A Kleinfelder Company

VEENSTRA & KIMM INC.
2800 4th Street SW, Suite 9
Mason City, Iowa 50401

641.421.8008
www.v-k.net

October 2, 2026

Mr. Brian Rath
Environmental Engineer Senior
Iowa Department of Natural Resources
6200 Park Ave
Suite 200
Des Moines, IA 50321

WASTE DISPOSAL DISTURBANCE PLAN
NORTH MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA
7355

Dear Brian:

This letter is offered to serve as the Operations Plan for the Disturbance or Excavation of the Closed Dump encountered in Nora Springs as part of the above subject project.

The Owner of the property is the City of Nora Springs with the responsible official for oversight of the property being the City Council of Nora Springs. Drew Sweers, P.E. will serve as the licensed engineer for this work. The property in question is located north of North Mill Pond and south of the water tower located at the intersection of Summit Avenue and 8th Street NW. The property parcel numbers in question are 050717900100 and 050718200100.

Enclosed please find a copy of the North Mill Pond Trail Project plans.

From conversations with the IDNR it is understood that this site was utilized as the City dump, which opened in 1927 and was closed in the 1960s. When the City dump was closed, there were no landfill permitting requirements. The current and proposed land use for this site as part of this project will remain unchanged. There is an existing shared use path and access road along the project corridor. The purpose of this project is to provide a more durable surface to the trail and reduce maintenance costs. In other words, this project is changing the trail surfacing from aggregate to hot mix asphalt. In addition to the trail surfacing, the existing turnaround area is being reshaped to facilitate vehicular movements.

There are currently no ways to determine if there is any methane gas and no current way to control methane, if there is any. In addition, there are no soil borings or pits proposed.

Drawing T.02 shows the proposed limits of the excavation. Please note drawing T.01 and D.01 show a retaining wall being constructed. Following the award of contract, the City elected to remove the retaining wall construction from the project to minimize the disturbance in this area. The estimated number of cubic yards excavated is approximately 200 CY. This material will be disposed at the Landfill of North Iowa. Any hazardous waste materials will be disposed of in a similar manner.

Following the completion of the construction, the site will be capped with either 6” of aggregate base and 6” of hot mix asphalt or up to 6” of topsoil. A maximum of 6” of topsoil will be placed as this area is currently in a floodplain. As part of the requirements of the floodplain permit that has been obtained for this project, no fills greater than 6” from the existing conditions were permitted.

Contaminated equipment will be cleaned off with the washed materials also being hauled to the Landfill of North Iowa.

The estimated project schedule anticipates completion this fall, provided that this plan is acceptable to the IDNR and adequate weather conditions allow. If weather conditions deteriorate, work will be completed in the spring.

Let me know if you have any questions or if you wish to discuss this any further.

Sincerely,

VEENSTRA & KIMM, INC.

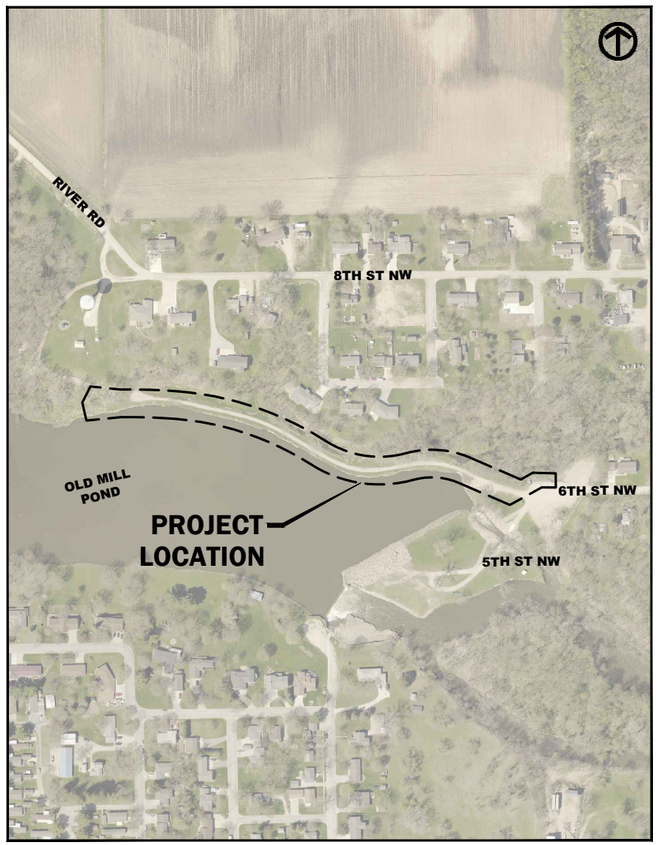


Drew Sweers, P.E.
Project Engineer

Enclosures:

cc: Madelynn Austin, IDNR Field Office No. 2
Chelsey Wood, City of Nora Springs

PLANS FOR
N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA



VICINITY MAP
NOT TO SCALE

SHEET INDEX	
Sheet Number	Sheet Title
A.01	TITLE DRAWING
A.02	LEGEND
A.03	DISC GOLF SITE PLAN
B.01	TYPICAL SECTIONS
D.01	PLAN AND PROFILE
D.02	PLAN AND PROFILE
D.03	PLAN AND PROFILE
G.01	CONTROL DRAWING
L.01	JOINTING PLAN
LA.01	TURF RESTORATION & EROSION CONTROL
R.01	REMOVALS
S.01	SIDEWALK DETAILS
T.01	RETAINING WALL DETAILS
U.01	STANDARD DETAILS

SUDAS

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com

CITY COUNCIL
SARAH AVERY
MARTY COLEMAN
DUANE KOCH
NANCY LUND
DAIN MANN

CITY OFFICIALS
MAYOR : RANDY HASSMAN
CITY ADMINISTRATOR : CHELSEY WOOD
PUBLIC WORKS DIRECTOR : ADAM WYMORE

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

SIGNATURE 7-21-2026 DATE

NAME: ANDREW R. SWEERS, P.E.
LICENSE NUMBER: 22207
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2027
PAGES OR SHEETS COVERED BY THIS SEAL:
ALL SHEETS IN INDEX

LICENSED PROFESSIONAL ENGINEER
ANDREW R. SWEERS
22207
IOWA

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	ESHERIFF
CHECKED	DSWEERS
APPROVED	DSWEERS
DATE	7/21/2026
ISSUED FOR	BIDDING

VEENSTRA & KIMM INC.
A Kleinfelder Company

N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

2800 Fourth Street SW - Suite 9 • Mason City, Iowa 50401-1596
641-421-8008 • 641-430-0313(FAX) • 1-800-241-8000

TITLE DRAWING

SHEET NO.

A.01
PROJECT 735-5

PLOTTED: Tuesday, July 21, 2026 4:28:44 PM
X-REFS:
FILE PATH: snip01.kleinfelder.com\mcshare\070\0735-nora_springs\0735-0005_2026_n_mill_pond_trail_proj\CADD_proddrawings\A.01 TITLE DRAWING.dwg

GENERAL LEGEND

	SURVEY LINE & STATION INDICATOR
	CONCRETE SURFACE
	ASPHALT SURFACE
	CONCRETE W/ASPHALT OVERLAY
	LOW GRADE ASPHALT SURFACE
	GRANULAR SURFACE
	DIRT SURFACE
	BRICK SURFACE
	SURFACING REMOVAL/REPLACEMENT
	EARTH SECTION
8"S	EXISTING SANITARY SEWER AND SIZE
18"ST	EXISTING STORM SEWER AND SIZE
8"W	EXISTING WATER MAIN AND SIZE
6"FM	EXISTING FORCE MAIN AND SIZE
4"G	GAS MAIN AND SIZE
UE	UNDERGROUND POWER LINE
OHE	OVERHEAD POWER LINE
T	UNDERGROUND TELEPHONE LINE
CTV	CABLE TELEVISION LINE
FO	FIBER OPTICS
	DRAINAGE COURSE
	NEW CURB INTAKE
	NEW AREA OR BEEHIVE INTAKE
	NEW STORM/MANHOLE
	NEW SANITARY/MANHOLE
	NEW FORCE MAIN
	NEW HYDRANT
	NEW WATER VALVE
	NEW WATER MAIN
S	EXISTING SANITARY MANHOLE
ST	EXISTING STORM WATER MANHOLE
E	EXISTING ELECTRIC MANHOLE
T	EXISTING TELEPHONE MANHOLE
W	EXISTING WATER MANHOLE
	EXISTING HYDRANT
	EXISTING WATER VALVE
	GAS VALVE
	UTILITY POLE
	GUY ANCHOR
	STREET LIGHT
	SIGN
	COMMUNICATION JUNCTION BOX
	TRAFFIC SIGNALS
	TRAFFIC CONTROLLER
	PEDESTRIAN BUTTON
	RAILROAD SIGNAL
	UTILITY ACCESS COVER
	PARKING METER
	TREE
	EVERGREEN
	STUMP
OR	BUSH, SHRUB OR HEDGE

