Department of Public Works

Austin McFarlane
Director

650 W. Winchester Road
Libertyville, Illinois 60048
Phone 847 377 7500
Fax 847 984 5665
PublicWorks@lakecountyil.gov

Lake County Department of Public Works
Saunders Road Sanitary Sewer and Lift Station Improvements
Bid #25232
Project #2020.130
Addendum #4 – September 8, 2025

Please refer to the "Bid Documents & Technical Specifications and the Bidding Plans" for complete details. Statements, questions and answers below are added for emphasis.

Questions and Clarifications:

1. Question: On the quantity sheet, line item #8 "Storm Culvert Removal and Replacement" there is no detail anywhere on the blueprints on how to address this task. Could someone provide a detail of that?

   Answer: The relevant plan notes are Plan Notes 4 and 10 on sheet 002-CR-5 and Plan Note 6 on 002-CP-6. The intent is for any culvert piping to be installed in accordance with detail C501 on 999-C-7 and for the end sections to be installed in accordance with IDOT Standard 542301-03.

2. Question: In reviewing the project specifications, Division 33, Section 33 05 61 (Precast Concrete Structures, Page 548) references: "Protective Coatings: As specified in Section 09 96 00 – High Performance Coatings." Section 09 96 00 (High Performance Coatings) further specifies that concrete in immersion service is to be lined with a 100% solids epoxy coating system with a total dry film thickness of 34–46 mils. Please confirm whether the intent of the specifications is that:

   A) All interior concrete surfaces of new sanitary sewer manholes are to receive the protective coating system described in Section 09 96 00 (Concrete – Immersion Service).

      Answer: Specification 33 05 61 does not reference specification 09 96 00; there is no immersive concrete coating required for the manholes described in 09 96 00. Provide corrosion inhibitor at required structures per Section 33 05 61, paragraph 2.06. See revisions in Addendum No. 3.

   B) If protective coatings are not required for manhole interiors, please provide direction so that scope and pricing can be accurately defined.

      Answer: See above.

3. What are the allowable accuracy tolerances for trenchless installation of the gravity sewer?

   Answer: The accuracy of the trenchless pipe installation shall be within 0.5% of the specified sanitary sewer slope, within 1 foot left or right horizontally of the specified sanitary sewer alignment, and within 6-inches above or below the specified sanitary sewer profile. See revisions in this Addendum.

Revisions

Specifications:

1. Bid Form – Delete the bid form in its entirety and replace with the attached Bid Form.

2. Section 01 22 00 – Unit Prices, delete paragraph 1.02.W in its entirety and replace with the following:

   "W. Bid Item 30: PVC Gravity Sewer, Trenchless Installation

      1. Work as described below:

         a. Gravity sewer main installation using horizontal directional drilling (HDD) or guided auger boring.
         b. Section 01 35 19: Alteration Project Procedures.
         c. Section 31 23 33: Trenching and Backfilling.
         d. Section 33 04 00: Testing Buried Piping Systems.
         e. Section 33 05 07.13: Horizontal Directional Drilling.
         f. Section 33 05 07.23: Guided Auger Boring.
         g. Section 33 31 13: Sanitary Sewer Gravity Pipe.
         h. Other Sections containing pertinent and incidental Work.

      2. Include cost of:

         a. Development of HDD or Guided Auger Boring Work Plan
         b. Preparation of pilot hole "record drawings"
         c. Excavation and preparation of bore pits as required to complete the work, including base stabilization, thrust block installation (for guided auger boring), disposing of surplus excavated materials replaced by pipe, bedding, granular cover, and granular backfill or flowable fill.
         d. Protecting existing utilities, site objects, and new Work which are to remain in service after completion of new sewers and appurtenances.
         e. Sheeting, shoring, and bracing materials, and installation and removal.
         f. Dewatering.
         g. Geotechnical investigations.
         h. Granular bedding and cover materials, and placement and compaction.
         i. Equipment, materials, and installation of gravity sewer main installation using trenchless methods, including pipe, restrained couplings, and guidance system. Include materials and installation for casing pipe (including welding), casing spacers, and end seals for guided auger boring installation.
         j. One pilot bore/pilot hole restart or obstruction removal per every two trenchless installation runs.
         k. Disposal of spoils from trenchless installation operations.
         l. Implementation of frac-out plan.
         m. Filling of voids caused by trenchless operations, including pressure grouting of voids exceeding the auger boring radial overcut tolerance.
         n. Placing and compacting backfill materials. Flowable fill shall be provided for backfill beneath pavement, sidewalk, or curb and gutter on Saunders Road. Granular backfill shall be provided beneath pavement, sidewalk, or curb and gutter at the lift station site.
         o. Testing.
         p. Temporary aggregate drives for adjacent properties and alleys.
         q. Temporary roadway patching.
         r. Clean up.
         s. Reconnecting or repair of utilities damaged by sewer installation.

t. Other pertinent and incidental Work.
u. General requirements of Sections listed.

3. Do not include cost of:

a. Manholes.
b. Permanent restoration of pavement surfaces within restoration limits.
c. Work included in other Bid items.

4. Measurement for Payment:

a. The actual length of each size and type of sanitary sewer installed using trenchless methods will be measured in linear feet (LF).
b. Measure sewer on straight horizontal line along centerline of sewer.

5. Payment:

a. Payment will be made at the unit price per linear foot (LF) for each size and type of sewer installed by trenchless methods indicated on the Bid Form.
b. For guided auger boring installation, 16" gravity sewer main shall be placed inside a 24" steel casing.

3. Section 33 05 07.13 – Horizontal Directional Drilling, paragraph 1.04.A.1, delete the word "HDD" and replace with "Trenchless".

4. Section 33 05 07.13 – Horizontal Directional Drilling, delete paragraph 2.04.D in its entirety and replace with the following:

"D. The accuracy of the bore path and resulting pipe profile centerline shall be within 0.5% of the specified sanitary sewer slope, within 1 foot left or right horizontally of the specified sanitary sewer alignment, and within 6-inches above or below the specified sanitary sewer profile (surface grade to top of pipe) in any soil condition. The exit point for the pilot hole bore path shall be within the limits of excavation shown on the Drawings. The piping profile between drill pits shall be free of high points and sags."

5. Add Section 33 05 07.23 – Guided Auger Boring attached to this addendum.

6. Section 33 05 61 – Precast Concrete Structures, delete sentence 2.06.A in its entirety and replace with the following:

"A. Provide for new drop manholes, meter and valve vault, and wet well by one of the following methods:"

7. Section 33 31 13 – Sanitary Sewerage Gravity Piping, paragraph 2.03.D: add the words "and Installation within Steel Casing" after the words "HDD Installation".

8. Section 40 05 53 – Process Valves, delete paragraph 2.05.A in its entirety and replace with the following:

"A. Type V916: Sewage Air/Vacuum Valve

1. Manufacturers:

a. ARI Flow Control Accessories Ltd.
b. Or equal.

2. Sewage Air/Vacuum valves shall be fully automatic float operated valves designed to exhaust large quantities of air during the filling of a piping system and close upon liquid entry. The valve shall re-open during draining or if a negative pressure occurs.
3. Bolted cover for internal access.
4. Reinforced nylon body.
5. Stainless steel internals: linkage, stem, float, and fasteners.
6. BUNA-N or EPDM elastomers.
7. 2" NPT bottom inlet.
8. 1" NPT outlet.
9. 150 psi working pressure."

9. Section 40 05 53 – Process Valves, delete paragraph 2.05.B in its entirety and replace with the following:

"B. Type V917: Sewage Combination Air Valve

1. Manufacturers:

a. ARI Flow Control Accessories Ltd.
b. Or equal.

2. Sewage Combination Air Valves shall be automatic float operated valves designed to exhaust large quantities of air during the filling of a piping system and close upon liquid entry. The valve shall open during draining or if a negative pressure occurs. The valve shall also release accumulated air from a piping system while the system is in operation and under pressure. The valve shall perform the functions of both air release and air/vacuum valves and furnished as a single body or dual body type as indicated on the drawings.
3. Bolted cover for internal access.
4. Reinforced nylon body.
5. Stainless steel internals: linkage, stem, float, and fasteners.
6. BUNA-N or EPDM elastomers.
7. 2" NPT bottom inlet.
8. 1" NPT outlet.
9. 150 psi working pressure."

