

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2023-077

**Application Received complete:** March 18, 2024

**Considered at Board of Managers Meeting:** May 8, 2024

**Applicant:** Brandl Anderson Homes; Matt Olsons

**Consultant:** James R. Hill Inc.; John Bender, PE

**Project:** Enclave at Manor Road Residential Development – The applicant proposes the demolition of an existing single-family home and the construction of a 17-lot single-family residential development.

**Location:** 6591 West 168<sup>th</sup>, Eden Prairie

**Reviewer:** Scott Sobiech, PE, Barr Engineering

### Potential Board Variance Action

Manager \_\_\_\_\_ moved and Manager \_\_\_\_\_ seconded adoption of the following resolution based on the permit report that follows, the presentation of the matter at the May 8, 2024, meeting of the managers and the managers' findings, as well as the factual findings in the permit report that follows:

Resolved that the variance request for Permit 2023-077 from compliance with Rule J, subsection 3.1a, is approved based on the facts and analysis provided by the RPBCWD engineer below and placed in the record at the May 8, 2024 meeting of the managers, and the managers' findings in the record of the May 8, and subject to the following conditions: 1. [CONDITION(S)],

### Proposed Board Action

Manager \_\_\_\_\_ moved and Manager \_\_\_\_\_ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the May 8, 2024 meeting of the managers:

Resolved that the application for Permit 2023-077 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been met, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2023-077 to the applicant on behalf of RPBCWD.

Upon vote, the resolutions were adopted, \_\_\_\_\_ [VOTE TALLY].

**Applicable Rule Conformance Summary**

Rule	Issue	Conforms to RPBCWD Rules?		Comments
C	Erosion Control Plan	See Comment		See rule-specific permit condition C1 related to name of individual responsible for on-site erosion control.
J	Stormwater Management	Rate	No	Applicant is requesting a variance from rate control at one location following Rule K.
		Volume	yes	
		Water Quality	Yes	
		Low Floor Elev.	Yes	See rule-specific permit condition J1 related to additional soil boring to verify low floor compliance.
		Maintenance	See comment	See rule-specific permit condition J2 related to recordation of stormwater facility maintenance declaration.
		Chloride Management	Yes	
		Wetland Protection	Yes	
K	Variations and Exceptions	See Comment		Variance from rate control at all discharge locations in subsection 3.1a of the Stormwater Management rule requested.
L	Permit Fee Deposit	See Comment		\$5000 received January 26, 2024. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of May 2, 2024 the amount due is \$6,322
M	Financial Assurances	See Comment		The financial assurance is calculated at \$110,968.

**Project Description**

The proposed Enclave at Manor Road redevelopment project is the redevelopment of a single-family residential property into a 17-lot single-family residential development with associated sewer and utilities, street, construction of a wet forebay, biofiltration basin, backyard swales, and preservation of natural areas to provide rate control, volume abstraction, and water quality. The applicant also proposes to replace the existing 18-inch storm sewer pipe in the eastern boulevard of 168<sup>th</sup> Street with a 21-inch pipe.

The project site information is summarized below:

Project Site Information	Area (acres)
Total Site Area	6.5
Existing Site Impervious	0.51
Proposed Site Impervious Area	1.96
Change in Site Impervious Area	1.45 (>100% increase)
Regulated Impervious Surface	1.96
Total Disturbed Area	5.61



Exhibits:

1. Permit Application received December 18, 2023 (The applicant was notified on December 20, 2023 and again on February 16, 2024 that the submittal was incomplete; information completing the application was received on March 13, 2024)
2. Stormwater Management Plan dated January 24, 2024 (revised March 7, 2024 and April 19, 2024)
3. Project Plan Set dated January 24, 2024 (revised March 7, 2024 and March 18, 2024)
4. HydroCAD models received February 7, 2024 (revised March 13, 2024 and April 19, 2024)
5. Existing and proposed conditions P8 models received February 7, 2024 (revised March 13, 2024 and April 19, 2024)
6. PCSWMM models for existing and proposed conditions received March 13, 2024 (revised April 19, 2024)
7. Geotechnical Exploration Report by Haugo GeoTechnical Services dated January 24, 2024
8. Variance Request Narrative dated March 7, 2024 (revised April 19, 2024)
9. Infiltration testing results dated November 3, 2023
10. Engineer's opinion of probable cost received March 18, 2024 (revised April 19, 2024)
11. Response to comments received April 22, 2024.

**Rule Specific Permit Conditions**

**Rule C: Erosion and Sediment Control**

Because the project will alter 5.61 acres of land-surface area, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The erosion control plan prepared by James R. Hill Inc. includes installation of silt fence perimeter control, rock construction entrance, inlet protection, concrete washout, erosion control blanket, weekly inspection, placement of a minimum of 6 inches of topsoil with at least 5% organic content, decompaction of areas compacted during construction, and retention of native topsoil onsite. To conform to the RPBCWD Rule C requirements the following revisions are needed:

- C1. The Applicant must provide the name and contact information of the individual responsible for erosion control at the site. RPBCWD must be notified if the responsible individual changes during the permit term.

**Rule J: Stormwater Management**

Because the project will alter 5.61 acres of land-surface area and increase the site imperviousness by more than 50%, the redevelopment must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.3) for the entire site. The applicant proposes construction of a biofiltration basin with forebay, backyard swales, and preservation of natural areas to provide volume control, water quality, and rate control.

**Rate Control**

In order to meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The Applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in the table below. Because the proposed project increases the discharge to the storm sewer in West 168<sup>th</sup> Street to provide an outlet for the proposed stormwater facility, the applicant requested a variance from compliance with the rate control criteria at this location (see Rule K variance analysis). Except for the increase discharge leaving the site at this location (the northwest corner of the site), the proposed project is in conformance with RPBCWD Rule J, Subsection 3.1.a.

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
North	9.1	2.1	18.4	4.6	37.7	9.8	0.9	0.2
East	1.0	0.2	2.3	0.4	5.0	0.8	0.1	<0.1
South	2.1	0.2	4.5	0.3	9.7	0.6	0.2	<0.1
West	0.2	<0.1	0.3	0.1	0.7	0.1	<0.1	<0.1
168th	0	1.2	0	2.2	0	3.6	0	0.9

**Volume Abstraction**

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from all impervious surface of the parcel. An abstraction volume of 7,826 cubic feet is required from the 1.96 acres of regulated impervious area. The Plans indicate pretreatment for runoff entering the stormwater facility is provided by grass overland flow and sump manholes, thus the proposed project conforms with RPBCWD Rule J, Subsection 3.1b.1.

Based on the eight soil borings in the Geotechnical Exploration and Review Report conducted by Haugo GeoTechnical Services, the site contain 2 to 7 feet of topsoil overlying predominantly clayey glacial till deposits. Groundwater was not encountered at any boring location, the deepest of which extended to elevation 909.6 feet and collected within the footprint of the proposed stormwater facility. The bottom of the biofiltration basin is at elevation 926.0 feet, 16.4 feet above the bottom of the boring, groundwater is at least 3 feet below the bottom of the subsurface stormwater management facility, complying with Rule J, Subsection 3.1.b.ii..

Double ring infiltrometer test collect by Haugo GeoTechnical Services revealed an infiltration rate of 0.0 in/hr beneath the proposed stormwater management facility. Because the test yielded no infiltration, the infiltration capacity of the underlying soils on this site is limited. The communal open space for irrigation is limited to the stormwater BMPs which negate reuse. Because the engineer concurs that the soil information and infiltration testing support that the abstraction standard in subsection 3.1b of Rule J

cannot practicably be met, the site is considered restricted and stormwater runoff volume must be managed in accordance with subsection 3.3 of Rule J.

For restricted sites, subsection 3.3 of Rule J requires rate control in accordance with subsection 3.1.a and that abstraction and water quality protection be provided in accordance with the following sequence:

- (a) Abstraction of 0.55 inches of runoff from site impervious surface determined in accordance with paragraphs 2.3, 3.1 or 3.2, as applicable, and treatment of all runoff to the standard in paragraph 3.1c; or
- (b) Abstraction of runoff onsite to the maximum extent practicable and treatment of all runoff to the standard in paragraph 3.1c; or
- (c) Off-site abstraction and treatment in the watershed to the standards in paragraph 3.1b and 3.1c.

Based on the measured infiltration testing results, the applicant is providing a 6-inch sand storage layer below the biofiltration basin underdrain to promote infiltration and relying on vegetation in the basin to provide abstraction to the maximum extent practicable to conform to Rule J, subsection 3.3b. The designed abstraction performance for the project site is summarized in the table below.

**Volume Abstraction Summary**

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
0.55	3,913	0.02	140

**Water Quality Management**

Subsection 3.1.c of Rule J requires the Applicant to provide volume abstraction in accordance with 3.1b or least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. The Applicant is proposing a wet forebay, biofiltration basin, backyard swales, and preservation of natural areas to treat runoff from the regulated impervious area. The applicant is also proposing preservation of 0.98 acres of natural area. P8 was used to evaluate the removal efficiencies of the stormwater management features. The results of this modeling are summarized in tables below showing the annual TSS and TP removal requirements are achieved and that there is no net increase in TSS and TP leaving the site. The engineer concurs with the modeling and finds that the proposed project is in conformance with Rule J, Subsection 3.1.c.

Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Total Suspended Solids (TSS)	1,731	1,558 (90%)	1,589(91.7%)
Total Phosphorus (TP)	5.7	3.42 (60%)	3.48 (61.1%)

Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Total Suspended Solids (TSS)	676	144	-532
Total Phosphorus (TP)	2.3	2.21	-0.09

**Low floor Elevation**

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a. In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b.

As summarized in the following table, the low floor elevations of the proposed structures in Block 1 are more than two feet above the 100-year flood elevation of the proposed biofiltration basin or 1 foot above the adjacent emergency overflow for the backyard low points, thus the lots in Block 1 one are in conformance with Rule J, Subsection 3.6.

Structure	Low Floor Elevation of Building (ft)	Stormwater Facility	100-year Event Flood Elevation of Facility (ft)	Freeboard to 100-year HWL (ft)	Emergency Overflow Elevation (ft)	Freeboard to Emergency Overflow (ft)
Blk 1, L1	936.5	Biofiltration Basin	933.8	2.7	--	--
Blk 1, L2	936.3	CBMH-301	--	--	934.5	1.8
Blk 1, L3	937.1	CBMH-301	--	--	934.5	2.6
Blk 1, L4	937.9	CBMH-302	--	--	934.5	3.4
Blk 1, L5	938.7	CBMH-302	--	--	934.5	4.2
Blk 1, L6	939.5	CBMH-303	--	--	934.5	5.0
Blk 1, L7	939.5	CBMH-303	--	--	934.5	5.0
Blk 1, L8	939.4	CBMH-303	--	--	934.5	4.9
Blk 2, L1	936.1	CB-110	939.5	-3.4	941.0	-4.9
Blk 2, L2	935.9	CB-110	939.5	-3.6	941.0	-5.1
Blk 2, L3	936.7	CB-112	939.5	-2.8	941.5	-4.8
Blk 2, L4	936.7	CB-112	939.5	-2.8	941.5	-4.8
Blk 2, L5	936.7	CB-112	939.5	-2.8	941.5	-4.8
Blk 2, L6	938.3	CB-112	939.5	-1.2	941.5	-3.2
Blk 2, L7	939.3	CB-112	939.5	-0.2	941.7	-2.4
Blk 2, L8	940.1	CB-113	939.5	0.6	946.3	-6.2
Blk 2, L9	941.2	CB-113	946.3	-5.1	946.3	-5.1

Because the proposed low floor elevations of lots in Block 2 and the low floors of existing structures are less than 2 feet above the 100-year high-water elevation, an alternative low floor analysis was conducted as outlined in Rule J, Appendix J.1 – Low-Floor Elevation Assessment. Groundwater was not discovered in any of the soil borings collected at the site, thus the groundwater elevations were presumed to be at the

elevation of the bottom of the boring nearest the structure. The results of the low-floor analysis using *Appendix J1 Plot 2: Minimum Depth to Water Table for No Further Evaluation* are summarized in the following table. The results demonstrate the provided separation is greater than the minimum required, thus meeting the habitable structure requirements in Rule J, Subsection 3.6.

Structure	Lowest Floor Elevation of Building (feet)	Stormwater Facility	Distance from Building to Adj. Facility (ft)	Representative Soil Boring	Estimated Water Table Elevation <sup>1</sup> (ft)	Minimum Allowable Depth to Water Table (ft)	Provided Depth from Low Floor Elevation to Water Table (ft)
Blk 2, L1	936.1	CB-110	10	SB-7	919.7	16	16.4
Blk 2, L2	935.9	CB-110	10	SB-7	919.7	16	16.2
Blk 2, L3	936.7	CB-112	55	SB-7	919.7	6.5	17
Blk 2, L4	936.7	CB-112	45	SB-6	920.1	7.2	16.6
Blk 2, L5	936.7	CB-112	35	SB-6	920.1	9.2	16.6
Blk 2, L6	938.3	CB-112	32	SB-6	920.1	10	18.2
Blk 2, L7	939.3	CB-112	45	SB-5	923	7.2	16.3
Blk 2, L8	940.1	CB-113	12	SB-5	923	15.8	17.1
Blk 2, L9	941.2	CB-113	10	SB-5	923	16	18.2
6537 W 168th Ave.	924.6	Biofiltration Basin	40	SB-1	909.6 <sup>2</sup>	9.0	15
16480 N. Manor Rd.	915.5	CBMH-301	177	SB-1	909.6 <sup>2</sup>	0.5	5.9
16500 N. Manor Rd.	911.0	CBMH-301	161	SB-1	909.6 <sup>2</sup>	1.0	1.4
16520 N. Manor Rd.	911.7	CBMH-301	150	SB-1	909.6 <sup>2</sup>	1.0	2.1
16540 N. Manor Rd.	912.2	CBMH-302	139	SB-1	909.6 <sup>2</sup>	1.0	2.6
6601 W. 168th Ave.	934.5	CB-110	23	SB-7	919.7 <sup>2</sup>	12.0	14.8
16720 Honeysuckle La.	934.0	CB-110	74	SB-7	919.7 <sup>2</sup>	5.0	14.3
16716 Honeysuckle La.	937.0	CB-112	32	SB-6	920.1 <sup>2</sup>	10.5	16.9
16712 Honeysuckle La.	937.5	CB-112	94	SB-6	920.1 <sup>2</sup>	3.0	17.4
16680 Honeysuckle La.	937.0	CB-112	73	SB-5	923.0 <sup>2</sup>	5.0	14.0

<sup>1</sup> Presumed to be at the elevation of the bottom of the boring nearest the structure.

<sup>2</sup> Soil boring are the closest available information but are not adjacent to the existing structures.

Because the borings are not located at the proposed structures perimeter closest location to the stormwater management facility, additional subsurface investigation is needed to verify adequate separation between the proposed low floor and groundwater. The following revisions are needed to conform to RPBCWD Rule J, subsection 3.6.b requirements:

- J1. The applicant must submit supporting documentation demonstrating there is adequate freeboard or separation to groundwater to achieve the low floor criteria for Block 2, Lots 1, 2, 4, 6, 8, and 9. If the technical information demonstrates the structure would not comply with the low floor requirement in subsection 3.6a, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).

### ***Maintenance***

Subsection 3.7 of Rule J requires the submission of a maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed.

- J2. Permit applicant must provide a maintenance and inspection declaration. A maintenance declaration template is available on the permits page of the RPBCWD website. (<http://www.rpbcwd.org/permits/>). The declaration must include the all stormwater management facilities as well as the preserved natural areas and vegetated swales included as functional elements of the stormwater-management plan. A draft declaration must be provided for District review and approval prior to recording.

### ***Wetland Protection***

Because the proposed activities discharge to a downstream stormwater management facility Rule J, subsection 3.10 does not impose requirements on the project.

### ***Chloride Management***

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. Under subsection 3.8, the RPBCWD chloride-management plan requirement applies to the streets and common areas of the project site, but not the individual single-family homes. Because the streets within the proposed residential development will be within public right of way that will be maintained by the city of Eden Prairie and the City has provided its chloride management plan and its designated state-certified chloride applicator is Eden Prairie's Streets Division Manager Larry Doig, the proposed development conforms with Rule J, subsection 3.8.

### **Rule K: Variances and Exceptions**

The applicant requested variances from the Rule J, Subsection 3.1a for rate control at the NW discharge location.

The attached variance request letter submitted on behalf of the applicant cites several facts related to the development in support of the request. Rule K requires the Board of Managers to find that because of unique conditions inherent to the subject property the application of rule provisions will impose a practical difficulty on the Applicant. Assessment of practical difficulty is conducted against the following criteria:

1. how substantial the variation is from the rule provision;
2. the effect of the variance on government services;
3. whether the variance will substantially change the character of or cause material adverse effect to water resources, flood levels, drainage or the general welfare in the District, or be a substantial detriment to neighboring properties;
4. whether the practical difficulty can be alleviated by a technically and economically feasible method other than a variance. Economic hardship alone may not serve as grounds for issuing a variance if any reasonable use of the property exists under the terms of the District rules;
5. how the practical difficulty occurred, including whether the landowner, the landowner's agent or representative, or a contractor, created the need for the variance; and
6. in light of all of the above factors, whether allowing the variance will serve the interests of justice.

It is the applicant's obligation to address these criteria to support a variance request (see attached variance memo). Following is the RPBCWD engineer's assessment of information received relevant to the applicant's variance requests.

The variance request is from the requirements of subsection 3.1a of the stormwater management rule (Rule J) which states rate for rate control must be provided at all locations discharge leaves the site. For purposes of the Board of Managers' consideration, the following factors were analyzed based on Rule K.

- Related to variance criterion 1 – As presented in the above rate control section, most of the runoff from the site discharges overland to the north to the neighboring properties, ultimately flowing into the storm sewer in North Maner Road under existing conditions. Rather than continuing to discharge to the neighboring properties, the applicant is proposing to discharge treated site runoff to an existing storm sewer in the boulevard along 168<sup>th</sup> Avenue which conveys flows to the storm sewer in North Maner Road. The change in stormwater routing and the discharge location would result in between 0.9 cfs to 3.6 cfs of additional flow into the existing storm sewer. Because stormwater currently does not discharge to the NW, the deviations from RPBCWD standards are substantial.
- Regarding variance criteria 2 and 3 –The additional flow into the existing 18-inch storm sewer would exacerbate a known flooding problem to the west of 168<sup>th</sup> Avenue. The applicant is proposing to increase the diameter of existing storm sewer along 168<sup>th</sup> Avenue from and 18 inches to 21 inches to accommodate the additional flow. The following information provided by the applicant summarizes the off-site flood risk impacts at several locations shown in the below image. The proposed storm sewer replacement and discharge routing provides a reduction in the 100-year flood elevation at several locations (-0.03 to -0.29 feet) and some increases (0.06 to 0.18 feet) at other locations. The applicant provided information demonstrating that the locations with an increase in the 100-year flood elevation are within the road right of way or city drainage and utility easements. While the flood elevations at locations 6 and 7 would increase by 0.1 feet and 0.2 feet respectively, the lowest adjacent ground to the structures is about 2 feet higher than the proposed 100-year high water level. The lowest floor elevation adjacent to location 6 is 913.27 feet which is 0.63 feet below the pond's existing 100-year flood elevation. Under proposed conditions the flood elevation at this location would increase by 0.1 feet.



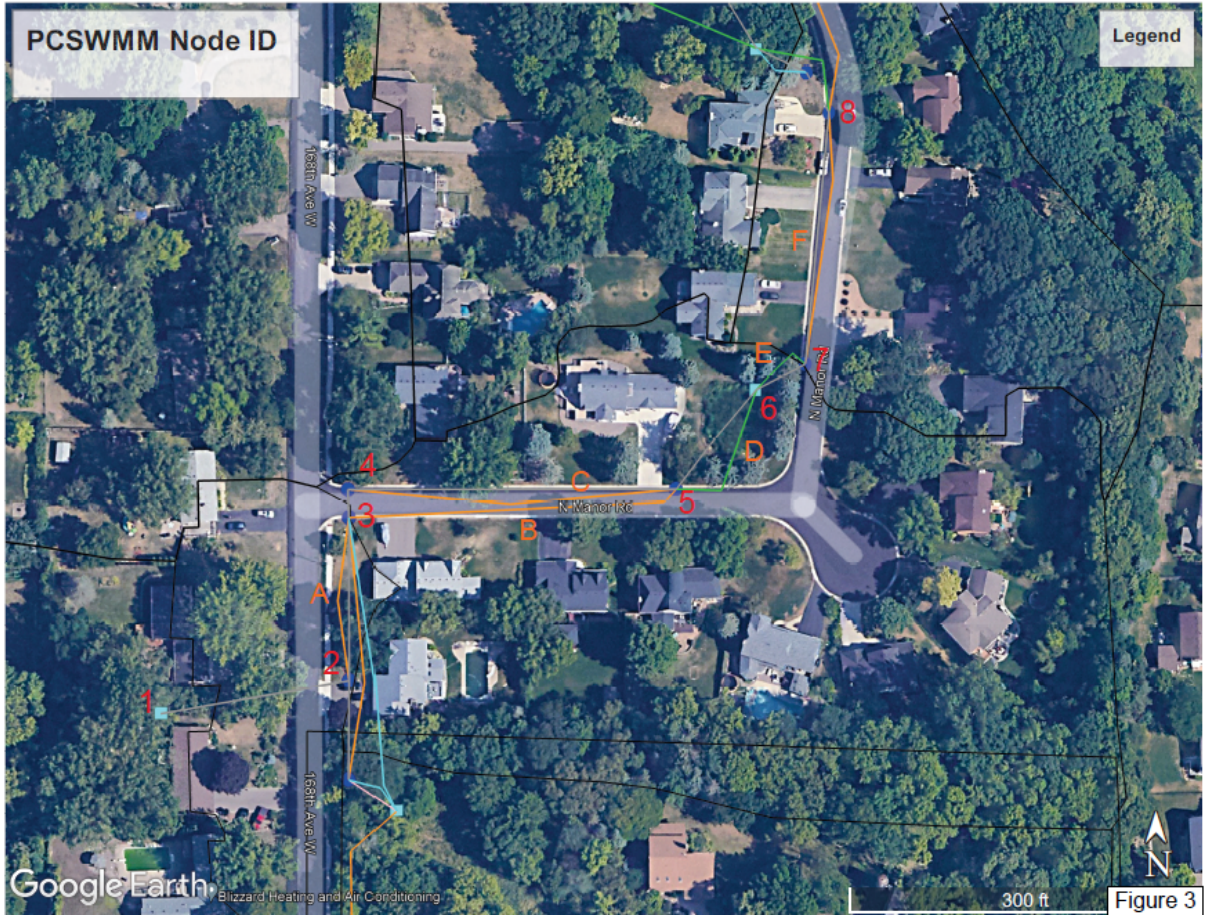


Figure 3

Location	Model ID	Description	Existing 10-Yr HWL	Proposed 10-Yr HWL (21"N-S)	Existing 100-Yr HWL	Proposed 100-Yr HWL (21"N-S)
1	Storage 05-24-B_0100	Rear Yard Low Point – Lot 7, Block 1 Coachlight Manor	930.07	930.08 (+0.01)	931.86	931.76 (-0.10)
2	STMH-N05- 30171	Storm manhole - Lot 1, Block 1 Majestic Oaks Rim Elev: 931.48	927.80	927.89 (+0.09 below rim)	929.60	929.56 (-0.04)
3	STCB-N05- 4211	CBMH in SE Quadrant of 168 <sup>th</sup> Ave W & North Manor Road Rim Elev: 926.90	925.32	926.51 (+1.19 below rim)	927.06	927.12 (+0.06)
4	STCB-N05- 4212	CBMH in NE Quadrant of 168 <sup>th</sup> Ave W & North Manor Road Rim Elev: 926.35	922.92	923.82 (+0.90 below rim)	924.33	924.35 (+0.02 below rim)



Location	Model ID	Description	Existing 10-Yr HWL	Proposed 10-Yr HWL (21"N-S)	Existing 100-Yr HWL	Proposed 100-Yr HWL (21"N-S)
5	STSP-N05-855	CBMH East of 4212 in North Manor Road Rim Elev: 913.47	913.95	913.82 (-0.13)	914.18	914.07 (-0.11)
6	STPO-N05- 11094	Pond in Block 2, Lot 1 Majestic Oaks	913.69	913.64 (-0.05)	913.90	914.00 (+0.10)
7	STMH-N05- 4208	CBMH in North Manor Road as road turns North Rim Elev: 913.47	913.65	913.63 (-0.02)	913.85	914.03 (+0.18)
8	STSP-N05-854	Next Manhole Down Line – East Side of N Manor Road Rim Elev: 908.31	908.54	908.44 (-0.10)	910.60	910.31 (-0.29)

- Technical measures considered to alleviate the practical difficulty (variance criterion 4) include discharging sheet flow to the adjacent properties to the north to align with current drainage paths. The applicant dismissed the alternative because it would result in increased land disturbance and limit the preservation of existing trees and vegetation. The applicant dismissed the idea of constructing a new storm sewer discharge directly north toward the storm sewer in North Manor because the applicant did not obtain property rights to install the storm sewer through the private properties.
- Regarding variance criterion 5, the applicant has created the circumstances leading to the variance by connecting the storm sewer for the proposed development into the existing off-site storm sewer rather than discharging runoff overland to adjacent properties.

