

Permit Application Review

Permit No. 2021-170
Received complete: December 7, 2021

Applicant: Mike Kuno: City of Minnetonka
Consultant: Bailey Nelson; SEH
Project: 10-inch Sanitary Sewer Force main
Location: Between Green Circle Drive and the trail east of Boston Scientific – Opus II:
Minnetonka
Rule(s): 2, 3, 4, 5, 6 and 10
Reviewer: BCO

General Background & Comments

The applicant City of Minnetonka proposes the installation of approximately 650 lineal feet of 10-inch HDPE sanitary sewer force main from the existing lift station along Green Circle Drive to the connection with the existing system west of the existing path located east of Boston Scientific in Opus II in Minnetonka. The pipe is to be installed by directional boring beneath the wetland (582c as identified in the Minnetonka Comprehensive Stormwater Management Plan) located between the two terminus points of the pipe system. Directional boring is a method of construction that minimizes disturbance for the installation of a utility – the other means of installation is by open-cutting a trench for the utility to be installed. Directional boring “cuts” a pathway underground by pushing a rotating a cutting bit that creates an opening/pathway for the utility to be pushed through the soil. The area that is disturbed for directional boring is an access point (pit) at the terminus point for the utility to be installed.

The Atlas 14 100-year frequency flood elevation of wetland 582c is 881.8 M.S.L. The eastern directional boring pit is to be located in the bituminous driveway/entryway to the existing lift station with the work (boring pit) proposed below the 881.8 M.S.L. flood elevation. The area disturbed is to be restored to the existing grade at the completion of the project resulting in no reduction of the existing flood-storage volume. The boring pit on the western end of the project, at the connection to the existing sanitary sewer, will be located within a pervious area at an approximate elevation of 905 M.S.L. No impervious area will be added, disturbed or reconstructed on the western end of the project.

The City of Minnetonka is the Local Government Unit administering the requirements of the Wetland Conservation Act. A Notice of Decision, dated July 27, 2021, has been issued by the City approving the boundary determination for wetland 582c. The plans show that all work proposed is located outside of the wetland boundary. A MnRAM provided by SEH dated October 29, 2020, has determined the wetland as a medium value wetland requiring a

minimum 20-foot and average 40-foot buffer. The existing driveway/bituminous entryway to the lift station is located within both the required 20-foot minimum and 40-foot average buffer area. The proposed directional boring pit to be located within the area of the bituminous driveway/entryway, is approximately 20-feet from the wetland boundary. Rule 3.4.6 states that existing impervious surface that will not otherwise be disturbed need not be removed from the buffer. However, a portion of the existing bituminous will be disturbed and replaced for the boring pit, an area of approximately 20-feet by 15- feet (300 square feet), and the applicant is requesting a variance from the district's buffer Rule, 3.4. The district was a member of the TEP reviewing the wetland boundary determination and we agree with the determination. We have also reviewed the MnRAM provided and agree with the finding that wetland 582c is a medium value wetland.

The project is, 1) a public improvement project within a linear corridor and not a component of a larger contemporaneous development or redevelopment and 2) does not propose to create any new or additional impervious area, therefore in accordance with Rule 4.2.2, Linear project, stormwater management is not required for compliance with Rule 4.3.1. All work proposed is within an existing utility easement (on the western end of the project) or on City of Minnetonka property (the eastern end of the project).

The district's requirements for erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed for the construction of the directional boring pits, Rule 5.2.1a.

Silt fence will be provided at the limits of construction for erosion control. A rock construction entrance will be constructed at the entryway onto the site from Green Circle Drive.

The requirements of Rule 6, Waterbody Crossing and Structures will apply to the project, specifically subparagraph 6.3.2, because the project includes directional boring under Wetland 582c.

Exhibits

1. Permit Application dated November 22, 2021, submitted on November 17, 2021.
2. Plan sheets dated September 17, 2021, by SEH.
3. Wetland correspondence dated September 20, 2021, prepared by SEH.
4. WCA Notice of Decision approving the wetland boundary dated July 27, 2021, prepared by the City of Minnetonka.
5. MnRAM Assessment for the on-site wetland prepared by SEH, dated October 29, 2020.
6. Variance request correspondence dated December 8, received December 9, 2021, prepared by SEH.