12"CMP	CULVERT; SIZE AND TYPE
OR	FLARED END SECTION
	RAILROAD
	MAILBOX
	FENCE (MISC.)
	SECURITY FENCE
	WOOD FENCE
SF	SILT FENCE
	CHAIN LINK FENCE
	PROPERTY LINE
	FOUND PROPERTY PIN
	FOUND SECTION CORNER
	SET PROPERTY PIN
	SET SECTION CORNER
	PLAT BOUNDARY
	BUILDING
855.55	ELEVATION MARKER
℄	CENTERLINE
DIA.	DIAMETER
ELEV.	ELEVATION
PVC	POLYVINYLCHLORIDE PIPE
CI	CAST IRON PIPE
DI	DUCTILE IRON PIPE
CMP	CORRUGATED METAL PIPE
VCP	VITRIFIED CLAY PIPE
RCP	REINFORCED CONCRETE PIPE
RCAP	REINFORCED CONCRETE ARCH PIPE
LRCP	LINED REINFORCED CONCRETE PIPE
LCPP	LINED CONCRETE PRESSURE PIPE
STA.	STATION
BM-2	BENCH MARK AND NUMBER
ROW	RIGHT-OF-WAY
PI	POINT OF INTERSECTION
PT	POINT ON TANGENT
LF	LINEAR FEET
SB-2	SOIL BORING AND NUMBER
PVC	POINT OF VERTICAL CURVATURE
PVT	POINT OF VERTICAL TANGENCY
VC	VERTICAL CURVE
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
MO	MIDDLE ORDINATE
DWG.	DRAWING
CP-1	CONTROL POINT AND NUMBER
(TYP.)	TYPICAL
HPG	HIGH PRESSURE GAS
INV.	INVERT
E.W.,E.F.	EACH WAY, EACH FACE
@	AT
3	DRAWING NUMBER

NOTE: THIS IS A GENERAL LEGEND. ITEMS MAY OR MAY NOT APPEAR ON DRAWINGS.

UTILITY CONTACTS

ALLIANT ENERGY
Company name : ALLIANT ENERGY
Design contact: Alliant Energy Field Engineer
Phone: 8002554268
Email: locate_IPL@alliantenergy.com

OMNITEL COMMUNICATIONS
Company name : OMNITEL COMMUNICATIONS
Design contact: Ryan Flugge
Phone: 6417492531
Email: rflugge@omnitel.biz

NORA SPRINGS, CITY OF
Company name : NORA SPRINGS, CITY OF
Design contact: CHELSEY WOOD
Phone: 6417495315
Email: nscityhall@omnitelcom.com

GENERAL NOTES

1. ALL ELEVATIONS ARE TO NAVD 88 DATUM.
2. ALL NORTHING AND EASTING COORDINATES ARE TO NAD 83, IOWA REGIONAL COORDINATE SYSTEMS - ZONE 2 - MASON CITY.
3. REMOVE AND REPLACE ALL STREET SIGNS AS DIRECTED BY ENGINEER. COST IS INCIDENTAL TO CONSTRUCTION.
4. SHAPE ALL DITCHES TO DRAIN AFTER CONSTRUCTION.
5. CONFIRM LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES AS REQUIRED TO ELIMINATE CONFLICTS PRIOR TO CONSTRUCTION. ALLOW UTILITY PERSONNEL TO RELOCATE UTILITIES WHERE CONFLICTS OCCUR.
6. LOCATIONS OF CONSTRUCTION LIMIT LINES SHOWN ON PLANS ARE APPROXIMATE. ENGINEER WILL LOCATE CONSTRUCTION LIMITS IN FIELD. CONFINE ALL CONSTRUCTION OPERATIONS, INCLUDING ACCESS TO WORK, TO CONSTRUCTION LIMITS.
7. STATIONING IS ALONG CENTER LINE OF PAVEMENT, UNLESS OTHERWISE NOTED.
8. PROTECT UTILITY POLES, LINES AND APPURTENANCES NOT SHOWN FOR RELOCATION.
9. RESET ALL PROPERTY PINS DISTURBED BY CONSTRUCTION; PINS RESET BY REGISTERED LAND SURVEYOR; COST IS INCIDENTAL TO CONSTRUCTION.
10. PROTECT ALL SURFACING, NOT INDICATED BY SHADING FOR REMOVAL AND REPLACEMENT FROM DAMAGE DURING CONSTRUCTION.

PROTECTION OF VEGETATION

TREES AND OTHER VEGETATION WHICH MAY BE REMOVED ARE MARKED WITH AN "X" OVER THE APPROPRIATE SYMBOL. FOR EXAMPLE 12"⊗ INDICATES THE REMOVAL OF A 12" TREE. REPLACEMENT, BY CONTRACTOR, OF THESE ITEMS IS NOT REQUIRED. TUNNEL, INSTALL TIGHT SHEETING, HAND EXCAVATE OR EMPLOY OTHER MEANS APPROVED BY ENGINEER TO PROTECT EXPOSED PORTIONS AND ROOT SYSTEMS OF TREES AND OTHER VEGETATION NOT SCHEDULED FOR REMOVAL. IF TREES AND OTHER VEGETATION NOT SCHEDULED FOR REMOVAL ARE DAMAGED DURING CONSTRUCTION, REPLACE IN KIND AND SIZE AT NO COST TO CITY OR PROPERTY OWNER.

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	ESHERIFF
CHECKED	DSWEERS
APPROVED	DSWEERS
DATE	7/21/2026
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VEENSTRA & KIMM INC.
A Kleinfelder Company

N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

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LEGEND

SHEET NO.