The engineer makes no determination as to whether there is an adequate technical basis for the managers to rely on to grant the requested variance.

**Rule L: Permit Fee Deposit:**

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit \$3,000 to be held in escrow and applied to cover the \$10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of \$3,000 and a \$2,000 variance fee were received on January 16, 2024. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that

such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

- L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of May 2, 2024 the amount due is \$6,322.

**Rule M: Financial Assurance:**

	Unit	Unit Cost	# of Units	Total
<b>Rule C: Erosion Control</b>				
Silt Fence	LF	\$2.50	1,920	\$4,800
Inlet Protection	EA	\$100	15	\$1,500
Rock Entrance	EA	\$250	1	\$250
Restoration of disturbance	Ac	\$2,500	5.61	\$14,025
<b>Rule J: Stormwater Management</b> Infiltration basin: 125% of engineer’s opinion of cost (1.25*\$64,244)	EA	125% OPC	1	\$80,305
Contingency (10%)		10%		\$10,088
<b>Total Financial Assurance</b>				<b>\$110,968</b>

**Applicable General Requirements:**

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
3. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
4. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
5. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
6. RPBCWD’s determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance

with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.

7. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

### **Findings**

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The Applicant has requested a variance from compliance with the Rule J criteria related control at all point discharge leave the site.
3. The proposed project will conform to Rules C if the Rule Specific Permit Conditions listed above are met.

### **Recommendation:**

Approval of the permit contingent upon:

1. Financial Assurance in the amount of \$110,968.
2. Permit applicant must provide the name and contact information of the general contractor responsible for the site. RPBCWD must be notified if the responsible party changes during the permit term.
3. Receipt in recordation a maintenance declaration for the operation and maintenance all stormwater management facilities. The declaration must include the all stormwater management facilities as well as the preserved natural areas and vegetated swales. Drafts of all documents to be recorded must be reviewed and approved by the District prior to recordation.
4. The applicant must submit supporting documentation demonstrating there is adequate freeboard or separation to groundwater to achieve the low floor criteria for Block 2, Lots 1, 2, 4, 6, 8, and 9. If the technical information demonstrates the structure would not comply with the low floor requirement in subsection 3.6a, design modifications to achieve compliance with RPBCWD requirements will need to be submitted (in the form of an application for a permit modification or new permit).
5. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. The amount needed to replenish the permit fee deposit is \$6,322 as of May 2, 2024.

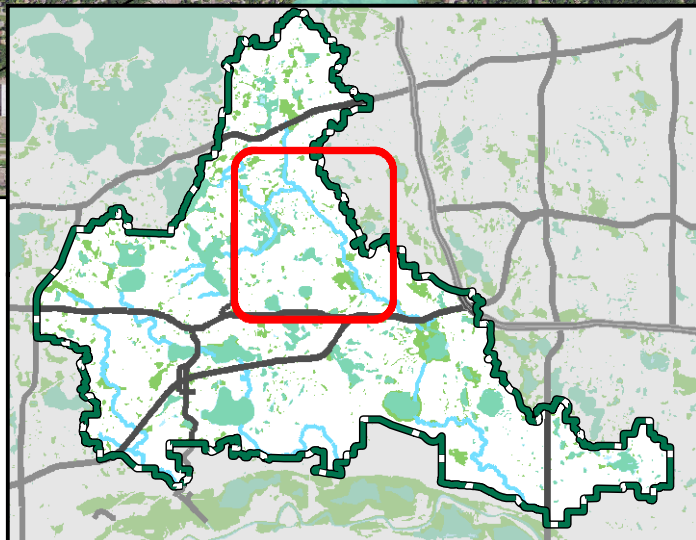
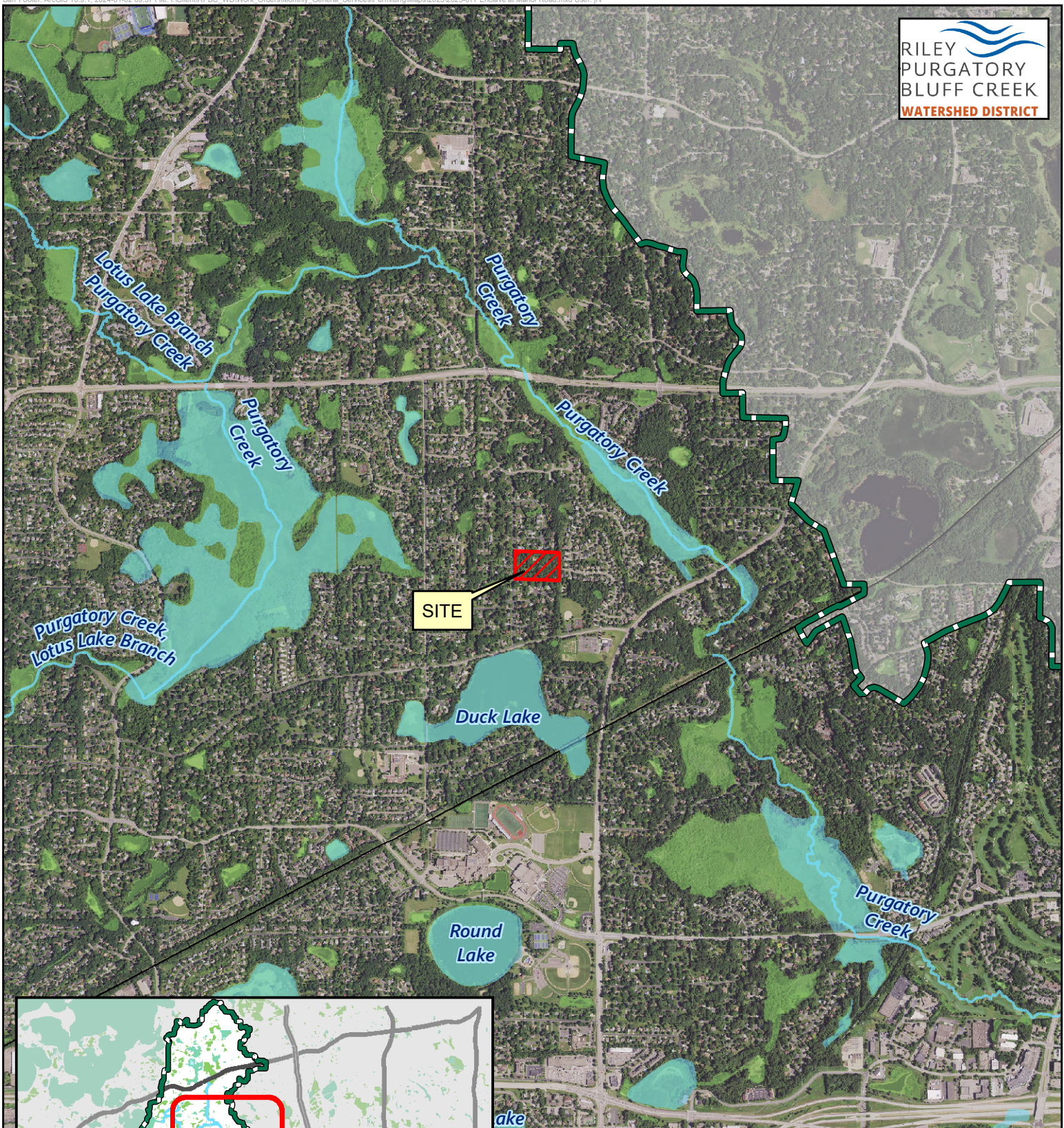
By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Continued compliance with General Requirements.
2. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization the stormwater management facilities conforms to design specifications and functions as intended and approved by the District. As-

built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:

- a) the surveyed bottom elevations, water levels, and general topography of all facilities;
  - b) the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
  - c) the surveyed elevations of all emergency overflows including stormwater facility, street, and other;
  - d) other important features to show that the project was constructed as approved by the Managers and protects the public health, welfare, and safety.
3. Providing the following additional close-out materials:
- a) Documentation that constructed infiltration facility performs as designed. This may include infiltration testing, flood testing, or other with prior approval from RPBCWD
  - b) Documentation that disturbed pervious areas remaining pervious have been decompacted per Rule C.2c criteria
4. The work on the Enclave at Manor Road subdivision under the terms of permit 2023-077, if issued, must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of total impervious area) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.





Feet



Permit Location Map

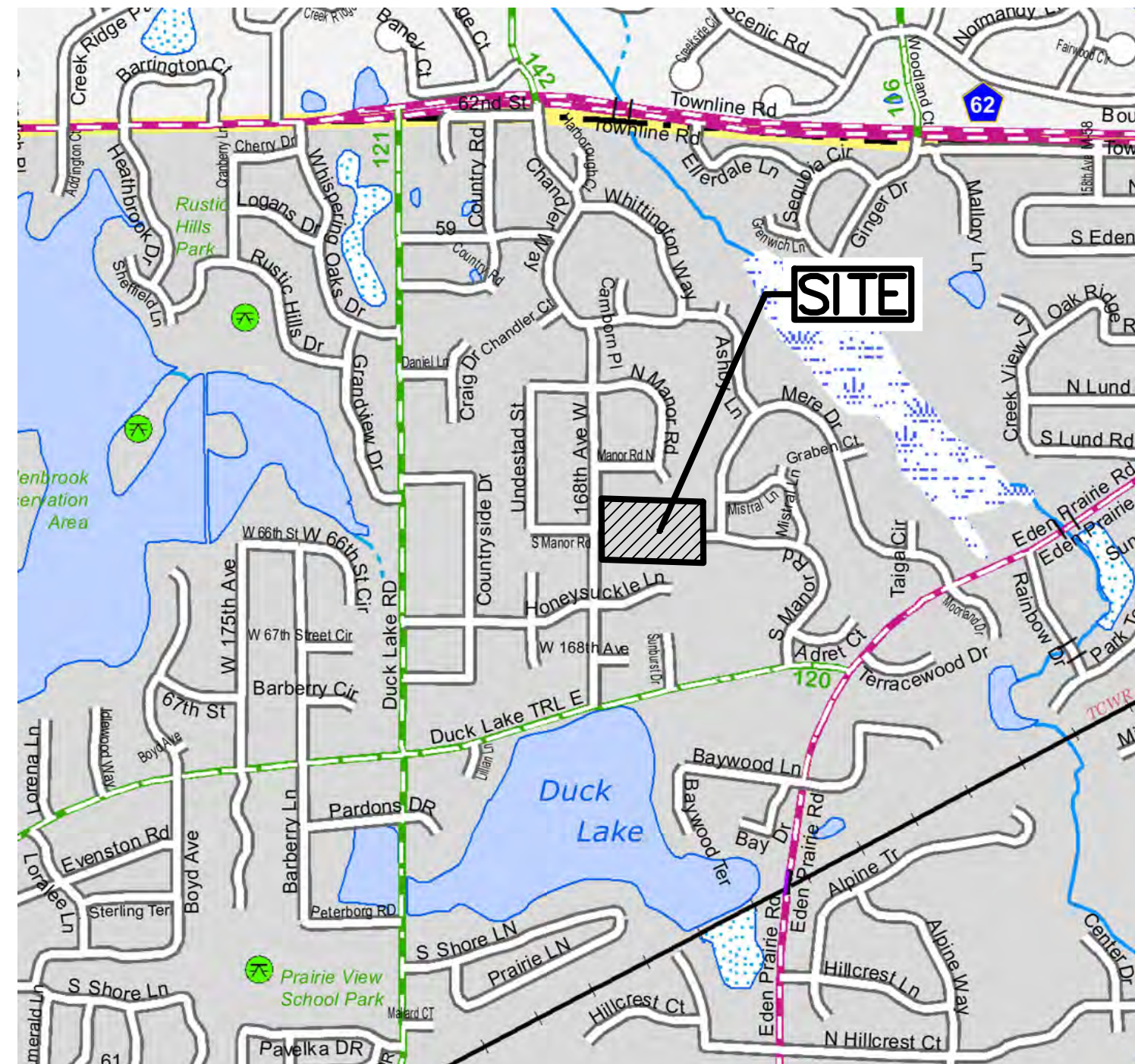
ENCLAVE AT MANOR ROAD

**Permit 2023-077**

Riley Purgatory Bluff Creek  
Watershed District



PROJECT COORDINATES  
 N 44° 53' 03"  
 W 93° 29' 19"



**LOCATION MAP**

1" = 1000'

**SITE DATA**

LOTS	17 LOTS
TOTAL SITE AREA	6.43 AC.
LOT AREA	4.96 AC.
OUTLOT AREA	0.70 AC.
RIGHT OF WAY AREA	0.77 AC.
GROSS DENSITY	2.64 LOTS/AC

EXISTING ZONING IS RURAL  
 PROPOSED ZONING IS R1-9.5 (PUD)

MINIMUM LOT WIDTH PROVIDED	65 FEET
MINIMUM LOT DEPTH PROVIDED	136 FEET
MINIMUM LOT AREA PROVIDED	9,921 S.F.
AVERAGE LOT AREA	12,707 S.F.

**MINIMUM BUILDING SETBACKS**

FRONT	25 FEET
SIDE YARD (INTERIOR)	5 FEET MINIMUM
SIDE YARD (STREET)	15 FEET TOTAL OF BOTH SIDES
REAR	20 FEET

**PROJECT CONTACTS**

PROJECT ENGINEER:	JOHN BENDER, P.E. - JAMES R. HILL, INC.	952-890-6044 (O)
DEVELOPER:	MATT OLSON - BRANDL ANDERSON	952-898-0230 (O)
CITY ENGINEER:	CARTER SCHULZE - EDEN PRAIRIE	952-949-8339 (O)
NPDES OFFICER:	JOSH NORMAN - MPCA	951-757-2389 (O)
GENERAL CONTRACTOR REPRESENTATIVE:	TBD	

# ENCLAVE AT MANOR ROAD

## EDEN PRAIRIE, MINNESOTA

# PRELIMINARY PLAT

### FOR

## BRANDL ANDERSON

221 RIVER RIDGE CIRCLE SOUTH - SUITE 100, BURNSVILLE, MN 55337

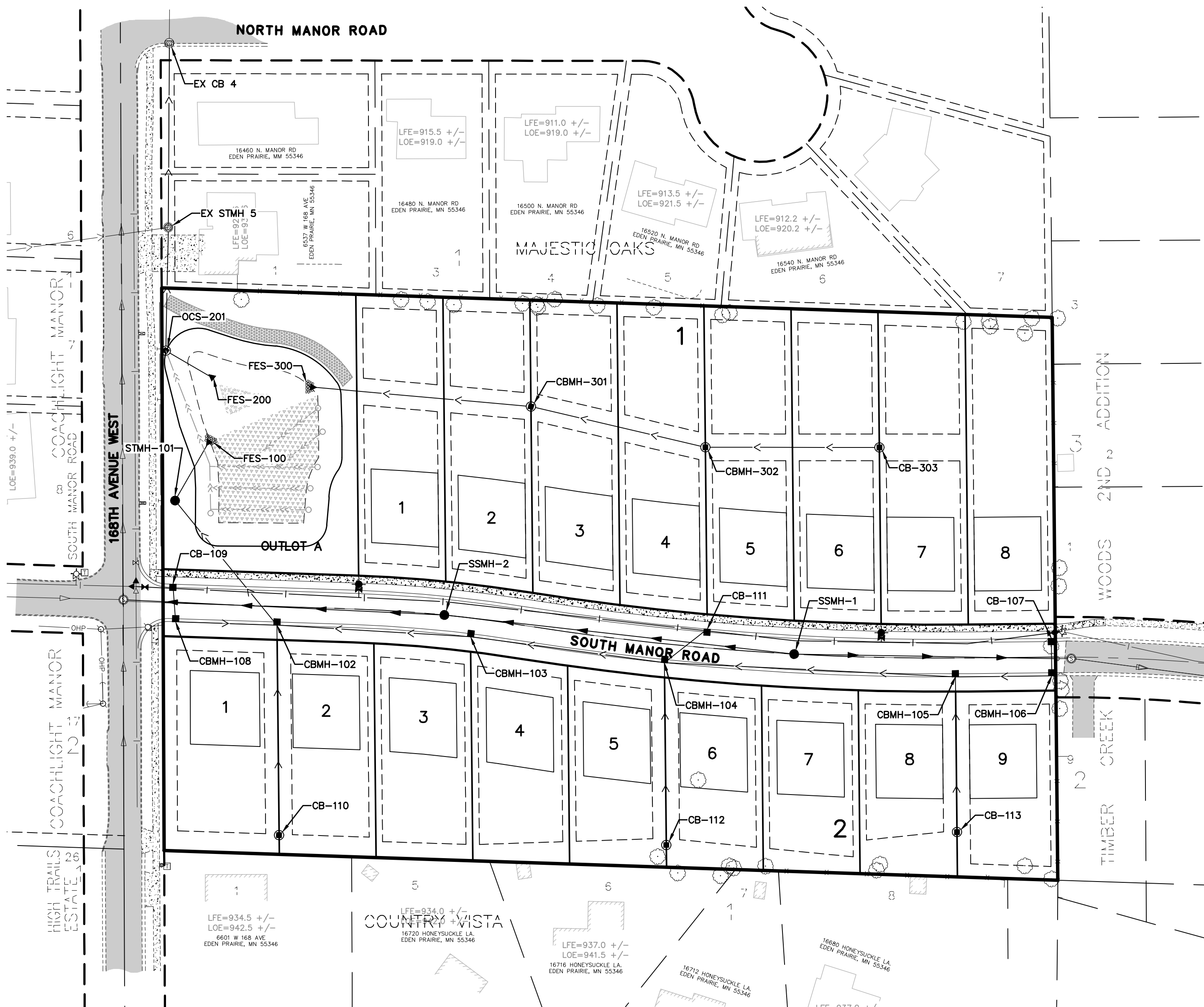
PHONE: (952) 898-0230

**INDEX**

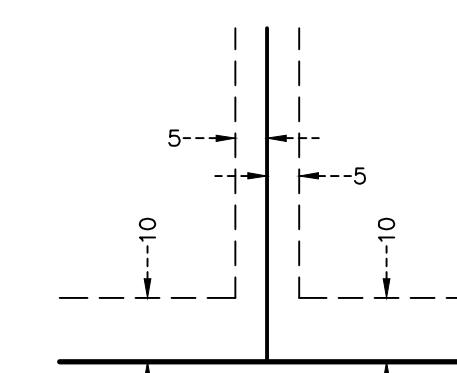
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EXISTING CONDITIONS	C1.1
EXISTING DRAINAGE MAP	C1.2
PROPOSED DRAINAGE MAP	C1.3
DEMOLITION PLAN	C1.4
PRELIMINARY PLAT	C2.0
EROSION & SEDIMENT CONTROL PLAN	C3.0
EROSION & SEDIMENT CONTROL NOTES/DETAILS	C3.1-C3.2
GRADING & DRAINAGE PLAN	C4.0
UTILITY PLAN	C5.0-C5.4
CONSTRUCTION DETAILS	C6.0

**LEGEND**

	EXISTING WATERMAIN
	EXISTING SANITARY SEWER
	EXISTING STORM SEWER
	EXISTING UNDERGROUND GAS
	EXISTING UNDERGROUND ELECTRIC
	EXISTING UNDERGROUND TELEPHONE
	EXISTING UNDERGROUND FIBER OPTIC
	EXISTING OVERHEAD POWER LINE
	EXISTING LIGHT POLE
	EXISTING TRANSFORMER
	EXISTING TELEPHONE PEDESTAL
	EXISTING TV PEDESTAL
	EXISTING CURB & GUTTER
	EXISTING FENCE
	EXISTING CONTOUR
	EXISTING WETLAND EDGE
	EXISTING SOIL BORING LOCATION
	EXISTING TREELINE/TREES
	EXISTING ASPHALT
	EXISTING CONCRETE
	EXISTING GRAVEL
	PROPOSED WATERMAIN
	PROPOSED SANITARY SEWER
	PROPOSED SANITARY SERVICE
	PROPOSED WATER SERVICE
	PROPOSED STORM SEWER
	PROPOSED NON-PERFORATE DRAINTILE
	PROPOSED PERFORATE DRAINTILE
	PROPOSED CURB & GUTTER
	PROPOSED RETAINING WALL
	PROPOSED CONTOUR
	PROPOSED GRADING LIMITS
	PROPOSED EMERGENCY OVERFLOW
	PROPOSED CONCRETE
	PROPOSED ASPHALT SURFACE
	PROPOSED SEDIMENT BASIN
	PROPOSED INFILTRATION BASIN
	PROPOSED SILT FENCE
	PROPOSED WIMCO
	POST STORM SEWER CONSTRUCTION
	PROPOSED YARD CB INLET PROTECTION
	POST STORM SEWER CONSTRUCTION
	PROPOSED DITCH CHECK - MnDOT TYPE 3
	POST GRADING/UTILITY CONSTRUCTION
	PROPOSED TEMPORARY ROCK CONSTRUCTION ENTRANCE
	PROPOSED EROSION CONTROL BLANKET
	MnDOT CATEGORY 3
	PROPOSED SEED & MULCH MIX
	NATIVE PONDS & WET AREAS MnDOT 33-261



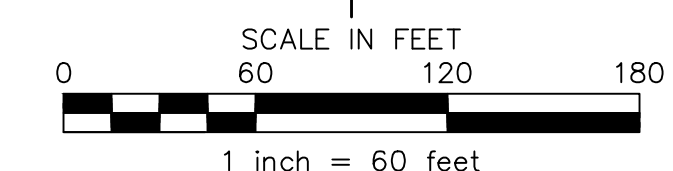
DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



DRAINAGE AND UTILITY EASEMENTS BEING 5 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, ADJOINING LOT LINES, AND BEING 10 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, ADJOINING RIGHT OF WAY LINES, AS SHOWN ON THIS PLAT.



Know what's below.  
 Call before you dig.



**James R. Hill, Inc.**  
 PLANNERS / ENGINEERS / SURVEYORS  
 2999 W. Cty. Rd. 42, Suite 100, Burnsville, MN 55306  
 PHONE: (952)890-6044 FAX: (952)890-6244

I hereby certify that this plan, specification or report 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.  
 JOHN H. BENDER  
 Date: 01/24/24 Reg. No. XXXXX

**ENCLAVE AT MANOR ROAD**  
 EDEN PRAIRIE, MINNESOTA  
**TITLE SHEET**  
 FOR  
**BRANDL ANDERSON**  
 221 RIVER RIDGE CIRCLE SOUTH - SUITE 100, BURNSVILLE, MN 55337

**DRAWN BY**  
 EPF  
**DATE**  
 01/24/24

**REVISIONS**

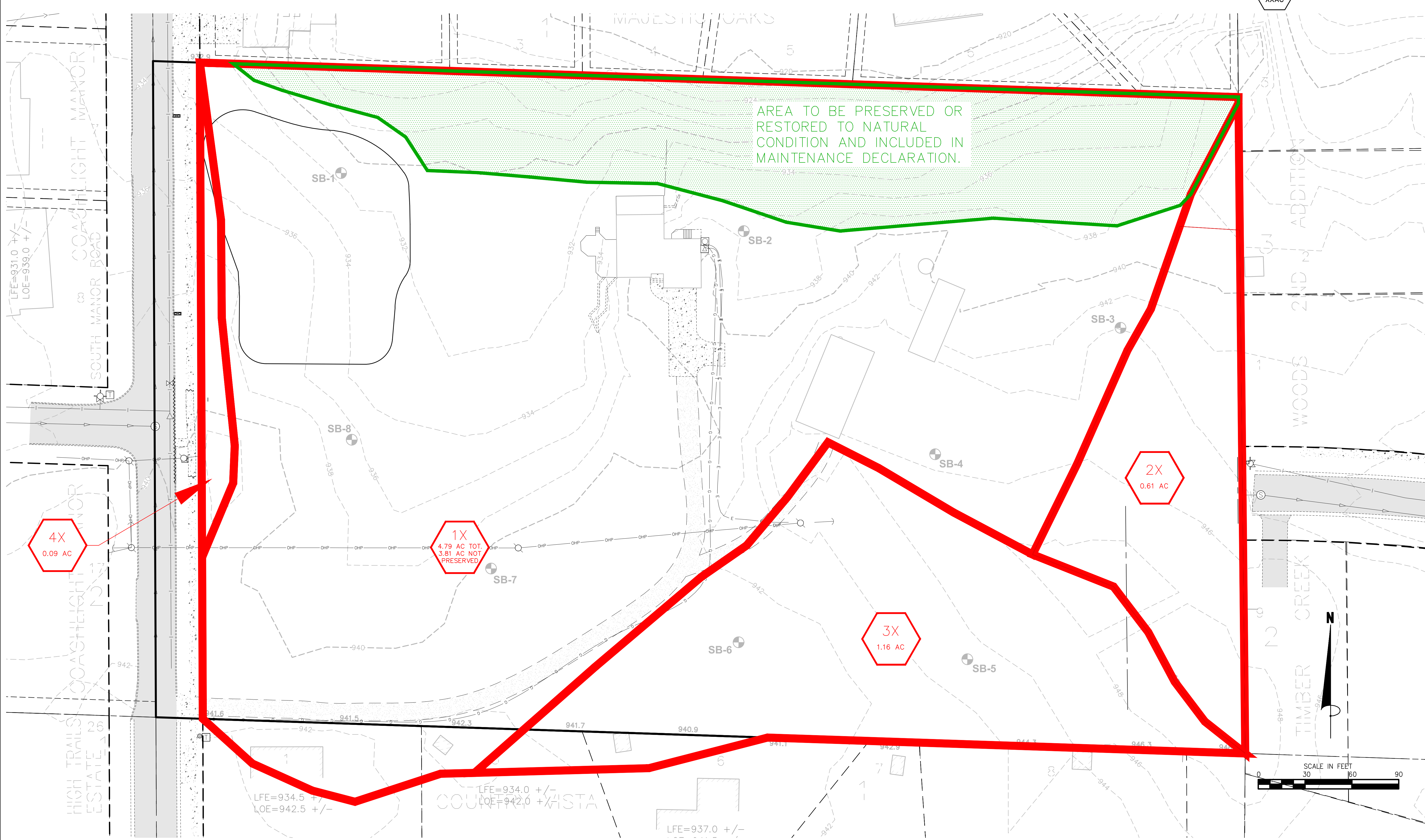
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2024-03-18	WATERSHED COMMENTS
2024-04-03	CITY COMMENTS
2024-04-19	WATERSHED COMMENTS

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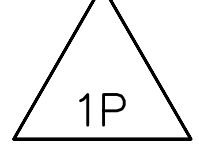





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**LEGEND**

-  1P STORMWATER BMP
-  1X XXAC DRAINAGE AREA

AREA TO BE PRESERVED OR RESTORED TO NATURAL CONDITION AND INCLUDED IN MAINTENANCE DECLARATION.

