Preliminary Engineer's Report

Judicial Ditch No. 15
Branch M37 Improvement

24X.136906.000

Buffalo Creek Watershed District
Renville County, Minnesota
April 2025

BOLTON & MENK
Real People. Real Solutions.

Submitted by:
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April 30, 2025

Seth Sparks
Drainage Systems Manager
Renville County Government Services Center
105 South 5th Street, Suite 319
Olivia, MN 56277

Re: Preliminary Engineer's Report
Judicial Ditch No. 15, Branch M37 Improvements
Buffalo Creek Watershed District
Renville County, Minnesota
BMI Project No.: 24X.136906.000

Dear Seth:

We are enclosing 8 copies of the Preliminary Engineer's Report for the proposed Judicial Ditch No. 15, Branch M37 Improvements in Renville County. With the submission of this report, the project should be ready to move toward the Preliminary Hearing. Please set a date for this hearing.

As you probably know, the DNR requires a 30-day review period for the report prior to the hearing. The DNR Commissioner has designated an email address to submit public drainage system documents and an electronic copy of the report has been submitted accordingly.

In addition to the DNR, we should also notify the Renville County SWCD and NRCS offices as well as any other affected agencies or individuals for coordination and potential funding. Under a separate letter, we will send copies of the report to the SWCD and NRCS office. Additional copies of the report should be distributed to the Buffalo Creek Watershed District members prior to the Hearing. We have also including copies of the report for the ditch petitioners.

Please check with me prior to setting the hearing date to assure that there are no meeting conflicts.

If you have any further questions regarding the project, please feel free to contact me.

Sincerely,
Bolton & Menk, Inc.
Bill L Helget

Bill L. Helget, P.E.

cc: DNR Director, MN DNR (Digital copy of report)
John Kolbe, Rinke-Noonan (Digital copy of report)
Renville County (Digital copy of report)
Dean M. Zimmerli, Gislason & Hunter LLP, Petitioners Attorney (Digital copy of report)

Certification

Engineer's Report

For

Judicial Ditch No. 15 Branch M37 Improvement

In

Buffalo Creek Watershed District
Renville County, Minnesota

24X.136906.000
April 2025

PROFESSIONAL ENGINEER

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.

Signature: Bill L. Helget
Typed or Printed Name: Bill L. Helget
Date: 4/29/2025 License Number: 42046

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Appendix

STATE OF MINNESOTA

RENVILLE COUNTY

IN THE MATTER OF THE PETITION FOR IMPROVEMENT OF JUDICIAL DITCH NO. 15 WITHIN BUFFALO CREEK WATERSHED DISTRICT:

In November 2024, the Buffalo Creek Watershed District, acting as the Drainage Authority for Judicial Ditch No 15 Branch M37 (JD 15 Br M37) in Renville County, in accordance with Minnesota Statute 103E.215, accepted a petition for the Improvement of portions of JD 15. Subsequent to that authorization, Final field surveys were performed to obtain elevations and establish an alignment for the proposed open ditch and culvert crossing improvements, as well as to evaluate the outlet for the system.

This Preliminary Engineer's Report summarizes the findings of the research, surveys, and analysis for the Improvement and is submitted for consideration by the Ditch Authority.

I. LOCATION AND SCOPE OF THE IMPROVEMENT

Judicial Ditch No 15 Branch M37 lies within and provides drainage to a large watershed in the north-east portion of Renville County. The proposed project location lies within Section 7 and Section 18 of Preston Lake Township. The system consists of 24,763' of drainage tile. The outlet for JD 15 Branch M37 is JD 15 Main Open Ditch in section 18 of Preston Lake Township in Renville County. The project is located about 2.25 miles north of Buffalo Lake, Minnesota. The total estimated watershed for the system based on Lidar contour data, is 684 acres.

The proposed project for Judicial Ditch No 15 Branch M37 includes the construction of a WASCOB and drainage pipe. Exhibit 1 shows the general location of JD 15 and the proposed project.

Field survey information was collected by Bolton & Menk, Inc. in January of 2025. The survey included GPS locations and elevations for the outlet of the tile and for private and public intakes on the system. The tile system design utilizes Lidar data, provided by the Minnesota Department of Natural Resources. This data, obtained from an aerial flight, results in contours of equal elevation at 2' vertical intervals.

II. EXISTING DITCH SYSTEM

Public records regarding Judicial Ditch No 15 Branch M37 were reviewed from Renville County and Buffalo Creek Watershed District.

JD 15 was petitioned for establishment on June 26, 1916. Construction was completed on August 1, 1921.

The benefits for JD 15 were recently redetermined. Current benefits for the JD 15 system are $78,151,901.40.

III. CONDITION OF THE EXISTING DRAINAGE SYSTEM

The petitioners have requested the ditch improvements because of insufficient capacity and inadequate tile sizes to furnish sufficient capacity. The portion of the JD 15 system proposed to be improved consists of underground tiles. This Improvement will replace an existing tile system that currently has broken tile, quarter cracks, longitudinal cracks, offset joints, and sags. These broken tiles, cracks, and offset joints have allowed for roots and broken tile pieces to obstruct flow within the system.

In 2015, Renville County televised a portion of JD 15 Branch M37. Images from the televising report are shown in Exhibit 5. These images show evidence of the existing failures within the system, as described.

Also, in 2016, a small repair was completed along Branch M37. From evidence of the poor existing tile condition shown in Exhibit 5, it is assumed that more repairs would be needed in the future to keep the system in working condition if the system were to not be improved.

Table 1 below shows the existing capacity for the JD 15 Br M37 Tiles proposed to be improved. As a way of evaluating the capacity of the existing tile system, an analysis has been performed of the existing system using standard engineering methods. The capacity of the existing tile has been estimated using the Mannings equation, assuming the original hydraulic efficiency of the system as constructed and subsequently improved. Estimated tile sizes and grades are based on the original design plans supplemented with limited field data collected through tile intakes and general surface grades. The amount of drainage which is needed for modern crop production has been compared to the 3/8 of an inch of runoff per day standards that is recommended by Buffalo Creek Watershed District (BCWD). The watershed areas have been estimated using DNR Lidar maps.

Table 1: Existing System Capacity						
JD 15 Br M37 Tile	Location	Drainage Area (Acres)	Existing Tile Size (Inches)	Existing Grade (%)	Calculated Capacity (CFS) n=0.013	Calculated Coefficient (In. Per Day)
Br M46	1550 LF West of CR 8 to EOP	36	6	0.30	0.31	0.20
Br M46	Br M37 to 1550 LF West of CR 8	60	9	0.10	0.52	0.21
Br M45	190 LF East of CR 8 to EOP	18	6	0.10	0.18	0.24
Br M45	Br M37 to 190 LF East of CR 8	48	7	0.10	0.27	0.13
Br M77	3500 LF East of CR 8 to EOP	8	5	0.35	0.20	0.61
Br M77	Br M43 to 3500 LF East of CR 8	17	6	0.07	0.15	0.21
Br M44	Br M43 to EOP	13	6	0.30	0.31	0.56
Br M76	Br M43 to EOP	36	5	0.29	0.19	0.12
Br M43	3000 LF East of CR8 to EOP	49	6	0.24	0.28	0.13
Br M43	Br M77 to 3000 LF East of CR8	58	7	0.24	0.42	0.17
Br M43	Br M44 to Br M77	83	8	0.24	0.59	0.17
Br M43	Br M76 to Br M44	119	10	0.14	0.82	0.16
Br M43	Br M37 to Br M76	184	16	0.05	1.72	0.22
Br M75	CR 8 to Br M37	12	5	0.58	0.26	0.52
Br M75	Br M37 to CR 8	16	6	0.10	0.18	0.26
Br M78	Br M41 to EOP	18	5	0.27	0.18	0.24
Br M42	2640 LF East of CR 8 to EOP	32	7	0.06	0.21	0.15
Br M42	Br M78 to 2640 LF East of CR 8	47	9	0.06	0.41	0.21
Br M41	Br M42 to EOP	30	6	0.10	0.18	0.14
Br M41	Br M40 to Br M42	119	12	0.10	1.13	0.23
Br M40	Br M41 to EOP	26	6	0.20	0.25	0.23
Br M40	Br M37 to Br M41	159	12	0.20	1.60	0.24
Br M39	Br M37 to EOP	18	6	0.25	0.28	0.37
Br M38	CR 8 to EOP	34	5	0.50	0.24	0.17
Br M38	470 LF East of CR8 to CR8	38	6	0.20	0.25	0.16
Br M37	Br M45 to EOP	12	5	0.14	0.13	0.26
Br M37	Br M43 to Br M45	183	14	0.06	1.32	0.17
Br M37	Br M to Br M43	684	20	0.12	4.83	0.17

As can be seen from Table 1 above, the system is unable to drain the watershed even if it was in good repair. When compared to the BCWD recommended standard of 3/8" per day, the tile main systems are only delivering about 45% of the recommended flow, based on the estimated tile sizes and grades. Therefore, there is inadequate capacity in the existing drainage system to provide for the efficient production of row crops. The result of this insufficient capacity is extended ponding in the low areas of the watershed and inadequate drainage of the tile lines which drain into the ditch system, thus resulting in crop stress and crop loss.

IV. DISCUSSION OF THE IMPROVEMENT

As discussed earlier, the petitioners for the improvement of JD 15 Branch M37 have requested consideration for the construction of an improved tile system to increase the capacity to provide an adequate outlet. The proposed construction would consist of a drain tile reconstruction and improvement. A preliminary survey and the hydrologic and hydraulic analysis of such a drainage system was performed to establish preliminary grades and depths for the tile system. They were also used to determine quantities for construction of such a system, to determine the size of proposed tile lines, and analyze the outlet. General observations and results of the analysis are summarized as follows:

A. DESCRIPTION

As shown in Exhibit 1, the proposed Improvement consists of 6-inch to 30-inch diameter tile to replace the function of the existing JD 15 Branch M37 tile from the outlet to the upper end. The township road crossings would be made by open trench methods, and the road surface restored with class 5 gravel. The County Road 8 crossings will be made by trenchless methods. The new tile will be constructed at a lower elevation than the existing tile in order to allow all existing tiles to be connected to the new tile to accommodate adequate drainage, to accommodate current farming practices and to provide more ground cover over the new tile to reduce the probability of crushing.

B. DESIGN DATA – TILE IMPROVEMENT

The proposed drain tile Improvement is shown in Exhibit 1. The type of pipe to be used for construction will be bid with a contractor option as follows:

1. Dual Wall or Triple Wall Polypropylene Drain Tile meeting the requirements of the American Society for Testing Materials F2376. Pipe will be bedded in granular foundation rock.

2. Dual Wall Polyethylene Drain Tile meeting the requirements of the American Society for Testing Materials F 2648. Pipe will be bedded in granular foundation rock as shown on Exhibit 1. Non-perforated pipe will be used. The perforated pipe will include a drain tile sock or micro perforations/slots to avoid granular infiltration into the pipe. An option would be provided for the contractor to shape the bottom of the trench to conform to the pipe and eliminate some of the granular bedding if the pipe manufacturer would warrant the material installation.

3. Reinforced concrete pipe meeting the requirements of MnDOT Specification 2501, with the joints being covered with geotextile fabric or gasketed.

4. All County Road 8 crossings shall be installed by means of trenchless installation. For trenchless installation, the following pipe materials will be allowed:

   a) Steel casing pipe will be welded new material with minimum yield strength of 35,000 PSIG (pounds per square inch gauge). The steel casing pipe will have minimum wall thickness based on the outside diameter of the pipe.

   b) Restrained Joint C900 – Restrained joint pipe shall conform to the current requirements of AWWA C900 (DR-18) for pipe diameters 4.0-inch through 12.0-inch.

   c) Fusible C900/C905 – Butt joint fused PVC pressure pipe conforming to the current requirements of AWWA C900 (DR 18) for pipe diameters 4.0-inch through 12.0-inch or AWWA C900 (DR 25) for pipe diameters 14.0-inch through 24.0-inch. However, a structurally stronger pipe may be required to ensure resistance to pulling stresses.

As can be seen in Table 2, the tile capacity for the Improvement System reflects a drainage coefficient of 0.375-inches/day. This is within the recommended drainage capacity from the Buffalo Creek Watershed District of 3/8-inches/day.

Table 2: Improvement System Capacity						
JD 15 Br M37 Tile	Location	Drainage Area (Acres)	Tile Size (Inches)	Tile Grade (%)	Calculated Capacity (CFS) n=0.012	Calculated Coefficient (In. Per Day)
Br M46	1550 LF West of CR 8 to EOP	36	8	0.29	0.65	0.43
Br M46	Br M37 to 1550 LF West of CR 8	60	10	0.25	1.10	0.44
Br M45	190 LF East of CR 8 to EOP	18	6	0.30	0.31	0.41
Br M45	Br M37 to 190 LF East of CR 8	48	10	0.18	0.93	0.46
Br M77	3500 LF East of CR 8 to EOP	8	6	0.30	0.31	0.92
Br M77	Br M43 to 3500 LF East of CR 8	17	6	0.30	0.31	0.43
Br M44	Br M43 to EOP	13	6	0.75	0.49	0.89
Br M76	Br M43 to EOP	36	8	0.28	0.64	0.42
Br M43	3000 LF East of CR8 to EOP	49	10	0.24	1.08	0.52
Br M43	Br M77 to 3000 LF East of CR8	58	10	0.24	1.08	0.44
Br M43	Br M44 to Br M77	83	12	0.19	1.56	0.45
Br M43	Br M76 to Br M44	119	15	0.14	2.42	0.48
Br M43	Br M37 to Br M76	184	18	0.10	3.33	0.43
Br M75	CR 8 to Br M37	12	6	0.50	0.40	0.79
Br M75	Br M37 to CR 8	16	6	0.50	0.40	0.59
Br M78	Br M41 to EOP	18	6	0.28	0.30	0.39
Br M42	2640 LF East of CR 8 to EOP	32	8	0.20	0.54	0.40
Br M42	Br M78 to 2640 LF East of CR 8	47	10	0.15	0.85	0.43
Br M41	Br M42 to EOP	30	8	0.25	0.61	0.48
Br M41	Br M40 to Br M42	119	15	0.11	2.15	0.43
Br M40	Br M41 to EOP	26	8	0.15	0.47	0.43
Br M40	Br M37 to Br M41	159	15	0.18	2.75	0.41
Br M39	Br M37 to EOP	18	6	0.35	0.33	0.44
Br M38	CR 8 to EOP	34	8	0.33	0.70	0.49
Br M38	470 LF East of CR8 to CR8	38	8	0.33	0.70	0.44
Br M37	Br M45 to EOP	12	6	0.15	0.22	0.43
Br M37	Br M43 to Br M45	183	18	0.09	3.16	0.41
Br M37	Br M to Br M43	684	30	0.07	10.88	0.38

Also included, as part of the project, will be provisions to strip and replace the topsoil on the trench area, to provide rip rap as erosion protection at the outlet, and to construct several intakes on the system.

C. DESIGN DATA – WASCOB

Exhibit 1 shows the location for proposed water and sediment control basin (WASCOB). The WASCOB will be designed to NRCS practice standards. Select borrow material will be sourced from the adjacent farmland. From the Agricultural Best Management Practices Handbook for Minnesota, "WASCOBs consist of an embankment across the slope of a field or minor waterway to temporarily detain and release water through a piped outlet or through infiltration. They are constructed perpendicular to the flow direction. The key benefit of WASCOBs is detaining water from contributing areas, inducing sedimentation, and controlling the release of water, thereby reducing the erosive power of the water downstream."

The proposed basin will temporarily store overland runoff from the watershed. One basin is proposed to be constructed by constructing a berm across the natural draw in the land. The slopes on the berms in the agricultural field will be at 1V:30H or flatter so that the berm can still be farmed. The top width of the berm will be 30 feet wide so that it can be easily navigated. The material used to construct this berm will come from the adjacent farmland. This berm will create storage for runoff and will reduce the peak overland flows discharged to the JD 15 Main Open Ditch.

Table 3: Proposed Storage Summary

System	Upstream Landowner	Height (feet)	Ponding Time (hr)	Storage Created (Acre-feet)	Total Ponding Area (Acres)	Total Watershed Area (Acres)
WASCOB	SCHMALZ	1.5	19.0	1.22	2.27	119

D. TILE SYSTEM DEPTH

Exhibit 1 shows profile views for the proposed tile system. The minimum and maximum depths of cut to the flow line of the pipes are shown on Table 4.

Table 4: Change in Outlet Capacity

Tile Branch	Minimum Depth	Maximum Depth
M37	4.6'	12.6'
M38	8.0'	11.7'
M39	5.7'	10.3'
M40	6.0'	7.4'
M41	6.5'	10.6'
M42	5.5'	9.4'
M43	4.0'	9.2'
M44	5.7'	7.1'
M45	5.3'	12.5'
M46	5.2'	8.2'
M75	6.3'	11.2'
M76	4.4'	5.7'
M77	4.5'	7.9'
M78	6.7'	8.5'

V. ALTERNATE SOLUTIONS

A. "DO NOTHING ALTERNATIVE"

The "Do Nothing" Alternative has been discussed. However, the petitioners have experienced poor drainage throughout the drainage system for many years with the excess surface water damaging crops and resulting in frequent crop stress or crop loss. This loss of production equates to an economic loss for Renville County and the State of Minnesota. The loss results in a reduced property value for the wet acres, thus affecting the taxing capacity of the County and State. In addition, the ability of the landowners to receive a reasonable return on their investment is diminished because of this inadequate drainage.

For these reasons, the "Do Nothing" alternative has been dismissed. The economic question of the cost of the Improvement versus the benefits derived still needs to be evaluated. However, the "Do Nothing" alternative is not viewed as solving the drainage problem in the watershed.

B. REPAIR

Separable Maintenance for this project is estimated at $1,597,377.21. A repair would only work as well as was discussed in Section III of this report. Repairing the system to as constructed system would not account for changing rainfall patterns or for additional waters being discharged into the system. Current design standards by Buffalo Creek Watershed District recommends a drainage coefficient of 3/8 inch/day. From Section III the current tile is approximately 45% efficient for a 3/8 inch/day coefficient. Therefore, we do not recommend going with a repair option when there are willing landowners for an improvement.

C. WETLAND RESTORATION

Another alternative would be to restore the typically flooded areas of the watershed to wetland use. This alternative would provide storage in the watershed depressional areas for the water that is currently accumulating in these areas and drowning out agricultural crops. The proposal would also have added benefits for wildlife and possibly water quality.

To be effective, this alternative would need to restore sufficient acres to wetland use so that the existing ditch system could convey the excess runoff. Utilizing NRCS data, about 67 acre feet of water cannot be discharged from the JD 15 watershed through the existing drainage systems in a 48-hour period for a 5-year rain event. If sufficient wetland acres were available to store this runoff at a depth of one foot, approximately 67 acres of wetland restoration would be needed to provide sufficient storage capacity for the excess runoff.

To convert the 67 acres to wetlands, at least twice this many acres would need to be acquired for irregular wetland shapes and marginal damp soils. Thus, about 134 acres of land would be needed. This acquisition would likely involve several properties, whose owners would voluntarily need to agree to the reversion. The estimated cost of acquisition plus reconstructing tile lines for wetland restoration would likely be about $18,000 per acre, resulting in a total cost of about $2.41 million. Wetland restoration is about 1.4 times the estimated cost for the Improvement.

Wetland restoration remains a viable option for providing some improvement in the functioning of the drainage system. If sufficient acres of wetlands could be restored, particularly in the upper part of the watershed, it could reduce the need for as large of an outlet as is proposed. Finding willing landowners to participate in a restoration project and locating sufficient funding would be critical in order to make this option viable. Copies of

this Report will be provided to the SWCD and NRCS so that early coordination can occur for potential funding and technical assistance toward this option.

D. IMPOUNDMENT

We have one location identified with the current Improvement for a WASCOB. Additional Water Quality and Storage features should be considered as a part of the Improvement Project. These could include but are not limited to additional WASCOBs, Side Inlets, Dry Bottom Basins, Wet (Sediment) Bottom Basins, and Saturated Buffers. We will continue to work with Landowners and Renville County to identify potential locations. However, impoundments require willing landowners and areas that meet the requirements for that type of impoundment. Impoundments lead to improved water quality downstream, soil retention, and potential wildlife habitat.

VI. OTHER CONSIDERATIONS

A. PERMIT REQUIREMENTS

A permit from the Minnesota Pollution Control Agency for stormwater and erosion control for the project would be necessary. This permit requirement, which applies to any construction which disturbs more than one acre of land, requires that the contractor and owner secure a permit for the repair. The permit process will also require erosion control measures to be taken during construction. Typical erosion control measures include placing of riprap and grass stabilization of the ditch bank and inlet protection around installed inlet areas. The fee for this permit is currently $400.00. This permit will be applied for shortly before construction is scheduled so the contractor can sign the permit application.

A permit from Renville County Highway Department will also be necessary for the crossings of CR 8. This permit will be applied for after the Preliminary Hearing

B. WETLANDS

National Wetland Inventory (NWI) Maps have been reviewed to locate potential wetlands subject to regulations. No wetlands are shown on the NWI maps near the Improvement alignment. If wetlands are identified all piping running directly through must be nonperforated. Along with this all intakes that are within the wetland can be reinstalled at the same nominal size.

Impacts of the potential drainage system on individual land parcels will be evaluated by the Natural Resources Conservation Service upon filing of a Form AD 1026 by landowners. This NRCS process will identify any wetlands and measures which need to be taken in order for the drainage project to avoid impact to these wetlands. Because of federal data privacy requirements, it is not possible for non-landowners to obtain this information. Thus, the obligation for filling out these forms and doing this investigation will rest with individual landowners.

Drainage of non-directly impacted wetlands will be controlled by supplemental drainage systems installed by private owners. Owners are advised that such supplemental drainage may not be permitted under State Wetland Conservation Act, US Army Corps of Engineers and NRCS rules and may affect US Department of Agriculture program eligibility.

C. PUBLIC AND PRIVATE BENEFITS AND COSTS

The estimated cost of the proposed Improvement to JD 15 Branch M37 is shown in Exhibit 3 of this report. Benefits for the Improvement, both public and private, will be established by the viewers and a report will be available at the final hearing.

Landowners certainly have other costs associated with construction and maintenance of their individual drainage systems. The proposed Improvement would only serve as an outlet or collector of runoff and drainage flow from the lands within the watershed. Each landowner is responsible to construct and maintain their own drainage system in order to adequately drain their farmlands. Individual benefits for an adequate drainage system are in increased crop production from farmlands.

The estimated cost of the proposed Improvement is included in this report. The public and private benefits and damages will be available at the final hearing.

D. AGRICULTURAL EFFECTS

Once installed, the lands within the improved watershed will be largely dependent on this drainage system for both surface and subsurface drainage flows. Thus it is imperative that the proposed system have adequate capacity in order to allow for modern farming operations.

It should be noted that many of the established ditch systems in Minnesota are now 70 to 100 years old. These systems are approaching the need for complete repair or replacement if the farmland is to remain productive. When feasible, it is economically imperative that these drainage systems be improved to become compatible with present day farming techniques and they be continually maintained. If properly maintained during normal growing seasons, portions of the agricultural lands in the watershed are some of the most productive in the State of Minnesota.

E. ALTERNATIVE MEASURES

Alternative measures, including those identified in the Renville County Water Management Plan and the strategies in the Buffalo Creek Watershed District Water Management Plan, have been considered in conjunction with this project. Specific proposals as part of the project to incorporate these measures include:

1. Measures to conserve, allocate and use drainage waters include the use of non-perforated tiles for the deeper installations so that groundwater is preserved for crop use and the continued infiltration which will occur in depressional areas of the watershed.

2. Measures to reduce downstream peak flows and flooding include the use of hickenbottom risers on intakes which limit the flow capacity of tile intakes, limiting the capacity of the proposed tiles to the minimum recommended standard of the Buffalo Creek Watershed District to limit downstream flows, and construction of the proposed water and sediment control basin.

3. Measures to provide adequate drainage system capacity are being accomplished by designing the size of the tile system to meet the recommended standards of the Buffalo Creek Watershed District.