2.0 Floodplain Management and Drainage Alterations

The excavation of the directional boring pit in the driveway/entrance to the existing lift station from Green Circle Drive is located on City owned property that is below the calculated 100-year frequency flood elevation of 881.8 M.S.L. for the adjacent wetland (582c), triggering Rule 2.

2.3.1: The low floor elevation of all new and reconstructed structures must be constructed in accordance with the NMCWD Stormwater Rule, subsection 4.3.3

No new or reconstructed structures with low-floor elevations are proposed with the project.

2.3.2: Placement of fill below the 100-year flood elevation is prohibited unless fully compensatory flood storage is provided within the floodplain and:

- a. at the same elevation +/- 1 foot for fill in the floodplain; or*
- b. at or below the same elevation for fill in the floodplain of a water basin or constructed stormwater facility.*

No fill will be placed below the Atlas 14 100-year frequency flood elevation of 881.8 M.S.L. of wetland 582c. All areas altered because of construction will be restored to its existing elevation.

2.3.3. The District will issue a permit to alter surface flows only if it finds that the alteration is not reasonably likely to have a significant adverse impact on any upstream or downstream landowner and is not reasonably likely to have a significant adverse effect on flood risk, basin or channel stability, groundwater hydrology, stream base-flow, water quality or aquatic or riparian habitat.

The surface flows, flood risk, basin stability, groundwater hydrology, stream base-flow water quality and aquatic and riparian habitat within the wetland will not be changed and/or altered by the proposed directional boring of the 10-inch HDPE sanitary sewer force main. The forcemain will be installed to a depth of approximately 22-feet below the bottom of the wetland. The areas disturbed will be limited to the directional boring pits that will be approximately 20-feet by 15-feet and restore to an existing condition at the completion of the project. No work within the wetland is proposed.

2.3.4 No structure may be placed, constructed, or reconstructed and no surface may be paved within 50 feet of the centerline of any water course, except that this provision does not apply to:

- a. Bridges, culverts, and other structures and associated impervious surface regulated under Rule 6.0;*
- b. Trails 10 feet wide or less, designed primarily for nonmotorized use.*

While the proposed work will occur near Wetland 582c, there is no watercourse on or adjacent to the project site.

3.0 Wetlands Management

As previously stated, the City of Minnetonka is the LGU administering the requirements of the Wetland Conservation Act. A Notice of Decision, dated July 27, 2021, has been issued by the City approving the boundary determination for wetland 582c. The plans show that all work proposed is located outside of the wetland boundary. A MnRAM provided by SEH dated October 29, 2020, has determined the wetland as a medium value wetland requiring a minimum 20-foot and average 40-foot buffer. A portion of the existing bituminous driveway/entryway to the lift station, on the east end of the project is located within both the 20-foot minimum and 40-foot average buffer area required. The proposed directional boring pit, located within the bituminous driveway/entryway, is approximately 20-feet from the wetland

boundary. Rule 3.4.6 states that existing impervious surface not otherwise be disturbed need not be removed from the buffer. However, the existing bituminous to be disturbed and reconstructed for the boring pit, an area of approximately 20-feet by 15- feet (300 square feet), and the applicant is requesting a variance from the district's buffer Rule, 3.4. As previously stated, no impacts or disturbance within the boundary of the wetland is proposed. On the western end of the project, the boring pit is within a 20-foot-wide easement area located on private property. On the eastern end of the project, the wetland boundary extends to the edge of the existing bituminous access to the lift station. Both the 20-foot and 40-foot buffer limits extend onto and along the existing 80-foot-wide bituminous entryway/driveway. The existing bituminous area 20-feet from the wetland boundary considered as buffer, by definition, is 1,600 square feet and the existing bituminous area 40-feet from the wetland boundary considered as buffer, again by definition, is 3,200 square feet.