Drawings:

1. Delete Drawing 002-CP-3 in its entirety and replace with attached Drawing 002-CP-3.

2. Delete Drawing 002-CP-4 in its entirety and replace with attached Drawing 002-CP-4.

3. Delete Drawing 002-CP-5 in its entirety and replace with attached Drawing 002-CP-5.

4. Delete Drawing 002-CP-6 in its entirety and replace with attached Drawing 002-CP-6.

5. Delete Drawing 350-S-3 in its entirety and replace with attached Drawing 350-S-3.

6. Delete Drawing 350-M-3 in its entirety and replace with attached Drawing 350-M-3.

BASE BID					
Item #	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**TOTAL PRICE**
1	Mobilization, Project Administration, and Demobilization	LS	1		
2	Temporary Conveyance of Sewage	LS	1		
3	Traffic Control	LS	1		
4	Clearing and Grubbing	LS	1		
5	Topsoil Stripping and Stockpiling	LS	1		
6	Sanitary Manhole Removal	EA	3		
7	Sanitary Manhole Abandonment	EA	6		
8	Storm Culvert Removal and Replacement	LS	1		
9	Utility Locating	LS	1		
10	Erosion Control	LS	1		
11	Asphalt Pavement and Shoulder Removal	LS	1		
12	Asphalt Pavement and Shoulder	LS	1		
13	Aggregate Shoulder Removal	LS	1		
14	Aggregate Shoulder Replacement	LS	1		
15	M4.12 Curb & Gutter and Curb & Gutter Outlets	LF	205		
16	Concrete Sidewalk	SF	1,065		
17	Guardrail	LF	110		
18	Lift Station Site Grading, including Compensatory Storage	LS	1		
19	Site Restoration, Topsoil, and Seeding	LS	1		
20	Sanitary Sewer Manhole, 4' Diameter	EA	7		
21	Sanitary Sewer Manhole, 5' Diameter	EA	1		
22	Sanitary Sewer Manhole, 6' Diameter	EA	2		
23	Sanitary Sewer Service Reconnections	EA	4		
24	6" PVC Gravity Sewer, Open Cut Installation	LF	10		
25	8" PVC Gravity Sewer, Open Cut Installation	LF	20		
26	10" PVC Gravity Sewer, Open Cut Installation	LF	185		
27	12" PVC Gravity Sewer, Open Cut Installation	LF	180		
28	16" PVC Gravity Sewer, Open Cut Installation	LF	300		
29	24" PVC Gravity Sewer, Open Cut Installation	LF	40		
30	16" PVC Gravity Sewer, Trenchless Installation	LF	1,170		
31	10" PVC Forcemain, Open Cut Installation	LF	185		
32	12" PVC Forcemain, Open Cut Installation	LF	190		
33	Lift Station	LS	1		
34	Lift Station Removal	LS	1		
35	Owner Directed Allowance	LS	1	$ 300,000	$ 300,000
	Total Bid Amount (Line Items 1 through 35)				

SUPPLEMENTAL UNIT PRICING					
Item #	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**TOTAL PRICE**
A	Class D Pavement Patch (2" Surface / 4" Binder)	SY	100		
B	Aggregate Shoulder, 8", CA-6	SY	50		
C	Potholing for Existing Utilities	EA	1		
D	Topsoil, Seed, Fertilizer and Erosion Control Blanket Installation	SY	700		
E	Non-Special Waste Disposal	CY	100		

SECTION 33 05 07.23
GUIDED AUGER BORING

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Methods for installing gravity sanitary sewer main within a permanent steel casing using guided auger boring.

1.02 DEFINITIONS

A. Guided Auger Boring (GAB) or Pilot Tube Guided Auger Boring (PTGAB): multi-stage trenchless installation utilizing auger boring in conjunction with a guidance system. For this project, the stages are generally described as follows:

1. Installation of pilot tubes along the length of the bore path to set line and grade. Line and grade of the pilot tube installation shall be controlled by a steering head attached to the lead pilot tube, and a guidance system consisting of a theodolite, camera with video surveillance system, LED illuminated target, and a digital computer-controlled monitor assembly.
2. Installation of steel casings. A weld-on reaming head or bearing swivel with cutter head is attached to the final pilot tube, followed by steel casing pipes containing augers. As the steel casings are advanced forward by the boring machine, excavated soil is removed by the augers to the jacking pit and pilot tubes are sequentially removed in the receiving pit.
3. Installation of carrier pipe within the steel casing.

1.03 SUBMITTALS

A. General:

1. Submit Product Data in sufficient detail to confirm compliance with requirements of this Section. Provide required information in one complete submittal package. Partial submittals are unacceptable.
2. Submit in accordance with Section 01 33 00.

B. Product Data:

1. Catalog cuts and product specifications for material and equipment specified indicating compliance with requirements.
2. Manufacturer's literature describing in detail the guided auger boring system to be used and demonstrating the adequacy of size and capability to install the casing pipe. Include the details of the guidance and pipe installation process. Provide listing of the equipment to be used, including the Guided Boring Machine, jacking frame, and reaming or cutting head.

C. Work Plan:

1. Prior to beginning work, the Contractor shall submit to the Engineer a work plan detailing the procedure and schedule to be used to execute the project. The work plan should be comprehensive and based on actual working conditions anticipated for this project.

a. Quality control plan that includes at a minimum how supervision of installation shall be accomplished and procedures for ensuring line and grade requirements are met.
b. Method of lubrication.
c. Method of spoils removal, including surface storage and disposal.
d. Method of controlling ground water in the jacking and receiving pits, and if required, along the pipeline alignment.
e. Bore pit dimensions, locations, depth, and method of shoring and bracing.
f. Materials and method of construction for auger boring machine thrust block.
g. Sequence and schedule of work, indicating anticipated number of days for jacking pit preparation, receiving pit preparation, equipment set-up, pilot tube installation, casing pipe installation, carrier pipe installation, equipment removal, and backfilling.
h. Contractor's plan for monitoring ground movement.
i. Contingency plan identifying procedures to be followed for possible problems such as unanticipated obstructions, surface settlement and/or heaving, and equipment breakdown.

D. Contractor Work Experience:

1. A description of at least five (5) projects on which this system has been successfully used, including the names, addresses, and telephone numbers of Owner's representative for these projects shall be provided.

E. Test Results:

1. Submit post-installation test results for gravity sewer main in accordance with Section 33 31 13.

F. Record Drawings:

1. Submit record drawings showing the installed location and elevation of casing and carrier pipes.

1.04 QUALITY ASSURANCE

A. Equipment Manufacturer Qualifications: Firms experienced in manufacturing equipment of types and capacities indicated that have record of successful in-service performance.

B. Installer: Company specializing in performing work of this section with minimum ten (10) years documented experience.

1.05 BASIS OF PAYMENT

A. The following bid items apply to Work described in this Section:

1. PVC Gravity Sewer, Trenchless Installation

B. All other Work described in this Section shall be considered incidental to the Contract and no separate payment will be made.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Casing pipe:

1. Steel pipe meeting the requirements of ASTM A139, Grade B and AWWA C200.

    a. Yield strength: 35,000 psi minimum.
    b. Wall thickness: 0.375 inch. Contractor to verify and provide adequate thickness for installation.
    c. Joints: Joints shall be made by continuous weld completely around the perimeter of the pipe. Casing pipe shall be butt-welded in accordance with the requirements of the American Welding Society (AWS) Standard D1.1 and shall be performed by qualified welders. Joints shall be watertight and shall provide a strength through the joint equal to that of the pipe shell. Pipe shall have beveled edges for welding.
    d. Diameter: 24-inch casing diameter for 16-inch carrier pipe.

B. Casing spacers:

1. Stainless steel construction with stainless steel risers and ultra-high molecular weight runners.
2. Centered and restrained type. Bottom restrained type will be acceptable if grade corrections are required.
3. Casing spacers shall be designed and manufactured to achieve the invert elevations of the carrier pipe as shown on the Drawings. Casing spacers shall not be ordered until after the casing pipe is installed. Casing spacer manufacturer shall provide the casing spacer design.
4. Products:

    a. Model CCS as manufactured by Cascade Waterworks Mfg. of Yorkville, IL
    b. Approved equal.

C. Casing end seals:

1. Neoprene rubber transitional boot with two (2) stainless steel bands.

    a. PSI Seal and Insulator, Inc. Model “W” wrap around type, synthetic rubber seal.
    b. Advance Products & Systems’ Model “AW” wrap around type seal.
    c. Or equal.

D. Carrier pipe:

1. Comply with Section 33 31 13.

2.02 EQUIPMENT

A. Guided Auger Bore Machine

1. Guidance System: At a minimum, the guidance system shall include a theodolite with remote focus, LED illuminated target, camera with video surveillance system, and digital computer-controlled monitor assembly.
2. Jacking Frame: The jacking frame shall possess adequate strength to advance the pilot tube, casing pipes, and carrier pipe from the drive shaft to the reception shaft. The jacking force shall be easily regulated down to the safe working load rating of the pipe. The frame shall develop a uniform distribution of jacking forces on the end of the pipe. The auger motor shall possess adequate torque to steer the pilot tube and adequate torque and speed to effectively auger the excavated material from the face of the bore to the drive shaft.
3. Steering Head: The steering head shall attach directly to the lead pilot tube and be suitable for the project’s ground conditions.
4. Pilot Tube: The pilot tubes shall be constructed of rigid material. The tubes shall rigidly

connect to each other, the steering head, and the enlargement casing and have a clear inside diameter large enough to adequately view the lighted target. The tubes shall withstand the torque encountered in the steering process and jacking forcing encountered during installation along the bore path.

5. Reaming or Cutting Head: The reaming head or cutting head shall be connected to the final pilot tube and the lead casing pipe. The reaming or cutting head shall be suitable for the project's soil conditions.
6. Soil Transportation System: The soil transportation system shall consist of an auger train operating inside the full diameter steel casings.
7. Soil Removal: A soil removal system shall be provided to safely remove the excavated material form the launch pit to the surface.
8. Hydraulic Power Unit: The hydraulic power unit shall rest on the surface and be connected to the jacking frame by hoses. The unit shall meet all applicable noise standards.
9. Lubrication System: A lubrication system shall be employed to minimize pipe friction to ensure that pipe can be installed from the jacking pit to the receiving pit within the safe working load rating of the pipe. The system may also be required to minimize the torque required to transport the excavated material to the drive shaft.
10. Monitoring equipment shall be provided capable of continuously monitoring:

    a. The jacking pressure and advance rate of the boring head
    b. Deviation of the guided auger boring machine
    c. Inclination of the steering head

PART 3 – EXECUTION

3.01 EXAMINATION

A. Contractor shall be responsible for obtaining additional geotechnical investigations required to satisfy themselves as to the character of the project conditions.

3.02 PREPARATION

A. Provide adequate supplies of soil lubricant, dewatering equipment, pipe sections, and jacking equipment to ensure steady, continuous operations can be maintained.