4. Measures to reduce erosion and sedimentation include the use of hickenbottom risers on the tile intakes which result in reduced discharge of suspended solids, the restoration of the tile trench as soon as possible so that surface erosion of the disturbed soil is reduced, the use of inlet protection during the construction so that the discharge of suspended solids is reduced and the use of a rock filter at the outlet during construction so that suspended solids are captured. Straw mulch will also be utilized to temporarily stabilize the disturbed areas until they can be turned back over to agricultural production. The WASCOB will reduce sedimentation into the JD 15 open ditch.

F. FISH AND WILDLIFE

The threatened or endangered species having the potential to be in Renville County at the time of this report are the northern long-eared bat, and the prairie bush clover. According to the Minnesota DNR, there are no known northern long-eared bat roost trees or hibernacula in Renville County. Additionally, there are no trees to be removed as a part of the improvement, so there is no anticipated impact to the northern long-eared bat. The prairie bush clover is found within native prairie on well drained soils. The project will take place within agricultural fields, so no impact to the prairie bush clover is anticipated. Bald eagles are present in Renville County, and are protected under the Bald and Golden Eagle Protection Act. Again, there are no trees to be removed as a part of the improvement, so there is no impact to the bald eagle.

Field investigation has revealed that the only permanent wildlife habitat in the area of the Improvement is along the road ditches and building sites. These areas will not be impacted by the improvement.

Current wet areas within the project watershed do provide for transitory stop over locations for migratory waterfowl. However, these areas currently dry up following wet periods and are then under cultivation and production. It is anticipated that some of these temporary ponding areas will still exist after the construction of the Improvement although ponding times will likely be reduced. Therefore, the provisions for adequate drainage of these lands will not be of a detrimental nature to local wildlife resources.

G. GROUNDWATER

The purpose of an agricultural drainage system is to maintain the elevation of the shallow groundwater table sufficiently below the surface to provide for efficient production of crops. The level at which the groundwater will be maintained has been and will be determined by the depth of the tile system and private tiles in the area. Although the proposed Improvement is somewhat deeper than the existing tiles in the areas, the depth increase is not significant or unusual for drainage systems. Additionally, tiles that have a depth of 6 feet or greater to the invert of the pipe will be non-perforated. Therefore, no change in the availability, distribution or use of the shallow groundwater beyond that necessary for the sufficient production of crops within the watershed is anticipated by this construction.

H. ENVIRONMENTAL IMPACT

The adverse effects of the proposed Improvement are of a temporary nature and are listed as follows:

1. Disturbing the ground surface during construction could result in the loss of one crop within the construction limits.
2. The restored trench area will be less productive for the first few years following construction and will require more fertilizer to be as productive as the undisturbed adjoining farmland. The topsoil in this area will be removed and replaced in an effort to maintain the soil productivity.
3. Temporary noise and dust generation can be expected from the construction operations. These impacts are not viewed as significant since there are few residences near the proposed construction route.
4. Temporary erosion of soil may occur in the construction area until permanent ground

cover and ground stabilization occurs. Although these effects need to be considered, they are probably not significantly different than the current topsoil loss that occurs annually from erosion of topsoil due to overland flow in the watershed. This construction erosion will be minimized using inlet protection, riprap and rapid establishment of permanent grass cover.

Numerous beneficial effects are anticipated from the proposed Improvement. Most of these benefits are directly attributable to increased crop production from lands presently damaged through period flooding and ponding. Among the most obvious benefits are:

1. Increased personal farm income.
2. Increased value of benefited farmland.
3. Contribution to the local economy through additional purchases, farm modernization and expansion.
4. Construction of the WASCOB will reduce peak flows and sedimentation into the JD 15 open ditch.

I. LAND USE

The present use of the land in the JD 15 Branch Q watershed is largely agricultural. It is expected that the land will continue to be used for agricultural purposes in the future.

J. GUIDANCE TO VIEWERS REGARDING IMPROVEMENT BENEFITS

Discussions with the landowners in the JD 15 Branch M37 system has provided evidence of the condition of the existing tile systems. Previous repairs on the tile have shown that the existing tile is badly deteriorated. In addition, years of use and settlement of sections of the tile have reduced the hydraulic capacity of the tile. Even if JD 15 Branch M37 had not been petitioned for improvement, a repair is warranted.

Another way to describe this is related to the benefit of avoiding inevitable repair/reconstruction costs on the ditch. Since repair of the system, as required by Minnesota Statue 103E.705, would otherwise be paid for by the entire drainage system in order to restore the system to its as constructed, and subsequently improved, hydraulic efficiency, the cost of repair may be used to offset a portion of the improvement cost. Thus, the cost of the new tiles may be added as benefit since it avoids costs otherwise required to repair the system. With this information, it is the intent of the Improvement to replace the existing tile. Thus, a portion of the cost of the new JD 15 Branch M37 tiles should be allocated as a Repair cost. The application of this principle is known as Separable Benefits under the ditch statutes.

The amount of the Improvement which can be allocated to Separable Benefits is shown in Exhibit 3 as $1,597,377.21. It is recommended that the Board apply these Separable Benefits to the Improvement in the further ditch proceedings.

VII. ADEQUACY OF THE OUTLET

A. GENERAL INFORMATION

As mentioned earlier, the outlet for Branch M37 is into the open ditch of JD 15 in Section 18 of Preston Lake Township. The Main open ditch of JD 15 then becomes Buffalo Creek as it enters McLeod County.

B. ADEQUACY OF THE OUTLET

The adequacy of the unnamed stream to accept the additional flow resulting from the Improvement has been evaluated as required by the ditch statutes. This evaluation has been performed in the following manner:

1. The watershed contributing flow to the open ditch of JD 15 at the outlet for JD 15 Branch M37 has been delineated using the US Geological Survey "StreamStats" program and 3-meter Lidar information retrieved from the DNR. The StreamStats program has been used to generate peak flow rates for 5 to 100-year storm events.
2. The proposed and existing conditions were modeled in HydroCAD. It is worth noting that HydroCAD often overestimates the discharge rates compared to other models and calculation methods.
3. Rainfall data was retrieved from NOAA Atlas 14 by using Buffalo Lake, Minnesota as the data center point.

The change in outlet discharge can be seen in the table below. The outlet is taken as JD 15 Open Ditch crossing at 810th Avenue. The reason that the 810th Avenue crossing was chosen was due to an 48" RCP culvert being located at this crossing, not at County Road 8. Meaning that the culvert is the limiting factor on the ditch capacity.

Table 5: Change in Outlet Capacity			
Storm Event	Existing Discharge Rate (cfs)	Proposed Discharge Rate (cfs)	Change in Discharge Rate (cfs)
5-year	181	184	+3
10-year	191	193	+2
25-year	204	206	+2
50-year	215	216	+1
100-year	223	224	+1

As can be seen from Table 5, the construction of the new lateral will increase flows to the JD 15 open ditch because of the larger pipe outlet. The increase in flow is not significant for the 5-year to the 100-year event. Table 6 shown below shows the change in headwater elevation for the crossing at 810th avenue.

Table 6: Change in Headwater Elevation			
Storm Event	Existing Headwater Elevation (ft)	Proposed Headwater Elevation (ft)	Change in Headwater Elevation (ft)
5-year	1061.6	1061.9	+0.3
10-year	1062.6	1062.9	+0.3
25-year	1064.1	1064.3	+0.2
50-year	1065.2	1065.4	+0.2
100-year	1066.2	1066.3	+0.1

The standard for a 48" diameter culvert in the state of Minnesota is not to overtop for the 50-year event according to the MnDOT Drainage Manual. The culvert crossing at the 810th Avenue crossing will not overtop at the 100-year event after the proposed improvements. It is therefore our opinion that the outlet is adequate for the proposed new lateral.

VIII. WATER QUALITY

Little change in measurable water quality is anticipated because of this Improvement. However, there are components of the Improvement that will mitigate erosion and help improve water quality on a micro watershed scale. Tile system velocities are generally low, so that soil from the surrounding envelop is seldom carried into the tile. Thus, the largest source of suspended solids in tile system drainage is from water discharging into open intakes. Although open intakes will still be used on the system, ponding occurs around these intakes for any significant storm events therefore allowing time for solids to settle rather than being discharged.

The water and sediment control basins will settle out sediment and sediment-bound pollutants. The proposed WASCOB will collect the overland flow from the watershed, which is currently directly discharging into the JD 15 open ditch. The total pollution reductions can be seen in the table below, these values were calculated using the MPCA Watershed Pollutant Load Reduction Calculator.

Table 7: Erosion Reduction

System	Nitrogen (estimated reduction) lbs./yr.	Phosphorous (estimated reduction) lbs./yr.	Sediment (TSS) T/yr.
WASCOB 1	568	6,599	951

As a requirement of the MPCA Erosion Control Permit, the establishment of an erosion control plan is anticipated. Incorporation of such devices as inlet protection, riprap at the outlets and permanent grasses as soon as possible following the construction are anticipated. All of these measures will help to reduce erosion and maintain water quality during the construction of the project.

IX. ESTIMATE OF COST

The Improvement cost estimate to construct the proposed Improvement, as described in this report, is shown in Exhibit 2. The total estimated cost for the Improvement is $1,715,869. That price includes the cost of administration and engineering fees.

Included in the estimate are the approximate 52 acres of agricultural land which will be temporarily taken out of production by construction. The individual landowners will be compensated for this loss through the damage process of further ditch proceedings.

X. RECOMMENDATIONS

The proposed Improvement of JD 15 in Renville County, as described in this report, is feasible, practical and necessary to provide drainage for the cultivation of crops within the watershed area. The existing tile system is in need of an Improvement to provide proper drainage for current agricultural practices.

It is our recommendation to proceed with the Improvement as outlined in this report and that the Engineer's Preliminary Engineer's Report be approved. If there are adequate funds, we recommend the Drainage Authority order the Improvement.

Exhibit 1: Preliminary Plans and Profiles

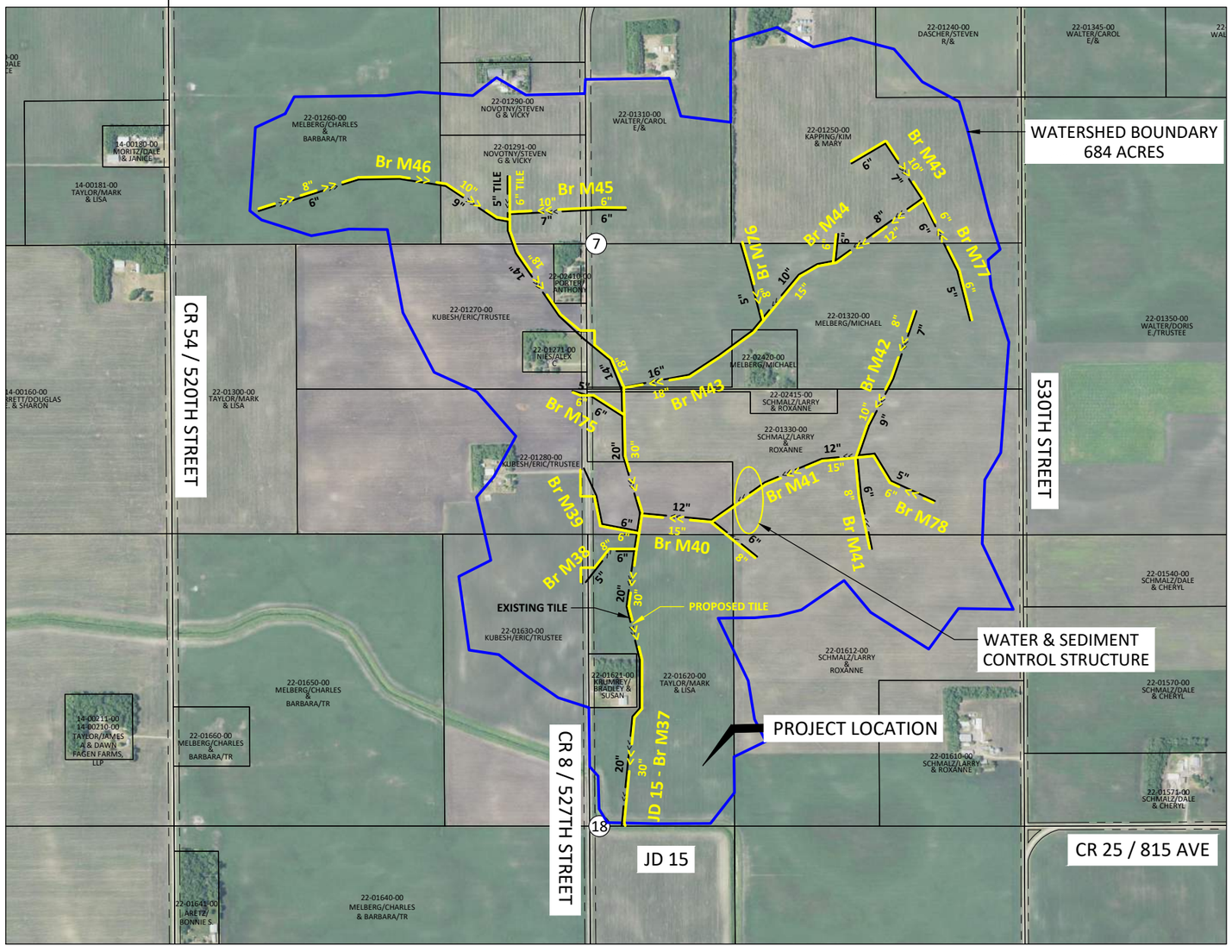
BUFFALO CREEK WATERSHED DISTRICT

PRELIMINARY PLANS FOR

JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS

DRAIN TILE, SURFACE INTAKES AND EROSION CONTROL

MARCH, 2025



PARTIAL MAP OF RENVILLE COUNTY

SHEET NUMBER	SHEET TITLE
GENERAL	
G0.01 - G0.02	TITLE SHEET, LEGEND
CIVIL	
C1.01-C2.02	DETAILS, TYPICAL SECTIONS
C3.01	GRADING PLAN
C5.01 - C5.017	DRAIN TILE PLAN & PROFILE

THIS PLAN SET CONTAINS 22 SHEETS.

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINE FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES".

PROJECT DATUM: RENVILLE CO COORDINATES

HORIZONTAL: NAD83 (2011)

VERTICAL: NAVD88

RECORD DRAWING INFORMATION

OBSERVER:

CONTRACTOR:

DATE:

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.

~~PRELIMINARY~~

~~FOR CONSTRUCTION~~

BILLY HALGERSON LIC. NO. 42046 DATE MM/DD/YYYY

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DESIGNED	NO.	ISSUED FOR	DATE
BMH			
DRAWN: JGB, PAD, BMH			
CHECKED: BLH			
CLIENT PROJ. NO.: 24X.136906.000			

BUFFALO CREEK WATERSHED DISTRICT

JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS

TITLE SHEET

SHEET G0.01

EXISTING TOPOGRAPHIC SYMBOLS

- ACCESS GRATE
- AIR CONDITION UNIT
- ANTENNA
- AUTO SPRINKLER CONNECTION
- BARRICADE PERMANENT
- BASKETBALL POST
- BENCH
- BIRD FEEDER
- BOLLARD
- BUSH
- CATCH BASIN RECTANGULAR CASTING
- CATCH BASIN CIRCULAR CASTING
- CURB STOP
- CLEAN OUT
- CULVERT END
- DRINKING FOUNTAIN
- DOWN SPOUT
- ELECTRIC CAR CHARGE STATION
- FILL PIPE
- FIRE HYDRANT
- FLAG POLE
- FLARED END / APRON
- FUEL PUMP
- GRILL
- GUY WIRE ANCHOR
- HANDHOLE
- HANDICAP SPACE
- IRRIGATION SPRINKLER HEAD
- IRRIGATION VALVE BOX
- LIFT STATION CONTROL PANEL
- LIFT STATION
- LIGHT POLE
- MAILBOX
- MANHOLE-COMMUNICATION
- MANHOLE-ELECTRIC
- MANHOLE-GAS
- MANHOLE-HEAT
- MANHOLE-RECLAIMED WATER
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- MANHOLE-UTILITY
- MANHOLE-WATER
- METER
- DRIVE-THRU MICROPHONE
- PARKING METER
- PAVEMENT MARKING
- PEDESTAL-COMMUNICATION
- PEDESTAL-ELECTRIC
- PEDESTRIAN PUSH BUTTON
- PICNIC TABLE
- POLE-UTILITY
- POST
- RAILROAD SIGNAL POLE
- REGULATION STATION GAS
- SATELLITE DISH
- SIGN TRAFFIC
- SIGNAL CONTROL CABINET
- SOIL BORING
- SIREN
- TELEPHONE BOOTH
- TILE INLET
- TILE OUTLET
- TILE RISER
- TRANSFORMER-ELECTRIC
- TREE-CONIFEROUS
- TREE-DEAD
- TREE-DECIDUOUS
- TREE STUMP
- TRAFFIC ARM BARRIER
- TRAFFIC SIGNAL
- TRASH CAN
- UTILITY MARKER
- VALVE
- VALVE POST INDICATOR
- VALVE VAULT
- VAULT
- VENT PIPE
- WATER SPIGOT
- WELL
- WETLAND DELINEATED MARKER
- WETLAND
- WET WELL
- YARD HYDRANT

PROPOSED TOPOGRAPHIC SYMBOLS

- CLEANOUT
- MANHOLE
- LIFT STATION
- STORM SEWER CIRCULAR CASTING
- STORM SEWER RECTANGULAR CASTING
- STORM SEWER FLARED END / APRON
- STORM SEWER OUTLET STRUCTURE
- STORM SEWER OVERFLOW STRUCTURE
- CURB BOX
- FIRE HYDRANT
- WATER VALVE
- WATER REDUCER
- WATER BEND
- WATER TEE
- WATER CROSS
- WATER SLEEVE
- WATER CAP / PLUG
- RIP RAP
- DRAINAGE FLOW
- TRAFFIC SIGNS

SURVEY SYMBOLS

- BENCHMARK LOCATION
- CONTROL POINT
- MONUMENT FOUND
- CAST IRON MONUMENT
- STONE MONUMENT

EXISTING TOPOGRAPHIC LINES

- RETAINING WALL
- FENCE
- FENCE-DECORATIVE
- GUARD RAIL
- TREE LINE
- BUSH LINE

SURVEY LINES

- CONTROLLED ACCESS
- BOUNDARY
- CENTERLINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- EXISTING LOT LINE
- PROPOSED LOT LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- SETBACK LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- TEMPORARY EASEMENT

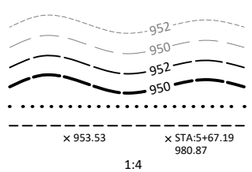
EXISTING UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- RECLAIMED WATER

PROPOSED UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- PIPE CASING
- TRENCHLESS PIPE (PLAN VIEW)
- TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION



- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- PROPOSED CONTOUR MAJOR
- PROPOSED GRADING LIMITS / SLOPE LIMITS
- PROJECT LIMITS
- PROPOSED SPOT ELEVATION
- RISE:RUN (SLOPE)

HATCH PATTERNS

- BITUMINOUS
- GRAVEL
- CONCRETE

EXISTING PRIVATE UTILITY LINES

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- UNDERGROUND FIBER OPTIC
- UNDERGROUND ELECTRIC
- UNDERGROUND GAS
- UNDERGROUND COMMUNICATION
- OVERHEAD ELECTRIC
- OVERHEAD COMMUNICATION
- OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL :

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: G-A G-A UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-22.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHOLING UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT
ADJ	ADJUST	GU	GUTTER	RT	RIGHT
ALT	ALTERNATE	GV	GATE VALVE	SAN	SANITARY SEWER
B-B	BACK TO BACK	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BIT	BITUMINOUS	HH	HANDHOLE	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL.	CLASS	MAX	MAXIMUM	TYP	TYPICAL
CLVT	CULVERT	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CON	CONCRETE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL		
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DWY	DRIVEWAY	PC	POINT OF CURVE	AC	ACRES
E	EXTERNAL CURVE DISTANCE	PCC	POINT OF COMPOUND CURVE	CF	CUBIC FEET
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CV	COMPACTED VOLUME
ELEV	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CY	CUBIC YARD
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	EA	EACH
ER	END RADIUS	PERM	PERMANENT	EV	EXCAVATED VOLUME
ESMT	EASEMENT	PI	POINT OF INTERSECTION	LB	POUND
EX	EXISTING	PL	PROPERTY LINE	LF	LINEAR FEET
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LS	LUMP SUM
F-F	FACE TO FACE	PT	POINT OF TANGENT	LV	LOOSE VOLUME
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	SF	SQUARE FEET
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SV	STOCKPILE VOLUME
FM	FORCEMAIN	R	RADIUS	SY	SQUARE YARD
FO	FIBER OPTIC	R/W	RIGHT-OF-WAY		
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE		
GRAN	GRANULAR	RET	RETAINING		

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PRELIMINARY NOT FOR CONSTRUCTION

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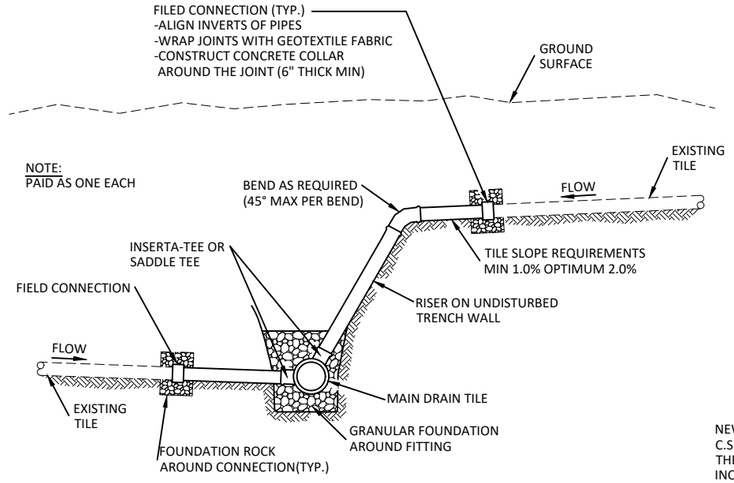
DRAWN	JGB, PAD, BMH		
CHECKED	BLH		
CLIENT PROJ. NO.	24X.136906.000		

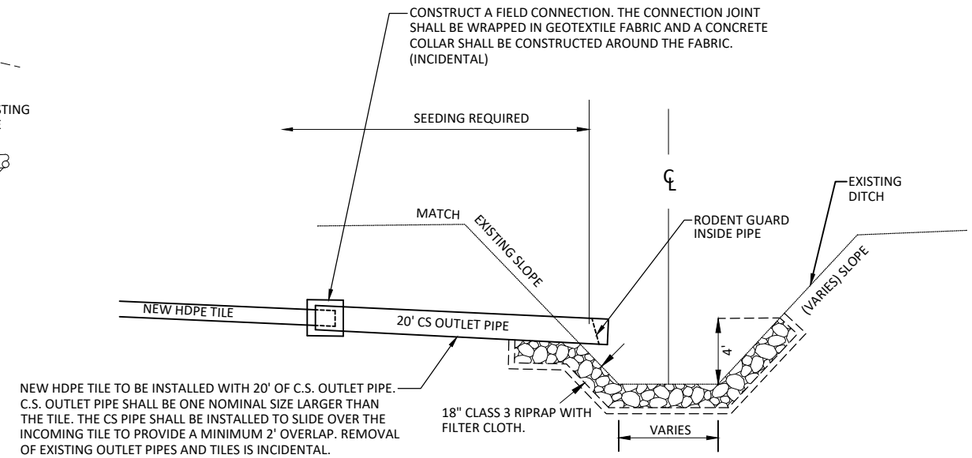
BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
LEGEND

SHEET G0.02



DRAIN TILE CONNECTION

NOT TO SCALE

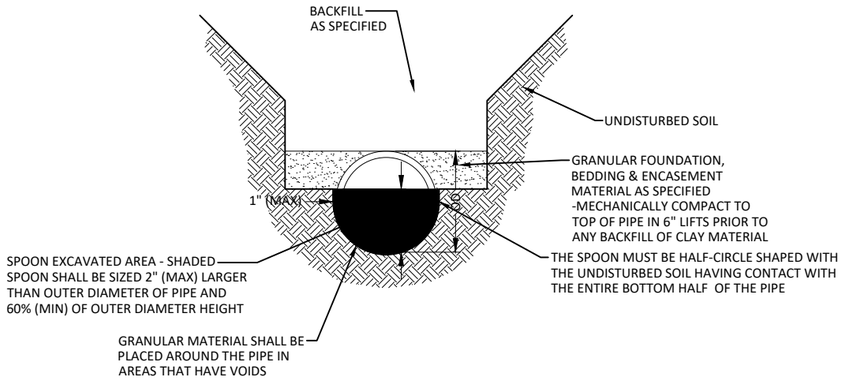


TYPICAL SECTION AT OPEN DITCH FOR HDPE TILE

NOT TO SCALE

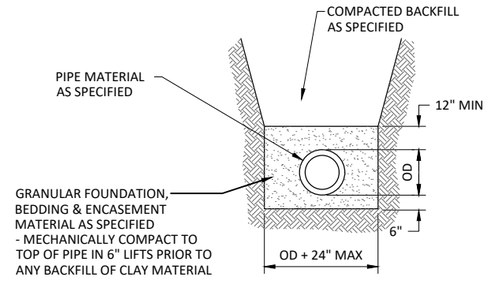
GRANULAR MATERIAL DEPTH TO INVERT TABLE (ASTM F2648)	
TILE SIZE (IN)	MAX PIPE DEPTH (FT)
4	21
6	21
8	21
10	21
12	21
15	21
18	21
24	19
30	19
36	18
42	18
48	18
60	17

NOTE: THIS TABLE IS FOR REFERENCE PURPOSES ONLY. ACTUAL MAXIMUM AND MINIMUM DEPTHS SHALL BE DETERMINED IN CONJUNCTION WITH MANUFACTURER AND TESTING AGENCIES.