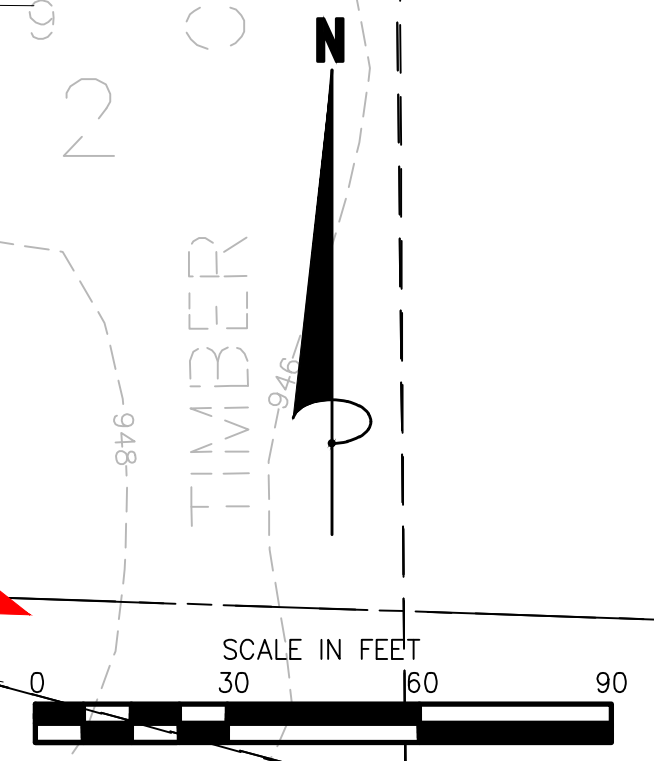
**James R. Hill, Inc.**  
 PLANNERS / ENGINEERS / SURVEYORS  
 2500 W. Cty. Rd. 42, SUITE 120, BURNSVILLE, MN 55337  
 PHONE: (952)890-6044 FAX: (952)890-6244

I hereby certify that this plan, specification or report 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.

Date: \_\_\_\_\_ Reg. No. \_\_\_\_\_

**ENCLAVE AT MANOR ROAD**  
 EDEN PRAIRIE, MINNESOTA  
**EXISTING DRAINAGE MAP**  
 FOR  
**BRANDL ANDERSON**

DRAWN BY	JHB
DATE	3/6/2024
REVISIONS	
CAD FILE	DRN
PROJECT NO.	24123
	C1.2



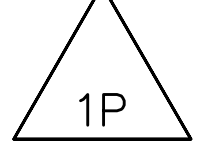

COACHLIGHT MANOR  
 SOUTH MANOR ROAD  
 WOODS 2ND N ADDITION  
 TIMBER CREEK  
 COUNTY VISTA  
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 LOE=939.0 +/-  
 LFE=934.5 +/-  
 LOE=942.5 +/-  
 LFE=934.0 +/-  
 LOE=942.0 +/-  
 LFE=937.0 +/-



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**LEGEND**

-  1P STORMWATER BMP
-  1S XXAC DRAINAGE AREA

AREA TO BE PRESERVED OR RESTORED TO NATURAL CONDITION AND INCLUDED IN MAINTENANCE DECLARATION.

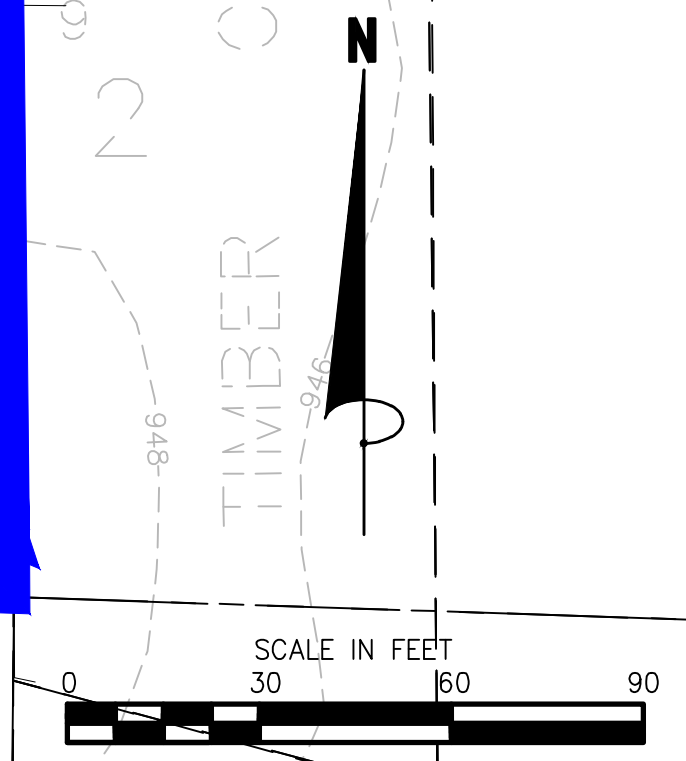
**James R. Hill, Inc.**  
 PLANNERS / ENGINEERS / SURVEYORS  
 2500 W. Cty. Rd. 42, SUITE 120, BURNSVILLE, MN 55337  
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Date: \_\_\_\_\_ Reg. No. \_\_\_\_\_

**ENCLAVE AT MANOR ROAD**  
 EDEN PRAIRIE, MINNESOTA  
**EXISTING DRAINAGE MAP**  
 FOR  
**BRANDL ANDERSON**

DRAWN BY	JHB
DATE	4/19/2024
REVISIONS	
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PROJECT NO.	24123
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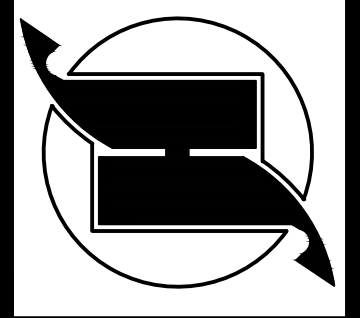
**SITE DATA**

LOTS	17 LOTS	MINIMUM LOT WIDTH PROVIDED	65 FEET
TOTAL SITE AREA	6.43 AC.	MINIMUM LOT DEPTH PROVIDED	136 FEET
LOT AREA	4.96 AC.	MINIMUM LOT AREA PROVIDED	9,921 S.F.
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			15 FEET TOTAL OF BOTH SIDES
		SIDE YARD (STREET)	20 FEET
		REAR	20 FEET

**PROPERTY DESCRIPTION**

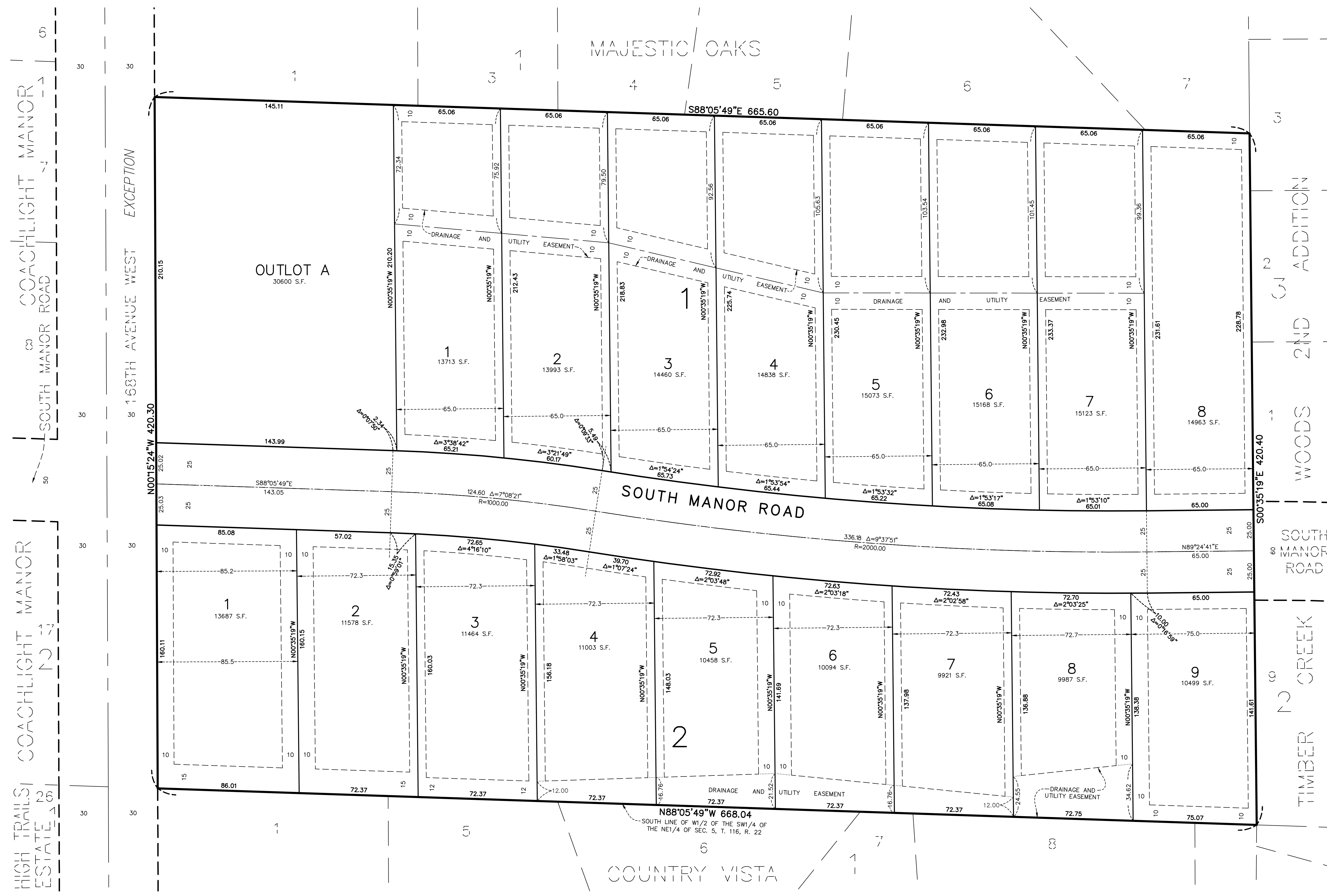
The South 420.00 feet of the West 1/2 of the Southwest Quarter of the Northeast Quarter of Section 5, Township 116, Range 22, Hennepin County, Minnesota, except the West 30.00 feet thereof.

**James R. Hill, Inc.**  
 PLANNERS / ENGINEERS / SURVEYORS  
 2999 WEST C.R. 42, SUITE 100, BURNSVILLE, MN 55306  
 PHONE: 952.890.6044  
 mhampston@jrhinc.com  
 www.jrhinc.com

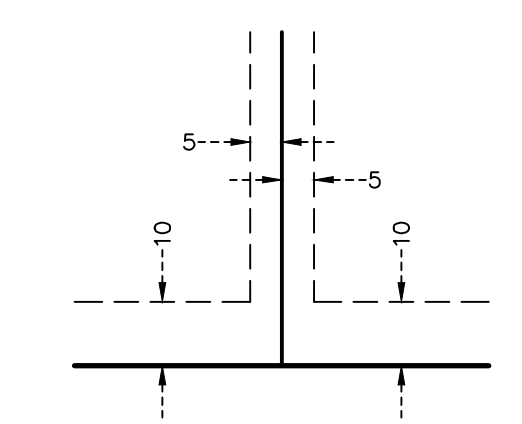


**ENCLAVE AT MANOR ROAD**  
EDEN PRairie, MINNESOTA  
**PRELIMINARY PLAT**  
 FOR  
**BRANDI ANDERSON**  
221 RIVER RIDGE CIRCLE SOUTH, SUITE 100, BURNSVILLE, MN 55337

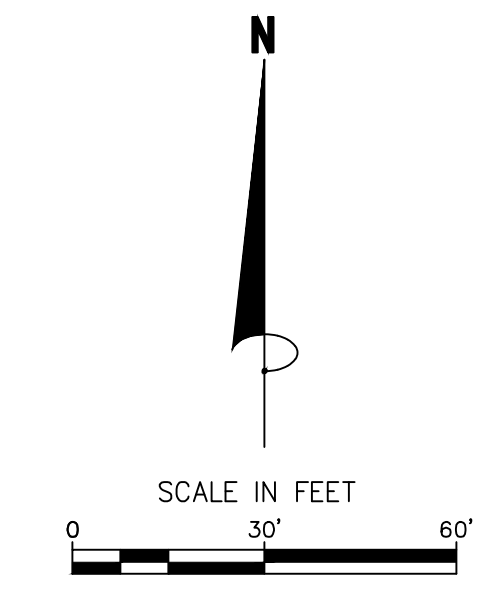
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<b>REVISIONS</b>	
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<b>CAD FILE</b>	24123pp.dwg
<b>PROJECT NO.</b>	24123-00
<b>C2.0</b>	



DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



DRAINAGE AND UTILITY EASEMENTS BEING 5 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, ADJOINING LOT LINES, AND BEING 10 FEET IN WIDTH, UNLESS OTHERWISE INDICATED, ADJOINING RIGHT OF WAY LINES, AS SHOWN ON THIS PLAT.



BEARINGS ARE BASED ON THE SOUTH LINE OF THE W1/2 OF THE SW 1/4 OF THE NE1/4 OF SEC. 5, T. 116, R. 22 WHICH IS ASSUMED TO HAVE A BEARING OF N 88°05'49" W

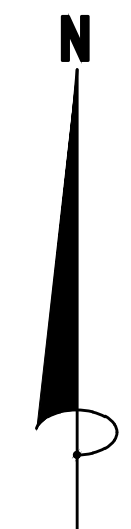
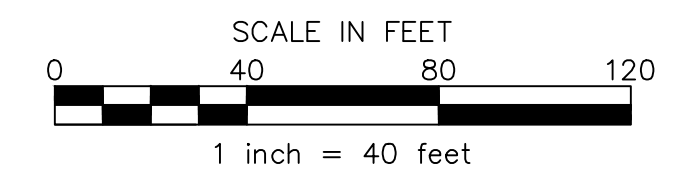
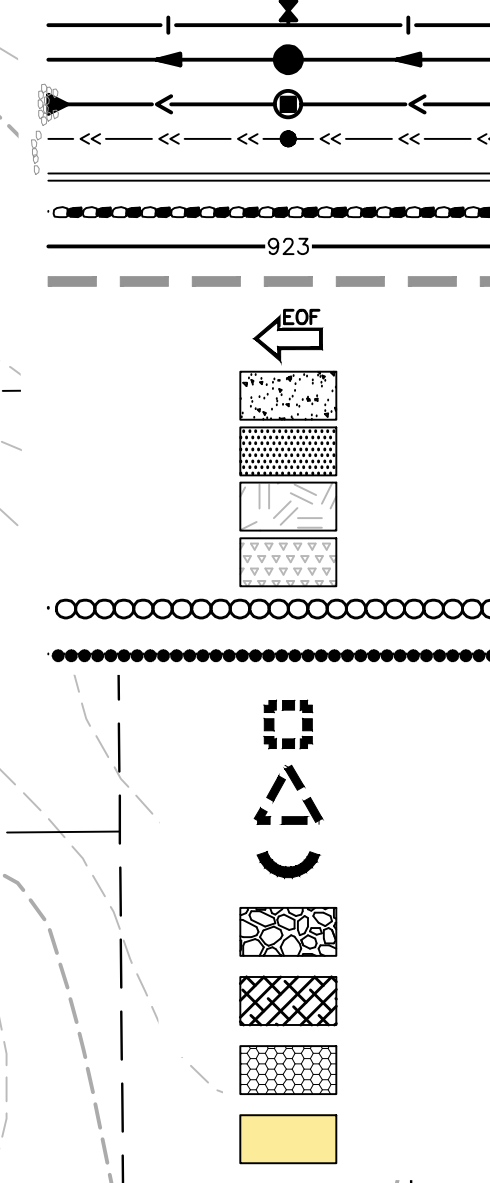
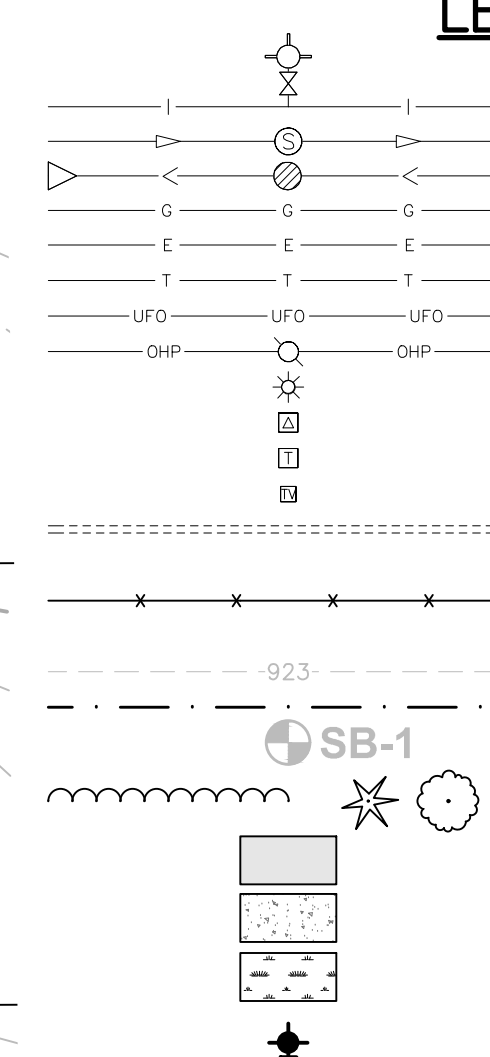


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### LEGEND

- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND TELEPHONE
- EXISTING UNDERGROUND FIBER OPTIC
- EXISTING OVERHEAD POWER LINE
- EXISTING LIGHT POLE
- EXISTING TRANSFORMER
- EXISTING TELEPHONE PEDESTAL
- EXISTING TV PEDESTAL
- EXISTING CURB & GUTTER
- EXISTING FENCE
- EXISTING CONTOUR
- EXISTING WETLAND EDGE
- EXISTING SOIL BORING LOCATION
- EXISTING TREELINE/TREES
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING WETLAND
- PROPOSED WATERMAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED DRAIN TILE
- PROPOSED CURB & GUTTER
- PROPOSED RETAINING WALL
- PROPOSED CONTOUR
- PROPOSED GRADING LIMITS
- PROPOSED EMERGENCY OVERTFLOW
- PROPOSED CONCRETE
- PROPOSED ASPHALT SURFACE
- PROPOSED SEDIMENT BASIN
- PROPOSED FILTRATION BASIN
- PROPOSED SILT FENCE
- PROPOSED SILT FENCE - POST CONSTRUCTION
- PROPOSED WMCO
- POST STORM SEWER CONSTRUCTION
- PROPOSED YARD CB INLET PROTECTION
- POST STORM SEWER CONSTRUCTION
- PROPOSED DITCH CHECK - MnDOT TYPE 3
- POST GRADING/UTILITY CONSTRUCTION
- PROPOSED TEMPORARY ROCK CONSTRUCTION ENTRANCE
- PROPOSED EROSION CONTROL BLANKET MnDOT CATEGORY 3
- PROPOSED SEED & MULCH MIX NATIVE PONDS & WET AREAS MnDOT 33-261
- PROPOSED SEED & MULCH WITH DRY PRAIRIE GENERAL MIX MnDOT 35-221



**James R. Hill, Inc.**  
 PLANNERS / ENGINEERS / SURVEYORS  
 2999 W. Cty. Rd. 42, Suite 100, Burnsville, MN 55306  
 PHONE: (952)890-6044 FAX: (952)890-6244

I hereby certify that this plan, specification or report 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.  
 JOHN L. BREIDER  
 Date: 01/24/24 Reg. No. XXXXX

**ENCLAVE AT MANOR ROAD**  
 EDEN PRAIRIE, MINNESOTA  
**PRELIMINARY EROSION & SEDIMENT CONTROL PLAN**  
 FOR  
**BRANDL ANDERSON**  
 221 RIVER RIDGE CIRCLE SOUTH - SUITE 100, BURNSVILLE, MN 55337

DRAWN BY VUN
DATE 01/24/24
REVISIONS
2024-03-13 CITY COMMENTS
2024-03-18 WATERSHED COMMENTS
2024-04-03 CITY COMMENTS
2024-04-19 WATERSHED COMMENTS
CAD FILE 24123ERC
PROJECT NO. 24123
C3.0







Table of contents listing sections 1.1 through 10.3 with corresponding page numbers. Topics include Permit Coverage, Construction activities, Erosion and Sediment Control, Stormwater Management, and Wetland Protection.