B. Provide minimum of 48-hour (two working day) notice to Engineer prior to commencing work in this section.

C. If obstructions to the boring operations are encountered, Contractor is responsible for investigating and resolving obstructions within requirements of the specifications, permits obtained for the project, and appropriate authorities' regulations.

D. Protect existing utilities, site objects, and new work, which are to remain in service.

3.03 DEWATERING

A. Develop and maintain a dewatering system of sufficient capacity to remove water continuously, keeping excavations free of water.

1. Keep removal of soils particles to minimum.
2. Dewater into sediment trap as per Section 31 25 00.
3. Observe settlement or displacement of surface facilities due to dewatering.
4. Should settlement or displacement be detected, notify Engineer immediately and act to maintain safe conditions and prevent damage.

B. The Contractor shall make provisions to prevent ground water from flowing along the pipe into the shaft and prevent pipe lubricant from escaping shaft.

3.04 BORE PITS

A. Excavate bore pits in accordance with approved work plan and as site conditions require. Bore pits shall be located within approximate excavation limits indicated on the Drawings. Excavation limits shown on the Drawings are approximate. Actual limits of excavation as required for bore pits shall be determined by Contractor. Bore pit sizes shall be minimized and shall be commensurate with safe working practices.

B. Ensure pipe entrance face is as near to perpendicular to alignment as conditions permit.

C. Provide suitable pit sidewall stabilization as necessary to meet applicable safety regulations and as required to complete the work. Bracing, shoring, sheeting or other supports shall be installed in the bore pit as needed.

D. Install dewatering measures as required.

E. Install suitable thrust blocks for jacking operations as required. Thrust block design including the establishment of allowable thrust load is the responsibility of the Contractor. Thrust blocks shall be designed to distribute loads into the ground in a uniform manner and shall not impart excessive loads on the pit itself or cause the jacking frame to become misaligned.

F. Provide stable base of crushed rock or other suitable material as required for boring equipment.

3.05 INSTALLATION

A. Pilot Tubes

1. Install pilot tube through the ground from the jacking pit to the receiving pit by earth displacement using the Guided Boring Machine and jacking frame. The alignment of the pilot tube shall be established with a theodolite mounted at the rear of the drive shaft and accurately set to the desired line and grade. The theodolite shall view a lighted target in the lead or steering pilot tube. A camera shall be fitted to the theodolite and shall transmit the image of the crosshair and the target onto a monitor screen to be viewed in the jacking pit by the operator. As the operator advances the pilot tube through the earth, the center of the target will drift from the crosshair as a result of the biased or slated leading tip of the pilot tube. The operator shall rotate the pilot tube as required to orient the slated steering tip toward the crosshair and continue to advance the pilot tube until it reaches the reception shaft.
2. In the event a boulder or other obstruction encountered at heading of pilot tube stops forward progress, Contractor shall remove the obstruction or restart the pilot tube installation along a new path. Contractor shall contact Engineer before proceeding to determine method of addressing obstruction.
3. The accuracy of the bore path and resulting pipe profile centerline shall be within 0.5% of the specified sanitary sewer slope, within 1 foot left or right horizontally of the specified sanitary sewer alignment, and within 6-inches above or below the specified sanitary sewer centerline profile in any soil condition.

B. Casing Pipes

1. The reamer or cutter head shall be rigidly connected to the final pilot tube, and the casing pipes shall be rigidly connected to the reamer or cutter head. The reamer/cutter head and casing pipe string shall advance into the earth behind the pilot tube. An auger shall be used

inside the casing to remove the material being excavated. The auger shall be contained inside the limits of the casing as it progresses along the proposed alignment. The casing pipe will be installed continuously as excavation by the augers proceeds from within the casing pipe. Each casing pipe segment shall be fitted with an internal auger to transport the excavated material to the receiving pit where it shall be removed and disposed. The pilot tubes shall be recovered in the receiving pit as the casings are installed.

2. When installing the casing pipe, the rear of the cutting head shall not advance in front of the leading edge of the casing by more than 1/3 times the casing diameter, and in stable cohesive soil conditions this distance shall not exceed 8 inches. Excavation shall be performed entirely within the jacking head and no excavation in advance thereof shall be permitted. Earth within the casing shall not be removed too close to the leading edge to prevent the formation of voids outside the casing. If voids are formed, they shall be satisfactorily filled with by pressure grouting.
3. Overcut Limits: The maximum radial overcut shall be 0.5 inches. If overcut exceeds 0.5 inches, pressure grouting in the excavated space between the casing pipe and the surrounding soil is required. Radial overcut is defined as mathematical difference between the maximum excavation diameter and the outer diameter of the casing pipe, divided by two.
4. Axial forces from the thrust jacks shall be distributed to the casing pipe uniformly through a properly designed thrust ring and cushion material to prevent damage to the ends of the pipe.

C. Carrier Pipe

1. Insert the carrier pipe into the casing pipe.
2. Casing spacers shall be installed on all carrier pipes placed inside casings:

    a. Within 12-inches of each end of the casing.
    b. On both sides of each carrier pipe joint, within 24 inches of the joint.
    c. At points required such that the maximum distance between any two spacers on the carrier pipe is less than 6 lineal feet.

3. The pressure of sliding the carrier pipe into the casing shall not be applied directly to carrier pipe. A plank, timber, or other material acceptable to the Engineer shall be placed over the pipe end, during pushing, to protect it from damage.
4. After each carrier pipe has been installed in the casing pipe, each end of the casing pipe shall be sealed with rubber end seals as specified above. Pierce each rubber end seal with a 1-inch diameter hole at the base of the end seal, to allow minor amounts of drainage to freely drain from the casing.

3.06 GROUND MOVEMENT

A. The boring machine shall provide full support to the excavation without the use of ground stabilization or other ground support techniques to allow installation of the pipeline.

B. Bore pits shall be designed in a manner to prevent the settlement of adjacent areas.

C. Settlement of the ground surface along the centerline of the pipeline during and after construction shall not exceed 0.5 inch.

D. Repair of ground losses and/or damage to structures due to ground losses that are a result of the guided auger boring operation shall be the responsibility of the Contractor.

