

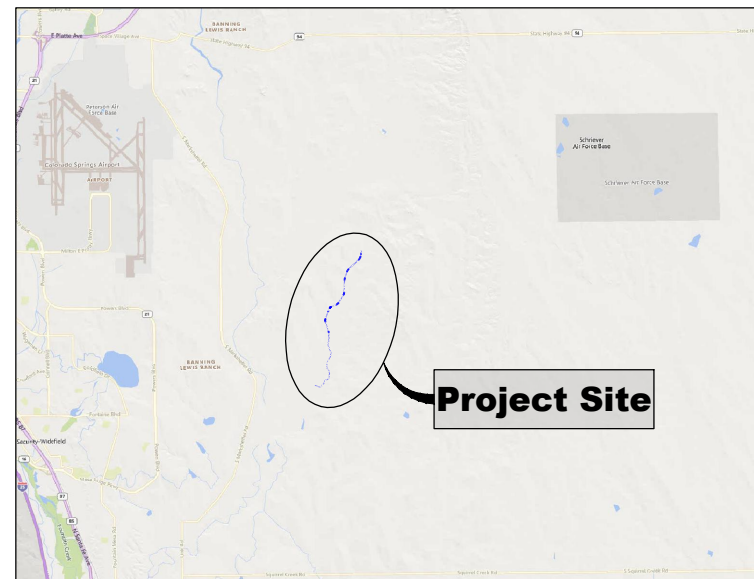


ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION

THE LANDHUIS COMPANY

60% DESIGN PLANS
MARCH 2023

MATRIX PROJECT No. 21.1129.009



VICINITY MAP
N.T.S.

VERTICAL DATUM: THE ELEVATIONS ON THIS PROJECT ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

HORIZONTAL DATUM: THE COORDINATES FOR THIS PROJECT ARE NAD83/2011 COLORADO STATE PLANE CENTRAL ZONE GRID COORDINATES.

AERIAL PHOTO: PROVIDED BY AERIAL MAPPING SERVICES

BENCHMARK STATEMENT: THE BENCHMARK USED FOR THIS SURVEY IS FIMS MONUMENT NUMBER 202. A U.S. GEOLOGICAL SURVEY BRASS CAP STAMPED '11 HA 1947' IN A CONCRETE PAD, LOCATED ALONG DRENNAN ROAD, APPROXIMATELY 0.5 MILES EAST OF MARKSHEFFEL ROAD, APPROXIMATELY 200 FEET EAST OF A BRIDGE. THE MARK IS 32 FEET NORTH OF THE PAVEMENT, 23 FEET EAST OF A NORTH TO SOUTH FENCE LINE, AND 2 FEET NORTHEAST OF A POWER POLE."

PROPERTY INFORMATION: PARCEL LINES AND PROPERTY OWNERSHIP INFORMATION SHOWN WERE PROVIDED BY AN ALTA SURVEY.



LOCATION MAP
SCALE: 1" = 4,000'

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Applicable Specifications (City of Colorado Springs - Drainage Criteria Manual (DCM))			
100	General Provisions	622	Channel Embankment and Backfill
620	Drainage Channels	624	Riprap and Grouted Riprap Channel Construction
621	Channel Excavation	900	Seeding, Fertilizer, Mulching, and Sodding
Applicable Specifications (Mile High Flood District - Urban Storm Drainage Criteria Manual)			
01 71 13	Mobilization	31 23 33	Trenching and Backfill
01 55 26	Traffic Control	31 25 00	Erosion and Sediment Control
01 56 39	Temporary Tree and Plant Protection	31 37 00	Riprap, Boulders, and Bedding
31 11 00	Clearing and Grubbing	32 91 13	Topsoil
31 14 13	Topsoil Stripping and Stockpiling	32 92 19	Seeding
31 23 00	Excavation and Fill	32 93 00	Landscape Planting
31 23 19	Dewatering	32 93 43	Soil Bioengineering or Shoreline Stabilization

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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
TITLE SHEET			
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DRAWN BY: EAL	HORIZ. N/A	SHEET 01 OF 47	TS01
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Know what's below.
Call before you dig.

GENERAL NOTES:

1. THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR TO CALL FOR UTILITY LOCATOR AT LEAST 3 CALENDAR DAYS BEFORE EARTHWORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES. IN THE EVENT THAT THE CONTRACTOR UTILITY VERIFICATION RESULTS IN EXISTING STRUCTURES OR UTILITIES BEING IN CONFLICT WITH THE PROPOSED WORK OF THIS CONTRACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY UTILITIES AND COORDINATE ANY NEEDED MODIFICATIONS TO THE PROPOSED WORK AS DIRECTED BY AFFECTED AGENCY OR UTILITY.
2. THE CONTRACTOR SHALL COORDINATE WITH ALL AFFECTED UTILITY OWNERS TO ESTABLISH THE REQUIREMENTS AND METHODS TO ACCOMMODATE THE PROTECTION, TEMPORARY SUPPORT, ADJUSTMENT OR RELOCATION OF UTILITIES PRIOR TO THE START OF CONSTRUCTION.
3. OVERHEAD UTILITIES ARE NOT INDICATED ON PROFILE OR SECTION DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING IN CONTINUOUS OPERATION, ALL EXISTING STRUCTURES. NOT ALL POTENTIALLY IMPACTED STRUCTURES MAY BE SHOWN ON THE DRAWINGS AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PROTECT ALL STRUCTURES INCLUDING BUT NOT LIMITED TO STREETS, CURB AND GUTTER, BRIDGE PIERS AND ABUTMENTS, CREEK BANK PROTECTION OF VARIOUS TYPES, CREEK DROP STRUCTURES, SIGNS, PEDESTRIAN WALKS, RETAINING WALLS AND FENCING. IN THE EVENT THAT A STRUCTURE OR UTILITY IS DAMAGED DURING CONSTRUCTION THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THE FACILITY IN WRITING AND COORDINATE AND COOPERATE WITH NEEDED REPAIRS PER THE APPROPRIATE SPECIFICATIONS ACCORDING TO THE OWNER'S DIRECTION.
5. THE CONTRACTOR SHALL CONFIRM THE RECEIPT OF ALL NECESSARY PERMITS AND APPROVALS BEFORE THE START OF CONSTRUCTION.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS OF THE CITY OF COLORADO SPRINGS, EL PASO COUNTY, AND THE MILE HIGH FLOOD DISTRICT, AS NOTED, UNLESS SPECIFICALLY DETAILED OTHERWISE ON THESE PLANS AND ASSOCIATED SPECIFICATIONS.
7. THE CONTRACTOR SHALL MAINTAIN AT THE SITE AT ALL TIMES ONE SIGNED COPY OF THE PROJECT DRAWINGS AND SPECIFICATIONS, ONE COPY OF THE STORMWATER MANAGEMENT PLAN AND ONE COPY OF ALL REQUIRED PERMITS.
8. THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS IN SUCH A WAY THAT THE AREA OF DISTURBANCE IS MINIMIZED. ALL EXISTING TREES, SHRUBS AND VEGETATION SHALL BE PROTECTED UNLESS OTHERWISE NOTED ON THE DRAWINGS. NO TREES SHALL BE REMOVED WITHOUT APPROVAL. DESIGNATED ACCESS SHALL BE MINIMAL AND AGREED UPON WITH THE ENGINEER PRIOR TO CONSTRUCTION ACTIVITIES.
9. FOR ALL SITE GRADING, SMOOTH, PARABOLIC TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE.
10. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING STABLE EXCAVATIONS AND TEMPORARY SLOPES AND FOR SATISFYING ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. THIS INCLUDES BUT IS NOT LIMITED TO BENCHING, SHORING, AND SLOPING AS NEEDED FOR CONSTRUCTION.
11. CONSTRUCTION OF THE PROPOSED WORK WILL TAKE PLACE WITHIN THE CHANNEL AND WATER CONTROL MEASURES WILL BE REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE AND CONTROL OF DRAINAGE WATER FROM AREAS ADJACENT TO EAST FORK JIMMY CAMP CREEK AND FOR FLOW WITHIN EAST FORK JIMMY CAMP CREEK AND ITS TRIBUTARIES INCLUDING STORMWATER OUTFALLS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ESTABLISHING MEANS AND METHODS OF GROUND AND SURFACE WATER CONTROL APPROPRIATE FOR CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT DRAWINGS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS AND PERMITS.
12. THE CONTRACTOR SHALL PREPARE AND MAINTAIN THE STORMWATER MANAGEMENT PLAN AND OBTAIN THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THROUGH THE COLORADO DEPARTMENT OF PUBLIC HEALTH (CDPHE) AND ALL OTHER APPROPRIATE FEDERAL, STATE AND LOCAL PERMITS. ADDITIONAL INFORMATION IS PROVIDED ON THE GRADING AND EROSION CONTROL PLANS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT DRAWINGS TO BE MAINTAINED AND SUBMITTED TO THE CITY OF COLORADO SPRINGS AND EL PASO COUNTY.
14. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON-SITE SURVEY CONTROL AND CONSTRUCTION STAKING.
15. CONTRACTOR SHALL FENCE OFF CRITICAL AREAS TO BE PROTECTED AT THE DISCRETION OF THE CITY OF COLORADO SPRINGS AND EL PASO COUNTY.
16. THE CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL PLAN FOR PLANNED ACCESS TO THE SITE AND FOR EXITING AND ENTERING PUBLIC ROADS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MAINTAINING PHYSICAL AND LEGAL ACCESS TO THE PROJECT SITE AND SHALL LIMIT TRANSPORTATION TO AND FROM THE SITE TO THOSE APPROVED BY THE CITY OF COLORADO SPRINGS AND EL PASO COUNTY.
18. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT AND MANAGE SPILLS OF TOXIC MATERIALS, SUCH AS EQUIPMENT FUELS
19. ALL MATERIALS USED SHALL BE NEW AND WITHOUT FLAWS OR DEFECTS OF ANY TYPE AND SHALL BE THE BEST OF THEIR CLASS AND KIND.
20. WORK INCLUDES FURNISHING OF LABOR, MATERIALS, TOOLS, AND EQUIPMENT TO COMPLETE THE CONSTRUCTION OF ALL ELEMENTS OF THE DESIGN PLANS.

ABBREVIATIONS

CL	CENTER LINE	APPROX.	APPROXIMATE
HCL	HORIZONTAL CONTROL LINE	MIN.	MINIMUM
DIA	DIAMETER	MAX.	MAXIMUM
EX./EXIST	EXISTING	HORIZ	HORIZONTAL
PR./PROP	PROPOSED	VERT.	VERTICAL
EL./ELEV	ELEVATION	DIST.	DISTANCE
FT.	FEET	NTS	NOT TO SCALE
INV.	INVERT	TYP	TYPICAL
LF	LINEAR FEET	O.C.	ON CENTER
LT	LEFT	L.O.C.	LIMITS OF CONSTRUCTION
N,S,E,W	NORTH, SOUTH, EAST, WEST	RR	RAILROAD
P	PROPERTY LINE	BCL	BANKFULL CONTROL LINE
ROW	RIGHT-OF-WAY	TCL	THALWEG CONTROL LINE
RT	RIGHT	BLR	BANNING LEWIS RANCH
SF	SQUARE FEET		
STA.	STATION		

STANDARD SYMBOLS

	CENTER LINE
	PROPERTY LINE
	EXISTING CONTOURS: 2' AND 10' INTERVALS UNLESS OTHERWISE NOTED
	PROPOSED CONTOURS: 2' AND 10' INTERVALS UNLESS OTHERWISE NOTED
	LIMITS OF DISTURBANCE
	CONSTRUCTION ACCESS
	R.O.W.
	EASEMENT
	FENCE

LEGEND

	PROPOSED SOIL RIPRAP
	PROPOSED SOIL RIPRAP - BURIED WITH TOPSOIL & REVEGETATION
	PROPOSED SCULPTED CONCRETE DROP STRUCTURE
	PROPOSED COUNTY ACCESS ROAD
	PR. 100-YR FLOODPLAIN BOUNDARY (3,600 OR 4,400 CFS)

REFERENCE DRAWINGS				
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Excellence by Design

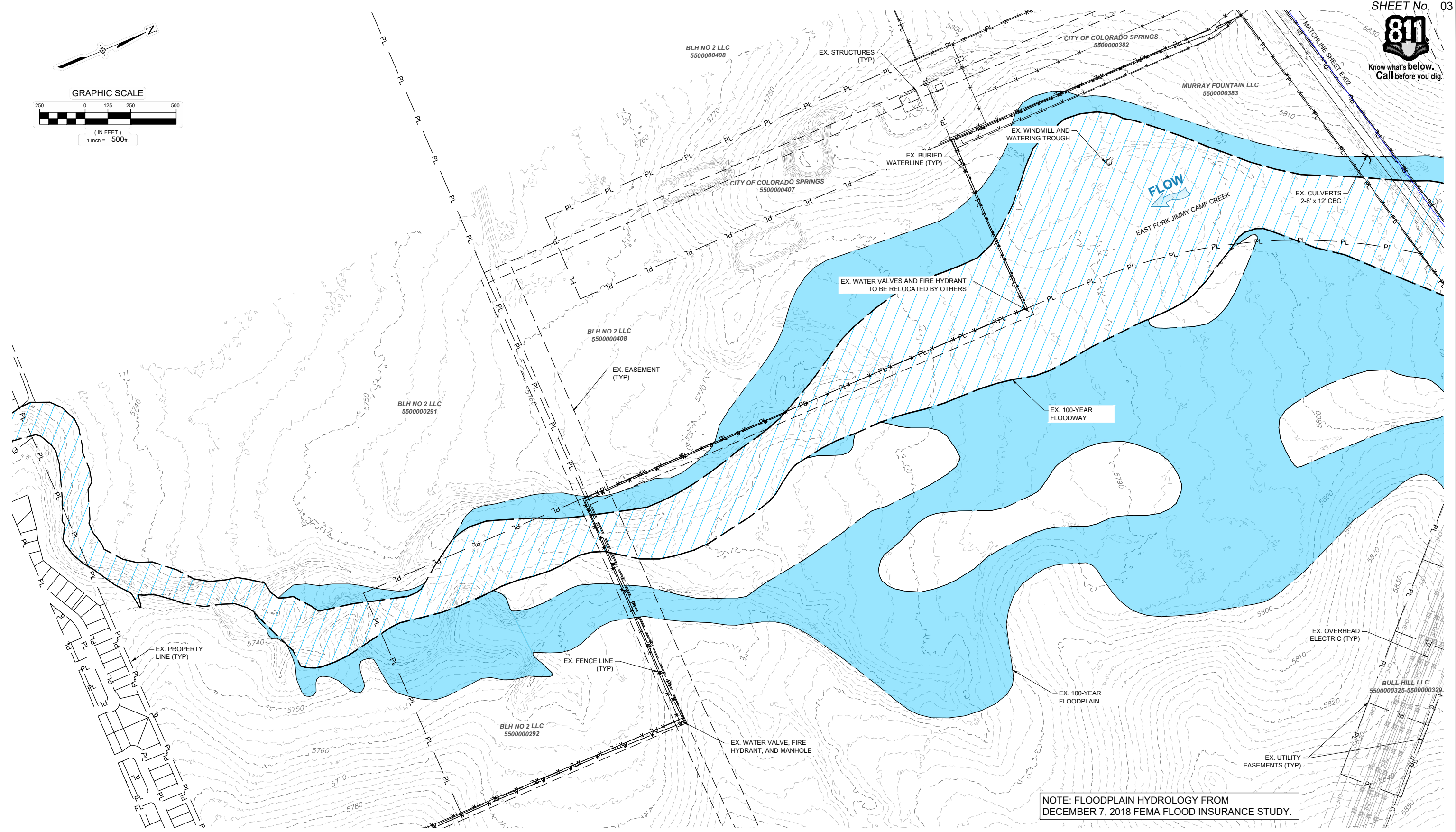
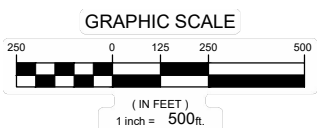
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DESIGNED BY:	TKM	SCALE:	DATE ISSUED:	MARCH 2023
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				DRAWING No. GN01
02 OF 47				

THE LANDHUIS COMPANY
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

GENERAL NOTES



Know what's below. Call before you dig.



NOTE: FLOODPLAIN HYDROLOGY FROM DECEMBER 7, 2018 FEMA FLOOD INSURANCE STUDY.

REFERENCE DRAWINGS			
X-1129-MDG22x34			
X-1129-009-AERIAL			
X-1129-009-EX FLOODPLAIN			
X-1129-PARCELS			
X-1129-UTILITIES			
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THE LANDHUIS COMPANY

ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

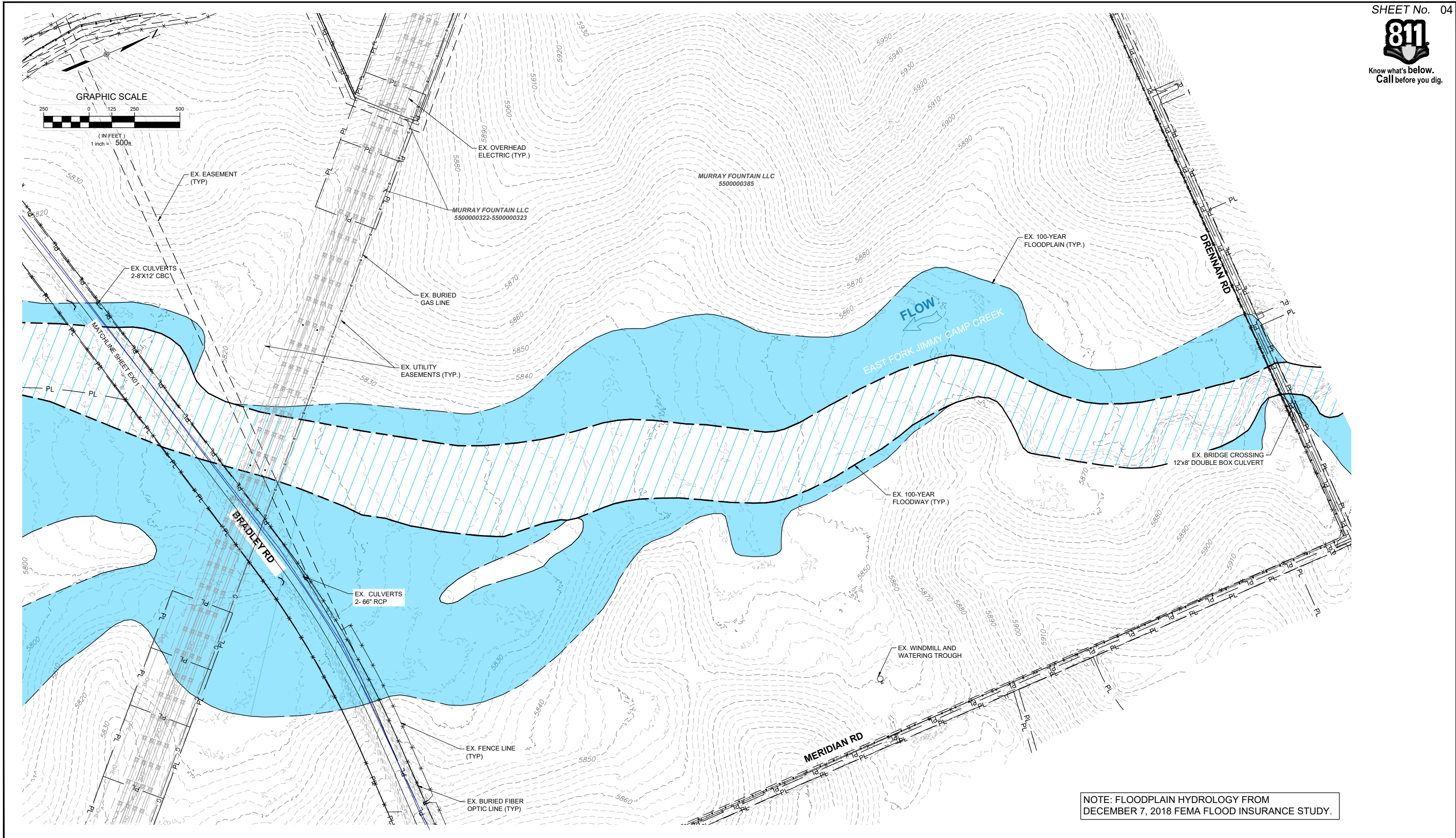
EXISTING CONDITIONS - LOWER REACH

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X-1129-009-AERIAL			
X-1129-008-EX FLOODPLAIN			
X-1129-PARCELS			
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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
EXISTING CONDITIONS - UPPER REACH			
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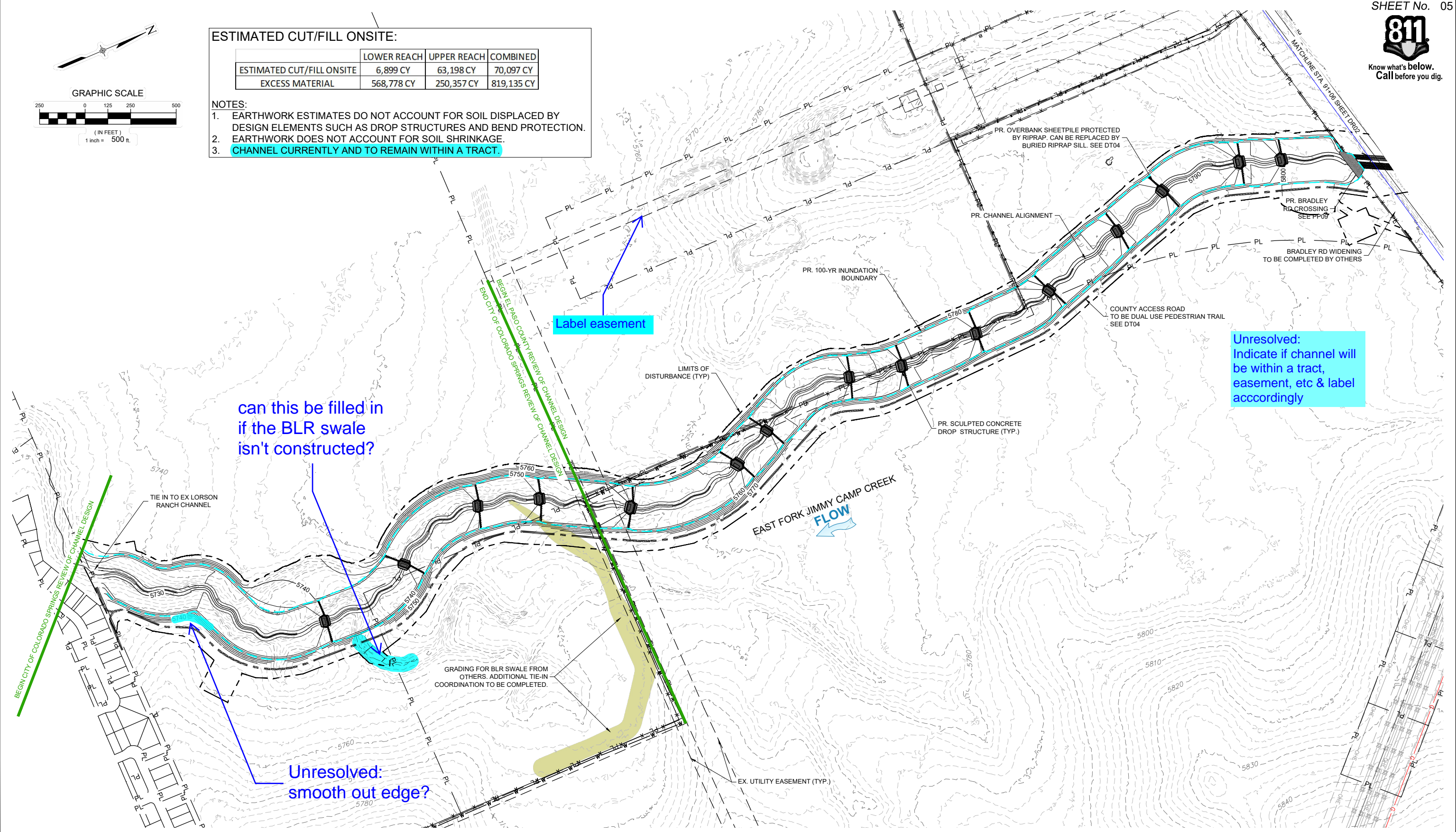
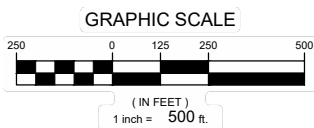
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ESTIMATED CUT/FILL ONSITE:

	LOWER REACH	UPPER REACH	COMBINED
ESTIMATED CUT/FILL ONSITE	6,899 CY	63,198 CY	70,097 CY
EXCESS MATERIAL	568,778 CY	250,357 CY	819,135 CY

NOTES:

- EARTHWORK ESTIMATES DO NOT ACCOUNT FOR SOIL DISPLACED BY DESIGN ELEMENTS SUCH AS DROP STRUCTURES AND BEND PROTECTION.
- EARTHWORK DOES NOT ACCOUNT FOR SOIL SHRINKAGE.
- CHANNEL CURRENTLY AND TO REMAIN WITHIN A TRACT.**



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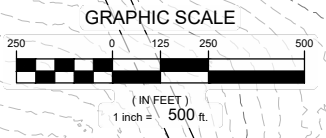
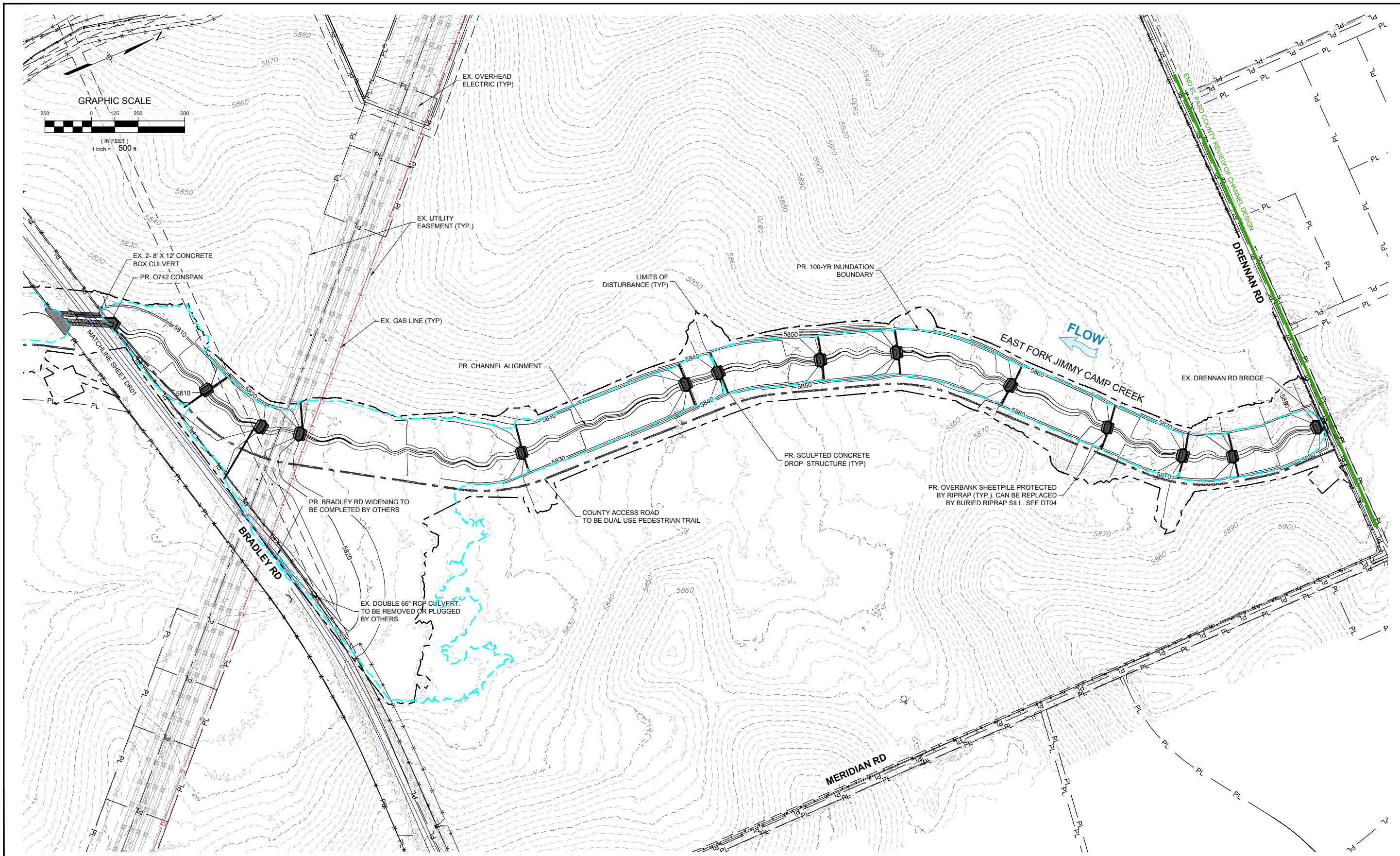
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MATRIX DESIGN GROUP, INC.
PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
OVERALL DRAINAGE PLAN - LOWER REACH			
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THE LANDHUIS COMPANY

ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

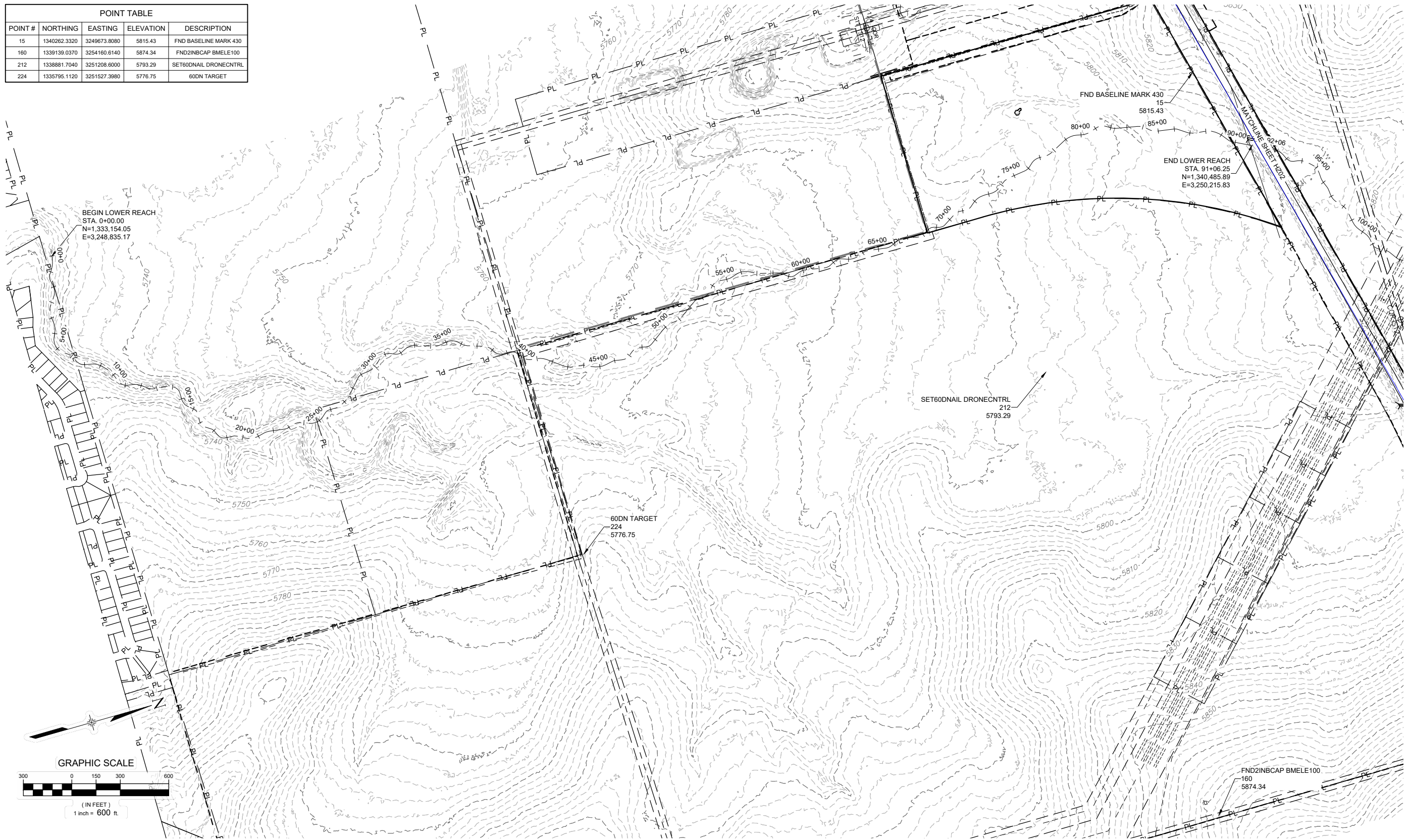
OVERALL DRAINAGE PLAN - UPPER REACH

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POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
15	1340262.3320	3249673.8080	5815.43	FND BASELINE MARK 430
160	1339139.0370	3254160.6140	5874.34	FND2INBCAP BMELE100
212	1338881.7040	3251208.6000	5793.29	SET60DNAIL DRONECNTRL
224	1335795.1120	3251527.3980	5776.75	60DN TARGET



REFERENCE DRAWINGS	No.	DATE	DESCRIPTION REVISIONS	BY
X-1129-MDG22x34				
X-1129-PARCELS				
X-1129-FIELD				
X-1129-UTILITIES				
X-1129-CONTROL PTS				
X-1129-CONTROL PTS, 1-24-2023				

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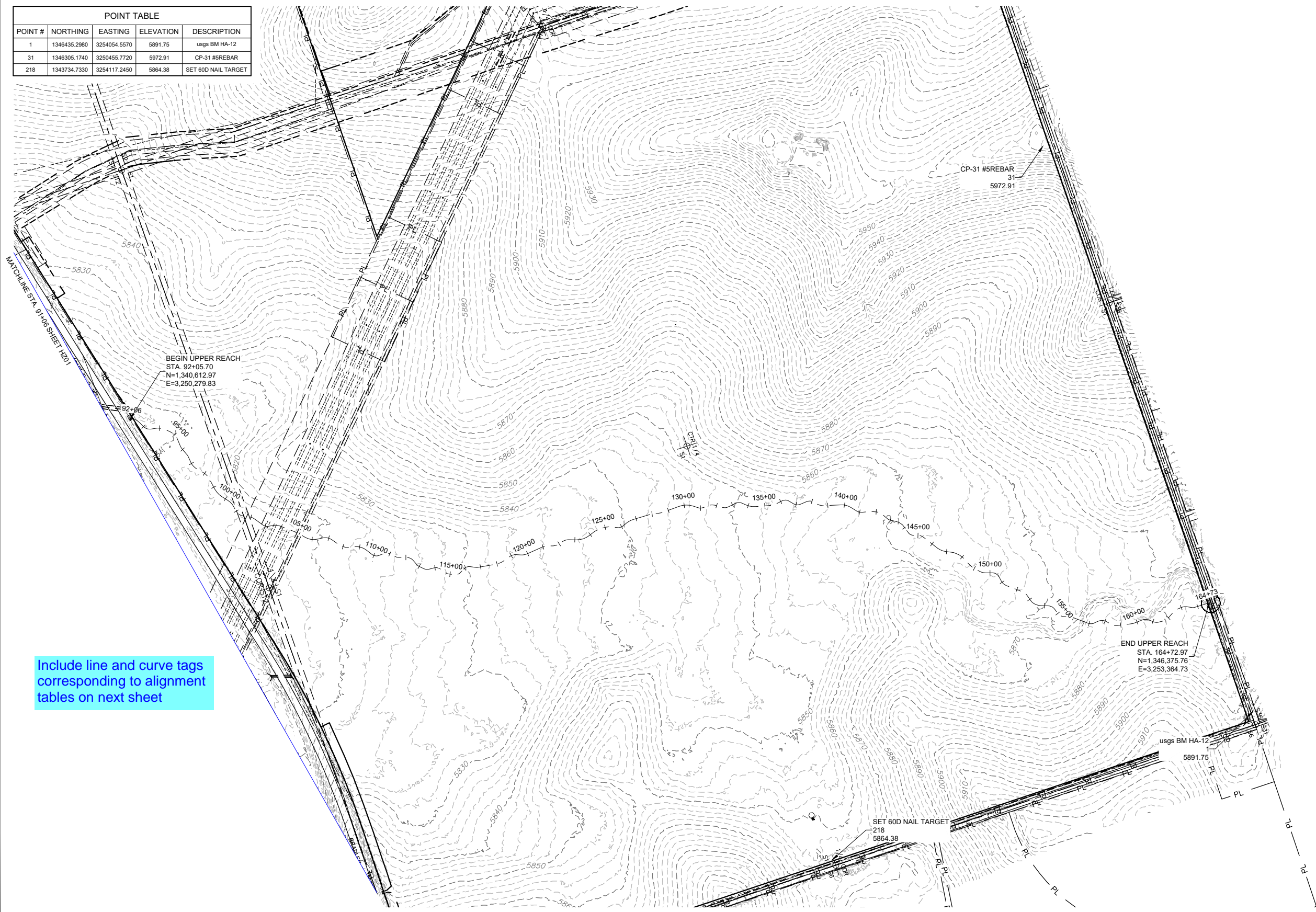
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 MATRIX DESIGN GROUP, INC.
 PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING HILLS CHANNEL AND FLOODPLAIN MODIFICATIONS 60% DESIGN PLANS			
HORIZONTAL CONTROL PLAN - LOWER REACH			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 600'	DATE ISSUED: MARCH 2023	DRAWING No. HZ01
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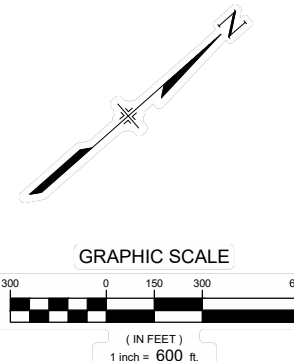


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POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1346435.2980	3254054.5570	5891.75	usgs BM HA-12
31	1346305.1740	3250455.7720	5972.91	CP-31 #5REBAR
218	1343734.7330	3254117.2450	5864.38	SET 60D NAIL TARGET



Include line and curve tags corresponding to alignment tables on next sheet



REFERENCE DRAWINGS	DATE	DESCRIPTION	BY
X-1129-MDG22x34			
X-1129-PARCELS			
X-1129-FIELD			
X-1129-UTILITIES			
X-1129-CONTROL PTS			
X-1129-CONTROL PTS_1-24-2023			

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PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING HILLS CHANNEL AND FLOODPLAIN MODIFICATIONS 60% DESIGN PLANS			
HORIZONTAL CONTROL PLAN - UPPER REACH			
DESIGNED BY:	TKM	SCALE:	DATE ISSUED:
DRAWN BY:	EAL	HORIZ 1" = 600'	MARCH 2023
CHECKED BY:	AJS	VERT. N/A	SHEET
			08 OF 47
			DRAWING No. HZ02



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LOWER SECTION

LINE TABLE with columns: LINE #, BEARING, DISTANCE. Rows L1 to L25.

LINE TABLE with columns: LINE #, BEARING, DISTANCE. Rows L26 to L50.

LINE TABLE with columns: LINE #, BEARING, DISTANCE. Rows L51 to L75.

LINE TABLE with columns: LINE #, BEARING, DISTANCE. Rows L76 to L88.

CURVE TABLE with columns: CURVE #, ARC LENGTH, RADIUS, DELTA ANGLE. Rows C1 to C25.

CURVE TABLE with columns: CURVE #, ARC LENGTH, RADIUS, DELTA ANGLE. Rows C26 to C50.

CURVE TABLE with columns: CURVE #, ARC LENGTH, RADIUS, DELTA ANGLE. Rows C51 to C75.

CURVE TABLE with columns: CURVE #, ARC LENGTH, RADIUS, DELTA ANGLE. Rows C76 to C87.

UPPER SECTION

LINE TABLE with columns: LINE #, BEARING, DISTANCE. Rows L89 to L113.

LINE TABLE with columns: LINE #, BEARING, DISTANCE. Rows L114 to L138.

LINE TABLE with columns: LINE #, BEARING, DISTANCE. Rows L139 to L163.

LINE TABLE with columns: LINE #, BEARING, DISTANCE. Rows L164 to L171.

CURVE TABLE with columns: CURVE #, ARC LENGTH, RADIUS, DELTA ANGLE. Rows C88 to C112.

CURVE TABLE with columns: CURVE #, ARC LENGTH, RADIUS, DELTA ANGLE. Rows C113 to C137.

CURVE TABLE with columns: CURVE #, ARC LENGTH, RADIUS, DELTA ANGLE. Rows C138 to C162.

CURVE TABLE with columns: CURVE #, ARC LENGTH, RADIUS, DELTA ANGLE. Rows C163 to C170.

REFERENCE DRAWINGS table with columns: No., DATE, DESCRIPTION, BY. Includes COMPUTER FILE MANAGEMENT section.

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PREPARED BY: Matrix Excellence by Design

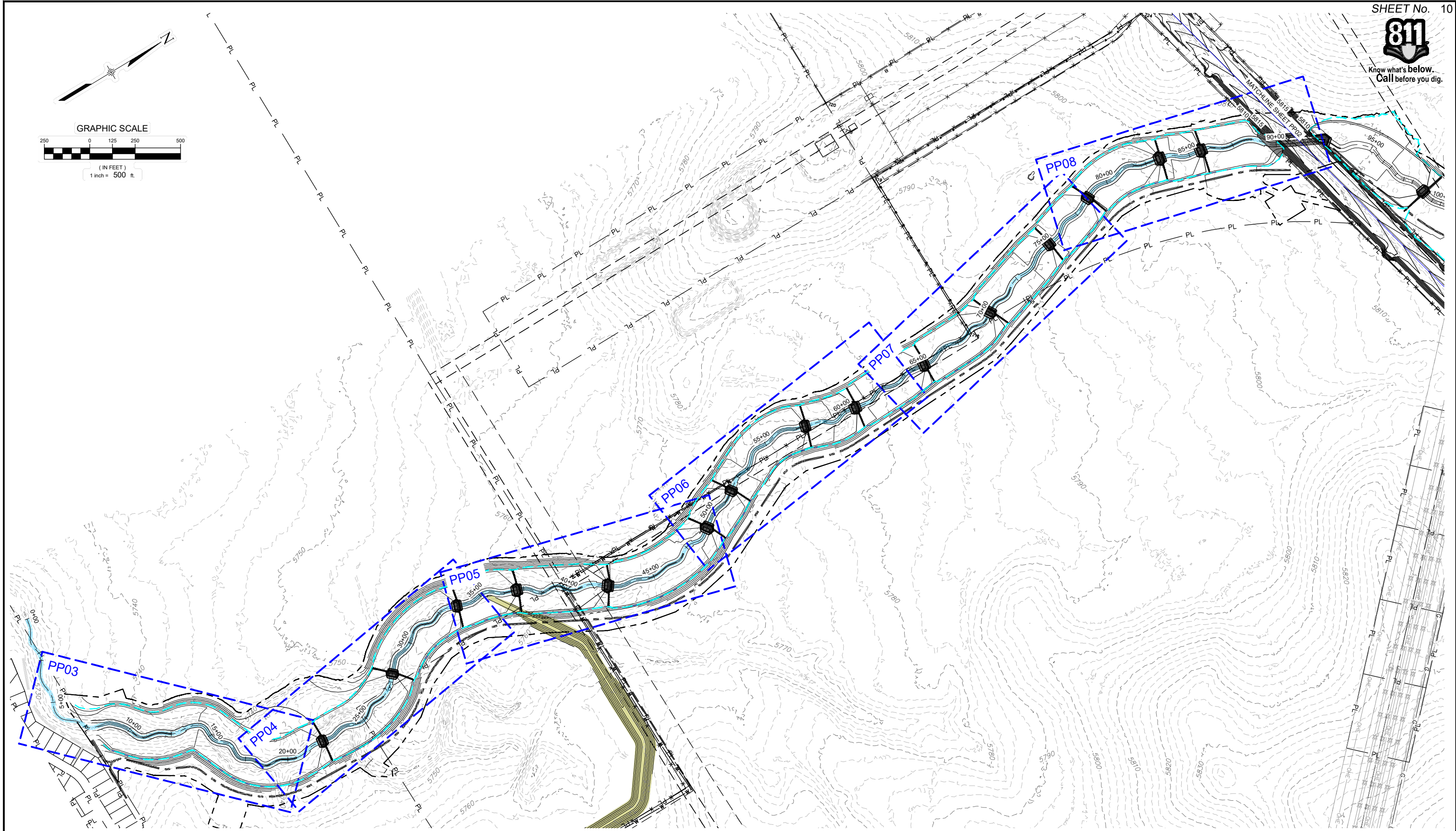
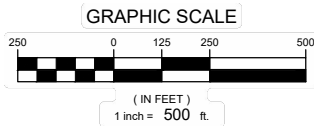
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THE LANDHUIS COMPANY ROLLING HILLS CHANNEL AND FLOODPLAIN MODIFICATIONS 60% DESIGN PLANS HORIZONTAL CONTROL PLAN - LOWER REACH

