PINGREE GROVE
Since 1907

May 18, 2022

Ms. Heidi Allen
Illinois Environmental Protection Agency
1021 E North Grand Ave,
Springfield, IL 62702

Re: Request for Waiver of AIS Provisions for 18" OD x .500" Wall well casing pipes (ASTM-A-53 prime pipe, API 5-L Grade B) for the Village of Pingree Grove, IL Water Treatment Plant No. 2 and Well No. 3, Fehr Graham Engineering & Environmental Project No. 19-800.

Dear Ms. Allen:

This letter serves as a formal request from the Village of Pingree Grove to obtain an American Iron and Steel (AIS) Project Specific Waiver for the use of non-AIS certified well casing for the Water Treatment Plant No. 2 and Well No. 3 project due to material availability in the United States (US). Please find attached a copy of specifications which pertain to these materials.

The contractor for this project has been in contact with multiple suppliers of well casings, all of whom cannot furnish the required product. Several suppliers have been in contact with other manufacturers of well casings that meet the required design specifications. However, these manufacturer's products cannot be AIS certified.

Table 1: List of Suppliers

18" OD x .500" Wall Well Casing (ASTM-A-53 prime pump, API 5-L Grade B)
[redacted]
[redacted]

This project is an integral part of the infrastructure system for the Village of Pingree Grove and completing this project in a timely manner is critical. Procurements of these materials is imperative to the project's schedule, and the Village of Pingree Grove respectfully requests that the EPA review and provide a determination on this AIS Waiver Request at the soonest possibility which would allow the project to continue on schedule. A delay in the acquisition of these

materials could lead to months or more worth of delay for the Water Treatment Plant No. 3 and Well No. 2 project.

We are eager to hear back from you soon regarding your approval of this waiver request. If any additional information is needed, or questions arise on this project, please feel free to contact me at (847) 464-5533.

Sincerely,

Jeff Cook
Village Manager
Village of Pingree Grove

This waiver request was submitted to the EPA by the state of Illinois. All supporting correspondence and/or documentation from contractors, suppliers or manufacturers included as a part of this waiver request was done so by the recipient to provide an appropriate level of detail and context for the submission. There may be documents with project diagrams, schedules, and supplier correspondence in formats that do not meet the Federal accessibility requirements for publication on the Agency's website. Hence, these exhibits have been omitted from this waiver publication. They are available upon request by emailing DWSRFWaiver@epa.gov.

Attachment A:

Specification

SECTION 33 21 00

PUBLIC WATER SUPPLY WELLS

PART 1 – GENERAL

1.01 TO BE FURNISHED BY THE CONTRACTOR

A. The Contractor shall furnish all labor, superintendence, transportation, machinery, tools, rigging, casing, fuel or power, materials, supplies and all else necessary to perform and complete in an accurate manner the production well construction work to convert the existing test well into a production well in conformity with these specifications and as called for by the respective bid items. The contractor shall secure and pay for all licenses as may be required by the laws of the State of Illinois. The Contractor shall conform with the regulations of the Environmental Protection Agency of the State of Illinois and the Standards contained in AWWA A100 and shall be licensed by the Illinois Department of Public Health.

B. Included in the above shall be electricity for light and power if required, fuel for operation of air compressor or gas engine operated pumping equipment, discharge piping from pump to waste and calibrated gages for measuring water level and for pump discharge.

C. The Contractor will furnish water for the cleaning operations.

D. Contractor shall disinfect all production wells, well pumps, and drop pipe.

E. Related items specified elsewhere:

1. 01 33 23 – Shop Drawings, Product Data and Samples
2. 43 25 13 – Submersible Centrifugal Pumps

F. This construction is for a deep rock and sand well with an estimated yield of 1,100 GPM.

1.02 QUALITY ASSURANCE

A. The Contract Documents are intended to describe all details of a complete equipment installation for the purpose specified. The Contractor shall be responsible for all details necessary for properly installing, adjusting and placing into operation a complete working system.