E. Repair of voids created during the guided auger boring operation shall be the responsibility of the Contractor.

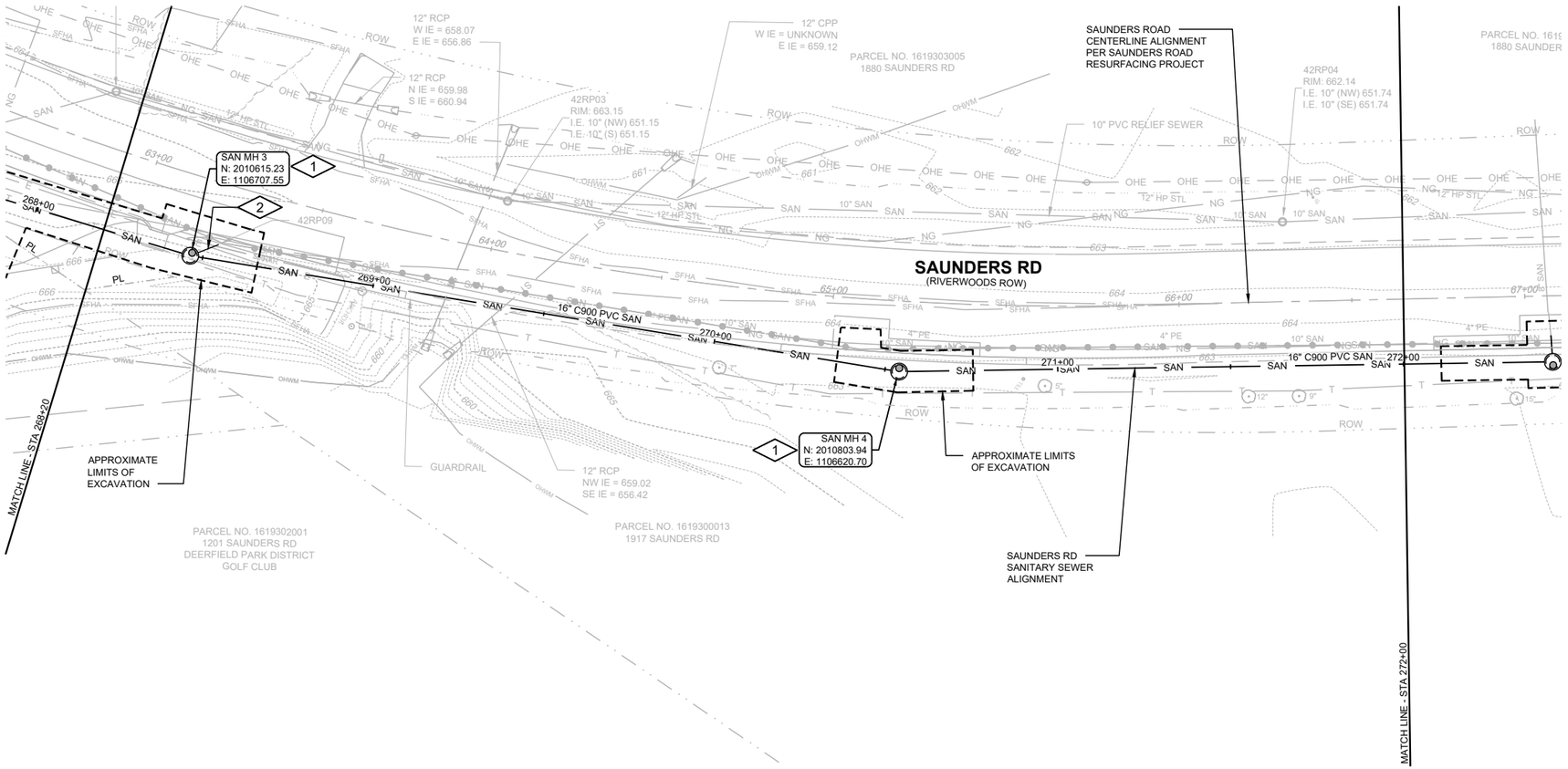
3.07 REMOVAL OF FACILITIES AND CONTROLS

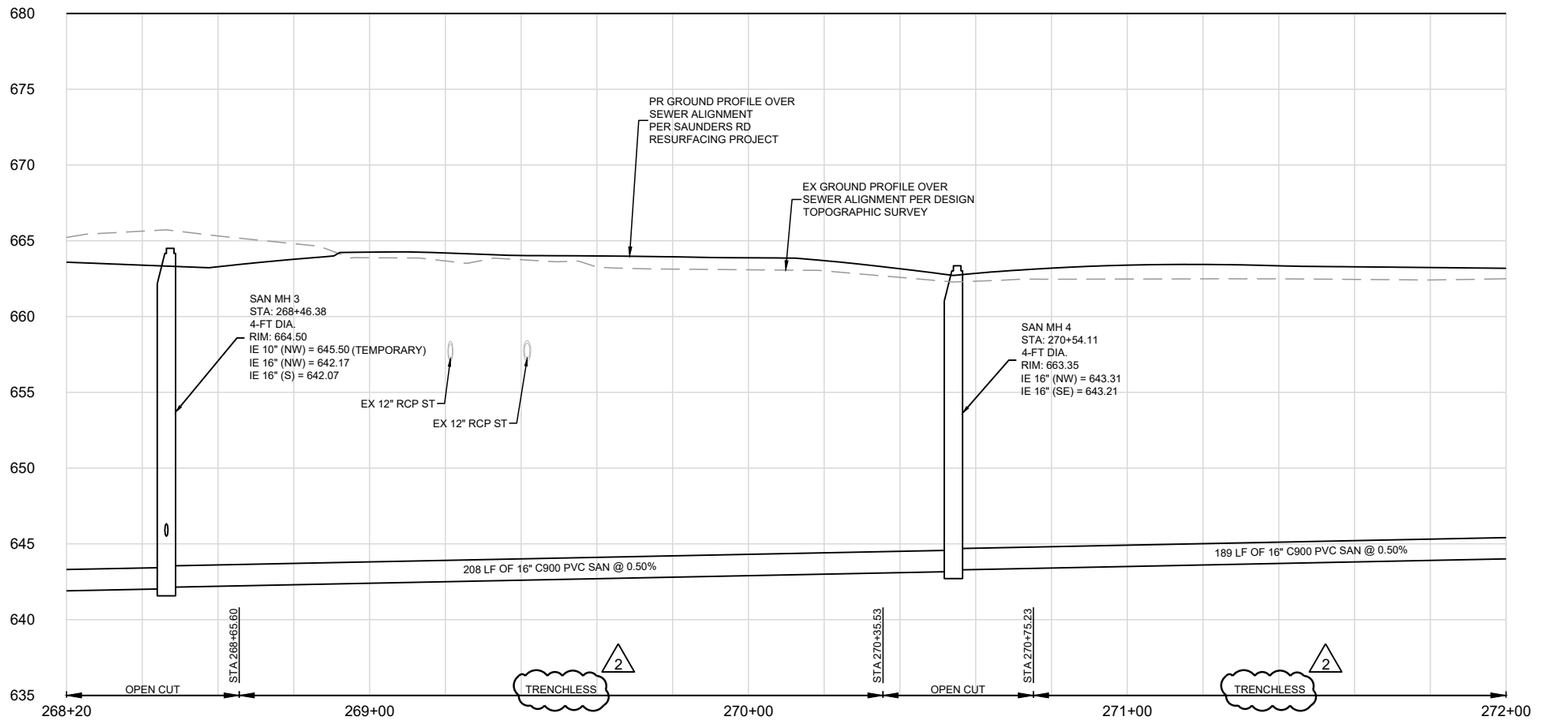
A. Upon completion of jacking operations, the reaction blocks, braces, and all other associated construction materials shall be completely removed from the site. Backfill excavations in accordance with Section 31 23 33.

3.08 TESTING AND INSPECTION

A. Complete testing in accordance with Section 33 31 13.

END OF SECTION





HORIZONTAL SCALE: 1" = 20'

0 20'

VERTICAL SCALE: 1" = 5'

0 5'

GENERAL NOTES:

1. SEE 999-C DRAWINGS FOR STANDARD DETAILS AND ADDITIONAL GENERAL NOTES.
2. BACKFILL EXCAVATIONS INSTALL OPEN CUT PIPING IN ACCORDANCE WITH C501, C507, AND C566.
3. EXISTING MANHOLE RIM ELEVATIONS AND TOPOGRAPHIC CONTOURS SHOWN ARE FROM DESIGN SURVEY. RIM ELEVATIONS AND TOPOGRAPHY SUBJECT TO CHANGE DUE TO SAUNDERS RD RESURFACING PROJECT.

PLAN NOTES:

1. CONSTRUCT SANITARY MANHOLE PER C200.
2. PROVIDE 10-INCH DIAMETER SDR 21 SANITARY SEWER FROM EXISTING MANHOLE 42RP09 TO SAN MH 3. INVERT ELEVATION AT MANHOLE 42RP09 = 645.83 (MATCH EXISTING). ABANDON TEMPORARY 10-INCH SEWER AND PLUG AT SAN MH 3 PER C266 AFTER CONSTRUCTION OF NEW 16-INCH GRAVITY SEWER IS COMPLETE. SEE SEQUENCING PLANS AND SECTION 01 11 00 FOR CONSTRUCTION SEQUENCING INFORMATION.

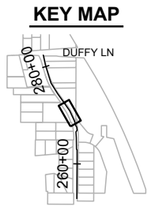
Revision Number	Revision Description	Drawn By	Checked By	Date
1	ADDENDUM NO. 2	MLM	KRB	08/22/2025
2	ADDENDUM NO. 3	MLM	KRB	09/08/2025

Designed By	MLM
Drawn By	MLM
Checked By	JCH
Approved By	MLM
Filename	002CP2.DWG
Project No.	13883
Project Date	JULY 2025

LAKE COUNTY DEPARTMENT OF PUBLIC WORKS
SAUNDERS ROAD SANITARY SEWER
AND LIFT STATION IMPROVEMENTS
BID #25232 PW #2020.130
LAKE COUNTY, IL