DESIGNED BY: TKM EAL HORIZ N/A DATE ISSUED: MARCH 2023 DRAWING No. HZ03



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REFERENCE DRAWINGS			
X-1129-PARCELS X-1129-PR STRUCT X-1129-UTILITIES X-1129-MDQ22x34			
No.	DATE	DESCRIPTION REVISIONS	BY
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PLOT DATE: March 7, 2023 11:57:48 AM			
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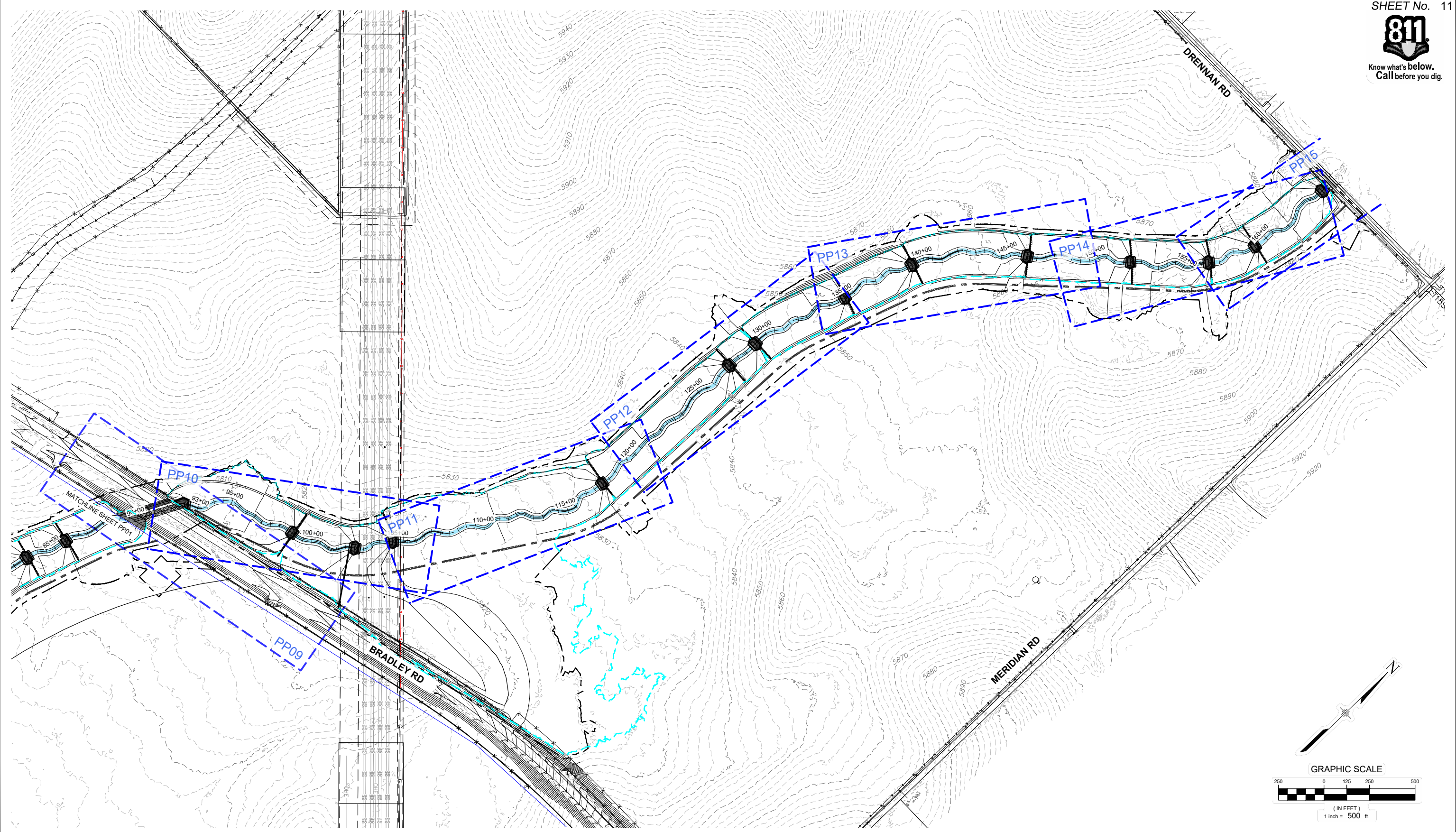
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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE OVERVIEW - LOWER REACH			
DESIGNED BY: TKM	SCALE: HORIZ. 1" = 500'	DATE ISSUED: MARCH 2023	DRAWING No. PP01
CHECKED BY: AJS	VERT. N/A	SHEET 10 OF 47	

FOR AND ON BEHALF OF
MATRIX DESIGN GROUP, INC.
PROJECT No. 21.1129.009



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REFERENCE DRAWINGS			
No.	DATE	DESCRIPTION REVISIONS	BY
X-1129-UTILITIES			
X-1129-PARCELS			
X-1129-PR STRUCT			
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COMPUTER FILE MANAGEMENT			
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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE OVERVIEW - UPPER REACH			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 500'	DATE ISSUED: MARCH 2023	DRAWING No. PP02
CHECKED BY: AJS	VERT. N/A	SHEET 11 OF 47	

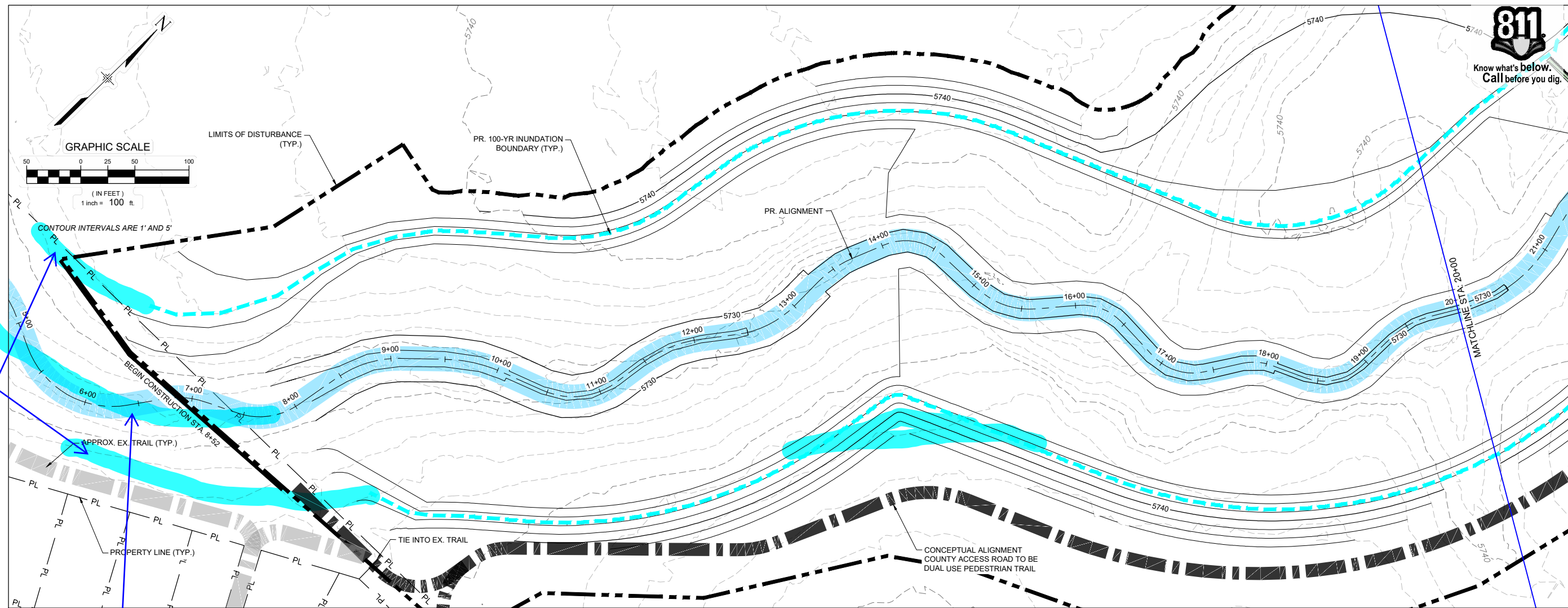
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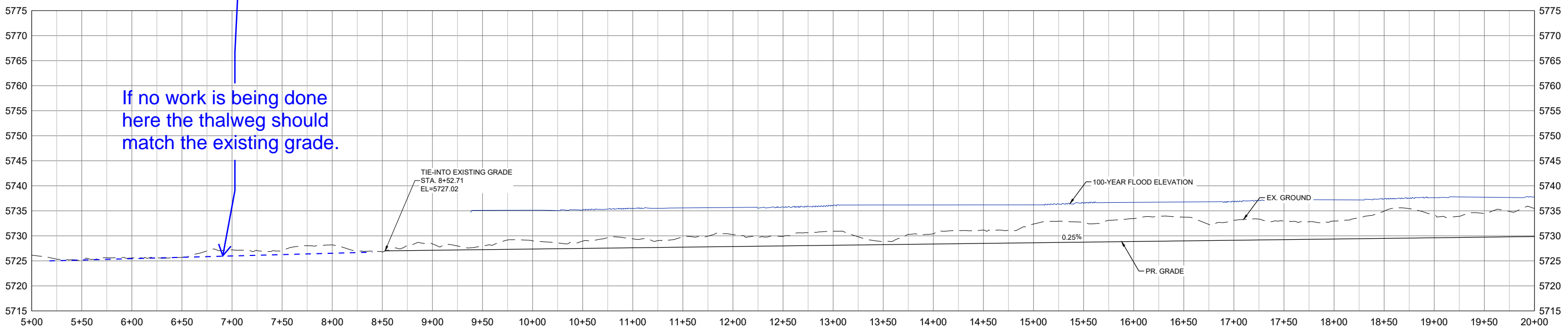
FOR AND ON BEHALF OF
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PROJECT No. 21.1129.009



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Please show 100-yr boundary to verify downstream cross-section.



If no work is being done here the thalweg should match the existing grade.

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COMPUTER FILE MANAGEMENT			
FILE NAME: S:\21.1129.009 Rolling Hills Floodplain and Permitting\Design Plans\1129.009-PP01-08 DS Alignment_60%.dwg			
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PREPARED BY:
Matrix
Excellence by Design

THE LANDHUIS COMPANY

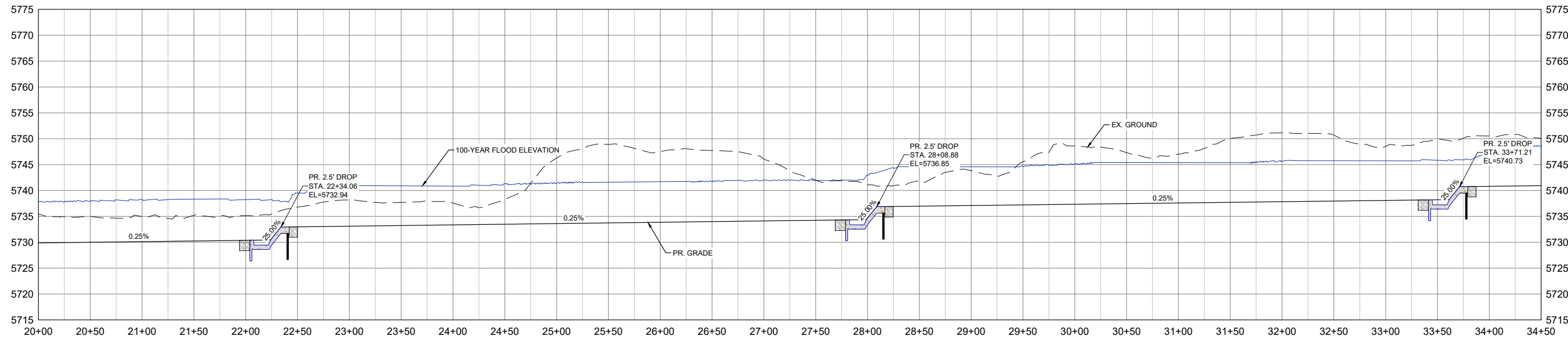
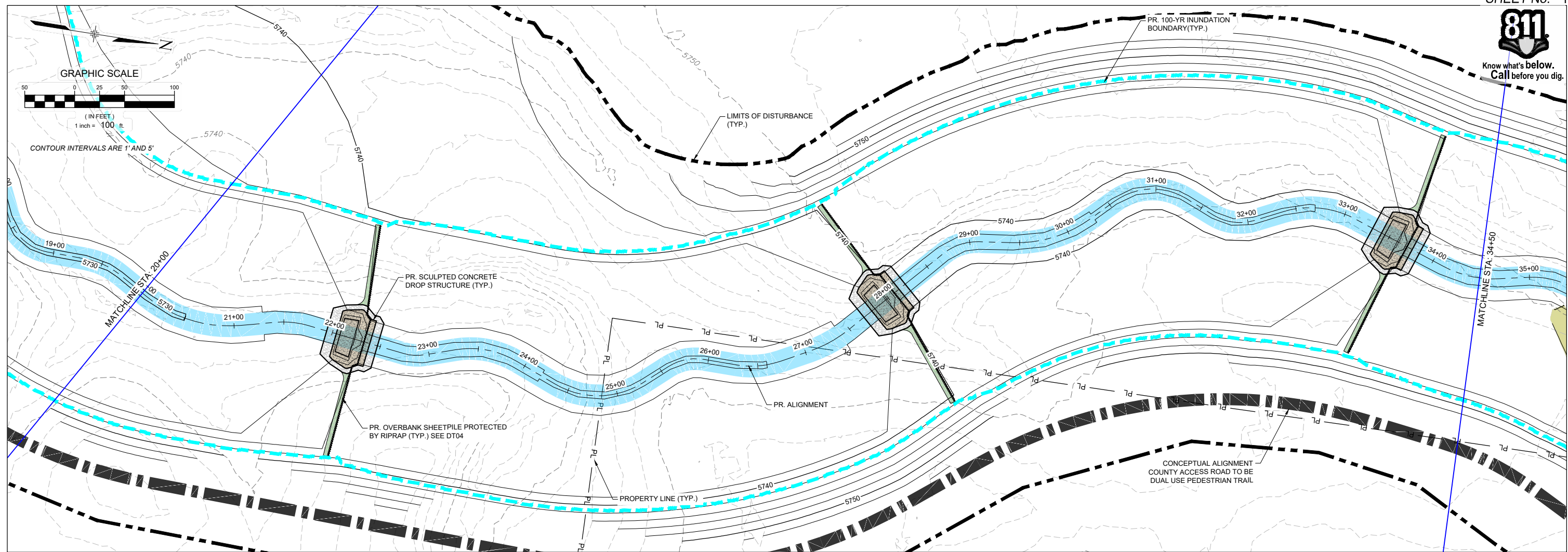
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

PLAN AND PROFILE
STA. 5+00 - 20+00

DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP03
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X-1129-PR STRUCT			
X-1129-UTILITIES			
X-1129-MD52234			
No.	DATE	DESCRIPTION REVISIONS	BY
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THE LANDHUIS COMPANY
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

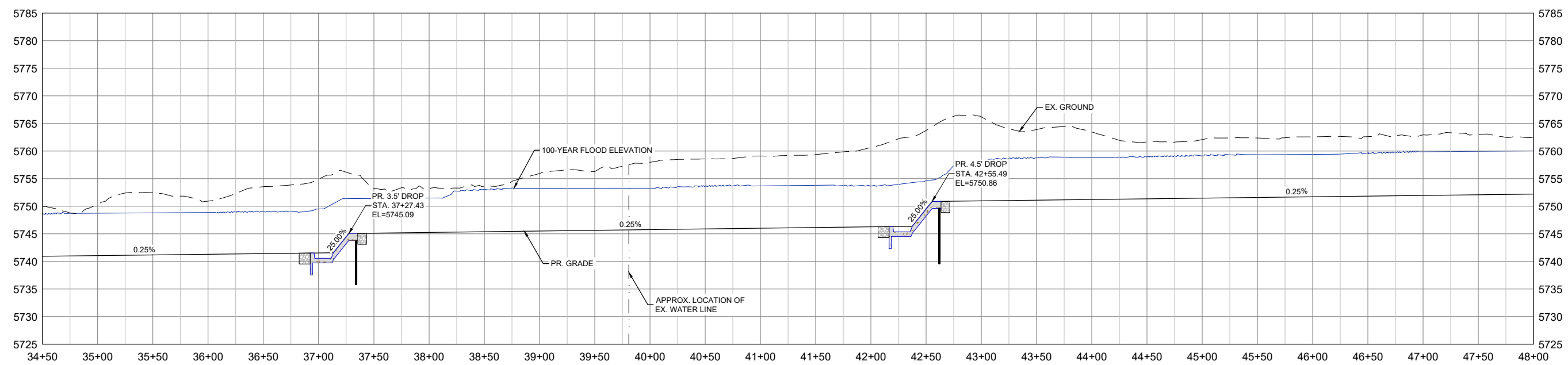
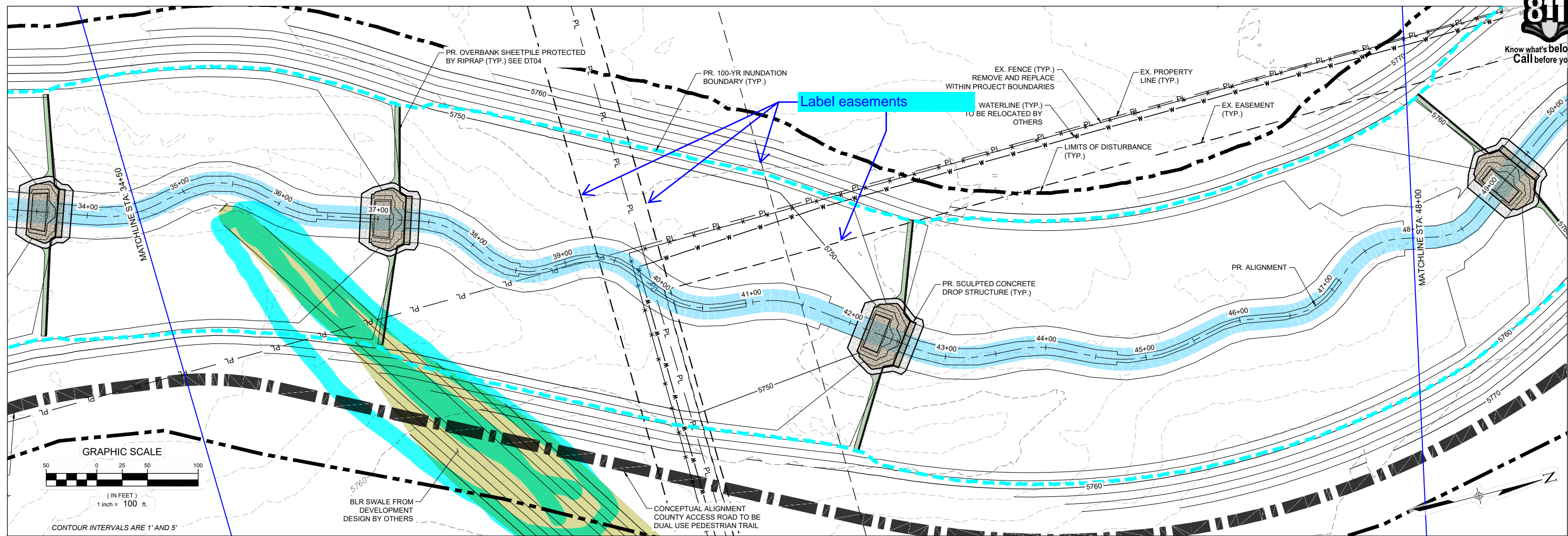
PLAN AND PROFILE
STA. 20+00 - 34+50

DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP04
CHECKED BY: AJS	VERT. 1" = 20'	SHEET 13 OF 47	

FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 21.1129.009



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REFERENCE DRAWINGS			
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X-1129-PR STRUCT			
X-1129-UTILITIES			
X-1129-MD02234			
No.	DATE	DESCRIPTION REVISIONS	BY
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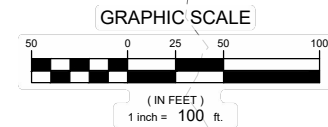
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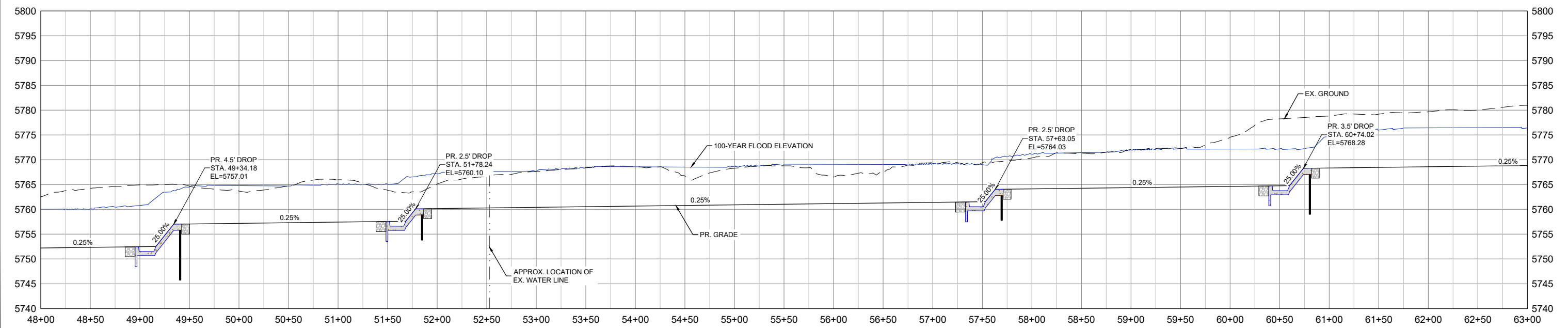
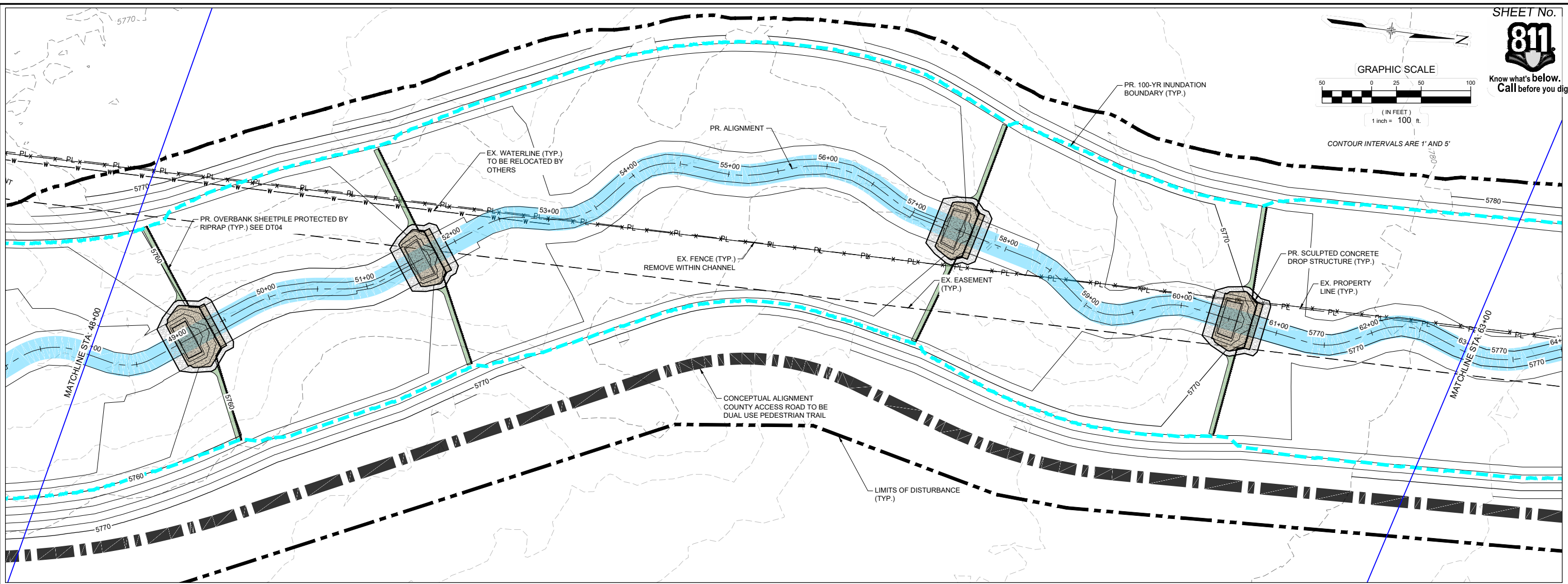
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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 34+50 - 48+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP05
CHECKED BY: AJS	VERT. 1" = 20'	SHEET 14 OF 47	



CONTOUR INTERVALS ARE 1' AND 5'



