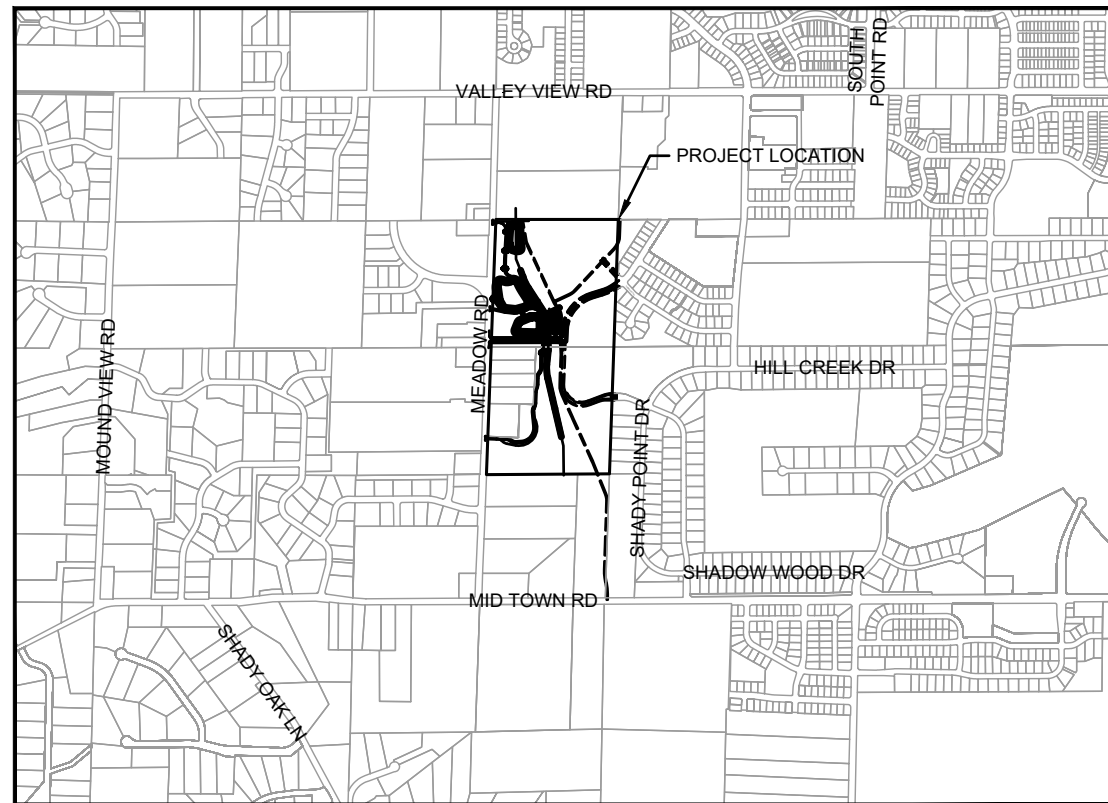
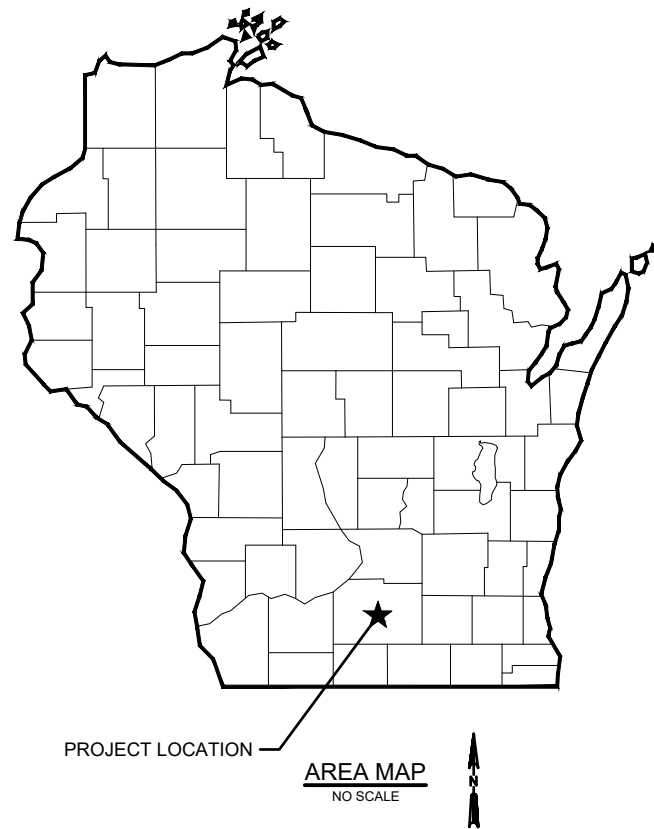


LOWER BADGER MILL CREEK FLOOD MITIGATION

FOR THE
CITY OF MADISON
DANE COUNTY, WI
OCTOBER 2022



PROJECT LOCATION MAP
NO SCALE

DRAWING LIST

SHEET NO.	SHEET TITLE
1	TITLE
2	GENERAL NOTES AND LEGEND
3	PROJECT OVERVIEW
4 - 5	CONSTRUCTION DETAILS
6	BRIDGE STRUCTURE OVERVIEW
7	BRIDGE GENERAL PLAN
8	BRIDGE AESTHETIC DETAILS
9	BRIDGE CROSS SECTION AND NOTES
10	EXISTING SURVEY AND CONTROL
11 - 12	OVERALL GRADING PLANS
13 - 14	OVERALL EROSION CONTROL PLANS
15 - 17	TREE INVENTORY PLANS
18	INTERSECTION DETAILS
19 - 23	DITCH PLAN AND PROFILE
24 - 29	MAINTENANCE PATH PLAN AND PROFILE
30 - 31	POND SECTIONS
32 - 42	DITCH CROSS SECTIONS
43 - 45	MAINTENANCE PATH CROSS SECTIONS

Strand Associates, Inc.
910 West Wingra Drive
Madison, WI 53715
608-251-4843
www.strand.com

PROJECT # 11063
CONTRACT # 9030

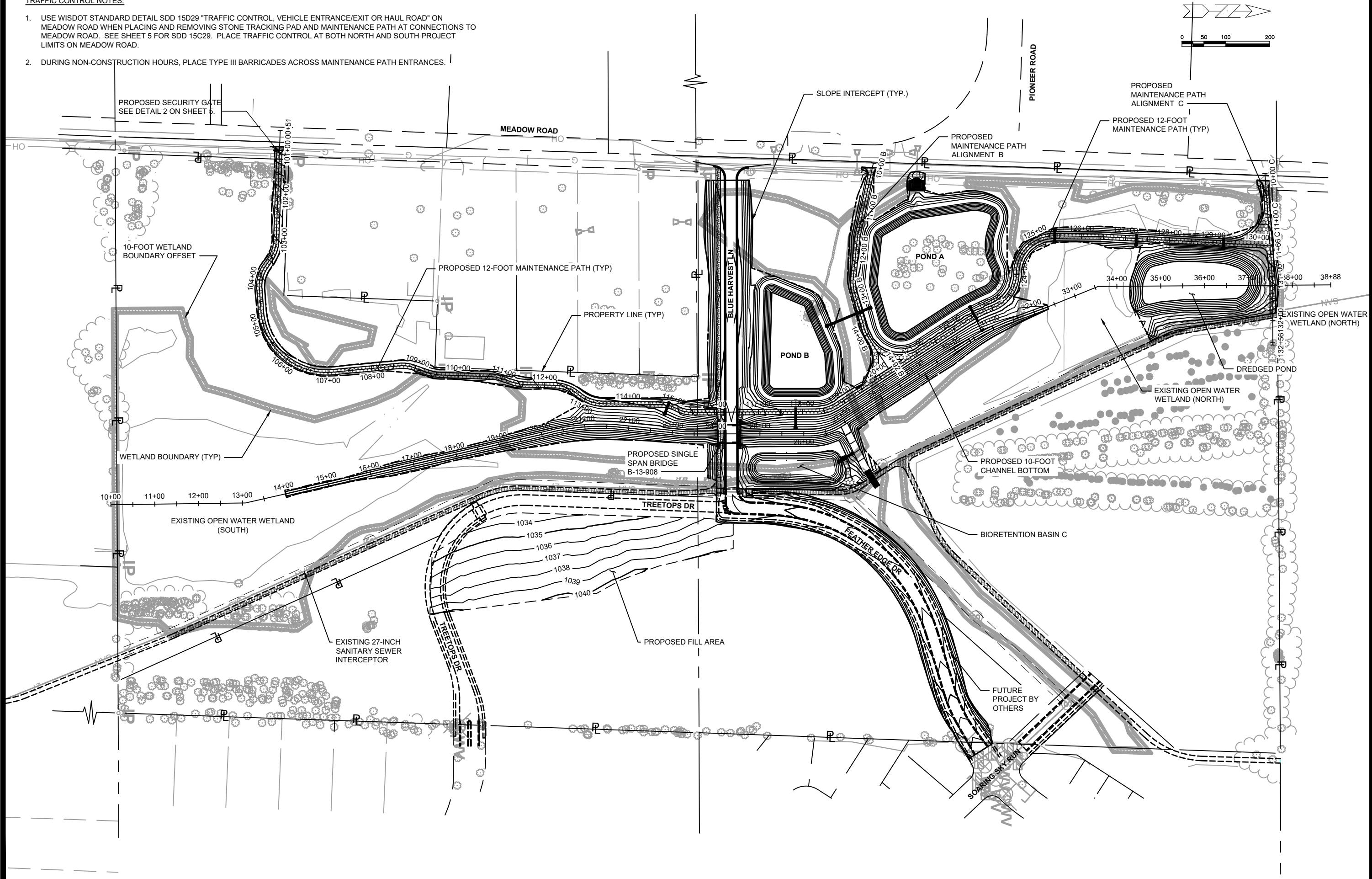


90% SUBMITTAL, 10/10/22

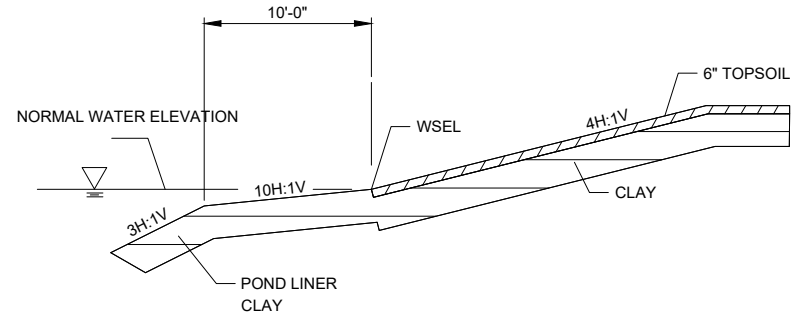
SHEET
1

TRAFFIC CONTROL NOTES:

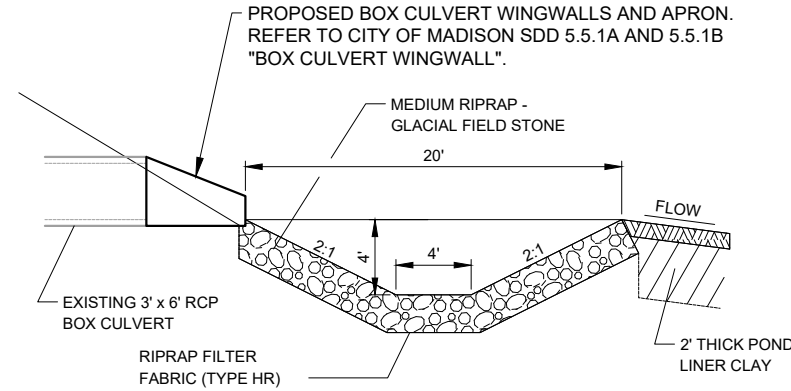
1. USE WISDOT STANDARD DETAIL SDD 15D29 "TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD" ON MEADOW ROAD WHEN PLACING AND REMOVING STONE TRACKING PAD AND MAINTENANCE PATH AT CONNECTIONS TO MEADOW ROAD. SEE SHEET 5 FOR SDD 15C29. PLACE TRAFFIC CONTROL AT BOTH NORTH AND SOUTH PROJECT LIMITS ON MEADOW ROAD.
2. DURING NON-CONSTRUCTION HOURS, PLACE TYPE III BARRICADES ACROSS MAINTENANCE PATH ENTRANCES.



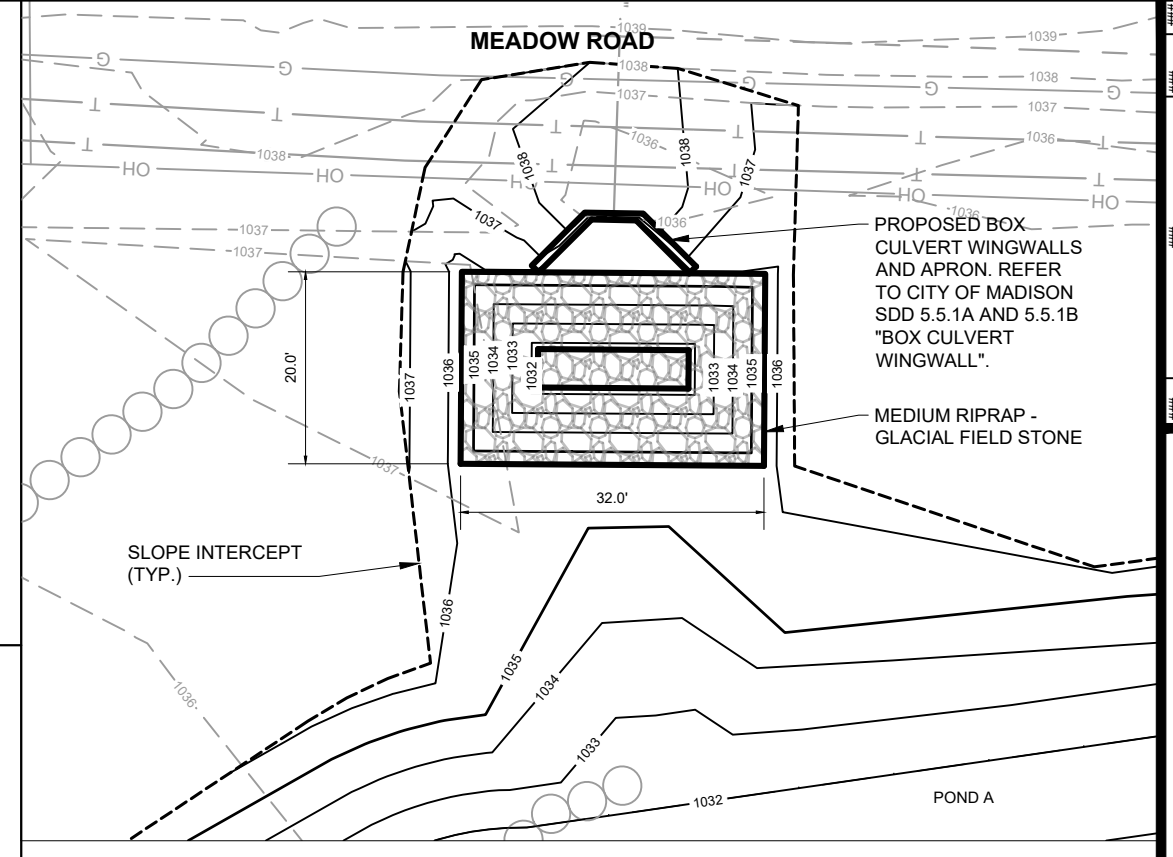
PROJECT OVERVIEW	1020.129	CITY OF MADISON	CONTRACT NO.: XXXX.XX	3
LOWER BADGER MILL CREEK FLOOD MITIGATION				
S:\MAD1000-1099\1020\129\Drawings\CAD\Civil 3d\Sheets\Plan\Overview Sheet.dwg				
1020.129				
3				



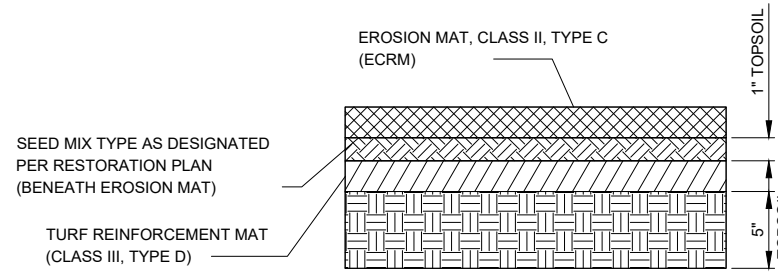
CLAY/TOPSOIL INTERFACE AT TOP OF SAFETY SHELF
NO SCALE



INLET PLUNGE POOL
NO SCALE

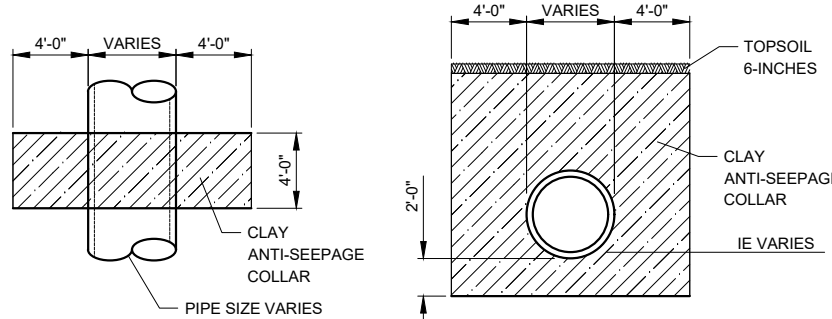


INLET PLUNGE POOL PLAN
SCALE: 1" = 20'

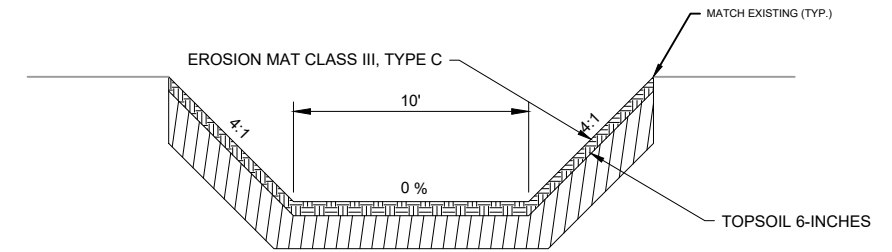


NOTE:
1. TOPSOIL CAN BE EXISTING TOPSOIL OR PARTIALLY NEW/PARTIALLY EXISTING.
2. SEE DRAWINGS AND CROSS SECTIONS FOR LOCATIONS AND USE.