CIVIL
GRAVITY SEWER PLAN AND PROFILE

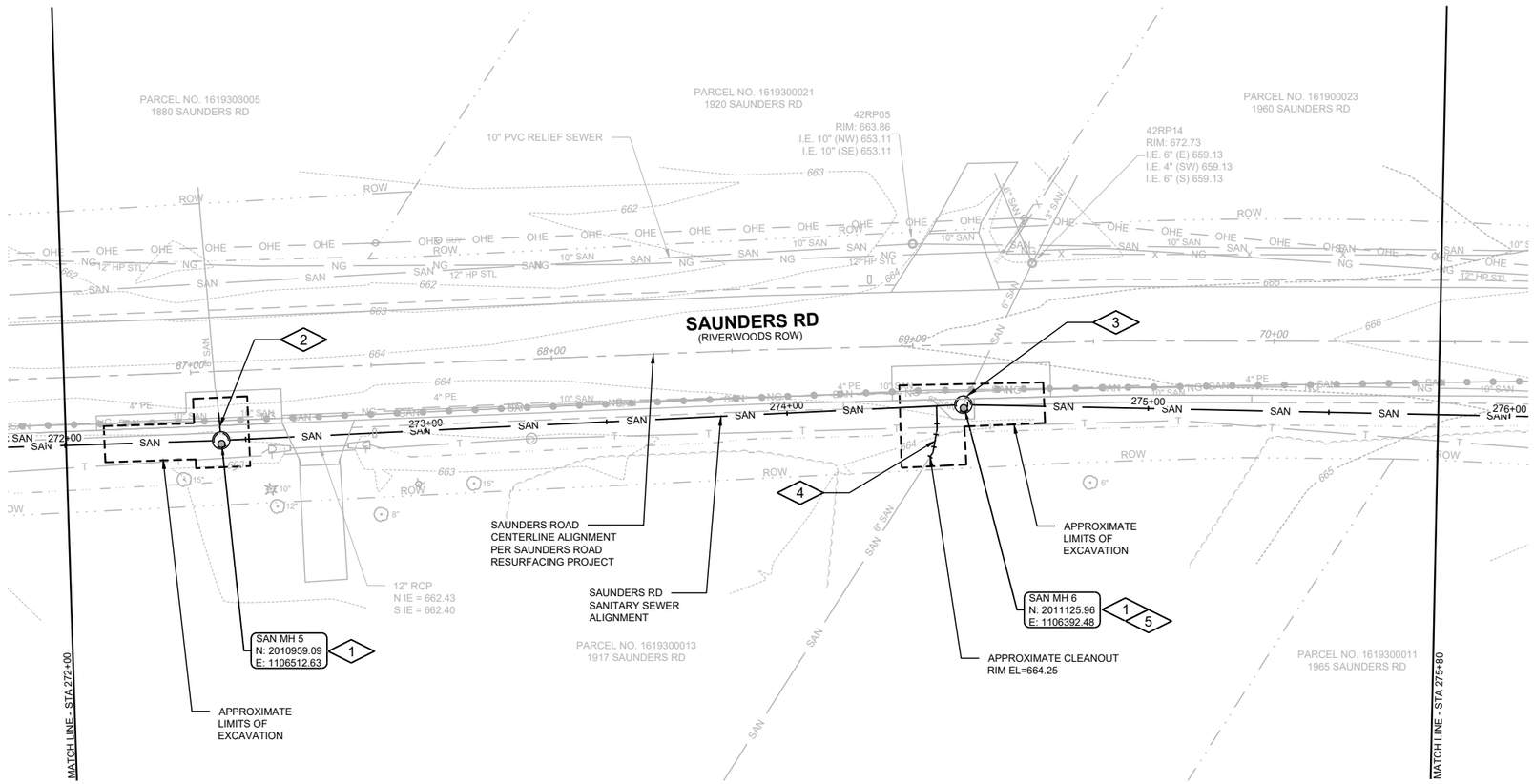
KEY MAP

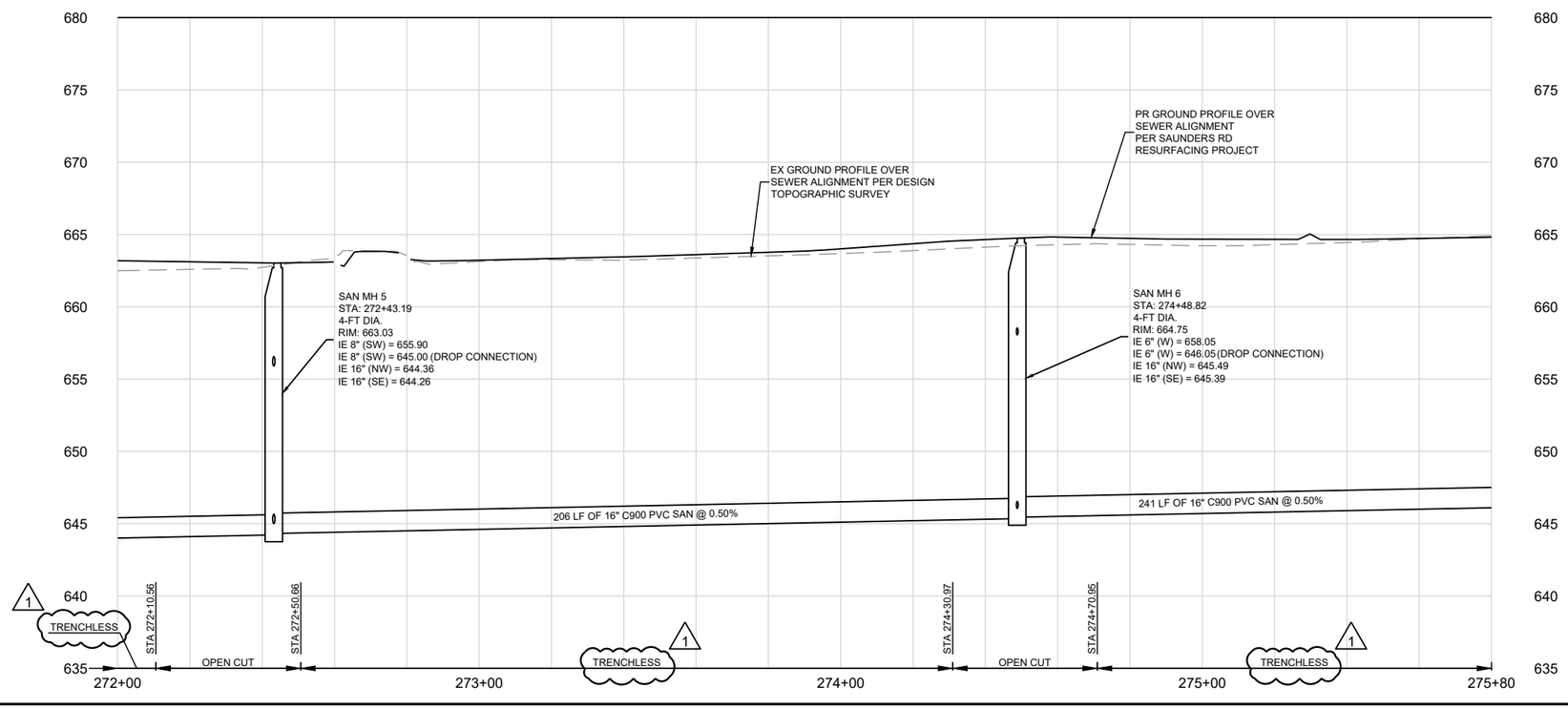


DONOHUE

Sheet No. 25

Drawing No. 002-CP-3





HORIZONTAL SCALE: 1" = 20'

0 20'

VERTICAL SCALE: 1" = 5'

0 5'

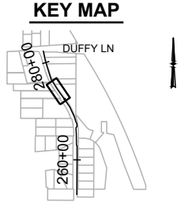
GENERAL NOTES:

1. SEE 999-C DRAWINGS FOR STANDARD DETAILS AND ADDITIONAL GENERAL NOTES.
2. BACKFILL EXCAVATIONS AND INSTALL OPEN CUT PIPING IN ACCORDANCE WITH C501, C507, AND C566.
3. EXISTING MANHOLE RIM ELEVATIONS AND TOPOGRAPHIC CONTOURS SHOWN ARE FROM DESIGN SURVEY. RIM ELEVATIONS AND TOPOGRAPHY SUBJECT TO CHANGE DUE TO SAUNDERS RD RESURFACING PROJECT.

PLAN NOTES:

1. CONSTRUCT SANITARY MANHOLE PER C200.
2. PROVIDE 8-INCH DIAMETER C900 PVC SANITARY SEWER PIPING. CONNECT TO EXISTING 8-INCH DIAMETER SANITARY SEWER. PROVIDE NON-SHEAR MISSION COUPLING IF DIRECT CONNECTION TO EXISTING SANITARY SEWER WITH BELL END OF NEW SANITARY SEWER IS NOT POSSIBLE. PROVIDE EXTERIOR DROP CONNECTION AT MANHOLE PER C240 OR C242 .
3. PROVIDE 6-INCH DIAMETER C900 PVC SANITARY SEWER. CONNECT TO EXISTING 6-INCH SANITARY SEWER. PROVIDE NON-SHEAR MISSION COUPLING IF DIRECT CONNECTION TO EXISTING SANITARY SEWER WITH BELL END OF NEW SANITARY SEWER IS NOT POSSIBLE. PROVIDE EXTERIOR DROP CONNECTION AT MANHOLE PER C240 OR C242 .
4. PROVIDE 6-INCH DIAMETER C900 PVC SANITARY SEWER SERVICE AND RISER PER C250 . PROVIDE FITTINGS AS REQUIRED TO ACHIEVE GENERAL CONFIGURATION SHOWN. PROVIDE CLEANOUT PER C230 AT CONNECTION TO EXISTING SANITARY SEWER SERVICE. PROVIDE NON-SHEAR MISSION COUPLING AS REQUIRED TO CONNECT NEW SANITARY SEWER SERVICE PIPING TO EXISTING.
5. PROVIDE ASPHALT APRON FOR MANHOLE COVER LOCATED WITHIN AGGREGATE SHOULDER PER C135 .

KEY MAP



Revision Number	Revision Description	Drawn By	Checked By	Date
1	ADDENDUM NO. 3	MLM	KRB	09/08/2025

Designed By	MLM
Drawn By	MLM
Checked By	JCH
Approved By	MLM
Filename	002CP2.DWG
Project No.	13883
Project Date	JULY 2025