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X-1129-PR STRUCT			
X-1129-UTILITIES			
X-1129-MD02234			
No.	DATE	DESCRIPTION REVISIONS	BY
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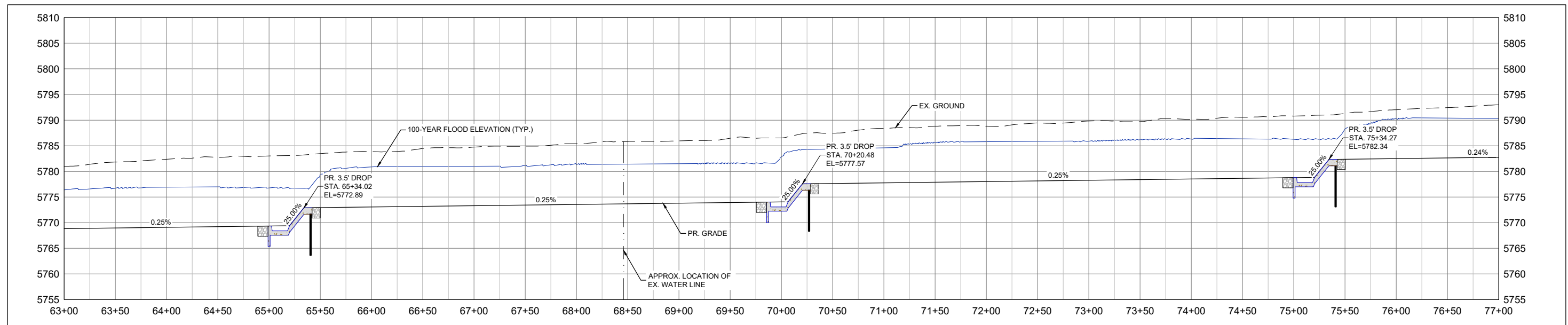
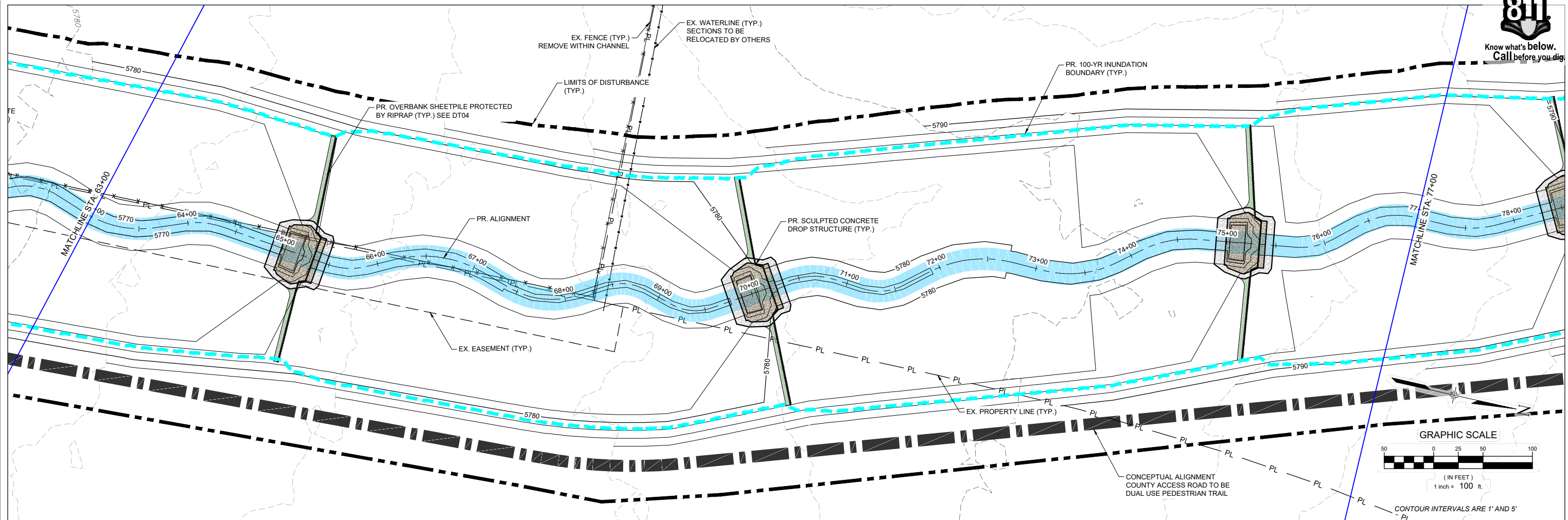


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ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 48+00 - 63+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP06
CHECKED BY: AJS	VERT. 1" = 20'	SHEET 15 OF 47	



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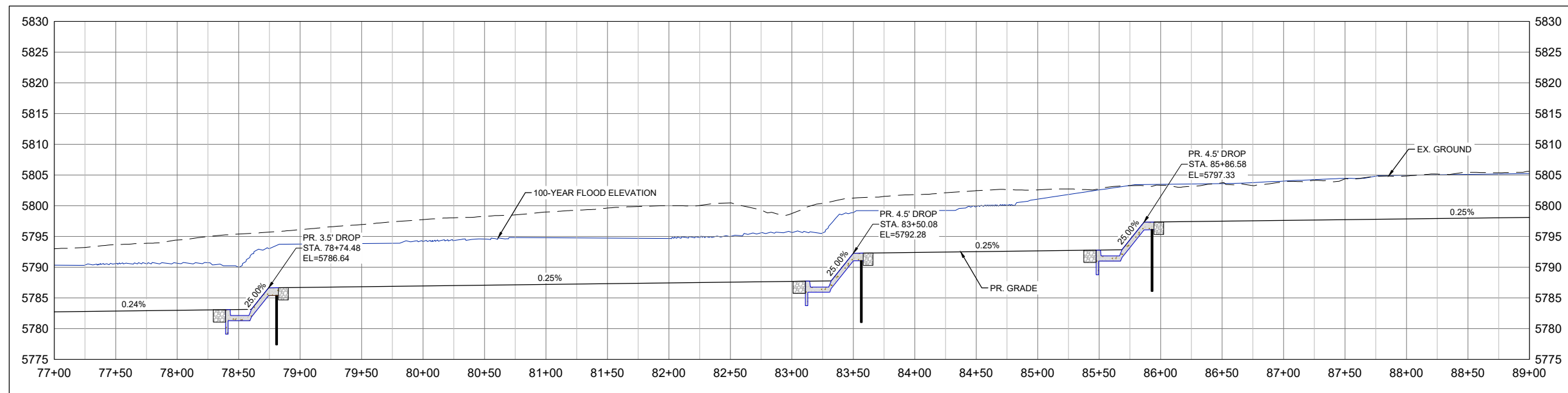
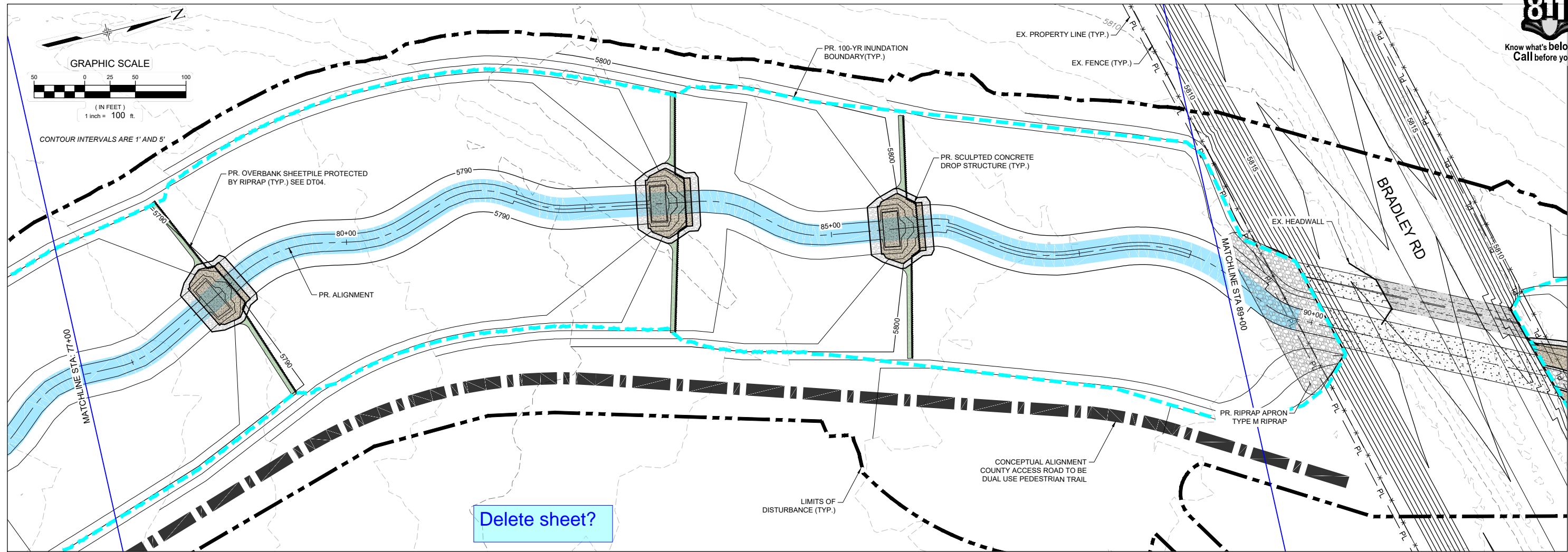
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FOR AND ON BEHALF OF
 MATRIX DESIGN GROUP, INC.
 PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 63+00 - 77+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP07
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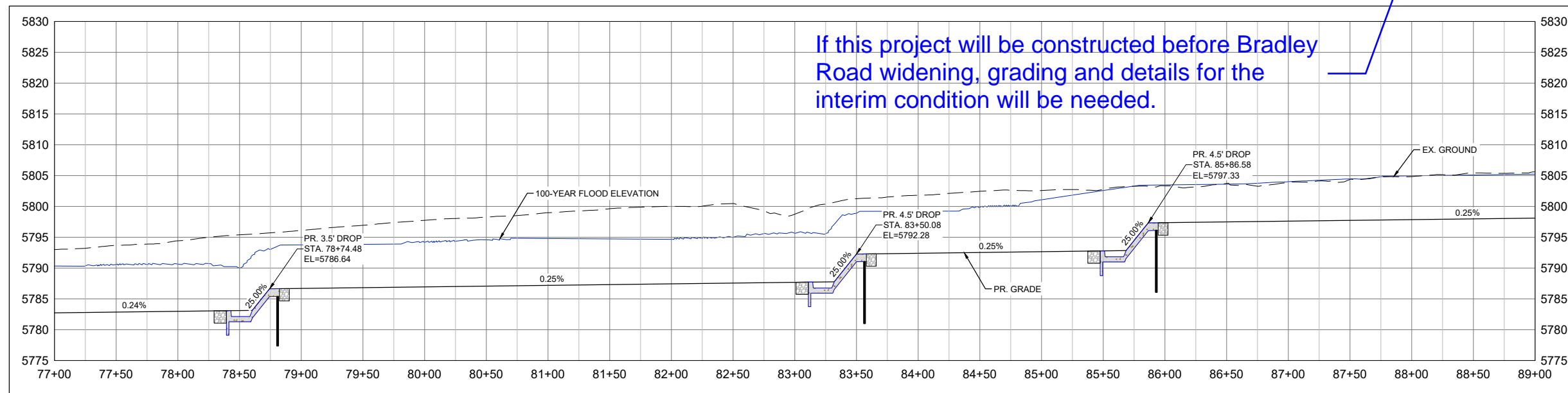
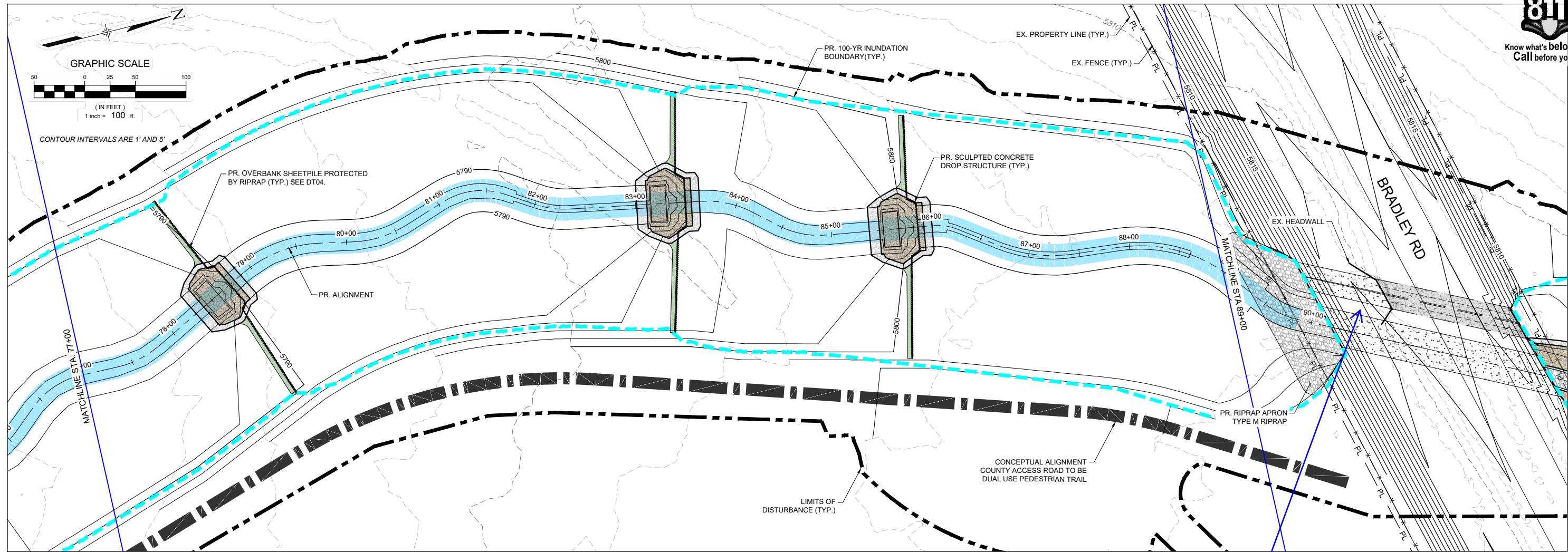
PREPARED BY:

Matrix
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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 77+00 - 89+00			
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If this project will be constructed before Bradley Road widening, grading and details for the interim condition will be needed.

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CTB FILE: Matrix(black).ctb			
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THE LANDHUIS COMPANY

ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

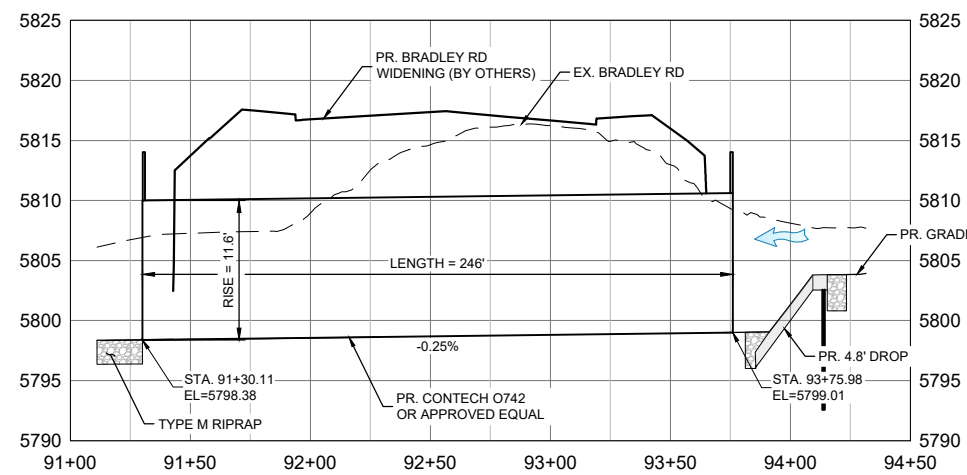
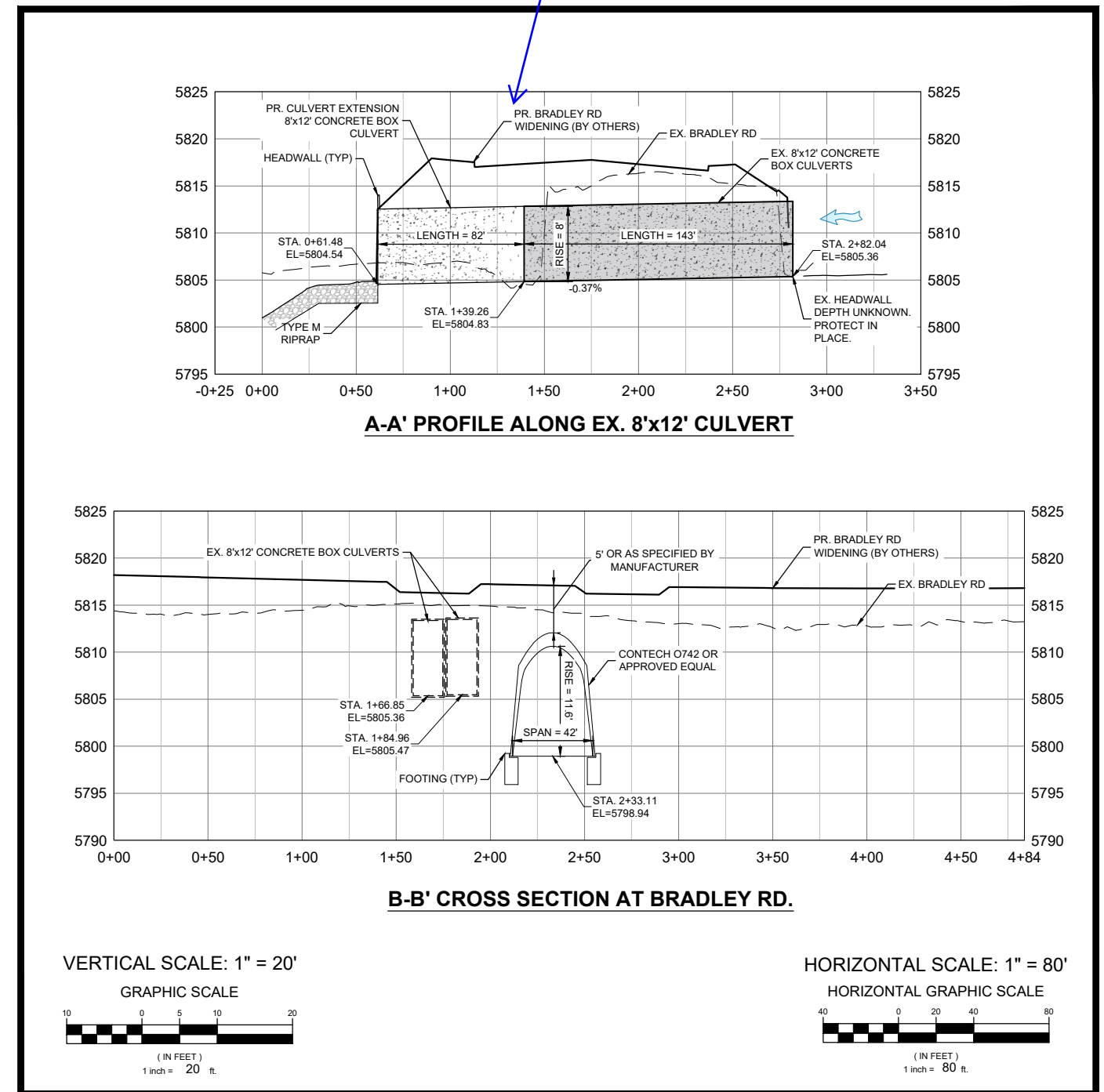
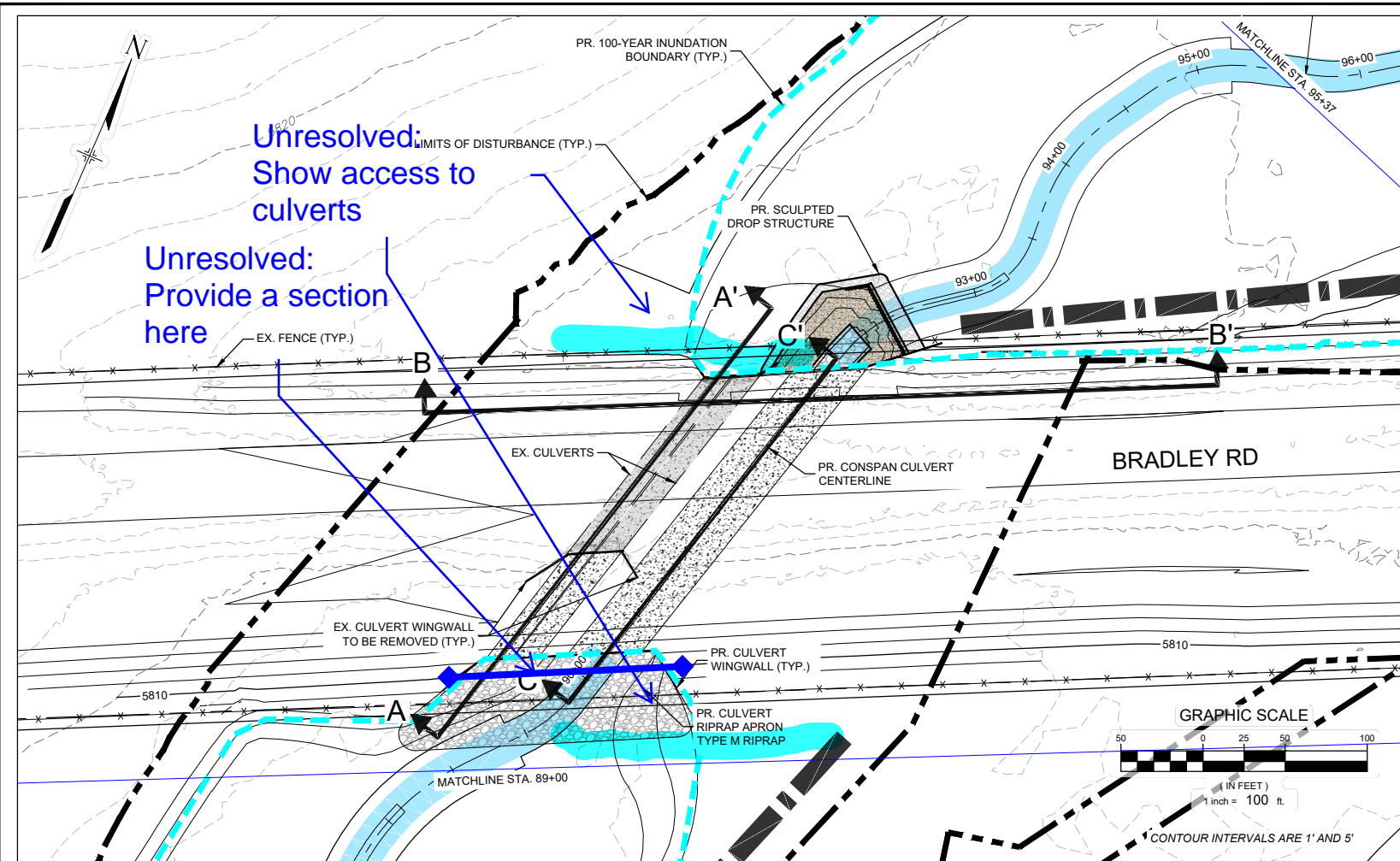
PLAN AND PROFILE
STA. 77+00 - 89+00

DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP08
CHECKED BY: AJS	VERT. 1" = 20'	SHEET 17 OF 47	

FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 21.1129.009



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C-C' PROFILE ALONG PROPOSED CONSPAN CULVERT

NOTE: FOLLOWS THE PR. CHANNEL ALIGNMENT
HORIZONTAL SCALE: 1" = 80'
VERTICAL SCALE: 1" = 20'