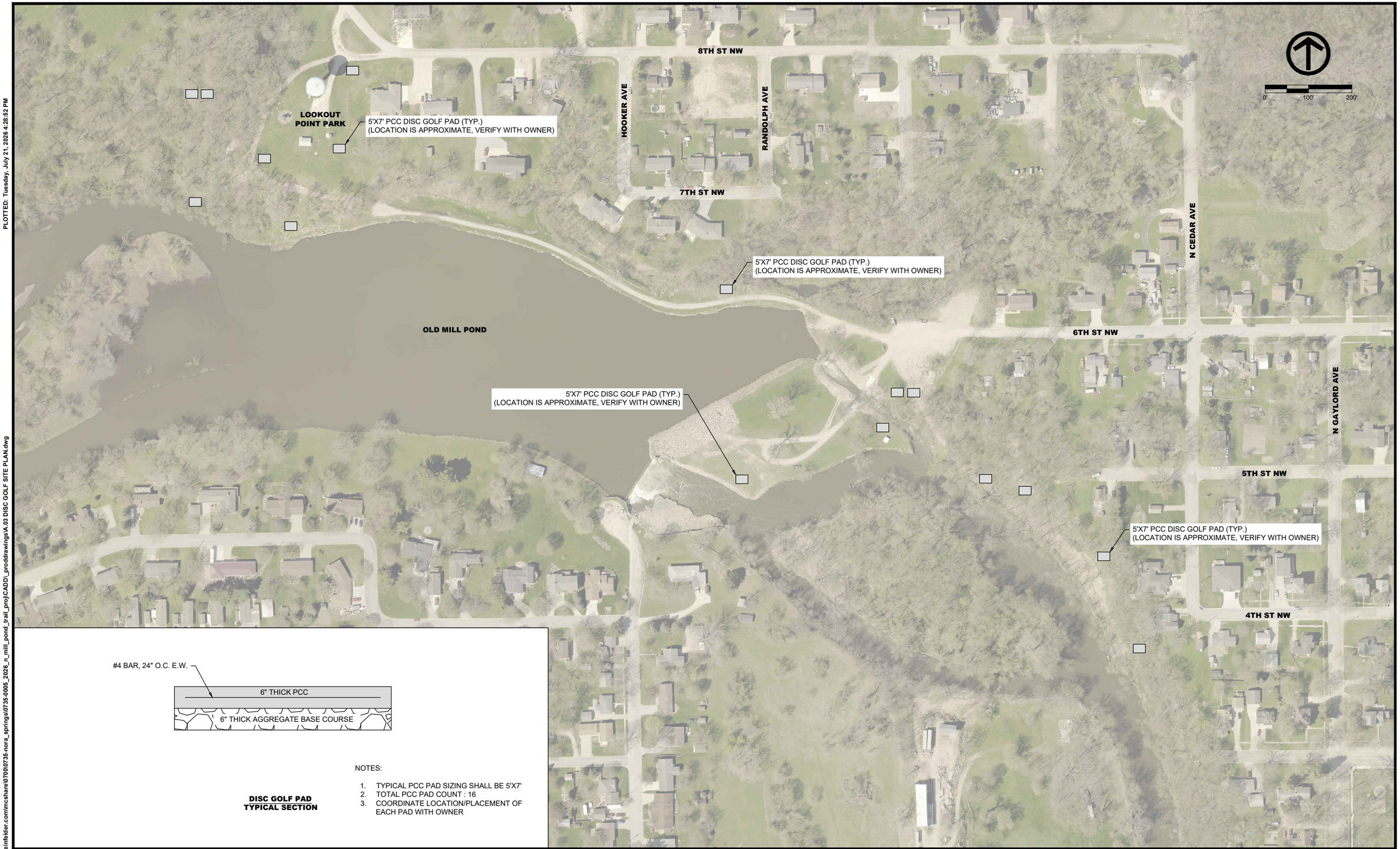
A.02

PROJECT 735-5

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DISC GOLF PAD TYPICAL SECTION

NOTES:

1. TYPICAL PCC PAD SIZING SHALL BE 5'X7'
2. TOTAL PCC PAD COUNT : 16
3. COORDINATE LOCATION/PLACEMENT OF EACH PAD WITH OWNER

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NORA SPRINGS, IOWA

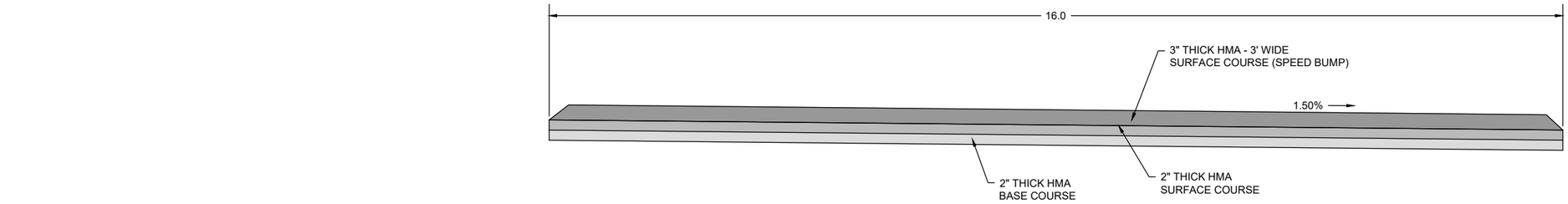
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DISC GOLF SITE PLAN

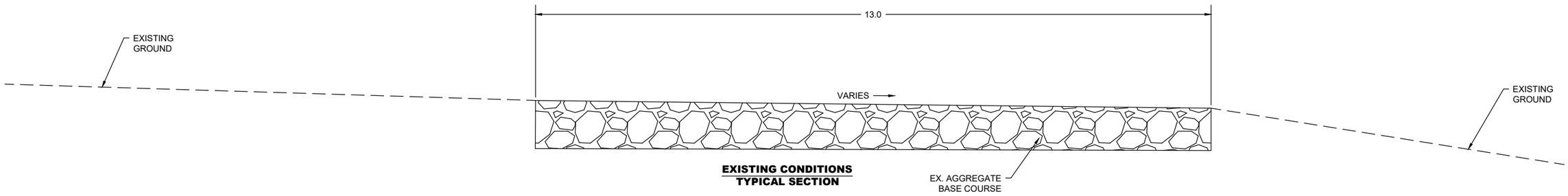
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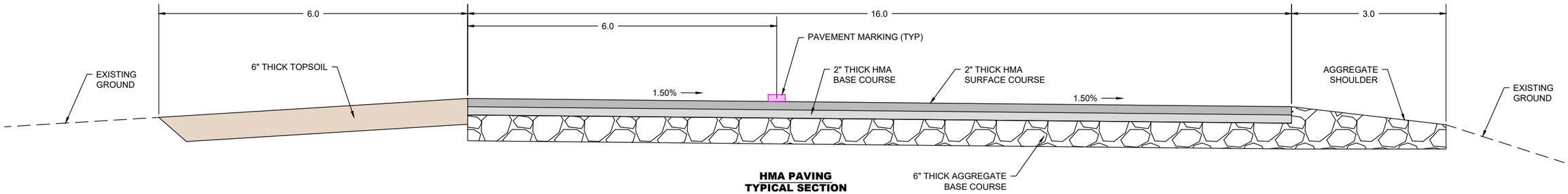
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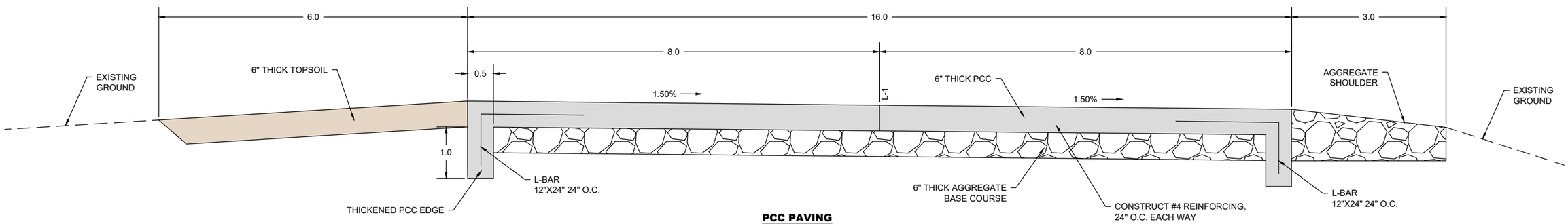
SPEED BUMP (WHERE NOTED ON PLANS)
TYPICAL SECTION



EXISTING CONDITIONS
TYPICAL SECTION



HMA PAVING
TYPICAL SECTION



PCC PAVING
TYPICAL SECTION

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N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