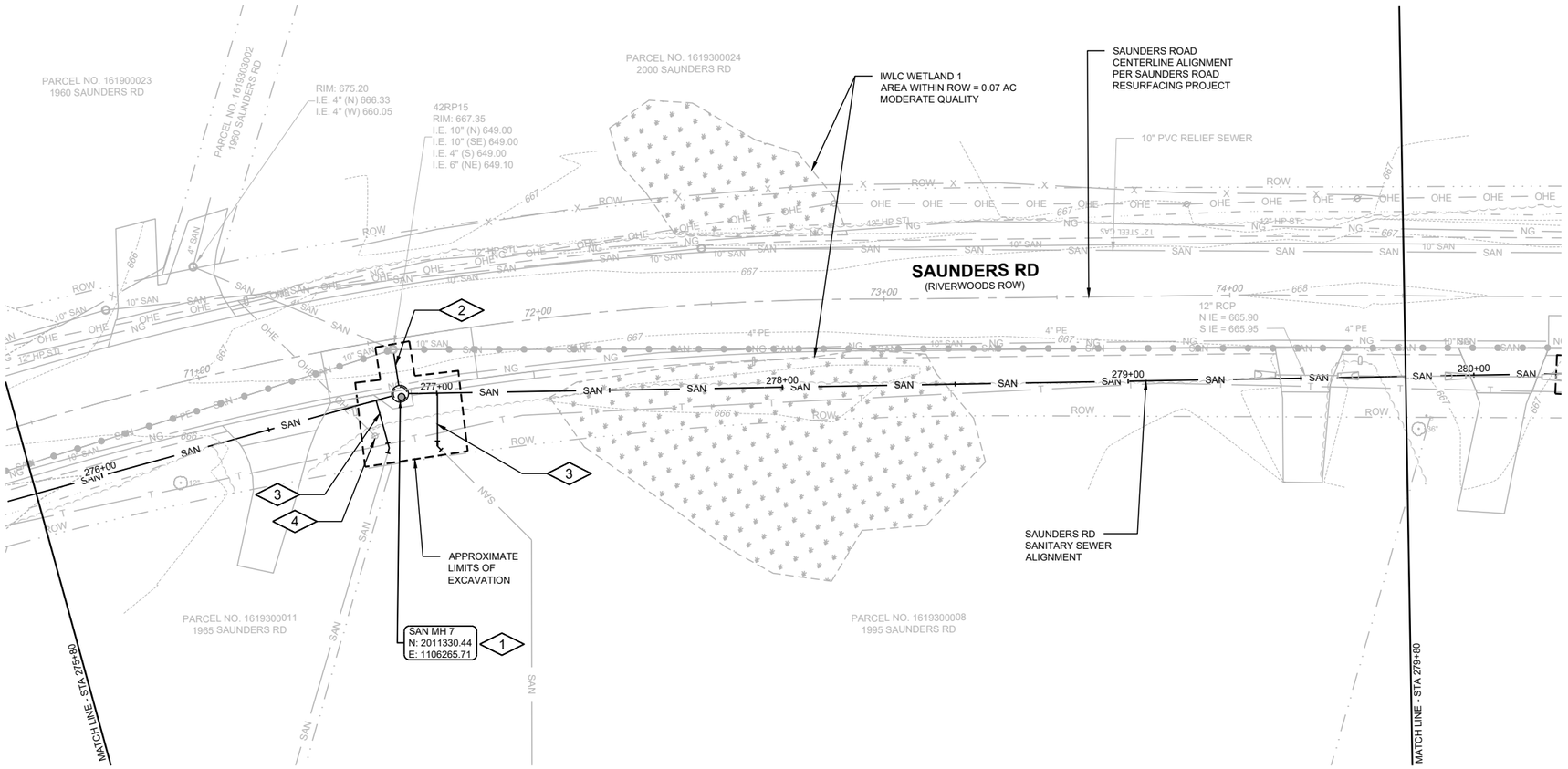
LAKE COUNTY DEPARTMENT OF PUBLIC WORKS
SAUNDERS ROAD SANITARY SEWER
AND LIFT STATION IMPROVEMENTS
BID #25232 PW #2020.130
LAKE COUNTY, IL

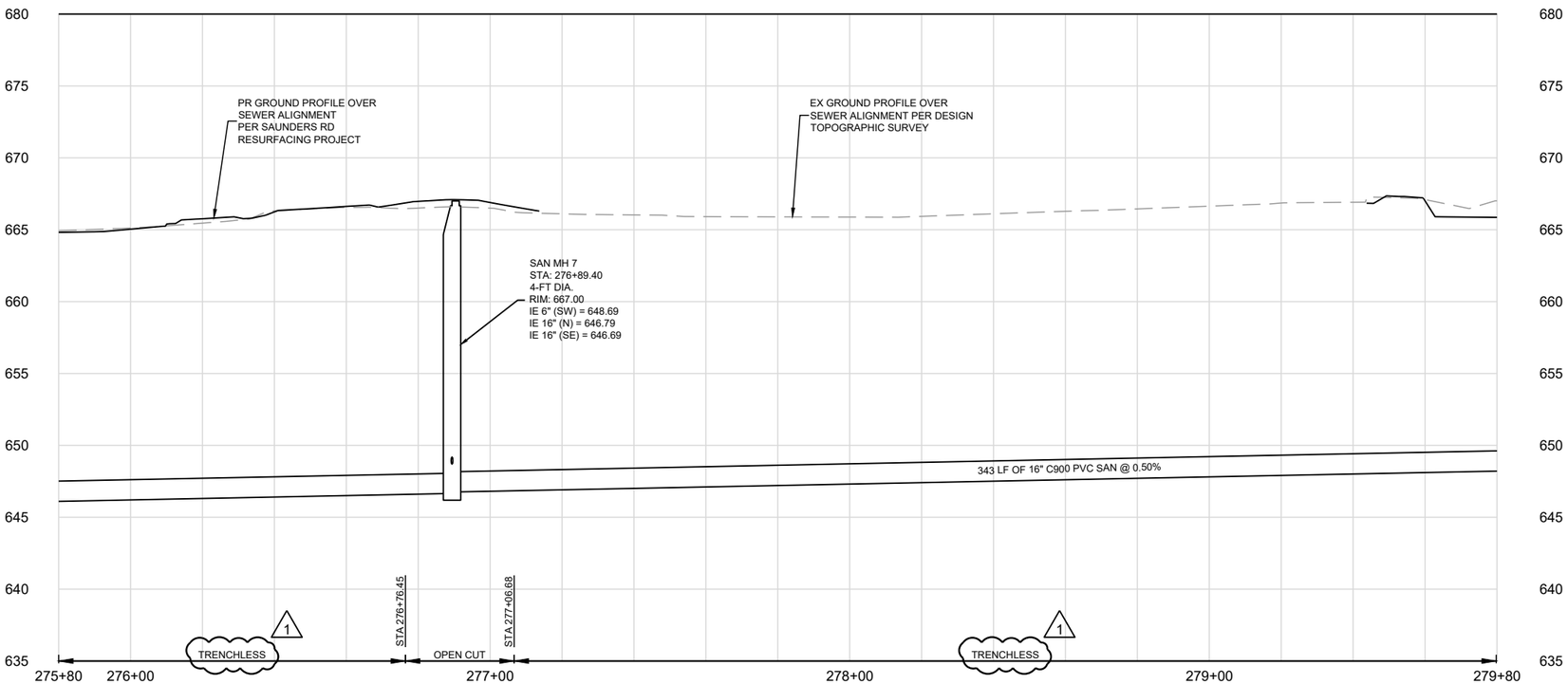
CIVIL
GRAVITY SEWER PLAN AND PROFILE

DONOHUE

Sheet No. 26

Drawing No. 002-CP-4





HORIZONTAL SCALE: 1" = 20'

0 20'

VERTICAL SCALE: 1" = 5'

0 5'

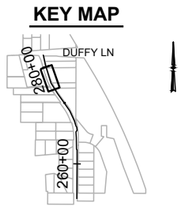
GENERAL NOTES:

1. SEE 999-C DRAWINGS FOR STANDARD DETAILS AND ADDITIONAL GENERAL NOTES.
2. BACKFILL EXCAVATIONS AND INSTALL OPEN CUT PIPING IN ACCORDANCE WITH C501, C507, AND C566
3. EXISTING MANHOLE RIM ELEVATIONS AND TOPOGRAPHIC CONTOURS SHOWN ARE FROM DESIGN SURVEY. RIM ELEVATIONS AND TOPOGRAPHY SUBJECT TO CHANGE DUE TO SAUNDERS RD RESURFACING PROJECT.

PLAN NOTES:

1. CONSTRUCT SANITARY MANHOLE PER C200.
2. PROVIDE 6-INCH DIAMETER C900 PVC SANITARY SEWER FROM MH 42RP15 TO SAN MH 7. MATCH EXISTING INVERT AND UTILIZE EXISTING PIPE PENETRATION AT MH 42RP15. PROVIDE FLEXIBLE MANHOLE CONNECTOR AT MH 42RP15. EXISTING INVERT ELEVATIONS ESTIMATED FROM RECORD INFORMATION. FIELD VERIFY.
3. PROVIDE 4-INCH DIAMETER C900 PVC SANITARY SEWER SERVICE AND RISER PER C250. PROVIDE FITTINGS AS REQUIRED TO ACHIEVE GENERAL CONFIGURATION SHOWN. PROVIDE CLEANOUT PER C230 AT CONNECTION TO EXISTING SANITARY SEWER SERVICE.
4. CONTRACTOR TO BRACE EXISTING UTILITY POLE AS REQUIRED FOR CONSTRUCTION. CONTRACTOR TO COORDINATE WITH UTILITY OWNER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
5. PROVIDE ASPHALT APRON FOR MANHOLE COVER LOCATED WITHIN AGGREGATE SHOULDER PER C135.

KEY MAP



Revision Number	Revision Description	Drawn By	Checked By	Date
1	ADDENDUM NO. 3	MLM	KRB	09/08/2025

Designed By	MLM
Drawn By	MLM
Checked By	JCH
Approved By	MLM
Filename	002CP2.DWG
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Project Date	JULY 2025