No.	DATE	DESCRIPTION REVISIONS	BY
COMPUTER FILE MANAGEMENT			
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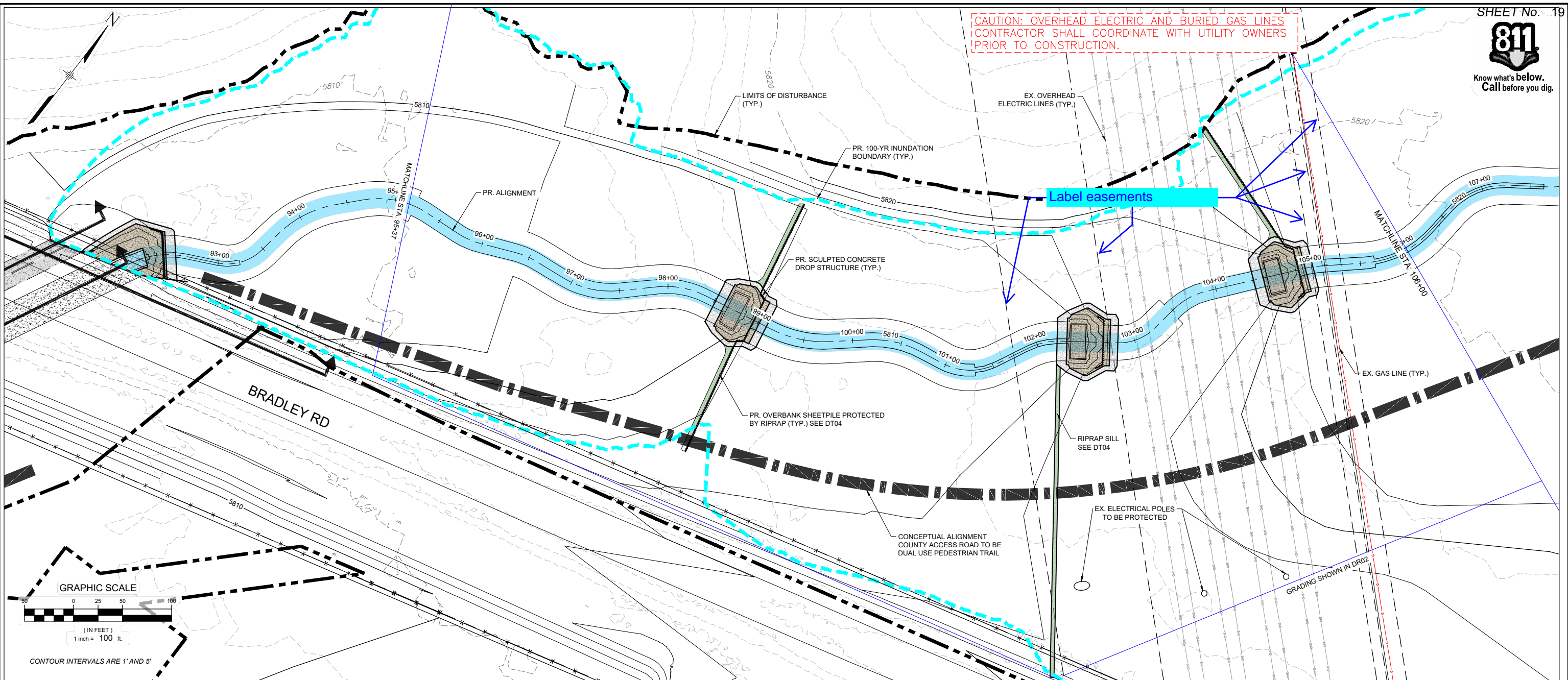
FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 89+00 - 95+37			
DESIGNED BY: TKM	EAL	SCALE: HORIZ. VARIES VERT. 1" = 20'	DATE ISSUED: MARCH 2023
CHECKED BY: AJS			SHEET 18 OF 47
			DRAWING No. PP09

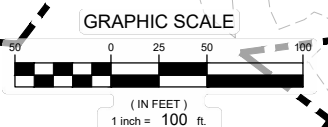


Know what's below.
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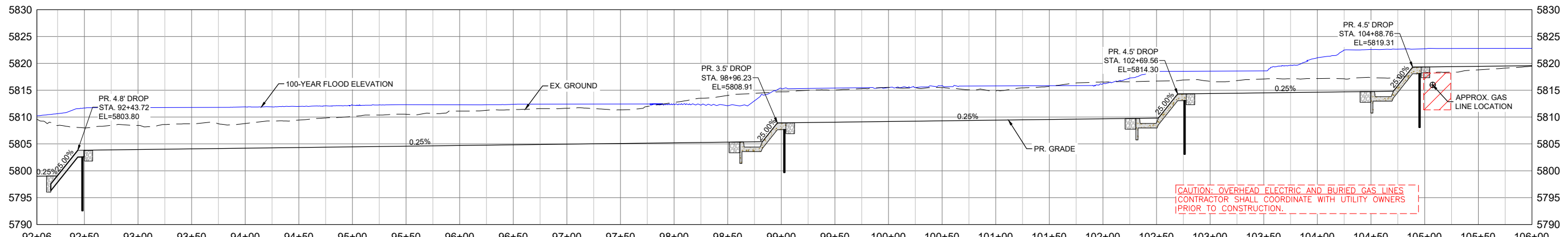
CAUTION: OVERHEAD ELECTRIC AND BURIED GAS LINES
CONTRACTOR SHALL COORDINATE WITH UTILITY OWNERS
PRIOR TO CONSTRUCTION.



Label easements



CONTOUR INTERVALS ARE 1' AND 5'



CAUTION: OVERHEAD ELECTRIC AND BURIED GAS LINES
CONTRACTOR SHALL COORDINATE WITH UTILITY OWNERS
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REFERENCE DRAWINGS			
X-1129-UTILITIES			
X-1129-PARCELS			
X-1129-PR STRUCT			
X-1129-MD22034			

No.	DATE	DESCRIPTION REVISIONS	BY

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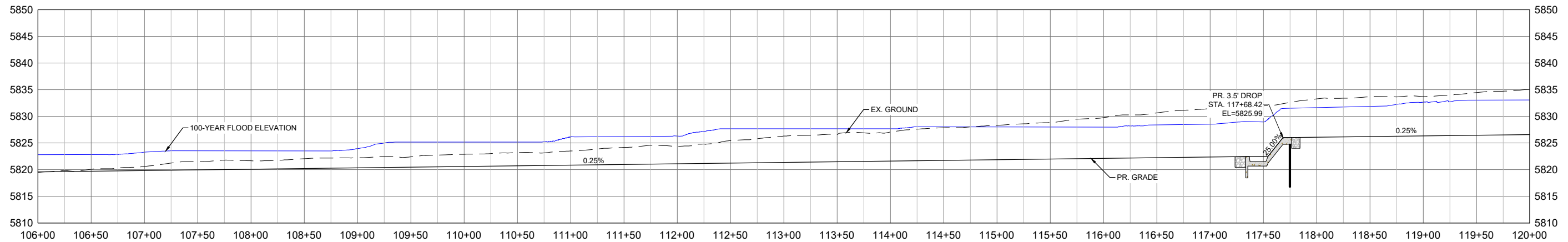
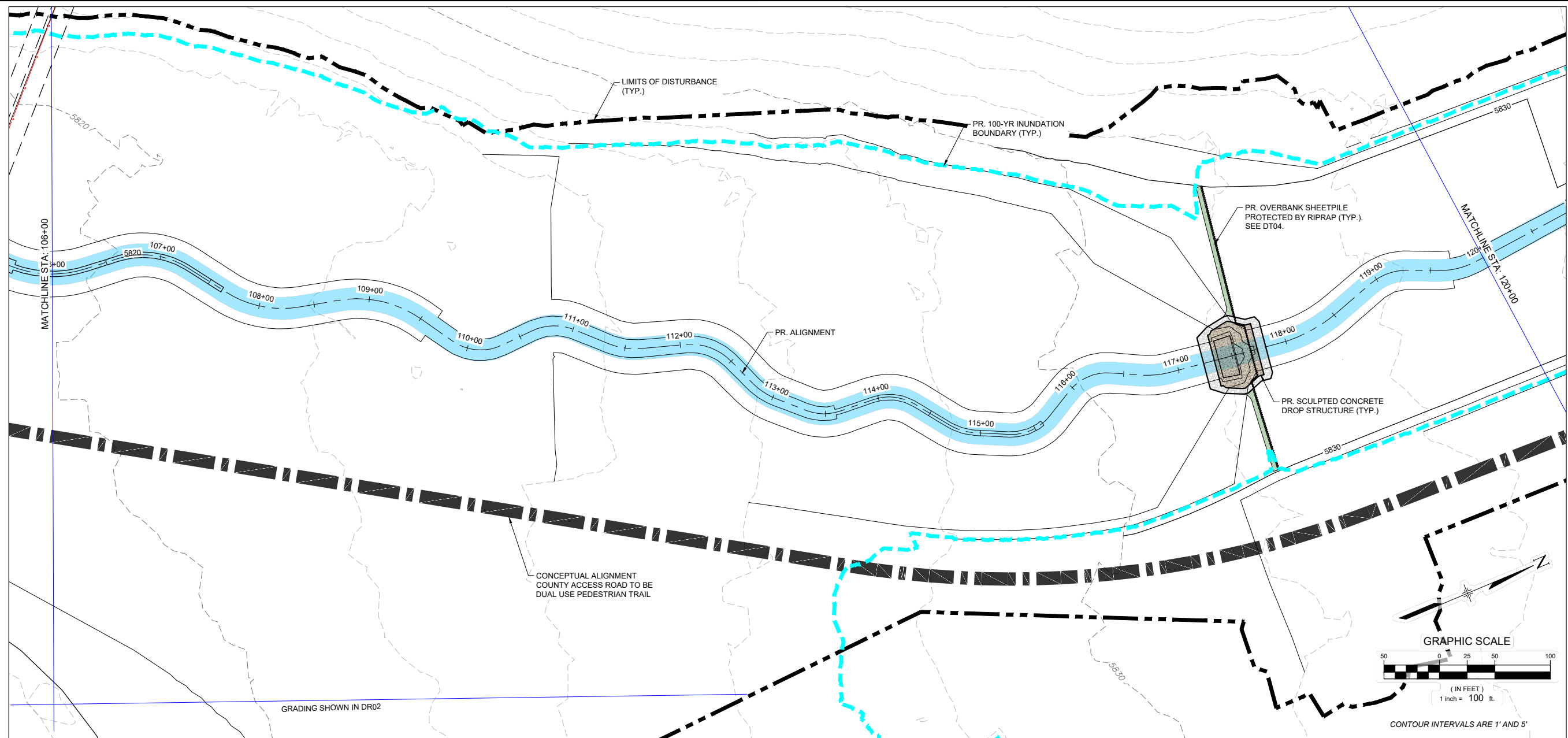
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PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 92+06 - 106+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP10
DRAWN BY: EAL	VERT. 1" = 20'	SHEET 19 OF 47	
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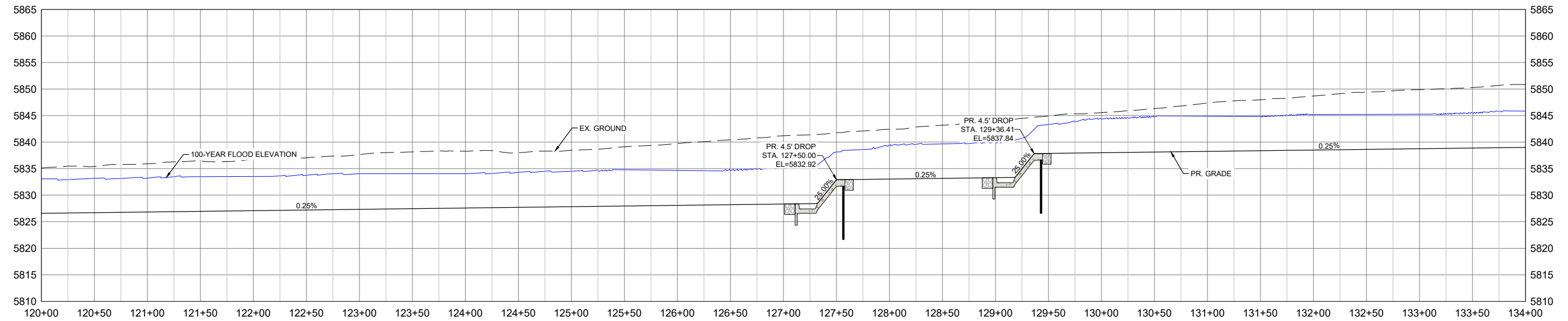
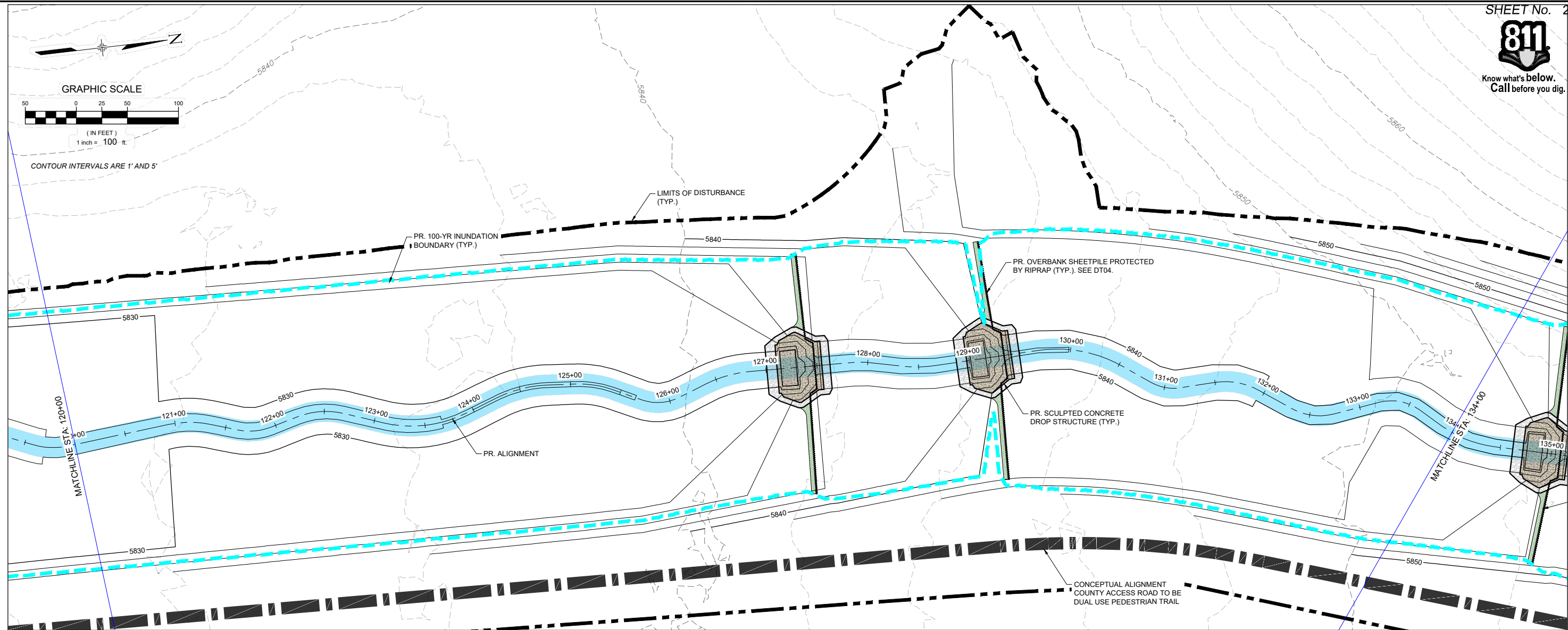
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FOR AND ON BEHALF OF
 MATRIX DESIGN GROUP, INC.
 PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 106+00 - 120+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP11
CHECKED BY: AJS	VERT. 1" = 20'	SHEET 20 OF 47	



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X-1129-PARCELS			
X-1129-PR STRUCT			
X-1129-MDQ2234			
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60% DESIGN PLANS

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Matrix
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THE LANDHUIS COMPANY

ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

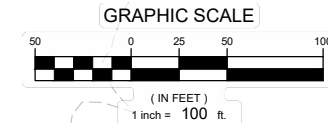
PLAN AND PROFILE
STA. 120+00 - 134+00

DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP12
CHECKED BY: AJS	VERT. 1" = 20'	SHEET 21 OF 47	

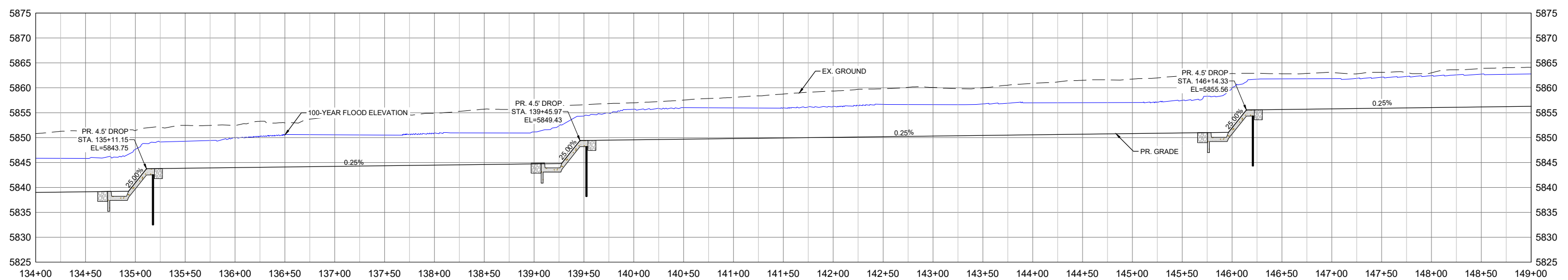
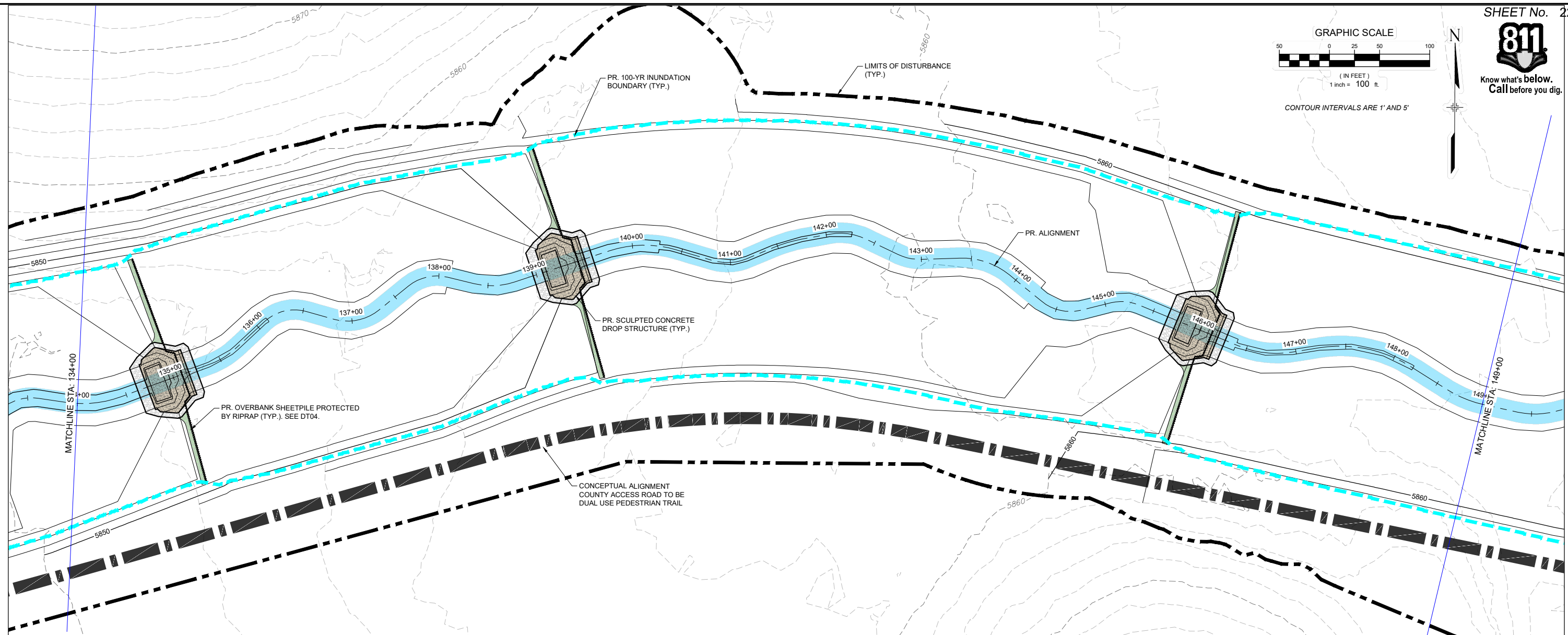
FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 21.1129.009



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No.	DATE	DESCRIPTION REVISIONS	BY

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FILE NAME: S:\21.1129.009 Rolling Hills Floodplain and Permitting\Drawings\Design Plans\1129.009-PP02-15 US Alignment_60%.dwg
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 PLOT DATE: March 7, 2023 12:26:16 PM
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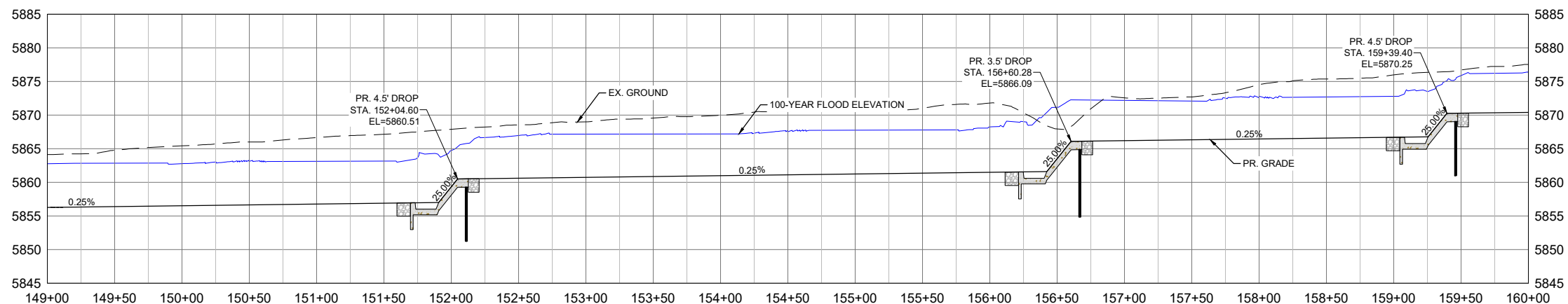
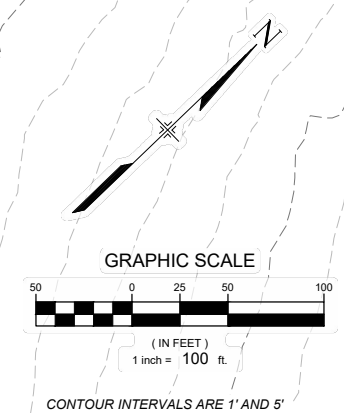
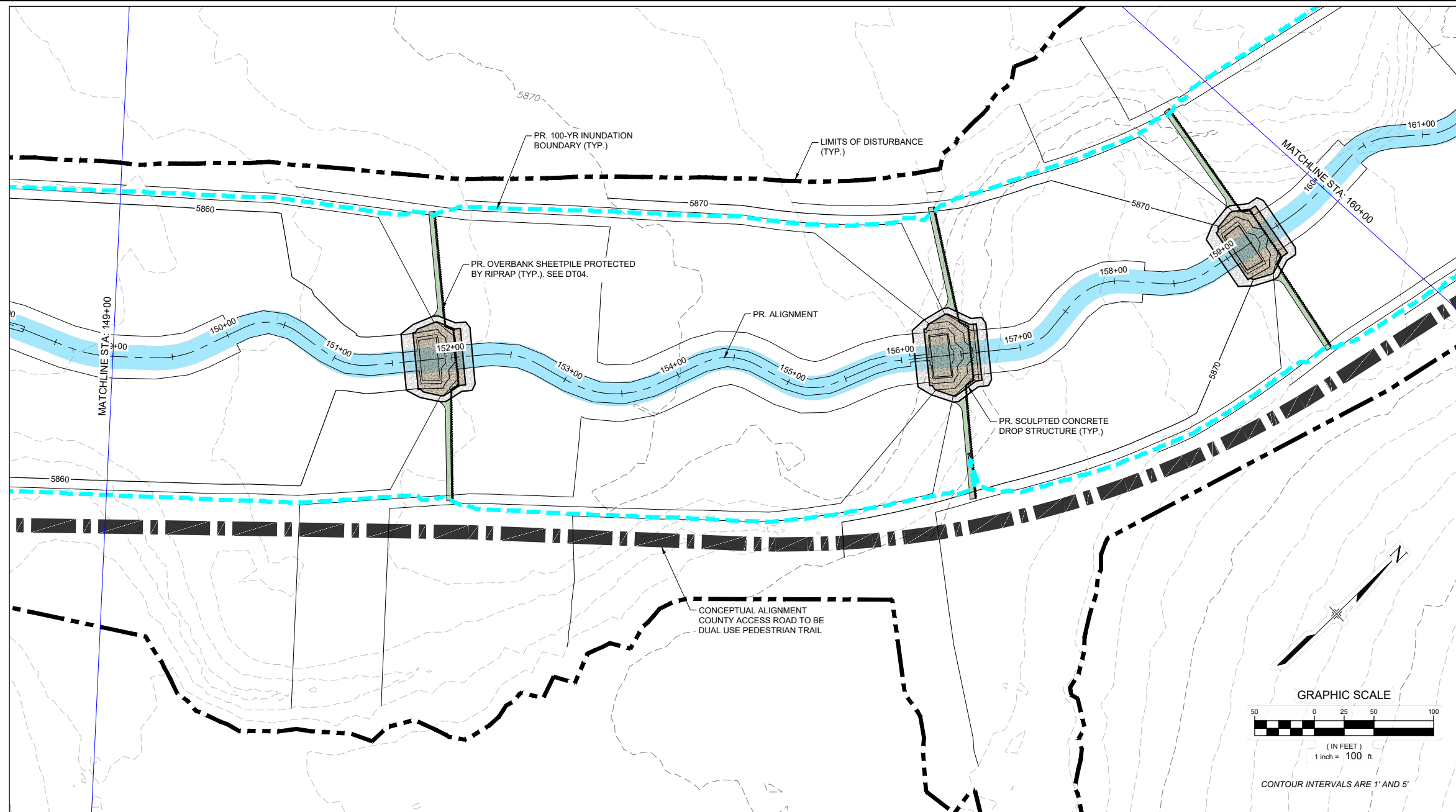
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 PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 134+00 - 149+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP13
CHECKED BY: AJS	VERT. 1" = 20'	SHEET 22 OF 47	