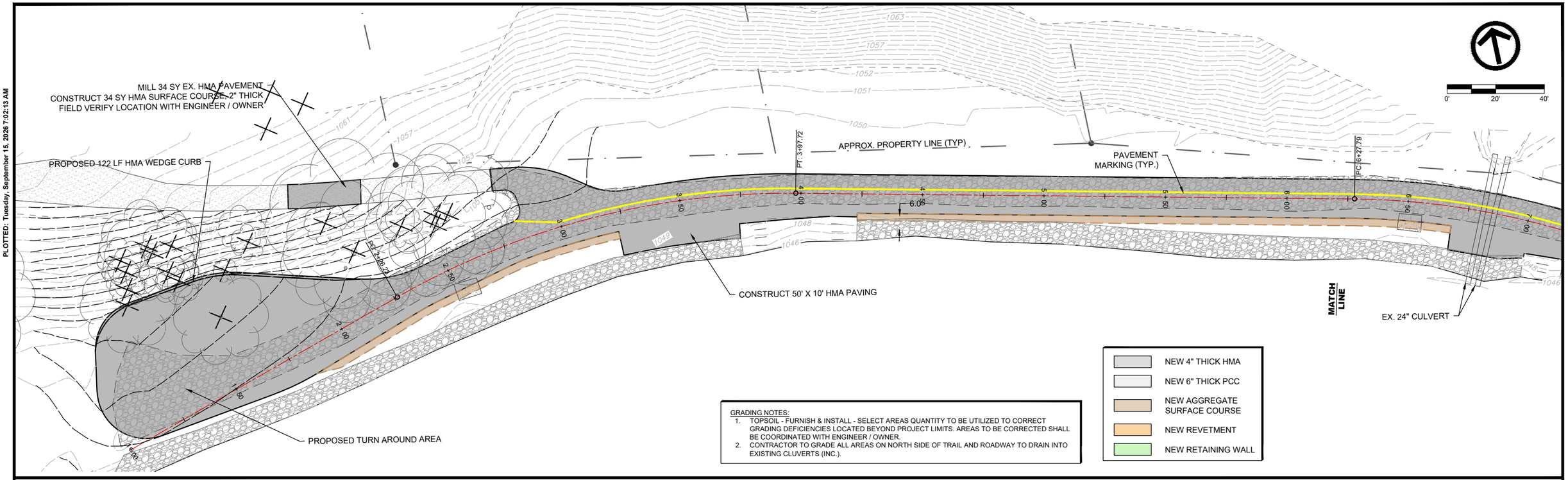
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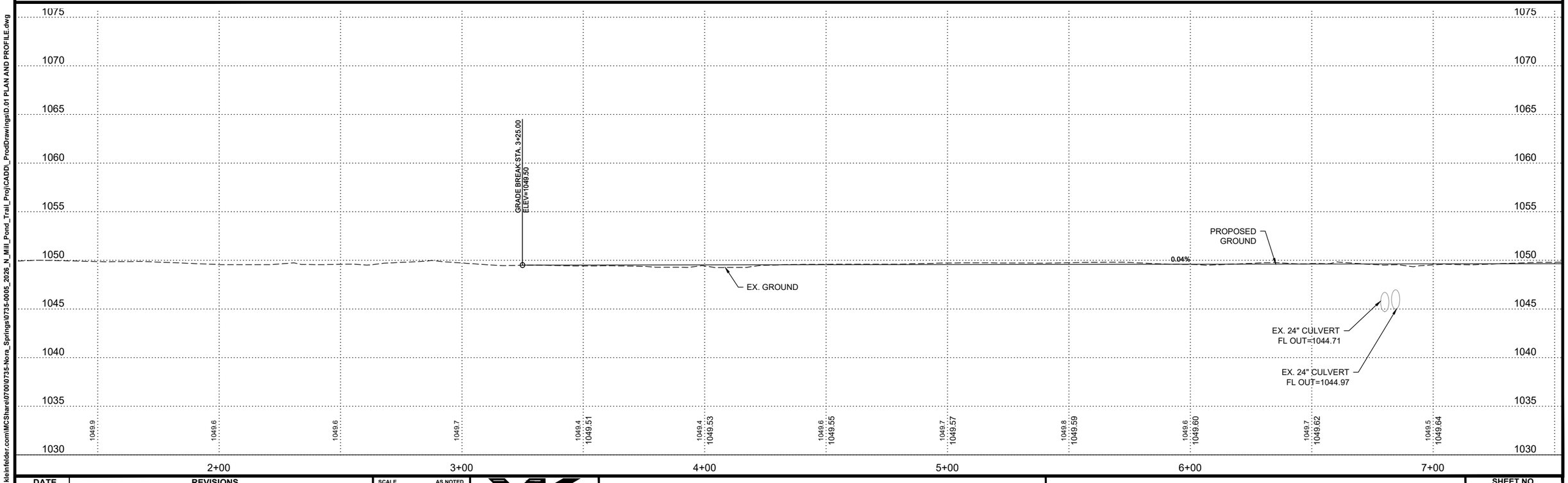
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B.01
PROJECT 735-5

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DATE	REVISIONS

SCALE	AS NOTED
DRAWN	ESHERIFF
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APPROVED	DSWEERS
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VEENSTRA & KIMM INC.
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N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

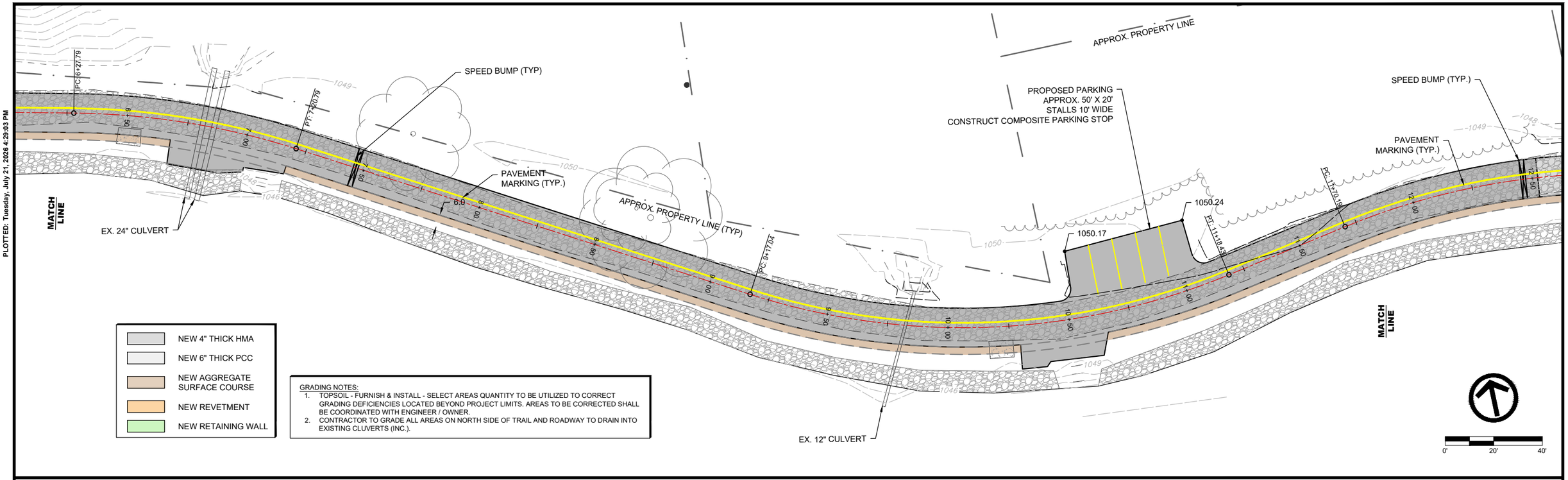
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PLAN AND PROFILE

SHEET NO.

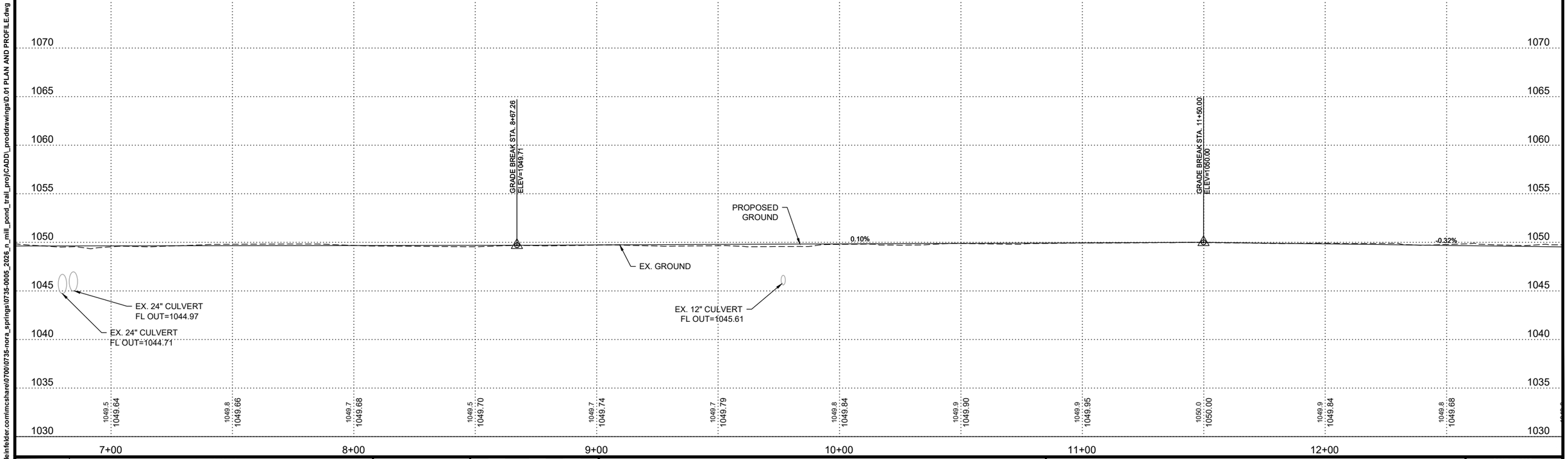
D.01
PROJECT 735-5

PLOTTED: Tuesday, July 21, 2026 4:29:03 PM



GRADING NOTES:

1. TOPSOIL - FURNISH & INSTALL - SELECT AREAS QUANTITY TO BE UTILIZED TO CORRECT GRADING DEFICIENCIES LOCATED BEYOND PROJECT LIMITS. AREAS TO BE CORRECTED SHALL BE COORDINATED WITH ENGINEER / OWNER.
2. CONTRACTOR TO GRADE ALL AREAS ON NORTH SIDE OF TRAIL AND ROADWAY TO DRAIN INTO EXISTING CLUVERTS (INC.).