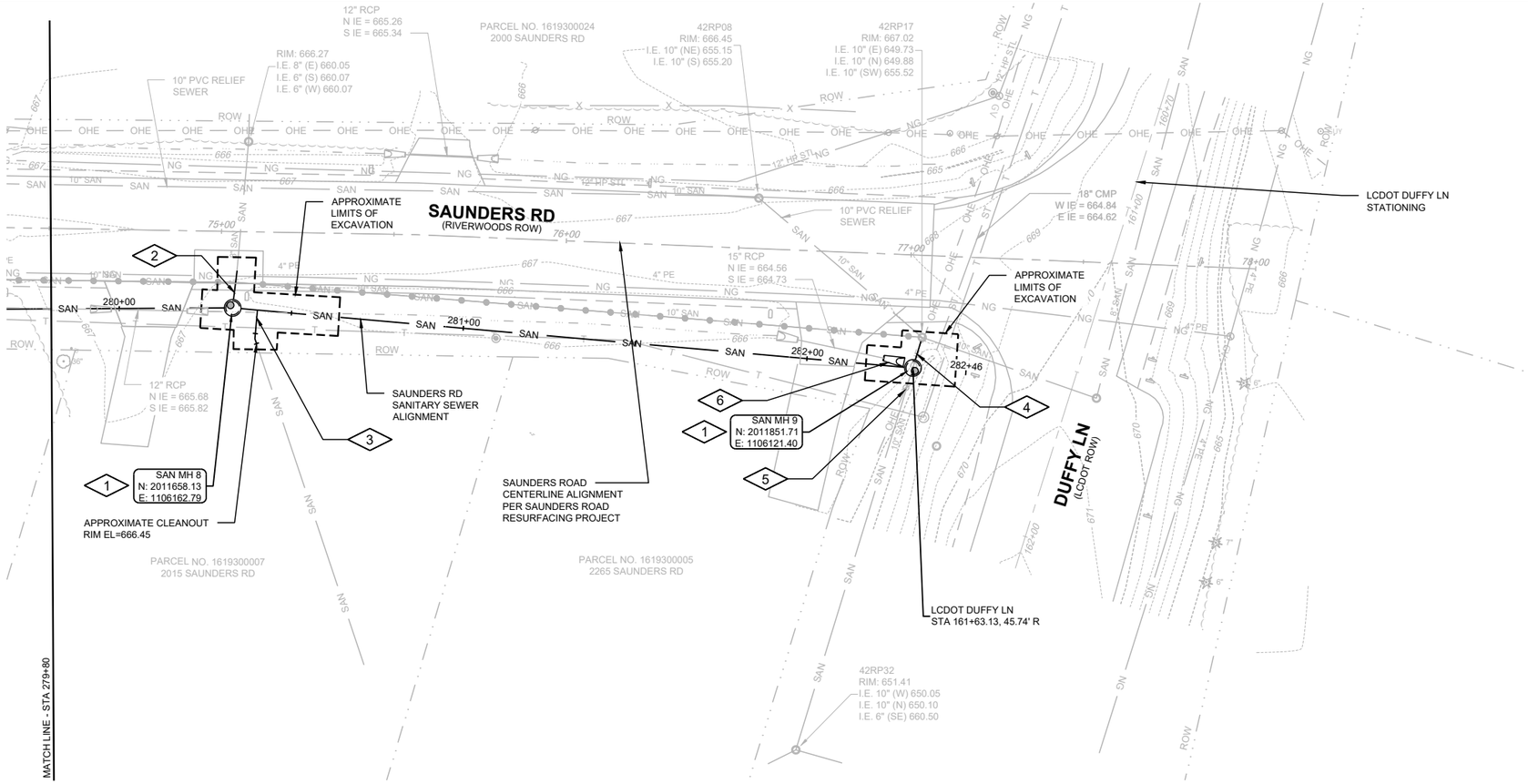
LAKE COUNTY DEPARTMENT OF PUBLIC WORKS
SAUNDERS ROAD SANITARY SEWER
AND LIFT STATION IMPROVEMENTS
BID #25232 PW #2020.130
LAKE COUNTY, IL

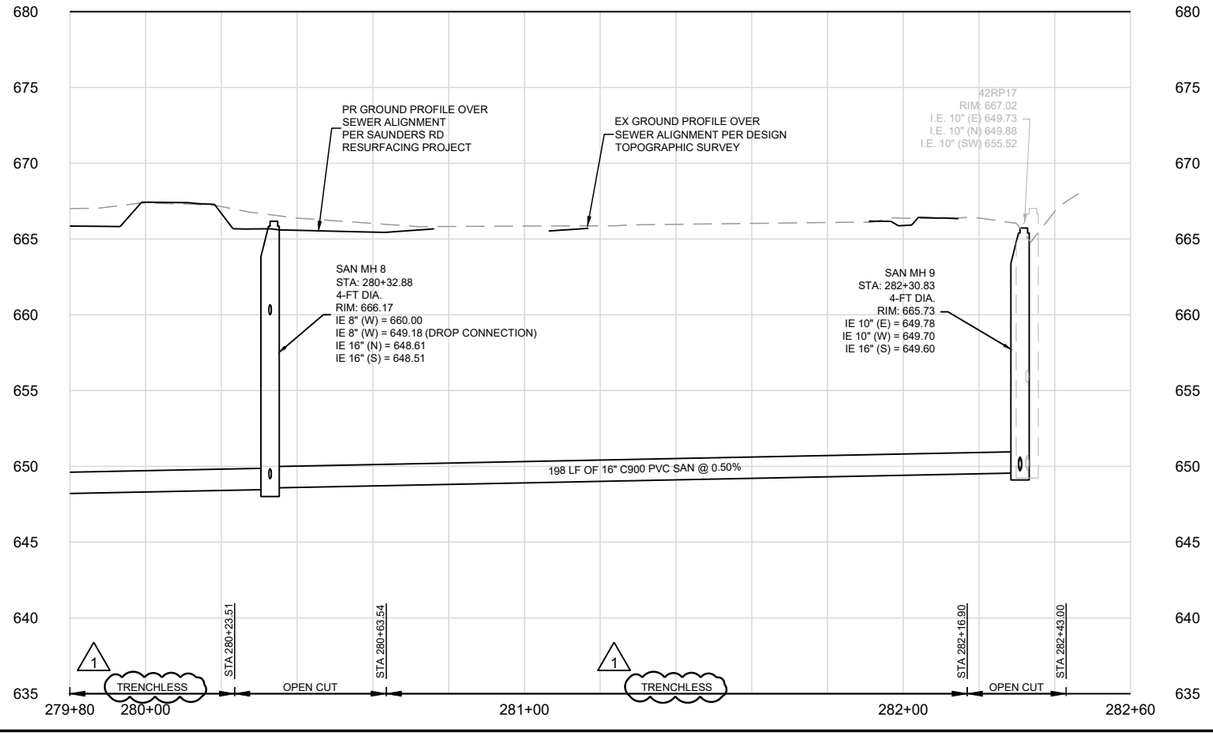
CIVIL
GRAVITY SEWER PLAN AND PROFILE

DONOHUE

Sheet No. 27

Drawing No. **002-CP-5**





HORIZONTAL SCALE: 1" = 20'

0 20'

VERTICAL SCALE: 1" = 5'

0 5'

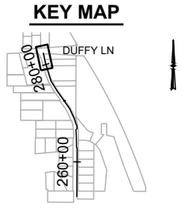
GENERAL NOTES:

1. SEE 999-C DRAWINGS FOR STANDARD DETAILS AND ADDITIONAL GENERAL NOTES.
2. BACKFILL EXCAVATIONS AND INSTALL OPEN CUT PIPING IN ACCORDANCE WITH C501, C507, AND C566.
3. EXISTING MANHOLE RIM ELEVATIONS AND TOPOGRAPHIC CONTOURS SHOWN ARE FROM DESIGN SURVEY. RIM ELEVATIONS AND TOPOGRAPHY SUBJECT TO CHANGE DUE TO SAUNDERS RD RESURFACING PROJECT.

PLAN NOTES:

1. CONSTRUCT SANITARY MANHOLE PER C200.
2. PROVIDE 8-INCH DIAMETER C900 PVC SANITARY SEWER PIPING. CONNECT TO EXISTING 8-INCH DIAMETER SANITARY SEWER. PROVIDE NON-SHEAR MISSION COUPLING IF DIRECT CONNECTION TO EXISTING SANITARY SEWER WITH BELL END OF NEW SANITARY SEWER IS NOT POSSIBLE. PROVIDE EXTERIOR DROP CONNECTION AT MANHOLE PER C240 OR C242.
3. PROVIDE 4-INCH DIAMETER C900 PVC SANITARY SEWER SERVICE AND RISER PER C250. PROVIDE FITTINGS AS REQUIRED TO ACHIEVE GENERAL CONFIGURATION SHOWN. PROVIDE CLEANOUT PER C230 AT CONNECTION TO EXISTING SANITARY SEWER SERVICE, IMMEDIATELY UPSTREAM OF HORIZONTAL FITTING.
4. REMOVE EXISTING 10-INCH DIAMETER SANITARY SEWER FROM MH 42RP17 TO SAN MH 9. PROVIDE 10-INCH DIAMETER C900 PVC SANITARY SEWER FROM MH 42RP17 TO SAN MH 9. MATCH EXISTING INVERT ELEVATION AT MH 42RP17.
5. CONTRACTOR TO BRACE EXISTING UTILITY POLE AS REQUIRED FOR CONSTRUCTION. CONTRACTOR TO COORDINATE WITH UTILITY OWNER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
6. PROVIDE CULVERT END SECTION. COORDINATE LOCATION WITH ENGINEER DURING CONSTRUCTION. EXTEND DITCH AS REQUIRED TO DRAIN TO RELOCATED CULVERT END SECTION.