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X-1129-PARCELS			
X-1129-PR STRUCT			
X-1129-MD&Z&34			
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PREPARED BY:

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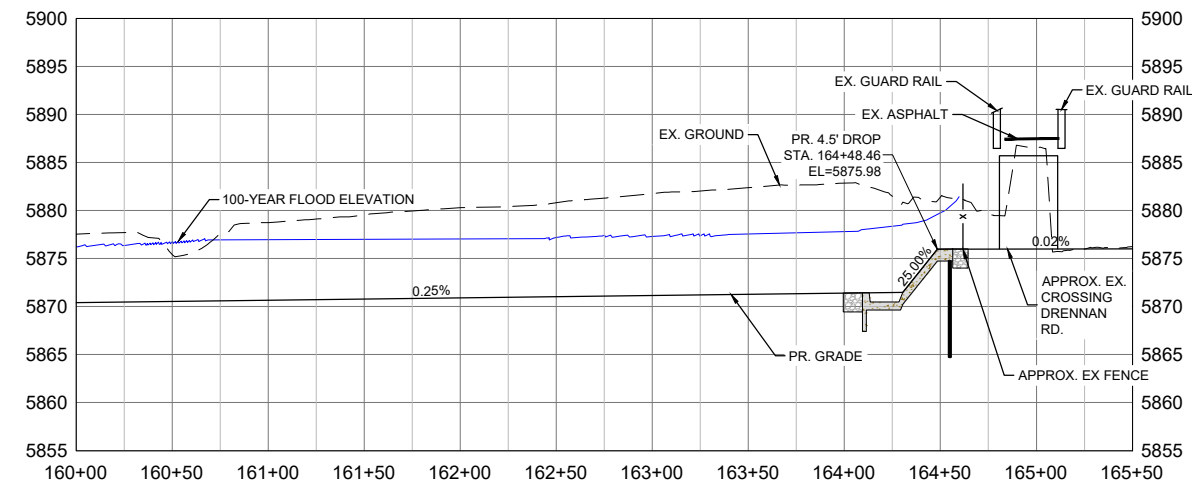
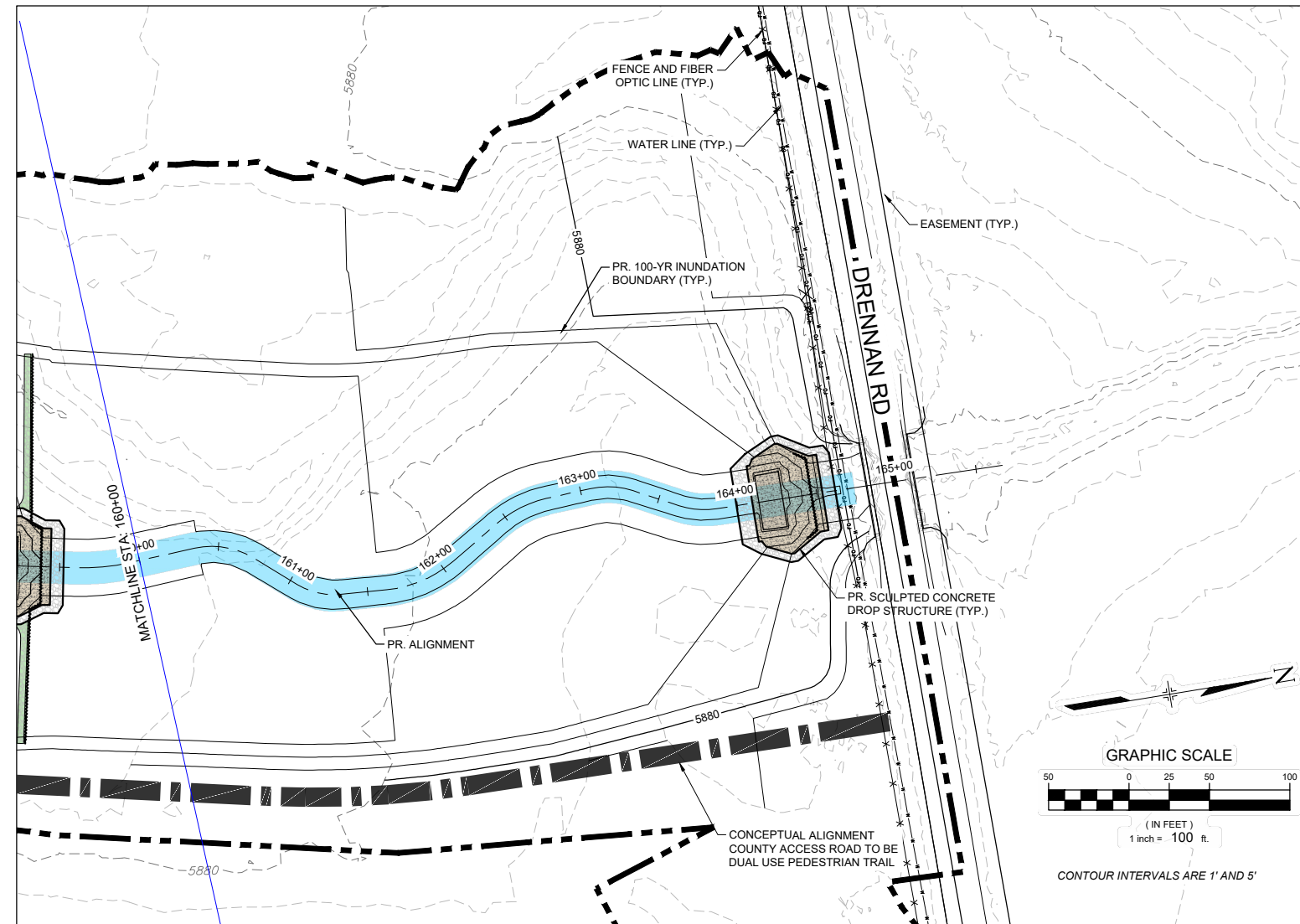
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PROJECT No. 21.1129.009

THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 149+00 - 160+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No. PP14
CHECKED BY: AJS	VERT. 1" = 20'	SHEET 23 OF 47	



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REFERENCE DRAWINGS			
X-1129-UTILITIES			
X-1129-PARCELS			
X-1129-PR STRUCT			
X-1129-MDQ22034			
No.	DATE	DESCRIPTION REVISIONS	BY
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PLOT DATE: March 22, 2023 11:09:41 AM			
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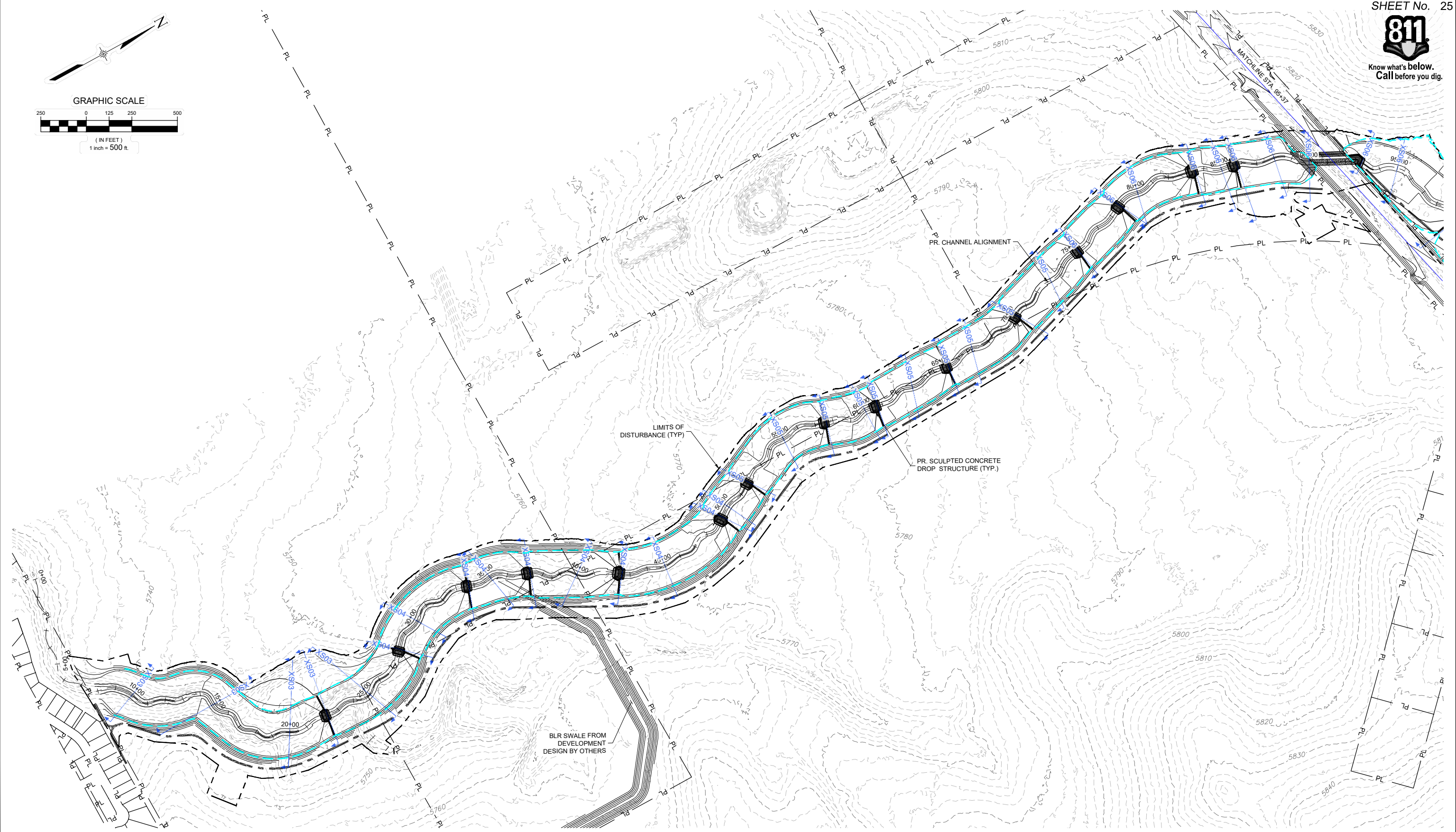
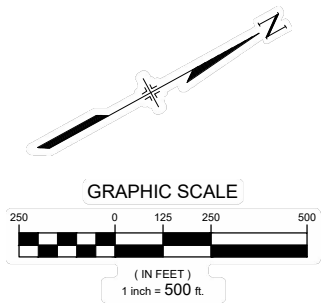
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ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
PLAN AND PROFILE STA. 160+00 - 165+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 100'	DATE ISSUED: MARCH 2023	DRAWING No.
DRAWN BY: EAL	VERT. 1" = 20'	SHEET 24 OF 47	PP15
CHECKED BY: AJS			



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REFERENCE DRAWINGS			
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X-1129-PR STRUCT			
X-1129-PARCELS			
No.	DATE	DESCRIPTION REVISIONS	BY
COMPUTER FILE MANAGEMENT			
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PLOT DATE: March 7, 2023 2:38:16 PM			
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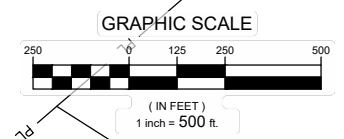
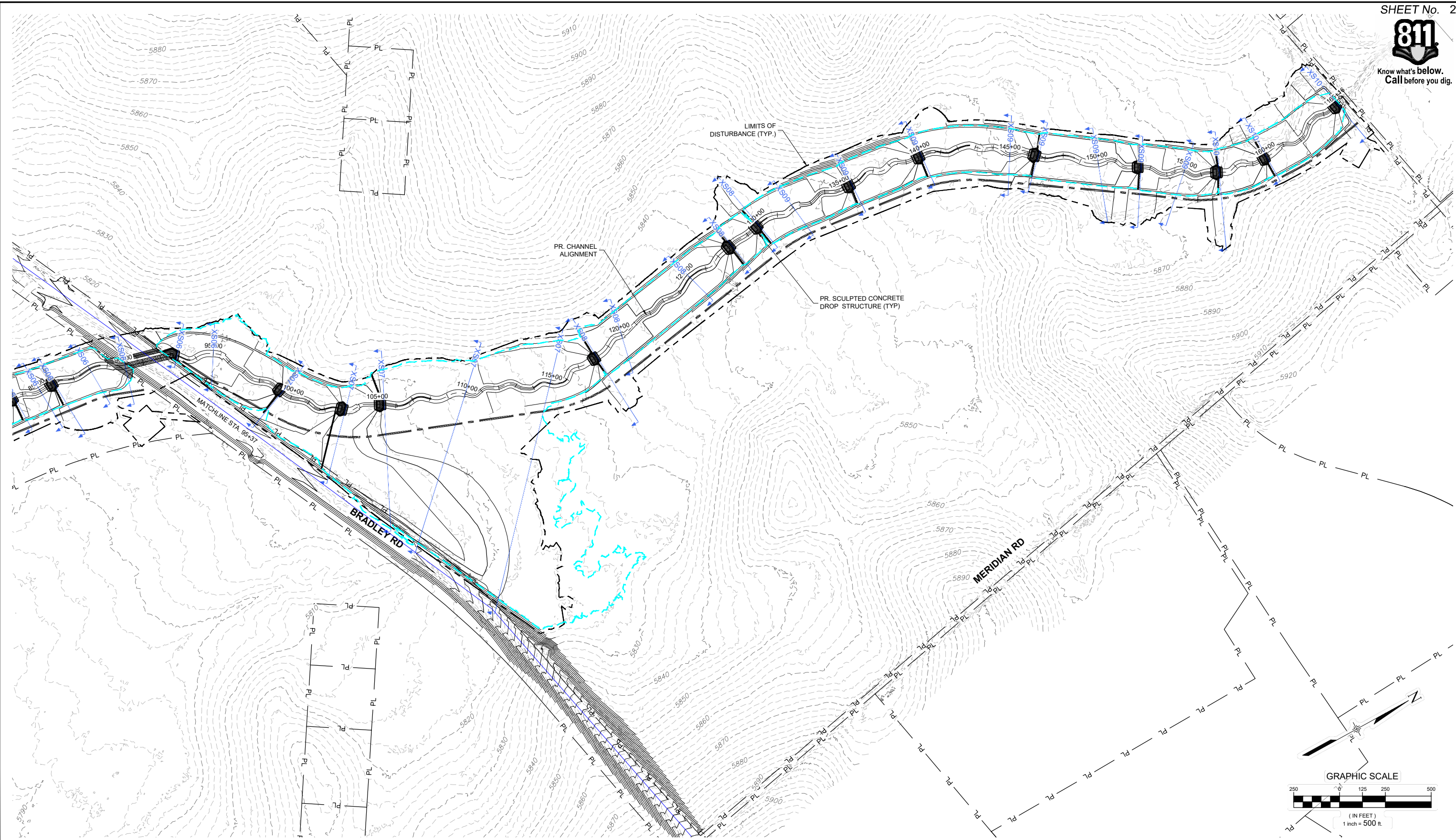
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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTION OVERVIEW - LOWER REACH			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 500'	DATE ISSUED: MARCH 2023	DRAWING No. XS01
CHECKED BY: AJS	VERT. N/A	SHEET 25 OF 47	



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REFERENCE DRAWINGS			
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X-1129-PR STRUCT			
X-1129-PARCELS			
No.	DATE	DESCRIPTION REVISIONS	BY
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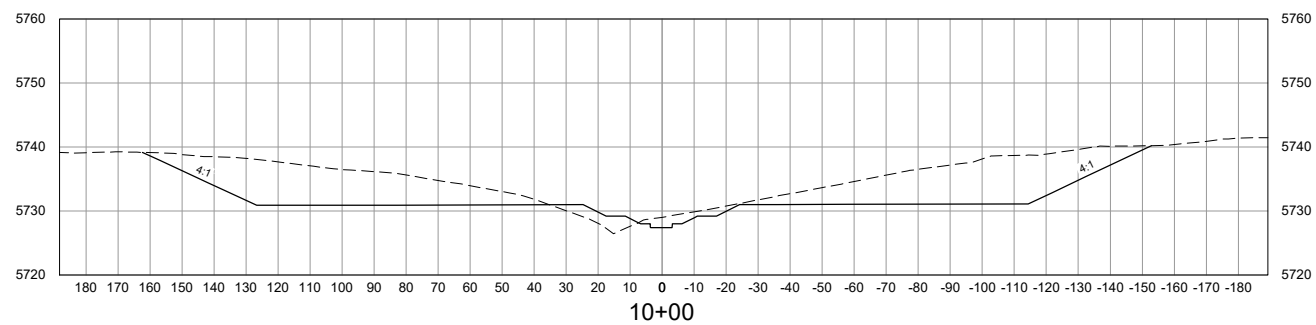
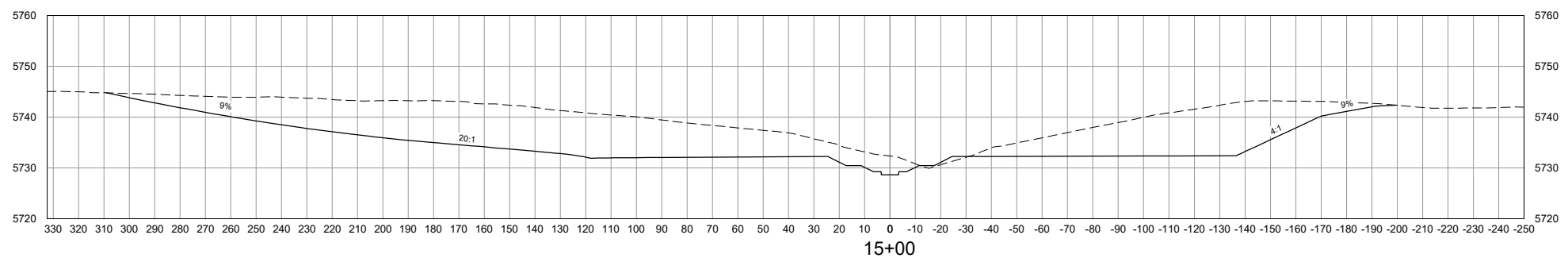
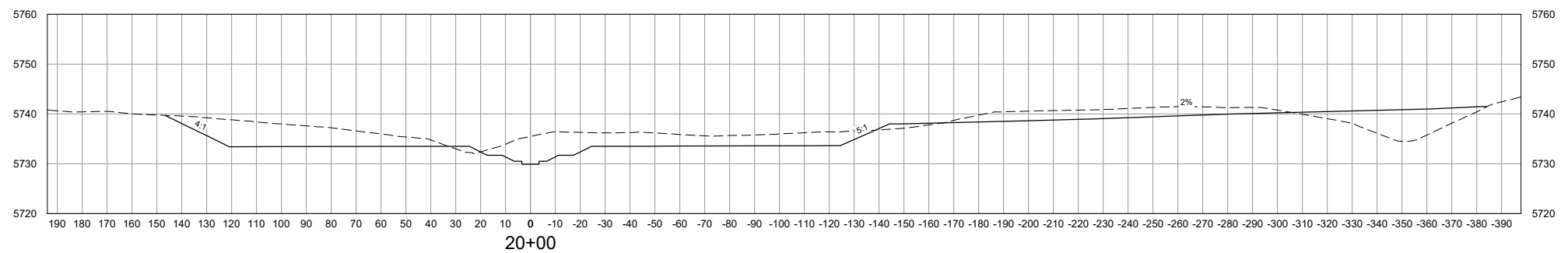
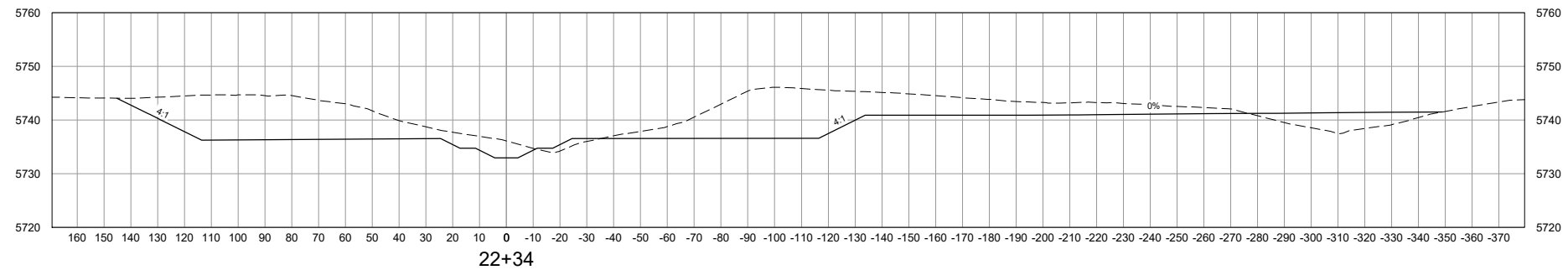
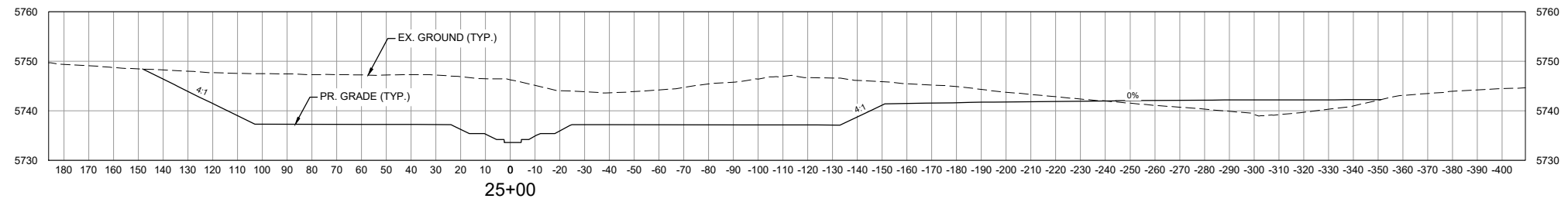
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PROJECT No. 21.1129.009