X-REFS: BASE DRAWING
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DATE	REVISIONS

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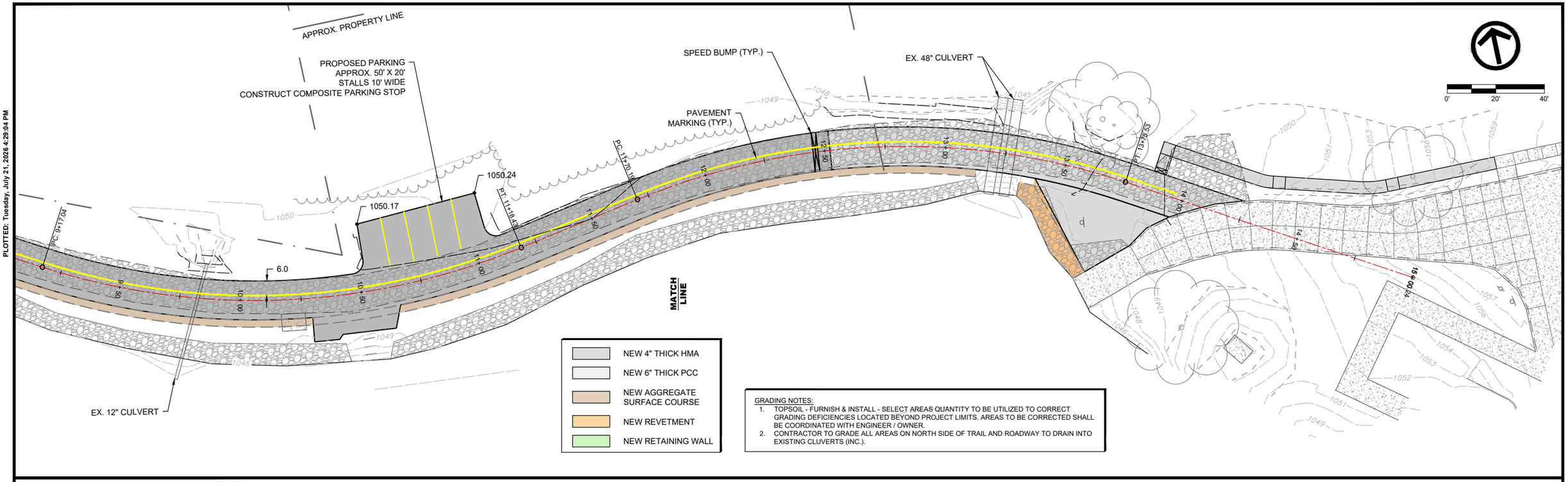
N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

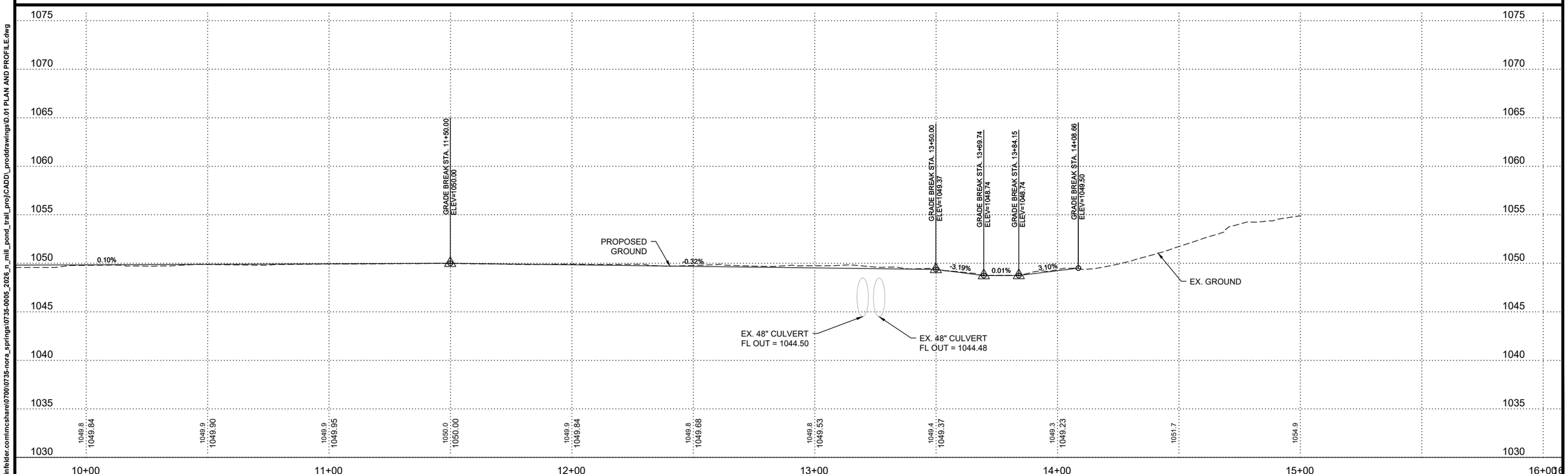
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PLAN AND PROFILE

SHEET NO.

D.02
PROJECT 735-5





DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	ESHERIFF
		CHECKED	DSWEERS
		APPROVED	DSWEERS
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PLAN AND PROFILE

SHEET NO.

D.03
PROJECT 735-5

PLOTTED: Tuesday, July 21, 2026 4:29:04 PM
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POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	9793368.13	12430264.72	1065.38	cp2_X_cut_in_bc
7	9793338.01	12430828.13	1079.92	cp_X_cut_bc
8	9793368.46	12430828.59	1079.42	cp_X_cut_bc
9	9793258.05	12430066.43	1056.62	cp_X_cut_swalk
10	9793721.39	12428986.66	1068.75	prp ycp .1' up
11	9793684.38	12428832.35	1055.20	prp ycp 23709 .1' up
12	9793633.57	12429114.31	1049.19	prp ycp 8656 .1' up
13	9793547.44	12429464.76	1065.90	prp ycp .1' up
14	9793695.96	12429290.62	1055.07	prp ycp .1' up

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CONTROL DRAWING

SHEET NO.

G.01
PROJECT 735-5

X-REFS:
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PLOTTED: Tuesday, July 21, 2026 4:29:05 PM



DEAD HEAD JOINT REINFORCEMENT DETAIL

PLOTTED: Tuesday, July 21, 2026 4:29:10 PM

X-REFS: BASE DRAWING

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DATE	REVISIONS

SCALE	AS NOTED
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NORA SPRINGS, IOWA

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JOINTING PLAN

SHEET NO.

L.01

PROJECT 735-5



PLOTTED: Tuesday, July 21, 2026 4:29:15 PM

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DATE	REVISIONS

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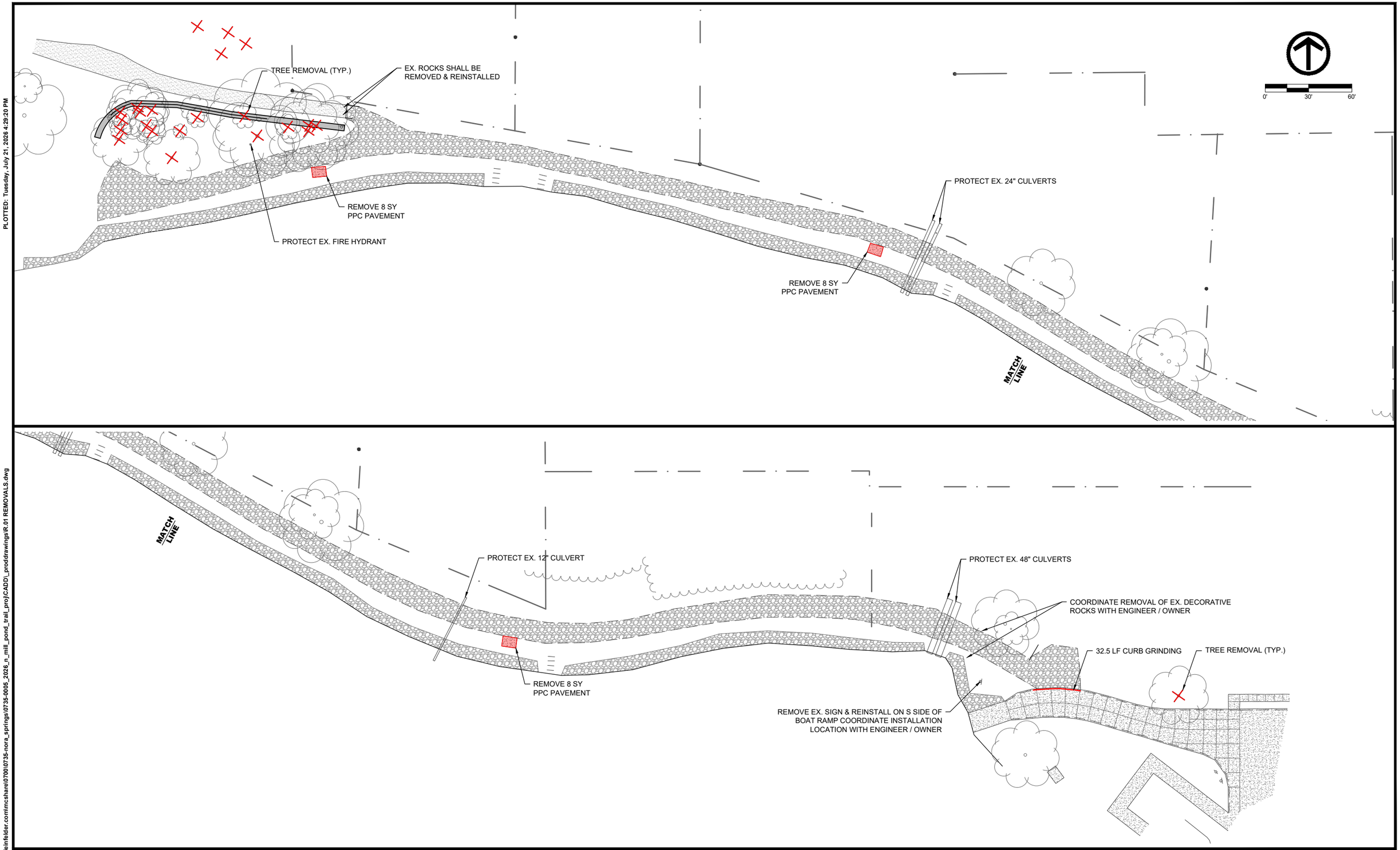
2800 Fourth Street SW - Suite 9 ● Mason City, Iowa 50401-1596
641-421-8008 ● 515-225-7848(FAX) ● 1-800-241-8000

