



## PLANNING AND DEVELOPMENT

200 Third Street North

Fargo, North Dakota 58102

Phone: (701) 241-1474

Fax: (701) 241-1526

E-Mail: [planning@cityoffargo.com](mailto:planning@cityoffargo.com)

[www.cityoffargo.com](http://www.cityoffargo.com)

### MEMORANDUM

**TO:** Board of Adjustment  
**FROM:** Aaron Nelson, Planner *AN*  
**DATE:** June 23, 2017  
**RE:** Board of Adjustment Meeting

The next meeting of the Board of Adjustment will be held on Tuesday, June 27, at 9:00 a.m. in the City Commission Room at Fargo City Hall. If you are not able to attend, please contact staff at 241-1474 or [planning@cityoffargo.com](mailto:planning@cityoffargo.com). Thank you.

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**BOARD OF ADJUSTMENT**  
**Tuesday, June 27, 2017 9:00 a.m.**  
**City Commission Room**  
**AGENDA**

1. Approve Minutes of May 23, 2017 Meeting
2. New Business
  - a) Variance Request – 285 1<sup>st</sup> Avenue North  
*Request for a variance of Article 21-06 of the Municipal Code. The requested variance is to allow a proposed lift station to be constructed to a lower elevation than would otherwise be required by the City's Floodproofing Code.*
  - b) Variance Request – 200 4<sup>th</sup> Street South  
*Request for a variance of Article 21-06 of the Municipal Code. The requested variance is to allow a proposed lift station to be constructed to a lower elevation than would otherwise be required by the City's Floodproofing Code.*
3. Other Business
4. Adjournment

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Board of Adjustment meetings are broadcast live on cable channel TV Fargo 56 and can be seen live by video stream on [www.cityoffargo.com/streaming](http://www.cityoffargo.com/streaming). They are rebroadcast each Tuesday at 9:00 a.m. for one month following the meeting.

People with disabilities who plan to attend the meeting and need special accommodations should contact the Planning Office at 241-1474 or TDD at 241-8258. Please contact us at least 48 hours before the meeting to give our staff adequate time to make arrangements.



## **BOARD OF ADJUSTMENT MINUTES**

**Regular Meeting:**

**Tuesday:**

**May 22, 2017**

The Regular Meeting of the Board of Adjustment of the City of Fargo, North Dakota, was held in the City Commission Room at City Hall at 9:00 o'clock a.m., Tuesday, May 22, 2017.

The Members present or absent were as follows:

Present: Deb Wendel-Daub, Matthew Boreen, Russell Ford-Dunker,  
Mark Lundberg, Mike Mitchell

Also present: Erik Johnson,

Absent: Michael Love

Chair Wendel-Daub called the meeting to order.

### **Item 1a: Approve Order of Agenda**

Member Lundberg moved the Order of Agenda be approved as presented. Second by Member Ford-Dunker. All Members present voted aye and the motion was declared carried.

### **Item 1b: Approval of Minutes: Regular Meeting of April 25, 2017**

Member Ford-Dunker moved the minutes of the April 25, 2017 Board of Adjustment meeting be approved. Second by Member Lundberg. All Members present voted aye and the motion was declared carried.

### **Item 2: Old Business**

#### **a-1) Variance Request – 1423 7th Avenue South: DENIED**

**Request for a variance of Section 20-0403 of the LDC. The requested variance is to allow construction of a detached garage that would encroach into the required interior-side setback area within the SR-3, Single-Dwelling Residential, zoning district.**

A Hearing had been set for April 25, 2017. At the April 25, 2017 meeting the Hearing was continued to this date and time.

Planner Aaron Nelson noted applicant Chad Klimek was not present and has requested a continuation of this item and item 2:a-2. Mr. Nelson continued to present the staff report and reviewed the criteria used during staff's analysis of the request. Mr. Nelson stated staff is recommending denial as the review criteria of Section 20-0914.E.1 (a, b, and c) have not been met.

Michael Eisert, 1429 7th Avenue South, spoke in opposition of the request. He shared his concerns and referred to the recent Certificate of Survey he submitted to staff, which is included in the packet.

Board discussion began concerning the proper protocol regarding the applicant's request to continue Items 2:a-1 and 2:a-2, the absence of the applicant at today's meeting, and the lack of a Certificate of Survey from the applicant as requested by the Board at the May meeting.

City Attorney Erik Johnson affirmed it was the Board's discretion as to their decision today on Items 2:a-1 and 2:a-2, as both items were discussed in great detail at the May meeting and no additional information has been received by staff from the applicant.

Member Boreen moved the findings of staff be accepted and the variance to allow a garage to be constructed within the required interior-side setback in the SR-3, Single-Dwelling Residential zoning district be denied, on the basis that the review criteria of Section 20-0914.E.1 (a, b, and c) have not been met. Second by Member Lundberg. Upon call of the roll Members Boreen, Lundberg, Ford-Dunker, Mitchell, and Wendel-Daub voted aye. Absent and not voting: Member Love. The motion was declared carried.

**a-1) Appeal of an Administrative Decision: DENIED**

**Appellant claims that staff erred in issuing a stop work order for construction of a detached garage.**

Aaron Nelson presented this item that is directly related to Item 2:a-1. Mr. Nelson stated staff recommends that the Board of Adjustment affirm staff's decision to issue the stop work order.

Member Lundberg moved to affirm staff's decision to issue the stop work order. Second by Member Mitchell. Upon call of the roll Members Mitchell, Boreen, Lundberg, Ford-Dunker, and Wendel-Daub voted aye. Absent and not voting: Member Love. The motion was declared carried.

**Item 3: New Business**

**a) Variance Request – 1641 5th Street North: APPROVED**

**Request for a variance of Section 20-0501 of the LDC. The requested variance is to allow a building addition to encroach into the required street-side setback area within the SR-2, Single-Dwelling Residential zoning district.**

Assistant Planner Barrett Voigt presented the staff report and noted a correction to the recommended motion to read "street-side" setback and not "interior-side" setback. Mr. Voigt reviewed the criteria used during staff's analysis of the request and stated staff is recommending denial as review criteria a and c have not been met.

Applicant Randy Axvig spoke on behalf of the request.

The Board discussed adjacent properties with similar structures, and recommended the applicant have his property surveyed to identify his property lines.

Member Mitchell moved the findings of staff be accepted and the variance to allow the proposed addition to encroach into the required interior-side setback area in the SR-2, Single-Dwelling Residential zoning district be denied, on the basis that the review criteria of Section 20-0914.E.1 (a and c) have not been met. Second by Member Boreen. Upon call of the roll Members Lundberg, Mitchell, Boreen, Ford-Dunker, and Wendel-Daub voted nay. Absent and not voting: Member Love. The motion to deny was denied and the variance was approved.

**Item 4: Other Business**

No other business was discussed.

**Item 5: Adjournment:**

Member Ford-Dunker moved to adjourn the meeting at 9:46 a.m. Second by Member Mitchell. All Members present voted aye and the motion was declared carried.

## CITY OF FARGO - Board of Adjustment Variance Staff Report

<b>Item No:</b> 2.a	<b>Date:</b> June 26, 2017
<b>Address:</b> 285 1 <sup>st</sup> Avenue North	
<b>Legal Description:</b> Part of Lot 6, North Dakota Urban Renewal 1 <sup>st</sup> Addition	
<b>Owner(s)/Applicants:</b> City of Fargo/AE2S	
<b>Reason For Request:</b> To construct a lift station at a lower elevation than would otherwise be required by the City’s Floodproofing Code	
<b>Zoning District:</b> DMU: Downtown Mixed-Use	
<b>Status:</b> Board of Adjustment Public Hearing: June 27, 2017	

Floodproofing Code Standards	Proposed Structure
<b>Elevations:</b>	<b>Elevations:</b>
<b>Lowest opening:</b> 41-foot WSEIA plus 1.2' or FEMA BFE plus 2.0'	<b>Lowest opening:</b> <b>BFE plus 0.4'</b>
<b>Fill around building:</b> 41-foot WSEIA plus 0.7' or FEMA BFE plus 1.5'	<b>Fill around building:</b> <b>BFE plus 0.4'</b>
<b>Fill 15' from building:</b> At or above FEMA BFE	<b>Fill 15' from building:</b> <b>0.8' below BFE</b>

### Background:

The applicant has proposed to construct a lift station that would have a lower opening and a lower earth fill elevation around the structure than would otherwise be required by the City's Floodproofing Code. The property is located at 285 1<sup>st</sup> Avenue North and is within the 41-foot water surface elevation inundation area (WSEIA). At this location, the base floodplain elevation (BFE) is at an elevation of about 901.9 feet and the 41-foot WSEIA is at an elevation of 901.8 feet. For construction within the BFE & WSEIA, the Floodproofing Code requires the following:

1. The lowest opening in a building is required to be at or above an elevation that is 2.0 feet above the BFE. (901.9-foot BFE plus 2.0 feet = 903.9')
2. The fill around the building is required to be at or above an elevation that is 1.5 feet above the BFE. (901.9-foot BFE plus 1.5 feet = 903.4.')
3. The fill within 15 feet of the building must be at or above the FEMA BFE (901.9')

The lowest opening of the proposed structure would be at an elevation of 902.3 feet, which is 1.6 feet lower than what is required for the lowest opening elevation. In addition, the fill around the lift station would be at an elevation of 902.3 feet, which is 1.1 feet lower than required. The fill within 15 feet of the structure would be at an elevation of 901.1 feet, which is 0.8 feet lower than required. Accordingly, the applicant is requesting a variance in order to allow the building to have the lowest opening and fill around the building at a lower elevation than is required by the Floodproofing Code.

According to the applicant, it is necessary to locate the proposed lift station at this location due to the location of existing infrastructure and the existing lift station that the proposed lift station will be attached to. Rerouting or replacing existing utility infrastructure would be cost prohibitive.

The rationale behind the development of the City's 41-foot WSEIA is in anticipation for future increases to the FEMA Special Flood Hazard Area (1% annual chance/100-year flood plain). While mapping flood elevations as part of the FM Diversion Feasibility Study, it was found by the Army Corps of Engineers that the hydrology used by FEMA to establish the Special Flood Hazard Area was obsolete. It was based on a study that did not include in the period of record for the Red River events after 1979. It is the practice of FEMA to review communities every 5 years to determine if a new map is warranted. Based on information

contained in the FM Diversion Feasibility Study of Fargo which accounts for recent flood events, including the flood of record in 2009, the information on updated hydrology and hydraulics is readily available and FEMA will have cause to remap Fargo. When this update occurs, it is anticipated FEMA will raise the elevation of the Special Flood Hazard Area, resulting in additional areas of the City being located within this flood plain and subject to additional flood insurance requirements or increases. As such, the purpose of the 41-foot WSEIA is to prevent non-floodproof construction within areas that will potentially be located within Special Flood Hazard Area in the future. It should also be noted that the state rules require elevation on fill to the BFE +1 foot. In an attempt to keep new construction compliant with this state requirement into the future, we are requiring the additional 1.2 feet.

Another caveat of floodproofing and protection has to do with localized flooding versus flooding from the Red River. Many areas of the City are at risk of flooding due to the stormwater infrastructure not being able to handle significant rainfall events. In this aspect the City's floodproofing requirements and policies are intended for emergency protection from both the Red River and from overland flooding or stormsewer overflows.

### **Criteria for Approval:**

The Floodproofing Code was enacted by reference within Article 21-06 (Flood Plain Management) of the Fargo Municipal Code. Appeals from Article 21-06 are heard and decided upon by the Board of Adjustment as outlined within Section 21-0603 of the Municipal Code.

§21-0603.G.5 of the Municipal Code states that, *In determining appeals or requests for variances, the board of adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:*

- a. The danger that materials may be swept onto other lands to the injury of others;*
- b. The danger to life and property due to flooding or erosion damage;*
- c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners;*
- d. The importance of the services provided by the proposed facility to the community;*
- e. The necessity to the facility of a waterfront location, where applicable;*
- f. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;*
- g. The compatibility of the proposed use with the existing and anticipated development;*
- h. The relationship of the proposed use to the comprehensive plan and floodplain management program or that area;*
- i. The safety of access to the property in times of flood for ordinary and emergency vehicles;*
- j. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,*
- k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, streets and bridges.*

§21-0603.H.1 of the Municipal Code includes additional considerations for variances:

- 1. Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base level, providing items (a-k) in subsection (G)(5) above have been fully considered. As the lot size increases beyond the one-half acre, the technical justifications required for issuing the variance increases.*

2. *Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or any state or local inventory or register of historic places without regard to the procedures set forth in the remainder of this section.*
3. *Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.*
4. *Variances shall be issued only upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.*
5. *Variances shall be issued only upon:*
  - a. *A showing of good and sufficient cause;*
  - b. *A determination that failure to grant the variance would result in exceptional hardship to the applicant; and*
  - c. *A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.*
6. *Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk from the reduced lowest floor elevation.*

**Staff Analysis:**

**a. The danger that materials may be swept onto other lands to the injury of others;**

No danger to materials to be swept away.