1.03 SAMPLES AND RECORDS

A. The Contractor shall keep an accurate record of the location of the top and bottom of each stratum penetrated and an accurate record as to the size and length of casing pipe installed in the well and shall save and deliver to the State Geological Survey Division, Urbana, Illinois, a copy of the record and sample of material taken from each 5 feet of drilling and at each change in formation. Samples shall be forwarded to the State Geological Survey in accordance with their instructions.

1. A duplicate set of geological samples shall be provided to the Engineer. The samples should be collected in plastic, sealed bags, labeled to exact depth. A complete set should be provided to the Engineer's office after construction is complete.

B. The Contractor shall perform the collection of necessary water samples for water quality analysis. The Contractor will be responsible for obtaining the laboratory analyses and turning it over to the Engineer. Contractor shall notify Engineer for inspection of the collection 48-hours in advance of operation.

1. IEPA Lab Analysis Parameters required.

VILLAGE OF PINGREE GROVE - PRODUCTION WELL LAB ANALYSIS PARAMETERS:

*List Extracted from Attachment 1 of Schedule C-1 Well Construction Permit Form

Water Quality Parameters		
Hardness		Alkalinity
Inorganic Chemical Constituents		
Antimony	Cobalt	Radium-226
Arsenic	Copper	Radium-228
Barium	Cyanide	Selenium
Beryllium	Fluoride	Silver
Boron	Iron	Sulfate
Cadmium	Lead	Thalium
Calcium	Manganese	Total Dissolved Solids (TDS)
Chloride	Mercury	Vanadium
Chromium	Nickel	Zinc
	Nitrate as N	

Organic Chemical Constituents	
Alachlor*	ortho-Dichlorobenzene
Aldicarb	para-Dichlorobenzene
Aldrin	Dibromochloropropane*
Atrazine	1,2-Dichloroethane*
Benzene*	**1,2-Dichloropropane**
Benzo(a)pyrene*	1,1-Dichloroethylene
Carbofuran	cis-1,2-Dichloroethylene
Carbon Tetrachloride*	trans-1,2-Dichloroethylene
Chlordane*	Methoxychlor
Chlorobenzene	Methyl Tertiary-Butyl Ether
Dalapon	Monochlorobenzene
Dichloromethane*	**Oxamyl (Vydate)**
DDT	Pentachlorophenol*
Di(2-ethylhexyl) adipate	Phenols
Dieldrin	Picloram
Di(2-ethylhexyl)phthalate*	Polychlorinated Biphenyls(PCBs)(as decachloro- biphenyl)*
Dinoseb	Simazine
Diquat	Styrene
Endothall	2,4,5-TP (Silvex)
Endrin	Tetrachloroethylene*
Ethy benzene	Toluene
Ethylene Dibromide*	Toxaphene*
Heptachlor*	1,1,1-Trichloroethane
Heptachlor Epoxide*	1,1,2-Trichloroethane
Hexachlorobenzene	1,2,4-Trichlorobenzene
Hexachlorocyclopentadiene	Trichloroethylene*
Lindane (Gamma-Hexachlorocyclohexane)	Vinyl Chloride*
2,4-D	Xylenes

Denotes a carcinogen List includes constituents listed in Section 620.410 Class I: Potable Resource Groundwater and nine constituents required by Drinking Water Compliance Assurance noted above in **Bold.**

C. The geologic log of formations included is offered only as a guide to bidders and is based upon data from test well data. The Proposed Well drilling and casing depths may need to be field adjusted as necessary to match actual geologic conditions. Casing depths to be submitted for approval by Engineer and Owner prior to placement.

1.04 SUBMITTALS

A. Shop Drawings and Product Data

1. Submit shop drawings and product data in compliance with Section 01 33 01 for the well rehabilitation.

1.05 DRILL LOGS, PUMPING RECORDS, CCTV VIDEO, GAMMA LOG AND LAB SAMPLING PARAMETER

A. The Contractor shall collect and record all of the data required in a professional manner. Information shall be typed and accurate as collected. The Contractor shall provide two (2) bound hard copies of all documentation to Engineer before final payment. During the project, the Contractor shall share data collection as phases of the project are being completed with the Engineer to provide progress updates for evaluation.