TURF RESTORATION & EROSION CONTROL

SHEET NO.

LA.01
PROJECT 735-5

PLOTTED: Tuesday, July 21, 2026 4:29:20 PM



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DATE	REVISIONS

SCALE	AS NOTED
DRAWN	ESHERIFF
CHECKED	DSWEERS
APPROVED	DSWEERS
DATE	7/21/2026
ISSUED FOR	BIDDING

VEENSTRA & KIMM INC.
A Kleinfelder Company

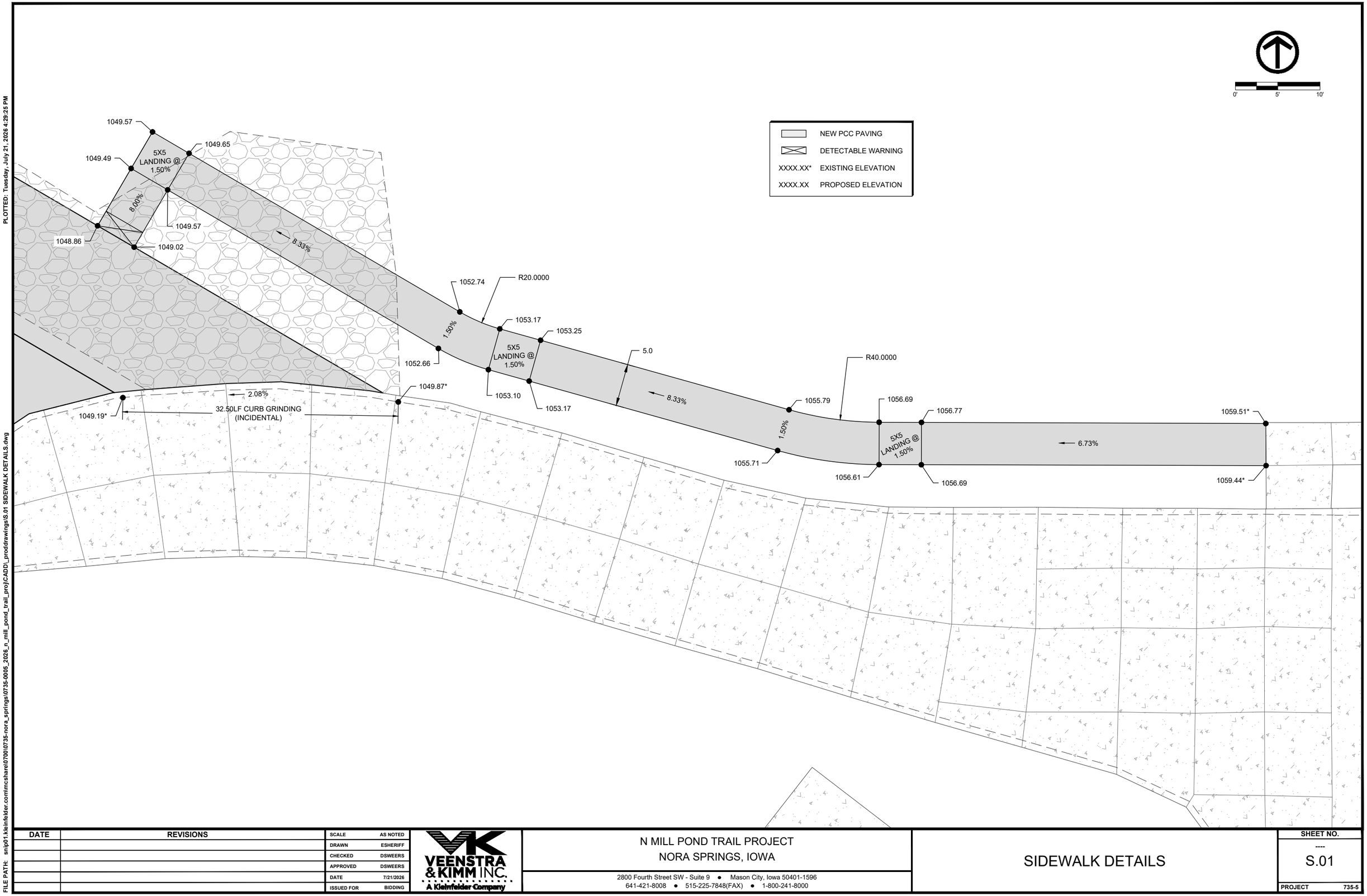
N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

2800 Fourth Street SW - Suite 9 ● Mason City, Iowa 50401-1596
641-421-8008 ● 515-225-7848(FAX) ● 1-800-241-8000

REMOVALS

SHEET NO.