HDPE "SPOON" TRENCH BEDDING DETAIL

NOT TO SCALE



HDPE RECTANGULAR TRENCH BEDDING DETAIL

NOT TO SCALE

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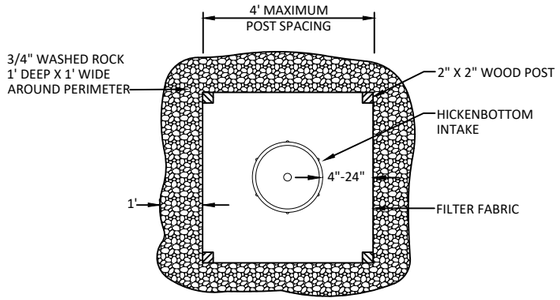
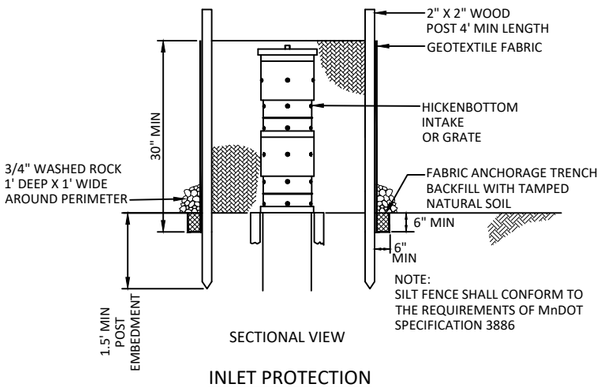
BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DETAILS
DRAIN TILE DETAILS

SHEET
C1.01



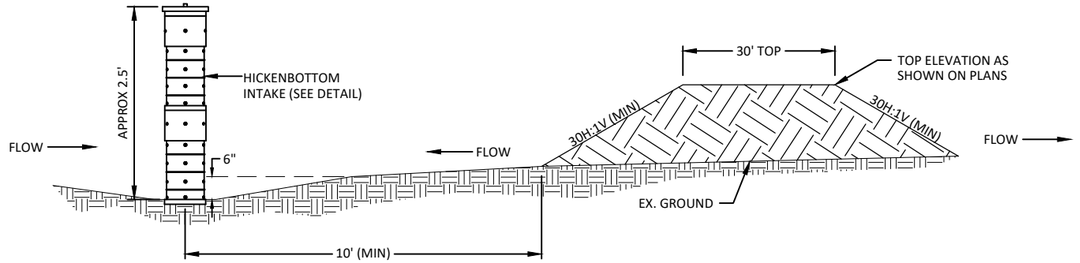
PLAN VIEW
NOT TO SCALE



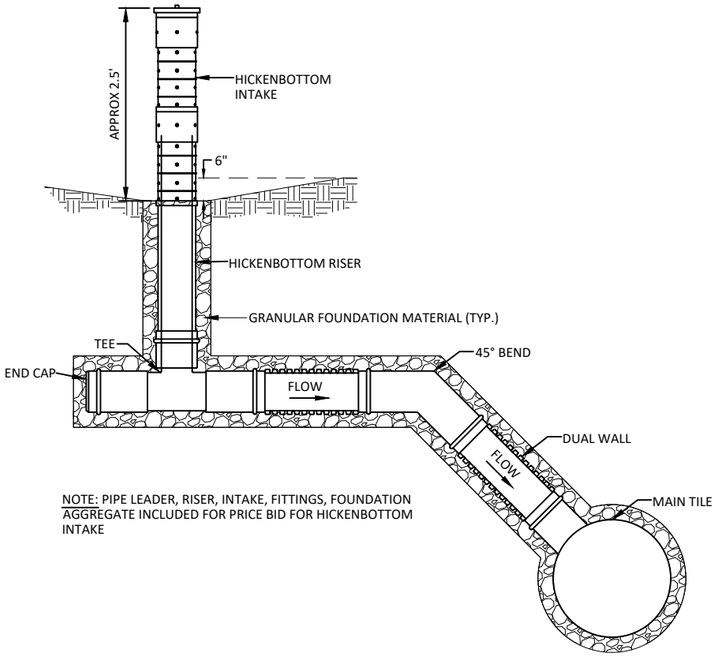
NOTE:
SILT FENCE SHALL CONFORM TO THE REQUIREMENTS OF MnDOT SPECIFICATION 3886

SECTIONAL VIEW

INLET PROTECTION
PREASSEMBLED SILT FENCE
NOT TO SCALE

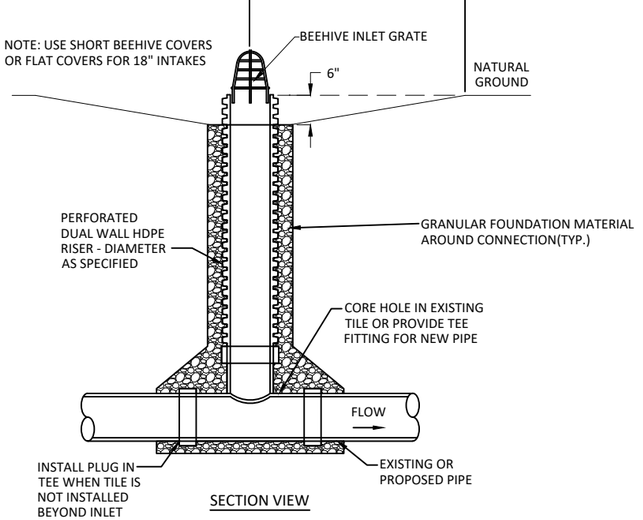


WATER SEDIMENT CONTROL BASIN (WASCOB)
NOT TO SCALE



NOTE: PIPE LEADER, RISER, INTAKE, FITTINGS, FOUNDATION AGGREGATE INCLUDED FOR PRICE BID FOR HICKENBOTTOM INTAKE

HICKENBOTTOM INTAKE - IN ROADSIDE DITCHES
NOT TO SCALE



SECTION VIEW

FIELD INTAKE - IN FIELDS
NOT TO SCALE

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DRAWN			
JGB, PAD, BMH			
CHECKED			
BLH			
CLIENT PROJ. NO.			
24X.136906.000			

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DETAILS
DRAIN TILE DETAILS

SHEET
C1.02

WASCOB - 1
DESIGN STORM = 1 YEAR
DRAW DOWN TIME = 19 HR
WATER STORED = 1.22 ACRE-FEET
WATER SURFACE AREA = 2.27 ACRES

F&I:
2800 CY - COMMON EMBANKMENT

NOTE: SEE BRANCH M41 DRAIN TILE PLAN FOR ADDITIONAL DETAILS.

22-01330-00
SCHMALZ/LARRY & ROXANNE

22-01612-00
SCHMALZ/LARRY
& ROXANNE

22-01280-00
KUBESH/ERIC/TRUSTEE

22-01620-00
TAYLOR/MARK
& LISA

PROPERTY LINE

EXISTING CONTOUR LINE

PROPOSED CONSTRUCTION LIMITS (TYP.)

PROPOSED CONTOUR LINE

Br 41

257+00
255+00
254+00
253+00
252+00
251+45.76
PI: 251+45.76
PI: 207+43.74
209+00
210+00
211+00
212+00
213+00

1067
1068
1069
1066

30:1

30' TOP

HORZ. SCALE 0 25 50 FEET

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.

PRELIMINARY NOT FOR CONSTRUCTION

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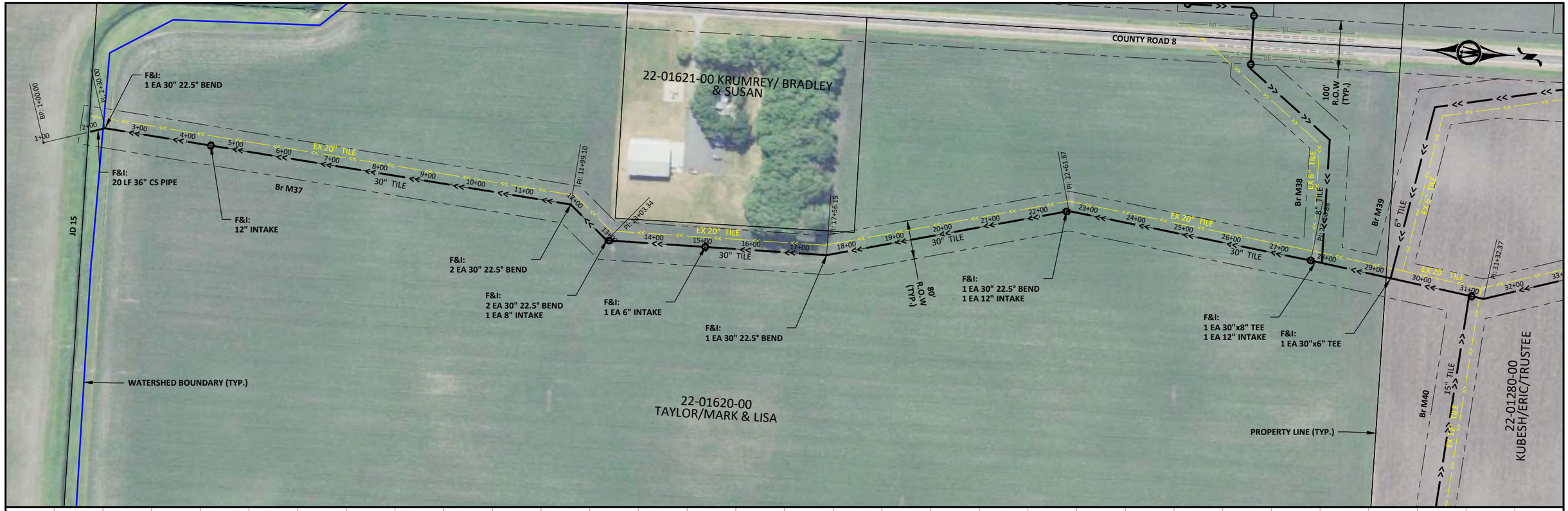
BOLTON & MENK

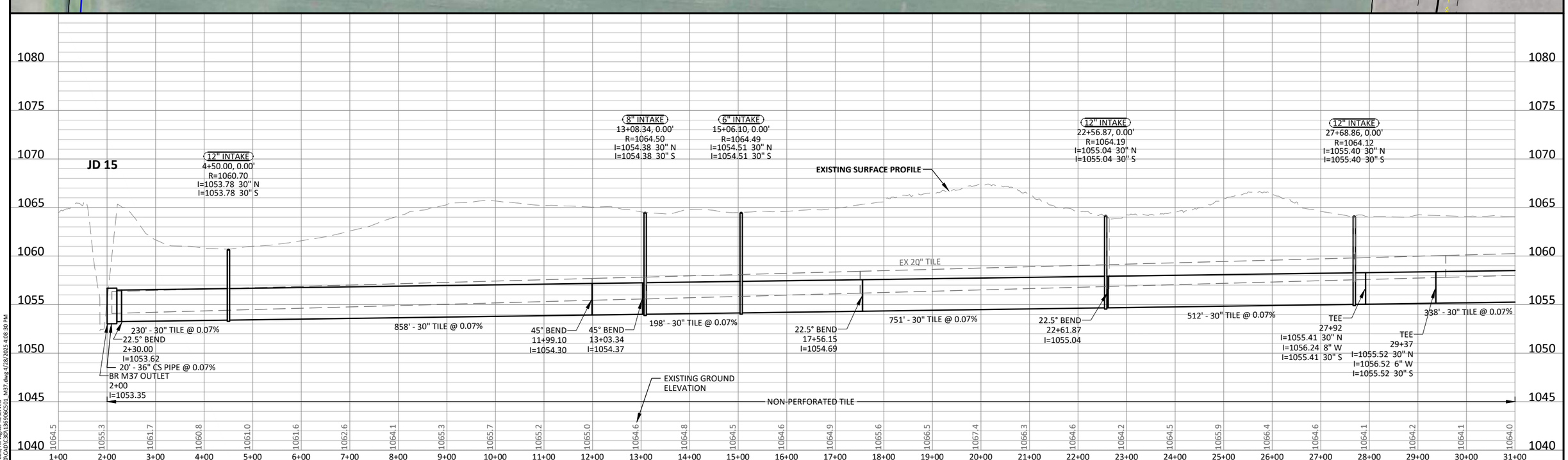
1243 CEDAR STREET NE
SLEEPY EYE, MN 56085
Phone: (507) 810-4184
Email: SleepyEye@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
BMH			
DRAWN			
JGB, PAD, BMH			
CHECKED			
BLH			
CLIENT PROJ. NO.			
24X.136906.000			

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
BR M41 WASCOB - GRADING PLAN
WASCOB - 1

SHEET C3.01





HORZ. SCALE 0 100 200 FEET
VERT. SCALE 0 5 10 FEET

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BILLY H. BLEGEN LIC. NO. 42046 DATE MM/DD/YYYY

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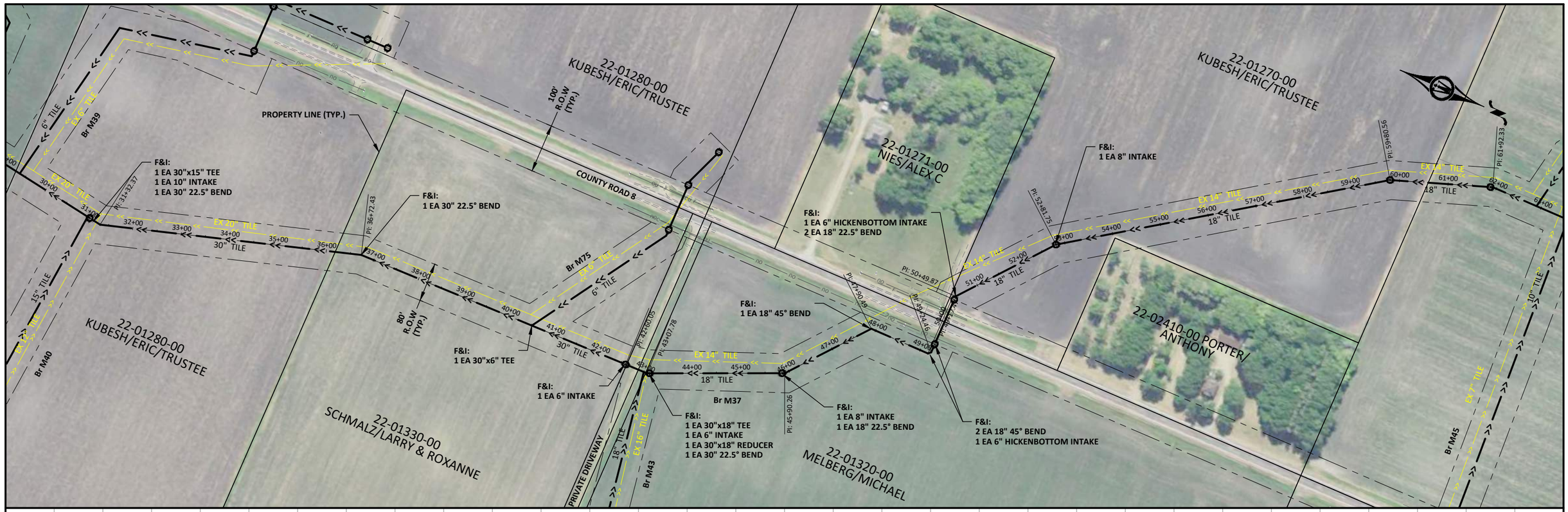
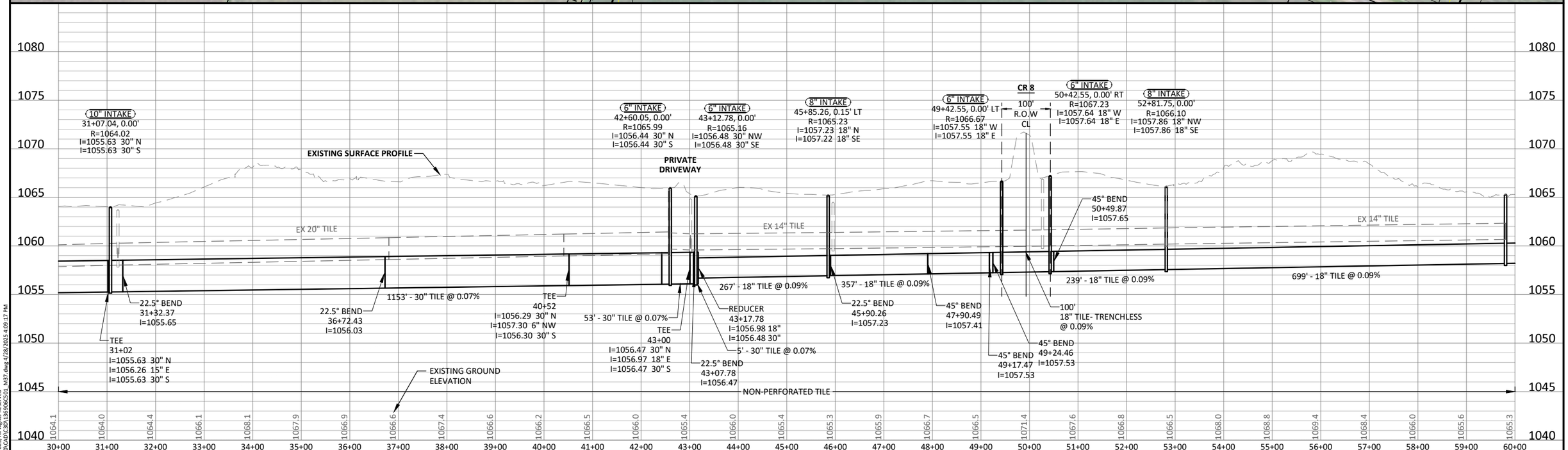
DESIGNED BMH
DRAWN JGB, PAD, BMH
CHECKED BLH
CLIENT PROJ. NO. 24X.136906.000

NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M37
STA 1+00 - STA 31+00

SHEET C5.01





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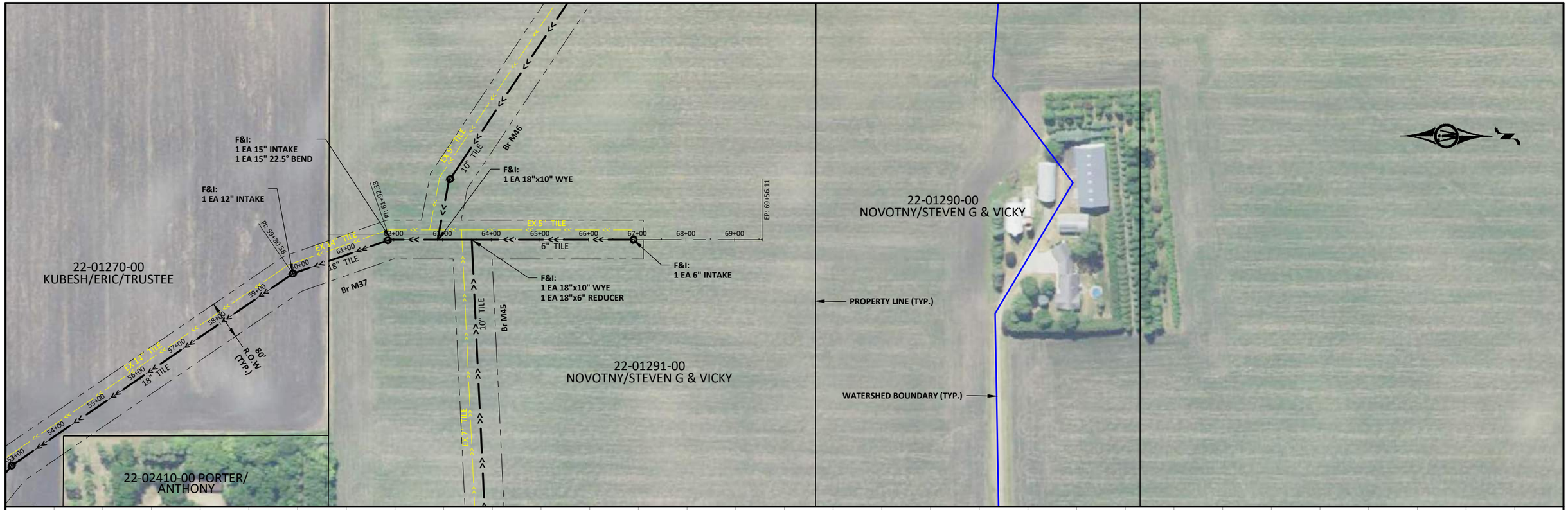
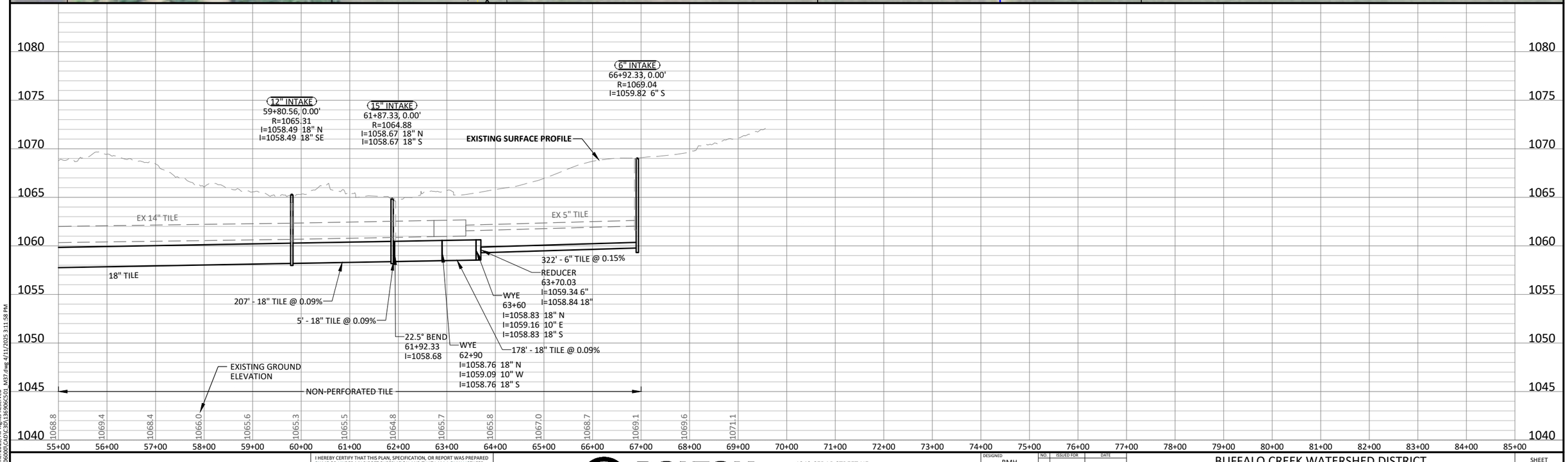
DRAWN	JGB, PAD, BMH
CHECKED	BLH
CLIENT PROJ. NO.	24X.136906.000

NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M37
STA 30+00 - STA 60+00

SHEET C5.02





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CHECKED	BLH
CLIENT PROJ. NO.	24X.136906.000

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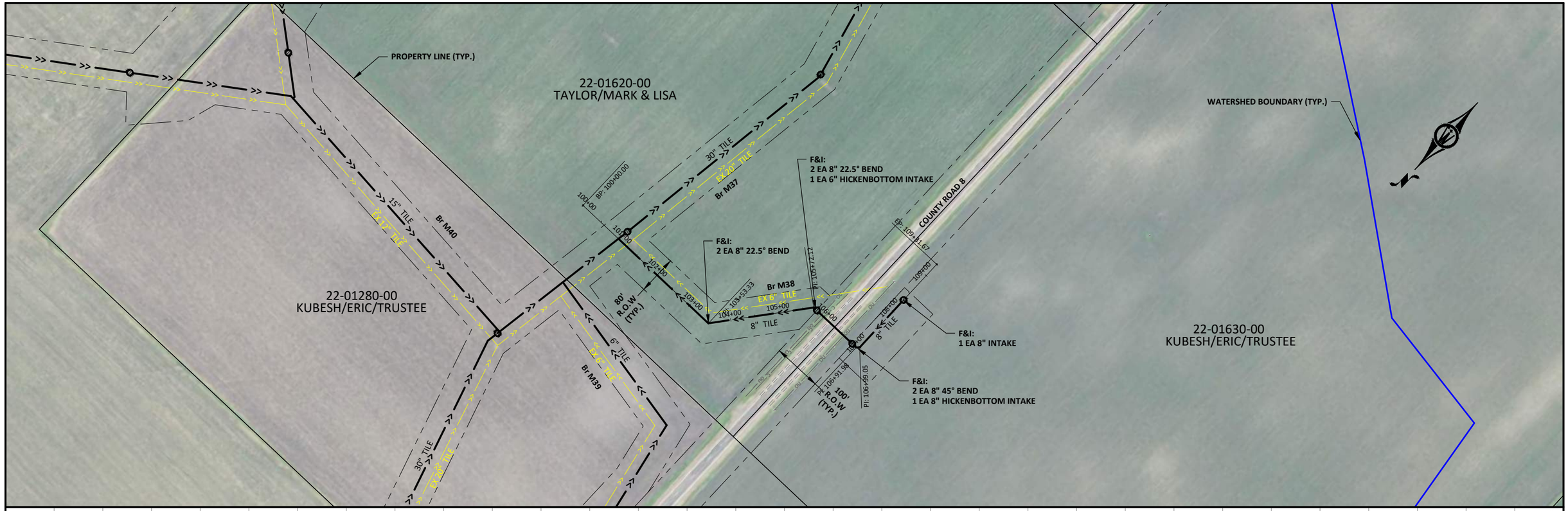
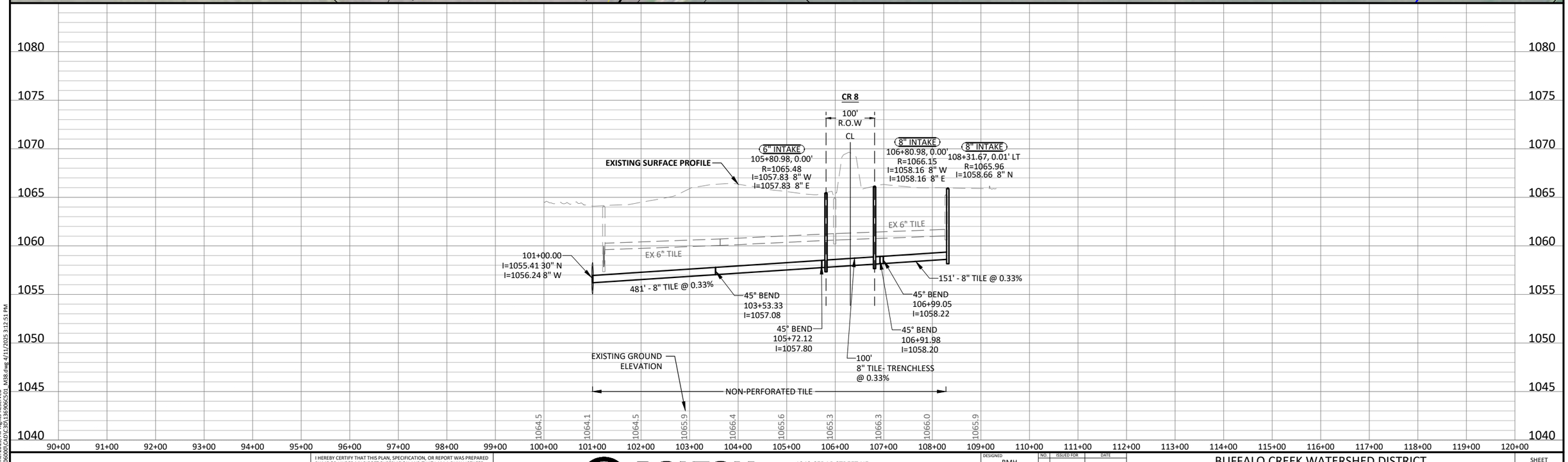
BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M37
STA 55+00 - STA 85+00

SHEET C5.03





HORZ. SCALE 0 100 200 FEET

VERT. SCALE 0 5 10 FEET

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TYPED OR PRINTED NAME _____
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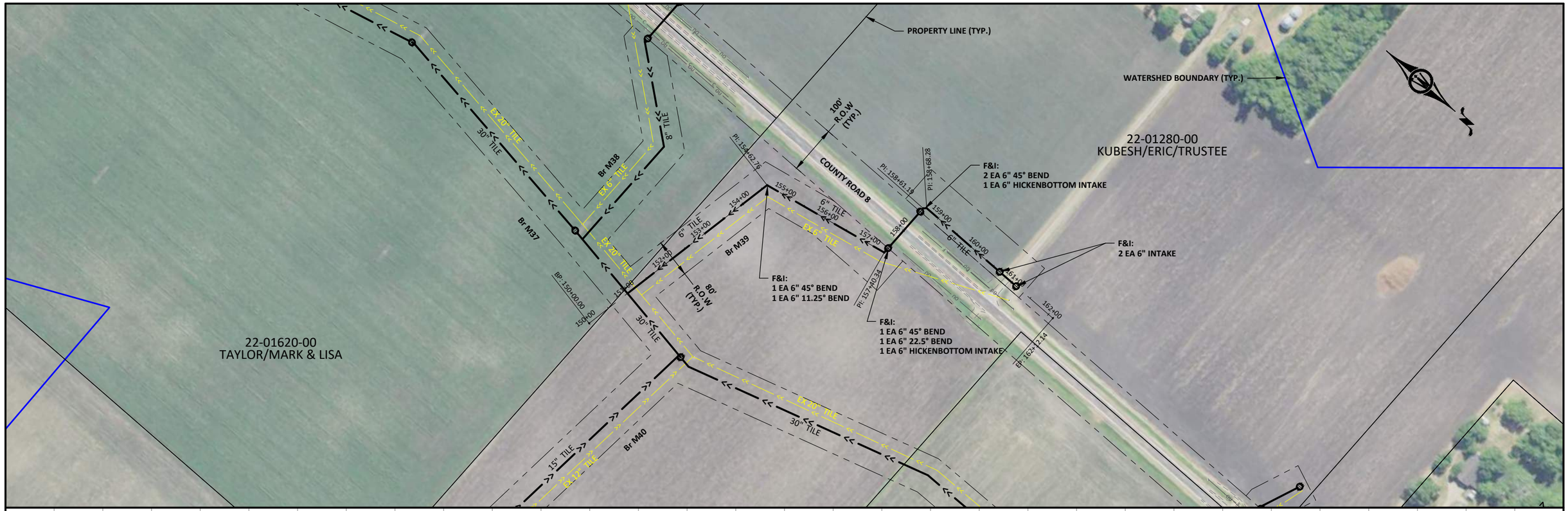
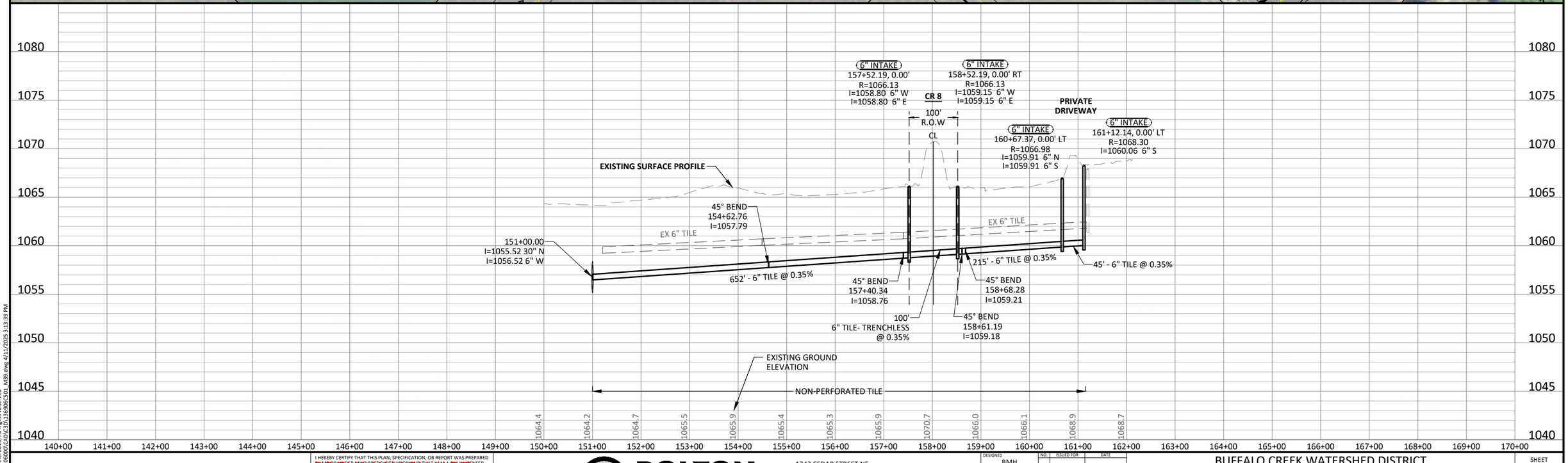
BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M38
STA 90+00 - STA 120+00

SHEET C5.04





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CHECKED	BLH
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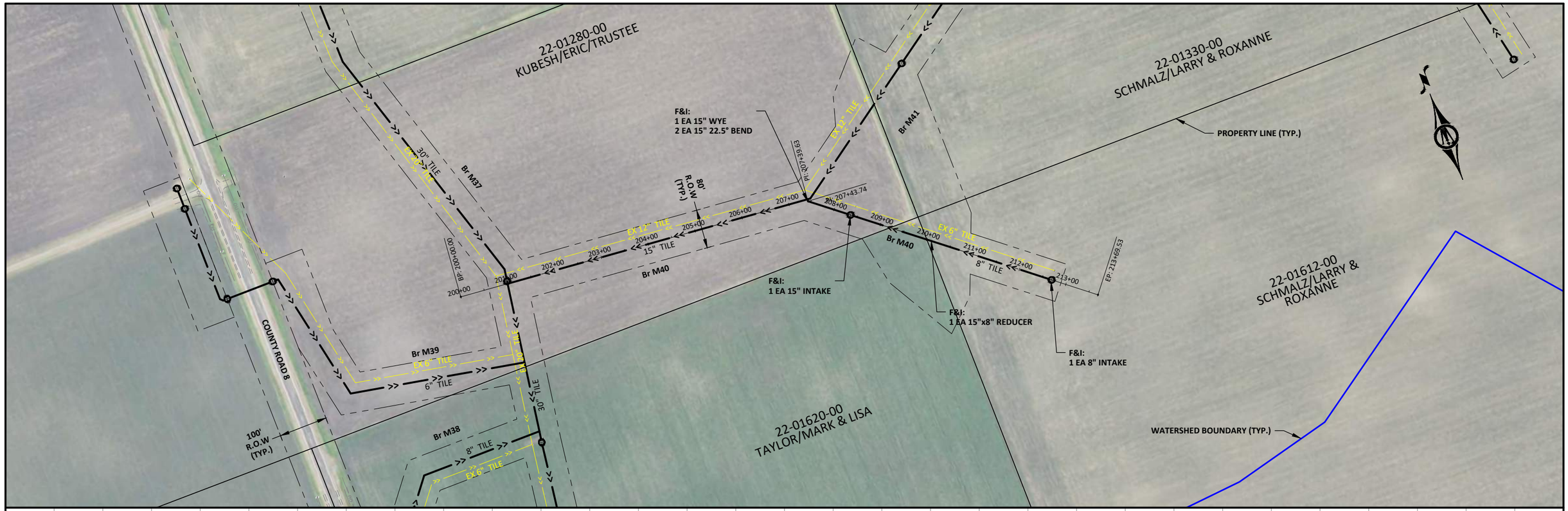
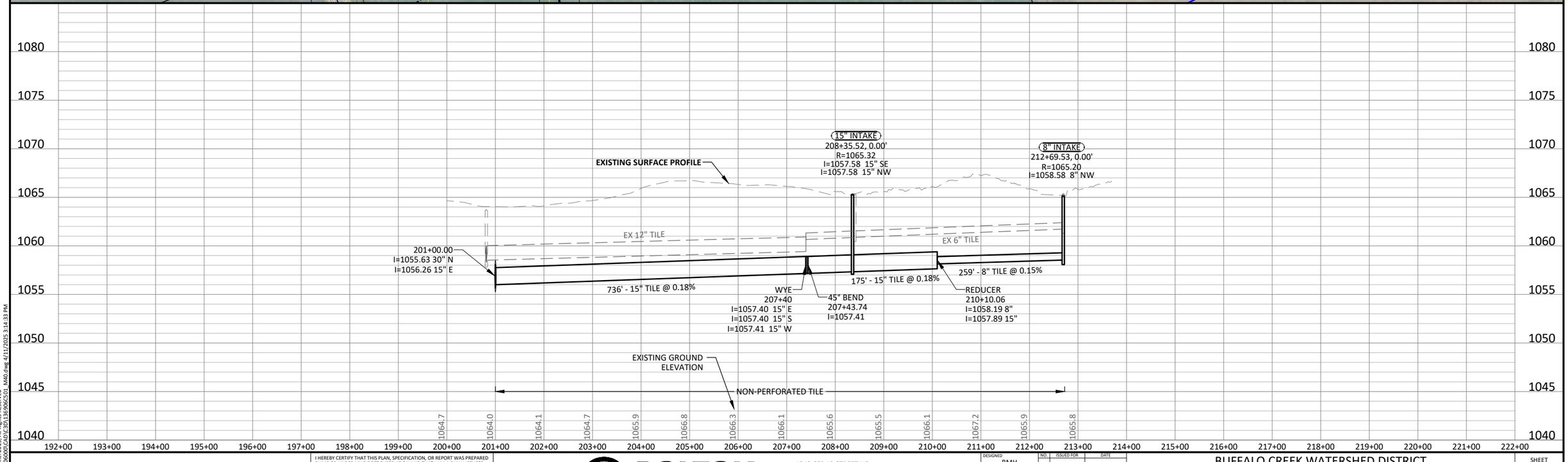
BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M39
STA 140+00 - STA 170+00

SHEET C5.05





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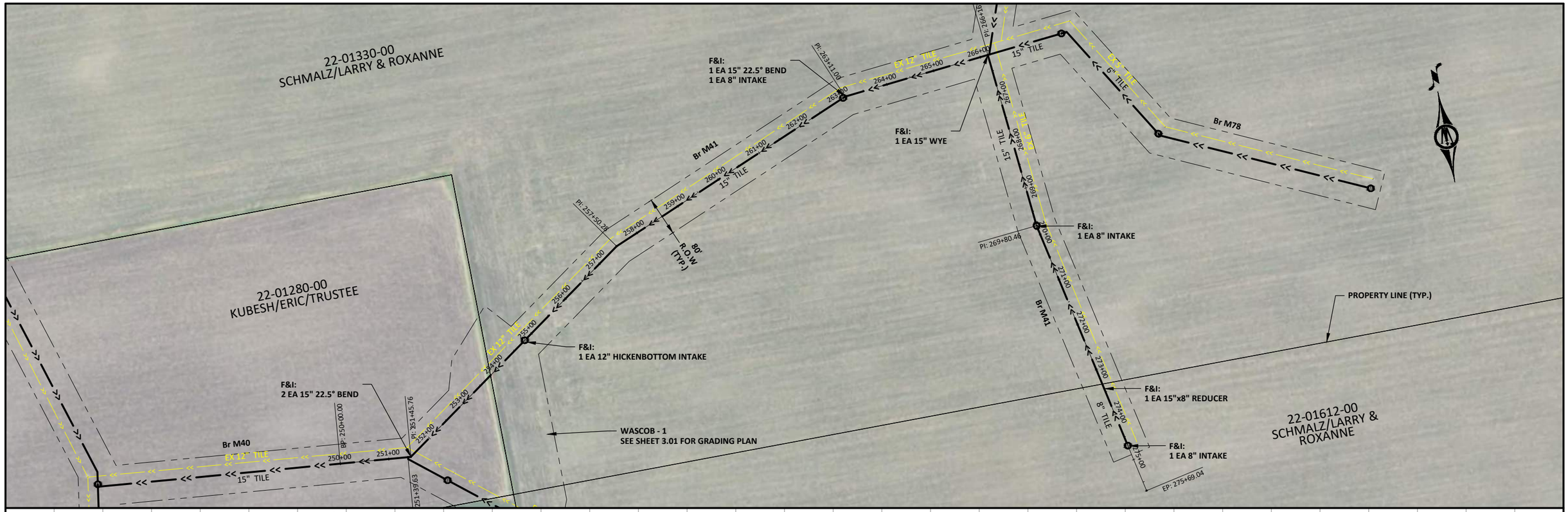
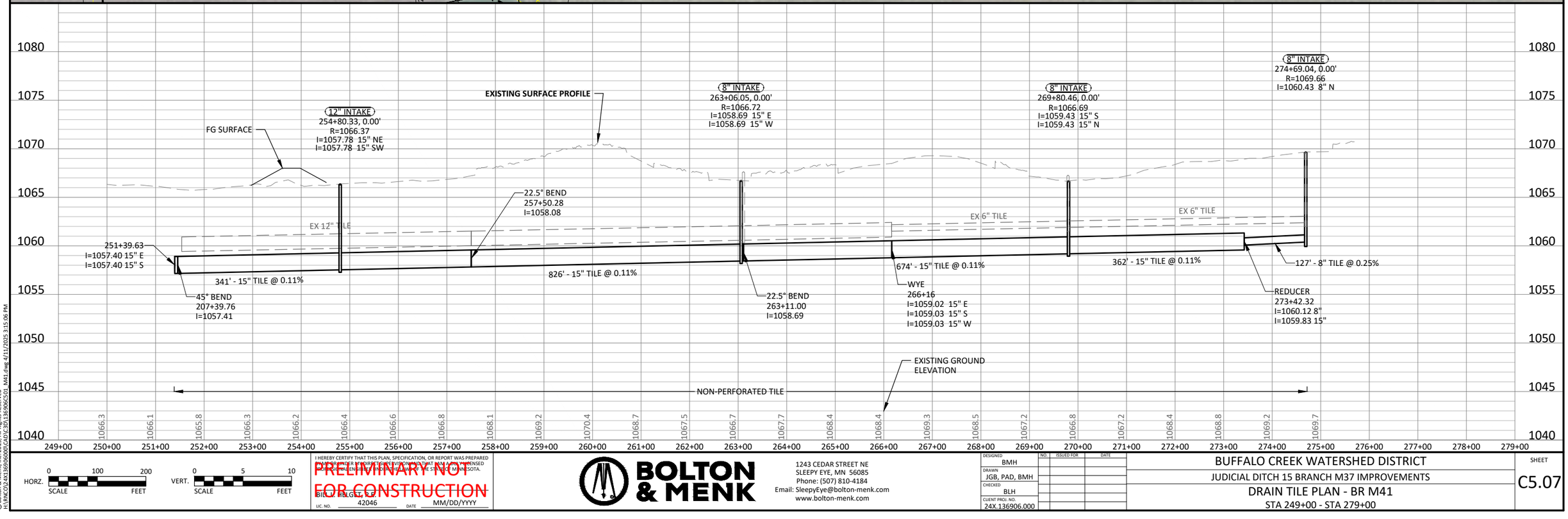
NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M40
STA 192+00 - STA 222+00

SHEET C5.06

H:\RNCO\24X\136906.000\CAD\C3D\136906C501_M40.dwg 4/11/2025 3:14:33 PM





HORZ. SCALE 0 100 200 FEET

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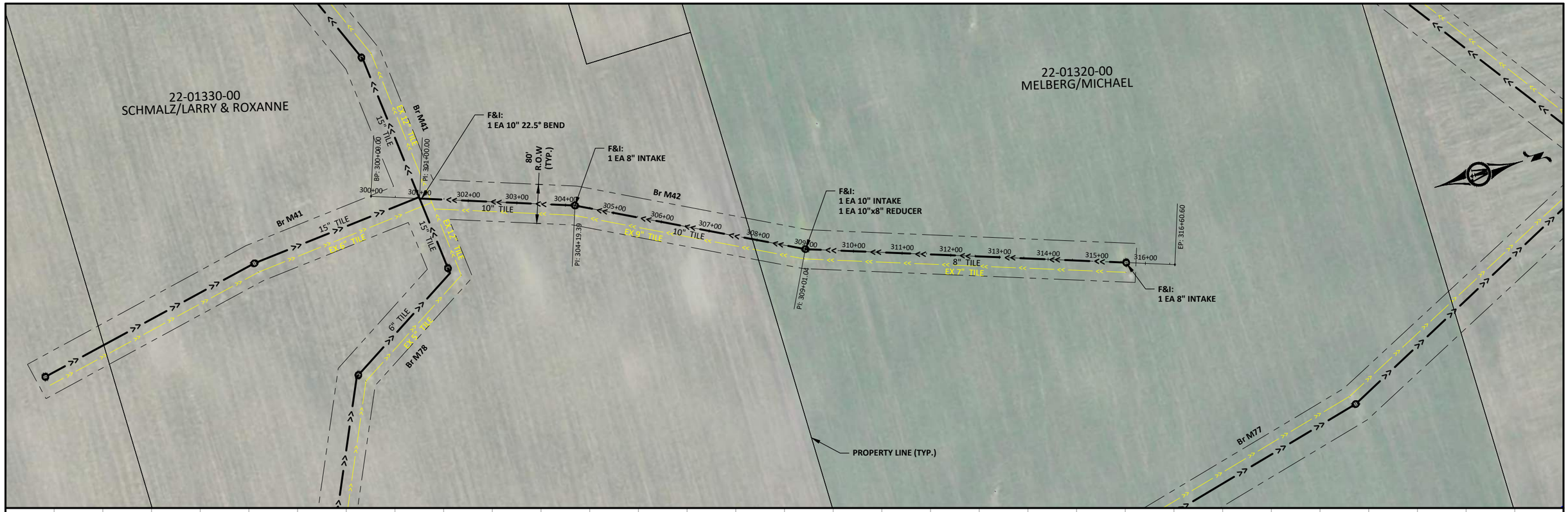
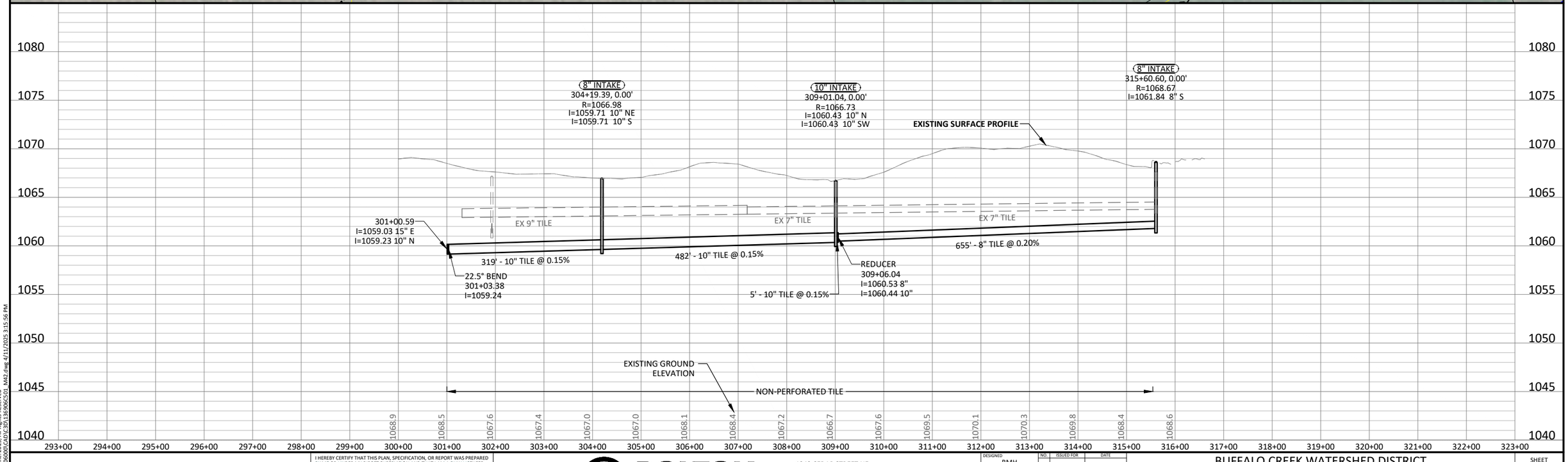
CHECKED	BLH
CLIENT PROJ. NO.	24X.136906.000

NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M41
STA 249+00 - STA 279+00

SHEET C5.07





HORZ. SCALE 0 100 200 FEET

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BILLY J. BLOCK, P.E. LIC. NO. 42046 DATE MM/DD/YYYY

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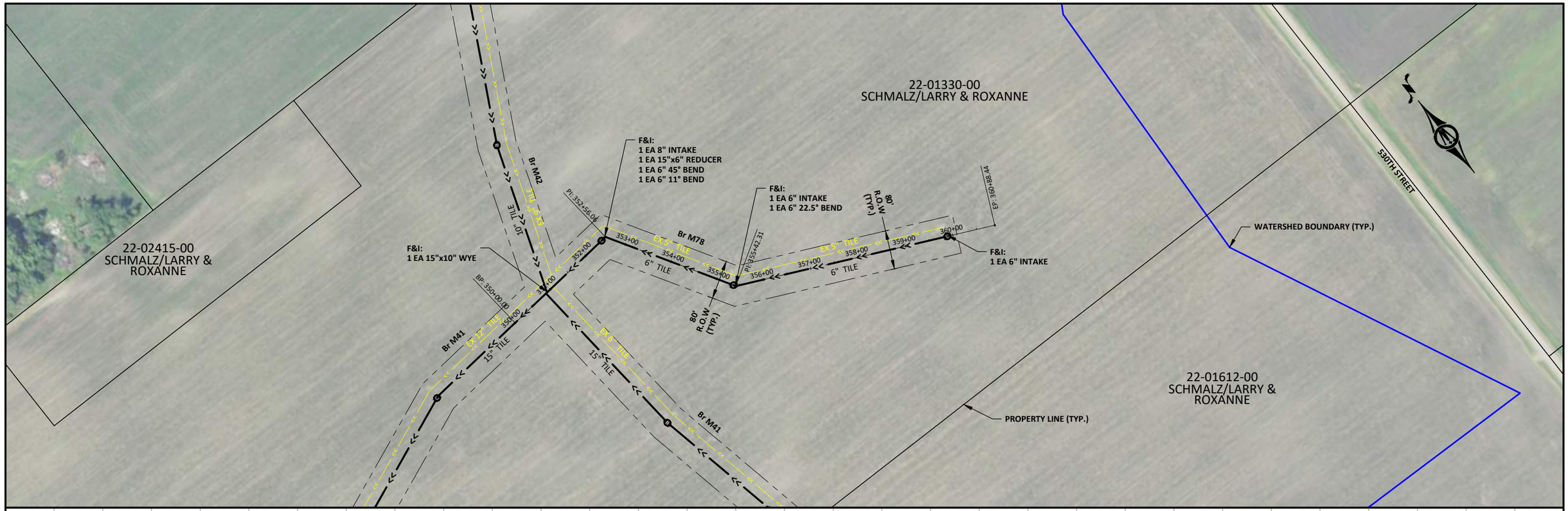
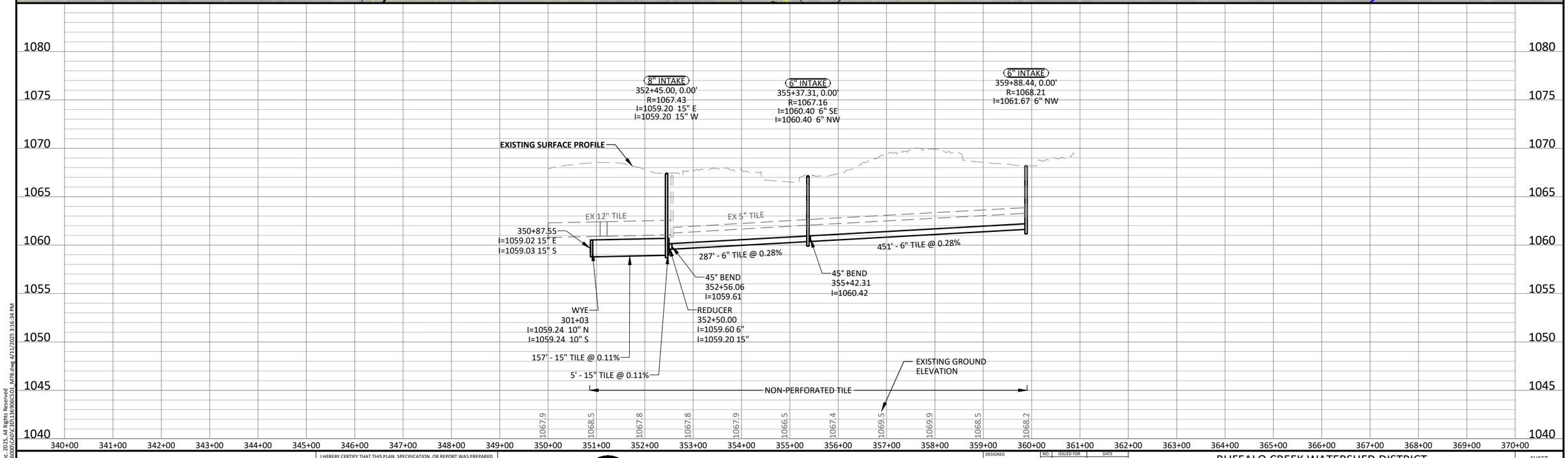
DESIGNED	NO.	ISSUED FOR	DATE
BMH			
DRAWN JGB, PAD, BMH			
CHECKED BLH			
CLIENT PROJ. NO. 24X.136906.000			

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M42
STA 293+00 - STA 323+00

SHEET C5.08





HORZ. SCALE 0 100 200 FEET

VERT. SCALE 0 5 10 FEET

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BILLY H. BLEGEN, P.E.
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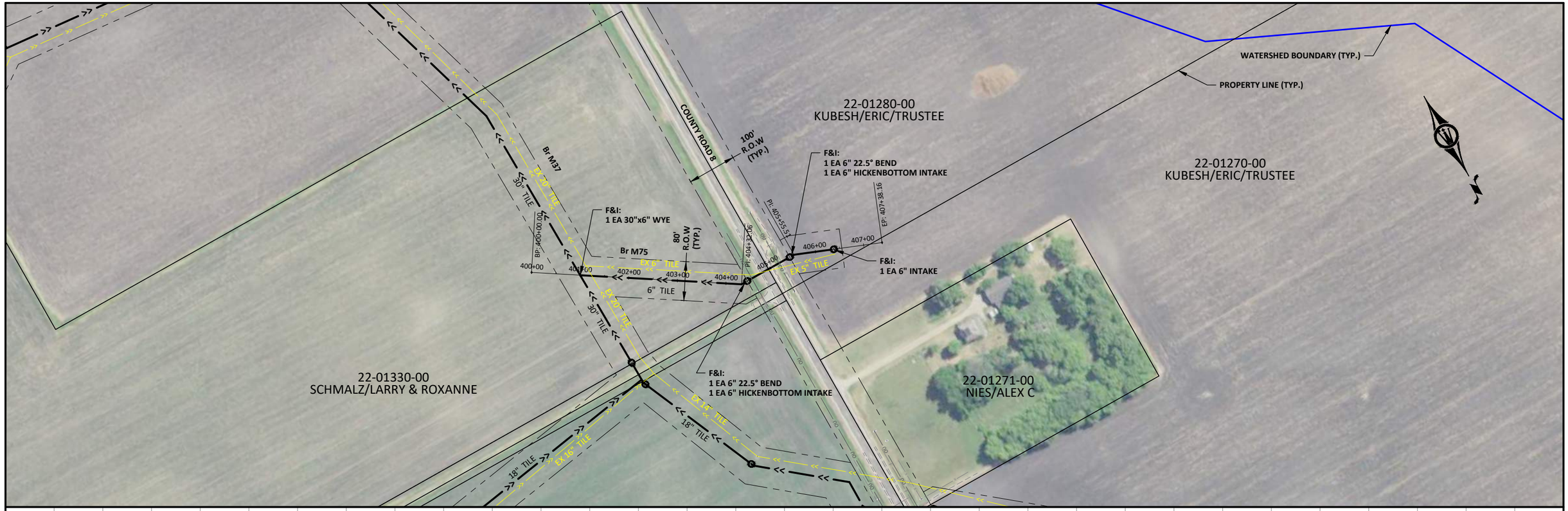
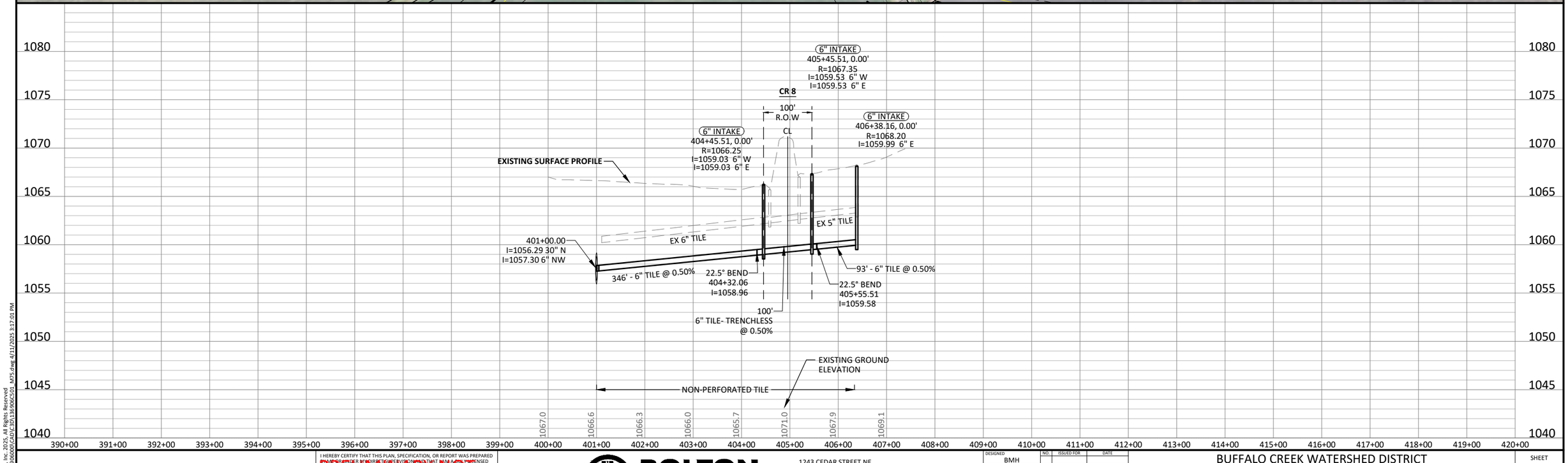
BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M78
STA 340+00 - STA 370+00

SHEET C5.09





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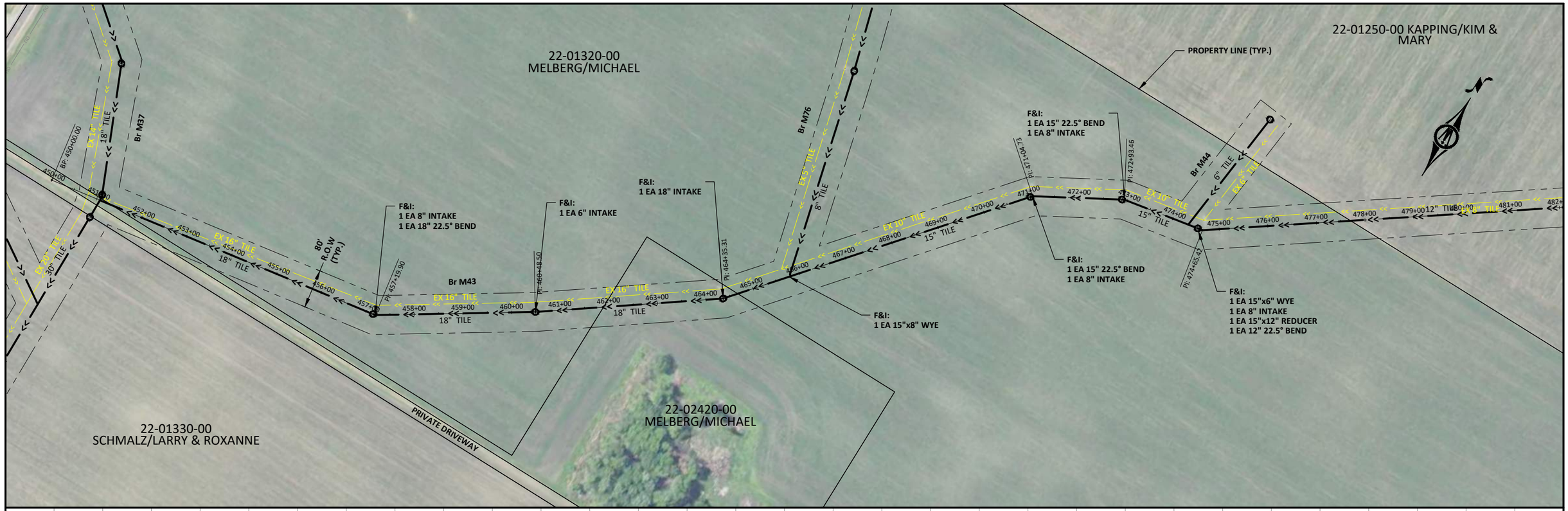
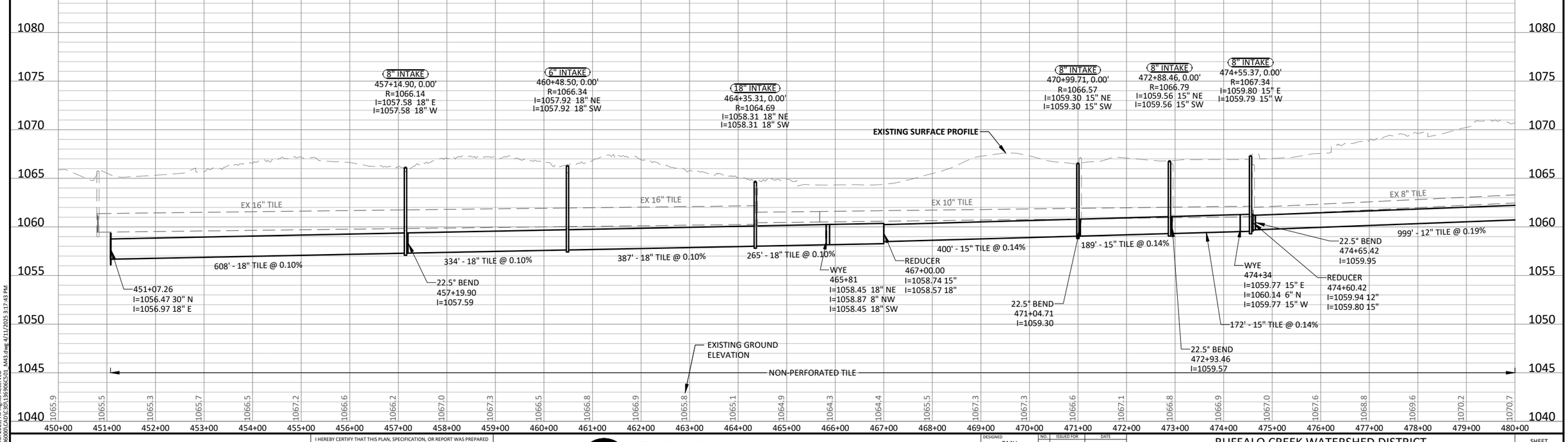
BMH			
DRAWN			
JGB, PAD, BMH			
CHECKED			
BLH			
CLIENT PROJ. NO.			
24X.136906.000			

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M75
STA 390+00 - STA 420+00

SHEET C5.10





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BRIAN L. HILGERT, P.E.
LIC. NO. 42046
DATE MM/DD/YYYY

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CHECKED	BLH
CLIENT PROJ. NO.	24X.136906.000

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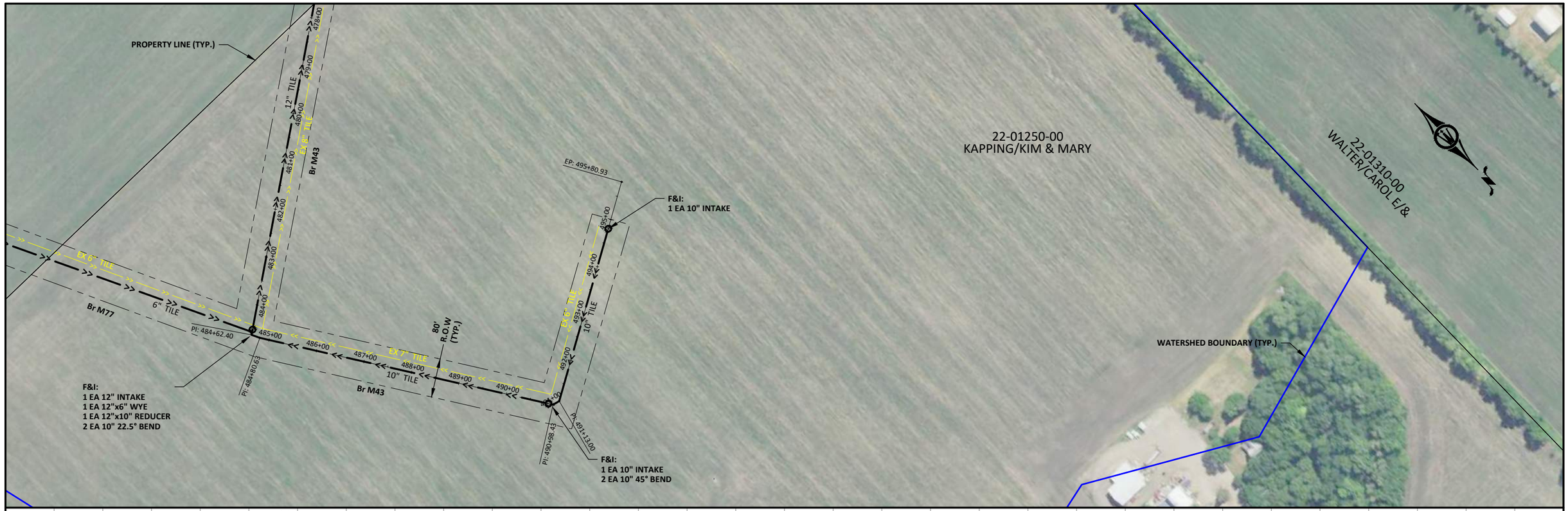
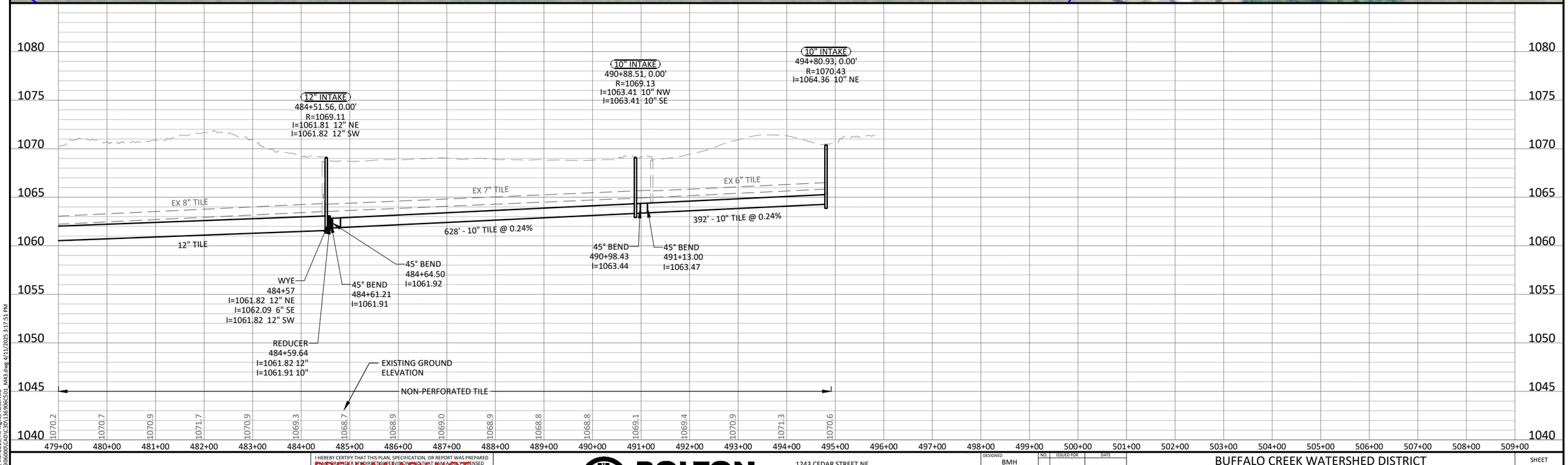
BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M43
STA 450+00 - STA 480+00