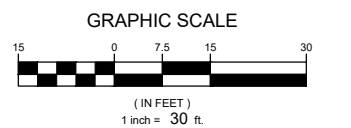
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTION OVERVIEW - UPPER REACH			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 500'	DATE ISSUED: MARCH 2023	DRAWING No. XS02
CHECKED BY: AJS	VERT. N/A	SHEET 26 OF 47	



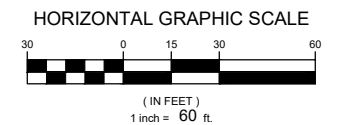
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VERTICAL SCALE: 1" = 30'



HORIZONTAL SCALE: 1" = 60'



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REFERENCE DRAWINGS			
X-1129-MDG22x34			
X-1129-PR STRUCT			
X-1129-PARCELS			
No.	DATE	DESCRIPTION REVISIONS	BY
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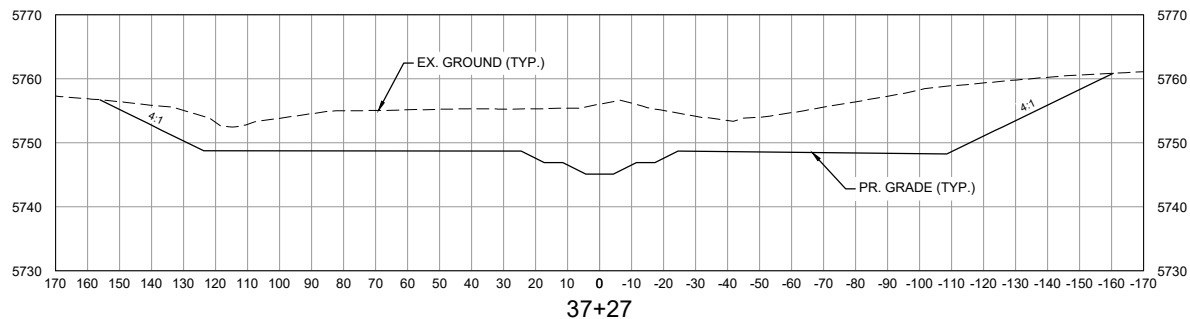
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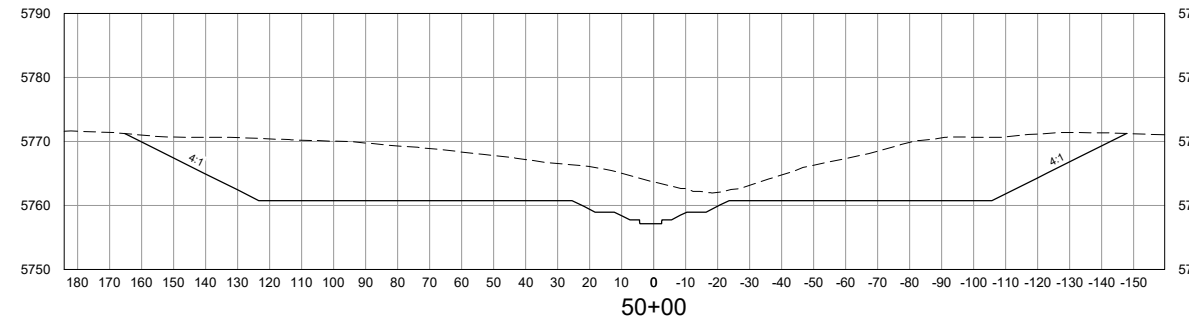
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTIONS STA. 10+00 - 25+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 60'	DATE ISSUED: MARCH 2023	DRAWING No. XS03
CHECKED BY: AJS	VERT. 1" = 30'	SHEET 27 OF 47	



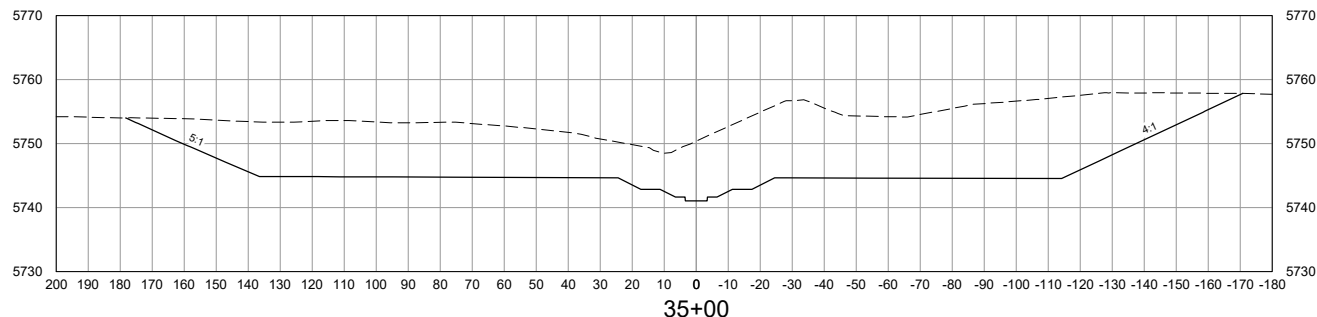
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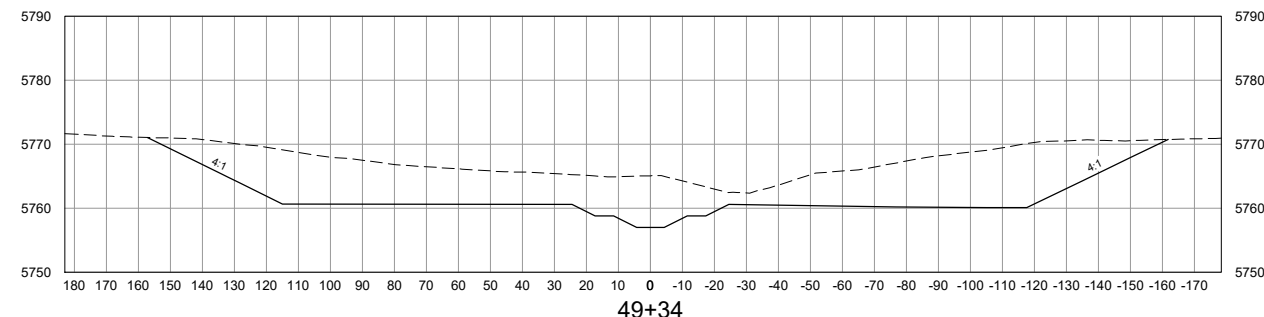
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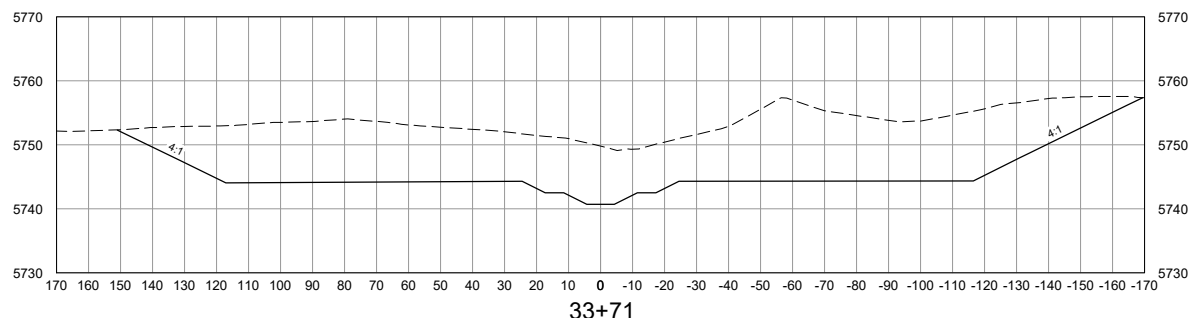
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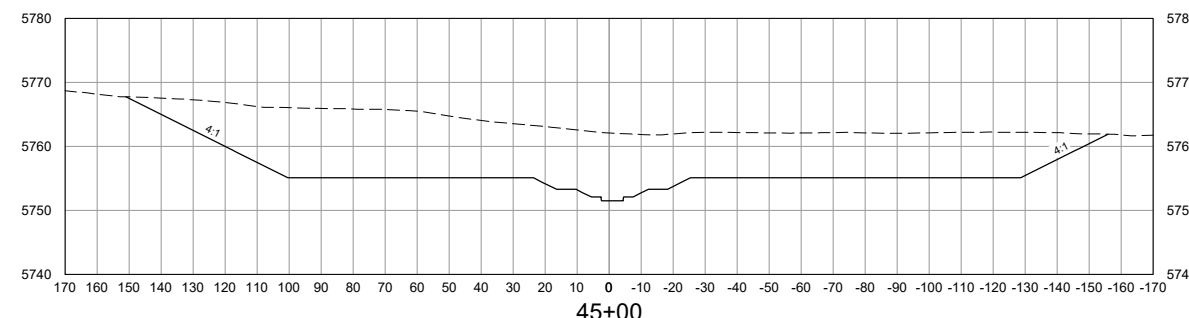
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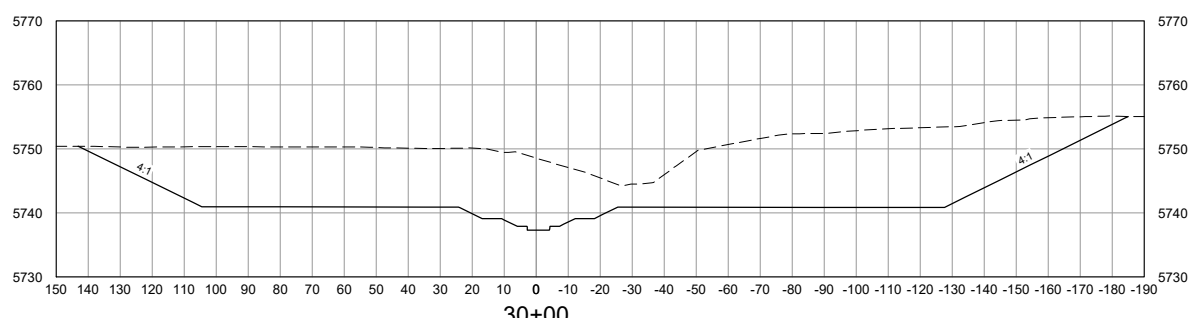
49+34



33+71



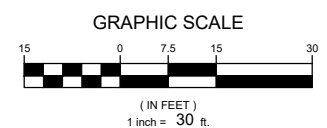
45+00



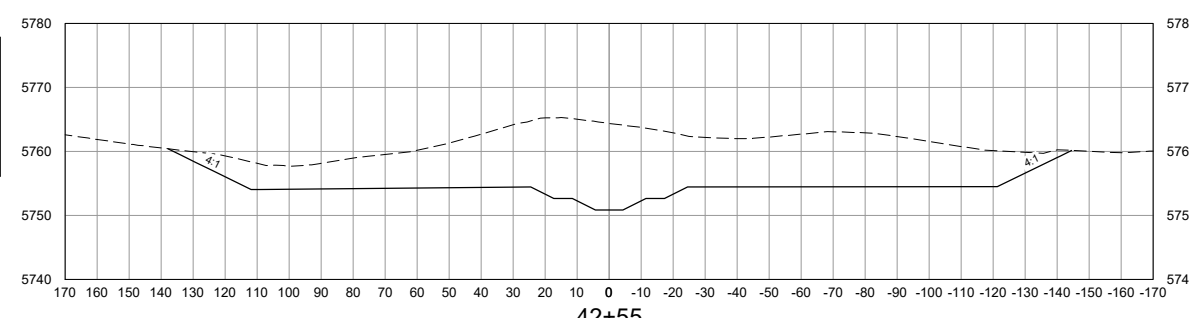
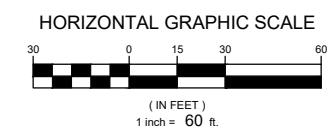
30+00

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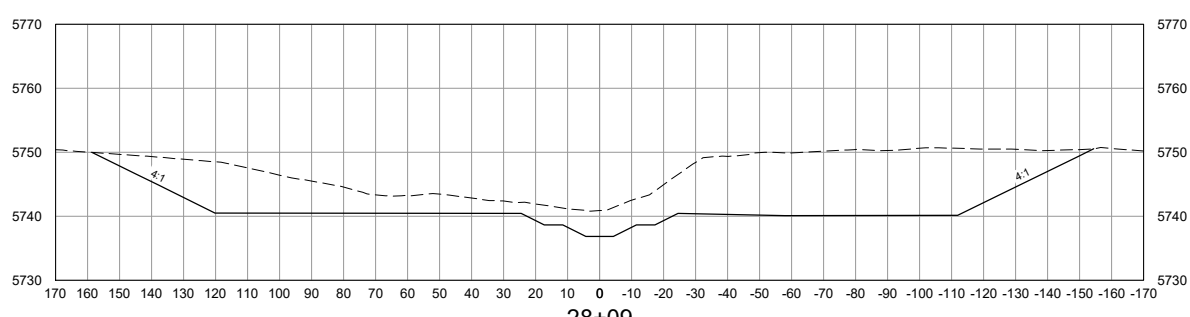
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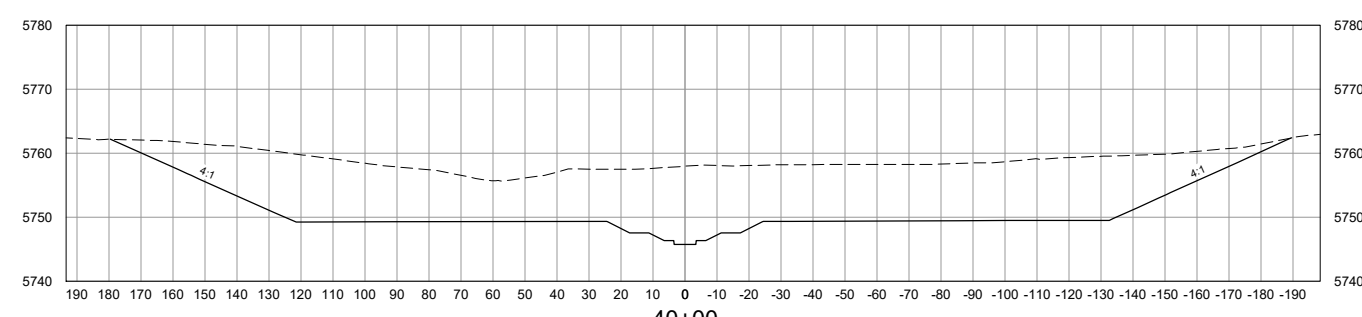
HORIZONTAL SCALE: 1" = 60'



42+55



28+09



40+00

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60% DESIGN PLANS

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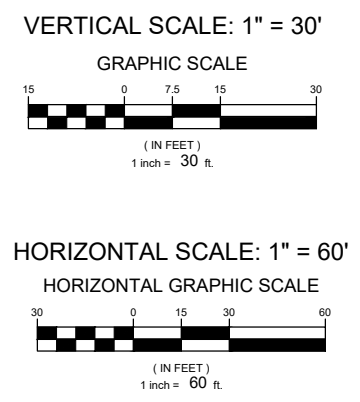
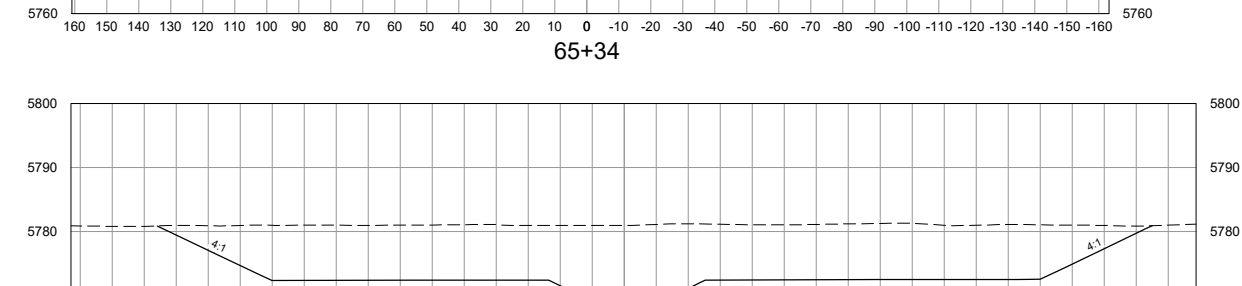
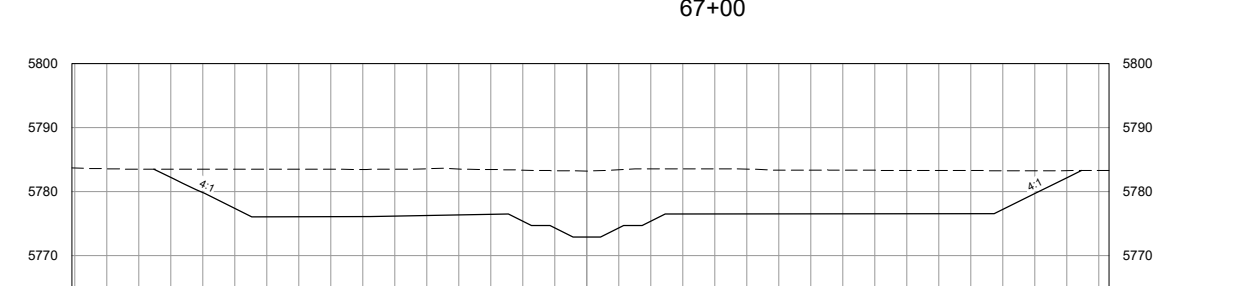
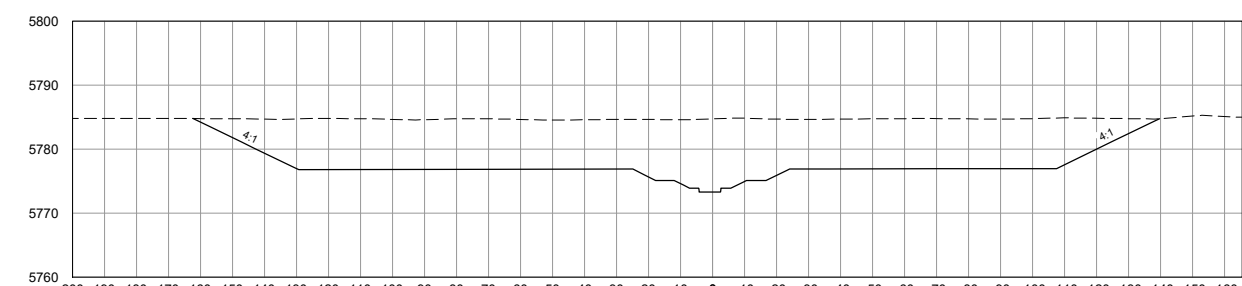
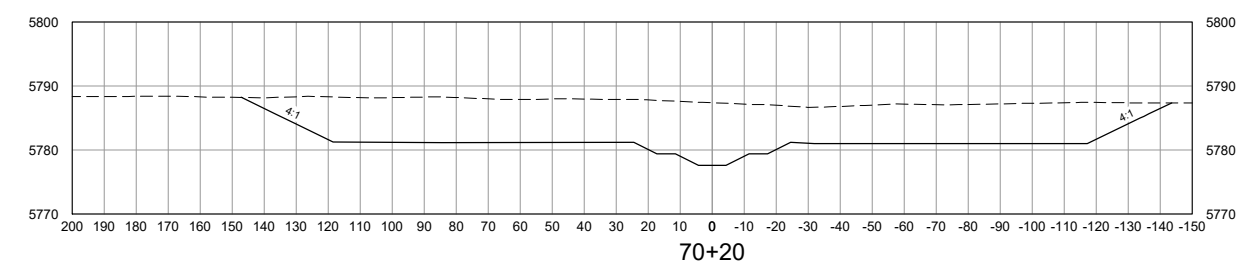
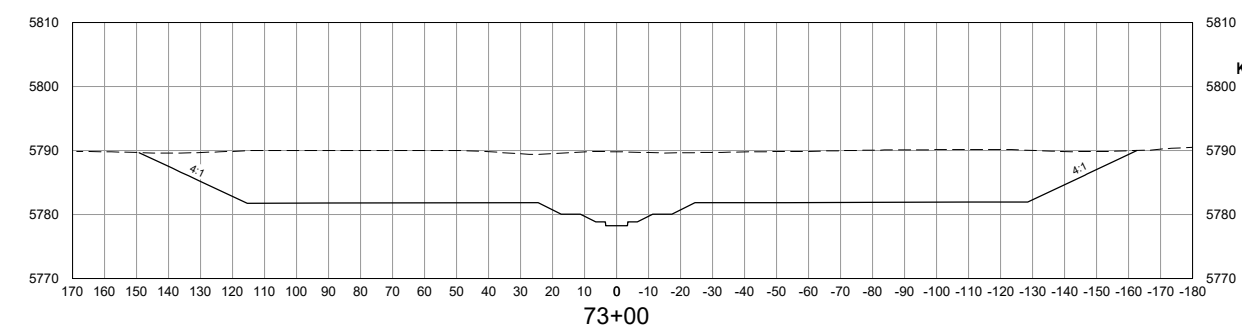
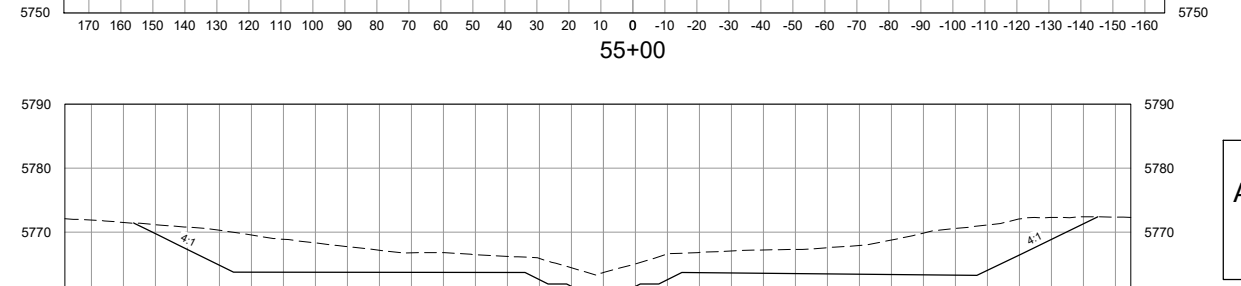
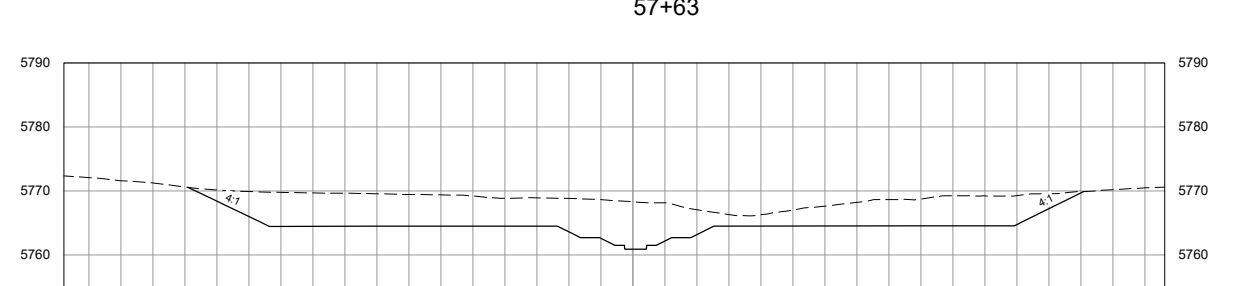
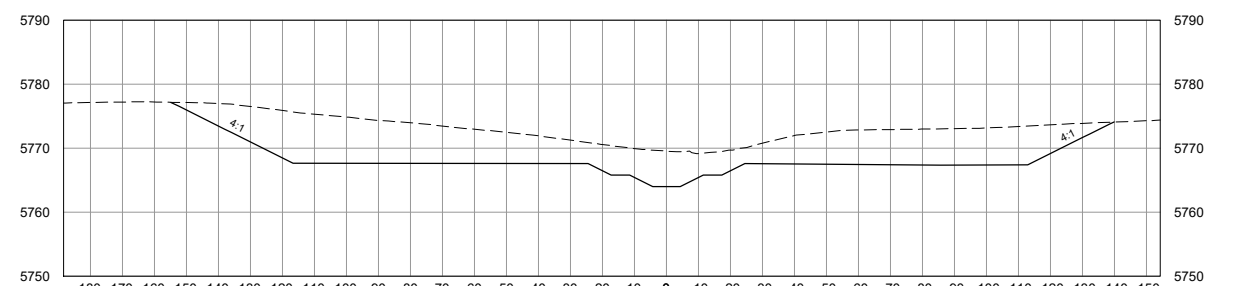
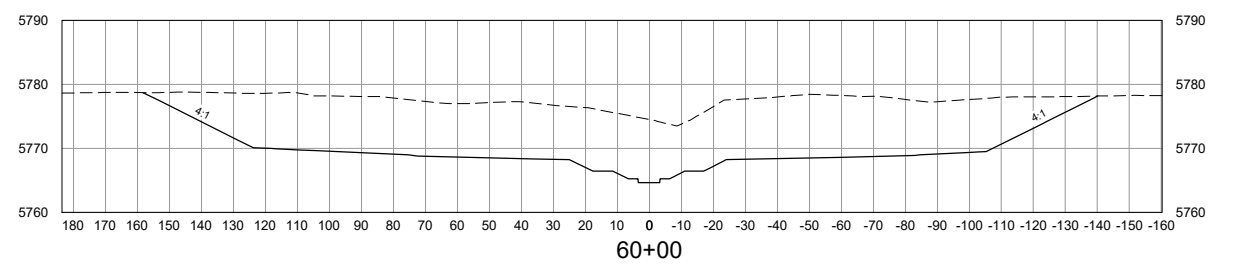
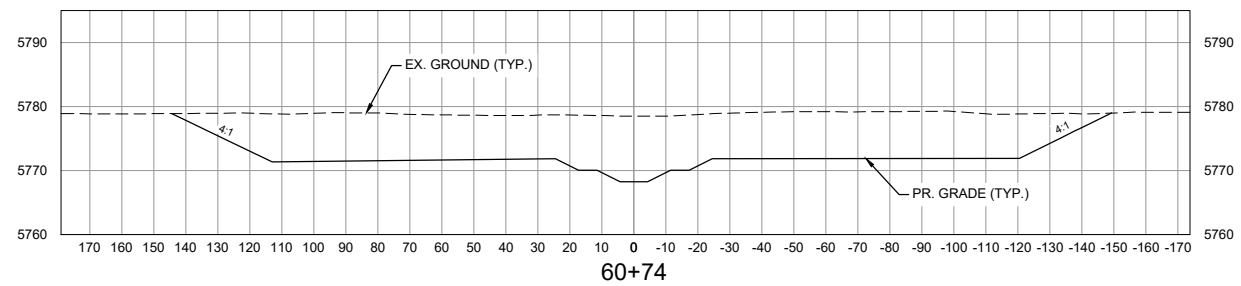
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ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTIONS STA. 28+08 - 50+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 60'	DATE ISSUED: MARCH 2023	DRAWING No. XS04
CHECKED BY: AJS	VERT. 1" = 30'	SHEET 28 OF 47	