**b. The danger to life and property due to flooding or erosion damage;**

Only danger to life or property would be in an extreme emergency such as a flood or storm which could be expected. In that case, the entire city has been inundated with flood or storm waters.

**c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners;**

The building is susceptible to flooding in an extreme flooding condition, and from sewer or storm conditions. This building is constructed for the reason of storm conditions and is a necessary structure and equipment to alleviate issues with extreme sewer and storm conditions.

**d. The importance of the services provided by the proposed facility to the community;**

This facility is important for the reasons stated in item c above.

**e. The necessity to the facility of a waterfront location, where applicable;**

Not applicable. The proposed improvement is not in the MDZS or the LDZS river setback zones.

**f. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;**

No alternative locations due to this being an addition to an existing facility or immediately adjacent.

**g. The compatibility of the proposed use with the existing and anticipated development;**

Use is compatible with existing facility.

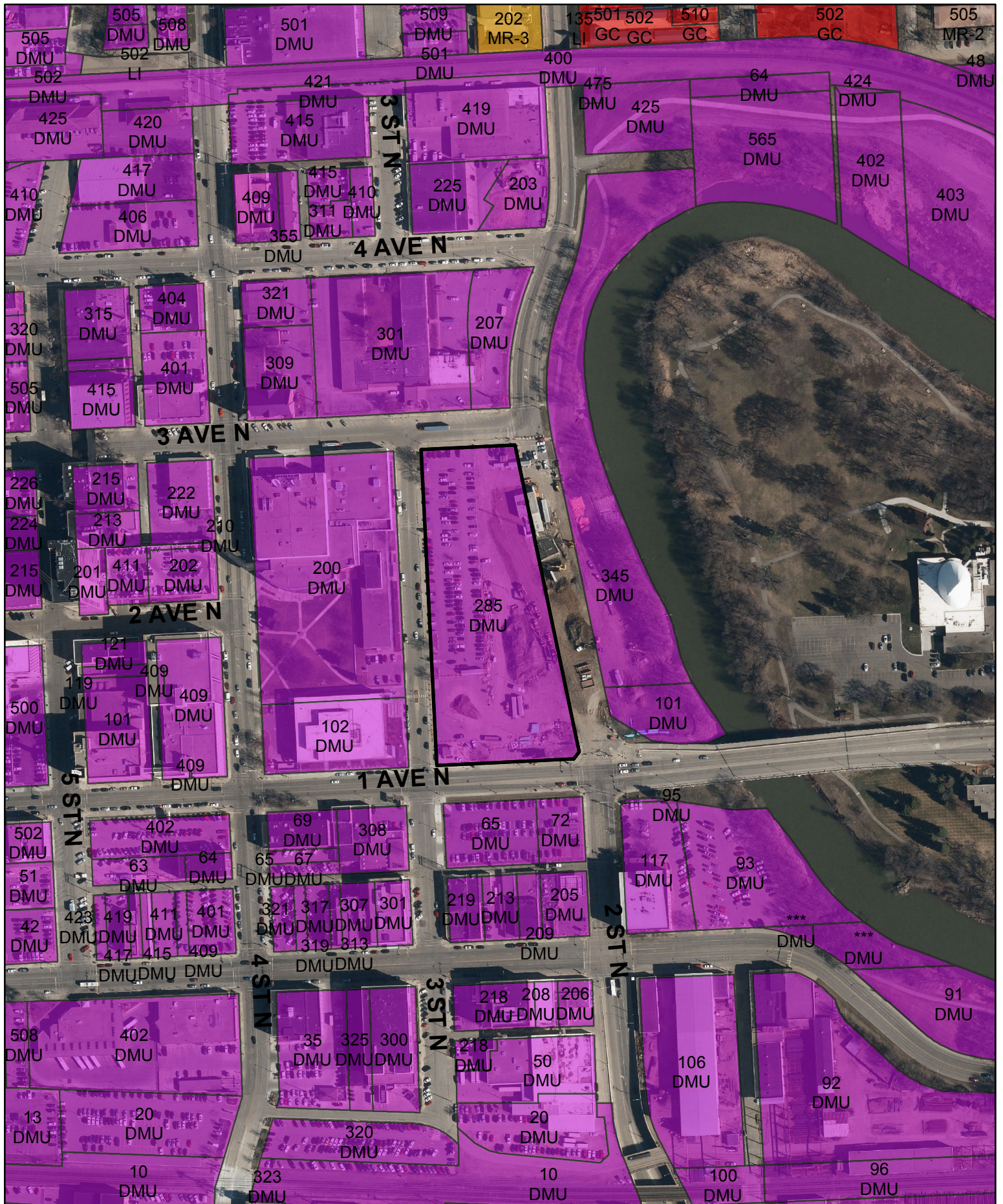
**h. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;**

The addition of this lift station is for additional sanitary sewer management.

- i. The safety of access to the property in times of flood for ordinary and emergency vehicles;**  
Access to the property will be safe, but of course not in an event situation. Only properly trained emergency and city personnel will be used to work on this facility in an event.
- j. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,**  
The inundation of floodwaters on the additional lift station at this location should not be any more of an issue than the current situation of the existing lift station at the location it is.
- k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, streets and bridges.**  
This lift station is being installed to assist in large sewer and storm events, so it will help during flood events. If inundated, this will be a primary lift station to be brought back online to assist in after-flood events. The City of Fargo could address costs associated with repairs of this facility so that those repairs do not hinder our current FEMA situation.

Since this is a variance request to Article 21-06 (Flood Plain Management) related to floodproof construction, the Zoning Administrator defers to the Building Official/Flood Plain Administrator as well as the City Engineer for current and future floodplain management. This application was reviewed by the City's Planning and Development, Engineering, and Building Inspections Departments ("staff"), whose comments are included in this report.

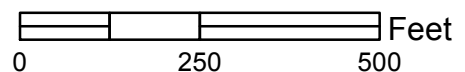
**Staff Recommendation:** "To accept the findings of staff and approve the requested variance on the basis that the review considerations of Section 21-0603 have been satisfied."

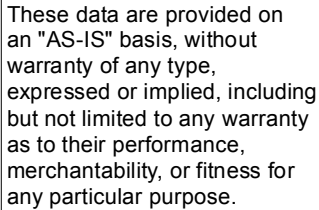


**Legend**

AG	LC	MHP	SR-1
DMU	LI	NCI	SR-2
GC	MR-1	NO	SR-3
GI	MR-2	P/I	SR-4
GO	MR-3	UMU	SR-5

**285 1st Avenue North**





This map is not a substitute for accurate field surveys or for locating actual property lines and any adjacent features.





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## VARIANCES (§20-0914)

The Board of Adjustment is authorized to grant variances from the zoning district dimensional standards and off-street parking and loading standards of the Land Development Code (LDC) that will not be contrary to the public interest or the spirit of the LDC, where owing to special conditions, a literal enforcement of the provisions of this LDC would result in unnecessary physical (not economic) hardship to the property owner.

### Variance Application Process

- 1) The application and a nonrefundable fee of \$185 are due at the time of submittal
- 2) Notice of the Public Hearing is mailed to property owners within 300 feet of the proposed site at least 15 days prior to the Hearing and published once a week for two consecutive weeks in the newspaper.
- 3) The City Planner reviews your case, develops a staff report and prepares a recommendation to the Board of Adjustment based on the Criteria for Approval, below.
- 4) Board of Adjustment meetings are scheduled as needed.

### Criteria for Approval

A variance may be granted by the Board of Adjustment upon an affirmative finding that all of the following conditions exist.

- a. The requested variance arises from conditions that are unique to the subject property, that are not ordinarily found in the same zoning district and that are not a result of the owner's intentional action;
- b. The granting of the permit for the variance will not adversely affect the rights of adjacent property owners or residents;
- c. The strict application of the applicable standards will constitute an unnecessary physical hardship (not economic hardship) because the property cannot be used for an otherwise allowed use without coming into conflict with applicable site development standards;
- d. The variance desired will not adversely affect the public health, safety or general welfare; and;
- e. The variance is the minimum variance that will overcome the hardship.

**Acknowledgement** – I hereby acknowledge that I have familiarized myself with the rules and regulations to the preparation of this submittal and that the foregoing information is true and complete to the best of my knowledge. I, the undersigned, do hereby petition the Board of Adjustment of the City of Fargo, North Dakota, to take such action as may be required by law of the City of Fargo to grant a variance pursuant to Section 20-0914 of the Land Development Code of the City of Fargo.

Owner (Signature): \_\_\_\_\_ Date: \_\_\_\_\_  
**Note:** A nonrefundable filing fee of \$185.00 must be accompanied with the application at time of submittal.

### Office Use Only

Date Filed: \_\_\_\_\_ Planning Contact: \_\_\_\_\_ Nonrefundable Fee \$185.00: \_\_\_\_\_

## APPLICATION FOR VARIANCE

The Board of Adjustment is authorized to grant variances from the zoning district dimensional standards and off-street parking and loading standards of the Land Development Code (LDC) that will not be contrary to the public interest or the spirit of the LDC, where owing to special conditions, a literal enforcement of the provisions of this LDC would result in **unnecessary physical (not economic) hardship** to the property owner.

Property Owner Information:	
Name (printed):	City of Fargo (Jim Hausauer)
Address:	300 N Broadway, Fargo ND
Primary Phone:	701-476-6692
Alternative Phone:	
Fax:	
Email:	jhausauer@cityoffargo.com

Representation Information: (if applicable)	
Name (printed):	AE2S (Ben Julson)
Address:	4170 28th Ave S, Fargo ND
Primary Phone:	701-318-7899
Alternative Phone:	
Fax:	
Email:	Ben.Julson@ae2s.com

Location of property requesting a variance:	
Address:	285 1st Ave N, Fargo ND
Zoning District:	Commercial (DMU)
Legal Description:	Lot: 6, LESS TRI PIECE DED FOR BRIDGE R/W

### Proposed Variance Information:

What Land Development Code Standard are you seeking a variance? (e.g. setback, lot coverage, height)

Flood Proofing: Lowest opening, fill around lowest opening, and fill within 15 ft of lowest opening.

Please describe difference between the standard and the proposed (e.g. The standard is 10 ft. and my project would propose a 7' setback).

The flood elevation requirement at 285 1st Ave N is an elevation of 903.1 and our project would propose a lowest opening elevation of 902.30. The fill around the lowest opening is concrete at the same elevation. Within 15 ft the elevation decreases over a new curb and slopes away into the existing parking area at an elevation of 901.10.

Please explain your project, describing why you are requesting a variance and why you believe a variance is justified. Along with your project description, please include a site plan/diagram with dimensions. (Attach additional pages, if needed.)

This project includes the construction of a new sanitary wet weather lift station for the City of Fargo, which will be adjacent to the existing sanitary lift station. The new sanitary Wet Weather Lift Station No. 2 will be constructed at the same elevation of the existing Lift Station No. 2 to provide access between the buildings. A variance is being requested to allow the the new lift station to be constructed at the same elevation of the existing lift station as the new lift station is planned to be connected to the existing lift station, which is above the flood elevation but into the 1.2 ft free-board requirement over the flood elevation in this area. This is an normally unoccupied facility that will be accessed mainly for maintenance and is located behind the flood wall being constructed by the City. The location of the new facility takes advantage of the City's current sanitary infrastructure. Locating the new sanitary lift station in an alternate location would require extensive changes to the City's sanitary infrastructure.

**Criteria for Approval:**

Please explain how your requested variance meets the following five criteria for approval, pursuant to Section 20-0914 of the Land Development Code: (Attach additional pages, if needed.)

- 1) The requested variance arises from conditions that are unique to the subject property, that are not ordinarily found in the same zoning district and that are not a result of the owner's intentional action;

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- 2) The granting of the permit for the variance will not adversely affect the rights of adjacent property owners or residents;

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- 3) The strict application of the applicable standards will constitute an unnecessary physical hardship (not economic hardship) because the property cannot be used for an otherwise allowed use without coming into conflict with applicable site development standards;

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- 4) The variance desired will not adversely affect the public health, safety or general welfare; and

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- 5) The variance is the minimum variance that will overcome the hardship.