James R. Hill, Inc. PANNERS ENGINEERS / SURVEYORS. 2999 W. Ctr. Rd. 42, Suite 100, Burnsville, MN 55306. PHONE: 952/890-6044 FAX: 952/890-6244

I hereby certify that this plan, specification or report was prepared or supervised by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. JOHN H. ANDERSON

ENCLAVE AT MANOR ROAD EDEN PRairie, MINNESOTA EROSION & SEDIMENT CONTROL DETAILS FOR BRANDL ANDERSON 221 RIVER RIDGE CIRCLE SOUTH - SUITE 100, BURNSVILLE, MN 55337

DRAWN BY EPF DATE 01/24/24 REVISIONS 2024-03-15 CITY COMMENTS 2024-03-18 WATERSHED COMMENTS 2024-04-03 CITY COMMENTS 2024-04-19 WATERSHED COMMENTS CAD FILE 24123.DWG PROJECT NO. 24123 C3.2

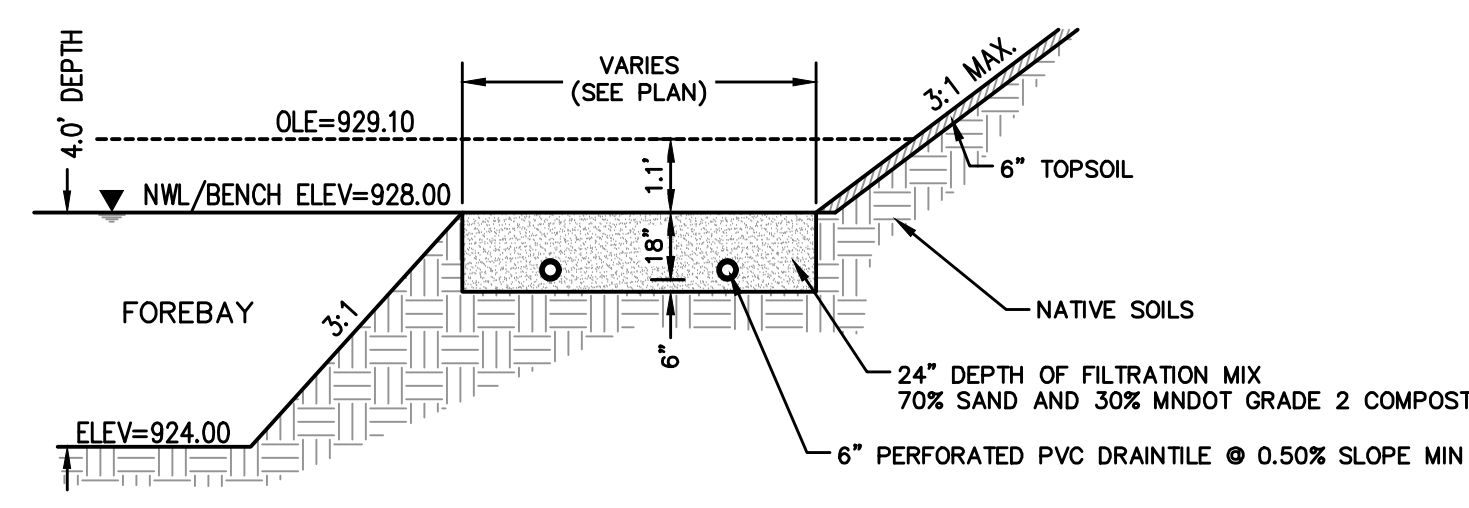


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168TH AVENUE WEST

WOODS 2ND  
TIMBER CREEK

### POND 1P FOREBAY W/ FILTRATION BENCH



### LEGEND

- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING CURB & GUTTER
- EXISTING RETAINING WALL
- EXISTING FENCE
- EXISTING RAILROAD
- EXISTING CONTOUR
- EXISTING WETLAND EDGE
- EXISTING SOIL BORING LOCATION
- EXISTING TREELINE/TREES
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL
- EXISTING WETLAND
- PROPOSED WATERMAIN
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY SERVICE
- PROPOSED WATER SERVICE
- PROPOSED STORM SEWER
- PROPOSED DRAIN TILE
- PROPOSED PERFORATED DRAIN TILE
- PROPOSED CURB & GUTTER
- PROPOSED RETAINING WALL
- PROPOSED CONTOUR
- PROPOSED GRADING LIMITS
- PROPOSED EMERGENCY OVERFLOW
- PROPOSED CONCRETE
- PROPOSED ASPHALT SURFACE
- PROPOSED SEDIMENT BASIN
- PROPOSED FILTRATION BASIN
- PROPOSED MAINTENANCE ACCESS
- NATURAL AREA MONUMENT POST

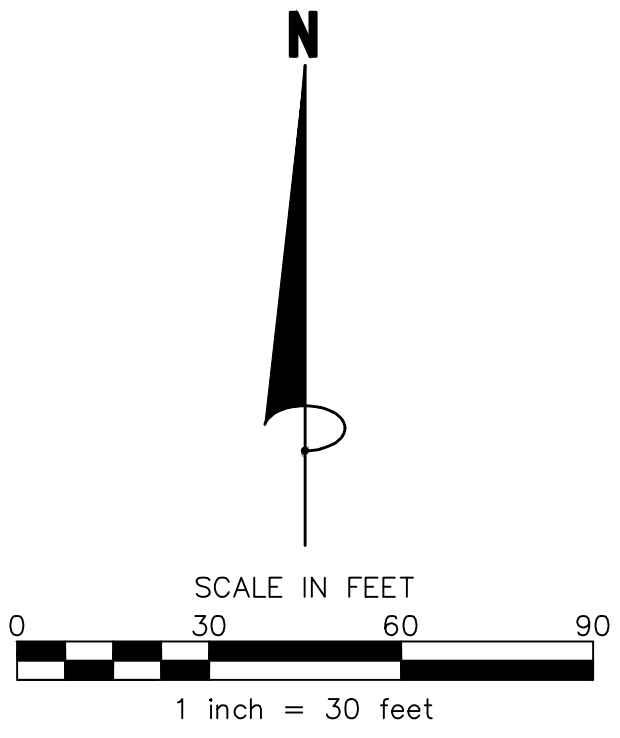
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ORIGINAL TO FINISH:  
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 FILL = 18,100 CUBIC YARDS

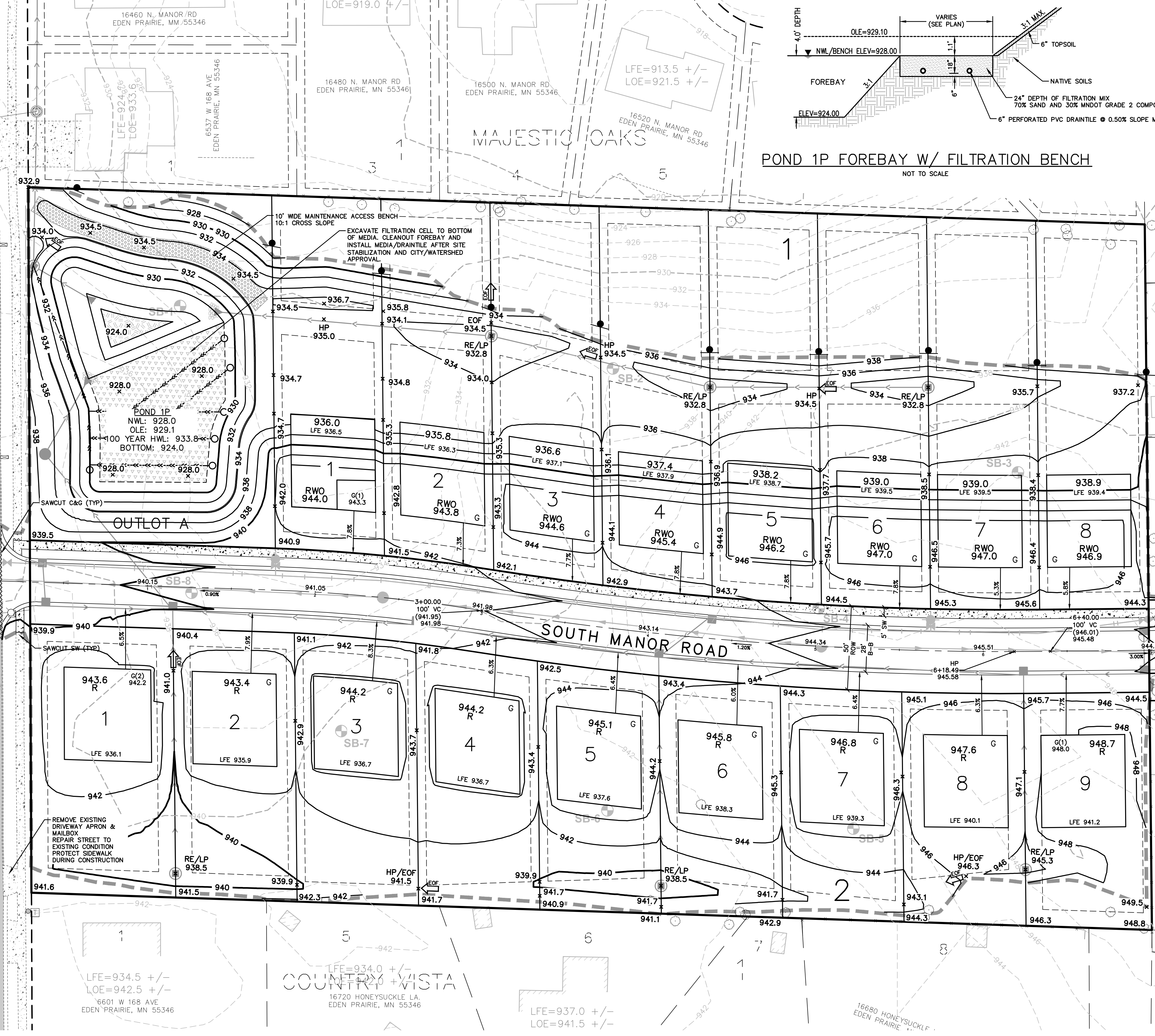
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 JOHN H. BRANDL  
 Date: 01/24/24 Reg. No. XXXXX

**ENCLAVE AT MANOR ROAD**  
 EDEN PRAIRIE, MINNESOTA  
**PRELIMINARY GRADING & DRAINAGE PLAN**  
 FOR  
**BRANDL ANDERSON**  
 221 RIVER RIDGE CIRCLE SOUTH - SUITE 100, BURNSVILLE, MN 55337

DRAWN BY	EPF
DATE	01/24/24
REVISIONS	
2024-03-13	CITY COMMENTS
2024-03-18	WATERSHED COMMENTS
2024-04-03	CITY COMMENTS
2024-04-19	WATERSHED COMMENTS
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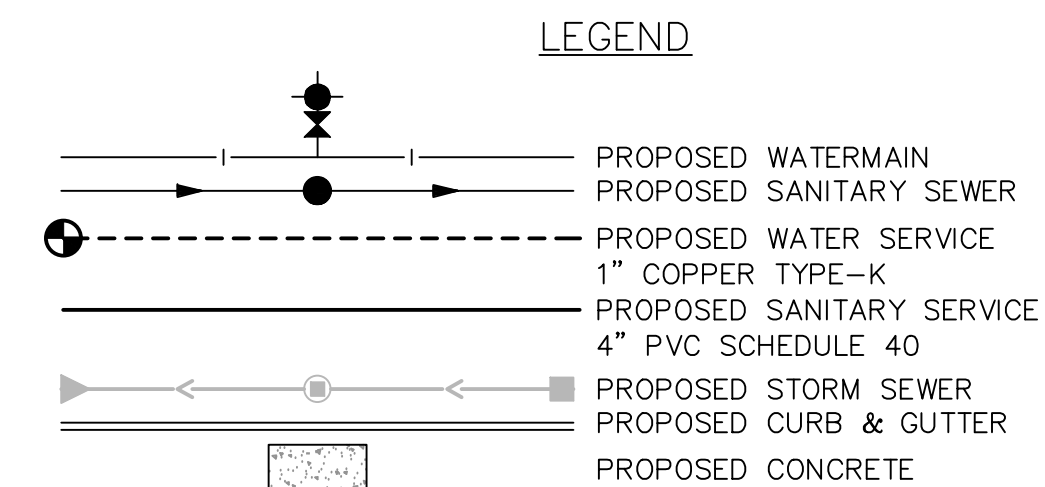
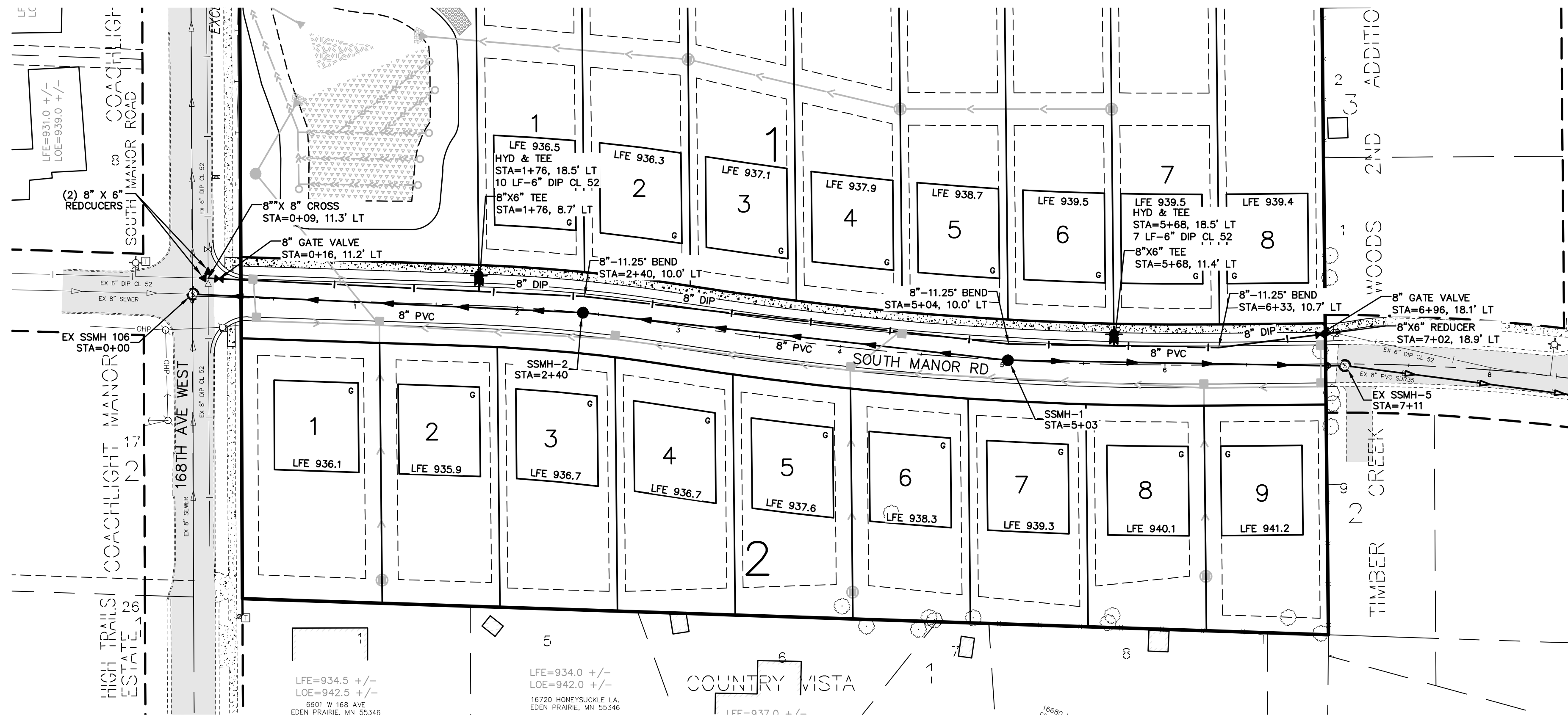
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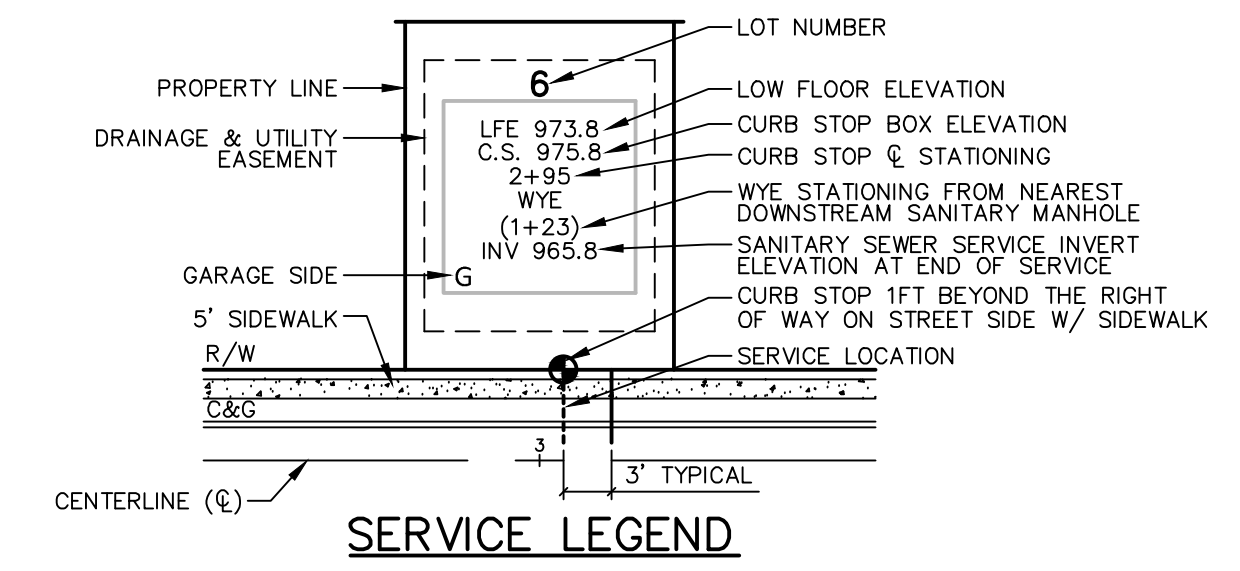
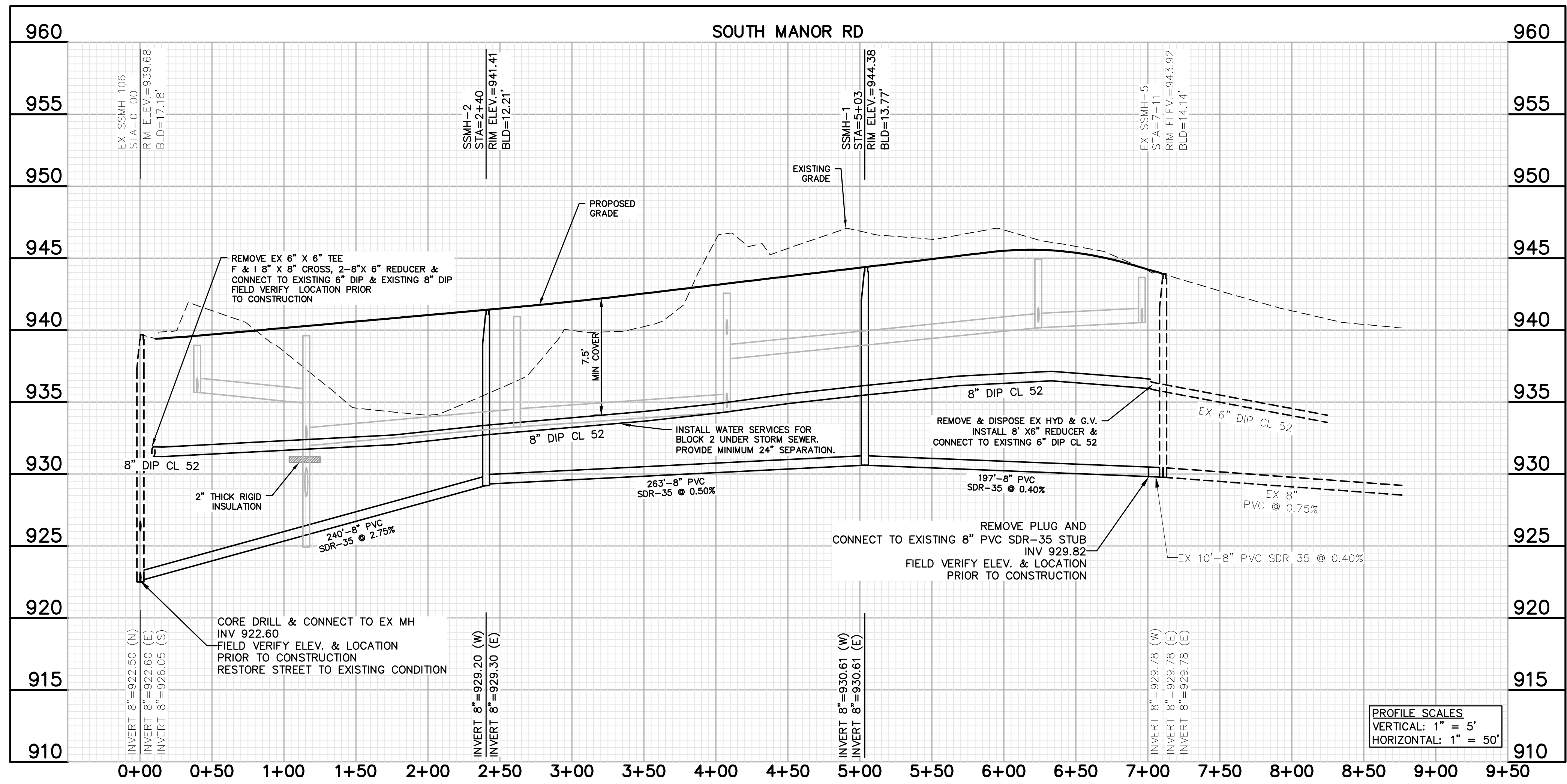






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**ENCLAVE AT MANOR ROAD**  
 EDEN PRAIRIE, MINNESOTA  
 SANITARY SEWER & WATERMAIN CONSTRUCTION  
 SOUTH MANOR RD  
 FOR  
**BRANDL ANDERSON**  
 221 RIVER RIDGE CIRCLE SOUTH - SUITE 100, BURNSVILLE, MN 55337

**DRAWN BY**  
VUN

**DATE**  
01/24/24

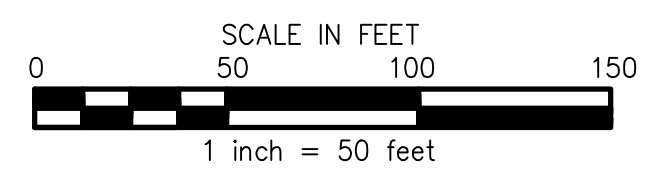
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2024-03-18 WATERSHED COMMENTS
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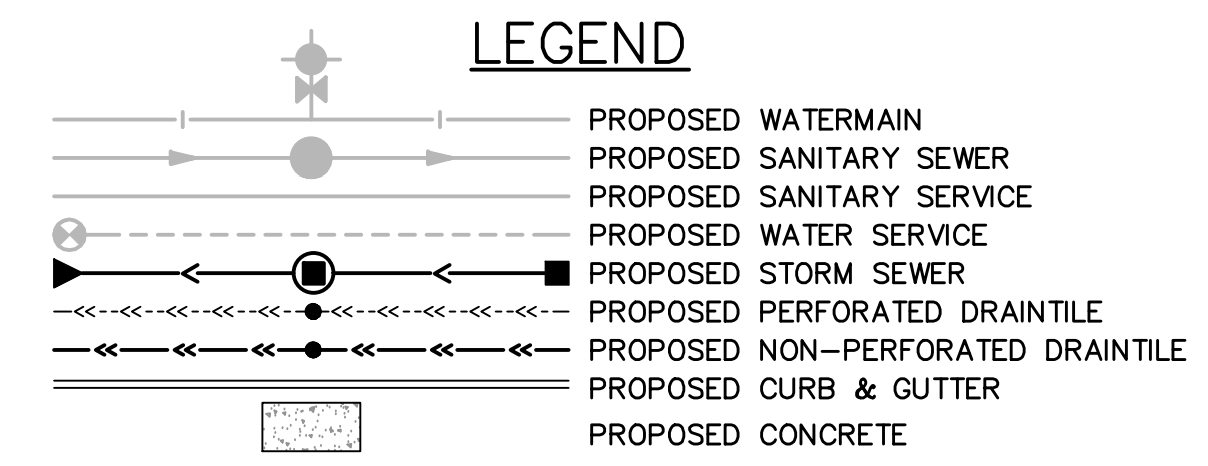
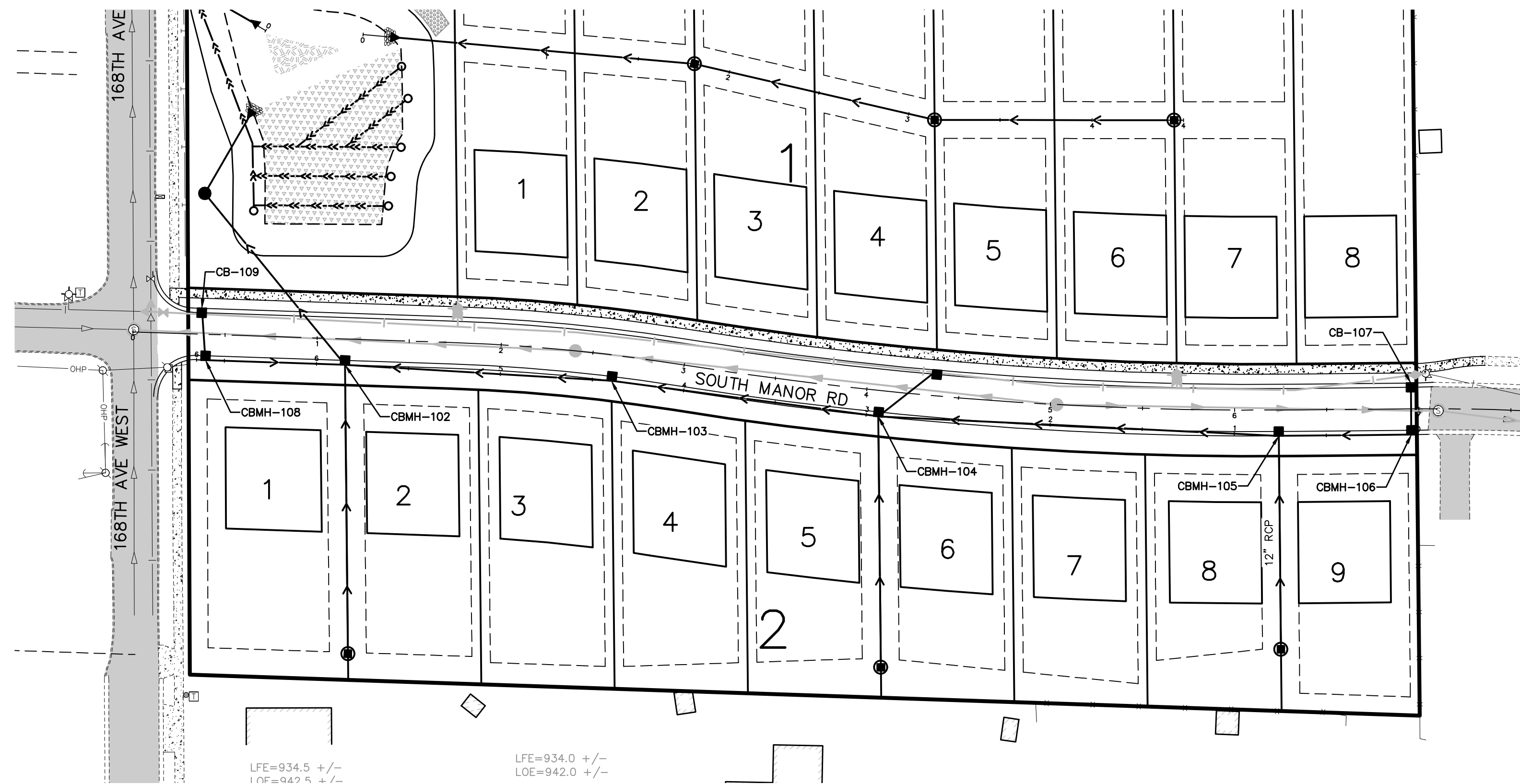
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**PROFILE SCALES**  
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 HORIZONTAL: 1" = 50'