Buffer markers on City owned property, at each side of the bituminous entryway/driveway will be required in accordance with subparagraph 3.4.5.

The variance requested received from SEH on behalf of the applicant will be discussed further in the Rule 10 paragraphs. A copy of the variance request is included with this review letter.

4.0 Stormwater Management

As previously stated the project is, 1) a public improvement project within a linear corridor, either within an existing utility easement (on the western end of the project) or on City of Minnetonka property (the eastern end of the project) and not a component of a larger contemporaneous development or redevelopment and 2) does not propose to create any additional impervious area, therefore in accordance with Rule 4.2.2, Linear project, stormwater management is not required for compliance with Rule 4.3.1. The impervious area to be disturbed and replaced is approximately 300 square feet.

5.0 Erosion and Sediment Control

The submitted erosion and sediment control plan includes silt fence at the limits of construction, a gravel construction entrance and storm drain inlet protection. The contractor for the project will need to designate a contact who will remain liable to the district for performance under the District's Erosion and Sediment Control Rule 5.0 from the time the permitted activities commence until vegetative cover is established, in accordance with subsection 5.4.1e.

6.0 Waterbody Crossings and Structures

The District's Waterbody Crossings and Structures Rule 6.0 applies to the project because the sanitary sewer force main to be directional bored beneath wetland 582c.

Rule 6.3.1 states construction, improvement, repair, or removal of a waterbody crossing in contact with the bed or bank of a waterbody:

- a) *Must retain adequate hydraulic capacity and assure no net increase in the flood stage of the pertinent waterbody:*

The project proposes to directional bore a 10-inch HDPE sanitary sewer forcemain beneath wetland 582c from the existing lift station along Green Circle Drive to the connection with the existing system west of the existing path located east of Boston

Scientific in Opus II in Minnetonka. No work within the wetland is proposed. The boring pit on the eastern end of the project is located below the Atlas 14 100-year frequency flood elevation of wetland 582c, 881.8 M.S.L. No fill or volume reduction below the flood elevation is proposed. The disturbance is temporary, and areas disturbed will be restored to existing condition at the completion of the project.

b) *Must retain adequate navigational capacity pursuant to any requirements of the waterbody's classification by the District:*

The wetland is not used for navigational purposes.

c) *Must not be reasonably likely to significantly adversely affect water quality, change the existing flowline/gradient, or cause increased scour, erosion, or sedimentation:*

The sanitary sewer is to be installed at a depth of approximately 22-feet beneath the bottom of the wetland and no construction or disturbance is proposed within the wetland boundary. Therefore, there will be no impacts on the water quality of the wetland, change in the existing flowline/gradient, or increase scour, erosion, or sedimentation. Erosion control is proposed downgradient of the areas disturbed during construction. The disturbed areas are to be restored to an existing condition at the completion of construction.

d) *Must provide post-project wildlife passage along each bank and riparian area*

The project will not permanently change conditions in a manner that will deter wildlife (such as waterfowl, amphibians, reptiles) from using the area adjacent to the wetland, if currently used. Construction activities may temporarily displace wildlife until the area is restored to pre-project conditions.

e) *Must represent the "minimal impact" solution to a specific need with respect to all other reasonable alternatives:*

Since the wetland boundary extends to the edge of the bituminous mat, the location of the eastern boring pit could be located as to not disturb the bituminous mat but be located within the wetland. However, the applicant decided to disturb and replace existing bituminous rather than mitigate wetland impacts.

Rule 6.3.2 states, projects involving directional boring or horizontal drilling must provide for minimum clearance of 3 feet below the bed of a waterbody and a minimum setback of 50 feet from any stream bank for pilot, entrance and exit holes.

Directional boring of the force main is proposed with the pipe to be approximately 22-feet beneath the bottom of the wetland. The work is not proposed adjacent to a stream therefore the setback distance of the directional boring pits does not apply.