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Broadway Interceptor Wet Weather Improvements - Phase III  
Wet Weather Lift Station No. 2  
Request for Variance  
June 22, 2017

City of Fargo Code of Ordinances  
Flood Plain Management (21-0603.G.5.a-k)

In determining appeals or requests for variances, the board of adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:

- a. The danger that materials may be swept onto other lands to the injury of others;

**Response:** The wet weather sanitary lift station will be constructed of masonry block and brick with no loose material on the building resulting in minimal danger of materials being swept away.

- b. The danger to life and property due to flooding or erosion damage;

**Response:** The danger to life is minimal as this structure is not normally occupied. The occupation of this structure will only be during normal maintenance activities (approximately once per month for about an hour each time). The lift station would likely be damaged at the indicated flood elevation.

- c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners;

**Response:** With the construction of the floodwalls near the new wet weather sanitary lift station and existing sanitary lift station, it is far less susceptible to flood damage.

- d. The importance of the services provided by the proposed facility to the community;

**Response:** The new wet weather lift station is being constructed to operate during wet weather events where the existing sanitary lift station pumping capacity is insufficient. Without this structure, during rain events, the sanitary lift station is known to be insufficient to handle the extraneous flows (i.e. rain entering the sanitary sewer system), which has resulted in bypassing of wastewater into the river. These extraneous flows could also potentially result in private property damage (i.e. sewage backup in basements) within the service area.

- e. The necessity to the facility of a waterfront location, where applicable;

**Response:** Not applicable.

- f. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

**Response:** The wet weather lift station will be constructed adjacent to the existing sanitary lift station as this will take advantage of the current sanitary infrastructure. Relocating the facilities would require extensive infrastructure changes for the City resulting in additional costs for the City to accomplish this.

- g. The compatibility of the proposed use with the existing and anticipated development;

**Response:** The proposed use of the new wet weather lift station matches the current use of the site with the existing sanitary lift station.

- h. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

**Response:** The proposed use of the site match the current use of each site.

- i. The safety of access to the property in times of flood for ordinary and emergency vehicles;

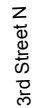
**Response:** In the event of a flood access to the property may be restricted, but with the construction of the flood wall between the sanitary lift station and the river restricted access during flooding is less likely. Also, because of the the criticallaity of this lift station, the City Staff would take extra measures to ensure this sanitary lift station is operational as well as accessiable during a flood event.



- j. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,

**Response:** The sanitary lift station would have approximately 1 ft of water above the floor at the indicated flood elevation. With the construction of the floodwalls between the lift stations and the river, flooding at the facilities is less likely.

- k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, streets and bridges.

**Response:** Depending on the flood elevation there could be potential for damage to the sanitary lift station that would require repair. Costs for these repairs would depend on the flood elevation and flood protection measures used around each facility. With the construction of the floodwalls between the lift stations and the river, flooding at the facilities is less likely.



NORTH   Scale in Feet

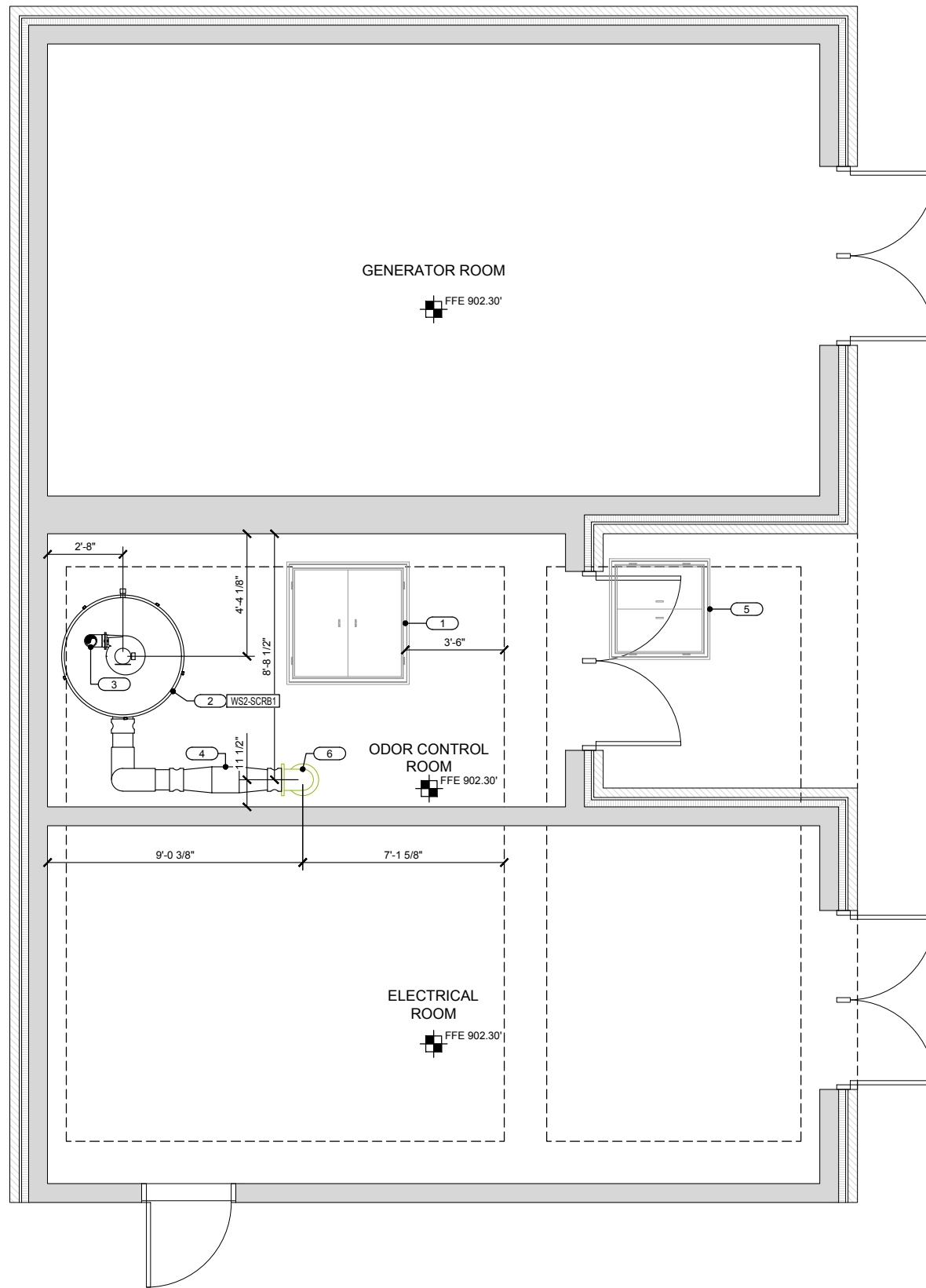
1. ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS2 LINE ITEM ON THE BID FORM.

- 1 MATCH EXISTING TOP OF ASPHALT ELEVATION.
- 2 MATCH EXISTING CONCRETE ELEVATION.

DRAWING TYPE
CONSTRUCTION
PREPARED BY
KWF
CHECKED / APPROVED
BJJ / BJJ
DATE
APRIL 2017
PROJECT NUMBER
00803-2014-000

FACILITY  
**WS2**

DRAWING  
**C2**



**GROUND FLOOR PROCESS PIPE PLAN**



This document was originally issued and sealed by  
Ben Julson, PE,  
Registration Number PE-7782  
on 04/19/2017 and the original documents are stored at the office of  
Advanced Engineering & Environmental Services, Inc.

#### GENERAL NOTES

1. ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS2 LINE ITEM ON THE BID FORM.
2. CONTRACTOR SHALL LOCATE ACCESS HATCH OVER WET WELL BASED ON LOCATION OF SUBMERSIBLE PUMP BELOW.
3. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL ROOM DETAILS.
4. REFER TO CIVIL DRAWINGS FOR ALL EXTERIOR SITE WORK.

#### PROPOSED IMPROVEMENTS

MARK DESCRIPTION

- 1 48" x 48" CLEAR OPENING DOUBLE LEAF ALUMINUM HATCH
- 2 DRUM SCRUBBER
- 3 ROUTE 12" SCH 80 PVC BLOWER SCRUBBER DISCHARGE PIPING THROUGH THE ROOF. CONTRACTOR TO PROVIDE ANY NECESSARY REDUCER TO ATTACH TO THE SCRUBBER DISCHARGE AND PROVIDE A GOOSENECK BEND ON THE ROOF WITH THE OPEN END OF THE DISCHARGE PIPE 3 FT ABOVE THE ROOF. DISCHARGE PIPE END SHALL BE COVERED WITH BIRD SCREEN WIRE MESH.
- 4 MIST ELIMINATOR
- 5 36" x 36" CLEAR OPENING DOUBLE LEAF ALUMINUM HATCH
- 6 SEALED FLOOR SLEEVE - SEE DETAIL SD/8/P1

THE CITY OF  
**Fargo**  
FAR MORE

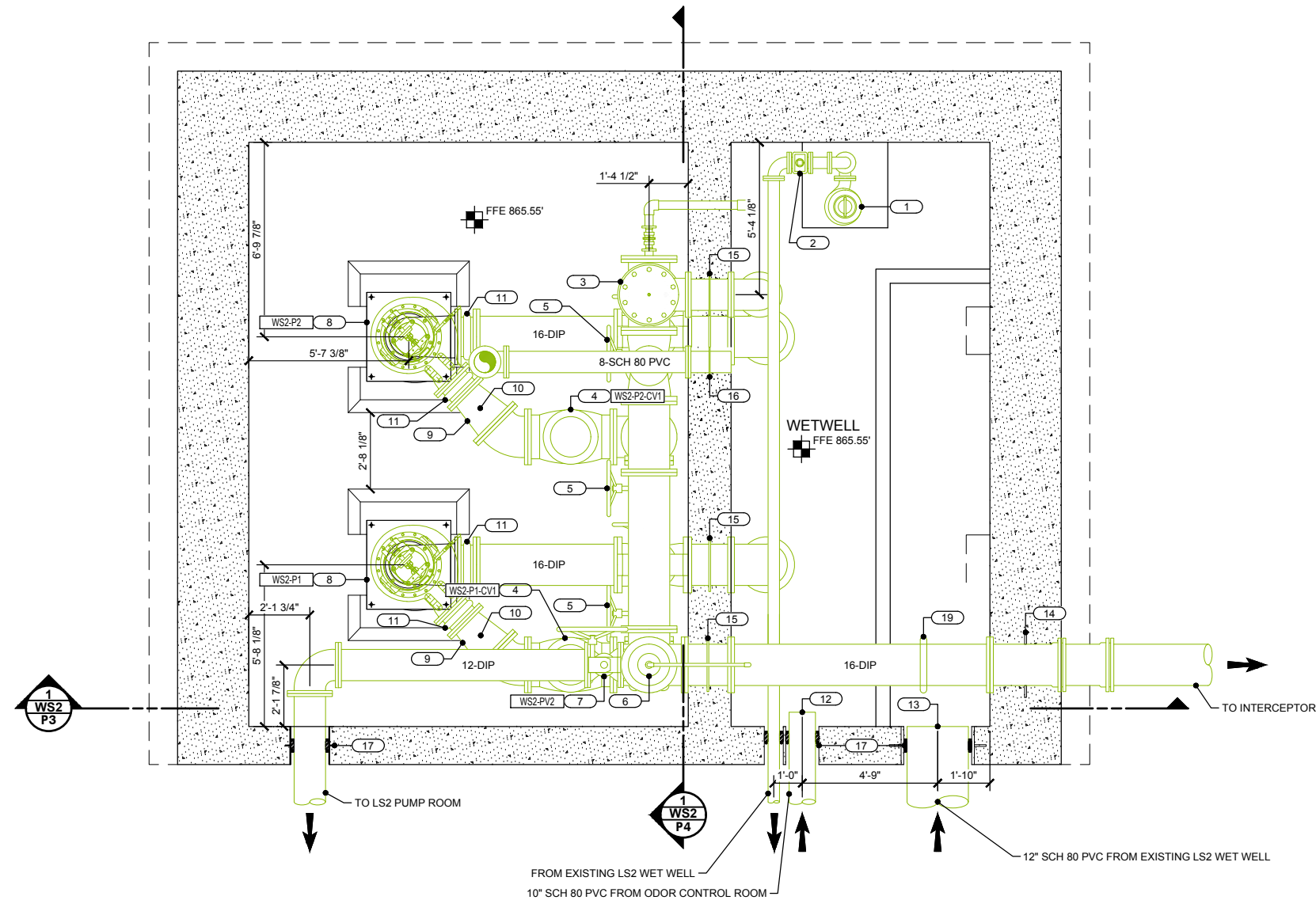
**AES**

BROADWAY INTERCEPTOR WET WEATHER IMPROVEMENTS  
PHASE III  
FARGO, NORTH DAKOTA  
GROUND FLOOR PROCESS PIPE PLAN

DRAWING TYPE  
**CONSTRUCTION**  
PREPARED BY  
KWF  
CHECKED / APPROVED  
BJJ / BJJ  
DATE  
APRIL 2017  
PROJECT NUMBER  
P00803-2014-000

FACILITY  
**WS2**  
DRAWING  
**P1**

Plotted By: Steve Seibert Date: Wednesday, April 26, 2017  
Last Saved By: Steve Seibert Date: Wednesday, April 26, 2017 2:00:35 PM  
File: W:\Fargo\00803-2014-00040 Final Design\WW1 - Ph 3 Drawings\04-PROCESS\PLAN SHEET\SPS-LF Station No 2.dwg  
Layout: Sheet (2)



1  
WS2  
P2  
WET WELL AND DRY PIT FLOOR PROCESS PIPE PLAN

This document was originally issued and sealed by  
Ben Julson, PE,  
Registration Number PE-7782  
on 04/19/2017 and the original documents are stored at the office of  
Advanced Engineering & Environmental Services, Inc.