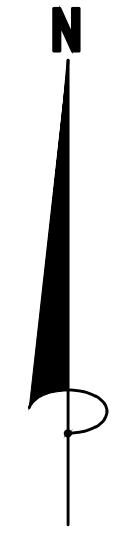
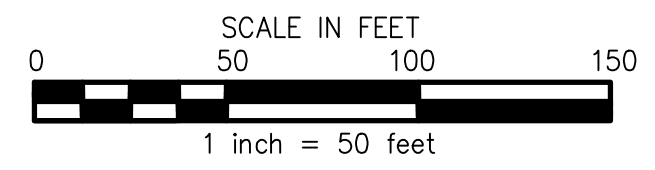
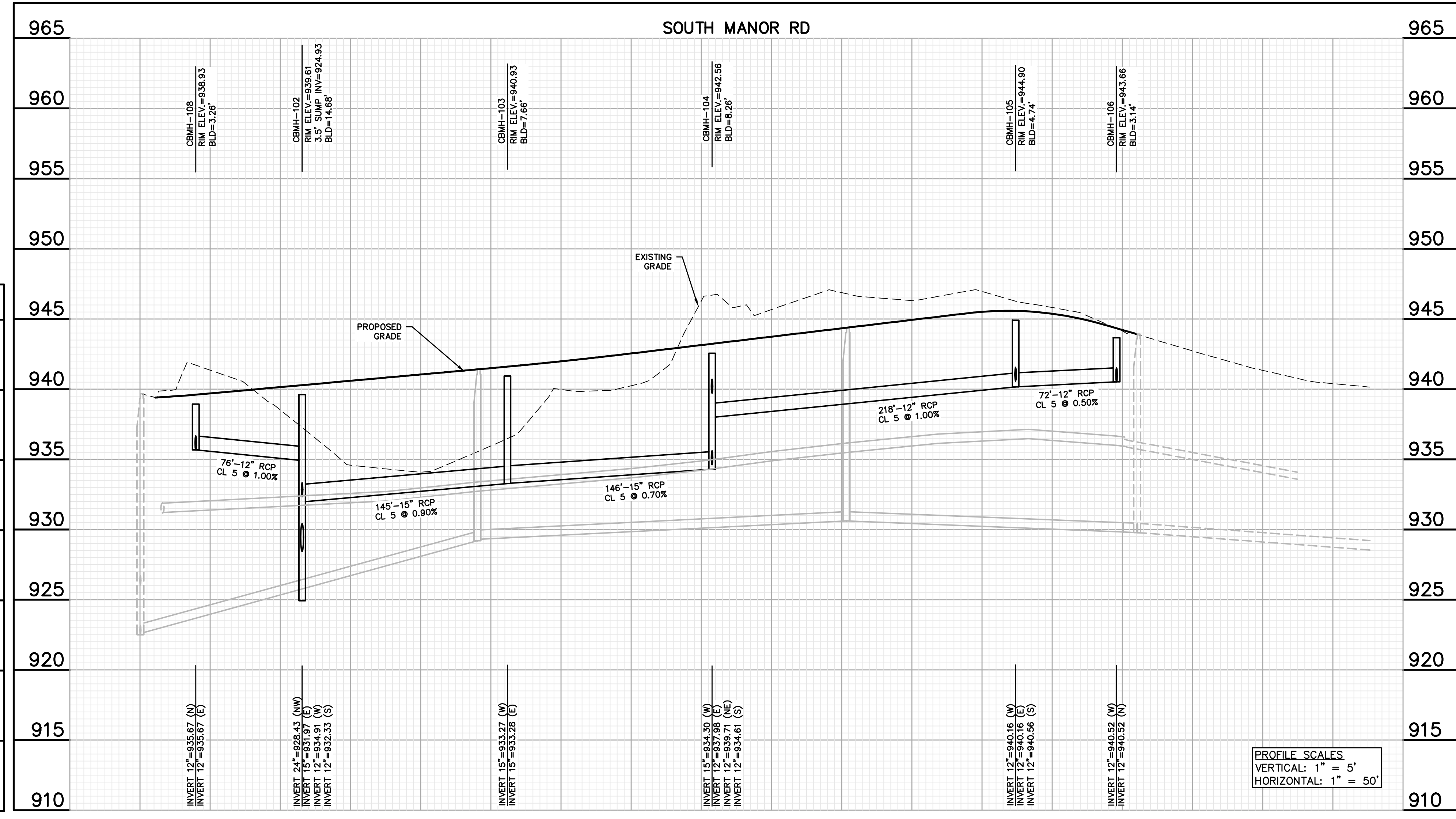
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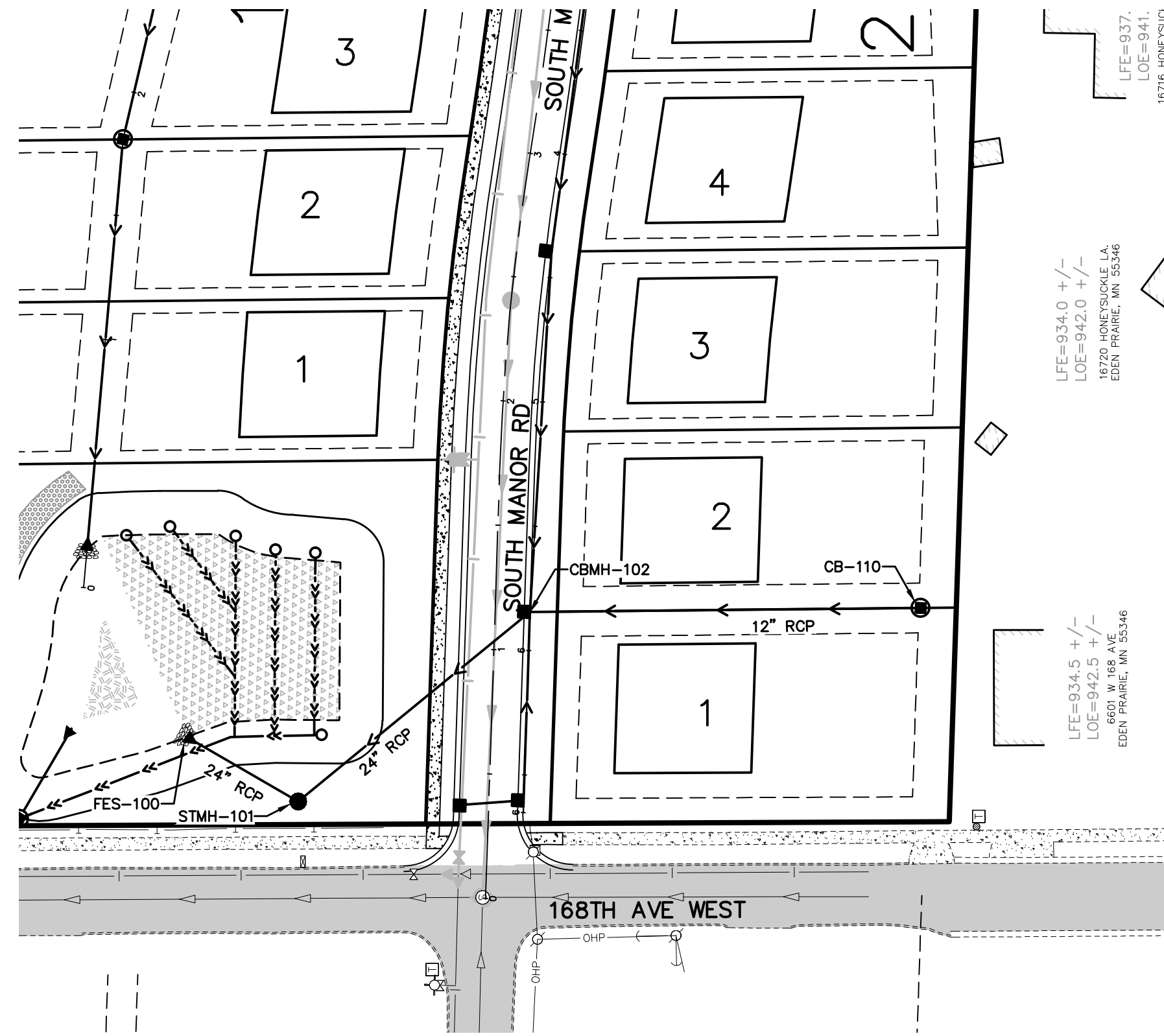
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**ENCLAVE AT MANOR ROAD**  
EDEN PRAIRIE, MINNESOTA  
**STORM SEWER CONSTRUCTION**  
FOR  
**BRANDL ANDERSON**  
221 RIVER RIDGE CIRCLE SOUTH - SUITE 100, BURNSVILLE, MN 55337

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**DATE**  
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2024-04-03 CITY COMMENTS  
2024-04-19 WATERSHED COMMENTS  
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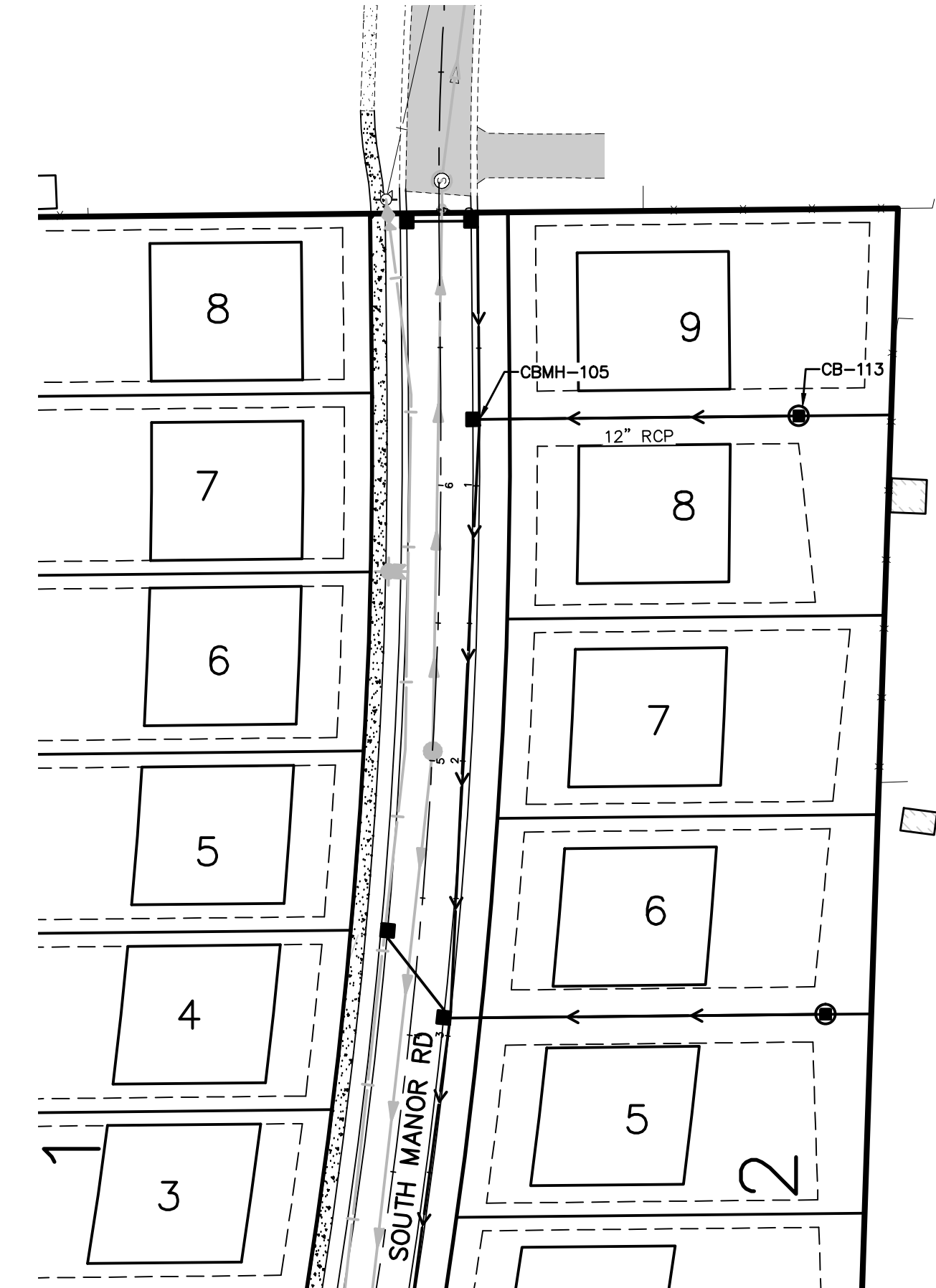
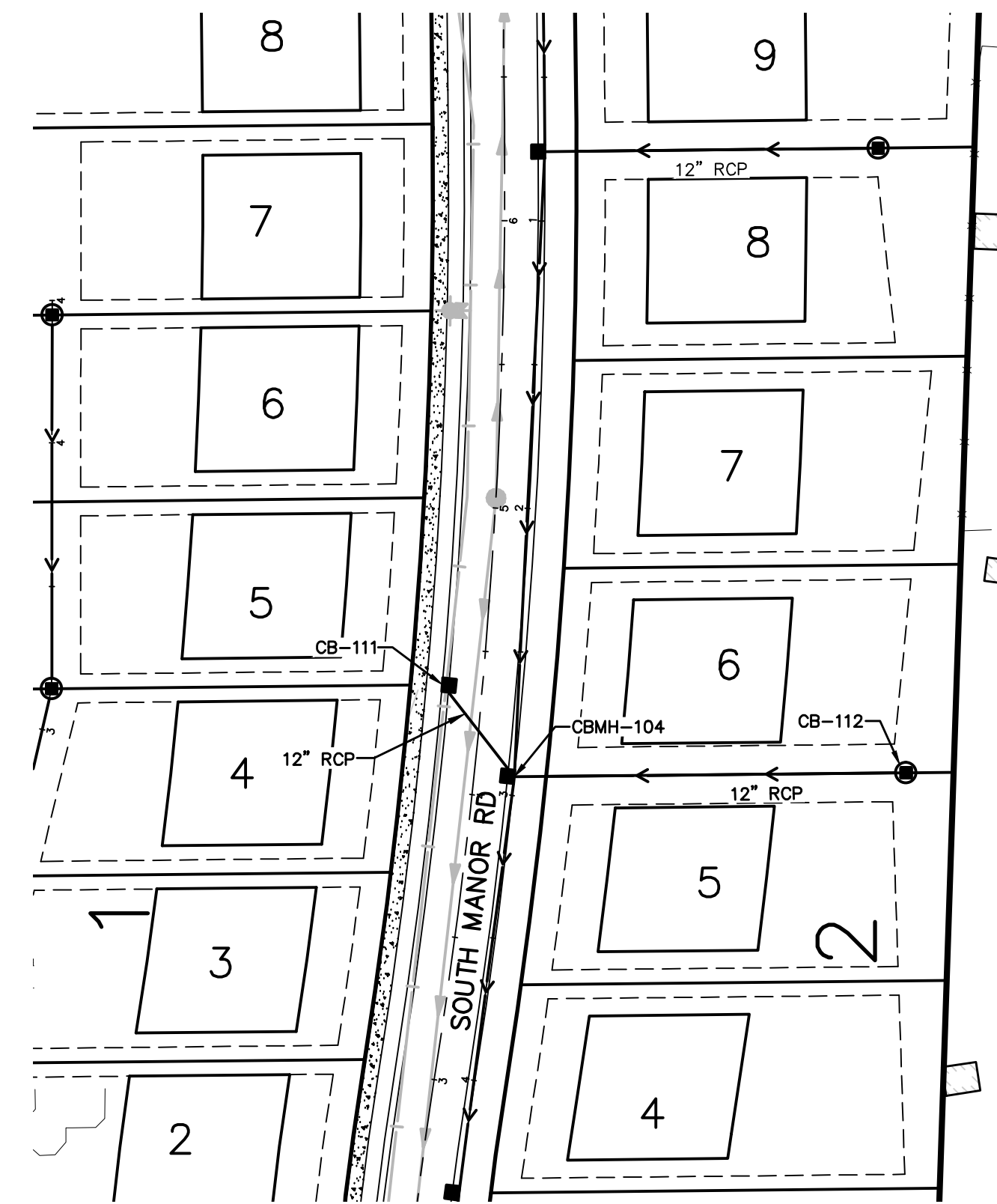
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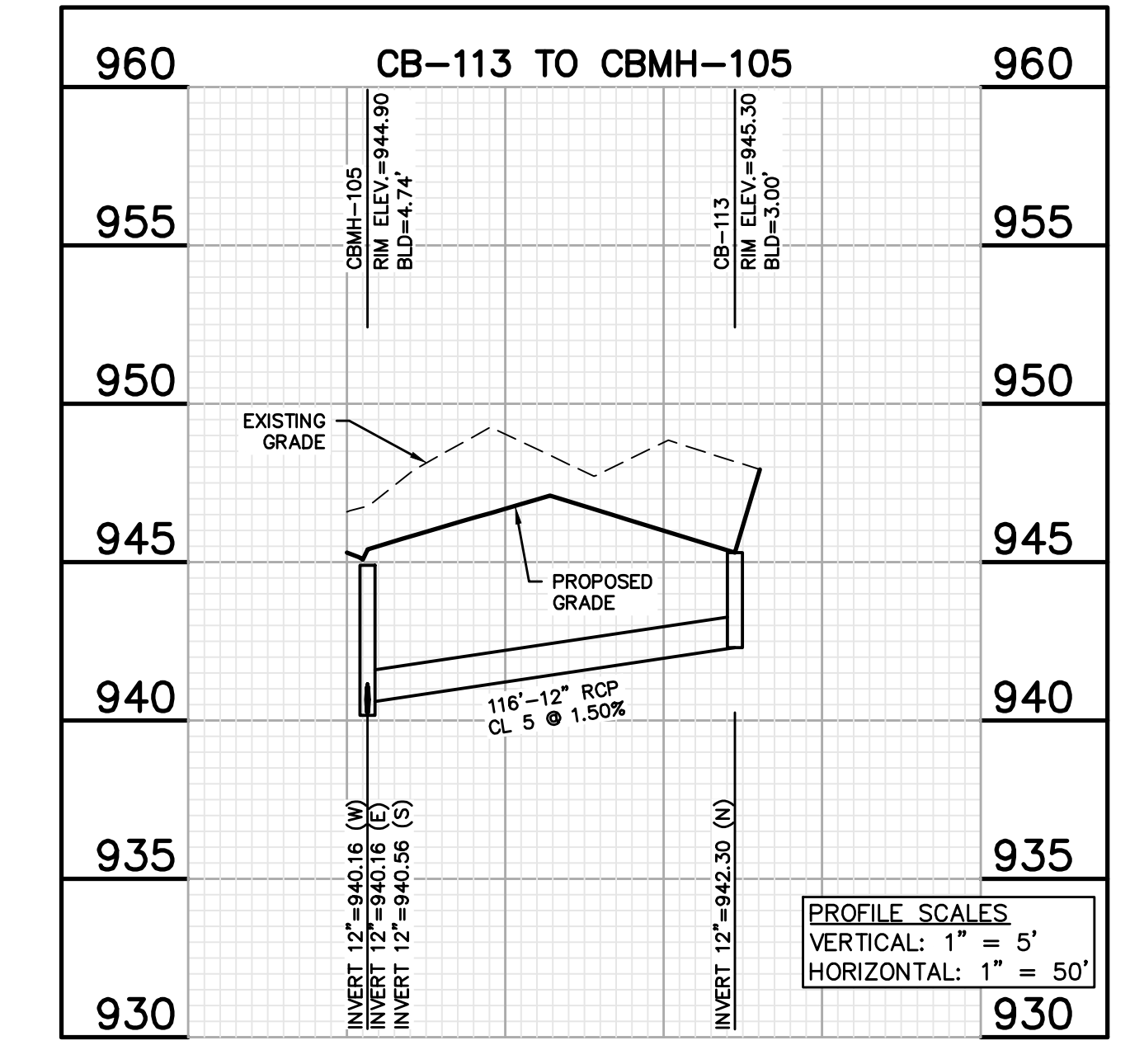
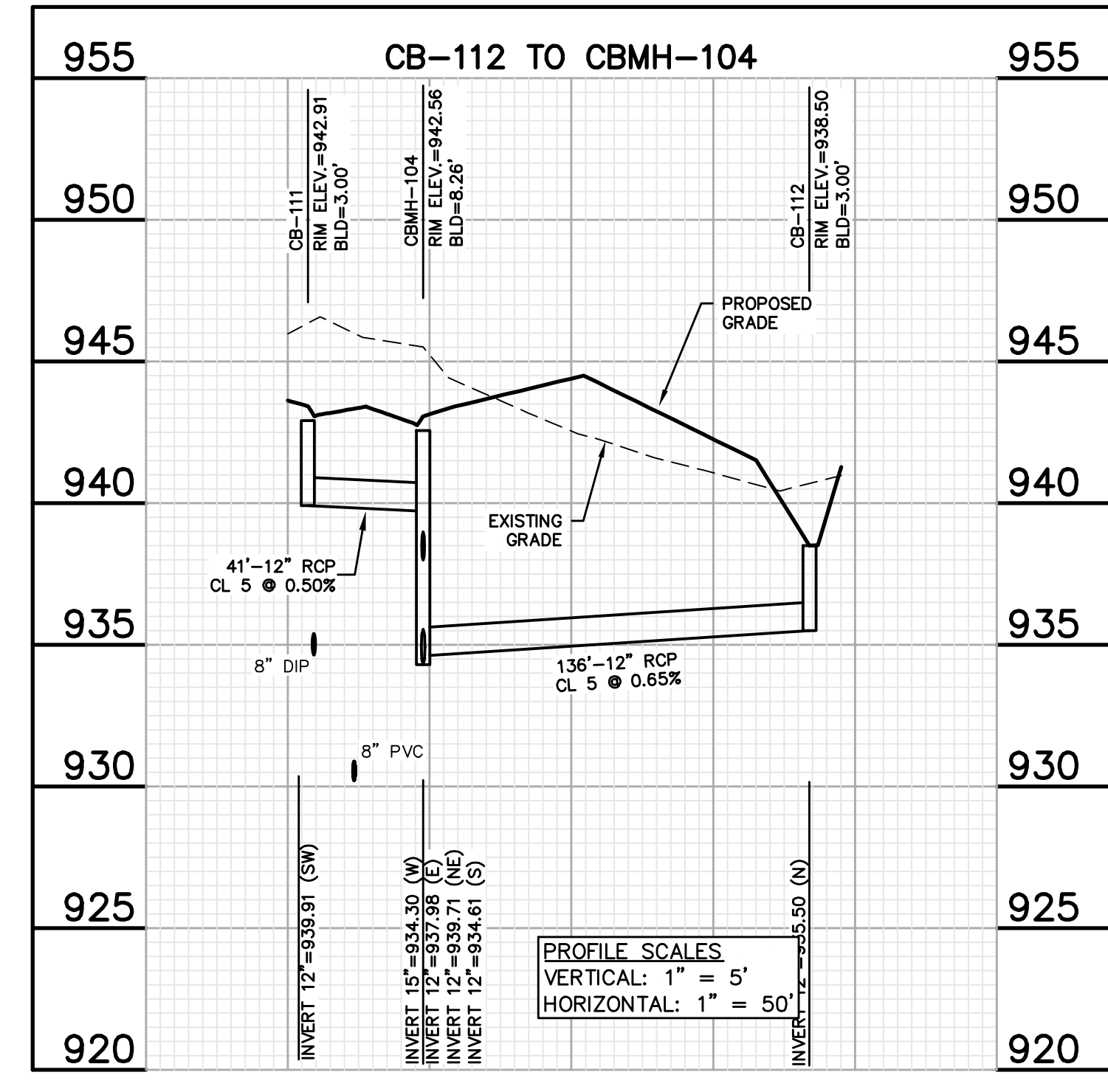
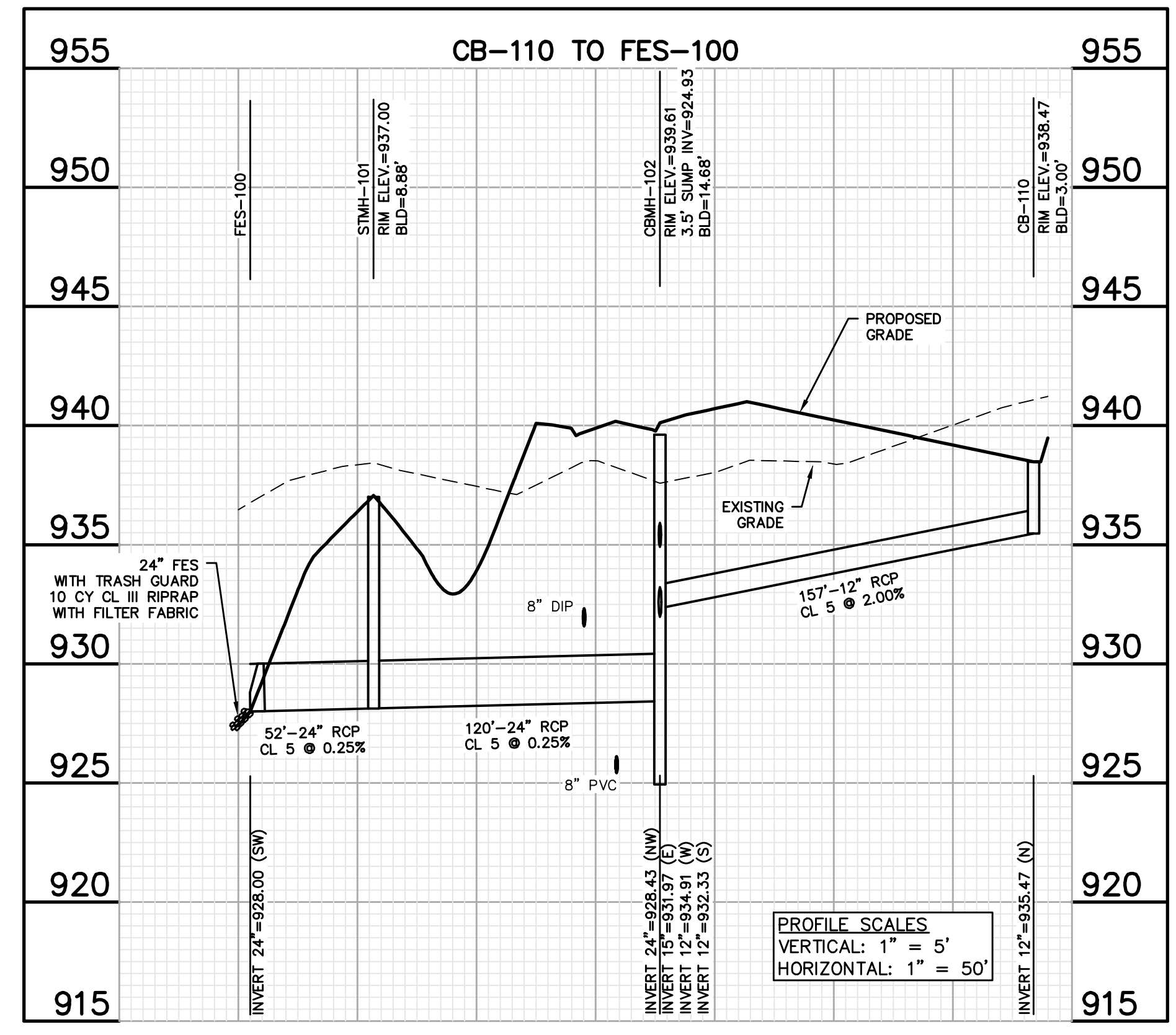
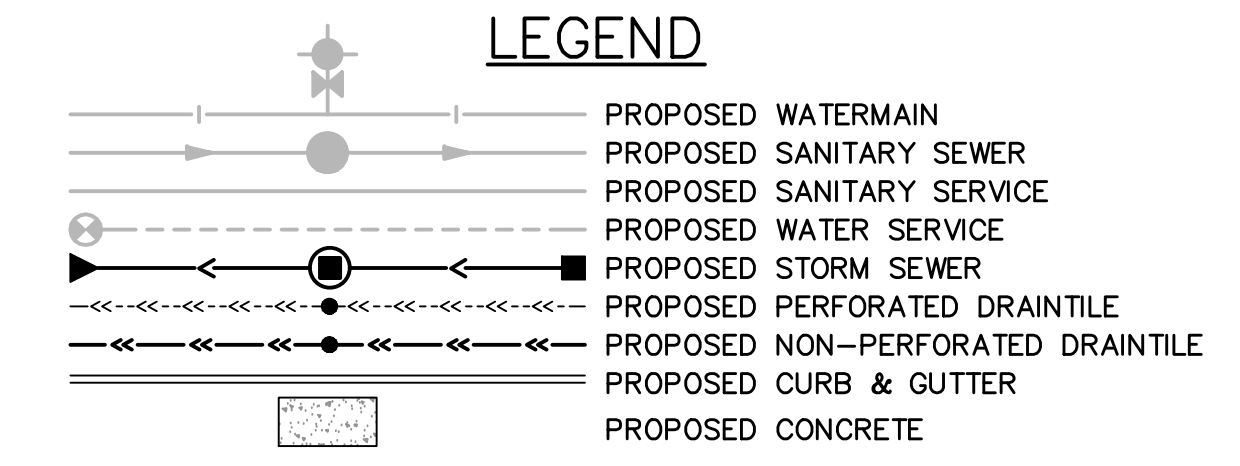
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LOE=942.0 +/-  
18720 HONESUCKLE LA.  
EDEN PRAIRIE, MN 55346