1. Drill Logs – Logs will be collected and recorded in 5-foot increments from the geological samples and detailed characteristics discovered from the formation material. To be provided prior to placement of casing pipe.

2. Field Measurements – During pumping and development of the well, the following information shall be recorded and collected from the water pump testing profile by the contractor and reviewed by the engineer.

1. Conductivity	8. Pumping Level (Feet)
2. Temperature (C)	9. Draw Down (Feet)
3. Formation Start/Stop Log Records	10. Run Time Prior to Sampling (Min)
4. Flow Rate (Pumping Gal/M)	11. Turbidity
5. Field pH	12. Max GPM for Aquafer Available
6. Notes of Odor or Discoloration of Discharge	13. Methane Gas Level in Well Casing
7. Static Water Level (Feet)	14. Methane level in pumped water

3. CCTV Video – Contractor shall supply two (2) DVD videos or flash drive videos of the CCTV log to the Engineer. Video shall include casing, welds, and entire borehole highlighting areas of fracture, etc. Videos must be clear, and borehole must be visible for evaluation.

4. Gamma Log – Contractor shall provide two (2) Gamma logs of the borehole data. Information shall be recorded on the downward and upward logging operation.

1.06 TO BE FURNISHED BY THE OWNER

A. The Owner will furnish the land over which the Contractor must pass and land upon which the well is located. Location of the well site is indicated on the Contract Drawings.

1.07 WORKMANSHIP

A. Skilled workmanship of the highest class will be required on this work. The Contractor shall be an experienced and recognized specialist in the practice of well drilling and rehabilitation and shall employ none but experienced drillers to conduct the work under his supervision.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Well Casing and Liner Pipe

1. All pipe shall be truly circular in cross section, shall be new wrought steel pipe and shall have welded connections. The bottom of all casing pipe and top and bottom of all liners shall be fitted with a steel drive shoe to protect the ends of the casing and liner pipe from damage. All pipe shall be ASTM-A-53 prime pipe, API 5-L Grade B, or equal.

2. All casing pipe must meet AIS Guidelines and provide certification of compliance to Owner prior to payment. Submit certifications to Engineer. (See AIS Certification, Attachment No. 5).

PART 3 – EXECUTION

3.01 DEVELOPMENT OF WELL

A. The Well must be developed to remove the native silts and clays, drilling mud or finer fraction of the gravel pack.

B. Development must continue until the maximum specific capacity is obtained from the completed well.

C. Where chemical conditioning is required, specifications submitted to the Agency under 35 Ill. Adm. Code 602 must include provisions for the method, equipment, chemicals, testing for residual chemicals, and disposal of waste.

D. Where blasting procedures are used, specifications submitted to the Agency under 35 Ill. Adm. Code 602 must include the provisions for blasting and cleaning. The grouting and casing must not be damaged by the blasting.

3.02 WELL CONSTRUCTION

A. GENERAL

The Contractor shall conduct his work in accordance with Title 35, Subtitle H of the State of Illinois rules and regulations regarding noise pollution, with hours of operation for drilling listed in the Special Provisions.

The Contractor shall commence work and complete the work within the time set forth in the Contract Documents, and once mobilized on site shall work consecutive days (weekends excluded) without leaving the job site except for conditions related to adverse weather, equipment breakdowns, or other emergencies approved by the Engineer.

The Contractor shall provide and maintain a pit into which the cuttings removed from the well shall be deposited. This area must provide capture and erosion measures. Upon completion of the well, the Contractor shall backfill the area to ground surface with excess material left for the Owner's use or disposal, or shall spread excess material over the area, at Owner's option. The cuttings shall be hauled away at Contractor's expense in a timely manner. The area must be located away from the new Well House proposed building site and must not infringe on adjacent properties.