#### GENERAL NOTES

- ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS2 LINE ITEM ON THE BID FORM.
- CONTRACTOR SHALL VERIFY PUMP INTAKE AND DISCHARGE SIZE WITH PUMP MANUFACTURER.
- REFER TO CIVIL DRAWINGS FOR EXTERIOR PIPE ROUTING.
- COORDINATE STARTUP OF STATION WITH ELECTRICAL CONTRACTOR.

#### PROPOSED IMPROVEMENTS

MARK	DESCRIPTION
1	SUMP PUMP
2	4" FLANGED DI GATE VALVE
3	12" FLANGED SURGE RELIEF VALVE
4	16" FLANGED CHECK VALVE
5	16" FLANGED PLUG VALVE
6	AIR RELIEF / VACUUM VALVE
7	12" FLANGED PLUG VALVE
8	PUMP
9	16" x 12" FLANGED DI REDUCER
10	PRESSURE GAUGE, SEE DETAIL 5/SD/P2
11	SINGLE ARCH EXPANSION JOINT
12	10" SCH 80 PVC VENT PIPE, CL EL 900.00
13	24" PVC, CL EL 871.30
14	FL x MJ WALL PIPE - SEE DETAIL 6/SD/P1
15	FL x FL WALL PIPE - SEE DETAIL 3/SD/P1
16	FL x PE WALL PIPE - SEE DETAIL 3/SD/P1
17	SEALED WALL SLEEVE - SEE DETAIL 1/SD/P1
18	CORE DRILLED PIPE PENETRATION - SEE DETAIL 2/SD/P1
19	14" GROOVED COUPLING

BROADWAY INTERCEPTOR WET WEATHER IMPROVEMENTS  
PHASE III  
FARGO, NORTH DAKOTA  
WET WELL AND DRY PIT FLOOR PROCESS PIPE PLAN

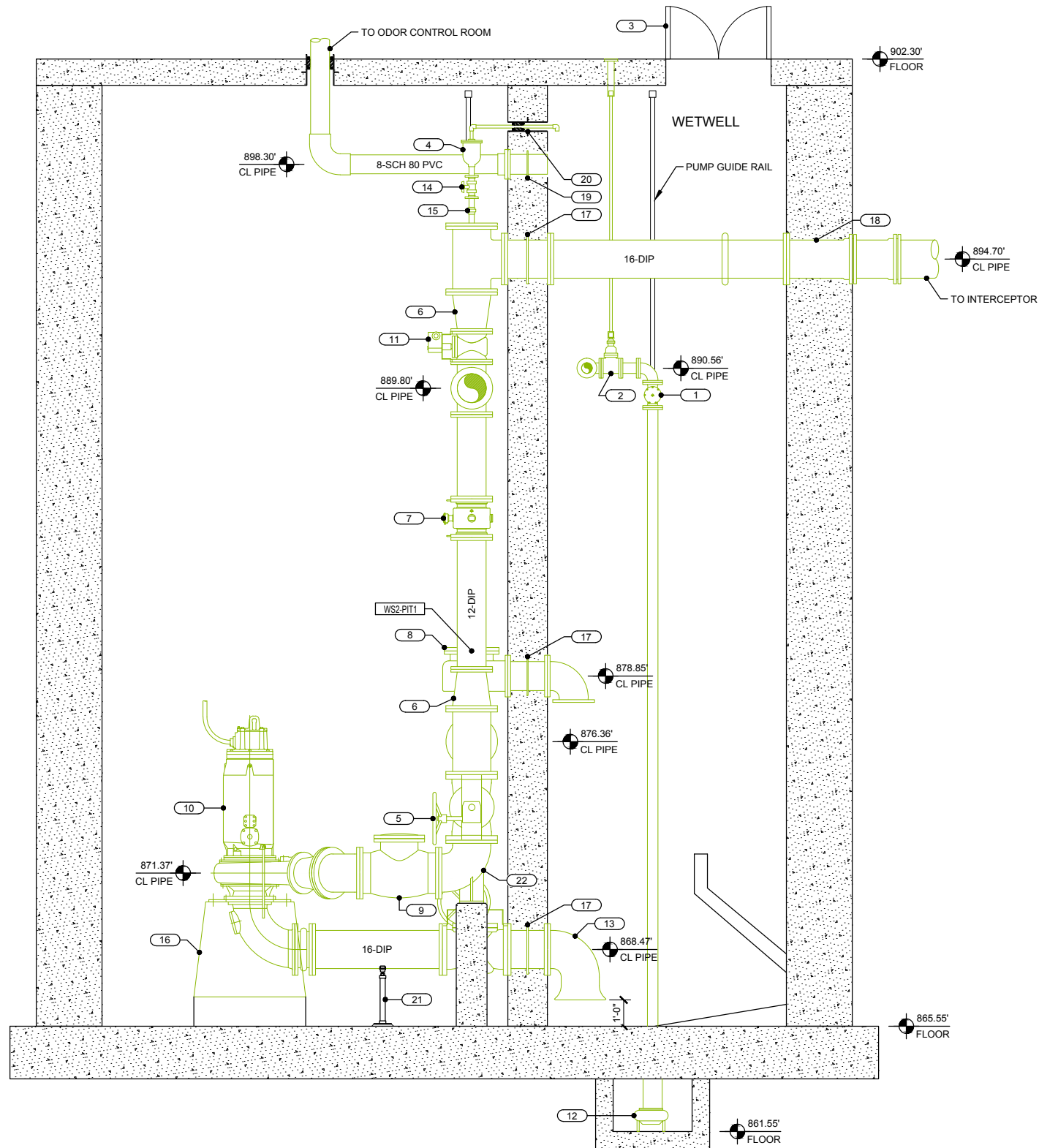
DRAWING TYPE  
CONSTRUCTION  
PREPARED BY  
KWF  
CHECKED / APPROVED  
BJJ / BJJ  
DATE  
APRIL 2017  
PROJECT NUMBER  
P00803-2014-000

FACILITY  
WS2  
DRAWING  
P2

THE CITY OF  
Fargo  
FAR MORE

AES

Plotted By: Steve Selbert Date: Wednesday, April 26, 2017  
Last Saved By: Steve Selbert Date: Wednesday, April 26, 2017 2:00:35 PM  
File: W:\Fargo\0803-2014-000\400 Final Design\W1\ PH 3\Drawings\4-PROCESS\PLAN SHEETS\PS-LIT Station W2.dwg  
Layout: Sheet (5)



1  
WS2  
P3  
WET WELL AND DRY PIT PROCESS PIPE SECTION  
12' 0' 1' 2' 3' 4' 5' 6' 7'

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Ben Julson, PE,  
Registration Number PE-7782  
on 04/19/2017 and the original documents are stored at the  
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#### GENERAL NOTES

1. ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS2 LINE ITEM ON THE BID FORM.
2. CONTRACTOR SHALL VERIFY PUMP INTAKE AND DISCHARGE SIZE WITH PUMP MANUFACTURER.
3. REFER TO CIVIL DRAWINGS FOR EXTERIOR PIPE ROUTING.
4. COORDINATE STARTUP OF STATION WITH ELECTRICAL CONTRACTOR.

#### PROPOSED IMPROVEMENTS

MARK	DESCRIPTION
1	4" FLANGED CHECK VALVE
2	4" FLANGED GATE VALVE WITH EXTENSION
3	48" x 36" ACCESS HATCH
4	AIR RELIEF / VACUUM RELEASE
5	16" FLANGED PLUG VALVE
6	16" x 12" FLANGED DI REDUCER
7	12" MAGNETIC FLOW METER
8	12" SURGE RELIEF VALVE
9	16" FLANGED CHECK VALVE
10	PUMP
11	12" FLANGED PLUG VALVE
12	SUMP PUMP
13	16" FLANGED DI 90° REDUCING BEND
14	4" BALL VALVE
15	4" UNION
16	PUMP BASE - SEE DETAIL 8/SD/P2
17	FL x FL WALL PIPE - SEE DETAIL 3/SD/P1
18	FL x MJ WALL PIPE - SEE DETAIL 6/SD/P1
19	FL x PE WALL PIPE - SEE DETAIL 3/SD/P1
20	SEALED WALL SLEEVE - SEE DETAIL 1/SD/P1
21	ADJUSTABLE PIPE SUPPORT - SEE DETAIL 7/SD/P2
22	16" FLANGED BASE BEND 90° SUPPORT - SEE DETAIL 6/SD/P2

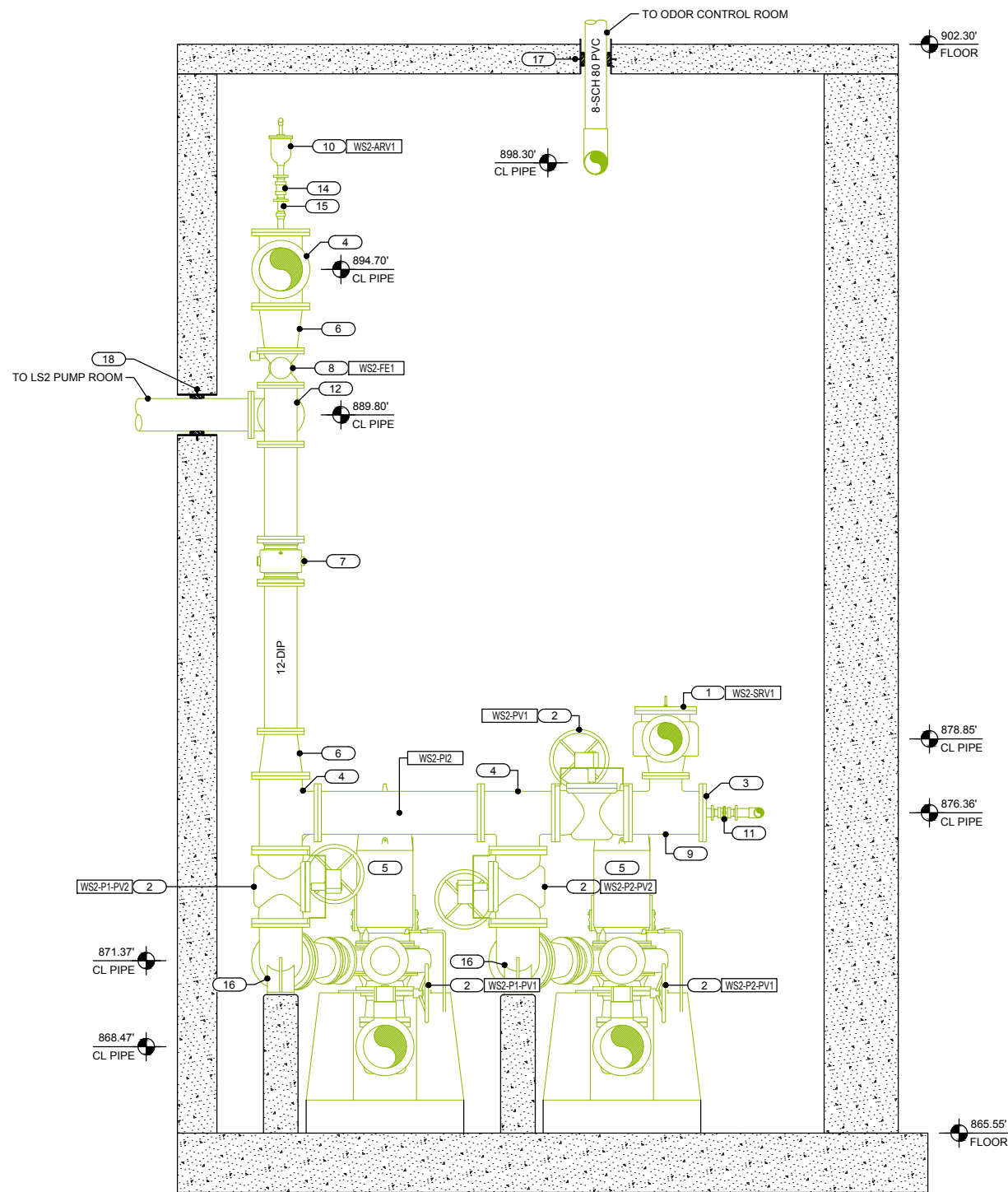
THE CITY OF  
**Fargo**  
FAR MORE

**AES**

BROADWAY INTERCEPTOR WET WEATHER IMPROVEMENTS  
PHASE III  
FARGO, NORTH DAKOTA  
WET WELL AND DRY PIT PROCESS PIPE SECTION

DRAWING TYPE  
CONSTRUCTION  
PREPARED BY  
KWF  
CHECKED / APPROVED  
BJJ / BJJ  
DATE  
APRIL 2017  
PROJECT NUMBER  
P00803-2014-000

FACILITY  
**WS2**  
DRAWING  
**P3**



**1 WS2 P4** WET WELL AND DRY PIT PROCESS PIPE SECTION

This document was originally issued and sealed by  
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**GENERAL NOTES**

1. ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS2 LINE ITEM ON THE BID FORM.
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4. COORDINATE STARTUP OF STATION WITH ELECTRICAL CONTRACTOR.