TURF REINFORCEMENT MAT (TRM) SYSTEM
NO SCALE



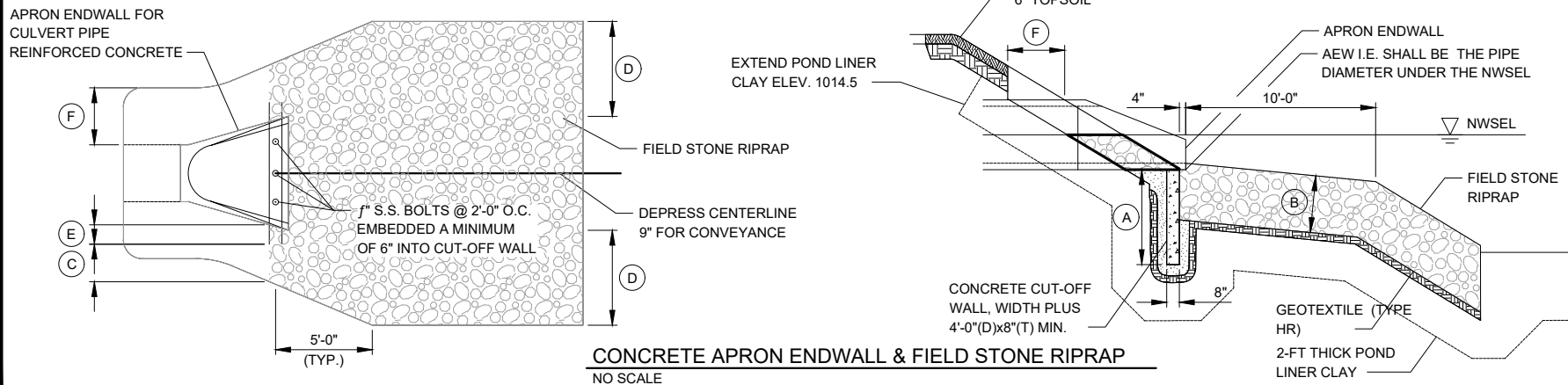
CLAY ANTI-SEEPAGE COLLAR
NO SCALE



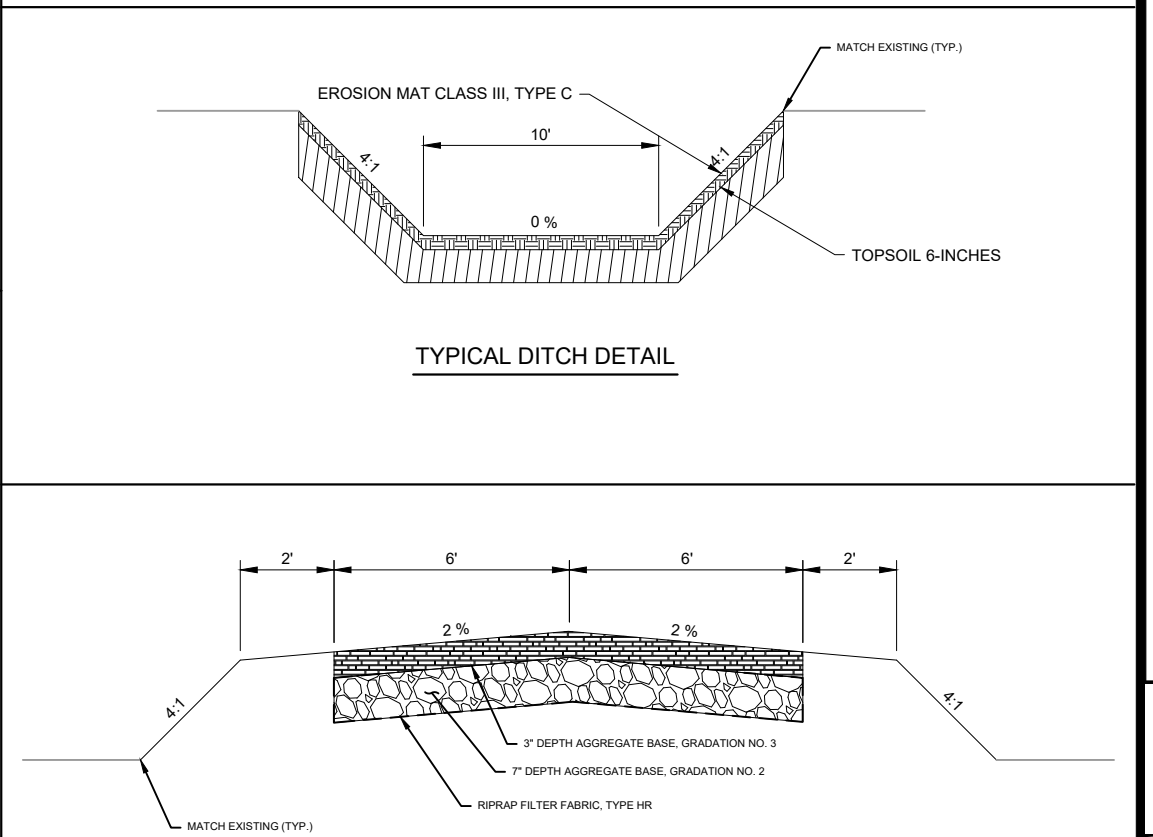
TYPICAL DITCH DETAIL

	(A)	(B)	(C)	(D)	(E)	(F)
AT DISCHARGE INTO PONDS	4'-0"	2'-0"	2'-0"	5'-0"	1'-0"	3'-0"

• PROVIDE CONCRETE JOINT TIES AT APRON ENDWALL AND NEXT UPSTREAM JOINT.



CONCRETE APRON ENDWALL & FIELD STONE RIPRAP
NO SCALE



TYPICAL MAINTENANCE PATH DETAIL

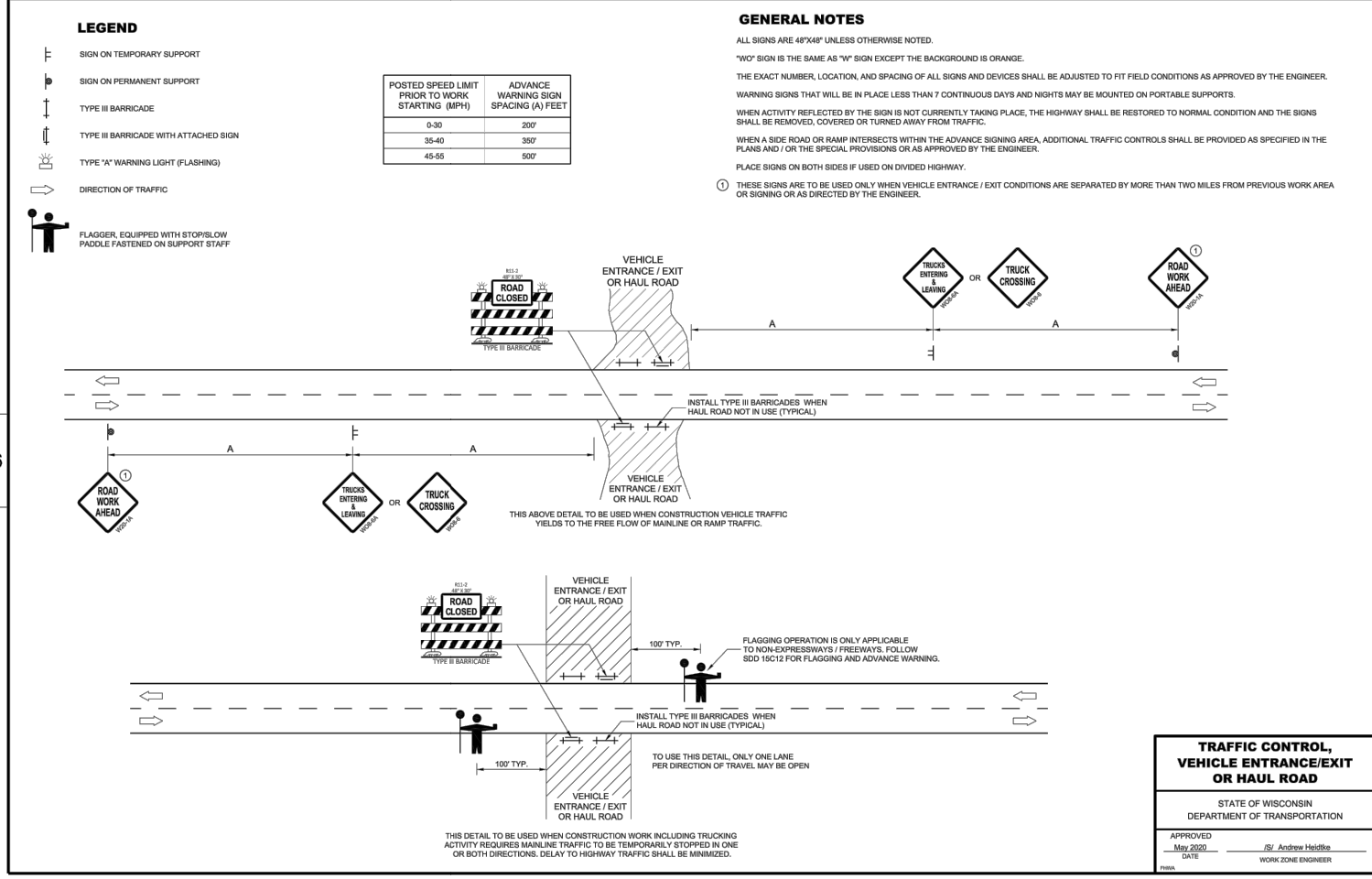
MARK	REVISION	DATE	BY
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1020.129
CITY OF MADISON
CONTRACT NO: XXXX.XX

CONSTRUCTION DETAILS
LOWER BADGER MILL CREEK FLOOD MITIGATION
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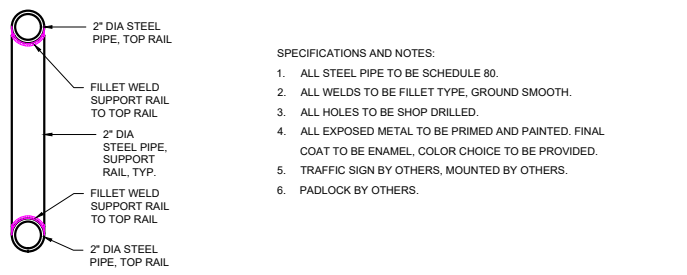


1020.129



SDD 15D29 - 06

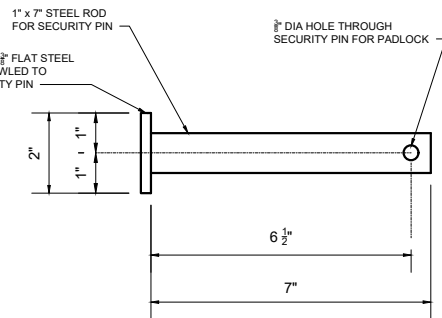
GATE ELEVATION



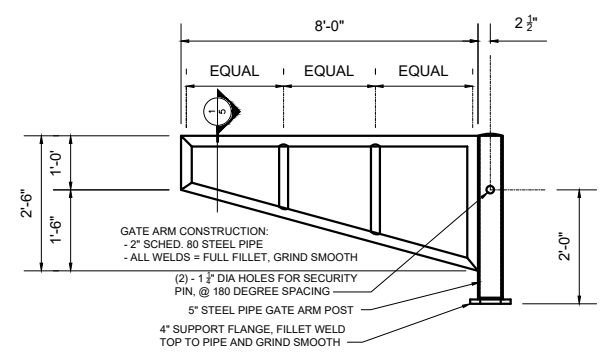
3. GATE ARM SECTION



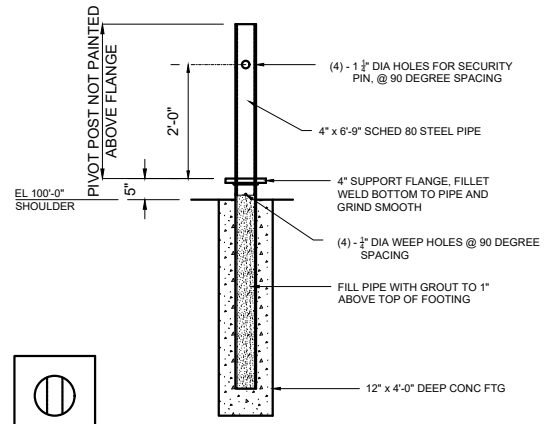
- SPECIFICATIONS AND NOTES:**
- ALL STEEL PIPE TO BE SCHEDULE 80.
 - ALL WELDS TO BE FILLET TYPE, GROUND SMOOTH.
 - ALL HOLES TO BE SHOP DRILLED.
 - ALL EXPOSED METAL TO BE PRIMED AND PAINTED. FINAL COAT TO BE ENAMEL, COLOR CHOICE TO BE PROVIDED.
 - TRAFFIC SIGN BY OTHERS, MOUNTED BY OTHERS.
 - PADLOCK BY OTHERS.