SHEET C5.11





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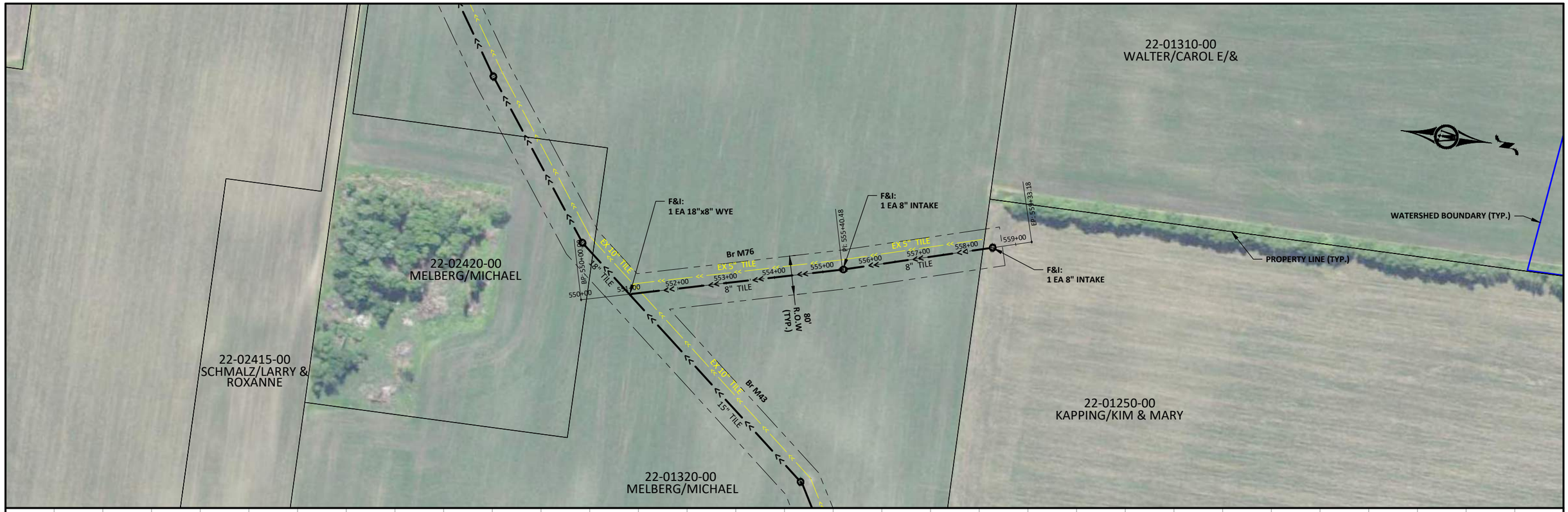
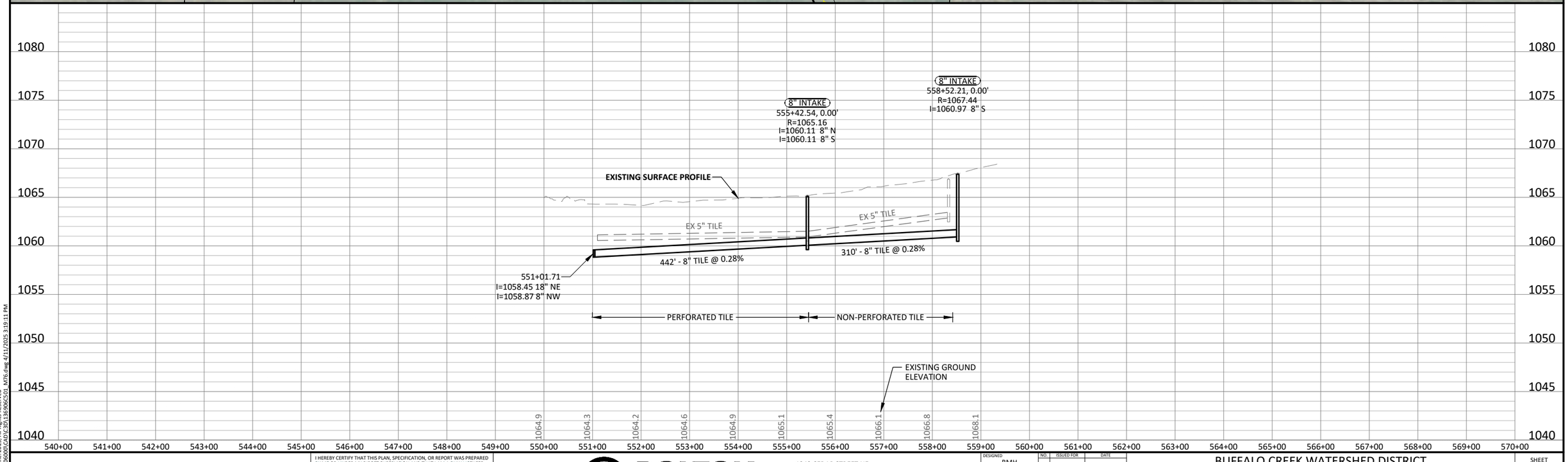
DESIGNED BMH
DRAWN JGB, PAD, BMH
CHECKED BLH
CLIENT PROJ. NO. 24X.136906.000

NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M43
STA 479+00 - STA 509+00

SHEET C5.12





HORZ. SCALE 0 100 200 FEET

VERT. SCALE 0 5 10 FEET

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Phone: (507) 810-4184
Email: SleepyEye@bolton-menk.com
www.bolton-menk.com

DESIGNED	BMH
DRAWN	JGB, PAD, BMH
CHECKED	BLH
CLIENT PROJ. NO.	24X.136906.000

NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M76
STA 540+00 - STA 570+00

SHEET C5.13

22-02420-00
MELBERG/MICHAEL

22-02415-00
SCHMALZ/LARRY &
ROXANNE

PROPERTY LINE (TYP.)

22-01320-00
MELBERG/MICHAEL

Br M43

15" TILE

31L-01-23

Br M44

6" TILE

BP: 600+00.00

600+00 601+00 602+00 603+00 604+00

EP: 604+73.50

80'
R.O.W
(TYP.)

EX 6" TILE

F&I:
1 EA 6" INTAKE

22-01250-00
KAPPING/KIM & MARY

12" TILE

6" INTAKE
603+73.50, 0.00'
R=1067.92
l=1061.51 6" S

EXISTING SURFACE PROFILE

601+00.00
l=1059.77 15" E
l=1060.14 6" N

EX 6" TILE

274' - 6" TILE @ 0.50%

NON-PERFORATED TILE

EXISTING GROUND
ELEVATION

1069.8 1066.9 1067.3 1068.4 1068.0

1080 1075 1070 1065 1060 1055 1050 1045 1040

585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00 593+00 594+00 595+00 596+00 597+00 598+00 599+00 600+00 601+00 602+00 603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00 611+00 612+00 613+00 614+00 615+00

HORZ. 0 100 200 SCALE FEET

VERT. 0 5 10 SCALE FEET

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.

PRELIMINARY NOT FOR CONSTRUCTION

BILLY H. BLGET, PE
LIC. NO. 42046 DATE MM/DD/YYYY

BOLTON & MENK

1243 CEDAR STREET NE
SLEEPY EYE, MN 56085
Phone: (507) 810-4184
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NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M44
STA 585+00 - STA 615+00

SHEET C5.14

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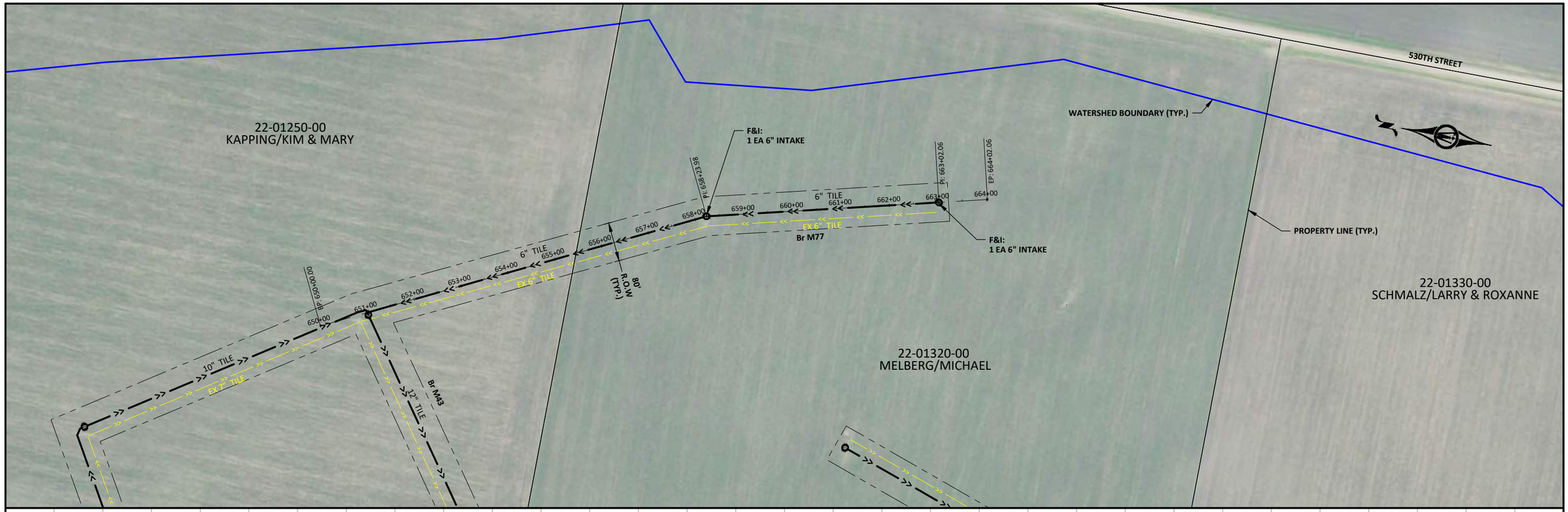

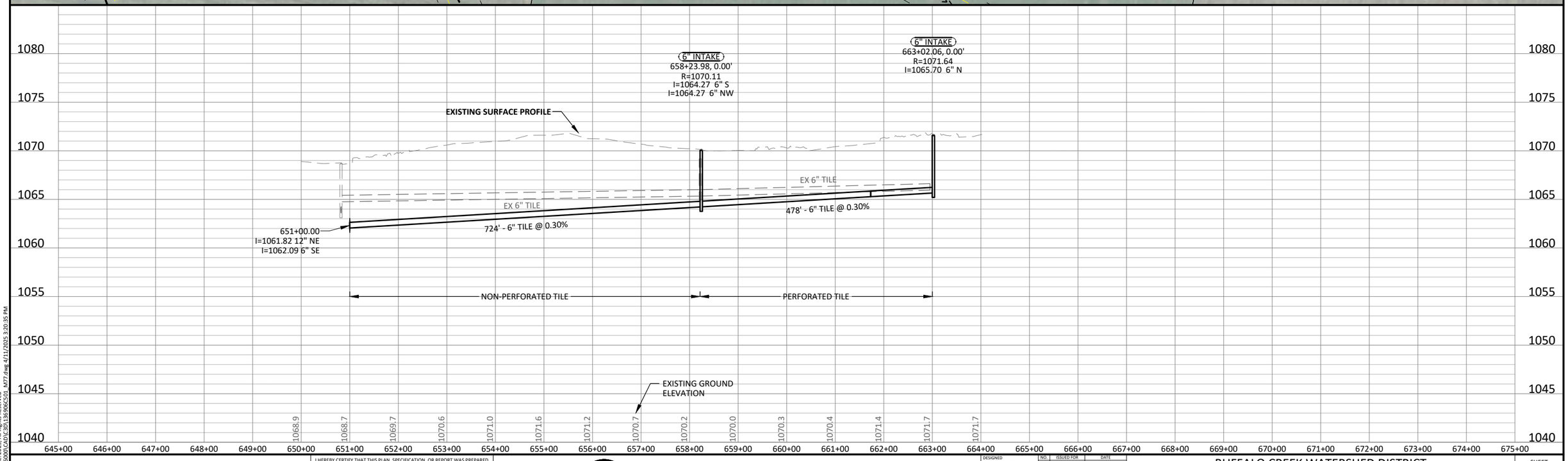

HORZ. SCALE 0 100 200 FEET

VERT. SCALE 0 5 10 FEET

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PRELIMINARY NOT FOR CONSTRUCTION

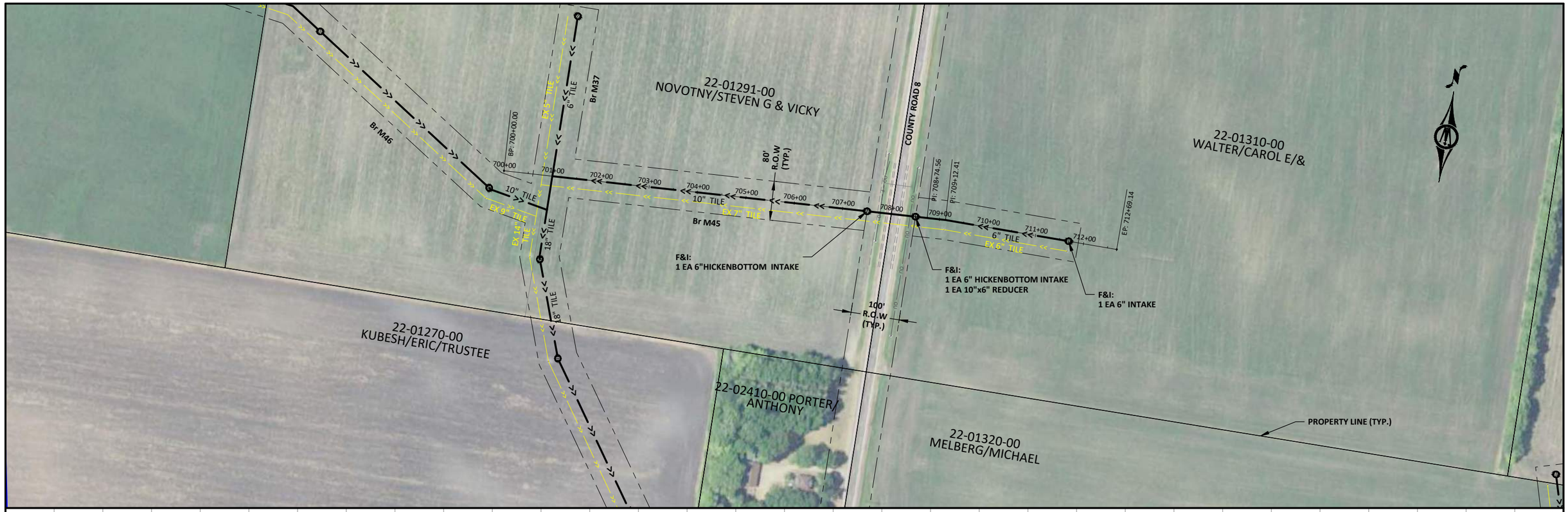
BILLY L. HILGER, PE LIC. NO. 42046 DATE MM/DD/YYYY

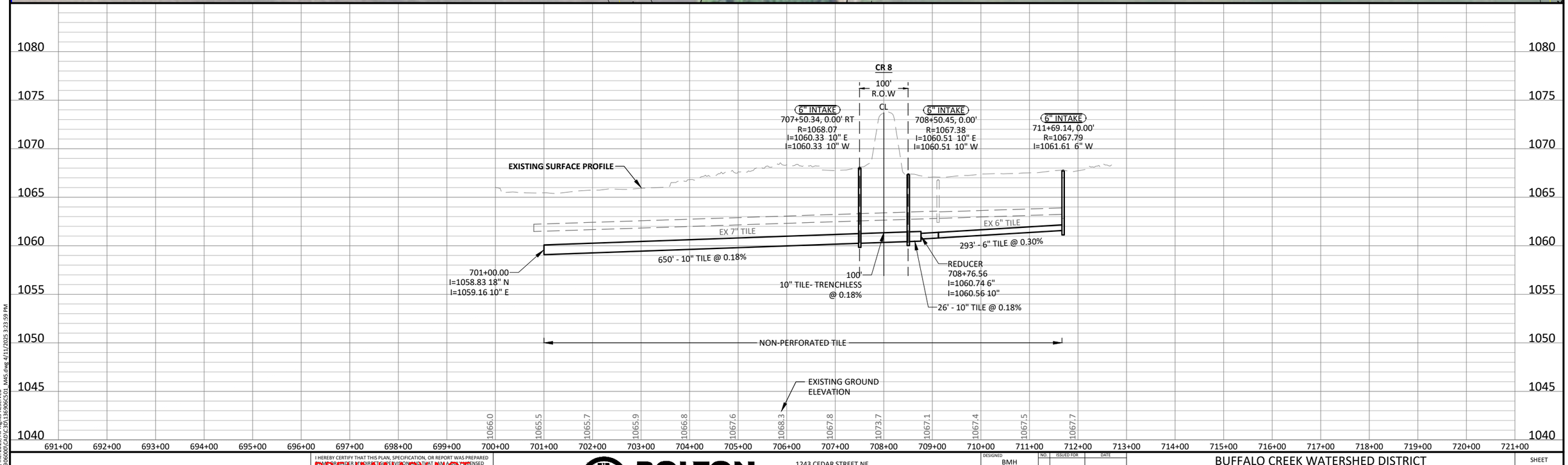
BOLTON & MENK
1243 CEDAR STREET NE
SLEEPY EYE, MN 56085
Phone: (507) 810-4184
Email: SleepyEye@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
BMH			
DRAWN JGB, PAD, BMH			
CHECKED BLH			
CLIENT PROJ. NO. 24X.136906.000			

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M77
STA 645+00 - STA 675+00

SHEET C5.15





HORZ. SCALE 0 100 200 FEET

VERT. SCALE 0 5 10 FEET

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PRELIMINARY NOT FOR CONSTRUCTION

BILLY HILGER, P.E.
LIC. NO. 42046 DATE MM/DD/YYYY

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SLEEPY EYE, MN 56085
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DESIGNED	BMH
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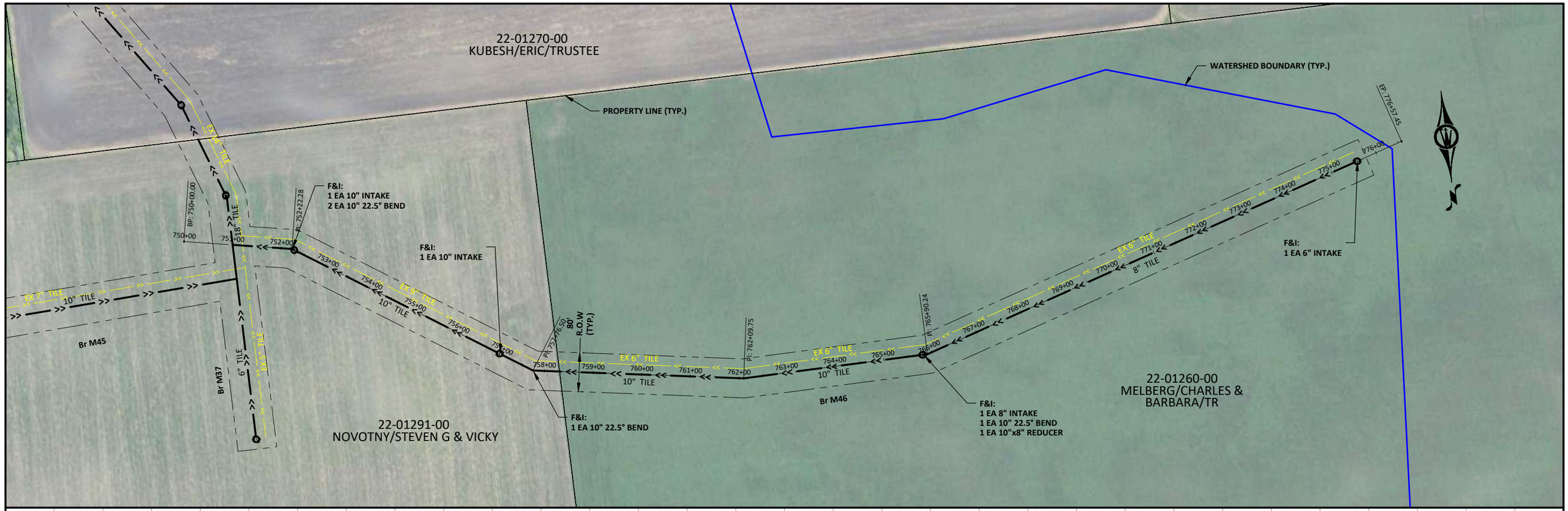
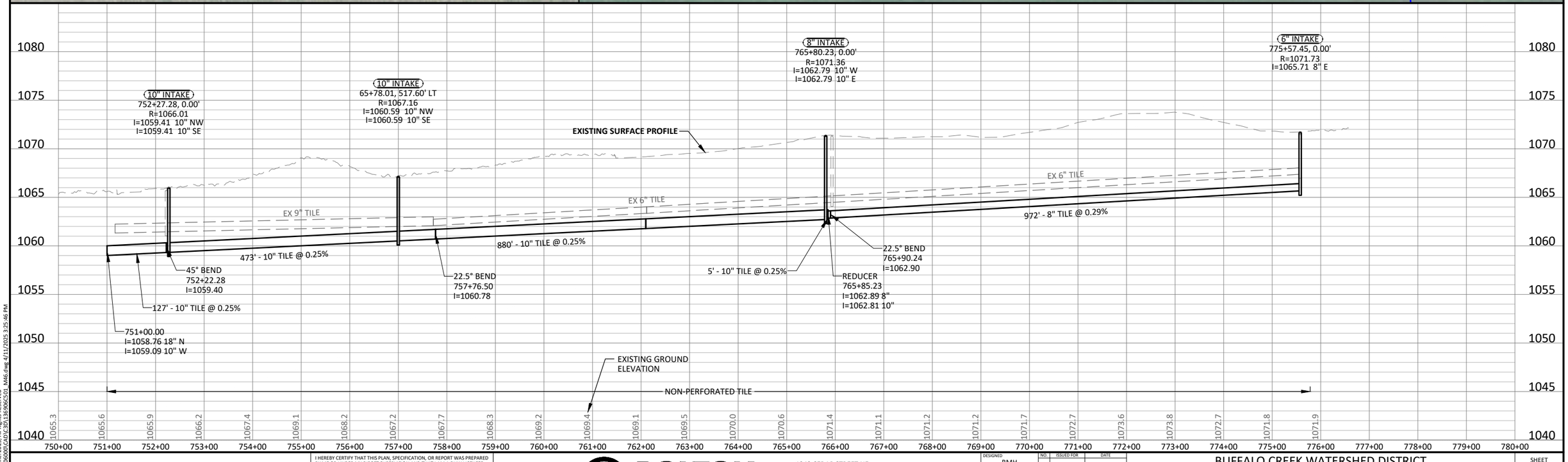
CLIENT PROJ. NO.	24X.136906.000

NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M45
STA 691+00 - STA 721+00

SHEET C5.16





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VERT. SCALE 0 5 10 FEET

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PRELIMINARY NOT FOR CONSTRUCTION

BILLY R. BLOCK, P.E.
LIC. NO. 42046 DATE MM/DD/YYYY

BOLTON & MENK

1243 CEDAR STREET NE
SLEEPY EYE, MN 56085
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DESIGNED	BMH
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CHECKED	BLH
CLIENT PROJ. NO.	24X.136906.000

NO.	ISSUED FOR	DATE

BUFFALO CREEK WATERSHED DISTRICT
JUDICIAL DITCH 15 BRANCH M37 IMPROVEMENTS
DRAIN TILE PLAN - BR M46
STA 750+00 - STA 780+00

SHEET C5.17

Exhibit 2: Preliminary Cost Estimate

ENGINEER'S ESTIMATE - IMPROVEMENT

Judicial Ditch 15 Br-M37 Improvement
Renville County, MN
24X.136906.000

BOLTON & MENK
Real People. Real Solutions.