**PROPOSED IMPROVEMENTS**

MARK	DESCRIPTION
1	12" SURGE RELIEF VALVE
2	16" FLANGED PLUG VALVE
3	16" DI BLIND FLANGE
4	16" FLANGED DI TEE
5	PUMP
6	16" x 12" FLANGED DI REDUCER
7	12" MAGNETIC FLOW METER
8	12" FLANGED PLUG VALVE
9	16" x 16" x 12" TEE
10	AIR RELIEF / VACUUM RELEASE
11	3" BALL VALVE
12	12" FLANGED DI TEE
13	12" FLEX COUPLING
14	4" BALL VALVE
15	4" UNION
16	16" FLANGED BASE BEND 90° SUPPORT - SEE DETAIL 6/SD/P2
17	SEALED FLOOR SLEEVE - SEE DETAIL 8/SD/P1
18	SEALED WALL SLEEVE - SEE DETAIL 1/SD/P1

## CITY OF FARGO - Board of Adjustment Variance Staff Report

<b>Item No:</b> 2.b		<b>Date:</b> June 26, 2017
<b>Address:</b> 200 4 <sup>th</sup> Street South		
<b>Legal Description:</b> Part of Section 7, Township 139 North, Range 48 West		
<b>Owner(s)/Applicants:</b> City of Fargo/AE2S		
<b>Reason For Request:</b> To construct a lift station at a lower elevation than would otherwise be required by the City’s Floodproofing Code		
<b>Zoning District:</b> SR-2, Single-Dwelling Residential		
<b>Status:</b> Board of Adjustment Public Hearing: June 27, 2017		
Floodproofing Code Standards		Proposed Structure
<b>Elevations:</b>		<b>Elevations:</b>
<b>Lowest opening:</b>	41-foot WSEIA plus 1.2’ or FEMA BFE plus 2.0’	<b>Lowest opening:</b> <b>41-foot WSEIA minus 12.5’</b>
<b>Fill around building:</b>	41-foot WSEIA plus 0.7’ or FEMA BFE plus 1.5’	<b>Fill around building:</b> <b>41-foot WSEIA minus 12.5’</b>

### Background:

The applicant has proposed to construct a lift station that would have a lower opening and a lower earth fill elevation around the structure than would otherwise be required by the City's Floodproofing Code. The property is located at 200 4<sup>th</sup> Street South and is within the 41-foot water surface elevation inundation area (WSEIA). At this location, the BFE is at an elevation of about 901.3 feet but is protected by a FEMA recognized levee and the 41-foot WSEIA is at an elevation of 902.7 feet. For construction within the WSEIA, the Floodproofing Code requires the following:

1. The lowest opening in a building is required to be at or above an elevation that is 1.2 feet above the 41-foot WSEIA elevation. (902.7-foot WSEIA elevation plus 1.2 feet = 903.9')
2. The fill around the building is required to be at or above an elevation that is 0.7 feet above the 41-foot WSEIA elevation. (902.7-foot WSEIA elevation plus 0.7 feet = 903.4')

The lowest opening of the proposed structure would be at an elevation of 890.2 feet, which is 13.7 feet lower than what is required for the lowest opening elevation. In addition, the fill around the lift station would be at an elevation of 890.2 feet, which is 13.2 feet lower than required. Accordingly, the applicant is requesting a variance in order to allow the building to have the lowest opening and fill around the building at a lower elevation than is required by the Floodproofing Code.

According to the applicant, the proposed building would not be possible without the variance because the lift station would be required to be elevated by an additional 13.7 feet, which is not feasible given the proximity of the proposed lift station in relation to the existing elevations of adjacent streets and buildings on site. Additionally, the existing backup emergency generator, which would provide power to the proposed lift station during a power outage, is at an elevation that is five feet lower than the proposed lift station.

The rationale behind the development of the City's 41-foot WSEIA is in anticipation for future increases to the FEMA Special Flood Hazard Area (1% annual chance/100-year flood plain). While mapping flood elevations as part of the FM Diversion Feasibility Study, it was found by the Army Corps of Engineers that the hydrology used by FEMA to establish the Special Flood Hazard Area was obsolete. It was based on a study that did not include in the period of record for the Red River events after 1979. It is the practice of FEMA to review communities every 5 years to determine if a new map is warranted. Based on information contained in the FM Diversion Feasibility Study of Fargo which accounts for recent flood events, including

the flood of record in 2009, the information on updated hydrology and hydraulics is readily available and FEMA will have cause to remap Fargo. When this update occurs, it is anticipated FEMA will raise the elevation of the Special Flood Hazard Area, resulting in additional areas of the City being located within this flood plain and subject to additional flood insurance requirements or increases. As such, the purpose of the 41-foot WSEIA is to prevent non-floodproof construction within areas that will potentially be located within Special Flood Hazard Area in the future. It should also be noted that the state rules require elevation on fill to the BFE +1 foot. In an attempt to keep new construction compliant with this state requirement into the future, we are requiring the additional 1.2 feet.

Another caveat of floodproofing and protection has to do with localized flooding versus flooding from the Red River. Many areas of the City are at risk of flooding due to the stormwater infrastructure not being able to handle significant rainfall events. In this aspect the City's floodproofing requirements and policies are intended for emergency protection from both the Red River and from overland flooding or stormsewer overflows.

### **Criteria for Approval:**

The Floodproofing Code was enacted by reference within Article 21-06 (Flood Plain Management) of the Fargo Municipal Code. Appeals from Article 21-06 are heard and decided upon by the Board of Adjustment as outlined within Section 21-0603 of the Municipal Code.

§21-0603.G.5 of the Municipal Code states that, *In determining appeals or requests for variances, the board of adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:*

- a. The danger that materials may be swept onto other lands to the injury of others;*
- b. The danger to life and property due to flooding or erosion damage;*
- c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners;*
- d. The importance of the services provided by the proposed facility to the community;*
- e. The necessity to the facility of a waterfront location, where applicable;*
- f. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;*
- g. The compatibility of the proposed use with the existing and anticipated development;*
- h. The relationship of the proposed use to the comprehensive plan and floodplain management program or that area;*
- i. The safety of access to the property in times of flood for ordinary and emergency vehicles;*
- j. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,*
- k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, streets and bridges.*

§21-0603.H.1 of the Municipal Code includes additional considerations for variances:

- 1. Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base level, providing items (a-k) in subsection (G)(5) above have been fully considered. As the lot size increases beyond the one-half acre, the technical justifications required for issuing the variance increases.*

2. *Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or any state or local inventory or register of historic places without regard to the procedures set forth in the remainder of this section.*
3. *Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.*
4. *Variances shall be issued only upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.*
5. *Variances shall be issued only upon:*
  - a. *A showing of good and sufficient cause;*
  - b. *A determination that failure to grant the variance would result in exceptional hardship to the applicant; and*
  - c. *A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.*
6. *Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk from the reduced lowest floor elevation.*

**Staff Analysis:**

**a. The danger that materials may be swept onto other lands to the injury of others;**

No danger to materials to be swept away.

**b. The danger to life and property due to flooding or erosion damage;**

Only danger to life or property would be in an extreme emergency such as a flood or storm which could be expected. In that case, the entire city has been inundated with flood or storm waters.

**c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners;**

The building is susceptible to flooding in an extreme flooding condition, and from sewer or storm conditions. This building is constructed for the reason of storm conditions and is a necessary structure and equipment to alleviate issues with extreme sewer and storm conditions. Inspections would suggest approval with lowest opening or floodproof elevation at the existing electrical generator elevation.

**d. The importance of the services provided by the proposed facility to the community;**

This facility is important for the reasons stated in item c above.

**e. The necessity to the facility of a waterfront location, where applicable;**

Not applicable.

**f. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;**

No alternative locations due to this being an addition to an existing facility or immediately adjacent.

**g. The compatibility of the proposed use with the existing and anticipated development;**

Use is compatible with existing facility. The proposed improvement is not within the MDZS or LDZS river setback zones.

**h. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;**

The addition of this lift station is for floodplain or storm water management.

**i. The safety of access to the property in times of flood for ordinary and emergency vehicles;**

Access to the property will be safe, but of course not in an event situation. Only properly trained emergency and city personnel will be used to work on this facility in an event.

**j. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,**

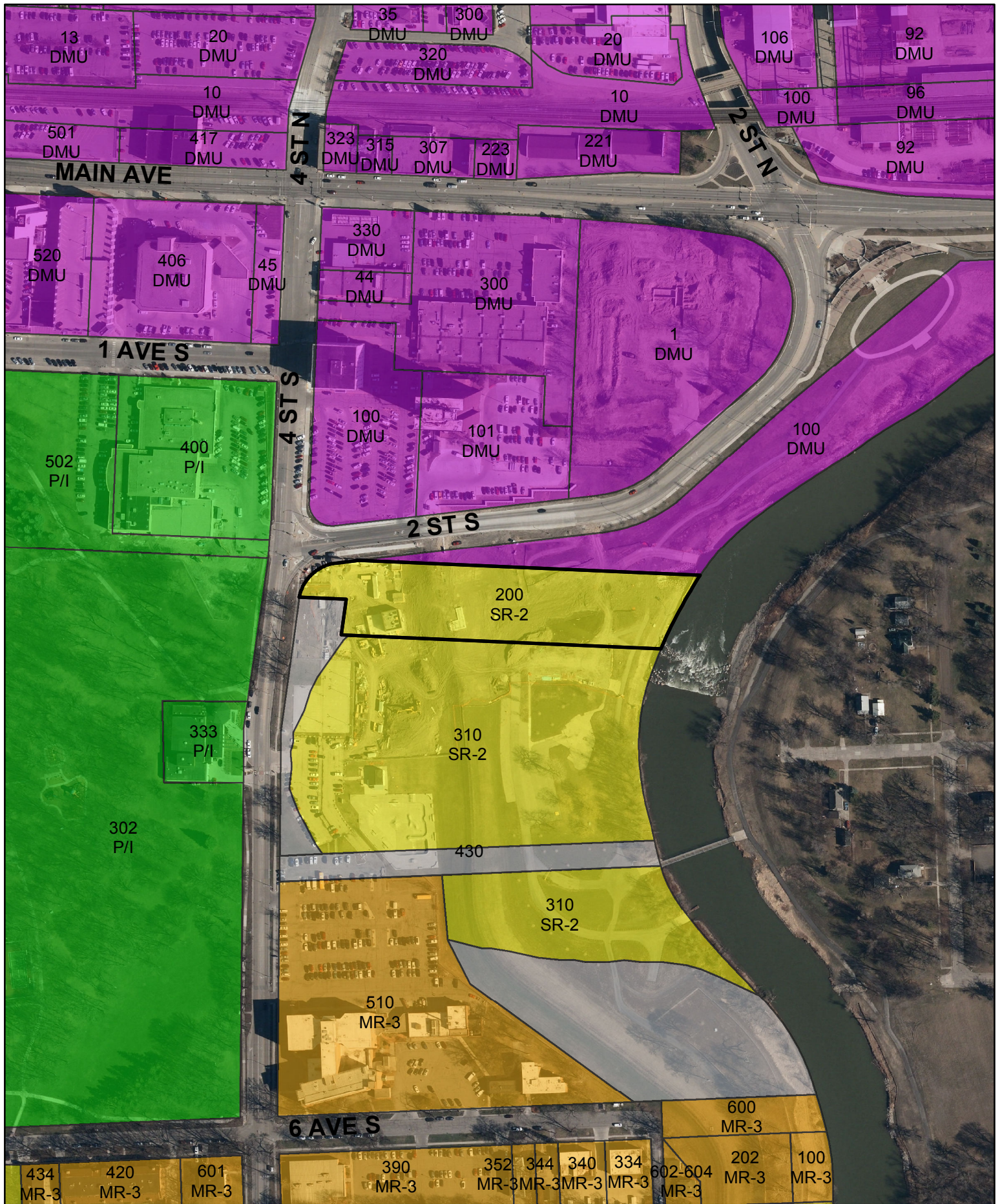
The inundation of floodwaters of the additional lift station at this location should not be any more of an issue than the current situation of the existing lift station at the location it is.