4. SECURITY PIN DETAIL



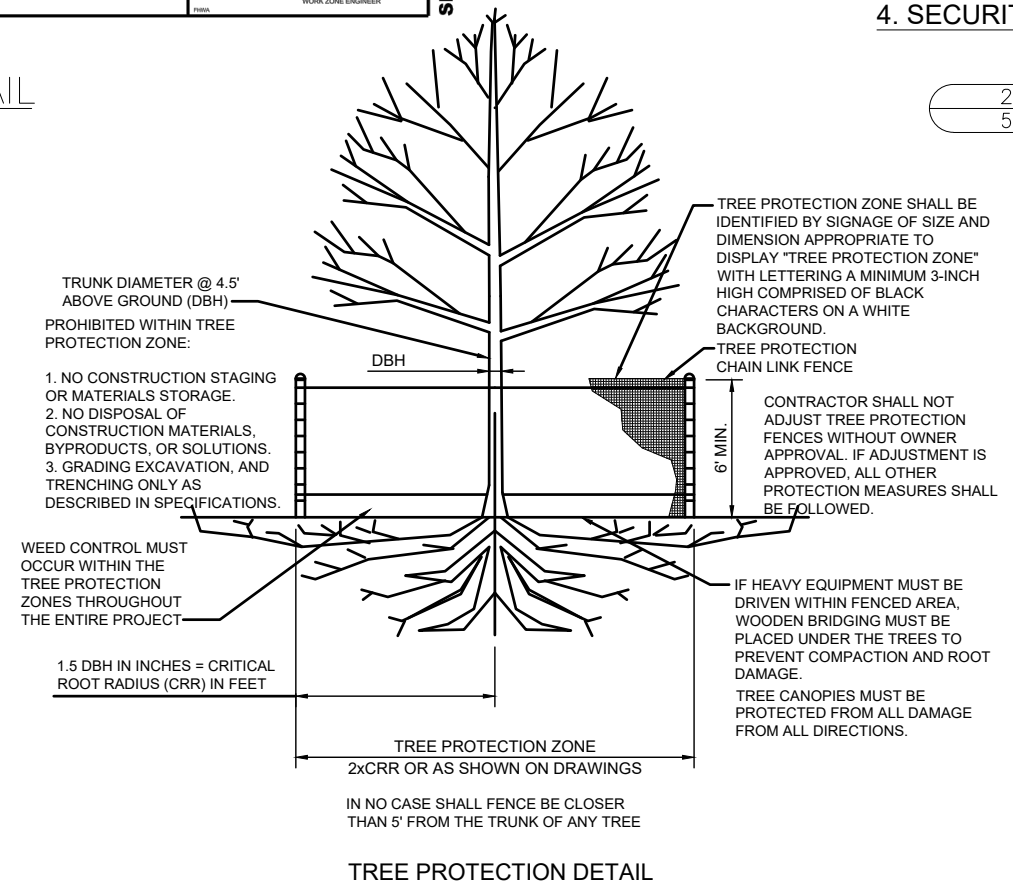
2. GATE ARM DETAIL



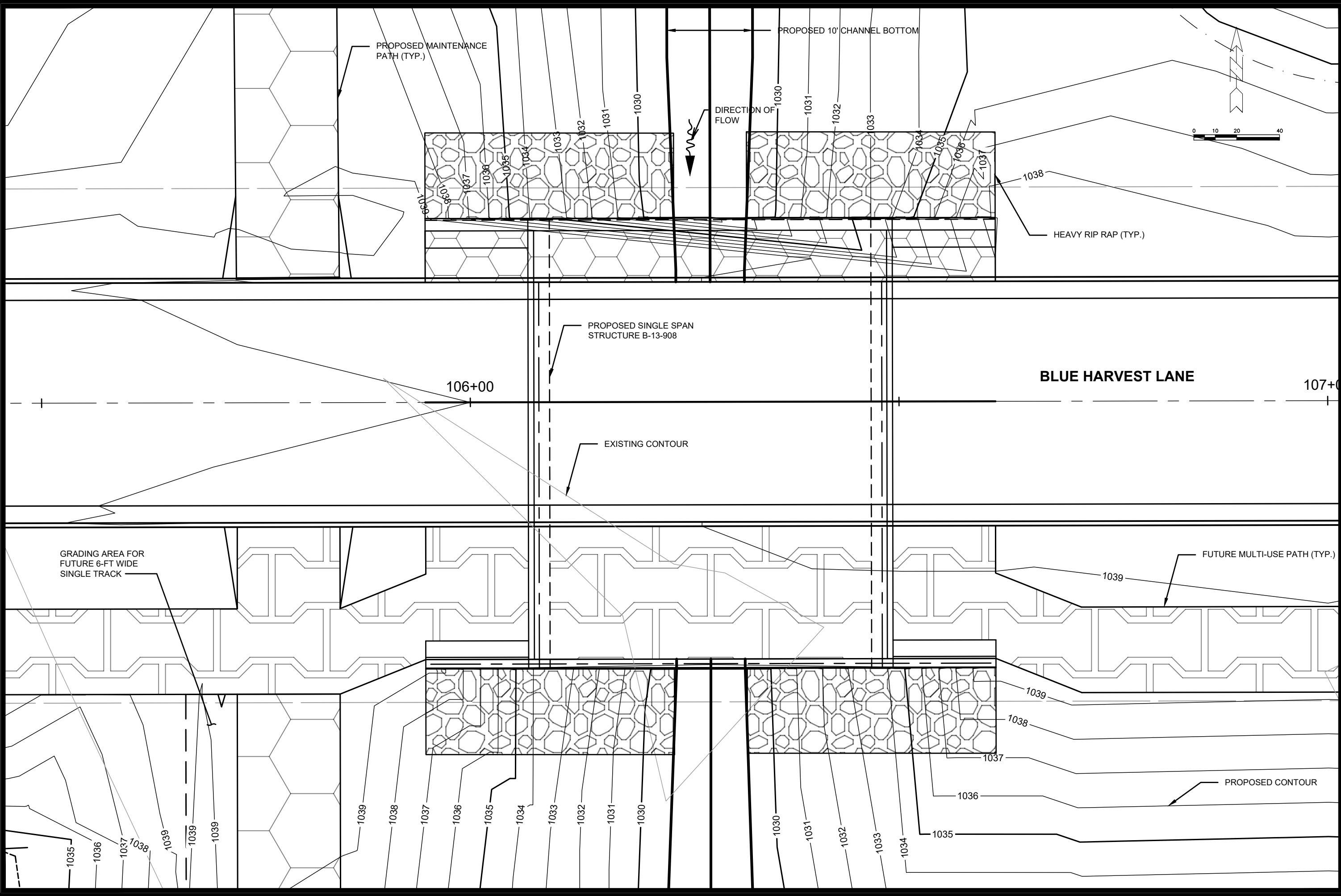
1. GATE PIVOT POST DETAIL

1 TRAFFIC CONTROL DETAIL
5 NO SCALE

2 BIKE GATE DETAIL
5 NO SCALE



TREE PROTECTION DETAIL



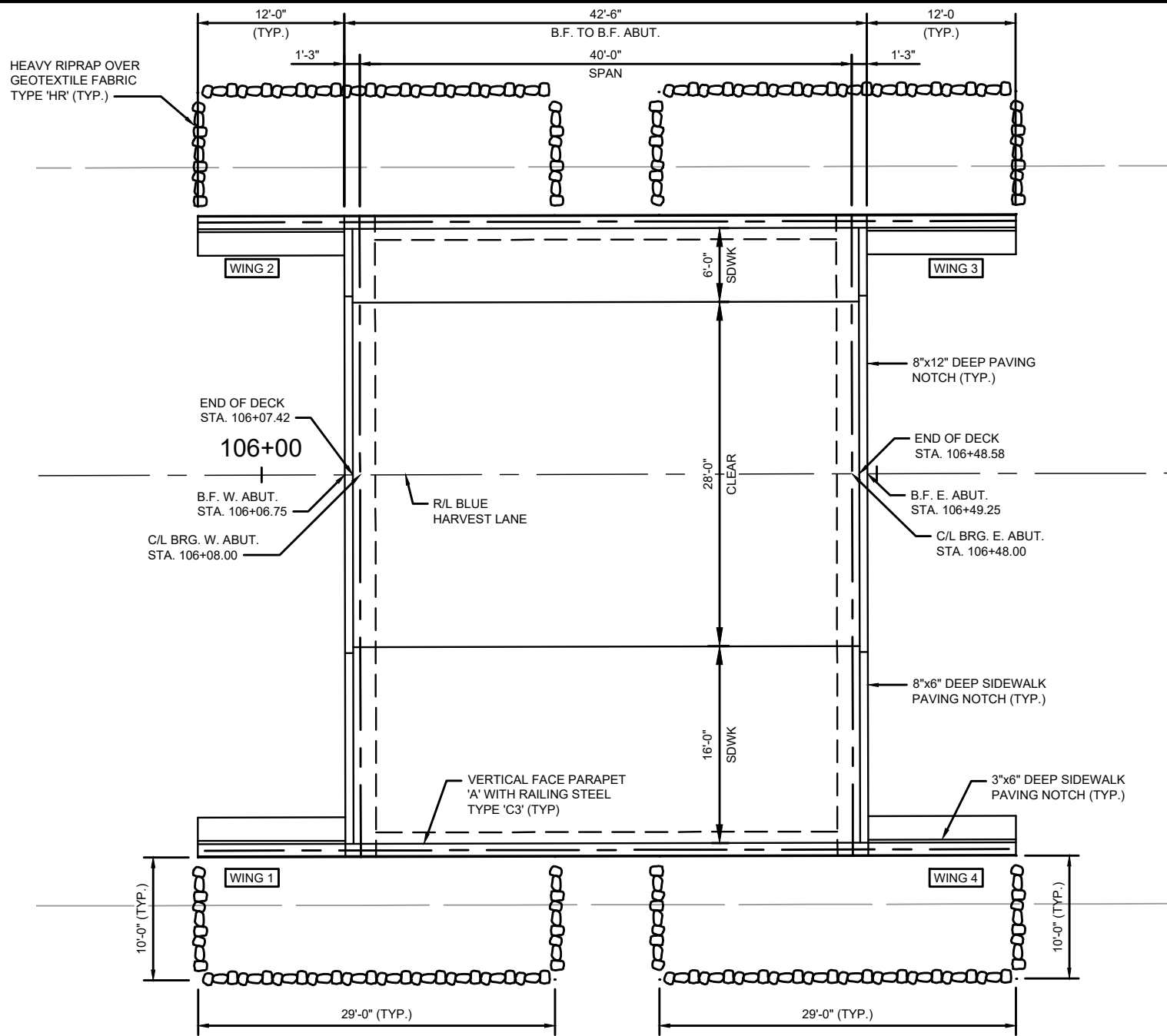
MARK	REVISION	DATE	BY
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1020.129
CITY OF MADISON
CONTRACT NO: XXXX.XX

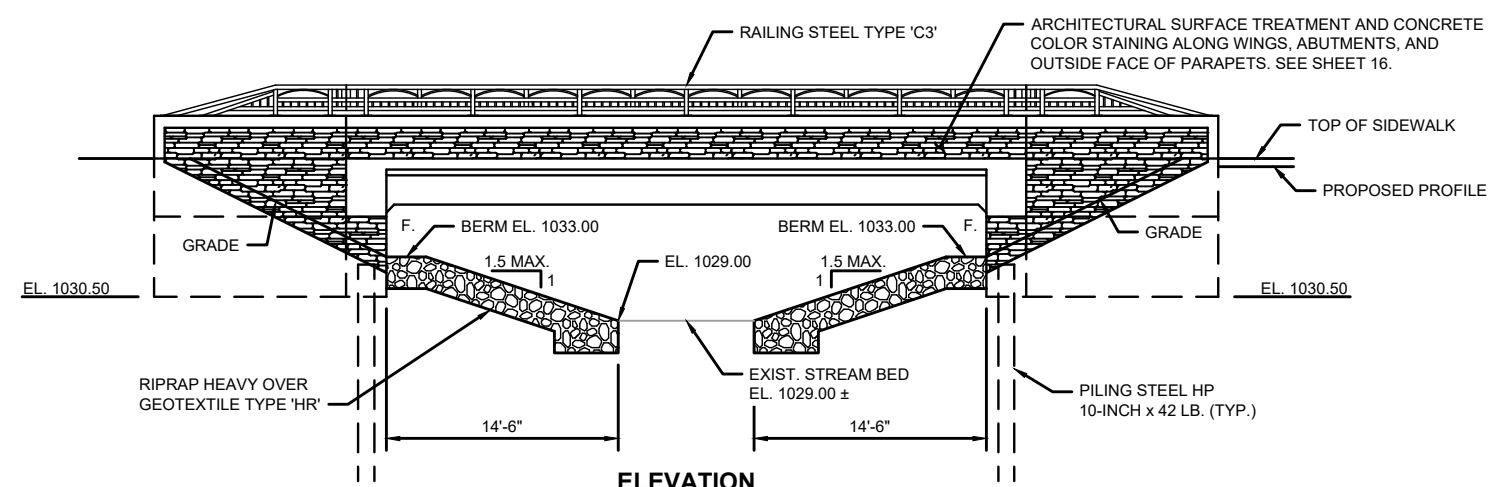
BRIDGE STRUCTURE OVERVIEW
LOWER BADGER MILL CREEK FLOOD MITIGATION
S:\MAD1000-1099\1020\129\Drawings\CAD\Civil 3d\Sheets\Plan\Struc-Overview.dwg



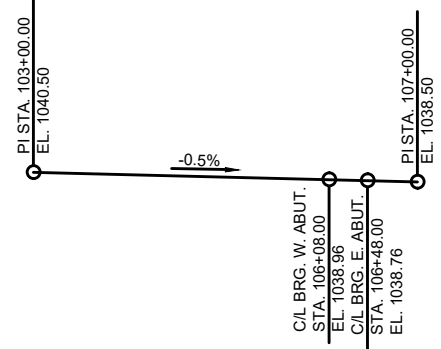
1020.129
6



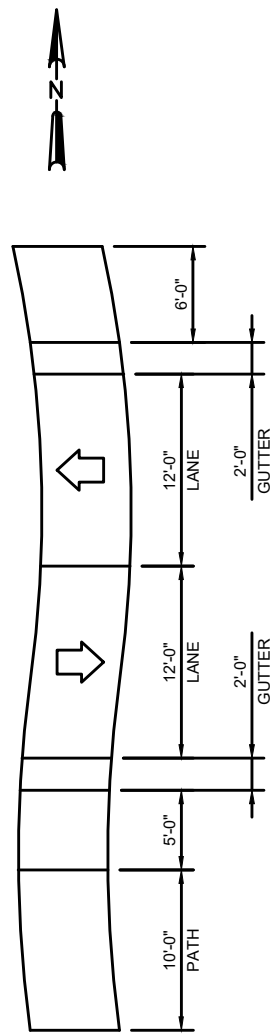
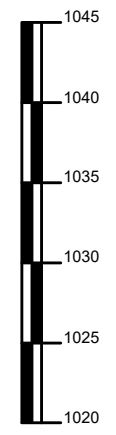
PLAN
(SINGLE SPAN CONCRETE FLAT SLAB)



ELEVATION
(NORMAL TO SUBSTRUCTURE, LOOKING NORTH)



**PROFILE GRADE LINE -
BLUE HARVEST LANE**



DESIGN DATA
STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

LIVE LOAD:
DESIGN LOADING ————— HL-93
INVENTORY RATING FACTOR ——— RF = 1.16
OPERATING RATING FACTOR ——— RF = 1.50
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) ——— 250 KIPS

MATERIAL PROPERTIES:
CONCRETE SUPERSTRUCTURE ——— $f_c = 4,000$ PSI
CONCRETE SUBSTRUCTURE ——— $f_c = 3,500$ PSI
HIGH STRENGTH BAR
STEEL REINFORCEMENT ——— $f_y = 60,000$ PSI

TRAFFIC DATA
A.D.T. (2023):
A.D.T. (2043):
DESIGN SPEED: 30 MPH

FOUNDATION DATA
ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

ESTIMATED PILE LENGTHS:
WEST ABUTMENT ————— XX FEET EACH
EAST ABUTMENT ————— XX FEET EACH

HYDRAULIC DATA
100 YEAR FREQUENCY
 Q_{100} ————— XX C.F.S.
 Q_{BRIDGE} ————— XX C.F.S.
 Q_{ROAD} ————— XX C.F.S.
VEL. ————— XX F.P.S.
 HW_{100} ————— EL. XX
WATERWAY AREA ————— XX SQ. FT.
DRAINAGE AREA ————— XX SQ. MI.
SCOUR CRITICAL CODE ————— 5