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EDEN PRAIRIE, MN 55346

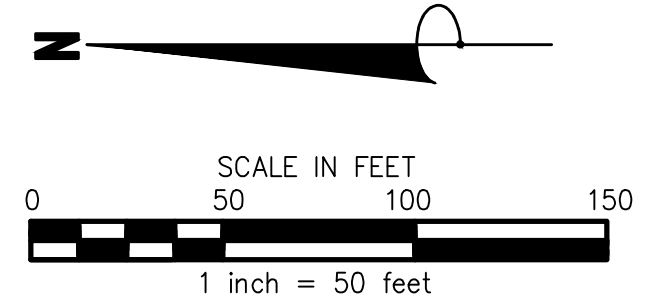
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18716 HONESUCKLE LA.  
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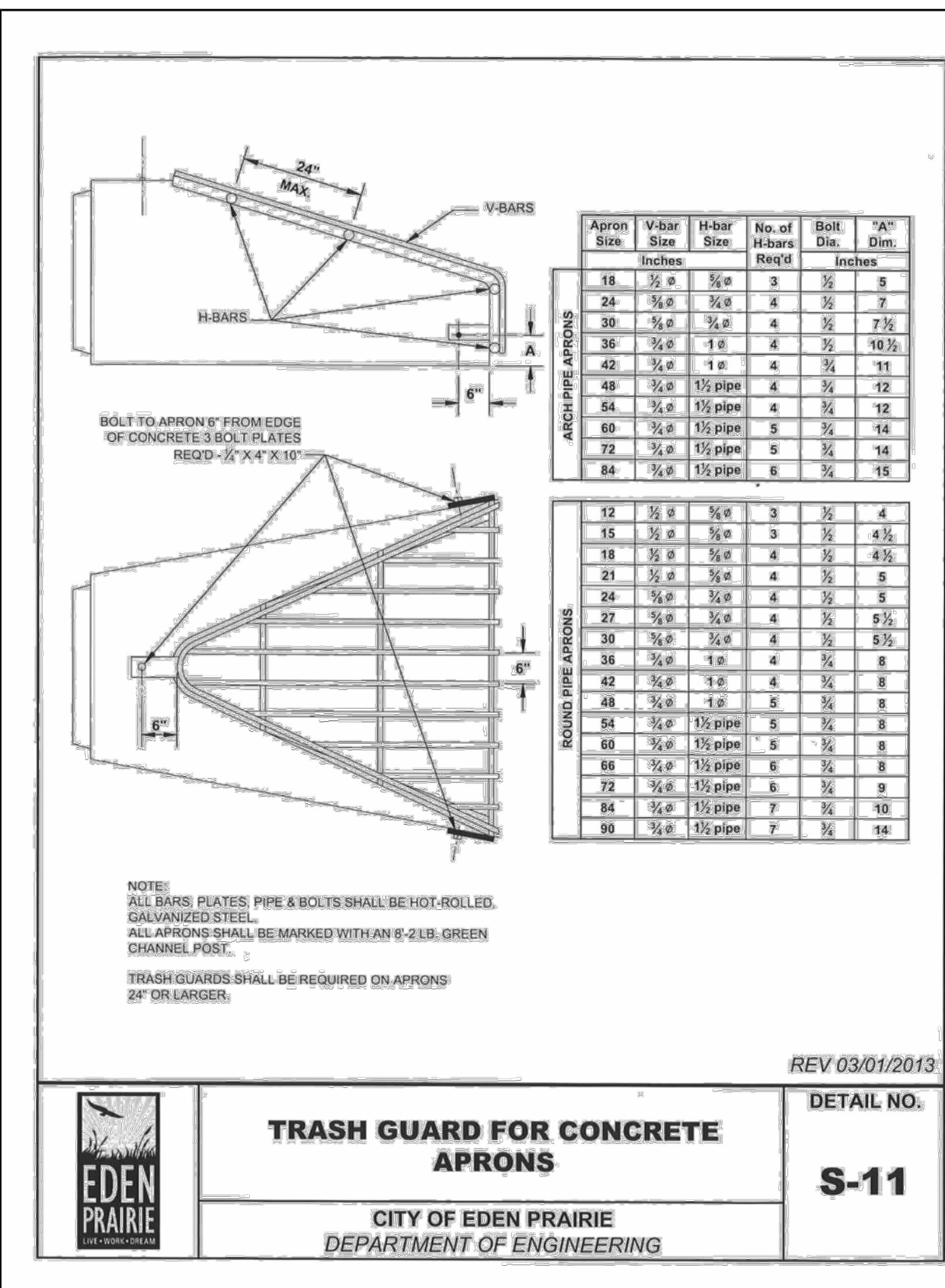
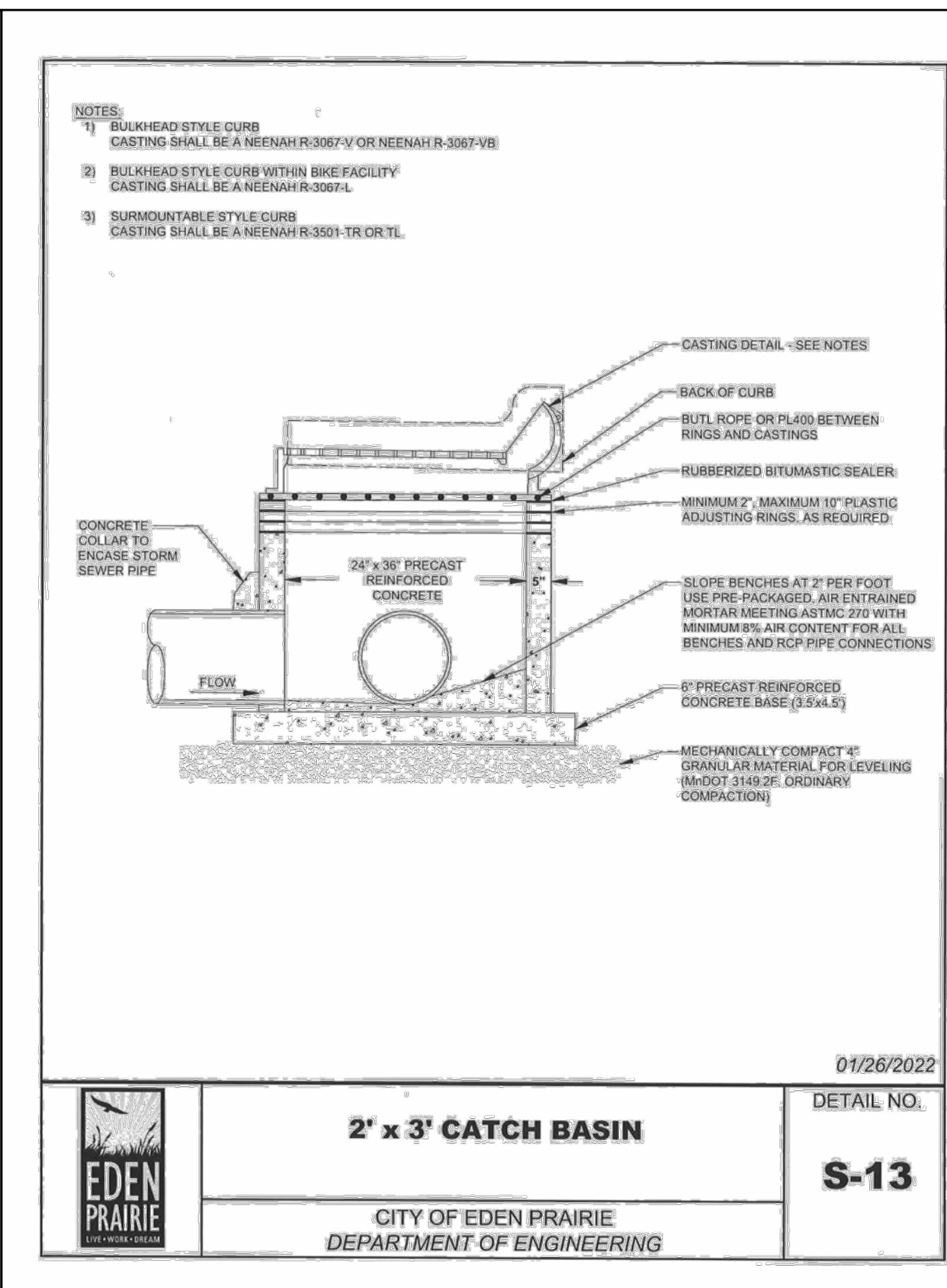
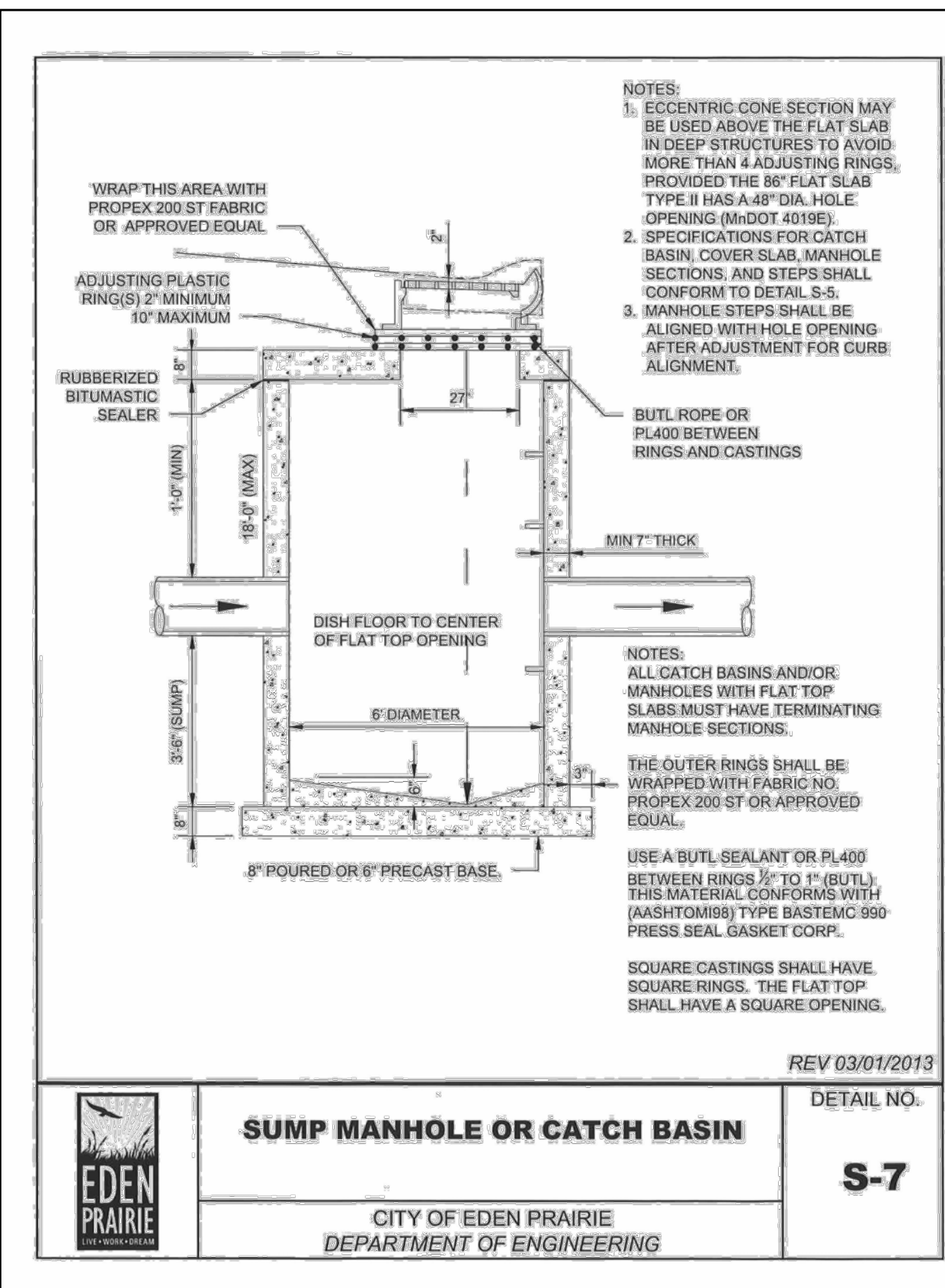
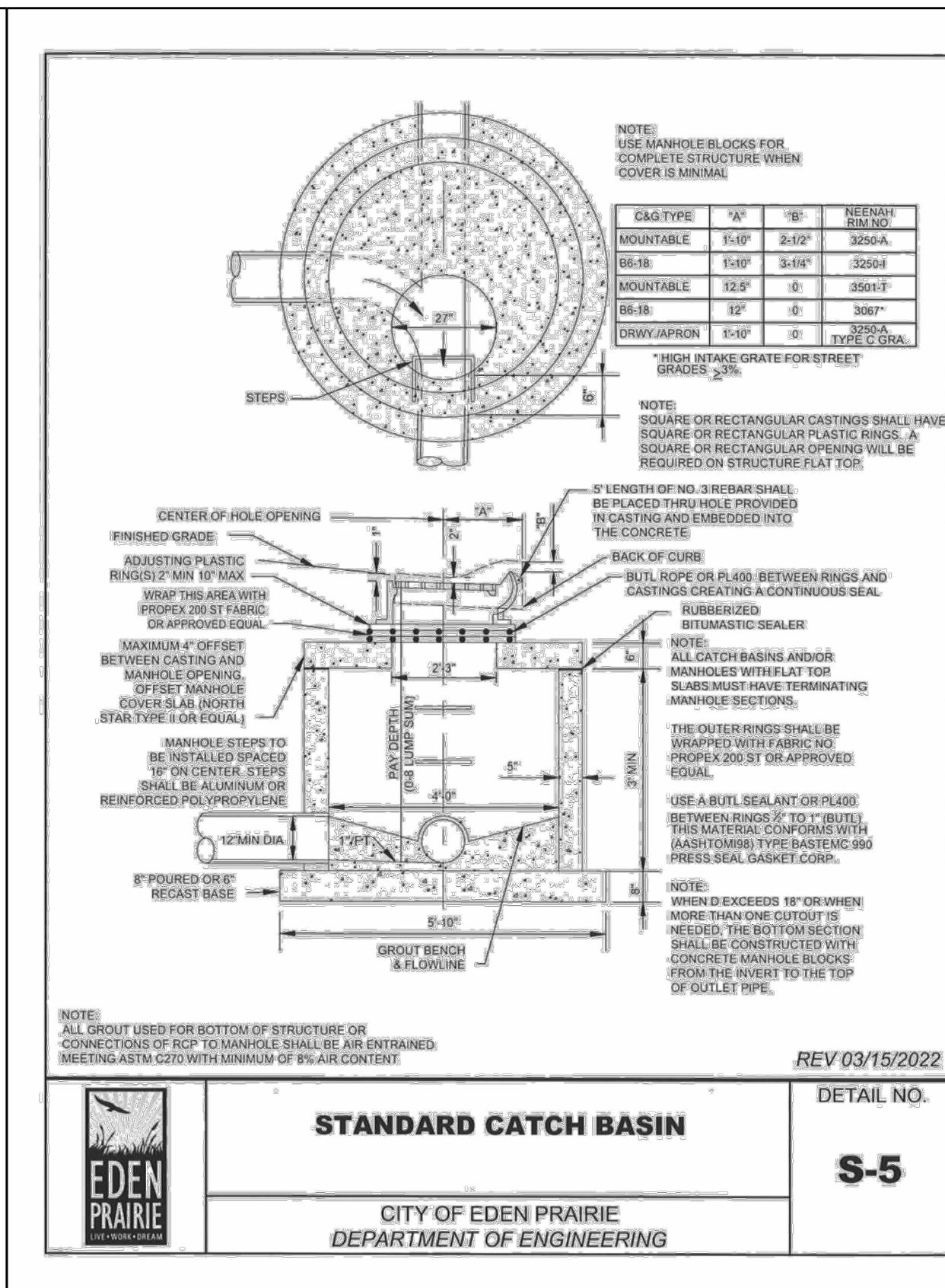
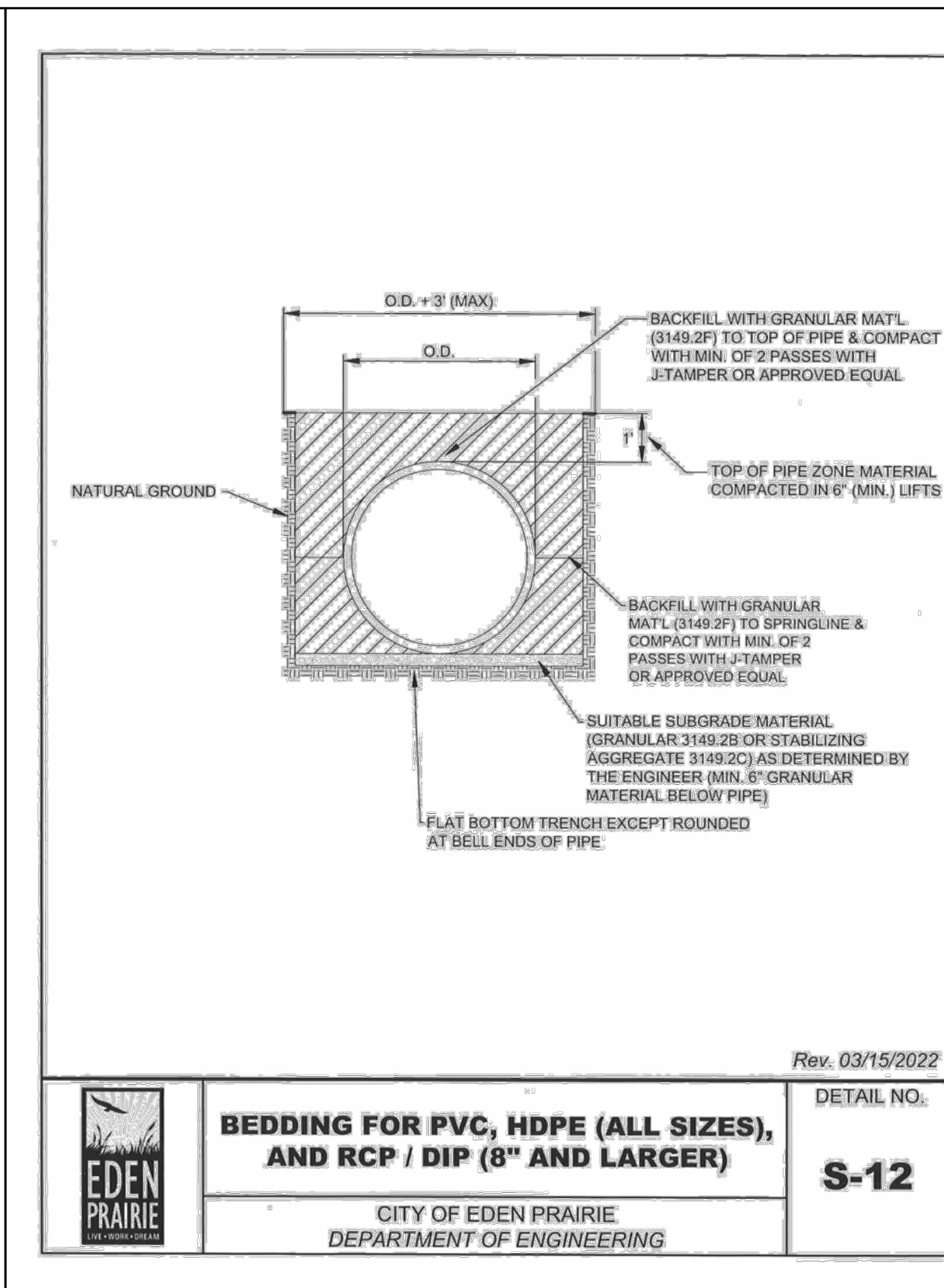
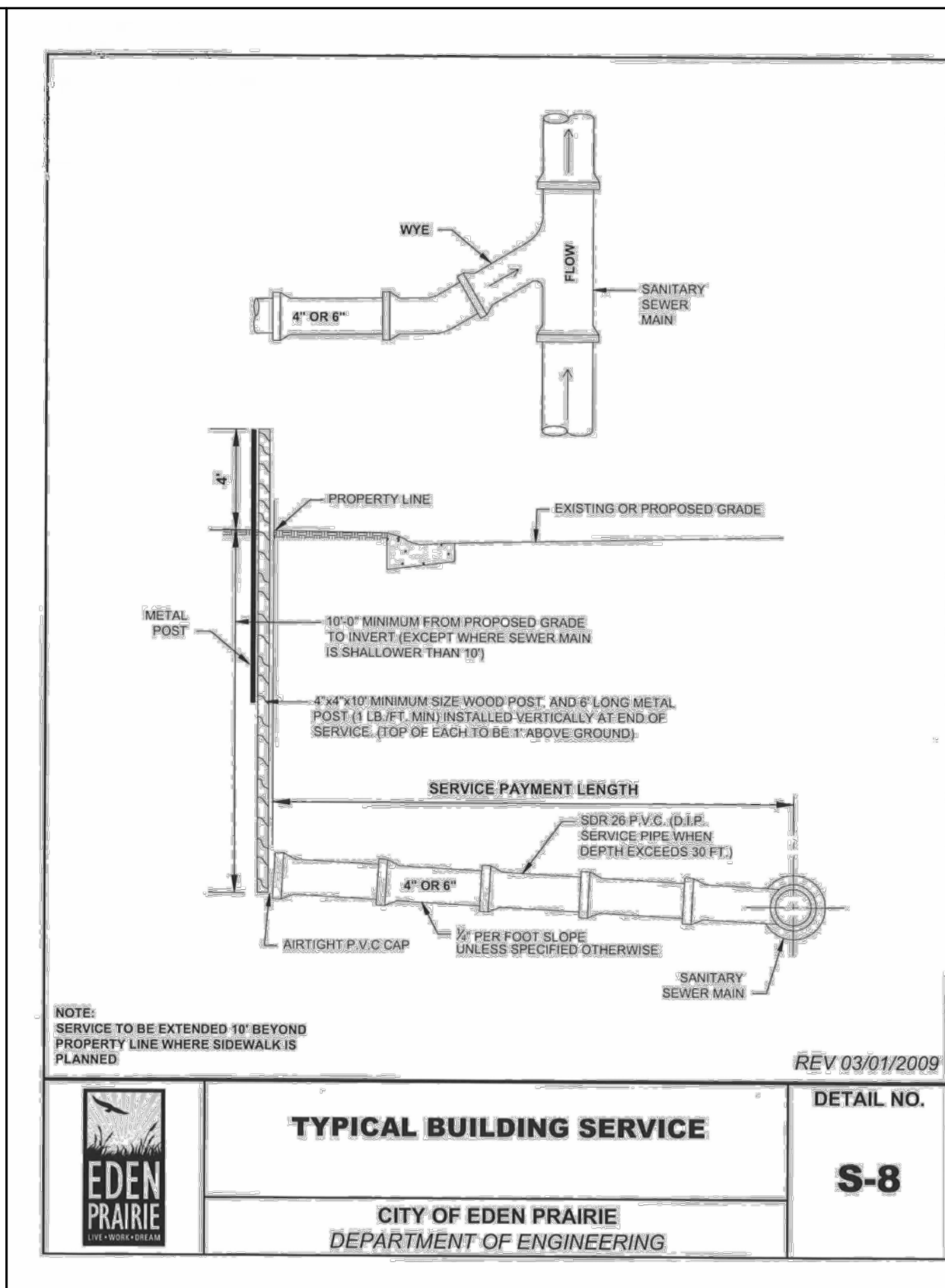
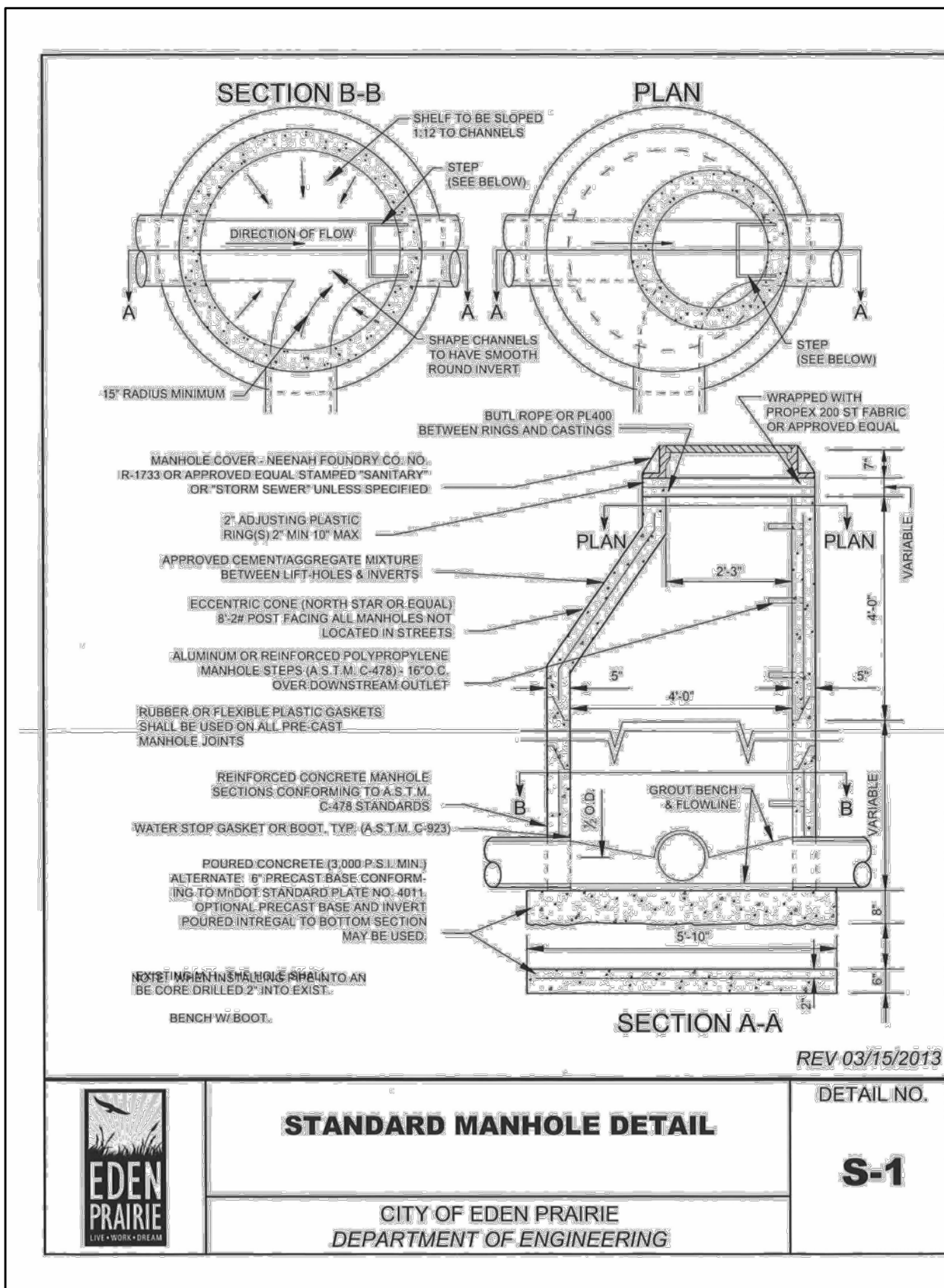
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EDEN PRAIRIE, MINNESOTA  
**STORM SEWER CONSTRUCTION**  
FOR  
**BRANDL ANDERSON**  
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PROJECT NO. 24123
C5.3