Rule 6.3.3 states, removal of structures or other waterway obstructions:

a) *Shall maintain the original cross-section and bed conditions to the greatest extent practicable:*

No work within the wetland is proposed.

b) *Shall achieve complete removal of the structure, including any footings or pilings that impede navigation:*

No removal of structures or other water obstructions is proposed.

c) *Shall not involve the removal of a water level control device:*

No removal of structures or other water obstructions is proposed.

Rule 6.3.4 requires *that the plans must state no activity affecting the bed of a protected water may be conducted between April 1 and June 30 on public waterbodies to minimize the impacts on fish spawning and migration:*

The project does not propose any work within the wetland boundary.

Rule 6.3.5 states, a separate permit under District Rule 7.0 is not required for shoreline or streambank stabilization associated with a waterbody crossing or structure, but such stabilization must comply with the criteria 7.3.3c to e.

No riprap is proposed to be installed as part of the project.

In accordance with the requirements of subsection 6.5 for the maintenance of the waterbody structures, the pipe installation will not be in contact with the bed or bank of the wetland. The sanitary sewer system is part of the City's infrastructure and will be maintained as required by the city.

10.0 Variances and Exceptions

A variance request for compliance with Rule 3.4.1a (attached) has been prepared by SEH on behalf of the City of Minnetonka to address Rules 10.1-10.4. The variance request is for the replacement of bituminous disturbed for the directional boring pit located in the existing driveway/entrance to the lift station on the eastern end of the project site. Since the wetland boundary extends to the edge of the bituminous mat, the 20-foot minimum, and 40-foot average buffer extends onto the bituminous surface that currently does not provide any functional benefit as a wetland buffer required by Rule 3.4.1b. The 120 square feet of area to be disturbed for the boring pit could be restored with buffer vegetation but would be totally surrounded by bituminous, again not providing any functional benefits. The only location for the boring pit that would not disturb the bituminous would be within the wetland that would require mitigation of wetland impacts.

11.0 Fees

Because the property owner is a public entity, no fees are charged.

Rules 2.0, 4.0 and 5.0 \$0

12.0 Financial Assurances

Because the property owner is a public entity, the district's financial assurance requirements do not apply.

Sureties for the project are: \$0

Findings

The proposed project includes the information necessary, plan sheets and erosion control plan, for review.

Rule 5 is met.

For Rule 3.4 to be met, the Managers must approve a variance for the replacement of existing bituminous disturbed located within the required wetland buffer.

Recommendation

Should the Board approve the application and variance request as submitted, we recommend the approval be contingent upon the following:

General Provisions

The applicant providing a name and contact information from the contractor responsible for the erosion and sediment control at the site. NMCWD must be notified if the responsible individual changes during the permit term.

By accepting the permit, when issued, the applicant agrees to the following stipulations for closeout of the permit and release of the financial assurance after the project:

In accordance with Rule 3.4.5, buffer markers are required at the limits of the wetland buffer on City owned property riparian to wetland 582c.



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MEMORANDUM

TO: Nine Mile Creek Watershed District Board of Managers

FROM: Bailey Nelson, SEH Wetland Biologist

DATE: December 8, 2021

RE: Opus Lift Station, Variance Request
SEH No. MINNE 157819 14.00

INTRODUCTION

A Nine Mile Creek Watershed District Permit application has been submitted for the proposed lift station and associated directional drilling of a new force main. It is believed that all of the Watershed requirements can be met, however there is a challenge around meeting rule 3.4 (wetland buffers) related to limitations due to existing conditions. For these reasons a variance is requested. Information on the project is available in the previous submittal. An exhibit showing what is proposed for restoring the existing the buffer following construction, and the limitations imposed by existing infrastructure, is attached for reference.

The purpose of this memorandum is to provide additional information on the project for the requested variance related to the wetland buffer requirements.

VARIANCE REQUEST

Because disturbance to pavement is proposed within 40 feet of the wetland edge, a variance of the wetland buffer rule is requested.

In accordance with the Nine Mile Creek Watershed District requirements for a variance, the following information is provided to support the request.