Date: 4/28/2025

Item No.	Item	Estimated Quantity	Unit	Unit Price	Total Amount
BASE BID					
1	MOBILIZATION	1	LUMP SUM	$50,000.00	$50,000.00
2	COMMON EXCAVATION	2800	CU YD	$8.00	$22,400.00
3	AGGREGATE SURFACING CLASS 5	50	TON	$40.00	$2,000.00
4	EXPLORATORY EXCAVATION	130	HOUR	$300.00	$39,000.00
5	CONNECT TO EXISTING DRAIN TILE	124	EACH	$1,000.00	$124,000.00
6	6" INTAKE	24	EACH	$1,000.00	$24,000.00
7	8" INTAKE	19	EACH	$1,250.00	$23,750.00
8	10" INTAKE	6	EACH	$1,500.00	$9,000.00
9	12" INTAKE	6	EACH	$1,750.00	$10,500.00
10	15" INTAKE	2	EACH	$2,000.00	$4,000.00
11	18" INTAKE	1	EACH	$2,250.00	$2,250.00
12	6" HDPE TILE	4220	LIN FT	$18.00	$75,960.00
13	6" STM TRENCHLESS	200	LIN FT	$150.00	$30,000.00
14	8" HDPE TILE	3420	LIN FT	$20.00	$68,400.00
15	8" STM TRENCHLESS	100	LIN FT	$200.00	$20,000.00
16	10" HDPE TILE	3987	LIN FT	$22.00	$87,714.00
17	10" STM TRENCHLESS	100	LIN FT	$250.00	$25,000.00
18	12" HDPE TILE	1000	LIN FT	$25.00	$25,000.00
19	15" HDPE TILE	4160	LIN FT	$27.00	$112,320.00
20	18" HDPE TILE	3440	LIN FT	$30.00	$103,200.00
21	18" STM TRENCHLESS	100	LIN FT	$400.00	$40,000.00
22	30" HDPE TILE	4120	LIN FT	$50.00	$206,000.00
23	36" CS PIPE WITH RODENT GUARD	20	LIN FT	$250.00	$5,000.00
24	RANDOM RIPRAP, CLASS 3	25	TON	$120.00	$3,000.00
25	INLET PROTECTION	58	EACH	$150.00	$8,700.00
26	MULCH TYPE 1	92	TON	$400.00	$36,800.00
27	RAPID STABILIZATION METHOD 4	2375	SQ YD	$3.00	$7,125.00
				ESTIMATED BASE BID TOTAL:	**$1,165,119.00**
	TEMPORARY ROW DAMAGES (TILE)	44.05	ACRES	$600.00	$26,430.00
	TEMPORARY ROW DAMAGES (WASCOB)	1.56	ACRES	$600.00	$936.00
				SUBTOTAL:	$1,191,549.00
				20% CONTINGENCY:	$238,330.00
				TOTAL ESTIMATED CONSTRUCTION COST:	**$1,429,879.00**
				DESIGN, ADMINISTRATION AND CONSTRUCTION ENGINEERING:	$285,990.00
				TOTAL ESTIMATED PROJECT COST:	**$1,715,869.00**

ENGINEER'S ESTIMATE IMPROVEMENT

Judicial Ditch 15 Br-M37 Improvement
Renville County, MN
24X.136906.000

BOLTON & MENK
Real People. Real Solutions.

Date: 4/11/2025

Item No.	Item	Estimated Quantity	Unit	Unit Price	Total Amount	BR M37 QTY	BR M37 TOTAL	BR M38 QTY	BR M38 TOTAL	BR M39 QTY	BR M39 TOTAL	BR M40 QTY	BR M40 TOTAL	BR M41 QTY	BR M41 TOTAL	BR M42 QTY	BR M42 TOTAL	BR M78 QTY	BR M78 TOTAL
BASE BID																			
1	MOBILIZATION	1	LUMP SUM	$50,000.00	$50,000.00	0.36	$18,172.33	0.04	$2,017.90	0.04	$2,132.75	0.04	$1,967.11	0.08	$3,985.47	0.04	$2,145.20	0.03	$1,347.10
2	COMMON EXCAVATION	2,800	CU YD	$8.00	$22,400.00									######	$22,400.00				
3	AGGREGATE SURFACING CLASS 5	50	TON	$40.00	$2,000.00	25	$1,000.00			25	$1,000.00								
4	EXPLORATORY EXCAVATION	130	HOUR	$300.00	$39,000.00	38	$11,400.00	4	$1,200.00	5	$1,500.00	6	$1,800.00	12	$3,600.00	7	$2,100.00	5	$1,500.00
5	CONNECT TO EXISTING DRAIN TILE	124	EACH	$1,000.00	$124,000.00	32	$32,000.00	4	$4,000.00	5	$5,000.00	6	$6,000.00	12	$12,000.00	7	$7,000.00	5	$5,000.00
6	6" INTAKE	24	EACH	$1,000.00	$24,000.00	6	$6,000.00	1	$1,000.00	4	$4,000.00							2	$2,000.00
7	8" INTAKE	19	EACH	$1,250.00	$23,750.00	3	$3,750.00	2	$2,500.00			1	$1,250.00	3	$3,750.00	2	$2,500.00	1	$1,250.00
8	10" INTAKE	6	EACH	$1,500.00	$9,000.00	1	$1,500.00									1	$1,500.00		
9	12" INTAKE	6	EACH	$1,750.00	$10,500.00	4	$7,000.00							1	$1,750.00				
10	15" INTAKE	2	EACH	$2,000.00	$4,000.00	1	$2,000.00					1	$2,000.00						
11	18" INTAKE	1	EACH	$2,250.00	$2,250.00														
12	6" HDPE TILE	4,220	LIN FT	$18.00	$75,960.00	340	$6,120.00			920	$16,560.00							740	$13,320.00
13	6" STM TRENCHLESS	200	LIN FT	$150.00	$30,000.00					100	$15,000.00								
14	8" HDPE TILE	3,420	LIN FT	$20.00	$68,400.00			640	$12,800.00			260	$5,200.00	140	$2,800.00	660	$13,200.00		
15	8" STM TRENCHLESS	100	LIN FT	$200.00	$20,000.00			100	$20,000.00										
16	10" HDPE TILE	3,987	LIN FT	$22.00	$87,714.00											806	$17,732.00		
17	10" STM TRENCHLESS	100	LIN FT	$250.00	$25,000.00														
18	12" HDPE TILE	1,000	LIN FT	$25.00	$25,000.00														
19	15" HDPE TILE	4,160	LIN FT	$27.00	$112,320.00							920	$24,840.00	2,200	$59,400.00			160	$4,320.00
20	18" HDPE TILE	3,440	LIN FT	$30.00	$103,200.00	1,960	$58,800.00												
21	18" STM TRENCHLESS	100	LIN FT	$400.00	$40,000.00	100	$40,000.00												
22	30" HDPE TILE	4,120	LIN FT	$50.00	$206,000.00	4,120	$206,000.00												
23	36" CS PIPE WITH RODENT GUARD	20	LIN FT	$250.00	$5,000.00	20	$5,000.00												
24	RANDOM RIPRAP, CLASS 3	25	TON	$120.00	$3,000.00	25	$3,000.00												
25	INLET PROTECTION	58	EACH	$150.00	$8,700.00	15	$2,250.00	3	$450.00	4	$600.00	2	$300.00	4	$600.00	3	$450.00	3	$450.00
26	MULCH TYPE 1	92	TON	$400.00	$36,800.00	24	$9,600.00	2	$800.00	4	$1,600.00	4	$1,600.00	8	$3,200.00	6	$2,400.00	4	$1,600.00
27	RAPID STABILIZATION METHOD 4	2,375	SQ YD	$3.00	$7,125.00	575	$1,725.00	450	$1,350.00	450	$1,350.00								
	ESTIMATED BASE BID TOTAL:				**$1,165,119.00**		**$415,317.33**		**$46,117.90**		**$48,742.75**		**$44,957.11**		**$113,485.47**		**$49,027.20**		**$30,787.10**
	TEMPORARY ROW DAMAGES (TILE)	44.05	ACRES	$600.00	$26,430.00	11.78	$7,068.00	1.10	$660.00	1.63	$978.00	2.12	$1,272.00	4.24	$2,544.00	2.64	$1,584.00	1.62	$972.00
	TEMPORARY ROW DAMAGES (WASCOB)	1.56	ACRES	$600.00	$936.00							0.51	$306.00	1.05	$630.00				
	SUBTOTAL:				$1,191,549.00		$422,385.33		$46,777.90		$49,720.75		$46,229.11		$116,029.47		$50,611.20		$31,759.10
	20% CONTINGENCY:				$238,330.00		$84,480.00		$9,360.00		$9,940.00		$9,250.00		$23,210.00		$10,120.00		$6,350.00
	TOTAL ESTIMATED CONSTRUCTION COST:				**$1,429,879.00**		**$506,865.33**		**$56,137.90**		**$59,660.75**		**$55,479.11**		**$139,239.47**		**$60,731.20**		**$38,109.10**
	DESIGN, ADMINISTRATION AND CONSTRUCTION ENGINEERING:				$285,990.00		$101,380.00		$11,240.00		$11,930.00		$11,100.00		$27,850.00		$12,150.00		$7,620.00
	TOTAL ESTIMATED PROJECT COST:				**$1,715,869.00**		**$608,245.33**		**$67,377.90**		**$71,590.75**		**$66,579.11**		**$167,089.47**		**$72,881.20**		**$45,729.10**

ENGINEER'S ESTIMATE IMPROVEMENT

Judicial Ditch 15 Br-M37 Improvement
Renville County, MN
24X.136906.000

BOLTON & MENK
Real People. Real Solutions.

Date: 4/28/2025

Item No.	Item	Estimated Quantity	Unit	Unit Price	BR M75 QTY	BR M75 TOTAL	BR M43 QTY	BR M43 TOTAL	BR M76 QTY	BR M76 TOTAL	BR M44 QTY	BR M44 TOTAL	BR M77 QTY	BR M77 TOTAL	BR M45 QTY	BR M45 TOTAL	BR M46 QTY	BR M46 TOTAL
BASE BID																		
1	MOBILIZATION	1	LUMP SUM	$50,000.00	0.03	$1,483.46	0.15	$7,547.69	0.02	$1,089.03	0.01	$379.33	0.03	$1,523.72	0.05	$2,661.80	0.07	$3,547.12
2	COMMON EXCAVATION	2,800	CU YD	$8.00														
3	AGGREGATE SURFACING CLASS 5	50	TON	$40.00														
4	EXPLORATORY EXCAVATION	130	HOUR	$300.00	3	$900.00	22	$6,600.00	4	$1,200.00	1	$300.00	6	$1,800.00	5	$1,500.00	12	$3,600.00
5	CONNECT TO EXISTING DRAIN TILE	124	EACH	$1,000.00	3	$3,000.00	22	$22,000.00	4	$4,000.00	1	$1,000.00	6	$6,000.00	5	$5,000.00	12	$12,000.00
6	6" INTAKE	24	EACH	$1,000.00	3	$3,000.00	1	$1,000.00			1	$1,000.00	2	$2,000.00	3	$3,000.00	1	$1,000.00
7	8" INTAKE	19	EACH	$1,250.00			4	$5,000.00	2	$2,500.00							1	$1,250.00
8	10" INTAKE	6	EACH	$1,500.00			2	$3,000.00									2	$3,000.00
9	12" INTAKE	6	EACH	$1,750.00			1	$1,750.00										
10	15" INTAKE	2	EACH	$2,000.00														
11	18" INTAKE	1	EACH	$2,250.00			1	$2,250.00										
12	6" HDPE TILE	4,220	LIN FT	$18.00	440	$7,920.00					280	$5,040.00	1,200	$21,600.00	300	$5,400.00		
13	6" STM TRENCHLESS	200	LIN FT	$150.00	100	$15,000.00												
14	8" HDPE TILE	3,420	LIN FT	$20.00					750	$15,000.00							970	$19,400.00
15	8" STM TRENCHLESS	100	LIN FT	$200.00														
16	10" HDPE TILE	3,987	LIN FT	$22.00			1,020	$22,440.00							676	$14,872.00	1,485	$32,670.00
17	10" STM TRENCHLESS	100	LIN FT	$250.00											100	$25,000.00		
18	12" HDPE TILE	1,000	LIN FT	$25.00			1,000	$25,000.00										
19	15" HDPE TILE	4,160	LIN FT	$27.00			880	$23,760.00										
20	18" HDPE TILE	3,440	LIN FT	$30.00			1,480	$44,400.00										
21	18" STM TRENCHLESS	100	LIN FT	$400.00														
22	30" HDPE TILE	4,120	LIN FT	$50.00														
23	36" CS PIPE WITH RODENT GUARD	20	LIN FT	$250.00														
24	RANDOM RIPRAP, CLASS 3	25	TON	$120.00														
25	INLET PROTECTION	58	EACH	$150.00	3	$450.00	9	$1,350.00	2	$300.00	1	$150.00	2	$300.00	3	$450.00	4	$600.00
26	MULCH TYPE 1	92	TON	$400.00	2	$800.00	16	$6,400.00	2	$800.00	2	$800.00	4	$1,600.00	4	$1,600.00	10	$4,000.00
27	RAPID STABILIZATION METHOD 4	2,375	SQ YD	$3.00	450	$1,350.00									450	$1,350.00		
			ESTIMATED BASE BID TOTAL:			**$33,903.46**		**$172,497.69**		**$24,889.03**		**$8,669.33**		**$34,823.72**		**$60,833.80**		**$81,067.12**
	TEMPORARY ROW DAMAGES (TILE)	44.05	ACRES	$600.00	0.75	$450.00	8.01	$4,806.00	1.32	$792.00	0.46	$276.00	2.17	$1,302.00	1.74	$1,044.00	4.47	$2,682.00
	TEMPORARY ROW DAMAGES (WASCOB)	1.56	ACRES	$600.00														
				SUBTOTAL:		$34,353.46		$177,303.69		$25,681.03		$8,945.33		$36,125.72		$61,877.80		$83,749.12
				20% CONTINGENCY:		$6,870.00		$35,460.00		$5,140.00		$1,790.00		$7,230.00		$12,380.00		$16,750.00
				TOTAL ESTIMATED CONSTRUCTION COST:		**$41,223.46**		**$212,763.69**		**$30,821.03**		**$10,735.33**		**$43,355.72**		**$74,257.80**		**$100,499.12**
				DESIGN, ADMINISTRATION AND CONSTRUCTION ENGINEERING:		$8,240.00		$42,550.00		$6,160.00		$2,150.00		$8,670.00		$14,850.00		$20,100.00
				TOTAL ESTIMATED PROJECT COST:		**$49,463.46**		**$255,313.69**		**$36,981.03**		**$12,885.33**		**$52,025.72**		**$89,107.80**		**$120,599.12**

Exhibit 3: Separable Maintenance

SEPARABLE MAINTENANCE

Judicial Ditch 15 Br-M37 Improvement
Renville County, MN
24X.136906.000

BOLTON & MENK
Real People. Real Solutions.

Date: 4/28/2025

Item No.	Item	Estimated Quantity	Unit	Unit Price	Total Amount
BASE BID					
1	MOBILIZATION	1	LUMP SUM	$50,000.00	$50,254.21
2	AGGREGATE SURFACING CLASS 5	50	TON	$40.00	$2,000.00
3	EXPLORATORY EXCAVATION	127	HOUR	$300.00	$38,100.00
4	CONNECT TO EXISTING DRAIN TILE	127	EACH	$1,000.00	$127,000.00
5	6" INTAKE	35	EACH	$1,000.00	$35,000.00
6	8" INTAKE	6	EACH	$1,250.00	$7,500.00
7	10" INTAKE	1	EACH	$1,500.00	$1,500.00
8	12" INTAKE	1	EACH	$1,750.00	$1,750.00
9	15" INTAKE	1	EACH	$2,000.00	$2,000.00
10	18" INTAKE	1	EACH	$2,250.00	$2,250.00
11	6" HDPE TILE	9034	LIN FT	$18.00	$162,612.00
12	6" STM TRENCHLESS	329	LIN FT	$150.00	$49,350.00
13	8" HDPE TILE	3023	LIN FT	$20.00	$60,460.00
14	8" STM TRENCHLESS	75	LIN FT	$200.00	$15,000.00
15	10" HDPE TILE	2819	LIN FT	$22.00	$62,018.00
16	12" HDPE TILE	2246	LIN FT	$25.00	$56,150.00
17	15" HDPE TILE	1754	LIN FT	$27.00	$47,358.00
18	15" STM TRENCHLESS	100	LIN FT	$350.00	$35,000.00
19	18" HDPE TILE	1345	LIN FT	$30.00	$40,350.00
20	24" HDPE TILE	4120	LIN FT	$35.00	$144,200.00
21	30" CS PIPE WITH RODENT GUARD	20	LIN FT	$200.00	$4,000.00
22	RANDOM RIPRAP, CLASS 3	25	TON	$120.00	$3,000.00
23	INLET PROTECTION	45	EACH	$150.00	$6,750.00
24	MULCH TYPE 1	92	TON	$400.00	$36,800.00
25	RAPID STABILIZATION METHOD 4	2375	SQ YD	$3.00	$7,125.00
				ESTIMATED BASE BID TOTAL:	**$997,527.21**
	TEMPORARY ROW DAMAGES	44.05	ACRES	$600.00	$26,430.00
				SUBTOTAL:	$1,023,957.21
				30% CONTINGENCY:	$307,190.00
				TOTAL ESTIMATED CONSTRUCTION COST:	**$1,331,147.21**
				DESIGN, ADMINISTRATION AND CONSTRUCTION ENGINEERING:	$266,230.00
				TOTAL ESTIMATED PROJECT COST:	**$1,597,377.21**

SEPARABLE MAINTENANCE

Judicial Ditch 15 Br-M37 Improvement
Renville County, MN
24X.136906.000

BOLTON & MENK
Real People. Real Solutions.

Date: 4/28/2025

Item No.	Item	Estimated Quantity	Unit	Unit Price	Total Amount	BR M37 QTY	BR M37 TOTAL	BR M38 QTY	BR M38 TOTAL	BR M39 QTY	BR M39 TOTAL	BR M40 QTY	BR M40 TOTAL	BR M41 QTY	BR M41 TOTAL	BR M42 QTY	BR M42 TOTAL	BR M78 QTY	BR M78 TOTAL	BR M75 QTY	BR M75 TOTAL
BASE BID																					
1	MOBILIZATION	1	LUMP SUM	$50,000.00	$50,254.21	0.33	$16,456.87	0.04	$1,903.42	0.05	$2,706.38	0.04	$2,034.09	0.08	$4,102.92	0.04	$2,084.25	0.02	$1,246.82	0.03	$1,460.83
2	AGGREGATE SURFACING CLASS 5	50	TON	$40.00	$2,000.00	25	$1,000.00			25	$1,000.00										
3	EXPLORATORY EXCAVATION	127	HOUR	$300.00	$38,100.00	33	$9,900.00	4	$1,200.00	4	$1,200.00	6	$1,800.00	13	$3,900.00	6	$1,800.00	4	$1,200.00	3	$900.00
4	CONNECT TO EXISTING DRAIN TILE	127	EACH	$1,000.00	$127,000.00	33	$33,000.00	4	$4,000.00	4	$4,000.00	6	$6,000.00	13	$13,000.00	6	$6,000.00	4	$4,000.00	3	$3,000.00
5	6" INTAKE	35	EACH	$1,000.00	$35,000.00	5	$5,000.00	1	$1,000.00			2	$2,000.00	3	$3,000.00	3	$3,000.00	3	$3,000.00	2	$2,000.00
6	8" INTAKE	6	EACH	$1,250.00	$7,500.00	3	$3,750.00	1	$1,250.00	1	$1,250.00									1	$1,250.00
7	10" INTAKE	1	EACH	$1,500.00	$1,500.00																
8	12" INTAKE	1	EACH	$1,750.00	$1,750.00	1	$1,750.00														
9	15" INTAKE	1	EACH	$2,000.00	$2,000.00	1	$2,000.00														
10	18" INTAKE	1	EACH	$2,250.00	$2,250.00																
11	6" HDPE TILE	9,034	LIN FT	$18.00	$162,612.00	500	$9,000.00	730	$13,140.00	741	$13,338.00	429	$7,722.00	904	$16,272.00			733	$13,194.00	451	$8,118.00
12	6" STM TRENCHLESS	329	LIN FT	$150.00	$49,350.00			85	$12,750.00	180	$27,000.00									64	$9,600.00
13	8" HDPE TILE	3,023	LIN FT	$20.00	$60,460.00											661	$13,220.00				
14	8" STM TRENCHLESS	75	LIN FT	$200.00	$15,000.00																
15	10" HDPE TILE	2,819	LIN FT	$22.00	$62,018.00											560	$12,320.00				
16	12" HDPE TILE	2,246	LIN FT	$25.00	$56,150.00							753	$18,825.00	1,493	$37,325.00						
17	15" HDPE TILE	1,754	LIN FT	$27.00	$47,358.00	1,754	$47,358.00														
18	15" STM TRENCHLESS	100	LIN FT	$350.00	$35,000.00	100	$35,000.00														
19	18" HDPE TILE	1,345	LIN FT	$30.00	$40,350.00																
20	24" HDPE TILE	4,120	LIN FT	$35.00	$144,200.00	4,120	$144,200.00														
21	30" CS PIPE WITH RODENT GUARD	20	LIN FT	$200.00	$4,000.00	20	$4,000.00														
22	RANDOM RIPRAP, CLASS 3	25	TON	$120.00	$3,000.00	25	$3,000.00														
23	INLET PROTECTION	45	EACH	$150.00	$6,750.00	10	$1,500.00	2	$300.00	1	$150.00	2	$300.00	3	$450.00	3	$450.00	3	$450.00	3	$450.00
24	MULCH TYPE 1	92	TON	$400.00	$36,800.00	24	$9,600.00	2	$800.00	4	$1,600.00	4	$1,600.00	8	$3,200.00	6	$2,400.00	4	$1,600.00	2	$800.00
25	RAPID STABILIZATION METHOD 4	2,375	SQ YD	$3.00	$7,125.00	575	$1,725.00	450	$1,350.00	450	$1,350.00									450	$1,350.00
			ESTIMATED BASE BID TOTAL:		**$997,527.21**		**$328,239.87**		**$37,693.42**		**$53,594.38**		**$40,281.09**		**$81,249.92**		**$41,274.25**		**$24,690.82**		**$28,928.83**
	TEMPORARY ROW DAMAGES	44.05	ACRES	$600.00	$26,430.00	11.78	$7,068.00	1.10	$660.00	1.63	$978.00	2.12	$1,272.00	4.24	$2,544.00	2.64	$1,584.00	1.62	$972.00	0.75	$450.00
			SUBTOTAL:		$1,023,957.21		$335,307.87		$38,353.42		$54,572.38		$41,553.09		$83,793.92		$42,858.25		$25,662.82		$29,378.83
			30% CONTINGENCY:		**$307,190.00**		$100,590.00		$11,510.00		$16,370.00		$12,470.00		$25,140.00		$12,860.00		$7,700.00		$8,810.00
			TOTAL ESTIMATED CONSTRUCTION COST:		**$1,331,147.21**		**$435,897.87**		**$49,863.42**		**$70,942.38**		**$54,023.09**		**$108,933.92**		**$55,718.25**		**$33,362.82**		**$38,188.83**
			DESIGN, ADMINISTRATION AND CONSTRUCTION ENGINEERING:		$266,230.00		$87,180.00		$9,970.00		$14,190.00		$10,800.00		$21,790.00		$11,140.00		$6,670.00		$7,640.00
			TOTAL ESTIMATED PROJECT COST:		**$1,597,377.21**		**$523,077.87**		**$59,833.42**		**$85,132.38**		**$64,823.09**		**$130,723.92**		**$66,858.25**		**$40,032.82**		**$45,828.83**

SEPARABLE MAINTENANCE

Judicial Ditch 15 Br-M37 Improvement
Renville County, MN
24X.136906.000

BOLTON & MENK
Real People. Real Solutions.