B. After completion of the exiting test well it was observed that methane gas in an amount of 36% was present in the upper casing of the test well. The raw water in the well contained 6.1 mg/l of methane after sampling. Contractor shall take all necessary precautions during drilling to account for the presence of methane. Sampling shall be completed by the contractor after entire casing as been installed to verify the presence of methane as gas and withing the raw water to determine if the aeration equipment must be constructed as presented in Alternate Bid A.

C. Well reaming, installation of casing, test pumping and water sampling must be completed first in the construction sequence to determine if Alternate Bid A will be utilized.

3.03 **BENTONITE DRILLING FLUID SHALL NOT BE USED IN DRILLING BELOW THE MAIN CASING**

A. A 24-inch (O.D.) casing was installed during construction of the Test Well to a depth of 235 feet. This casing is to be reused for Production Well.

B. A 23-inch diameter hole shall be drilled to a depth of 1,150 feet below the surface beginning at the end of the existing 24-inch casing. This hole shall be concentric within the existing 24-inch upper casing. The 23-inch hole will be reamed through the existing 10-inch Test Well hole.

C. A 18-inch (O.D.) diameter wrought steel casing pipe (93.51 # / ft.) having a minimum wall thickness of 0.5-inches, shall then be furnished and installed from approximately 2 feet above ground level to a 1,150-foot depth where the casing shall be grouted with a cement shoe. Joints shall be completely welded and ground per industry standards.

D. The lower end of the 18-inch O.D. steel pipe shall be fitted with a cement shoe.

E. The annular space between the outside of the 18-inch casing and inside of the 23-inch hole shall be filled with neat Portland cement grout from the bottom to the top by the Halliburton or other approved process.

F. Grout shall be proportioned of Portland cement and the minimum quantity of water required to give a mixture of such consistency that it can be forced through the grout pipes. Water used shall not exceed 6 gallons per cubic foot of cement.

G. The grouting shall be done continuously and in such a manner as will ensure the entire filling of the annular space in one operation. No drilling operations or other work in the well will be permitted within 72 hours after the grouting. Quick setting additives will not be allowed to be added to the cement.

H. Correct balance of pressures, both inside and outside of the 18-inch pipe, must be maintained to prevent collapse of pipes. Contractor to be completely responsible for this operation.

I. A 17-inch hole shall then be drilled from the bottom of the 18-inch casing to a depth of approximately 1,285 feet.

3.04 TESTING FOR PLUMBNESS AND ALIGNMENT

A. All holes shall be constructed, and all casing and liners set round, plumb, and true to line as defined herein. To demonstrate the compliance of his work with this requirement the Contractor shall furnish all labor, tools and equipment and shall make the tests described herein in the manner prescribed by, and to the satisfaction of the Engineer. Tests for plumbness and alignment must be made after the complete construction of the well and before its acceptance. Additional tests, however, may be made by the Contractor during the performance of the Work. Advance notice must be given to Engineer 48-hours prior to performing test.

3.05 DESCRIPTION OF TEST

A. Plumbness and alignment shall be tested by lowering into the well to a depth of 1,250 feet a section of pipe 40 feet long or a dummy of the same length. The outer diameter of the plumb shall not be more than 1/2 inch smaller than the diameter of that part of the casing or hole being tested. If a dummy is used, it shall consist of a rigid spindle with three rings, each ring being 12 inches wide. The rings shall be truly cylindrical and shall be spaced one at each end of the dummy and one ring in the center thereof. The central member of the dummy shall be rigid so that it will maintain the alignment of the axis of the rings.

3.06 REQUIREMENTS FOR PLUMBNESS AND ALIGNMENT

A. Should the plumb or dummy fail to move freely throughout the length of the casing or hole to a depth of 850 feet or should the well vary from the vertical in excess of two-thirds the smallest inside diameter of that part of the well being tested per 100 feet of depth, or beyond limitations of this test, the plumbness and alignment of the well shall be corrected by the Contractor at his own expense. Should the Contractor fail to correct such faulty alignment or plumbness, the Engineer may refuse to accept the well. The Engineer may waive the requirements of this paragraph for plumbness if, in his judgment: (a) the defect is due to circumstances beyond the Contractor's control; (b) the utility of the completed well will not be materially affected. In no event will the provisions of this paragraph with respect to alignment be waived.