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 DETAILS FOR  
**BRANDL ANDERSON**  
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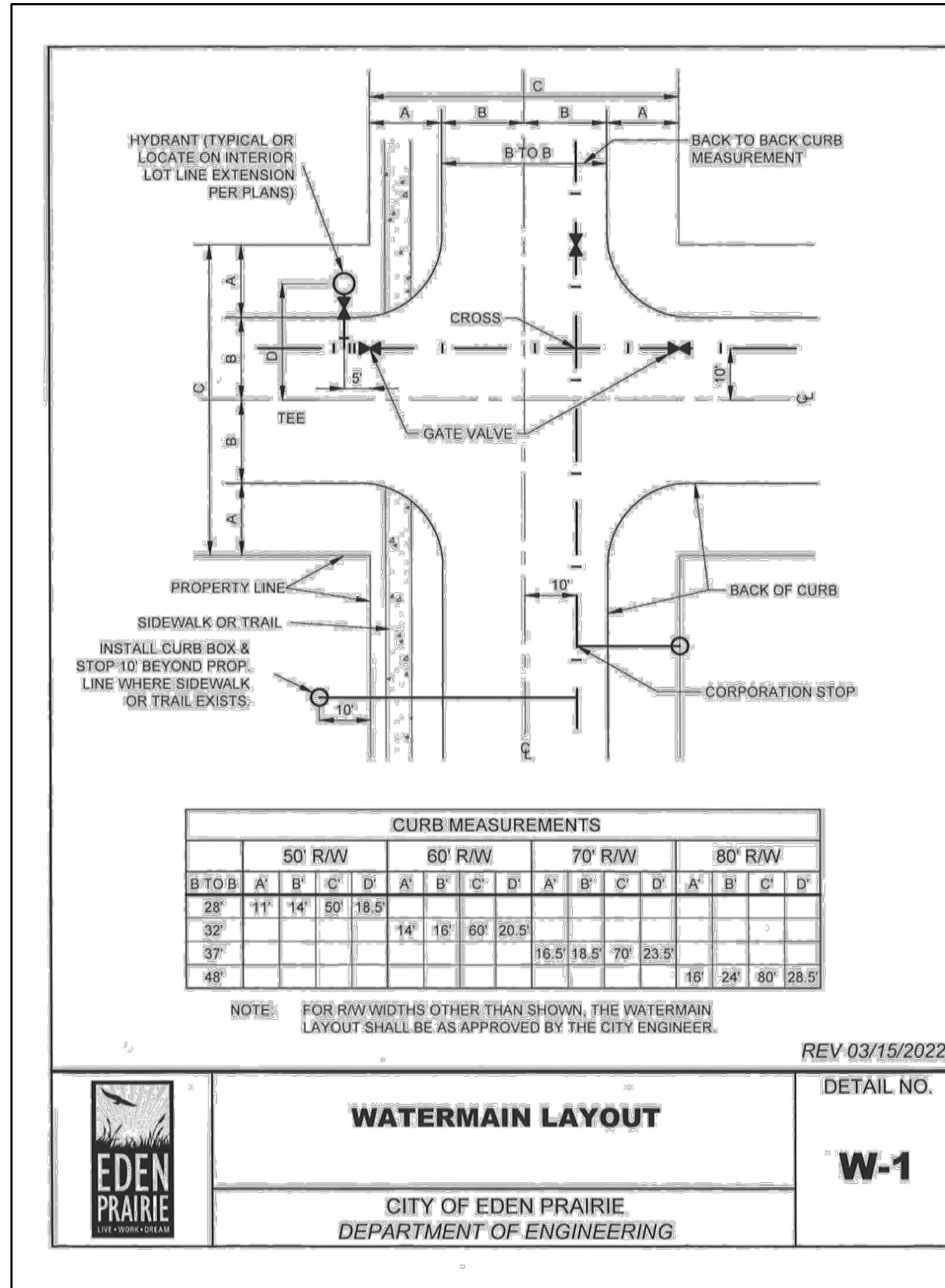
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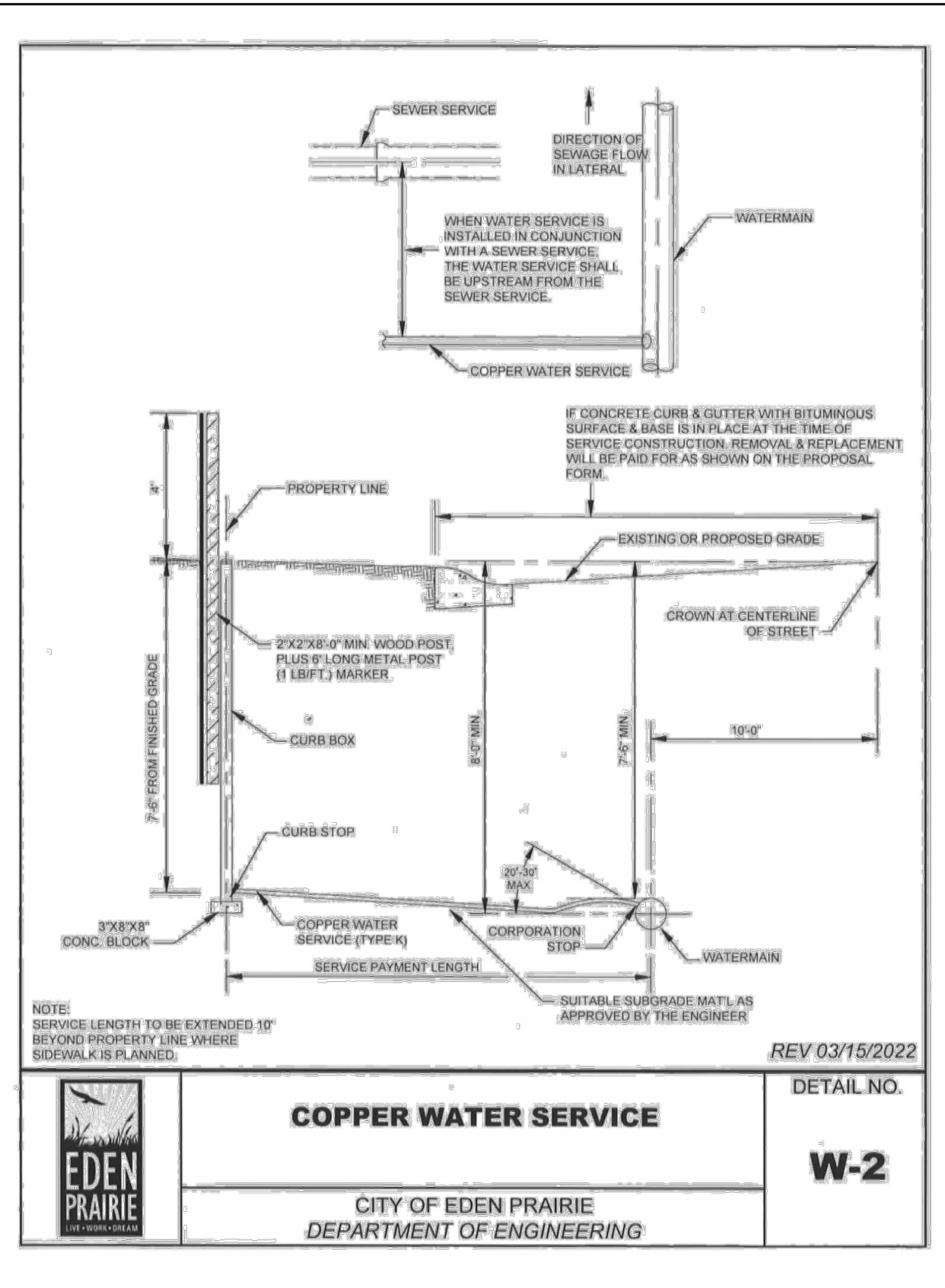


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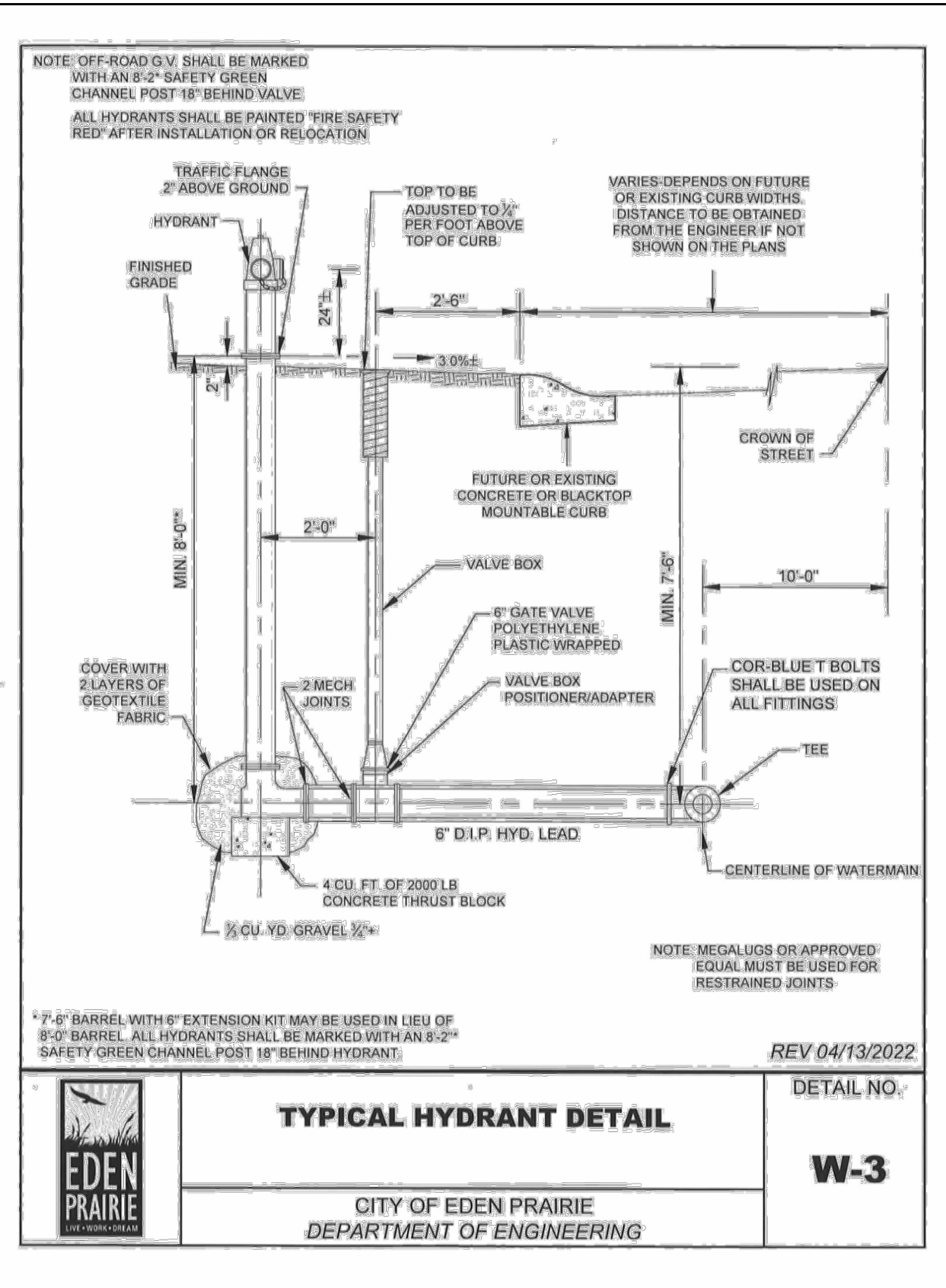
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CITY OF EDEN PRAIRIE  
DEPARTMENT OF ENGINEERING

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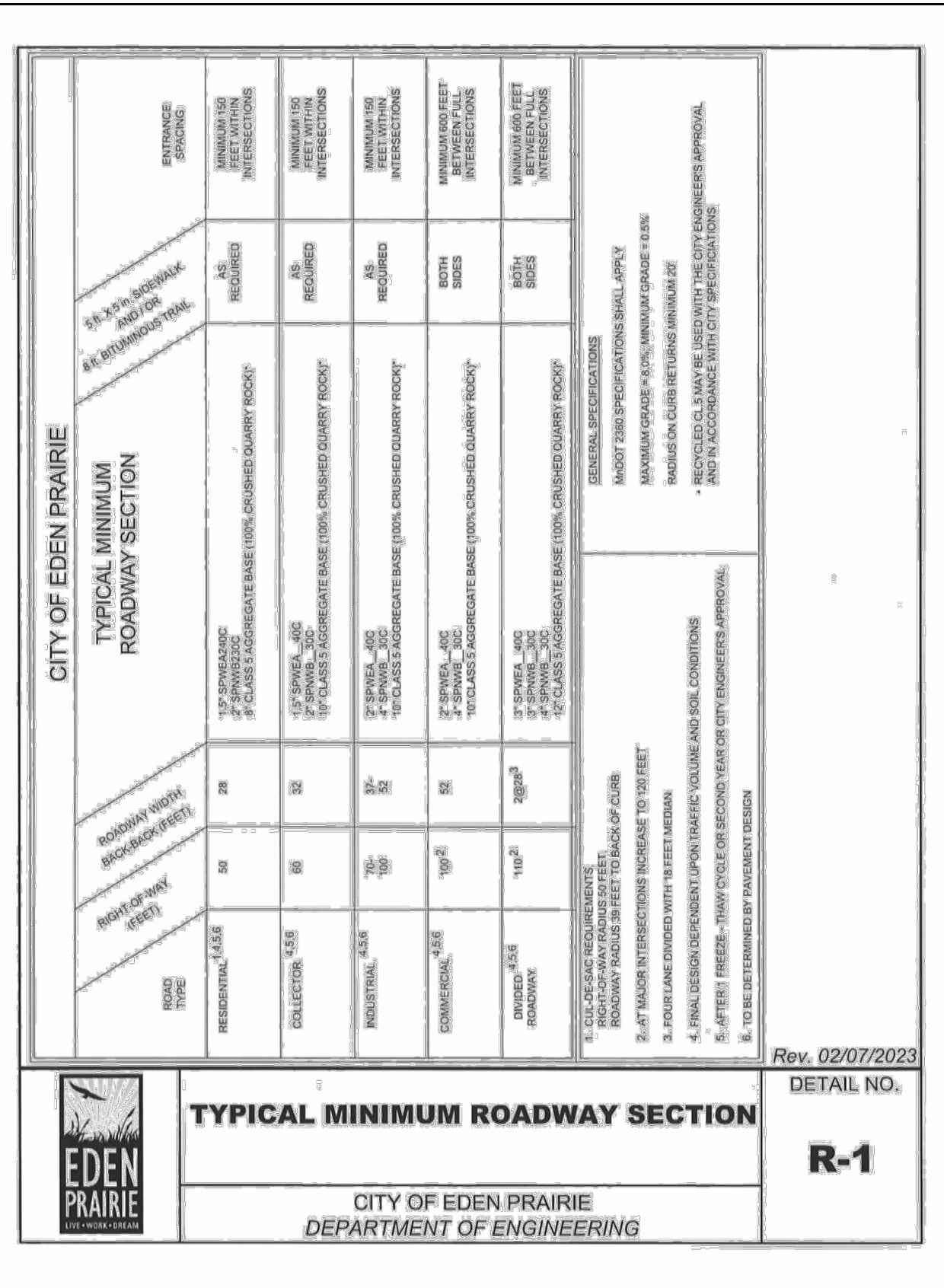
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DEPARTMENT OF ENGINEERING

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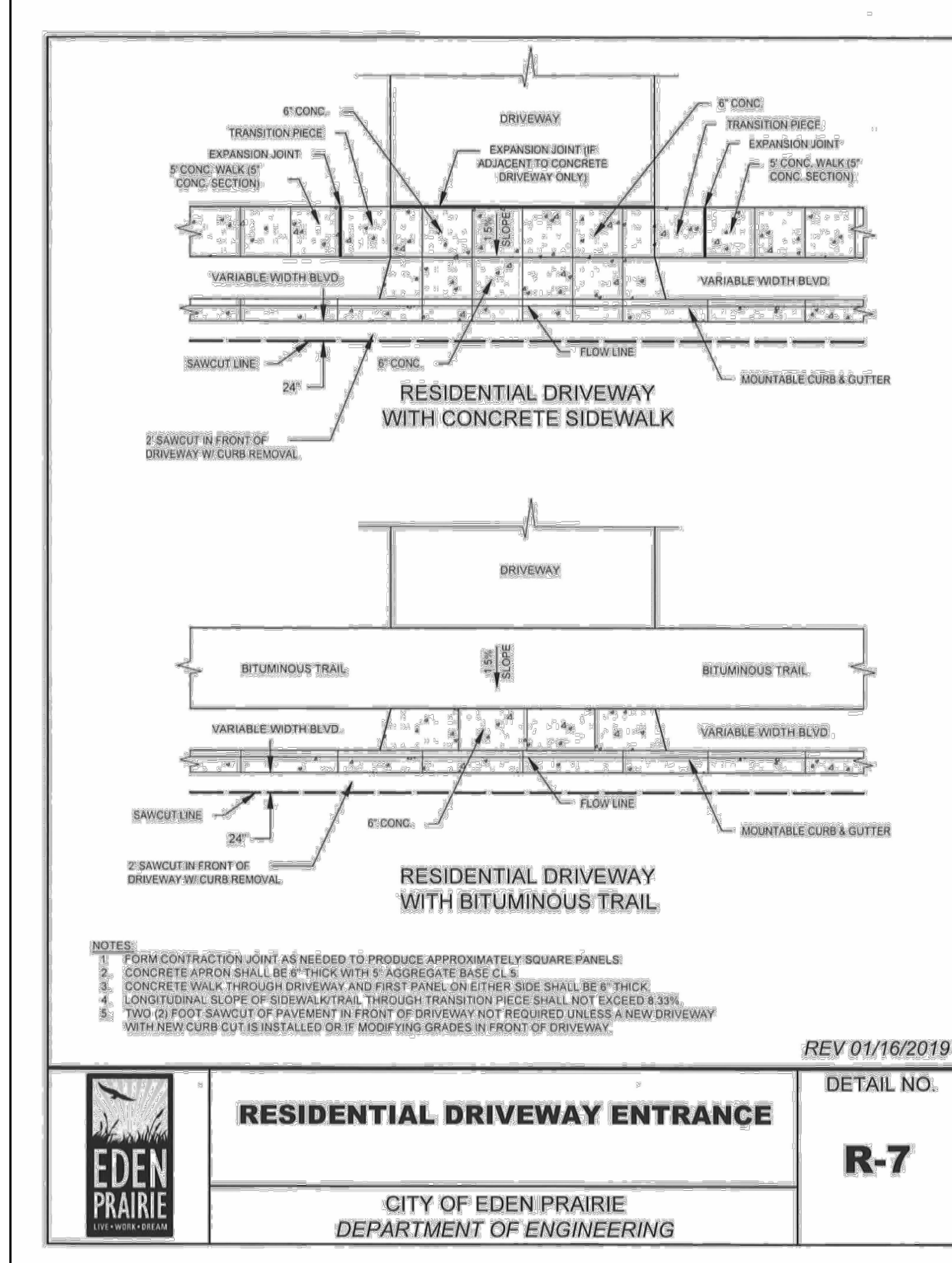
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CITY OF EDEN PRAIRIE  
DEPARTMENT OF ENGINEERING