2 YEAR FREQUENCY
 Q_2 ————— XX C.F.S.
VEL. ————— XX F.P.S.
 HW_2 ————— EL. XX

ROADWAY OVERTOPPING FREQUENCY
FREQUENCY ————— XX YEARS
 Q_{XX} ————— XX C.F.S.
 HW_{XX} ————— EL. XX

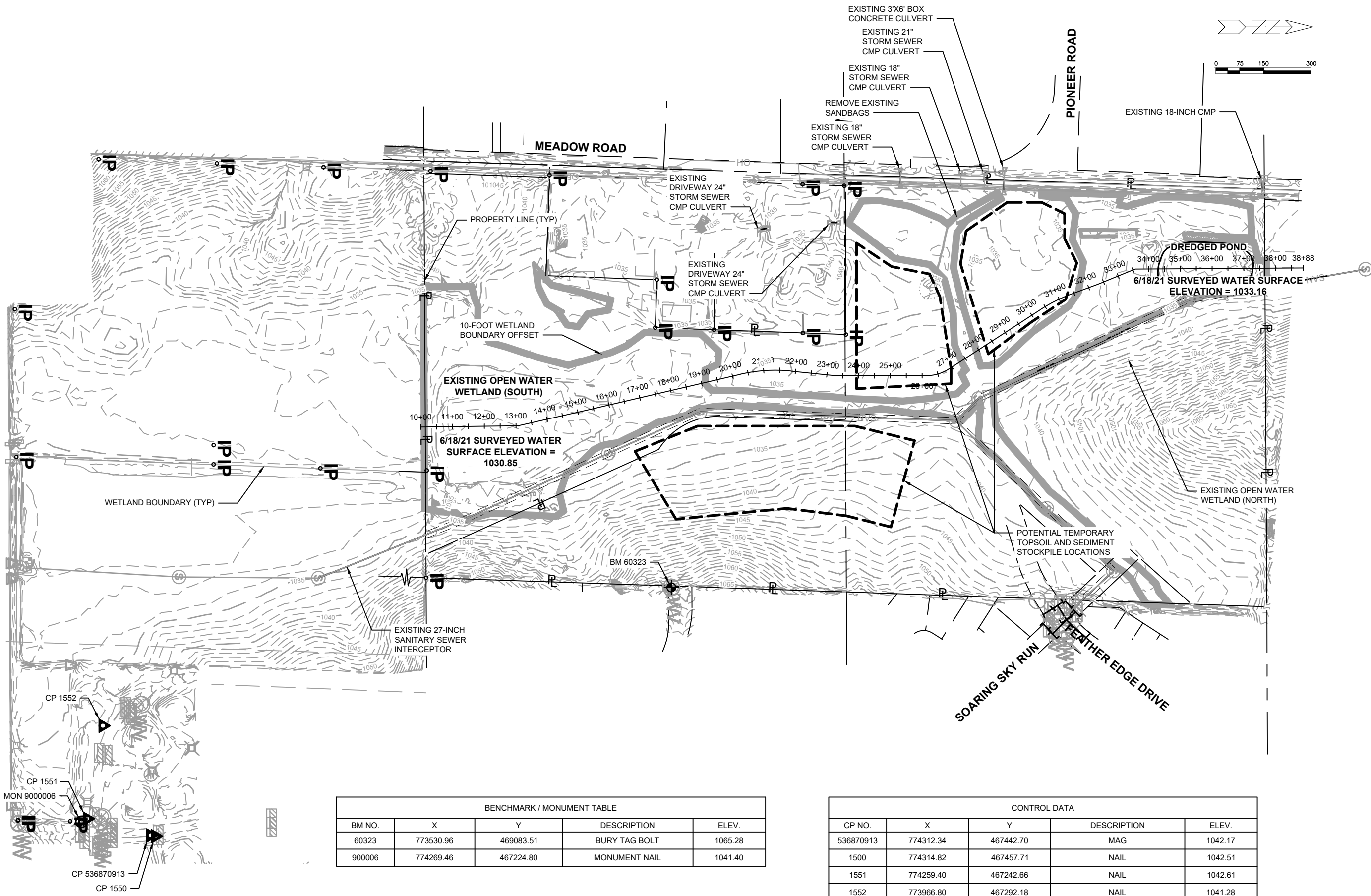
LIST OF DRAWINGS
1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, NOTES & DETAILS

STRUCTURE DESIGN CONTACTS
DESIGN CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
XX	XXX+XX.XX	XXXXXXXXXX	XXXX.XX

1020.129	CITY OF MADISON	CONTRACT NO. XXXX.XX
BRIDGE GENERAL PLAN	LOWER BADGER MILL CREEK FLOOD MITIGATION	
S:\MAD1000-1099\1020\129\Drawings\CAD\Civil\3d\Sheets\Plan\Struc-General Plan.dwg		
1020.129	7	



BENCHMARK / MONUMENT TABLE

BM NO.	X	Y	DESCRIPTION	ELEV.
60323	773530.96	469083.51	BURY TAG BOLT	1065.28
900006	774269.46	467224.80	MONUMENT NAIL	1041.40

CONTROL DATA

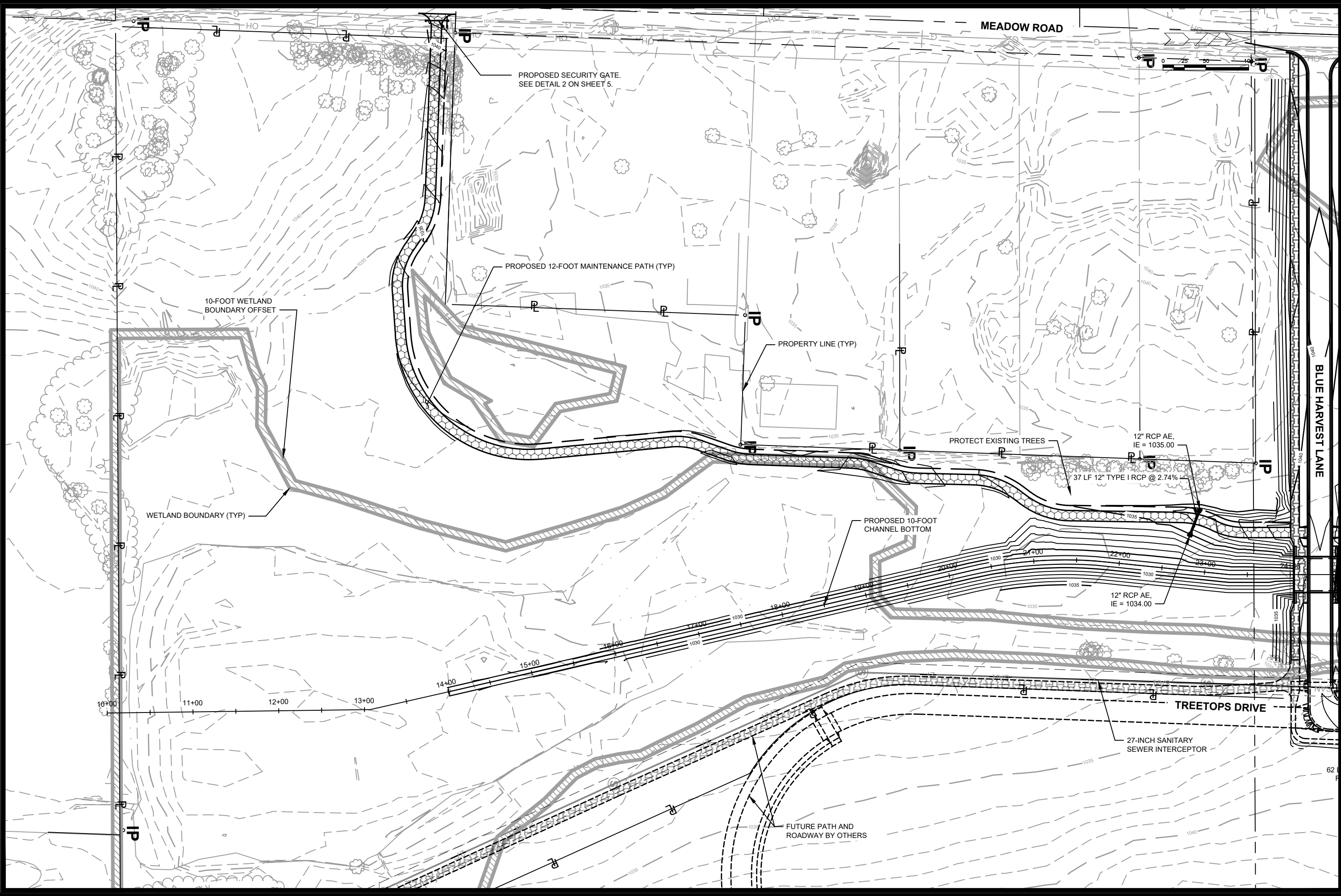
CP NO.	X	Y	DESCRIPTION	ELEV.
536870913	774312.34	467442.70	MAG	1042.17
1500	774314.82	467457.71	NAIL	1042.51
1551	774259.40	467242.66	NAIL	1042.61
1552	773966.80	467292.18	NAIL	1041.28

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1020.129
CITY OF MADISON
LOWER BADGER MILL CREEK FLOOD MITIGATION

CONTRACT NO.: XXXX.XX

Scale: 1"=200'
Date: 10/10/2022 2:23 PM
Designed By: JGG
Mark: 1020.129



PROPOSED SECURITY GATE.
SEE DETAIL 2 ON SHEET 5.

PROPOSED 12-FOOT MAINTENANCE PATH (TYP)

10-FOOT WETLAND
BOUNDARY OFFSET

WETLAND BOUNDARY (TYP)

PROPERTY LINE (TYP)