NMCWD Rule 10.1.1 – The existing pavement is adjacent to the wetland boundary, and provide a unique condition to the subject property. The variance request is based on a hardship that would result from limiting disturbance in the pavement to further than 40 feet from the wetland edge. The initial drilling pit is located over 60 feet from the wetland. However, another pit needs to be taken closer to the wetland edge in order to remove the excess pipe following installation and plug the new 10" forcemain for future connection. The associated asphalt pad is required to access the lift station for maintenance and operations. The lift station and associated pavement are critical infrastructure, not an inconvenience to meeting the rule.

NMCWD 10.102. – The hardship is a pre-existing condition. The pavement and lift station were established prior to this project and establishment of NMCWD wetland buffer requirements, and the new forcemain needs to tie into the existing lift station. No change of the current footprint is proposed.

Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc., 10400 Yellow Circle Drive, Suite 500, Minnetonka, MN 55343-9229

952.912.2600 | 800.734.6757 | 888.908.8166 fax | sehinc.com

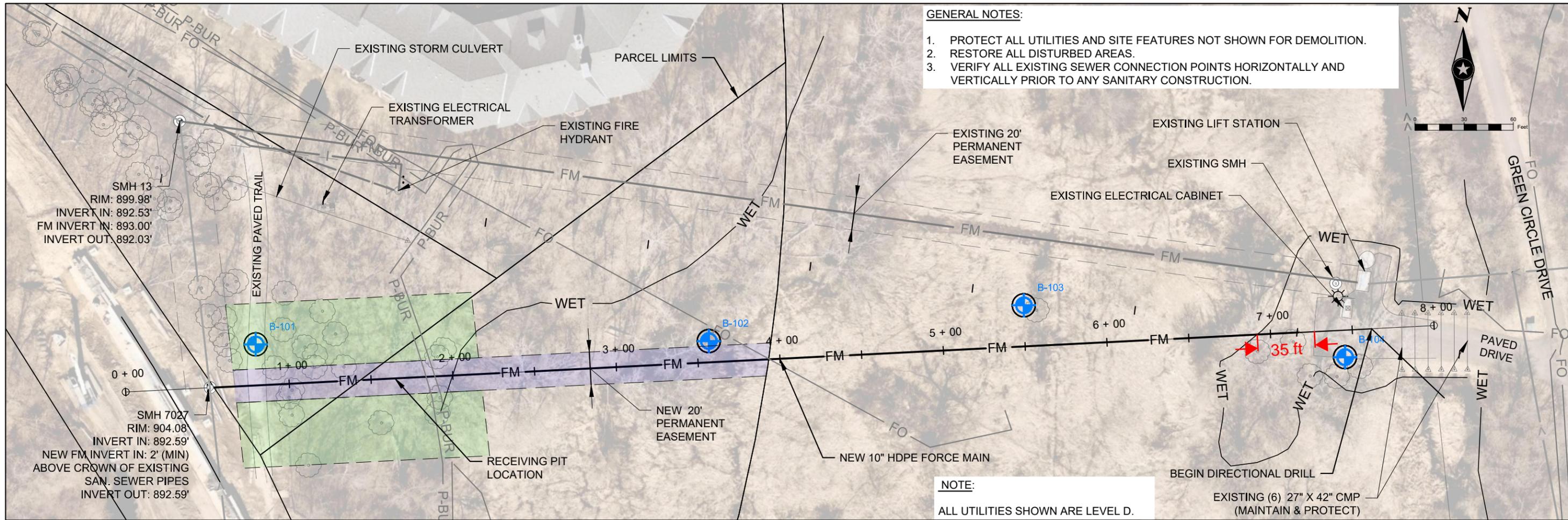
SEH is 100% employee-owned | Affirmative Action–Equal Opportunity Employer

NMCWD 10.1.3 – The applicant will reseed any disturbed areas of existing buffer following construction. While some tree removal would occur, the site will remain unmanaged vegetation to the extent it is currently present. For the west side of the directional drilling the existing buffer is in compliance with the minimum and average buffer requirements. The east side, where the lift station and paved area are present, does not comply with the buffer requirements currently but there would be no loss of buffer with the completion of the project. Approval of the variance would not have adverse impacts to water quality, flood levels, or other properties within the District, as there would be no change to existing conditions.