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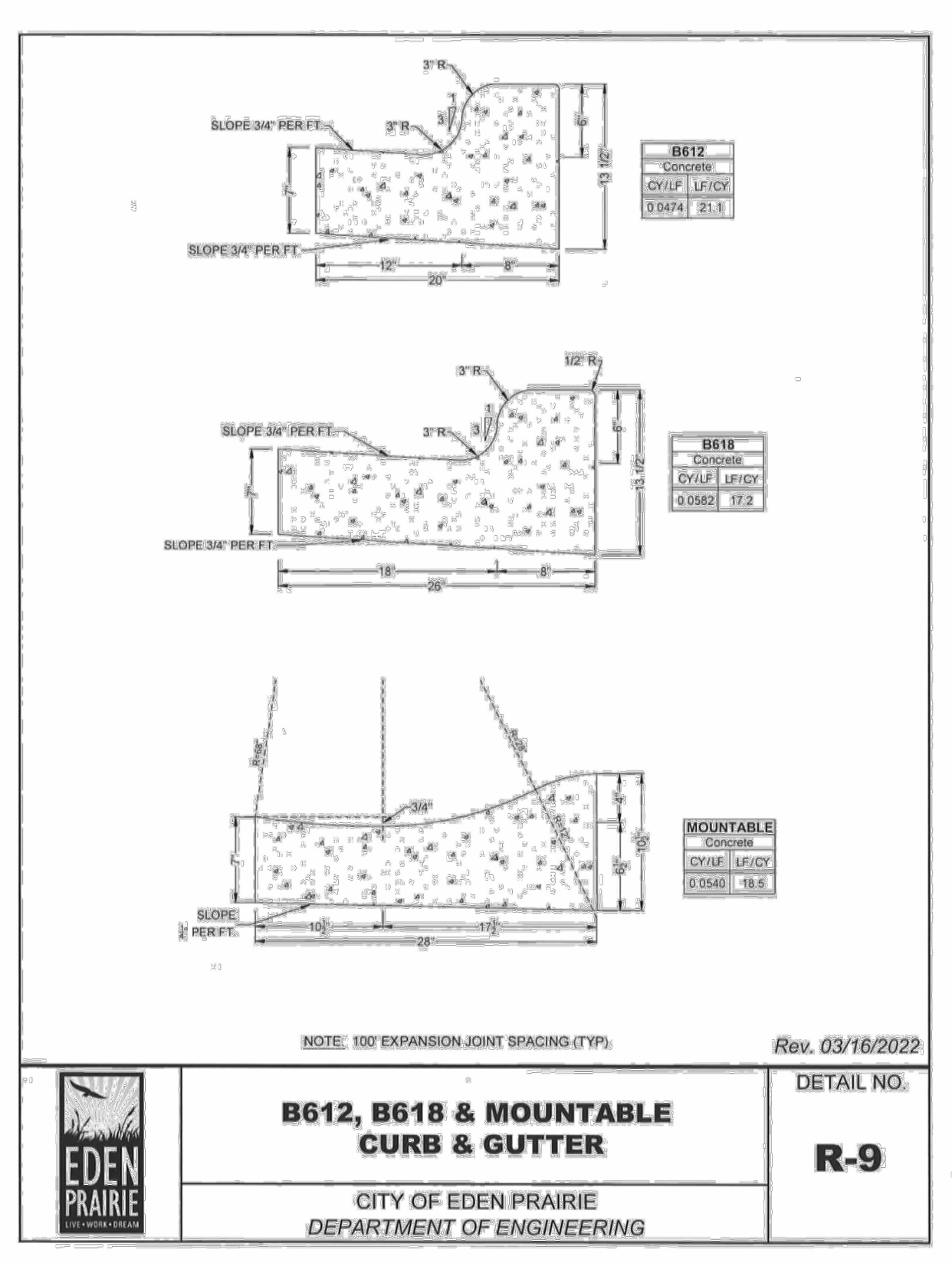
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CITY OF EDEN PRAIRIE  
DEPARTMENT OF ENGINEERING

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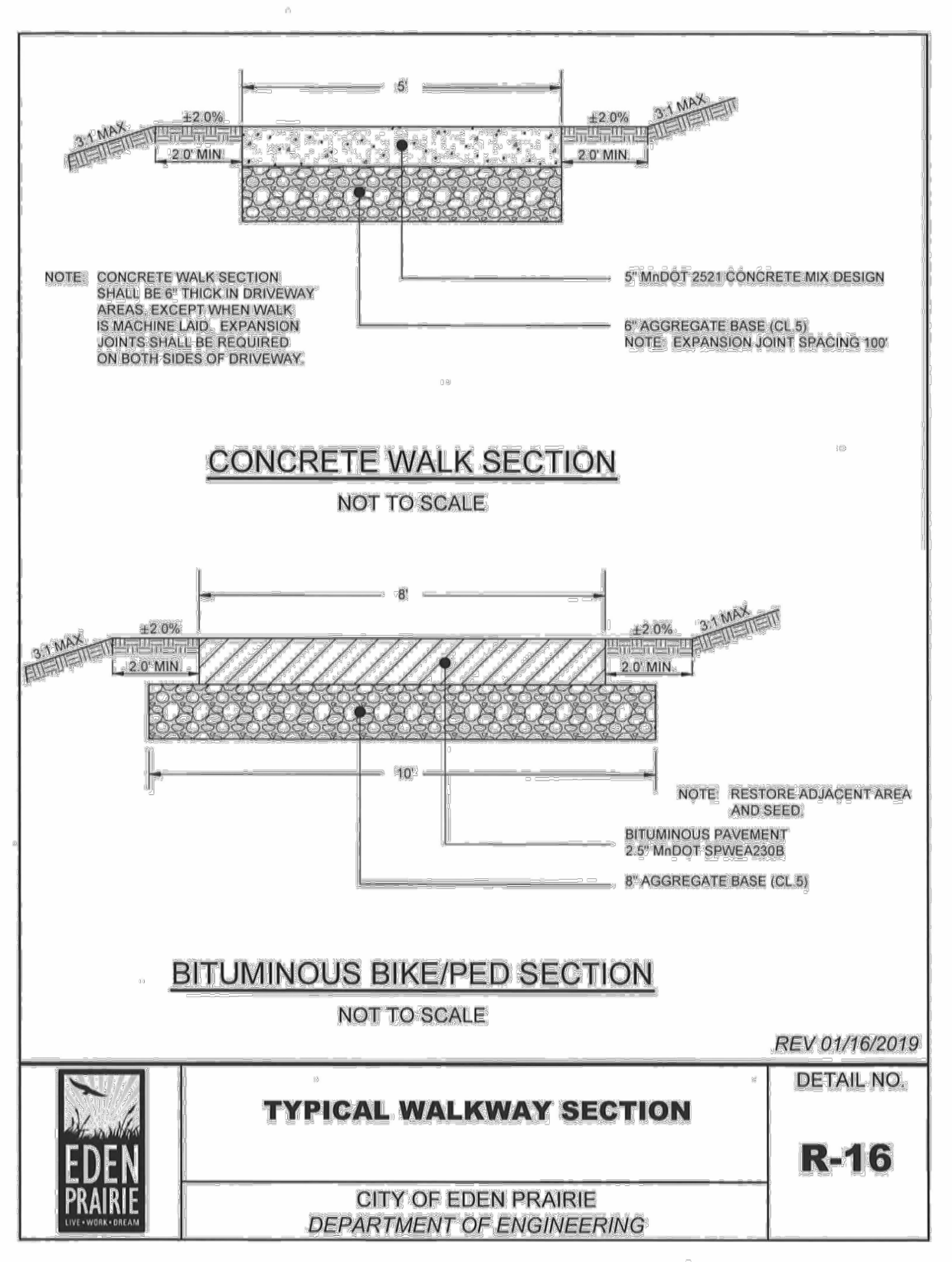
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DEPARTMENT OF ENGINEERING

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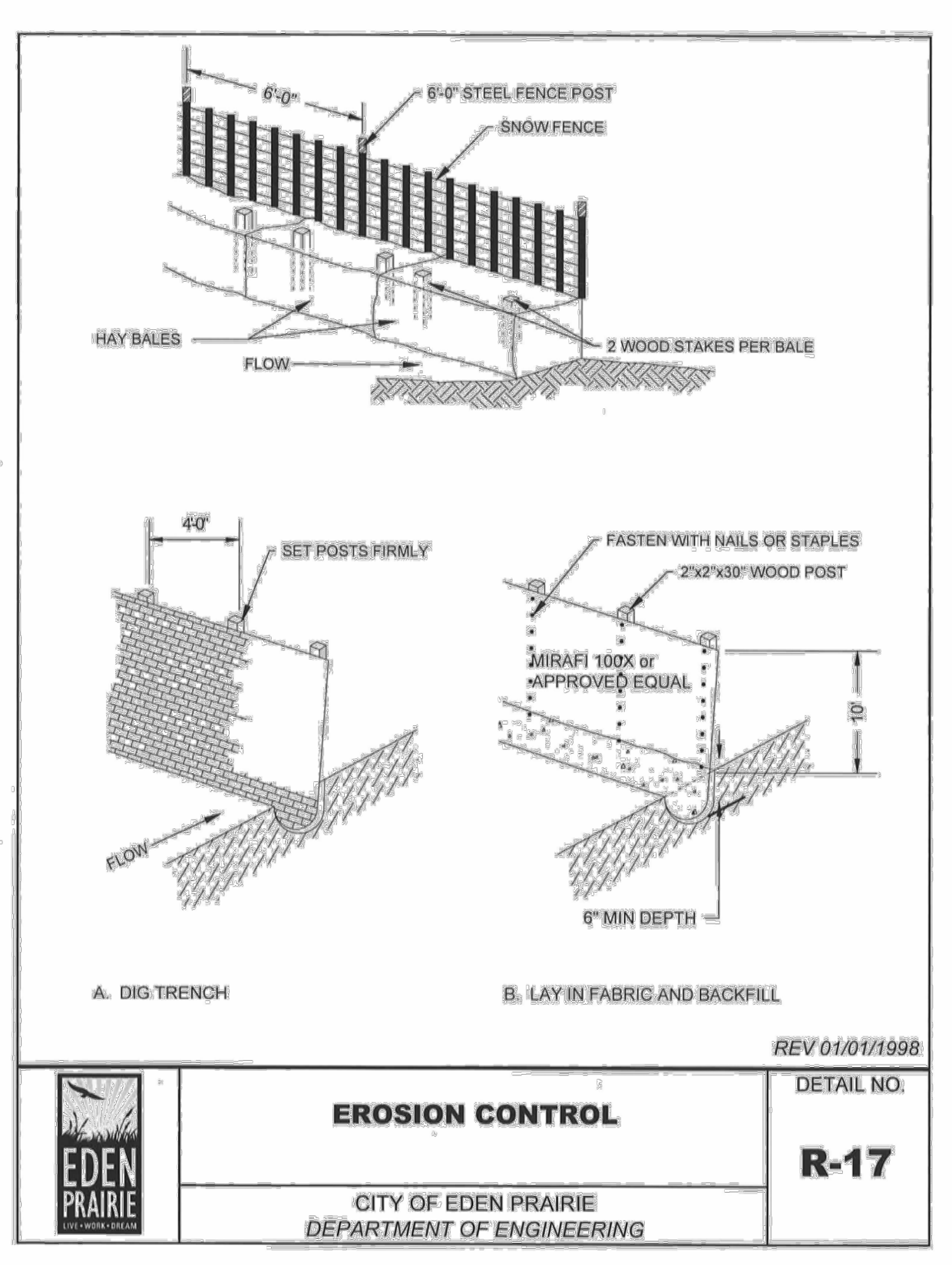
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CITY OF EDEN PRAIRIE  
DEPARTMENT OF ENGINEERING

DETAIL NO. **R-9**



**TYPICAL WALKWAY SECTION**  
CITY OF EDEN PRAIRIE  
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DETAIL NO. **R-16**



**EROSION CONTROL**  
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DETAIL NO. **R-17**

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**ENCLAVE AT MANOR ROAD**  
EDEN PRAIRIE, MINNESOTA  
FOR DETAILS  
**BRANDL ANDERSON**  
221 RIVER RIDGE CIRCLE SOUTH - SUITE 100, BURNSVILLE, MN 55337

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CAD FILE 24123D  
PROJECT NO. 24123  
C6.1

**ENCLAVE AT MANOR ROAD**  
**EDEN PRAIRIE, MN**

for  
**BRANDL ANDERSON**

**VARIANCE NARRATIVE**

April 19, 2024

Prepared by:  
John Bender, P.E.  
License No. 43358



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**Burnsville, MN 55306**  
**Ph: 952-890-6044**  
**ENCLAVE AT MANOR ROAD**  
**EDEN PRAIRIE, MN**

## INTRODUCTION

Brandl Anderson proposes to final plat and develop Enclave at Manor Road in Eden Prairie, Minnesota, which will include 17 single family lots with associated streets and utilities. One stormwater basin is proposed for stormwater management that will discharge to the City's storm sewer infrastructure. This is a change from the existing drainage routing, which sheet flows onto the adjacent properties to the north. Riley Purgatory Bluff Creek Watershed District (RPBCWD) defines this drainage change as a variance. This narrative describes the variance, why it's necessary and its benefits consistent with RPWBCWD Rule K.

## METHODOLOGY

This narrative is supplemental to the Enclave at Manor Road Stormwater Management Plan and Summary (SWMP). Much of the data cited in this narrative are derived from that report. However, additional data of regional stormwater effects of the proposed development were also needed. Therefore, RPBCWD's PCSWMM model was modified to represent the existing and proposed conditions in the vicinity of the development. The relevant data from the modeling are presented in this narrative and the modeling files will be submitted with this narrative.

## VARIANCE REQUEST

The deviation from the RPBCWD requirements requested for the Enclave at Manor Road development is to revise the routing of stormwater runoff from the site. As shown in the SWMP, the majority of the existing runoff from the site sheet flows onto the neighboring properties to the north, drains across their properties into North Manor Road where it is captured by City storm sewer. To mimic this runoff in the proposed condition would be problematic. It would require a stormwater BMP with a long weir-type overflow running nearly the full width of the site that discharges onto the adjacent properties to the north. Building such a BMP would significantly increase the land disturbance of the site and would eliminate nearly all the existing trees and vegetation.

Instead, we propose a more typical stormwater filtration basin with an outlet control structure that will discharge directly to City storm sewer. This storm sewer routes north to North Manor Road storm sewer and ultimately to the same destination as the existing condition while bypassing the adjacent properties to the north.

Modeling the proposed condition revealed that a portion of the City's existing storm sewer infrastructure is undersized for receiving the discharge from the proposed stormwater basin. Specifically, the 18" storm sewer pipe that runs parallel to 168<sup>th</sup> Avenue on the east side. This pipe will be upgraded with a 21" pipe as part of the development construction. The upgraded pipe condition is represented in the proposed condition model.

## RULE K

RPBCWD's Rule K defines the variance process. The factors listed in Rule K are presented in this section:

**1.1 How substantial the variation is from the rule provision** - The variance request is limited to routing stormwater runoff away from the adjacent properties to the north. Ultimately, the runoff routes to the same City storm sewer in North Manor Road. As demonstrated in the SWMP, the other RPBCWD



requirements are met, including water quality treatment, volume abstraction and rate control. See **Figures 1 & 2** for the existing and proposed drainage routing.

**1.2 The effect of the variance on government services** - The proposed condition will lower the 100-year high water level (HWL) of the low area northwest of Honeysuckle Lane and 168<sup>th</sup> Avenue. This is achieved by improving the capacity of the pipe running parallel to 168<sup>th</sup> Avenue. However, the increased flow through this pipe affects HWLs downstream, which are presented in **Table 1**. Minor increases in street flooding occur, however, the depth of inundation will not impede emergency traffic. See **Table 2** for more information. **Figure 3** denotes the locations of the modeled nodes referenced in Tables 1 & 2.

**1.3 Whether the variance will substantially change the character of or cause material adverse effect to water resources, flood levels, drainage or the general welfare in the District, or be a substantial detriment to neighboring properties** – The variance will improve the conditions in the low area northwest of Honeysuckle Lane and 168<sup>th</sup> Avenue and the properties adjacent to the development to the north. Minor increases in the HWLs in the street and the basin at the corner of North Manor Road will not adversely affect public access or private properties.

**1.4 Whether the practical difficulty can be alleviated by a technically and economically feasible method other than a variance. Economic hardship alone may not serve as grounds for issuing a variance if any reasonable use of the property exists under the terms of the District rules** – To avoid a variance, a stormwater BMP that discharges with sheet flow to the adjacent properties to the north would need to be constructed. This BMP would need to run the full east-west width of the site, greatly increasing the land disturbance of the site, including in the proposed tree preservation area in the northeast portion of the site. The variance is necessary to preserve as much of the existing vegetation and trees as feasible.

**1.5 How the practical difficulty occurred, including whether the landowner, the landowner's agent or representative, or a contractor, created the need for the variance** – The conditions necessitating the variance arose over time throughout the 1970s and 1980s as the surrounding area developed and storm sewer infrastructure was installed.

**1.6 In light of all of the above factors, whether allowing the variance will serve the interests of justice** – Respectfully, we request the Board of Managers to review and approve this variance. It will help alleviate nuisance conditions in adjacent properties to the north of the site and northwest of Honeysuckle Lane and 168<sup>th</sup> Avenue, and preserve trees while not adversely affecting water quality, rate control or volume abstraction.

## **CONCLUSION**

As described in this narrative, the requested variance will allow the design flexibility needed to preserve trees and improve the stormwater conditions of adjacent properties while having minimal impact to government services or the general welfare of the neighborhood. It will alleviate a burden on the site that arose unintentionally over time as the land around the site developed over the past half century.

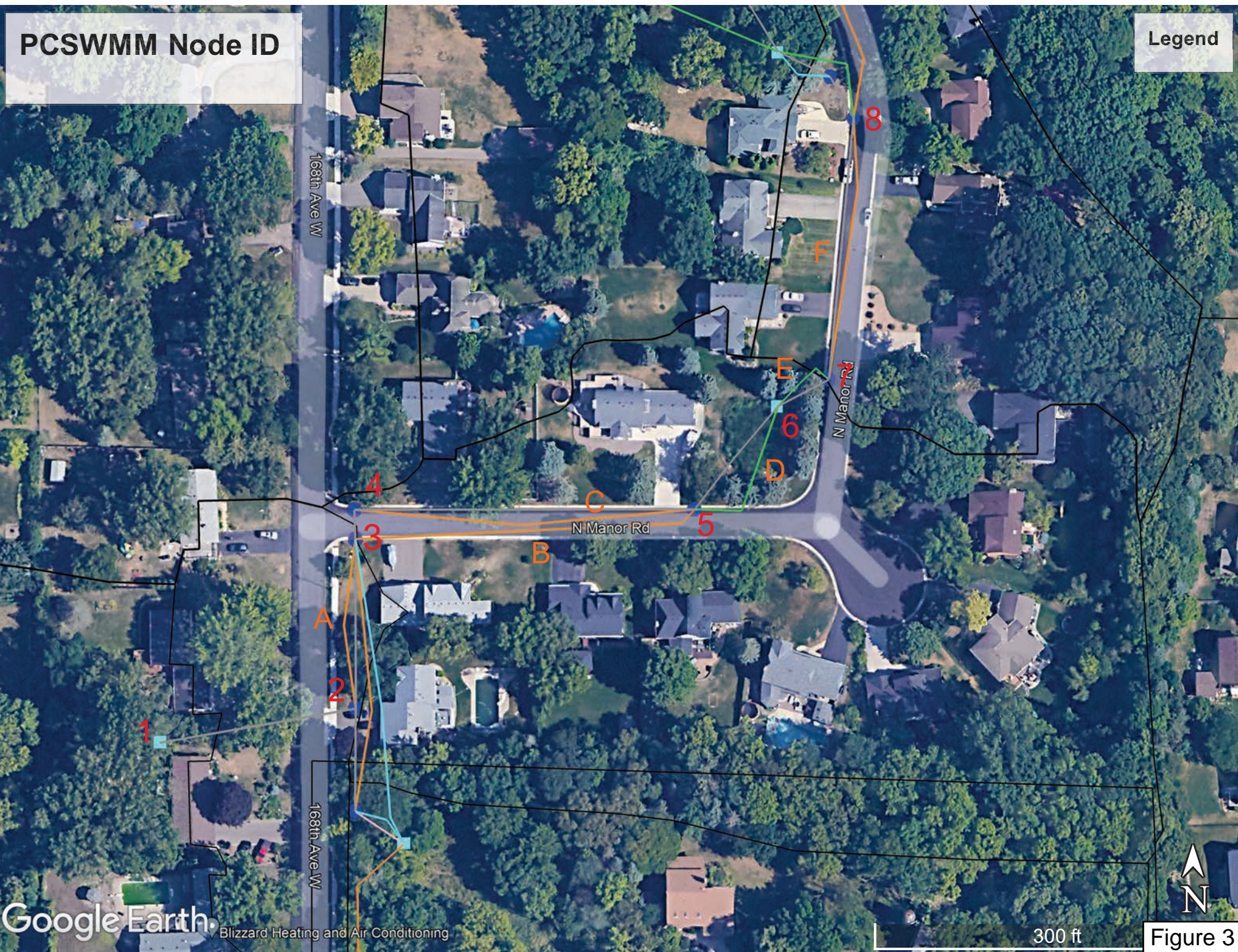






PCSWMM Node ID

Legend



Google Earth

Blizzard Heating and Air Conditioning

300 ft

Figure 3



**TABLE 1**

Node ID	Node	Description	Existing 10 Yr HWL	Proposed 10 Yr HWL (21"N-S)	Existing 100 Yr HWL	Proposed 100 Yr HWL (21"N-S)
1	Storage 05-24-B_0100	Rear Yard Low Point – Lot 7, Block 1 Coachlight Manor	930.07	930.08 (+0.01)	931.86	931.76 (-0.10)
2	STMH-N05- 30171	Storm manhole - Lot 1, Block 1 Majestic Oaks Rim Elev: 931.48	927.80	927.89 (+0.09)	929.60	929.56 (-0.04)
3	STCB-N05- 4211	CBMH in SE Quadrant of 168 <sup>th</sup> Ave W & North Manor Road Rim Elev: 926.90	925.32	926.51 (+1.19)	927.06	927.12 (+0.06)
4	STCB-N05- 4212	CBMH in NE Quadrant of 168 <sup>th</sup> Ave W & North Manor Road Rim Elev: 926.35	922.92	923.82 (+0.90)	924.33	924.35 (+0.02)
5	STSP-N05-855	CBMH East of 4212 in North Manor Road Rim Elev: 913.47	913.95	913.82 (-0.13)	914.18	914.07 (-0.11)
6	STPO-N05- 11094	Pond in Block 2, Lot 1 Majestic Oaks	913.69	913.64 (-0.05)	913.90	914.00 (+0.10)
7	STMH-N05- 4208	CBMH in North Manor Road as road turns North Rim Elev: 913.47	913.65	913.63 (-0.02)	913.85	914.03 (+0.18)
8	STSP-N05-854	Next Manhole Down Line – East Side of N Manor Road Rim Elev: 908.31	908.54	908.44 (-0.10)	910.60	910.31 (-0.29)

**TABLE 2**

Conduit ID	Conduit	Description	Existing 10 Yr Depth (feet)	Proposed 10 Yr Depth (feet)	Proposed Flow Contained?	Existing 100 Yr Depth (feet)	Proposed 100 Yr Depth (feet)	Proposed Flow Contained?
A	STMH-N05-30171_OF	Street Flow in 168 <sup>th</sup> going North towards N. Manor	0	0	-	0	0	-
B	STCB-N05-4211_OF	South Street Flow in N. Manor towards Pond	0	0	-	0.16	0.22 (+0.06)	In Street
C	STCB-N05-4212_OF	North Street Flow in N. Manor towards Pond	0	0	-	0	0	-
D	OF-STSP-N05-855	Overflow into Pond (915.342-913.149=2.193')	0.48	0.35 (-0.13)	In D & U*	0.70	0.61 (-0.09)	In D & U*
E	OF-STPO-N05-11094	Emergency Overflow out of Pond (915.337-913.245=2.092')	0.48	0.44 (-0.04)	In D & U*	0.69	0.82 (+0.13)	In D & U*
F	OF-STMH-N05-4208	Street flow north from Pond	0.18	0.04 (-0.14)	In Street	0.38	0.45 (+0.07)	In Street

## Containment Assumptions:

&lt; 0.50' = Contained within street section

0.50' &lt; X &lt; 0.70' = Contained within ROW

0.70' &lt; X &lt; 0.80' = Contained within D &amp; U

&gt; 0.80' = Not contained

\*Pond EOFs contain flow within D &amp; U, as designed, but previously defined containment bounds do not apply.