KEY MAP



Revision Number	Revision Description	Drawn By	Checked By	Date
1	ADDENDUM NO. 3	MLM	KRB	09/08/2025

Designed By	MLM
Drawn By	MLM
Checked By	JCH
Approved By	MLM
Filename	002CP2.DWG
Project No.	13883
Project Date	JULY 2025

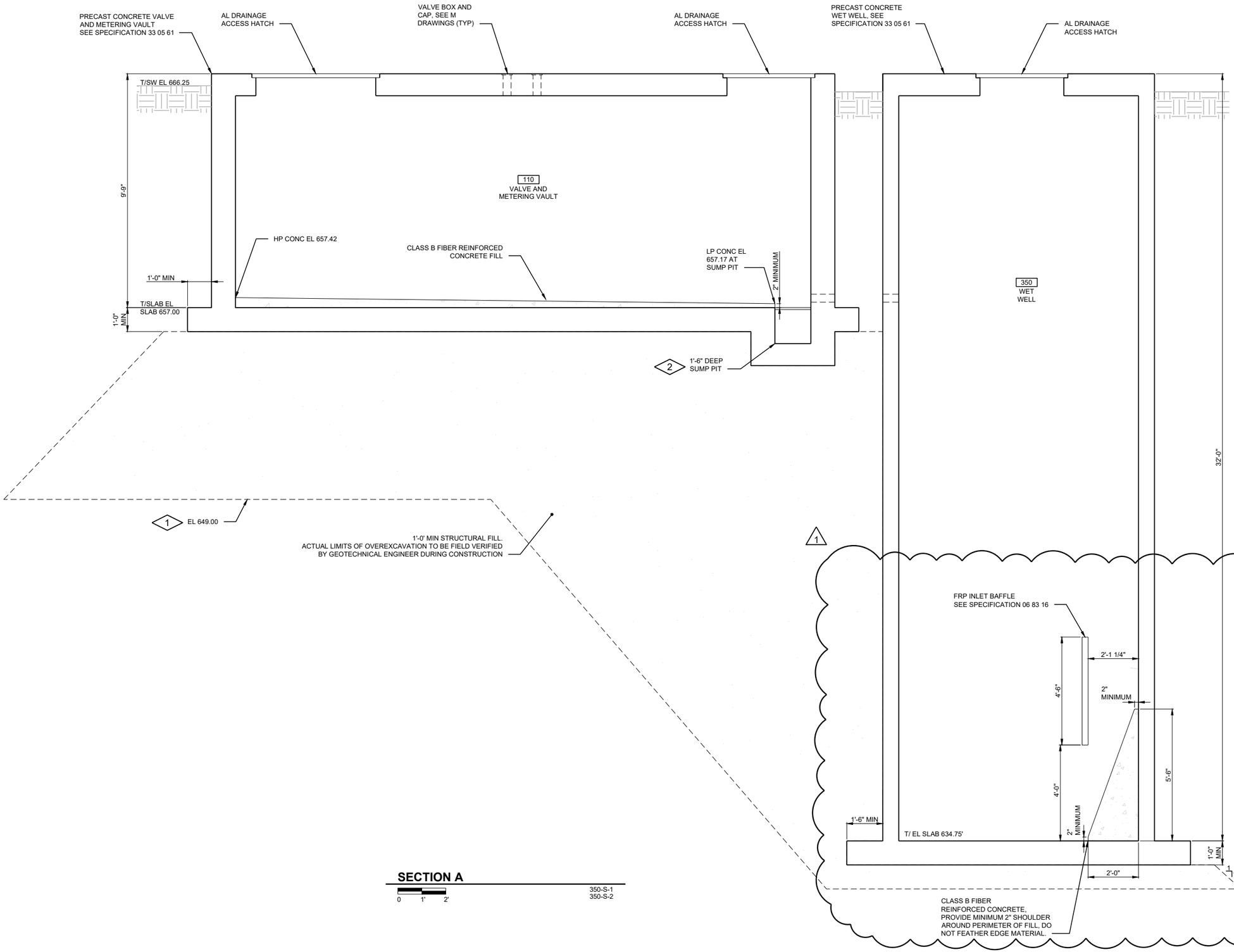
LAKE COUNTY DEPARTMENT OF PUBLIC WORKS
SAUNDERS ROAD SANITARY SEWER AND LIFT STATION IMPROVEMENTS
BID #25232 PW #2020.130
LAKE COUNTY, IL

CIVIL
GRAVITY SEWER PLAN AND PROFILE

DONOHUE

Sheet No. 28

Drawing No. **002-CP-6**



SECTION A

0 1' 2'

350-S-1
350-S-2

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION.
2. PRECAST CONCRETE VAULT AND MANHOLE SHALL BE DESIGNED FOR HS-20 TRAFFIC LOAD, LATERAL EARTH PRESSURE, BUOYANCY, AND SELF WEIGHT. SEE SPECIFICATION 33 05 61.

PLAN NOTES:

1. THE LIMITS OF THE EXCAVATION SHOWN ARE ONLY REPRESENTATIVE. ALL FOUNDATIONS MUST BE OVER EXCAVATED TO EL 650.00 OR DEEPER.
2. CONTRACTOR MAY PROVIDE A CAST-IN-PLACE CONCRETE SUMP PIT AS AN ALTERNATIVE. REINFORCE CAST-IN-PLACE SUMP PIT WITH #5@12" EW, EF MINIMUM.

Revision Number	Revision Description	Drawn By	Checked By	Date
1	ADDENDUM NO. 3	KRB	KRB	9/08/25

Designed By	AEP
Drawn By	AEP
Checked By	TJB
Approved By	TJB
Filename	100SP1.DWG
Project No.	13883
Project Date	JULY 2025

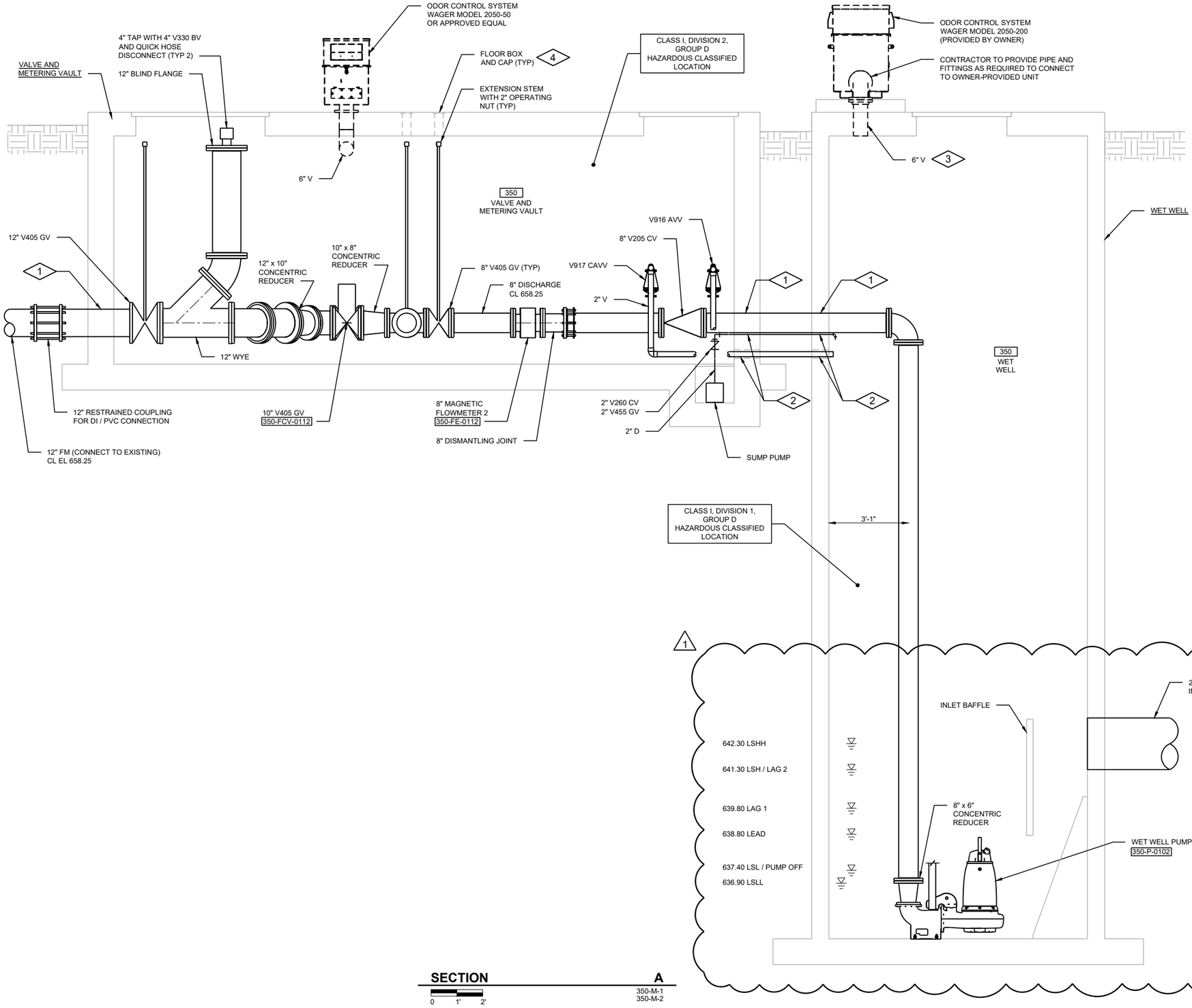
LAKE COUNTY DEPARTMENT OF PUBLIC WORKS
SAUNDERS ROAD SANITARY SEWER
AND LIFT STATION IMPROVEMENTS
BID #25232 PW #2020.130
LAKE COUNTY, IL

LIFT STATION SECTION

DONOHUE

Sheet No. 44

Drawing No. **350-S-3**



SECTION A

350-M-1
350-M-2

0 1' 2'

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION.

PLAN NOTES:

1. WALL PENETRATION PER DETAIL M109
2. WALL PENETRATION PER DETAIL M126
3. FLOOR PENETRATION PER DETAIL M201
4. FLOOR BOX PER DETAIL M355

Revision Number	Revision Description	Drawn By	Checked By	Date
1	ADDENDUM NO. 3	KRB	KRB	9/08/25

Designed By	KRB
Drawn By	KRB
Checked By	EPC
Approved By	KRB
Filename	100MP1.DWG
Project No.	13883
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LAKE COUNTY DEPARTMENT OF PUBLIC WORKS
SAUNDERS ROAD SANITARY SEWER
AND LIFT STATION IMPROVEMENTS
BID #25232 PW #2020.130
LAKE COUNTY, IL

LIFT STATION
SECTION

DONOHUE

Sheet No. 47

Drawing No.

350-M-3