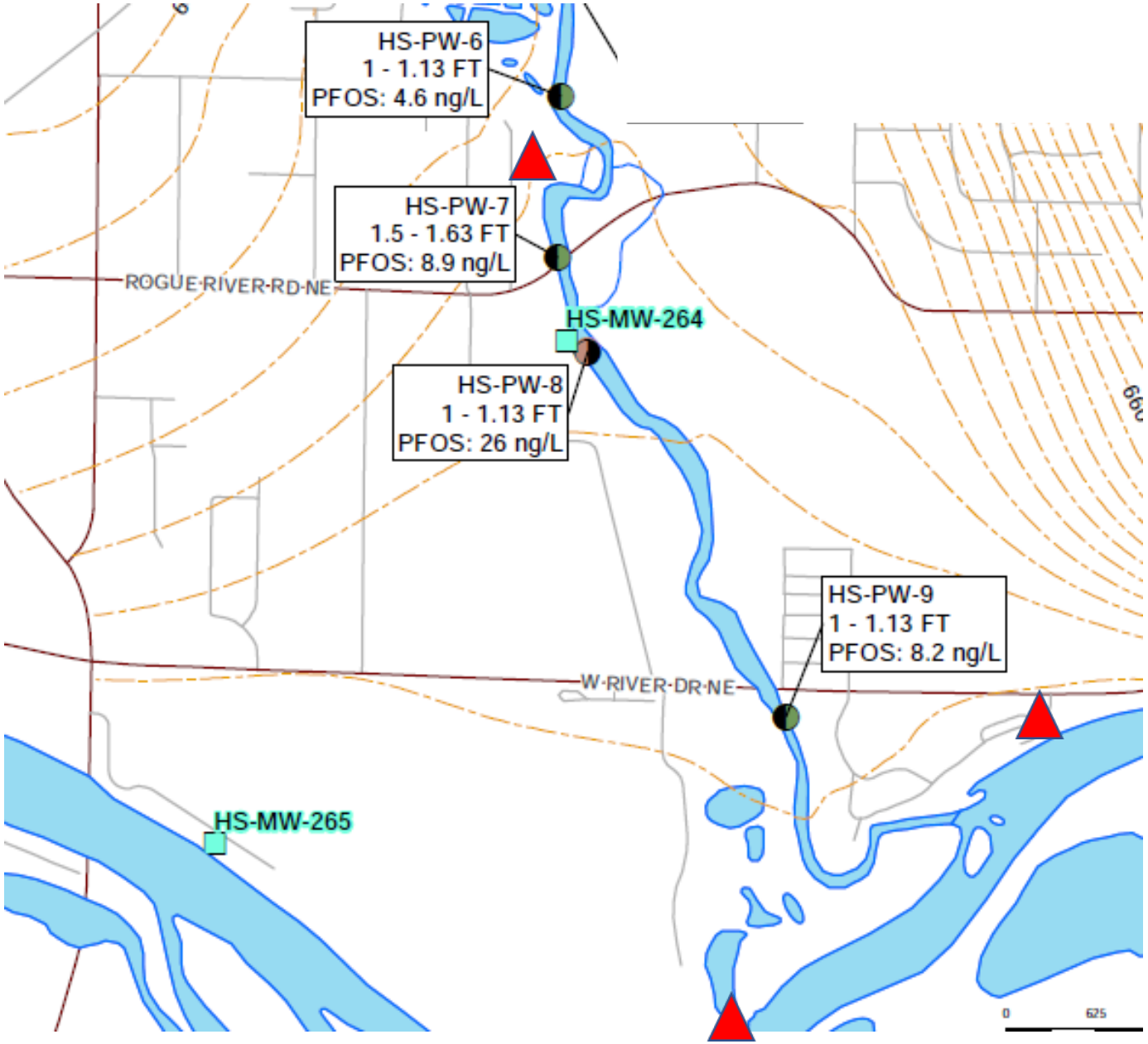

Recommended GSI Well Location

Proposed GSI Monitoring Well Location

Recommended Comments

- Request the opportunity to review and comment on the pore water collection data which was omitted from the report
- Request the placement of additional GSI wells to better define the plume in contaminated areas
- Require Wolverine to produce an accurate plume map that reflects the current data showing PFOS entering the Rogue River above the GSI standard.