3.07 TEST PUMPING

A. During the pump test, the Contractor shall monitor the static level. A pressure transducer shall be utilized during test pumping operations to provide increased data frequency at pump turn off and shut down. Data collection equipment shall have the ability to secure water level information at intervals not less than 5 seconds. Other test pumping data monitoring methods besides the installation of a pressure transducer will be considered by the Engineer as necessary.

B. The Contractor shall furnish and install the necessary test pumping equipment capable of pumping to the required point of discharge not less than 1,650 GPM with the top of the pump bowl assembly to be installed at approximately 750 feet below the ground surface. The pumping unit shall be complete with prime mover of ample power, controls and appurtenances and shall be capable of being operated without interruption for a period of 24 hours. If temporary power is interrupted, the test pump will be considered void, and a new test period shall be started at the contractor’s expense for the hours that are lost. The contractor shall be required to provide a discharge mag meter capable of reading the GPM out put that can be visually read by the Engineer during the test pumping procedures.

C. The Contractor shall furnish all necessary discharge piping for the pumping unit, which shall be of sufficient size and length to conduct the water from the well site without creation of a nuisance. The Contractor shall furnish and install in the well an airline system, complete with gauge, air pump, and fittings for the measurements of the water elevation. The airline shall not be less than pumping depth.

D. Except as otherwise provided, the Contractor shall furnish all labor, equipment, and other necessary materials required and shall operate the pumping unit at such rate of discharge and for such periods of time as directed. The Contractor shall keep a complete log of the test pumping and submit such to the Engineer.

E. The Contractor shall notify the State Water Survey prior to the start of the pumping test so that they may have a representative present if they so desire.

F. A sample of water from the pumping test shall be collected toward the end of the pumping test and sent by the contractor to the Illinois State Water survey for chemical analysis and permanent record. No chemicals shall be added to the Production Well that will affect the results of the water test. If the Contractor intends to use any chemicals for cleaning the Production Well, they must be approved by the engineer prior to use. Copy of analysis log chain will be provided to the Engineer.

G. Water and soil samples shall be collected by the Contractor from the sandstone/limestone formation at the base of the Production Well. The water analysis parameters list is provided previously in this section. The water lab analysis shall be performed by a State of Illinois certified lab. A sieve analysis will be performed on the soil samples from the sandstone/limestone formation. The Contractor shall be responsible for coordinating the sampling analyses.

H. Test well shall discharge to a sedimentation basin/ sedimentation tank with a drain erosion perimeter and above ground drain piping for water release directed towards the stream north of the well location.

3.08 PROTECTION OF WELL

A. The Contractor shall supply a temporary cap over the top of the well at all times, when work is not being performed on the well.

B. The Contractor shall take adequate precautions to prevent any debris or foreign material from falling into the well. At all times during the construction of the well when work is suspended and after completion of well the Contractor shall tightly seal the top of the well casing by spot welding a steel plate over the top of the well casing or by installing a professional well cap seal locked on to the casing.

C. The Contractor shall take precautions as are necessary, or as may be required, permanently to prevent contaminated water or water having undesirable physical or chemical characteristics from entering through the opening made by the Contractor in drilling the well, the stratum from which the well is to draw its supply. Contractor shall also take all necessary precautions during the construction period to prevent contaminated water, gasoline, etc., from entering the Well either through the opening or by seepage through the ground surface.

3.09 GAMMA LOG AND CCTV LOG

A. Contractor shall perform a Gamma Log and CCTV Log to the Production Well. The Gamma Log will be required from the bottom of the 18-inch casing to the bottom of the open bore hole. CCTV Log will be in a digital HD format and require the Well to be cleared so inspection is visible from the top of the well to the bottom of the bore hole.

Gamma Log and CCTV will be in the presence of the Engineer. A 48-hour notice is required to the Engineer for inspection. All inspection logs and video will be turned over to Engineer for evaluation when completed.