PROTECT EXISTING TREES

12" RCP AE,
IE = 1035.00

37 LF 12" TYPE I RCP @ 2.74%

PROPOSED 10-FOOT
CHANNEL BOTTOM

12" RCP AE,
IE = 1034.00

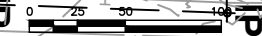
TREETOPS DRIVE

27-INCH SANITARY
SEWER INTERCEPTOR

FUTURE PATH AND
ROADWAY BY OTHERS

MEADOW ROAD

BLUE HARVEST LANE

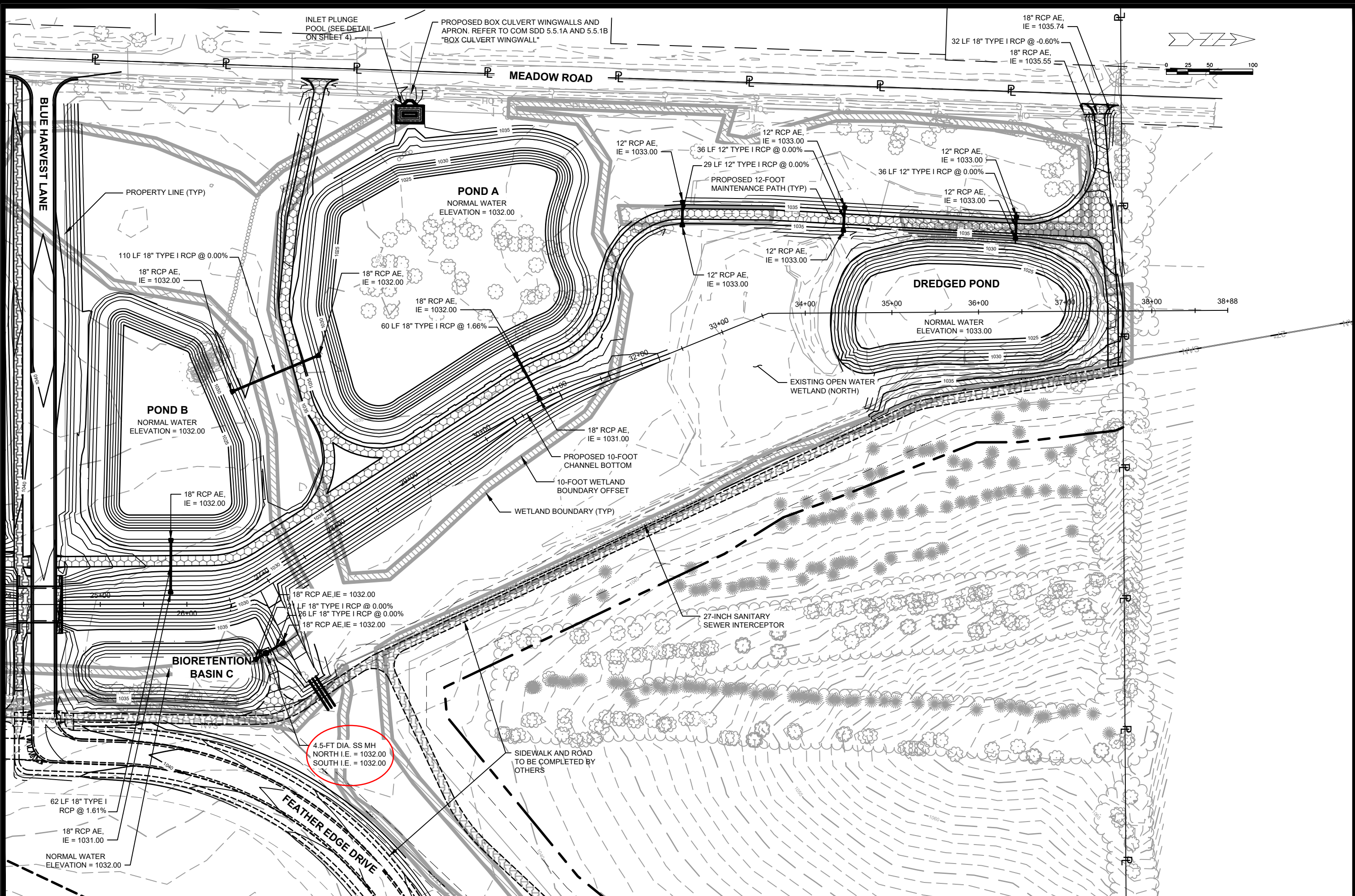


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1020.129
CITY OF MADISON
CONTRACT NO: XXXX.XX

GRADING PLAN - 1
LOWER BADGER MILL CREEK FLOOD MITIGATION
S:\MAD1000-1099\1020\129\Drawings\CAD\Civil 3d\Sheets\Plan\Grading Sheet.dwg





1020.129	1020.129	1020.129	1020.129
GRADING PLAN - 2	CITY OF MADISON	DESIGNED BY: JGG	DATE: 10/10/2022 3:49 PM
LOWER BADGER MILL CREEK FLOOD MITIGATION	CITY OF MADISON	REVISION	DATE
S:\MAD1000-1099\1020\129\Drawings\CAD\Civil 3d\Sheets\Plan\Grading Sheet.dwg	CONTRACT NO: XXXX.XX	MARK	BY
		Scale: 1"=100'	
		1020.129	12



EROSION CONTROL NOTES:





EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.

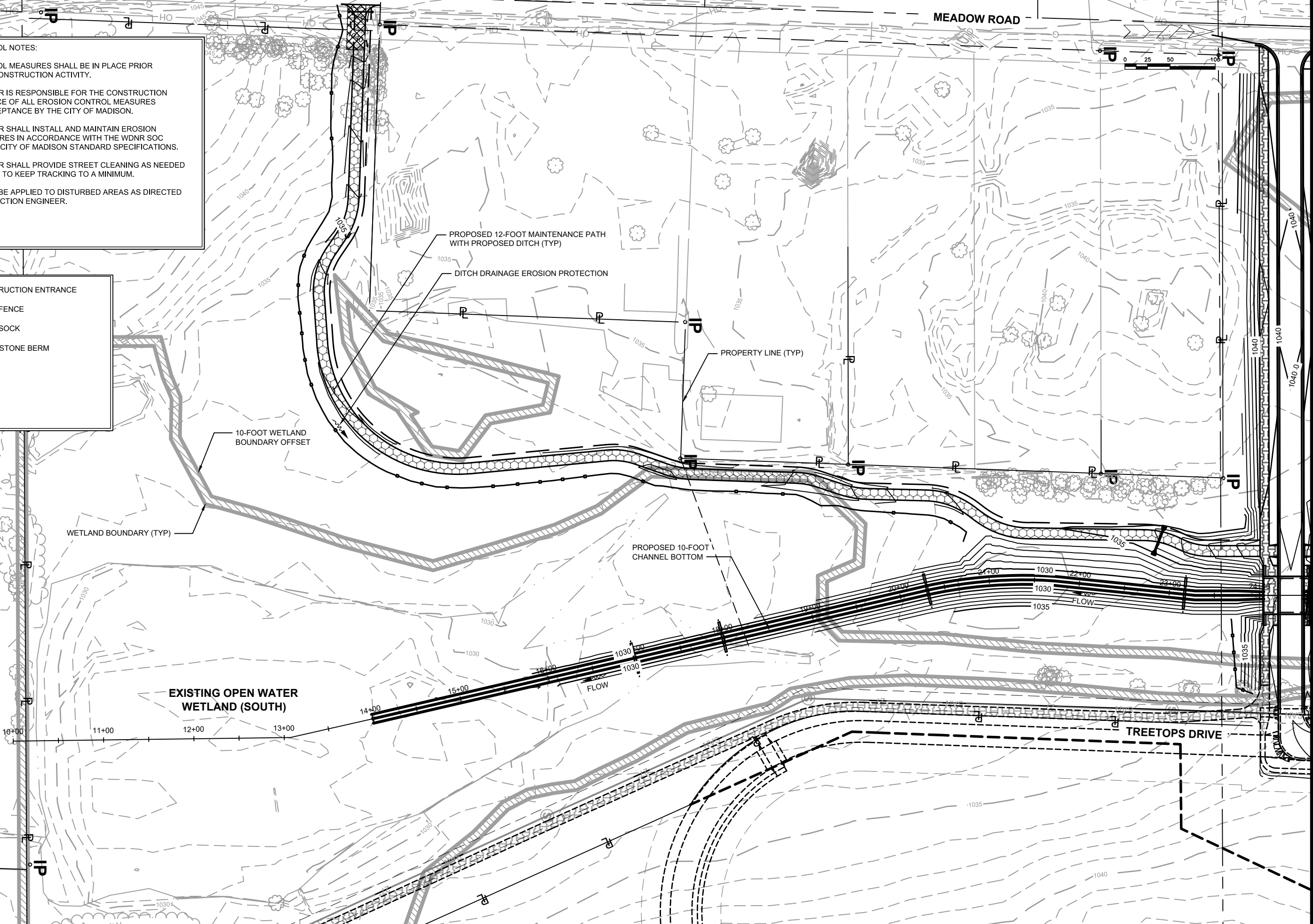
THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL FINAL ACCEPTANCE BY THE CITY OF MADISON.

THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE WDNR SOC STANDARDS AND CITY OF MADISON STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL PROVIDE STREET CLEANING AS NEEDED ON A DAILY BASIS TO KEEP TRACKING TO A MINIMUM.

POLYMER SHALL BE APPLIED TO DISTURBED AREAS AS DIRECTED BY THE CONSTRUCTION ENGINEER.

-  CONSTRUCTION ENTRANCE
-  SILT FENCE
-  SILT SOCK
-  CLEAR STONE BERM



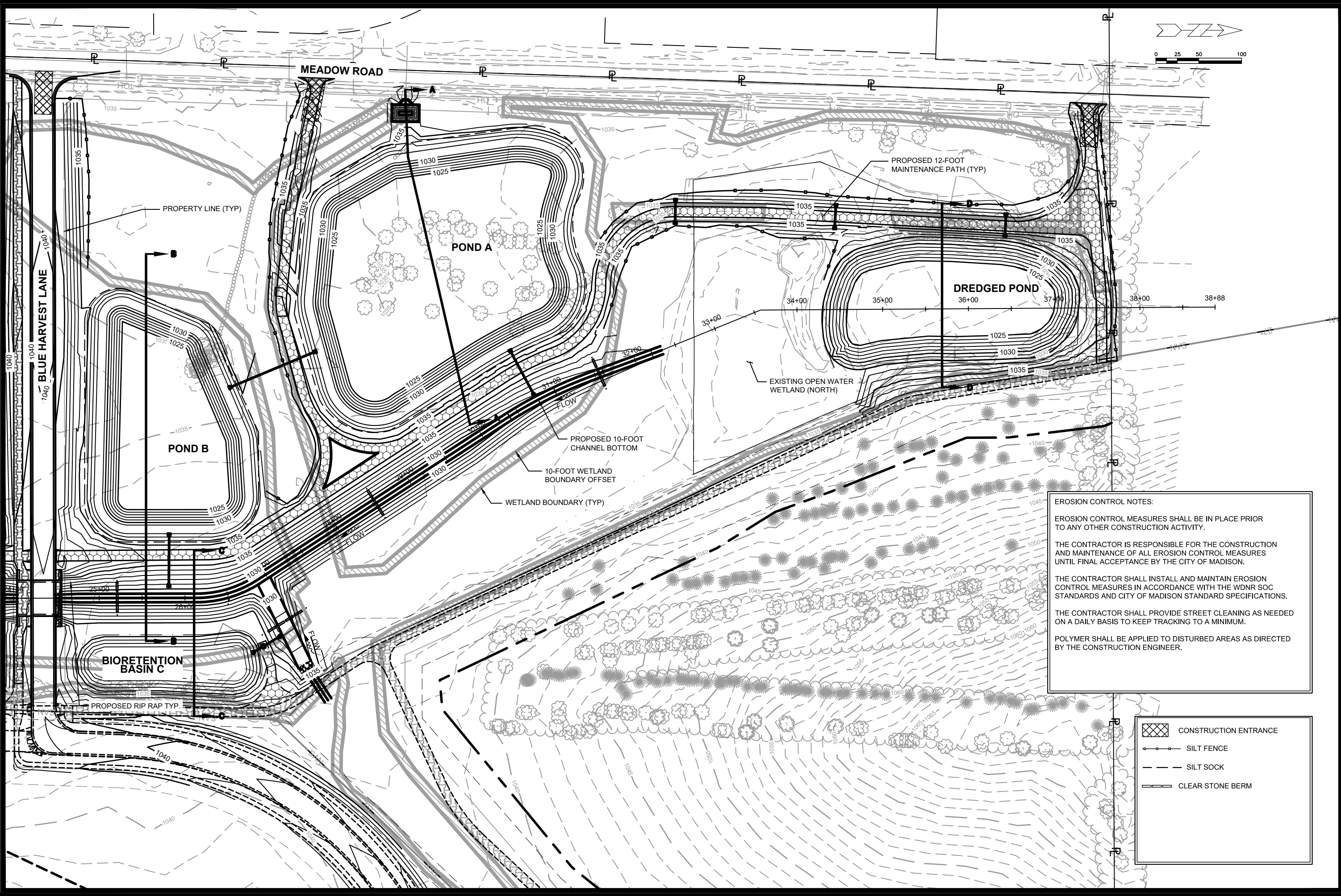
MARK	REVISION	DATE	BY
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1020.129
 CITY OF MADISON
 CONTRACT NO.: XXXX.XX

EROSION CONTROL PLAN - 1
 LOWER BADGER MILL CREEK FLOOD MITIGATION
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1020.129
 13



EROSION CONTROL NOTES:





EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.