**k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, streets and bridges.**

This lift station is being installed to assist in large sewer and storm events, so it will help during flood events. If inundated, this will be a primary lift station to be brought back online to assist in after-flood events. There should be no change in costs involved that what the existing lift station would need. The City of Fargo could address costs associated with repairs of this facility so that those repairs do not hinder our current FEMA situation.

Since this is a variance request to Article 21-06 (Flood Plain Management) related to floodproof construction, the Zoning Administrator defers to the Building Official/Flood Plain Administrator as well as the City Engineer for current and future floodplain management. This application was reviewed by the City's Planning and Development, Engineering, and Building Inspections Departments ("staff"), whose comments are included in this report.

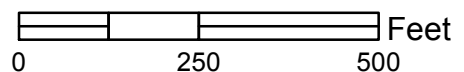
**Staff Recommendation:** "To accept the findings of staff and approve the requested variance on the basis that the review considerations of Section 21-0603 have been satisfied, with the condition that all new buildings and equipment be constructed as floodable, or a combination of floodable and elevated, at or above the floodable levels of existing equipment (e.g. generator) or existing lowest opening of buildings on site."

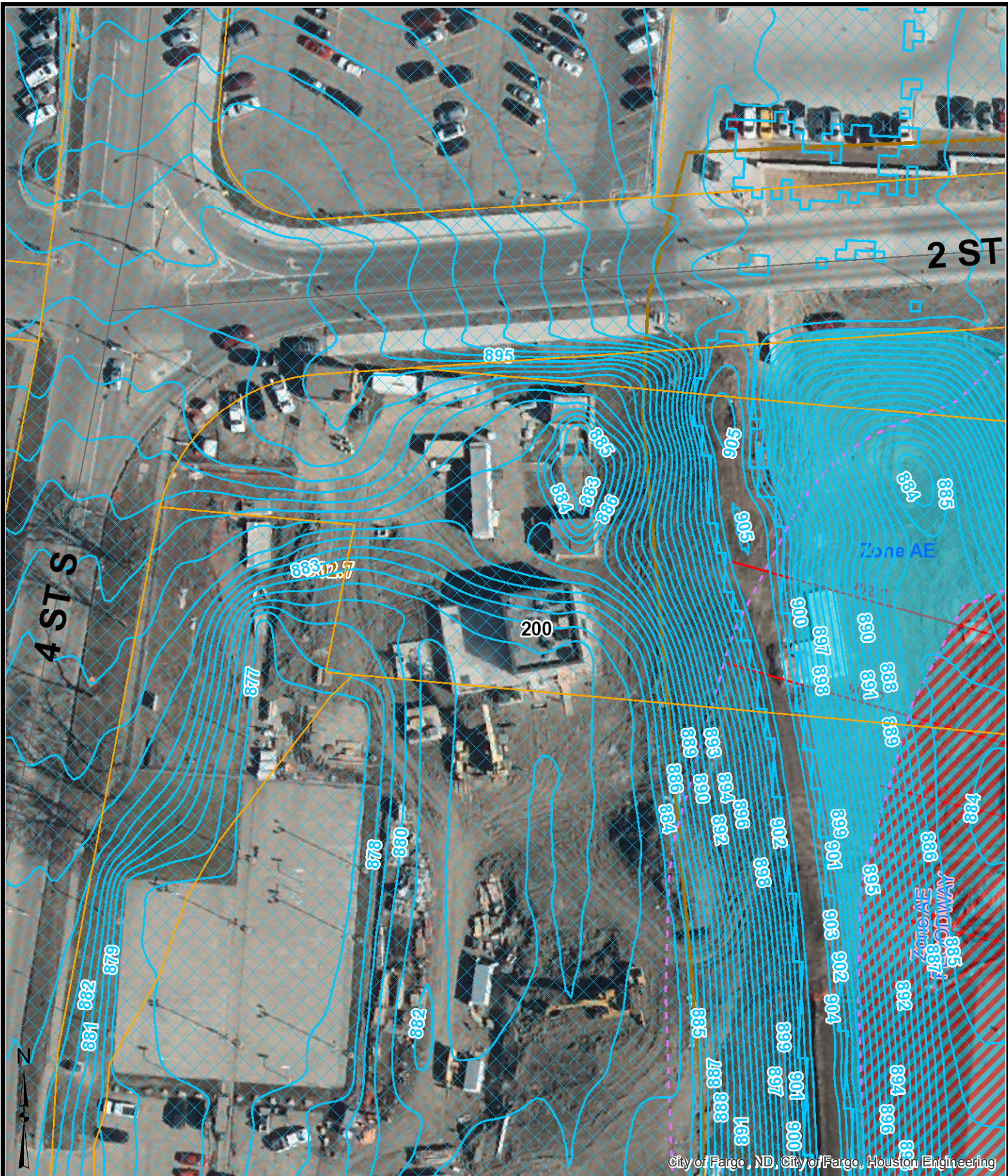


**Legend**

AG	LC	MHP	SR-1
DMU	LI	NCI	SR-2
GC	MR-1	NO	SR-3
GI	MR-2	P/I	SR-4
GO	MR-3	UMU	SR-5

**200 4th Street South**





City of Fargo, ND, City of Fargo, Houston Engineering

These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

1:1,128

6/22/2017 10:03:11 AM

This map is not a substitute for accurate field surveys or for locating actual property lines and any adjacent features.





PLANNING AND DEVELOPMENT  
200 Third Street North  
Fargo, North Dakota 58102  
Phone: (701) 241-1474  
Fax: (701) 241-1526  
E-Mail: [planning@cityoffargo.com](mailto:planning@cityoffargo.com)  
[www.cityoffargo.com](http://www.cityoffargo.com)

## VARIANCES (§20-0914)

The Board of Adjustment is authorized to grant variances from the zoning district dimensional standards and off-street parking and loading standards of the Land Development Code (LDC) that will not be contrary to the public interest or the spirit of the LDC, where owing to special conditions, a literal enforcement of the provisions of this LDC would result in unnecessary physical (not economic) hardship to the property owner.

### Variance Application Process

- 1) The application and a nonrefundable fee of \$185 are due at the time of submittal
- 2) Notice of the Public Hearing is mailed to property owners within 300 feet of the proposed site at least 15 days prior to the Hearing and published once a week for two consecutive weeks in the newspaper.
- 3) The City Planner reviews your case, develops a staff report and prepares a recommendation to the Board of Adjustment based on the Criteria for Approval, below.
- 4) Board of Adjustment meetings are scheduled as needed.

### Criteria for Approval

A variance may be granted by the Board of Adjustment upon an affirmative finding that all of the following conditions exist.

- a. The requested variance arises from conditions that are unique to the subject property, that are not ordinarily found in the same zoning district and that are not a result of the owner's intentional action;
- b. The granting of the permit for the variance will not adversely affect the rights of adjacent property owners or residents;
- c. The strict application of the applicable standards will constitute an unnecessary physical hardship (not economic hardship) because the property cannot be used for an otherwise allowed use without coming into conflict with applicable site development standards;
- d. The variance desired will not adversely affect the public health, safety or general welfare; and;
- e. The variance is the minimum variance that will overcome the hardship.

**Acknowledgement** – I hereby acknowledge that I have familiarized myself with the rules and regulations to the preparation of this submittal and that the foregoing information is true and complete to the best of my knowledge. I, the undersigned, do hereby petition the Board of Adjustment of the City of Fargo, North Dakota, to take such action as may be required by law of the City of Fargo to grant a variance pursuant to Section 20-0914 of the Land Development Code of the City of Fargo.

Owner (Signature): \_\_\_\_\_ Date: \_\_\_\_\_  
**Note:** A nonrefundable filing fee of \$185.00 must be accompanied with the application at time of submittal.

### Office Use Only

Date Filed: \_\_\_\_\_ Planning Contact: \_\_\_\_\_ Nonrefundable Fee \$185.00: \_\_\_\_\_

## APPLICATION FOR VARIANCE

The Board of Adjustment is authorized to grant variances from the zoning district dimensional standards and off-street parking and loading standards of the Land Development Code (LDC) that will not be contrary to the public interest or the spirit of the LDC, where owing to special conditions, a literal enforcement of the provisions of this LDC would result in **unnecessary physical (not economic) hardship** to the property owner.

Property Owner Information:		Representation Information: (if applicable)	
Name (printed):	City of Fargo (Jim Hausauer)	Name (printed):	AE2S (Ben Julson)
Address:	300 N Broadway, Fargo ND	Address:	4170 28th Ave S, Fargo ND
Primary Phone:	701-476-6692	Primary Phone:	701-318-7899
Alternative Phone:		Alternative Phone:	
Fax:		Fax:	
Email:	jhausauer@cityoffargo.com	Email:	Ben.Julson@ae2s.com

Location of property requesting a variance:	
Address:	200 4th St S, Fargo ND
Zoning District:	Commercial (SR-2)
Legal Description:	UNPLATTED IN NE 1/4 OF SEC 7, 139N. RGE 48W. BEG AT A PT ON CTRLN OF VAC 2 AVE S ON E LN OF 4 ST S THEN S 120 FT TO PT ON E LN OF 4 ST S THEN E 100 FT PARA TO CTRLN OF VAC 2 AVE S THEN S 78 FT PARA TO E LN OF 4 ST S TO RED RIVER THEN IN A NELY DIR ALG RED RIVER TO A PT ON CTRLN OF VAC 2 AVE S, THEN WALG CENTER LN OF VAC 2 AVE S TO PT OF BEG, LESS PT USED FOR 2 ST S

### Proposed Variance Information:

What Land Development Code Standard are you seeking a variance? (e.g. setback, lot coverage, height)

Flood Proofing: Lowest opening, fill around lowest opening, and fill within 15 ft of lowest opening.

Please describe difference between the standard and the proposed (e.g. The standard is 10 ft. and my project would propose a 7' setback).

The flood elevation requirement at 200 4th St S is an elevation of 903.9 and our project would propose a lowest opening elevation of 890.20. The fill around the lowest opening is concrete at the same elevation. Within 15 ft the existing grade decreases to the south to an elevation of 889.00.

Please explain your project, describing why you are requesting a variance and why you believe a variance is justified. Along with your project description, please include a site plan/diagram with dimensions. (Attach additional pages, if needed.)

This project includes the construction of a new sanitary wet weather lift station for the City of Fargo, which will be adjacent to the existing sanitary lift station. The new Wet Weather Lift Station No. 1 will be constructed at nearly the same elevation of the existing Lift Station No. 1. A variance is being requested to allow the the new lift stations to be constructed at the current grade elevation. This is a normally unoccupied facility that will be accessed mainly for maintenance. The location of the new facility takes advantage of the City's current sanitary infrastructure. Locating the new sanitary lift station in an alternate location would require extensive changes to the City's sanitary infrastructure. In order to flood proof the building it would need to be raised in elevation approximately 13.7 feet which would likely require 2nd Street to be raised a similar elevation for access to the raised building. The new sanitary lift station will be provided with backup emergency generator power from the newly constructed storm lift station on the same site, which is approximately 5 feet lower in elevation than this sanitary lift station.

**Criteria for Approval:**

Please explain how your requested variance meets the following five criteria for approval, pursuant to Section 20-0914 of the Land Development Code: (Attach additional pages, if needed.)

- 1) The requested variance arises from conditions that are unique to the subject property, that are not ordinarily found in the same zoning district and that are not a result of the owner's intentional action;

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- 2) The granting of the permit for the variance will not adversely affect the rights of adjacent property owners or residents;

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- 3) The strict application of the applicable standards will constitute an unnecessary physical hardship (not economic hardship) because the property cannot be used for an otherwise allowed use without coming into conflict with applicable site development standards;

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- 4) The variance desired will not adversely affect the public health, safety or general welfare; and

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- 5) The variance is the minimum variance that will overcome the hardship.