Date: 4/28/2025

Item No.	Item	Estimated Quantity	Unit	Unit Price	BR M43 QTY	BR M43 TOTAL	BR M76 QTY	BR M76 TOTAL	BR M44 QTY	BR M44 TOTAL	BR M77 QTY	BR M77 TOTAL	BR M45 QTY	BR M45 TOTAL	BR M46 QTY	BR M46 TOTAL
BASE BID																
1	MOBILIZATION	1	LUMP SUM	$50,000.00	0.16	$7,866.10	0.02	$1,216.83	0.01	$409.30	0.04	$2,232.84	0.05	$2,564.38	0.08	$3,969.16
2	AGGREGATE SURFACING CLASS 5	50	TON	$40.00												
3	EXPLORATORY EXCAVATION	127	HOUR	$300.00	22	$6,600.00	4	$1,200.00	1	$300.00	8	$2,400.00	6	$1,800.00	13	$3,900.00
4	CONNECT TO EXISTING DRAIN TILE	127	EACH	$1,000.00	22	$22,000.00	4	$4,000.00	1	$1,000.00	8	$8,000.00	6	$6,000.00	13	$13,000.00
5	6" INTAKE	35	EACH	$1,000.00	8	$8,000.00	2	$2,000.00	1	$1,000.00	2	$2,000.00	2	$2,000.00	1	$1,000.00
6	8" INTAKE	6	EACH	$1,250.00												
7	10" INTAKE	1	EACH	$1,500.00											1	$1,500.00
8	12" INTAKE	1	EACH	$1,750.00												
9	15" INTAKE	1	EACH	$2,000.00												
10	18" INTAKE	1	EACH	$2,250.00	1	$2,250.00										
11	6" HDPE TILE	9,034	LIN FT	$18.00	359	$6,462.00	810	$14,580.00	247	$4,446.00	1,538	$27,684.00	256	$4,608.00	1,336	$24,048.00
12	6" STM TRENCHLESS	329	LIN FT	$150.00												
13	8" HDPE TILE	3,023	LIN FT	$20.00	1,584	$31,680.00							778	$15,560.00		
14	8" STM TRENCHLESS	75	LIN FT	$200.00									75	$15,000.00		
15	10" HDPE TILE	2,819	LIN FT	$22.00	1,037	$22,814.00									1,222	$26,884.00
16	12" HDPE TILE	2,246	LIN FT	$25.00												
17	15" HDPE TILE	1,754	LIN FT	$27.00												
18	15" STM TRENCHLESS	100	LIN FT	$350.00												
19	18" HDPE TILE	1,345	LIN FT	$30.00	1,345	$40,350.00										
20	24" HDPE TILE	4,120	LIN FT	$35.00												
21	30" CS PIPE WITH RODENT GUARD	20	LIN FT	$200.00												
22	RANDOM RIPRAP, CLASS 3	25	TON	$120.00												
23	INLET PROTECTION	45	EACH	$150.00	9	$1,350.00	2	$300.00	1	$150.00	2	$300.00	2	$300.00	2	$300.00
24	MULCH TYPE 1	92	TON	$400.00	16	$6,400.00	2	$800.00	2	$800.00	4	$1,600.00	4	$1,600.00	10	$4,000.00
25	RAPID STABILIZATION METHOD 4	2,375	SQ YD	$3.00									450	$1,350.00		
			ESTIMATED BASE BID TOTAL:			**$155,772.10**		**$24,096.83**		**$8,105.30**		**$44,216.84**		**$50,782.38**		**$78,601.16**
	TEMPORARY ROW DAMAGES	44.05	ACRES	$600.00	8.01	$4,806.00	1.32	$792.00	0.46	$276.00	2.17	$1,302.00	1.74	$1,044.00	4.47	$2,682.00
			SUBTOTAL:			$160,578.10		$24,888.83		$8,381.30		$45,518.84		$51,826.38		$81,283.16
			30% CONTINGENCY:			$48,170.00		$7,470.00		$2,510.00		$13,660.00		$15,550.00		$24,380.00
			TOTAL ESTIMATED CONSTRUCTION COST:			**$208,748.10**		**$32,358.83**		**$10,891.30**		**$59,178.84**		**$67,376.38**		**$105,663.16**
			DESIGN, ADMINISTRATION AND CONSTRUCTION ENGINEERING:			$41,750.00		$6,470.00		$2,180.00		$11,840.00		$13,480.00		$21,130.00
			TOTAL ESTIMATED PROJECT COST:			**$250,498.10**		**$38,828.83**		**$13,071.30**		**$71,018.84**		**$80,856.38**		**$126,793.16**

Exhibit 4: Right-of-Way Table

Judicial Ditch 15 Br-M37 Improvement

Buffalo Creek Watershed District

Right-of-way Table

H:\RNCO\24X136906000\2_Preliminary\A_Calculations\[1360906_ROW.xlsx]Sheet1

28-Apr-25

H:\RNCO\24X136906000\2_Preliminary\A_Calculations\[1360906_ROW.xlsx]Sheet1

				Tile Improvement Right-of-Way Damages					Amount/Ac
Parcel No.	**Property Owner**	**Legal Description**		**Station to Station**		**Length**	**Width**	**Area (Acres)**	**$600**
Branch M37									
22.01291.00	STEVEN G & VICKY NOVOTNY	SE 1/4, NW 1/4	7-115-31	67+12	60+59	653	80	1.20	$720.00
22.01270.00	ERIC KUBESH	NE 1/4, SW 1/4	7-115-31	60+59	50+43	1016	80	1.87	$1,122.00
22.01320.00	MICHAEL MELBERG	NW 1/4, SE 1/4	7-115-31	49+43	43+05	638	80	1.17	$702.00
22.02420.00	MICHAEL MELBERG	NW 1/4, SE 1/4	7-115-31	43+05	42+88	17	80	0.03	$18.00
22.02415.00	LARRY & ROXANNE SCHMALZ	SW 1/4, SE 1/4	7-115-31	42+88	42+62	26	80	0.05	$30.00
22.01330.00	LARRY & ROXANNE SCHMALZ	SW 1/4, SE 1/4	7-115-31	42+62	36+18	644	80	1.18	$708.00
22.01280.00	ERIC KUBESH	SW 1/4, SE 1/4	7-115-31	36+18	29+27	691	80	1.27	$762.00
22.01620.00	MARK & LISA TAYLOR	NW 1/4, NE 1/4	18-115-31	29+27	15+64	1363	80	2.50	$1,500.00
		SW 1/4, NE 1/4	18-115-31	15+64	1+96	1368	80	2.51	$1,506.00
Branch M38									
22.01630.00	ERIC KUBESH	NE 1/4, NW 1/4	18-115-31	108+51	106+91	160	80	0.29	$174.00
22.01620.00	MARK & LISA TAYLOR	NW 1/4, NE 1/4	18-115-31	105+81	101+40	441	80	0.81	$486.00
Branch M39									
22.01280.00	ERIC KUBESH	SE 1/4, SW 1/4	7-115-31	161+32	158+52	280	80	0.51	$306.00
22.01280.00	ERIC KUBESH	SW 1/4, SE 1/4	7-115-31	157+52	151+40	612	80	1.12	$672.00
Branch M40									

Judicial Ditch 15 Br-M37 Improvement

Buffalo Creek Watershed District

Right-of-way Table

H:\RNCO\24X136906000\2_Preliminary\A_Calculations\[1360906_ROW.xlsx]Sheet1

28-Apr-25

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				Tile Improvement Right-of-Way Damages					Amount/Ac
Parcel No.	**Property Owner**	**Legal Description**		**Station to Station**		**Length**	**Width**	**Area (Acres)**	**$600**
22.01280.00	ERIC KUBESH	SW 1/4, SE 1/4	7-115-31	201+39	209+21	782	80	1.44	$864.00
22.01620.00	MARK & LISA TAYLOR	NW 1/4, NE 1/4	18-115-31	209+21	210+00	79	80	0.15	$90.00
	WASCOB	NW 1/4, NE 1/4	18-115-31	207+73	210+00			0.33	$198.00
22.01612.00	LARRY & ROXANNE SCHMALZ	NW 1/4, NE 1/4	18-115-31	210+00	212+90	290	80	0.53	$318.00
	WASCOB	NW 1/4, NE 1/4	18-115-31	210+00	210+93			0.18	$108.00
Branch M41									
22.01280.00	ERIC KUBESH	SW 1/4, SE 1/4	7-115-31	251+76	253+80	204	80	0.37	$222.00
	WASCOB	SW 1/4, SE 1/4	7-115-31	251+75	253+80			0.41	$246.00
22.01330.00	LARRY & ROXANNE SCHMALZ	SW 1/4, SE 1/4	7-115-31	253+80	261+44	764	80	1.40	$840.00
	WASCOB	SW 1/4, SE 1/4	7-115-31	253+80	254+83			0.64	$384.00
		SE 1/4, SE 1/4	7-115-31	261+44	273+32	1188	80	2.18	$1,308.00
22.01612.00	LARRY & ROXANNE SCHMALZ	NE 1/4, NE 1/4	18-115-31	273+32	274+89	157	80	0.29	$174.00
Branch M42									
22.01330.00	LARRY & ROXANNE SCHMALZ	SE 1/4, SE 1/4	7-115-31	301+44	307+90	646	80	1.19	$714.00
22.01320.00	MICHAEL MELBERG	NE 1/4, SE 1/4	7-115-31	307+90	315+81	791	80	1.45	$870.00
Branch M78									
22.01330.00	LARRY & ROXANNE SCHMALZ	SE 1/4, SE 1/4	7-115-31	351+28	360+08	880	80	1.62	$972.00
Branch M75									
22.01280.00	ERIC KUBESH	SE 1/4, SW 1/4	7-115-31	406+55	405+46	109	80	0.20	$120.00

Judicial Ditch 15 Br-M37 Improvement

Buffalo Creek Watershed District

Right-of-way Table

H:\RNCO\24X136906000\2_Preliminary\A_Calculations\[1360906_ROW.xlsx]Sheet1

28-Apr-25

H:\RNCO\24X136906000\2_Preliminary\A_Calculations\[1360906_ROW.xlsx]Sheet1

				Tile Improvement Right-of-Way Damages					Amount/Ac
Parcel No.	**Property Owner**	**Legal Description**		**Station to Station**		**Length**	**Width**	**Area (Acres)**	**$600**
22.01330.00	LARRY & ROXANNE SCHMALZ	SW 1/4, SE 1/4	7-115-31	404+46	401+48	298	80	0.55	$330.00
Branch M43									
22.01320.00	MICHAEL MELBERG	NW 1/4, SE 1/4	7-115-31	451+37	461+89	1052	80	1.93	$1,158.00
22.02420.00	MICHAEL MELBERG	NW 1/4, SE 1/4	7-115-31	461+89	464+67	278	80	0.51	$306.00
22.01320.00	MICHAEL MELBERG	NW 1/4, SE 1/4	7-115-31	464+67	471+60	693	80	1.27	$762.00
		NE 1/4, SE 1/4	7-115-31	471+60	477+71	611	80	1.12	$672.00
22.01250.00	KIM & MARY KAPPING	SE 1/4, NE 1/4	7-115-31	477+71	495+01	1730	80	3.18	$1,908.00
Branch M76									
22.01320.00	MICHAEL MELBERG	NW 1/4, SE 1/4	7-115-31	551+49	558+32	683	80	1.25	$750.00
22.01250.00	KIM & MARY KAPPING	SW 1/4, NE 1/4	7-115-31	558+32	558+72	40	80	0.07	$42.00
Branch M44									
22.01320.00	MICHAEL MELBERG	NE 1/4, SE 1/4	7-115-31	601+42	602+84	142	80	0.26	$156.00
22.01250.00	KIM & MARY KAPPING	SE 1/4, NE 1/4	7-115-31	602+84	603+94	110	80	0.20	$120.00
Branch M77									
22.01250.00	KIM & MARY KAPPING	SE 1/4, NE 1/4	7-115-31	651+41	655+46	405	80	0.74	$444.00
22.01320.00	MICHAEL MELBERG	NE 1/4, SE 1/4	7-115-31	655+46	663+22	776	80	1.43	$858.00

Judicial Ditch 15 Br-M37 Improvement

Buffalo Creek Watershed District

Right-of-way Table

H:\RNCO\24X136906000\2_Preliminary\A_Calculations\[1360906_ROW.xlsx]Sheet1

28-Apr-25

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				Tile Improvement Right-of-Way Damages					Amount/Ac
Parcel No.	**Property Owner**	**Legal Description**		**Station to Station**		**Length**	**Width**	**Area (Acres)**	**$600**
Branch M46									
22.01260.00	CHARLES & BARBARA MELBERG	SW 1/4, NW 1/4	7-115-31	775+77	763+93	1184	80	2.17	$1,302.00
		SE 1/4, NW 1/4	7-115-31	763+93	758+31	562	80	1.03	$618.00
22.01291.00	STEVEN G & VICKY NOVOTNY	SE 1/4, NW 1/4	7-115-31	758+31	751+41	690	80	1.27	$762.00
Branch M45									
22.01291.00	STEVEN G & VICKY NOVOTNY	SE 1/4, NW 1/4	7-115-31	701+40	707+50	610	80	1.12	$672.00
22.01310.00	CAROL WALTER	SW 1/4, NE 1/4	7-115-31	708+50	711+89	339	80	0.62	$372.00
	Total			**Total Improvement Right-of-Way Damages =**				**45.61**	**$27,366.00**

Exhibit 5: Televising Images


J 15 Novotony going north across driveway 14 inch_
No Data
02:28PM
10Nov15
+225.9f


J.15 Novotony going south in 14 inch_
No Data
02:37PM
10Nov15
+009.3f


J 15 Novotony going south in 14 inch_
No Data
02:37PM
10Nov15
+049.7f


J 15 Novotony going north across driveway 14 inch_
No Data
02:25PM
10Nov15
+009.9f


going south from previous run in 20 inch_
No Data
03:38PM
10Nov15
+211.3f


going south from previous run in 20 inch_
No Data
03:48PM
10Nov15
+015.4f


coming up 20 in outlet going north_
No Data
09:17AM
11Nov15
+095.0f


going south from previous run in 20 inch_
No Data
03:37PM
10Nov15
+165.9f


going north from prior run filling in gap_
No Data
09:51AM
11Nov15

Exhibit 6: Petition for Improvement

PETITION FOR IMPROVEMENT OF DRAINAGE SYSTEM
JUDICIAL DITCH NO. 15 BRANCH M-37

TO: THE BOARD OF MANAGERS OF THE BUFFALO CREEK WATERSHED DISTRICT AS THE DRAINAGE AUTHORITY FOR JUDICIAL DITCH NO. 15 (RENVILLE, SIBLEY, MCLEOD COUNTIES)

Petitioners respectfully represent, state and request the following:

1. **Jurisdiction.**

The undersigned Petitioners constitute: (1) at least 26% of the owners of the property affected by the proposed improvement; (2) at least 26% of the owners of property that the proposed improvement passes over; (3) the owners of at least 26% of the property area affected by the proposed improvement; or (4) the owners of at least 26% of the property area that the proposed improvement passes over.

2. **Designation of Drainage System.**

This Petition requests the improvement of the drainage system known by and designated as Judicial Ditch No. 15 located in Renville County, Minnesota.

3. **Need for Improvement.**

The drainage system has insufficient capacity or needs enlarging or extending to furnish sufficient capacity or a better outlet. The drainage system is out of repair and the improvement petitioned for herein is for a separable portion of the drainage system. Therefore, a portion of the cost may be assessed as a repair.

4. **Description of Proposed Improvement.**

The proposed improvement would consist of improving Branch M-37 of JD 15, along with certain tributary branches of Branch M-37 of JD 15. These branches currently consist of buried tile. These branches would be enlarged and their capacity increased to meet the maximum permitted drainage coefficient currently in effect, which Petitioners understand to be 3/8th of an inch drainage coefficient. The improvement would occur along Branch Nos. M-37, M-38, M-39, M-40, M-41, M-42, M-43, M-45, M-46, M-75, M-76, M-77, and M-78 (all tributaries of Branch M-37 of JD 15) along the entire length of such branches to the point where Branch M-37 outlets into the open ditch portion of JD 15 Branch M. A map showing the proposed improvement is attached hereto as **Exhibit A**.

Set forth below is a list of the 40-acre tracts or government lots that the proposed improvement would pass over, together with the names and addresses of the owners of those tracts; to-wit:

	Owner	Address	PID	Description	Sec	Twp	Rge	County
1	Kim & Mary Kapping	PO Box 141 Newfolden, MN 56738	22-01250-00	SW ¼ NE ¼	7	115N	31W	Renville
2	Kim & Mary Kapping	PO Box 141 Newfolden, MN 56738	22-01250-00	SE ¼ NE ¼	7	115N	31W	Renville
3	Charles & Barb Melberg Trusts	55351 Co Rd 38 Buffalo Lake, MN 55314	22-01260-00	Gov. Lot 5	7	115N	31W	Renville
4	Charles & Barb Melberg Trusts	55351 Co Rd 38 Buffalo Lake, MN 55314	22-01260-00	Gov. Lot 6	7	115N	31W	Renville
5	Marlys A Kubesh Trust	2160 Beacon Drive SW Rochester, MN 55902	22-01270-00	Gov. Lot 10	7	115N	31W	Renville
6	Marlys A Kubesh Trust	2160 Beacon Drive SW Rochester, MN 55902	22-01280-00	Gov. Lot 15	7	115N	31W	Renville
7	Marlys A Kubesh Trust	2160 Beacon Drive SW Rochester, MN 55902	22-01280-00	Gov. Lot 16	7	115N	31W	Renville
	Larry & Roxanne Schmalz	81635 530th Street Buffalo Lake, MN 55314	22-01330-00	Gov. Lot 16	7	115N	31W	Renville
8	Larry & Roxanne Schmalz	81635 530th Street Buffalo Lake, MN 55314	22-01330-00	SW ¼ SE ¼	7	115N	31W	Renville
9	Larry & Roxanne Schmalz	81635 530th Street Buffalo Lake, MN 55314	22-01330-00	SE ¼ SE ¼	7	115N	31W	Renville
10	Steven G & Vicky Novotny	82371 Co Rd 8 Buffalo Lake, MN 55314	22-01291-00	Gov Lot 7	7	115N	31W	Renville
11	Loren Walter Disclaimer Trust	82382 Co Rd 8 Buffalo Lake, MN 55314	22-01310-00	Gov. Lot 8	7	115N	31W	Renville
12	Michael Melberg	55193 Co Rd 38 Buffalo Lake, MN 55314	22-01320-00	Gov. Lot 9	7	115N	31W	Renville
13	Michael Melberg	55193 Co Rd 38 Buffalo Lake, MN 55314	22-01320-00	NW ¼ SE ¼	7	115N	31W	Renville
14	Michael Melberg	55193 Co Rd 38 Buffalo Lake, MN 55314	22-01320-00	NE ¼ SE ¼	7	115N	31W	Renville
15	Larry & Roxanne Schmalz	81635 530th Street Buffalo Lake, MN 55314	22-01612-00	NW ¼ NE ¼	18	115N	31W	Renville
16	Mark & Lisa Taylor	79219 Co Rd 8 Buffalo Lake, MN 55314	22-01620-00	Gov. Lot 1	18	115N	31W	Renville
17	Mark & Lisa Taylor	79219 Co Rd 8 Buffalo Lake, MN 55314	22-01620-00	Gov. Lot 8	18	115N	31W	Renville
18	Marlys A Kubesh Trust	2160 Beacon Drive SW Rochester, MN 55902	22-01630-00	Gov. Lot 2	18	115N	31W	Renville

5. Public Utility and Health.

The proposed improvement will be of public utility and will promote the public health.

6. **Agreement by Petitioners.**

The undersigned Petitioners have been informed and understand that they may not withdraw as a petitioner at any time after this Petition is accepted by the drainage authority, except with the written consent of all other Petitioners on the filed Petition. Also, the undersigned Petitioners acknowledge and agree that they will pay all costs and expenses that may be incurred if the improvement proceedings are dismissed.

7. **Cost Bond.**

One or more petitioners shall cause a bond to be filed or a check to be delivered in the amount of at least $10,000.00 payable to the drainage authority. The bond or payment will be conditioned to pay the costs incurred if the proceedings are dismissed or if a contract is not awarded to construct the proposed improvement described in the petition.

WHEREFORE, the Petitioners respectfully request the following:

a. That the drainage authority accept this Petition, review it and determine that it is legally adequate; and

b. That the drainage authority appoint an engineer for purposes of the proposed improvement and direct the engineer to prepare an engineer's preliminary report for the proposed improvement, including allowing the engineer to analyze other potential routes for the proposed improvement and whether separable maintenance may be employed. Petitioners request that **ISG, Inc. Engineers** be appointed as project engineers because of their familiarity with the feasibility study previously completed for this project.

Dated: October 1, 2024

Dean M. Zimmerli #0396791
dzimmerli@gislason.com
Jacob J. Brekke #0504544
jbrekke@gislason.com
GISLASON & HUNTER LLP
Attorneys for Petitioners
2700 South Broadway
P. O. Box 458
New Ulm, MN 56073-0458
Phone: 507-354-3111

[Signature pages to follow]

SIGNATURE PAGE FOR
PETITION FOR IMPROVEMENT TO JUDICIAL DITCH NO. 15 BRANCH M-37
(RENVILLE, SIBLEY, MCLEOD COUNTIES, MINNESOTA)

Name of Petitioner(s) (please print or type):

Michael Melberg

Ownership (check one):

_____ Individual
_____ Co-Owners (# of co-owners: _____)
_____ Partner (name of partnership: _____)
_____ Corporation or limited liability company (name of corporation or LLC: _____)
_____ Trust (complete name of trust: _____)
_____ Other (explanation: _____)

Statement of Authority:

The undersigned states and represents that if he or she is executing in a representative capacity, he or she has the authority to execute on behalf of the respective partnership, corporation, limited liability company, trust or other such entity.

The above-named Petitioner(s) owns the following tract(s) which the proposed improvement will pass over or which is affected by the proposed improvement.

Tract Description	Section	Township	Range	County

Dated: 8-2-2024 _____
(signature)

Dated: _____ _____
(signature)

Dated: _____ _____
(signature)

SIGNATURE PAGE FOR
PETITION FOR IMPROVEMENT TO JUDICIAL DITCH NO. 15 BRANCH M-37
(RENVILLE, SIBLEY, MCLEOD COUNTIES, MINNESOTA)

Name of Petitioner(s) (please print or type):

Barbara Melberg

Charles Melberg

Ownership (check one):

____ Individual
__✓__ Co-Owners (# of co-owners: 2)
____ Partner (name of partnership: _____)
____ Corporation or limited liability company (name of corporation or LLC: _____)
____ Trust (complete name of trust: _____)
____ Other (explanation: _____)

Statement of Authority:

The undersigned states and represents that if he or she is executing in a representative capacity, he or she has the authority to execute on behalf of the respective partnership, corporation, limited liability company, trust or other such entity.

The above-named Petitioner(s) owns the following tract(s) which the proposed improvement will pass over or which is affected by the proposed improvement.

Tract Description	Section	Township	Range	County

Dated: 9-18-24 Barbara Melberg (signature)

Dated: 9-18-24 Charles Melberg (signature)

Dated: _____ _____ (signature)

SIGNATURE PAGE FOR
PETITION FOR IMPROVEMENT TO JUDICIAL DITCH NO. 15 BRANCH M-37
(RENVILLE, SIBLEY, MCLEOD COUNTIES, MINNESOTA)

Name of Petitioner(s) (please print or type):

Steve Novotny

Vicky Novotny

Ownership (check one):

_____ Individual
_____ Co-Owners (# of co-owners: _____)
_____ Partner (name of partnership: _____)
_____ Corporation or limited liability company (name of corporation or LLC: _____)
_____ Trust (complete name of trust: _____)
_____ Other (explanation: _____)

Statement of Authority:

The undersigned states and represents that if he or she is executing in a representative capacity, he or she has the authority to execute on behalf of the respective partnership, corporation, limited liability company, trust or other such entity.

The above-named Petitioner(s) owns the following tract(s) which the proposed improvement will pass over or which is affected by the proposed improvement.

Tract Description	Section	Township	Range	County

Dated: _____ _____ (signature)

Dated: _____ _____ (signature)

Dated: _____ _____ (signature)

SIGNATURE PAGE FOR
PETITION FOR IMPROVEMENT TO JUDICIAL DITCH NO. 15 BRANCH M-37
(RENVILLE, SIBLEY, MCLEOD COUNTIES, MINNESOTA)

Name of Petitioner(s) (please print or type):

Larry Schmalz

Roxanne Schmalz

Ownership (check one):

___ Individual
X Co-Owners (# of co-owners: _____)
___ Partner (name of partnership: _____)
___ Corporation or limited liability company (name of corporation or LLC: _____)
___ Trust (complete name of trust: _____)
___ Other (explanation: _____)

Statement of Authority:

The undersigned states and represents that if he or she is executing in a representative capacity, he or she has the authority to execute on behalf of the respective partnership, corporation, limited liability company, trust or other such entity.

The above-named Petitioner(s) owns the following tract(s) which the proposed improvement will pass over or which is affected by the proposed improvement.

Tract Description	Section	Township	Range	County

Dated: 9-14-24

Larry Schmalz
(signature)

Dated: 9-14-24

Roxanne Schmalz
(signature)

Dated: _____

_____
(signature)

EXHIBIT A
MAP OF PROPOSED IMPROVEMENT

Renville COUNTY
Service · Stewardship · Shared Responsibility

JD 15 Br-37 Tile Main and Tile Branch Overview

- Judicial Ditch 15
- Tile Petitioned to be Improved
- Section
- Township
- Tax Parcel

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