R.01
PROJECT 735-5



DATE	REVISIONS

SCALE	AS NOTED
DRAWN	ESHERIFF
CHECKED	DSWEERS
APPROVED	DSWEERS
DATE	7/21/2026
ISSUED FOR	BIDDING

VEENSTRA & KIMM INC.
A Kleinfelder Company

N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

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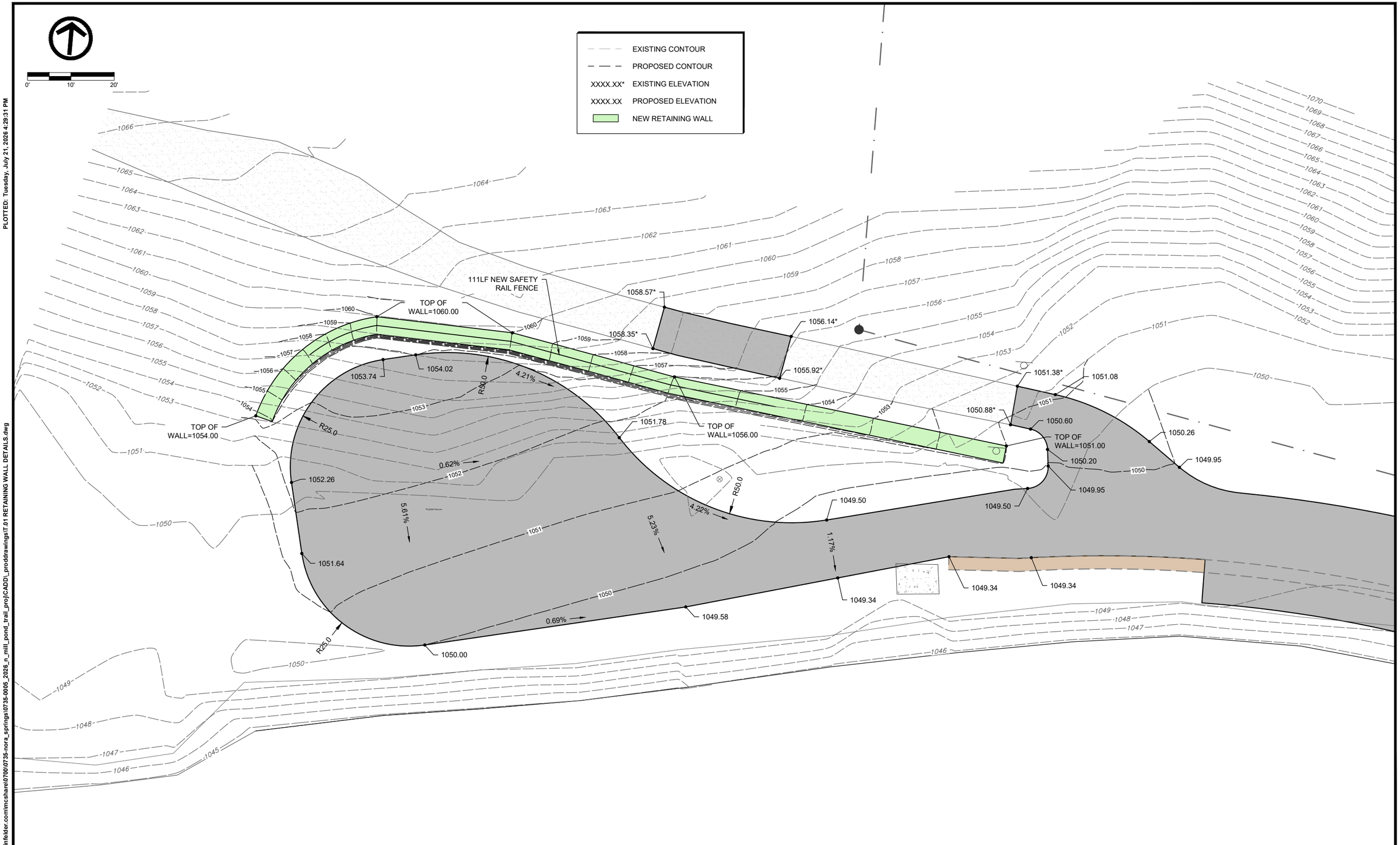
SIDEWALK DETAILS

SHEET NO.

S.01

PROJECT 735-5

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DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	ESHERIFF
		CHECKED	DSWEERS
		APPROVED	DSWEERS
		DATE	7/21/2026
		ISSUED FOR	BIDDING

VEENSTRA & KIMM INC.
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N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

2800 Fourth Street SW - Suite 9 ● Mason City, Iowa 50401-1596
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RETAINING WALL DETAILS

SHEET NO.

T.01
PROJECT 735-5

PLOTTED: Tuesday, July 21, 2026 4:29:31 PM

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0' 10' 20'

EXISTING CONTOUR
PROPOSED CONTOUR
XXXX.XX* EXISTING ELEVATION
XXXX.XX PROPOSED ELEVATION

1064.38*
1063.78*
1063.35*
1062.06*
1060.83*
1059.32*
1058.57*
1058.35*
1056.14*
1055.92*
1051.38*
1051.08
1050.88*
1050.60
1050.26
1050.20
1049.95
1049.95
1049.75
1049.50
1049.50
1049.50
1049.50
1049.37
1049.34
1049.34
1051.88
1051.29
1049.99
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GT=1052.88
TC=1052.73
GT=1052.23
TC=1052.23
GT=1051.73
TC=1050.65
GT=1050.15
PROTECT WATER DEVICE/ADJUSTMENT BY OTHERS
2.37%
4.00%
4.00%
5.13%
4.28%
3.47%
1.00%
1.00%
1.00%

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	ESHERIFF
CHECKED	DSWEERS
APPROVED	DSWEERS
DATE	7/21/2026
ISSUED FOR	BIDDING

VEENSTRA & KIMM INC.
A Kleinfelder Company
2800 Fourth Street SW - Suite 9 ● Mason City, Iowa 50401-1596
641-421-8008 ● 515-225-7848(FAX) ● 1-800-241-8000

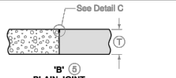
N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

RETAINING WALL DETAILS

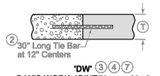
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T.02
PROJECT 735-5

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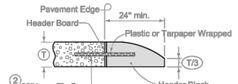
'B' (5)
PLAIN JOINT
(Abutting Pavement Slabs)



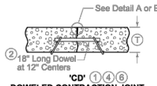
'DW' (3)(4)(7)
DAY'S WORK JOINT(Non-working)



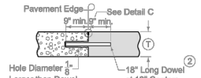
'C' (6)
CONTRACTION JOINT



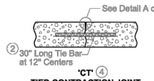
'HT' (4)(5)
HEADER JOINT
(End Rigid Pavement)



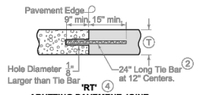
'CD' (1)(4)(6)
DOWELED CONTRACTION JOINT



'RD' (4)(5)
ABUTTING PAVEMENT JOINT



'CT' (4)
TIED CONTRACTION JOINT



'RT' (4)
ABUTTING PAVEMENT JOINT RIGID TIE

TRANSVERSE CONTRACTION

1. See dowel assemblies for fabrication details.
2. See Bar Size Table for Contraction Joints on Sheet 2.
3. Locate 'DW' joint at a mid-panel location between future 'C' or 'CD' joints. Place no closer than 5 feet to a 'C' or 'CD' joint.
4. Place bars within the limits shown under dowel assemblies.
5. Edge with 1/8 inch tool for length of joint. For HT joint, remove header block and board when second slab is placed.
6. Unless specified otherwise, use 'CD' transverse contraction joints in mainline pavement when (T) is greater or equal to 8 inches. Use 'C' joints when (T) is less than 8 inches.
7. 'RT' joint may be used in lieu of 'DW' joint at the end of the days work. Remove any pavement damaged due to the drilling at no additional cost to the Contracting Authority.



'DW - CG' (3)(4)
DAY'S WORK JOINT
CURB AND GUTTER UNIT

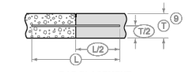
LEGEND
Existing Pavement
Proposed Pavement

IOWA DOT	INTERIM	REVISION 13	01-01-26
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101	
REVISIONS: Updated SUDAS and DOT Logo.		SHEET 1 of 8	

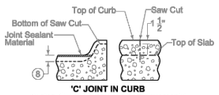
BUDAS DIRECTOR — DESIGN, METHODS ENGINEER

JOINTS

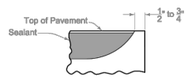
FIGURE 7010.101 | SHEET 1 OF 8



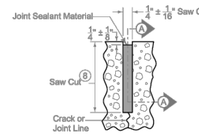
BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)



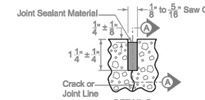
'C' JOINT IN CURB
(Match 'CT', 'CD', or 'C' joint in pavement.)



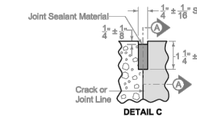
SECTION A-A
(Detail at Edge of Pavement)



DETAIL A
(Saw cut formed by conventional concrete sawing equipment.)



DETAIL B
(Saw cut formed by approved early concrete sawing equipment.)



DETAIL C

8. Saw 'CD' joint to a depth of T/3 ± 1/4"; saw 'C' joint to a depth of T/4 ± 1/4".
9. When tying into old pavement, (T) represents the depth of sound PCC.

BAR SIZE TABLE FOR CONTRACTION JOINTS

(T)	Solid Dowel Diameter	Tubular Dowel Diameter	Elliptical	Tie Bar Size
< 8"	3/4	7/8	N/A	#6
≥ 8" but < 10"	1 1/4	1 3/8	Small	#10
≥ 10"	1 1/2	1 5/8	Medium	#11

Tubular and Elliptical Dowel Bars will not be allowed for RD joints.