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Broadway Interceptor Wet Weather Improvements - Phase III  
Wet Weather Lift Station No. 1  
Request for Variance  
June 22, 2017

City of Fargo Code of Ordinances  
Flood Plain Management (21-0603.G.5.a-k)

In determining appeals or requests for variances, the board of adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:

- a. The danger that materials may be swept onto other lands to the injury of others;

**Response:** The wet weather lift station will be constructed of masonry block and brick with no loose material on the building resulting in minimal danger of materials being swept away.

- b. The danger to life and property due to flooding or erosion damage;

**Response:** The danger to life is minimal as this structure is not normally occupied. The occupation of this structure will only be during normal maintenance activities (approximately once per month for about an hour each time). The lift station would likely be damaged at the indicated flood elevation.

- c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners;

**Response:** With the construction of the floodwalls near the lift station it is far less susceptible to flood damage.

- d. The importance of the services provided by the proposed facility to the community;

**Response:** The new wet weather lift station is being constructed to operate during wet weather events where the existing sanitary lift station pumping capacity is insufficient. Without this structure, during rain events, the sanitary lift station is known to be insufficient to handle the extraneous flows (i.e. rain entering the sanitary sewer system), which has resulted in bypassing of wastewater into the river. These extraneous flows could also potentially result in private property damage (i.e. sewage backup in basements) within the service area.

- e. The necessity to the facility of a waterfront location, where applicable;

**Response:** Not applicable.

- f. The availability of alternative locations for the proposed use which is not subject to flooding or erosion damage;

**Response:** The wet weather lift station will be constructed adjacent to the existing sanitary lift station as this will take advantage of the current sanitary infrastructure. Relocating the facilities would require extensive infrastructure changes for the City resulting in additional costs for the City to accomplish this.

- g. The compatibility of the proposed use with the existing and anticipated development;

**Response:** The proposed use of the new wet weather lift station matches the current use of the site with the existing sanitary lift station.

- h. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

**Response:** The proposed use of the site matches the current use of the site.

- i. The safety of access to the property in times of flood for ordinary and emergency vehicles;

**Response:** In the event of a flood access to the property may be restricted, but with the construction of the flood wall between the sanitary lift station and the river restricted access during flooding is less likely. Also, because of the the criticallaity of this lift station, the City Staff would take extra measures to ensure this sanitary lift station is operational as well as accessable during a flood event.

- j. The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,

**Response:** The sanitary lift station would be almost completely underwater at the indicated flood elevation. With the construction of the floodwalls between the sanitary lift station and the river flooding at the facility is less likely.

- k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, streets and bridges.

**Response:** Depending on the flood elevation there could be potential for damage to the sanitary lift station that would require repair. Costs for these repairs would depend on the flood elevation and flood protection measures used around each facility. With the construction of the floodwalls between the sanitary lift stations and the river flooding at the facilities is less likely.

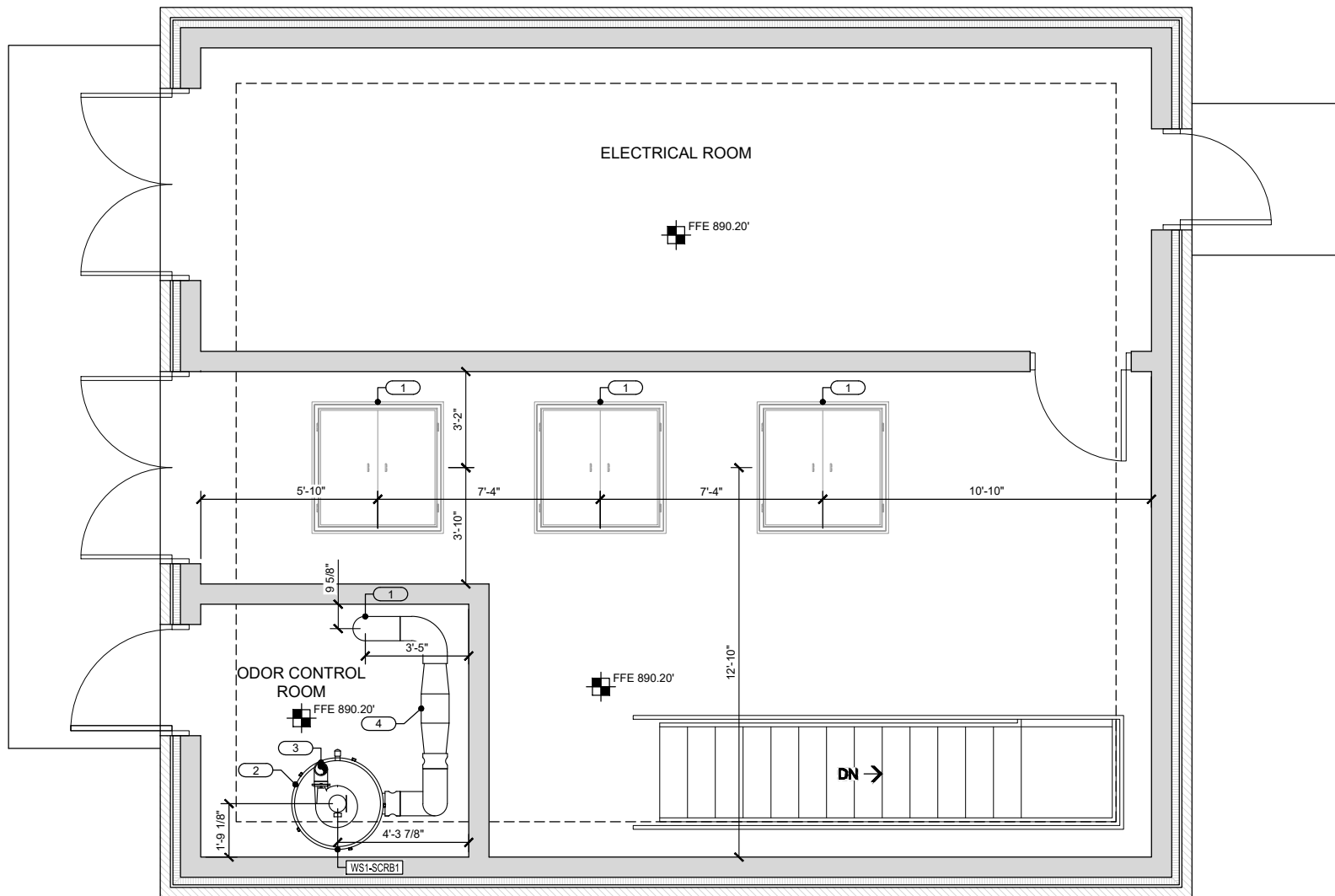


Existing Sanitary Lift Station

New Wet Weather Sanitary Lift Station

Storm Lift Station Generator Building (just finishing construction)

Sanitary Lift Station (just finishing construction)



**1**  
**WS1**  
**P1** **GROUND FLOOR PROCESS PIPE PLAN**



This document was originally issued and sealed by Ben Julson, PE, Registration Number PE-7782 on June 7, 2017 and the original documents are stored at the office of Advanced Engineering & Environmental Services, Inc.

**GENERAL NOTES**

1. ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS1 LINE ITEM ON THE BID FORM.
2. CONTRACTOR SHALL VERIFY LOCATION OF ACCESS HATCHES TO ENSURE THEY ARE LOCATED DIRECTLY ABOVE AND CENTERED OVER PUMPS LOCATED IN PUMP ROOM BELOW.
3. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL ROOM DETAILS.
4. REFER TO CIVIL DRAWINGS FOR ALL EXTERIOR SITE WORK.

**PROPOSED IMPROVEMENTS**

- | MARK | DESCRIPTION  |
|------|--|
| 1    | 48" x 48" CLEAR OPENING DOUBLE LEAF ALUMINUM HATCH   |
| 2    | DRUM SCRUBBER  |
| 3    | ROUTE 8" SCH 80 PVC BLOWER SCRUBBER DISCHARGE PIPING THROUGH THE ROOF. CONTRACTOR TO PROVIDE ANY NECESSARY REDUCER TO ATTACH TO THE SCRUBBER DISCHARGE AND PROVIDE A GOOSENECK BEND ON THE ROOF WITH THE OPEN END OF THE DISCHARGE PIPE 3 FT ABOVE THE ROOF. DISCHARGE PIPE END SHALL BE COVERED WITH BIRD SCREEN WIRE MESH. |
| 4    | MIST ELIMINATOR  |
| 5    | SEALED FLOOR SLEEVE - SEE DETAIL SD/8/P1   |

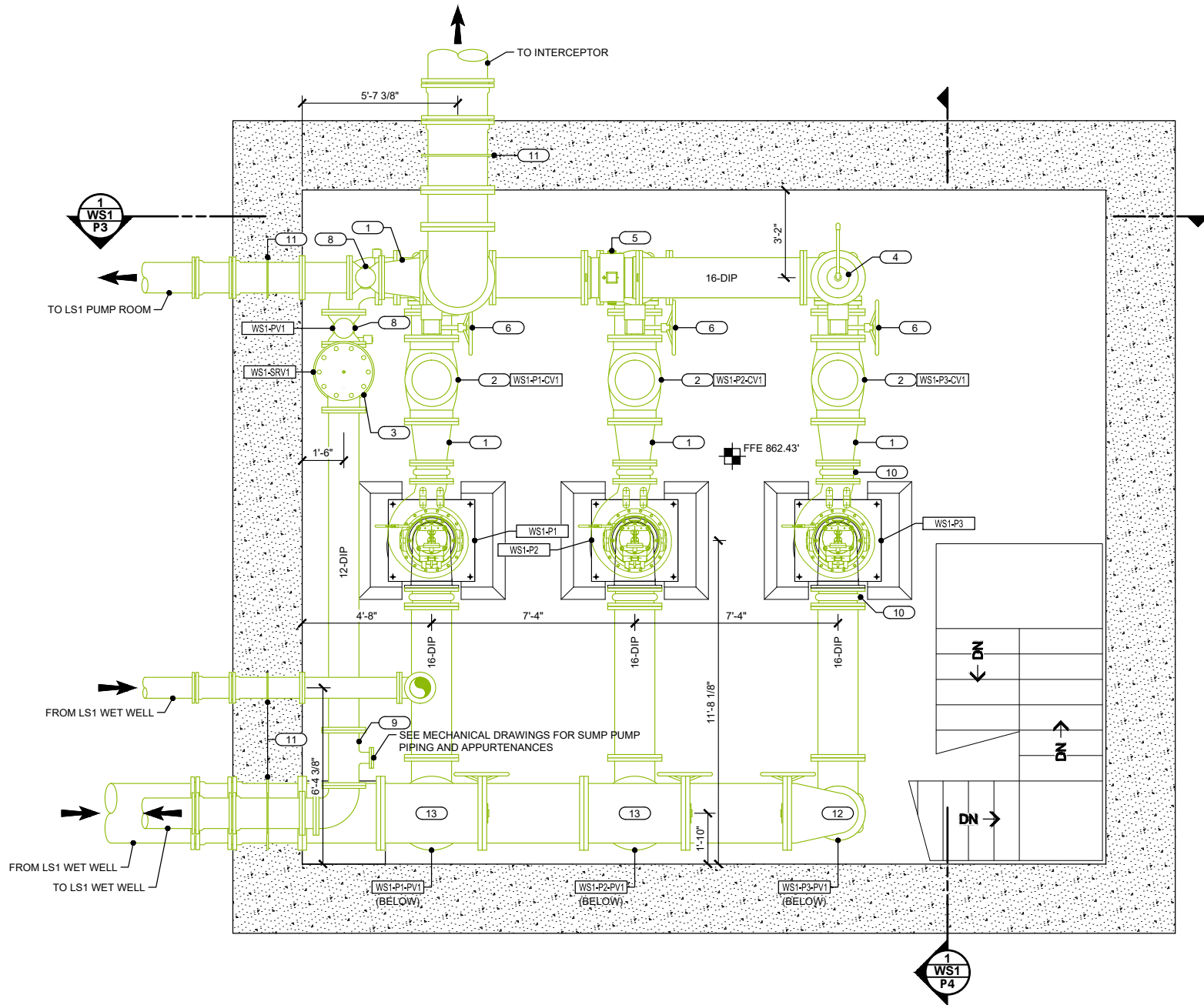
**ADDENDUM 4**



**BROADWAY INTERCEPTOR WET WEATHER IMPROVEMENTS**  
**PHASE III**  
**FARGO, NORTH DAKOTA**  
**GROUND FLOOR PROCESS PIPE PLAN**

DRAWING TYPE  
**CONST.**  
PREPARED BY  
**KWF**  
CHECKED / APPROVED  
**BJJ / BJJ**  
DATE  
**APRIL 2017**  
PROJECT NUMBER  
**P00803-2014-000**

FACILITY  
**WS1**  
DRAWING  
**P1**



**1 WS1 P2 DRY PIT FLOOR PROCESS PIPE PLAN**



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**GENERAL NOTES**

1. ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS1 LINE ITEM ON THE BID FORM.
2. CONTRACTOR SHALL VERIFY PUMP INTAKE AND DISCHARGE SIZE WITH PUMP MANUFACTURER.
3. REFER TO CIVIL DRAWINGS FOR EXTERIOR PIPE ROUTING.
4. COORDINATE STARTUP OF STATION WITH ELECTRICAL CONTRACTOR.