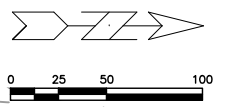
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THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE WDNR SOC STANDARDS AND CITY OF MADISON STANDARD SPECIFICATIONS.

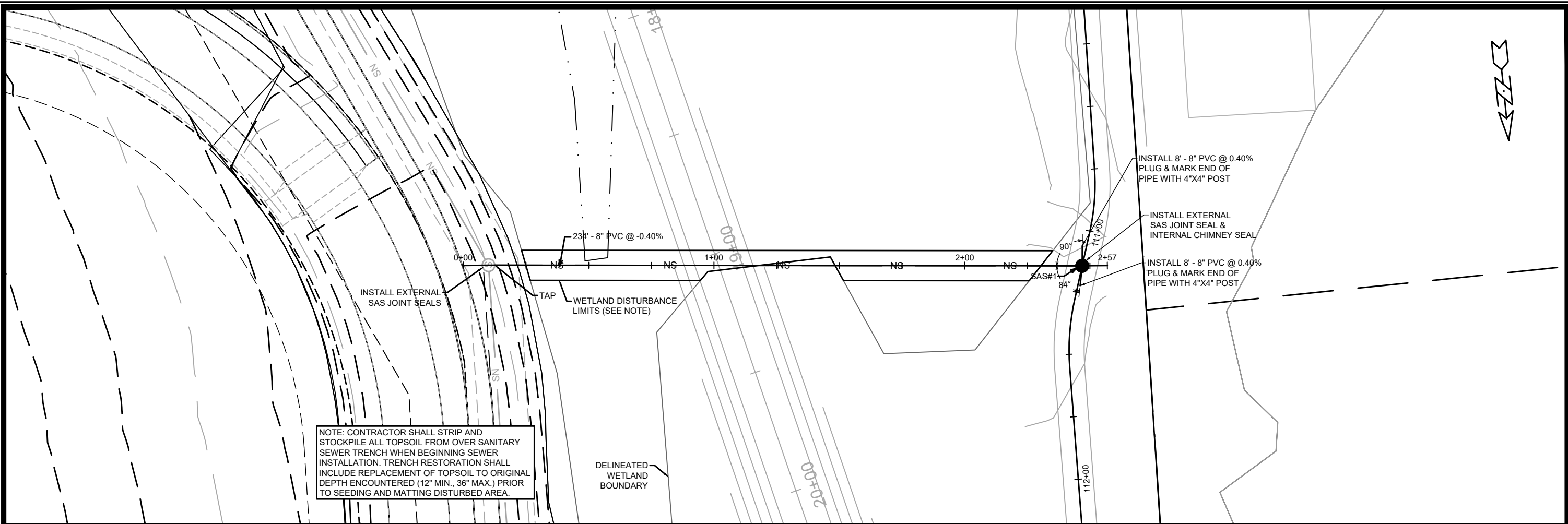
THE CONTRACTOR SHALL PROVIDE STREET CLEANING AS NEEDED ON A DAILY BASIS TO KEEP TRACKING TO A MINIMUM.

POLYMER SHALL BE APPLIED TO DISTURBED AREAS AS DIRECTED BY THE CONSTRUCTION ENGINEER.

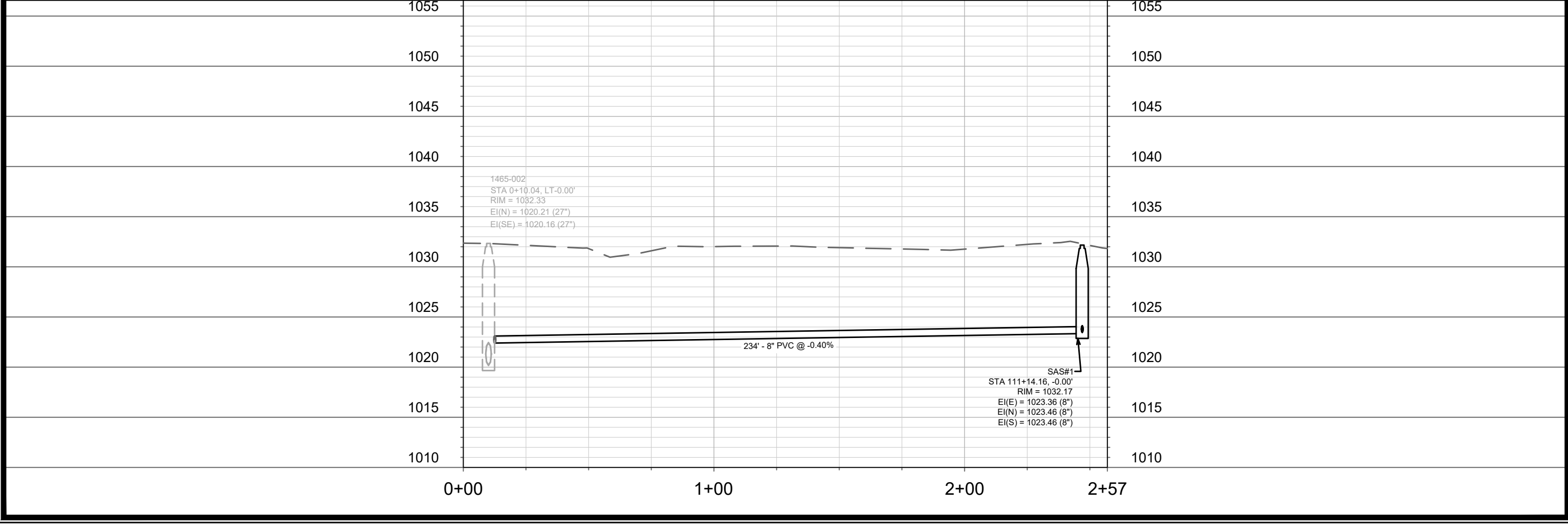
-  CONSTRUCTION ENTRANCE
-  SILT FENCE
-  SILT SOCK
-  CLEAR STONE BERM



1020.129	CITY OF MADISON	CONTRACT NO.: XXXX.XX	1020.129	14
<p>EROSION CONTROL PLAN - 2</p> <p>LOWER BADGER MILL CREEK FLOOD MITIGATION</p> <p>S:\MAD1000-1099\1020\129\Drawings\CAD\Civil 3d\Sheets\Plan\Erosion Control Sheet.dwg</p>				
	<p>1020.129</p> <p>14</p>			



NOTE: CONTRACTOR SHALL STRIP AND STOCKPILE ALL TOPSOIL FROM OVER SANITARY SEWER TRENCH WHEN BEGINNING SEWER INSTALLATION. TRENCH RESTORATION SHALL INCLUDE REPLACEMENT OF TOPSOIL TO ORIGINAL DEPTH ENCOUNTERED (12" MIN., 36" MAX.) PRIOR TO SEEDING AND MATTING DISTURBED AREA.



11063	MADISON, WI	9030
CONTRACT NO:		
SAN-1		
LOWER BADGER MILL CREEK FLOOD MITIGATION		
M:\DESIGN\Projects\11063\CAD\Storm\13893\WR-PipeNetwork.dwg		
11063	SAN-1	1



SANITARY SEWER SCHEDULE

LOWER BADGER MILL CREEK PONDS
PROJECT NO. 11063

SHEET NO.
SAN-2

SANITARY SEWER SCHEDULE

CITY OF MADISON

PROPOSED SANITARY STRUCTURES

SAS NO.	STATION	LOCATION (OFFSET)	TOP OF CASTING	E.I.	DEPTH	NOTES
---------	---------	-------------------	----------------	------	-------	-------

MAINTENANCE PATH

SAS#1	111+14.16 'MP'	CL	1032.17	1023.36	8.81	[1]; [2]
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SANITARY STRUCTURE ADJUSTMENTS

SAS NO.	STATION	LOCATION (OFFSET)	EX. TOC ELEV.	PROP. ELEV.	ADJUST. DIFF.	NOTES
---------	---------	-------------------	---------------	-------------	---------------	-------

EX SAS 1465-002	0+10.00	CL	1032.33	1035.59	3.26	[2]; [3]
-----------------	---------	----	---------	---------	------	----------

PROPOSED SANITARY PIPES

FROM (DNSTM)	TO (UPSTM)	DWNSTRM E.I.	UPSTRM E.I.	PLAN LGTH (FT)	SLOPE (%)	PIPE SIZE	PVC TYPE	NOTES
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MAINTENANCE PATH

EX SAS 1465-002	SAS#1	1022.42	1023.36	234	0.40%	8"	SDR-35	-
-----------------	-------	---------	---------	-----	-------	----	--------	---

SPECIFIC NOTES:

- [1] INSTALL INTERNAL CHIMNEY SEAL
- [2] INSTALL EXTERNAL JOINT WRAPS
- [3] SANITARY SEWER TAP