LEGEND
Existing Pavement
Proposed Pavement

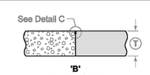
IOWA DOT	INTERIM	REVISION 13	01-01-26
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101	
REVISIONS: Updated SUDAS and DOT Logo.		SHEET 2 of 8	

BUDAS DIRECTOR — DESIGN, METHODS ENGINEER

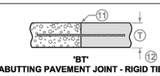
JOINTS

FIGURE 7010.101 | SHEET 2 OF 8

TRANSVERSE CONTRACTION

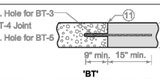


'B'
PLAIN JOINT
(Abutting Pavement Slabs)



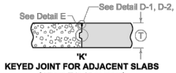
'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE

(T)	Joint	Bars	Bar Length and Spacing
< 8"	'BT-1'	#4	36" Long at 30" Centers
		#5	30" Long at 30" Centers
≥ 8"	'BT-2'	#5	36" Long at 30" Centers
	'BT-5'	#5	36" Long at 15" Centers

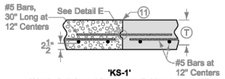


'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE (Drilled)

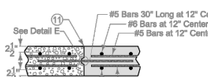
(T)	Joint	Bars	Bar Length and Spacing
< 8"	'BT-5'	#4	24" Long at 30" Centers
≥ 8"	'BT-3'	#5	24" Long at 30" Centers
	'BT-4'		24" Long at 15" Centers



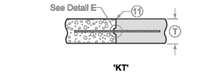
'K'
KEYED JOINT FOR ADJACENT SLABS
(Where T is 8" or more)



'KS-1'
[Single Reinforced Pavement (Bridge Approach)]



'KS-2'
[Double Reinforced Pavement (Bridge Approach)]



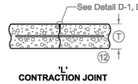
(10)(12)
'KT'
ABUTTING PAVEMENT JOINT - KEYWAY TIE

(T)	Joint	Bars	Bar Length and Spacing
< 8"	'KT-1'	#4	30" Long at 30" Centers
≥ 8"	'KT-2'	#5	30" Long at 30" Centers
	'KT-3'		30" Long at 15" Centers

LONGITUDINAL CONTRACTION

10. Bar supports may be necessary for fixed form paving to ensure the bar remains in a horizontal position in the plastic concrete.
11. Sawing or sealing of joint not required.
12. The following joints are interchangeable, subject to the pouring sequence:
    'L-1', 'BT-1', and 'KT-1'
    'L-2', 'BT-2', and 'KT-2'
    'L-3', 'BT-6', and 'KT-3'

    KT joints should not be used when DOT is contracting authority.



'L'
CONTRACTION JOINT

(T)	Joint	Bars	Bar Length and Spacing
< 8"	'L-1'	#4	36" Long at 30" Centers
≥ 8"	'L-2'	#5	36" Long at 30" Centers
	'L-3'		36" Long at 15" Centers

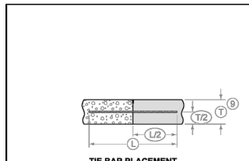
LEGEND
Existing Pavement
Proposed Pavement

IOWA DOT	INTERIM	REVISION 13	01-01-26
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101	
REVISIONS: Updated SUDAS and DOT Logo.		SHEET 3 of 8	

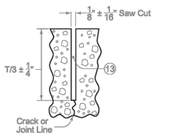
BUDAS DIRECTOR — DESIGN, METHODS ENGINEER

JOINTS

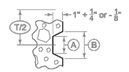
FIGURE 7010.101 | SHEET 3 OF 8



TIE BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)

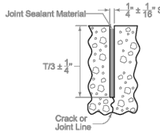


DETAIL D-1
(Required when specified in the contract documents.)

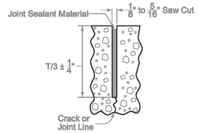


DETAIL E

KEYWAY DIMENSIONS			
Keyway Type	Pavement Thickness (T)	(A)	(B)
Standard	8" or greater	1 3/4	2 3/4
Narrow	Less than 8"	1"	2"



DETAIL D-2
(Required when the Department of Transportation is not the Contracting Authority, or when specified in the contract documents)



DETAIL D-3
(Required when the Department of Transportation is the Contracting Authority, or when specified in the contract documents)

LONGITUDINAL CONTRACTION

9. When tying into old pavement, (T) represents the depth of sound PCC.
13. Sealant or cleaning not required.

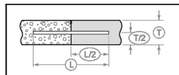
LEGEND
Existing Pavement
Proposed Pavement

IOWA DOT	INTERIM	REVISION 13	01-01-26
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101	
REVISIONS: Updated SUDAS and DOT Logo.		SHEET 4 of 8	

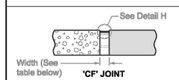
BUDAS DIRECTOR — DESIGN, METHODS ENGINEER

JOINTS

FIGURE 7010.101 | SHEET 4 OF 8

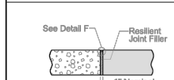


DOWEL PLACEMENT
(Applies to all joints unless otherwise detailed.)

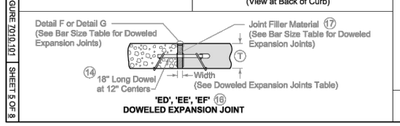


'CF' JOINT

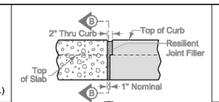
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CF-2	2 1/2"
CF-3	3"
CF-4	3 1/2"



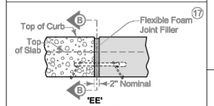
'E'
1" EXPANSION JOINT



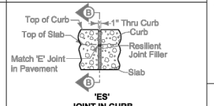
'ED', 'EE', 'EF' (16)
DOWELED EXPANSION JOINT



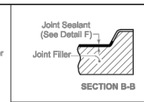
'E'
JOINT IN CURB
(View at Back of Curb)



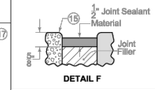
'EE'
JOINT IN CURB
(View at Back of Curb)



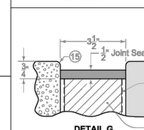
'ES'
JOINT IN CURB
(View at Back of Curb)



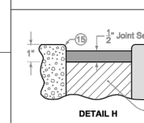
SECTION B-B



DETAIL F



DETAIL G



DETAIL H

EXPANSION

14. See Bar Size Table for Doweled Expansion Joints.
15. Edge with 1/4 inch tool for length of joint indicated if formed; edging not required when cut with diamond blade saw.
16. See Dowel Assemblies for fabrication details and placement limits. Coat the free end of dowel bar to prevent bond with pavement. At intake locations, dowel bars may be cast-in-place.
17. Predrill or preform holes in joint material for appropriate dowel size.
18. Compact tire buffings by spading with a square-nose shovel.

DOWELED EXPANSION JOINTS

TYPE	WIDTH	FILLER MATERIAL (17)
ED	1"	Resilient (Detail F)
EE	2"	Flexible Foam (Detail F)
EF	3 1/2"	Flexible Foam (Detail G)

BAR SIZE TABLE FOR DOWELED EXPANSION JOINTS

(T)	< 8"	≥ 8" but < 10"	≥ 10"
Dowel Diameter	3/4	1 1/4"	1 1/2"

Tubular, GFRP, and Elliptical Dowel Bars will not be allowed for expansion joints.

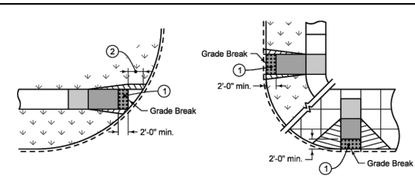
LEGEND
Existing Pavement
Proposed Pavement

IOWA DOT	INTERIM	REVISION 13	01-01-26
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101	
REVISIONS: Updated SUDAS and DOT Logo.		SHEET 5 of 8	

BUDAS DIRECTOR — DESIGN, METHODS ENGINEER

JOINTS

FIGURE 7010.101 | SHEET 5 OF 8



PERPENDICULAR RAMPS

PARALLEL RAMPS

Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares.

1. When detectable warning is located on curb ramp surface, orient domes in the direction of pedestrian travel.
2. When the distance between the grade break and the back of curb is less than 5 feet, place detectable warning surface at the bottom of the curb ramp.

   Where one corner of the curb ramp is more than 5 feet from the back of curb, construct curb ramp as a parallel curb ramp. Move grade break back as required to place detectable warning on turning space at the back of curb.

Key
Curb Ramp
Turning Space
Detectable Warning

SUDAS		REVISION New	10-16-12
FIGURE 7030.210		7030.210	
		SHEET 1 of 1	

SUDAS Standard Specifications

DETECTABLE WARNING PLACEMENT

FIGURE 7030.210 | SHEET 1 OF 1

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	ESHERIFF
CHECKED	DSWEERS
APPROVED	DSWEERS
DATE	7/21/2026
ISSUED FOR	BIDDING

VEENSTRA & KIMM INC.
A Kleinfelder Company

N MILL POND TRAIL PROJECT
NORA SPRINGS, IOWA

2800 Fourth Street SW - Suite 9 ● Mason City, Iowa 50401-1596
641-421-8008 ● 515-225-7848(FAX) ● 1-800-241-8000

STANDARD DETAILS

SHEET NO.

U.01

PROJECT 735-5

X-REFS:
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