**PROPOSED IMPROVEMENTS**

MARK	DESCRIPTION
1	16" x 12" FLANGED REDUCER
2	16" CHECK VALVE
3	SURGE RELIEF VALVE
4	SEWAGE AIR / VACUUM RELEASE VALVE
5	16" MAGNETIC FLOW METER
6	16" PLUG VALVE
7	24" x 16" FLANGED REDUCER
8	12" PLUG VALVE
9	12" x 4" REDUCING TEE WITH COMPANION FLANGE
10	SINGLE ARCH EXPANSION JOINT (TYPICAL EACH PUMP)
11	FL x MJ WALL PENETRATION - SEE DETAIL 6/SD/P1
12	24" x 16" FLANGED REDUCING 90° ELBOW
13	24" x 16" FLANGED REDUCING TEE

**ADDENDUM 4**

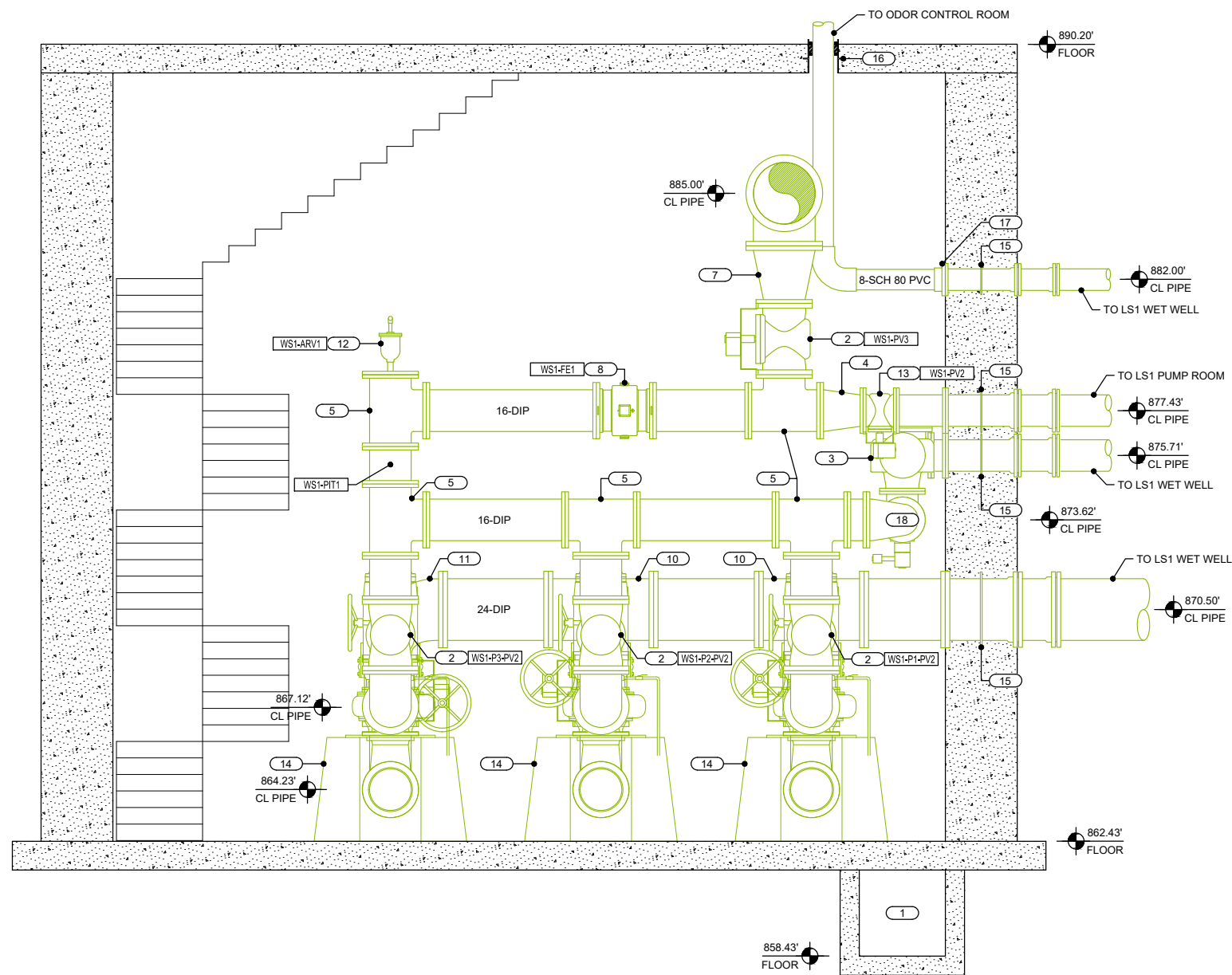
THE CITY OF  
**Fargo**  
FAR MORE



BROADWAY INTERCEPTOR WET WEATHER IMPROVEMENTS  
PHASE III  
FARGO, NORTH DAKOTA  
DRY PIT FLOOR PROCESS PIPE PLAN

DRAWING TYPE	CONST.
PREPARED BY	KWF
CHECKED / APPROVED	BJJ / BJJ
DATE	APRIL 2017
PROJECT NUMBER	P00803-2014-000

FACILITY  
**WS1**  
DRAWING  
**P2**



**1 WS1 P3** DRY PIT PROCESS PIPE SECTION  
12' 0' 1' 2' 3' 4' 5' 6' 7'

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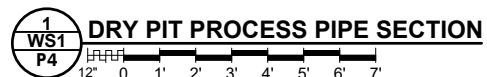
**GENERAL NOTES**

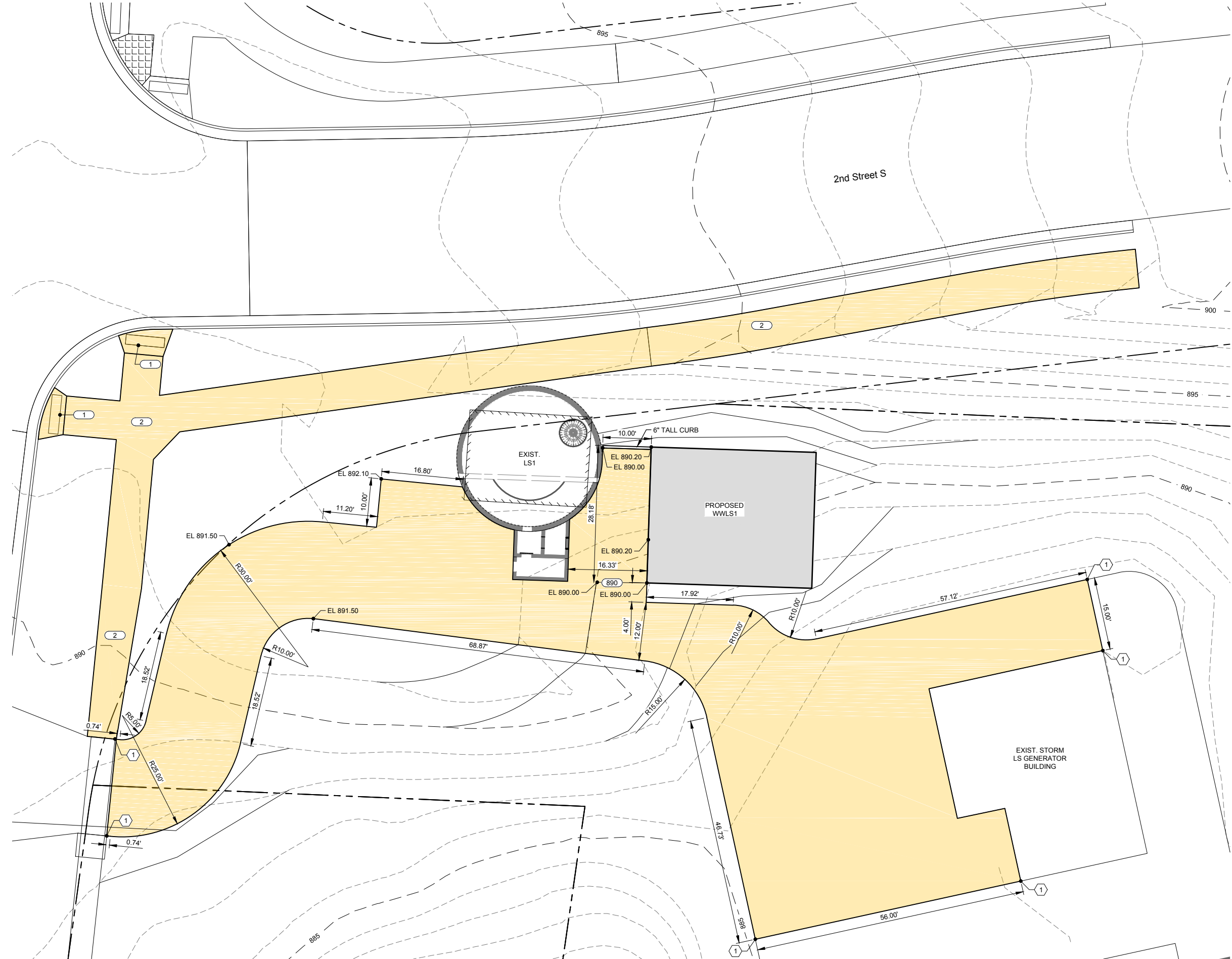
1. ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS1 LINE ITEM ON THE BID FORM.
2. CONTRACTOR SHALL VERIFY PUMP INTAKE AND DISCHARGE SIZE WITH PUMP MANUFACTURER.
3. REFER TO CIVIL DRAWINGS FOR EXTERIOR PIPE ROUTING.
4. COORDINATE STARTUP OF STATION WITH ELECTRICAL CONTRACTOR.

**PROPOSED IMPROVEMENTS**

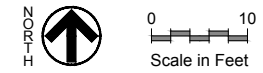
MARK	DESCRIPTION
1	3' x 3' x 4' SUMP
2	16" PLUG VALVE
3	SURGE RELIEF VALVE
4	16" x 12" FLANGED REDUCER
5	16" x 16" FLANGED TEE
6	16" x 16" FLANGED CROSS
7	24" x 16" FLANGED REDUCER
8	16" MAGNETIC FLOW METER
9	16" GATE VALVE
10	24" x 16" FLANGED TEE
11	24" x 16" FLANGED 90° BEND
12	SEWAGE AIR / VACUUM RELEASE VALVE WITH BALL VALVE
13	12" PLUG VALVE
14	PUMP BASE - SEE DETAIL 8/SD/P2
15	FL x MJ WALL PENETRATION - SEE DETAIL 6/SD/P1
16	SEALED FLOOR SLEEVE - SEE DETAIL 8/SD/P1
17	8" SCH 80 PVC VAN STONE ADAPTOR
18	16" x 12" FLANGED REDUCING 90° ELBOW

**ADDENDUM 4**

DRAWING  
**D4**



This document was originally issued and sealed by Ben Julson, PE, Registration Number PE-7782 on April 19, 2017 and the original documents are stored at the office of Advanced Engineering & Environmental Services, Inc.



**GENERAL NOTES**  
1. ITEMS ON THIS DRAWING SHALL BE INCLUDED ON THE WS1 LINE ITEM ON THE BID FORM.

**CONSTRUCTION NOTES**  
1. MATCH EXISTING CONCRETE SURFACE ELEVATION.

**PROPOSED IMPROVEMETS**  
1. ADA PANELS PER CITY OF FARGO STANDARD SPECIFICATIONS.  
2. NEW SIDEWALK.



BROADWAY INTERCEPTOR WET WEATHER IMPROVEMENTS  
PHASE III  
FARGO, NORTH DAKOTA  
CONSTRUCTION AND GRADING PLAN

DRAWING TYPE  
CONSTRUCTION  
PREPARED BY  
KWF  
CHECKED / APPROVED  
BJJ / BJJ  
DATE  
APRIL 2017  
PROJECT NUMBER  
P00803-2014-000

FACILITY  
WS1  
DRAWING  
C2