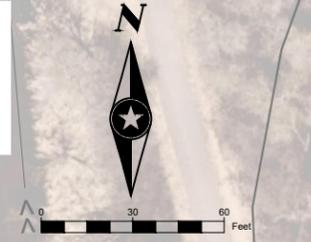
NMCWD 10.1.4 – The only alternatives to the proposed crossing would be the no-build or the relocation of the lift station. Neither of these options are feasible. This location was chosen as it is required to connect to the existing lift station, and it will serve as redundancy for the system due to aged existing forcemain.

BN

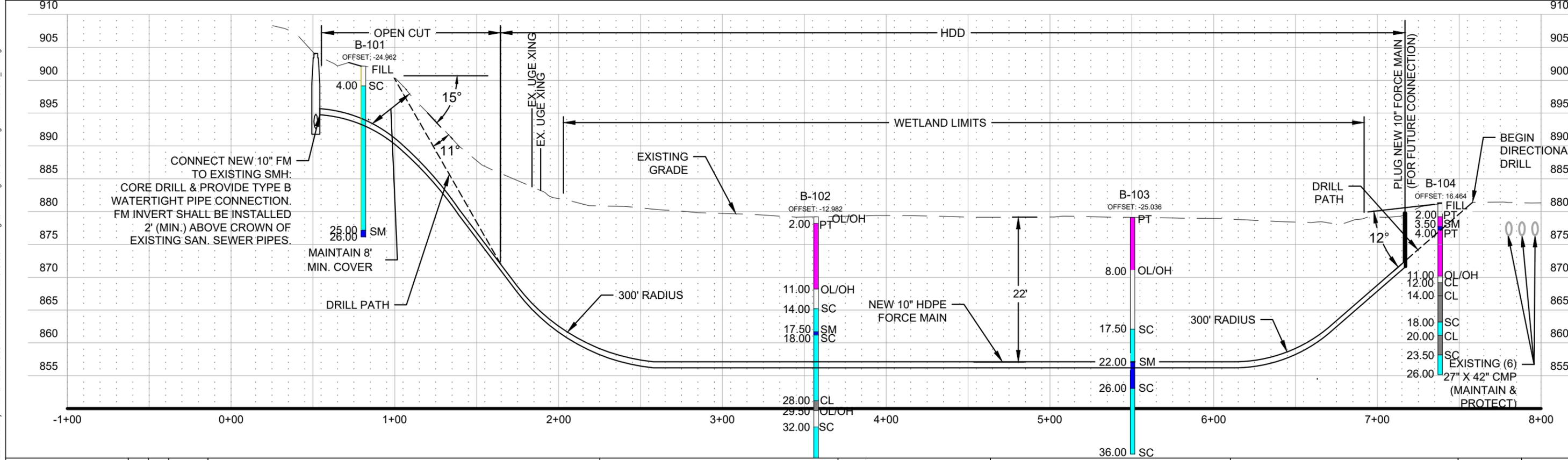
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- GENERAL NOTES:**
1. PROTECT ALL UTILITIES AND SITE FEATURES NOT SHOWN FOR DEMOLITION.
 2. RESTORE ALL DISTURBED AREAS.
 3. VERIFY ALL EXISTING SEWER CONNECTION POINTS HORIZONTALLY AND VERTICALLY PRIOR TO ANY SANITARY CONSTRUCTION.



NOTE:
ALL UTILITIES SHOWN ARE LEVEL D.



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DESIGNER: LS
CHECKED BY: DH

NO.	BY	DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David E. Hutton
Date: 9/17/2021 Lic. No. 19133



2021 OPUS LIFT STATION
SECONDARY FORCEMAIN
CITY OF MINNETONKA, MINNESOTA

PLAN AND PROFILE
DEEP PIPE INSTALLATION

FILE NO.
MINNE 157819

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