3.10 PROTECTION OF SITE

A. Excepting as otherwise provided herein, the Contractor shall protect all structures, such as walks, pipelines, trees, shrubbery, and lawns during the progress of his work; shall remove from the site all cuttings, drillings, debris and unused materials; and shall, upon completion of the work, restore the site as nearly as possible to its original condition, including the replacement, at the Contractor's sole expense, of any facility or landscaping which has been damaged beyond restoration to its original condition or destroyed. This will include dirt work, seeding, and blanket where needed for restoration. Water pumped from the Well during drilling and test pumping shall be disposed o without damage to property or the creation of a nuisance.

3.11 SEDIMENT/SOLIDS COLLECTION AND REMOVAL TANK

A. Provide all equipment and accessories to successfully collect and remove the debris, tailings, sand, sediment, and drilling fines from the Well processes from the site. Burying the drilling cuttings, fines, and other material on-site will not be permitted on the property. Contractor will arrange for complete removal to an acceptable location.

B. Provide silt fence when and wherever necessary to contain all erosion and debris to the work area only. An exhibit shows the minimal expectation to the site. This will include any additional fence requested as instructed by the Engineer, due to unforeseen circumstances. Contractor will need to further evaluate site conditions and set up of equipment to ensure the silt fence is inclusive of the containment required/needed for the project.

C. This equipment will include a sediment tank type with solid collection similar to a Baker Tank system for all Well discharge. The Contractor will ensure their method is capable of handling the complete flow of drilling, debris, and sample flow testing.

D. Well discharge will be monitored by the Contractor at all times to ensure it is clean discharge and no flooding of property is occurring in drainageway.

E. All solid disposal will be removed from the Well site for disposal at the Contractor's expense.

F. All debris and discharge will be disposed of appropriately with current Environmental Regulations and is the complete and sole responsibility of the Contractor.

G. Contractor will be solely responsible for all cleanup efforts and costs associated with any non-permitted discharge to the environment at no cost to the Owner.

H. Sediment/solids collection and removal is considered incidental to the project.

3.12 DISINFECTION AND BACTERIOLOGICAL TESTING

A. Provide disinfection and bacteriological testing for the rehabilitated wells.

1. Re-disinfect work until water samples are free of coliform bacteria contamination.

B. Disinfect in accordance with AWWA C651 and C654.

C. Disinfect with one of the following methods:

1. Slug method (see AWWA Standards).

2. Continuous feed method (see AWWA Standards).

D. Bacteriological Testing

1. Take bacteriological samples at representative locations to establish that the wells and all pumping equipment are free of contamination.

2. At least two bacteriologically safe sample from each location shall be obtained before the wells are placed into service.

3.13 CONTRACTOR'S RESPONSIBILITY

A. Unless otherwise specified in these documents the Contractor will not be held responsible for a low yield insofar as it is beyond his control to remedy or improve it. He will be expected and required, however, to utilize every device known to the art of well rehabilitation to secure the maximum possible yield.

B. The Contractor shall furnish all necessary pumps or other needed equipment and shall develop the well by such approved methods as shall be necessary to give the maximum yield of water per foot of draw down.

3.14 WATER LEVEL INDICATOR

A. A suitable air line of plastic tube of sufficient length to extend from the depth test fitting on the pitless adapter or pump base to the pump setting, together with suitable air pump connection fittings and an altitude gauge reading in feet shall be furnished and installed in the facility garage.

B. See Section 40 72 76 for well level transducer detailing.

3.15 TEST WELL INFORMATION

A. Test well water quality reporting has been attached in Appendix A for review.

B. Test well drilling log has been attached in Appendix A for review.

C. Test well pumping reporting has been attached in Appendix A for review.

D. Test well gamma log has been attached in Appendix A for review.

E. Test well video log can be provided for review upon request.

3.16 PAYMENT

A. The cost of this work shall be paid for on a unit price basis for pay items as indicated on the Bid Form and in the Agreement.

END SECTION.