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60% DESIGN PLANS

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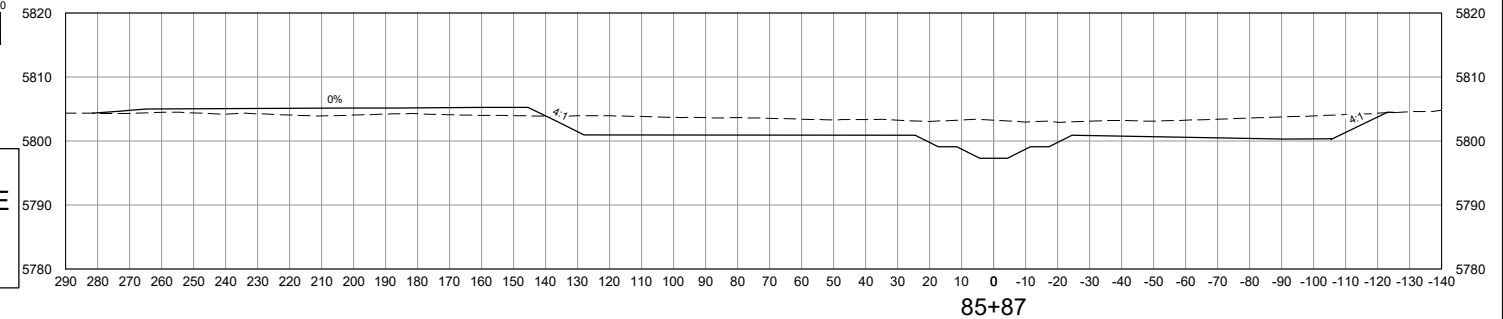
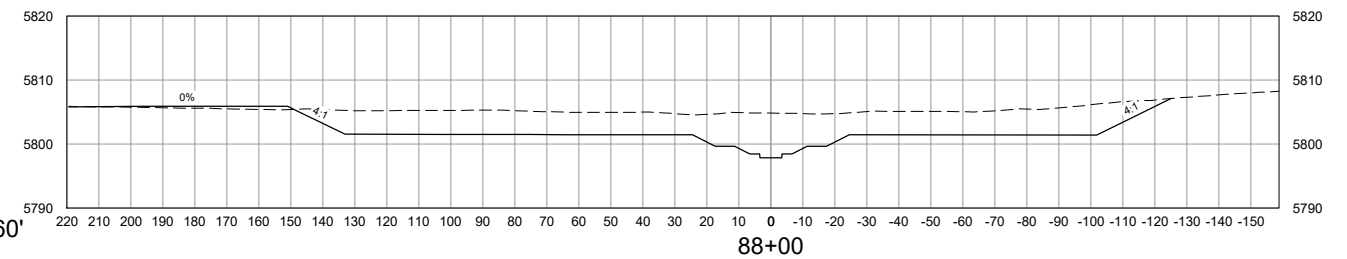
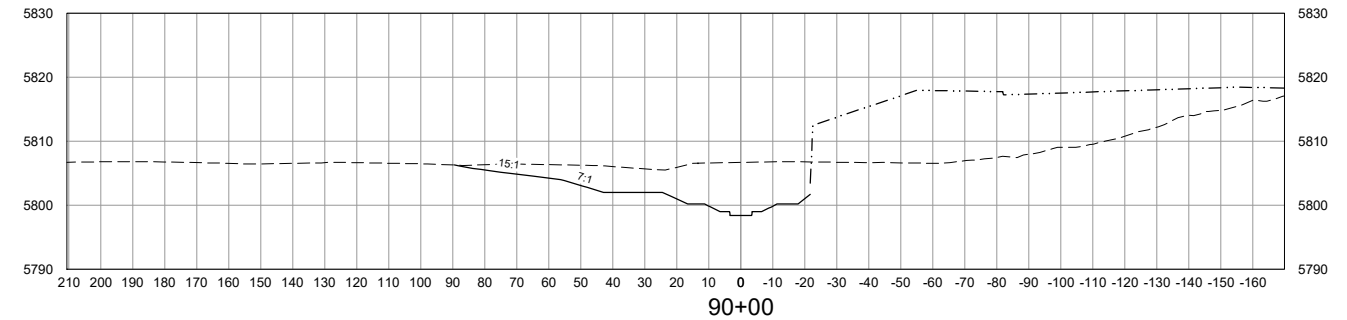
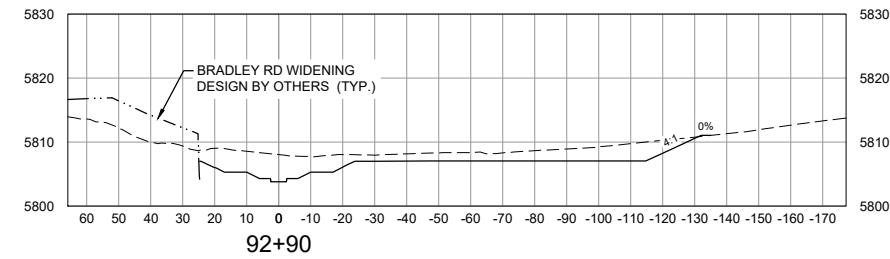
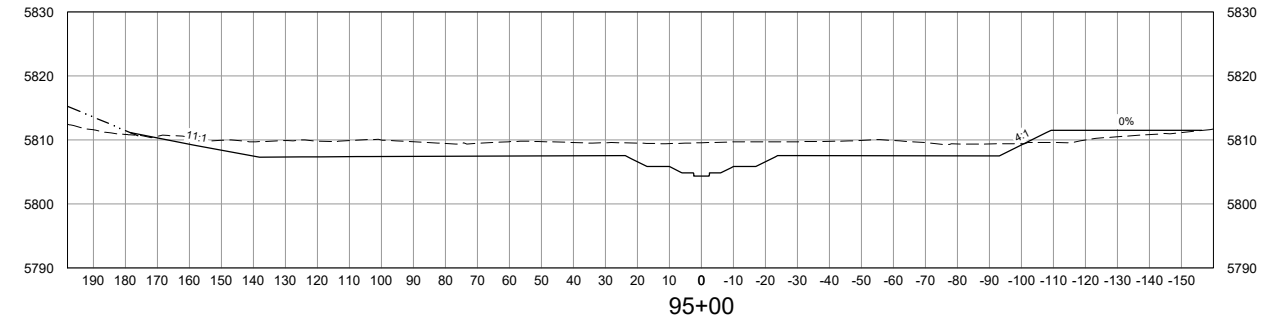
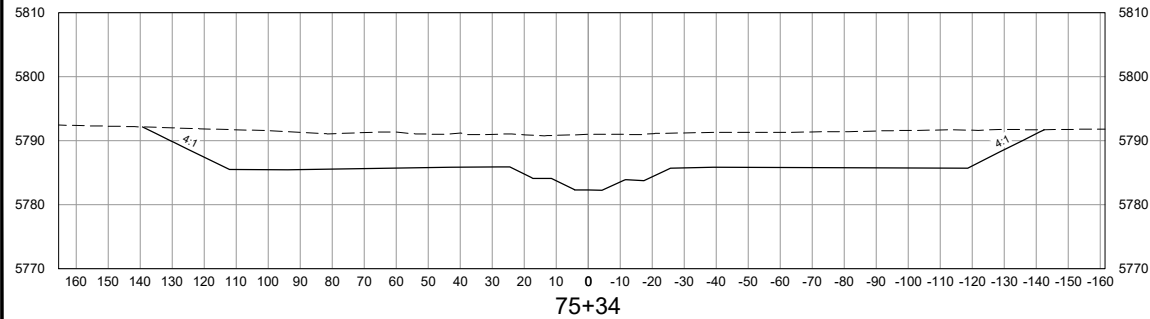
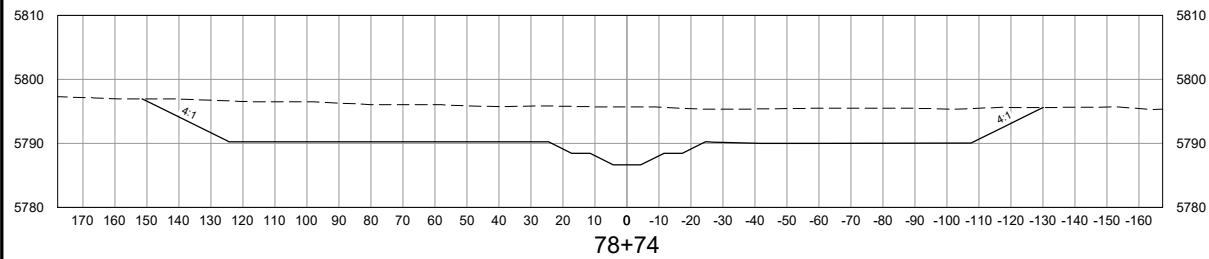
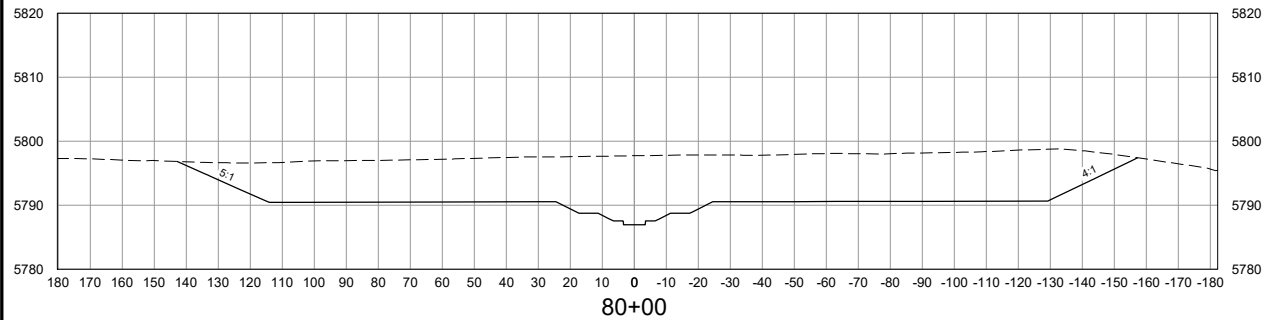
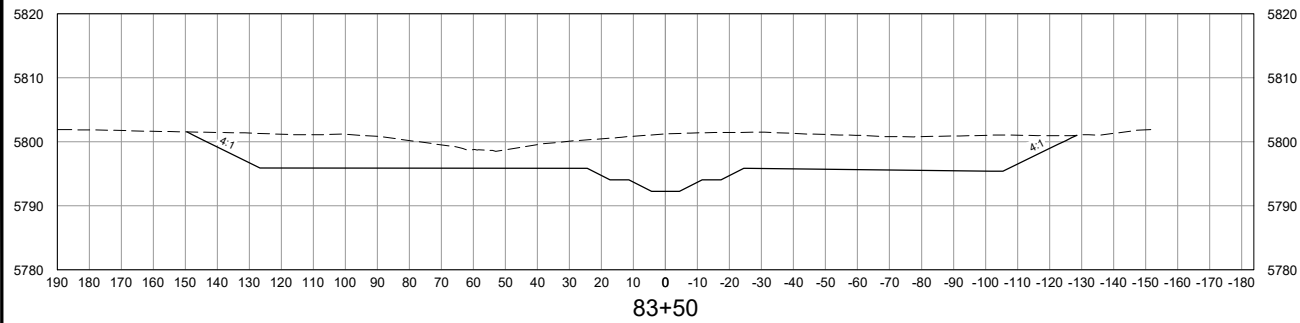
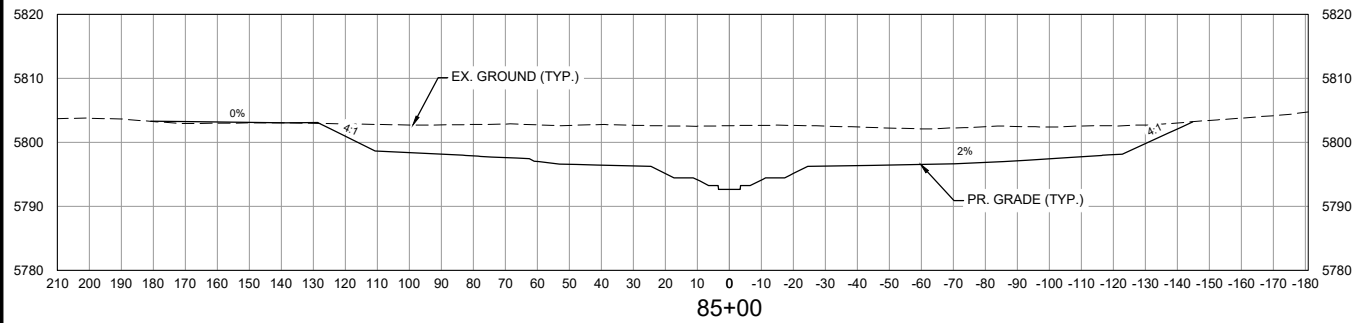
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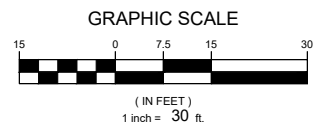
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTIONS STA. 51+78 - 73+00			
DESIGNED BY: TKM	SCALE: 1" = 60'	DATE ISSUED: MARCH 2023	DRAWING No. XS05
CHECKED BY: AJS	HORIZ. 1" = 60'	SHEET 29 OF 47	
	VERT. 1" = 30'		



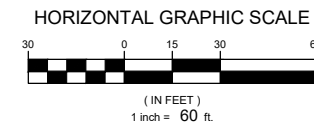
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VERTICAL SCALE: 1" = 30'



HORIZONTAL SCALE: 1" = 60'



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60% DESIGN PLANS

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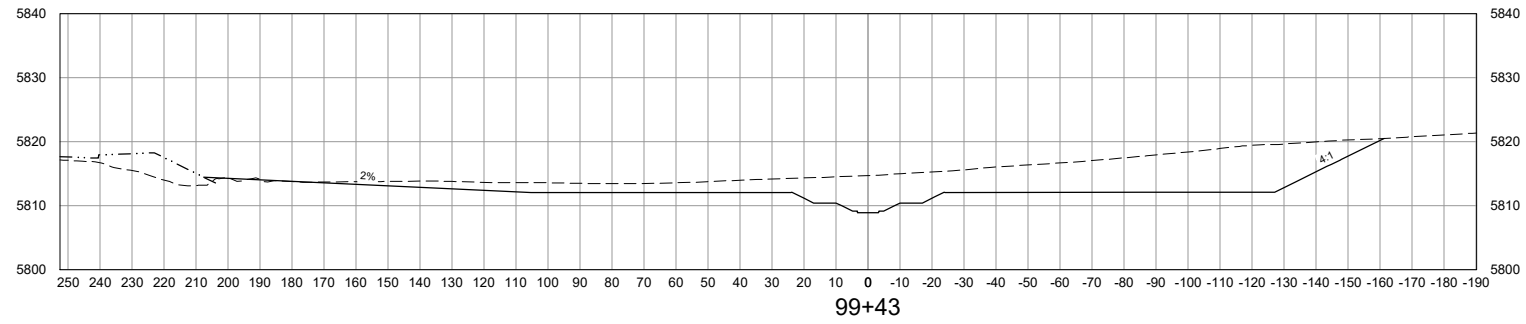
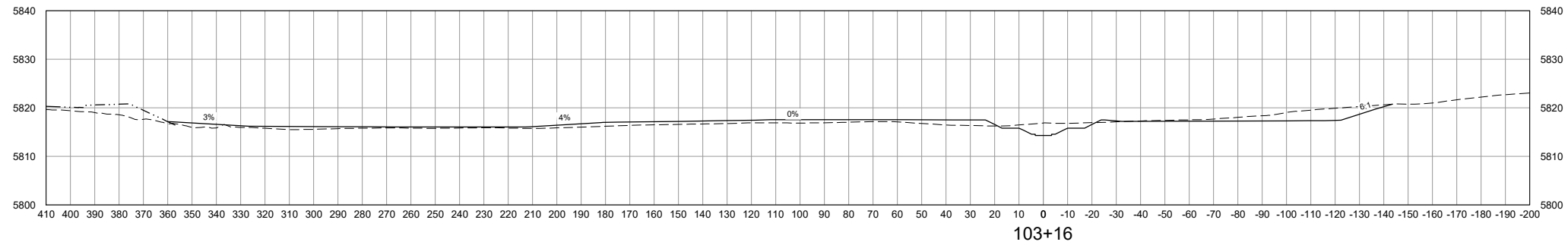
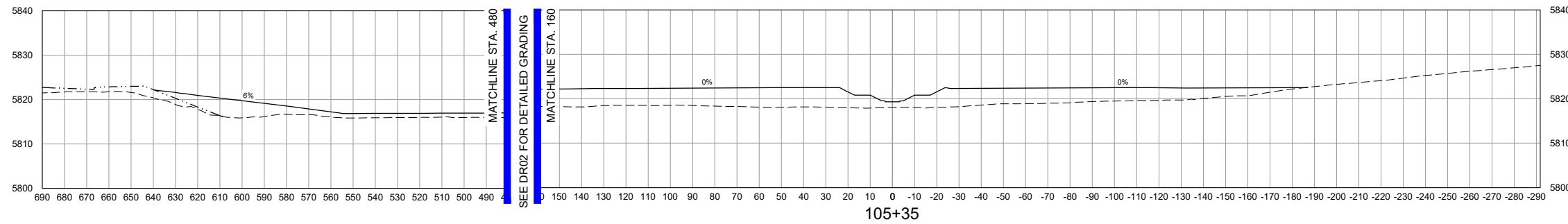
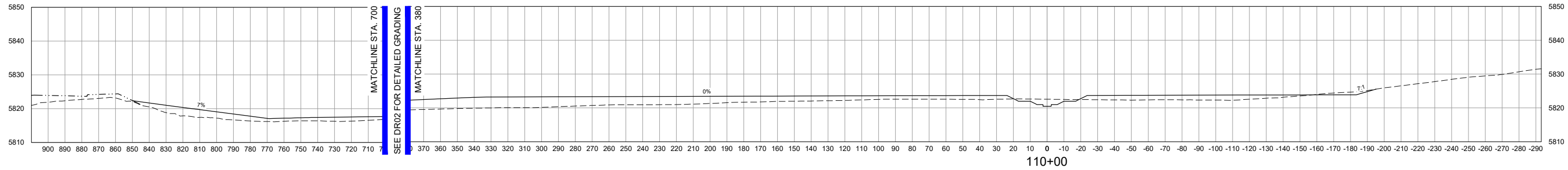
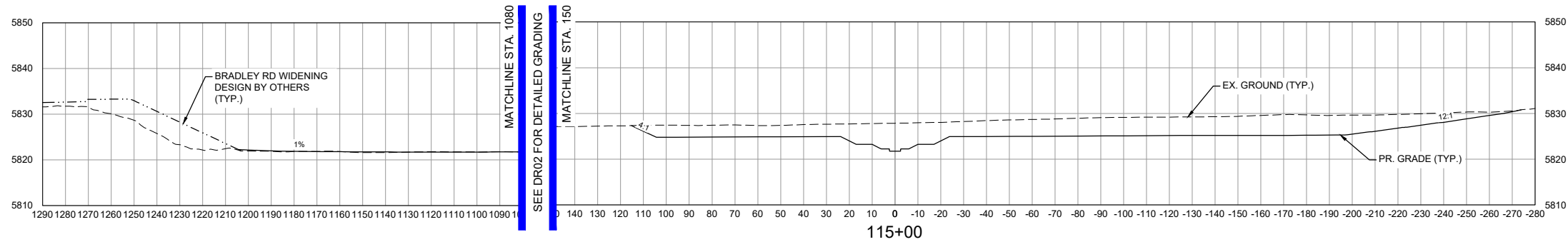


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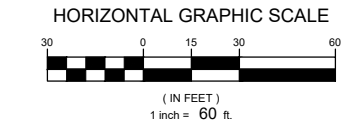
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTIONS STA. 75+34 - 95+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 60'	DATE ISSUED: MARCH 2023	DRAWING No. XS06
CHECKED BY: AJS	VERT. 1" = 30'	SHEET 30 OF 47	



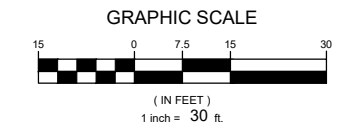
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HORIZONTAL SCALE: 1" = 60'



VERTICAL SCALE: 1" = 30'



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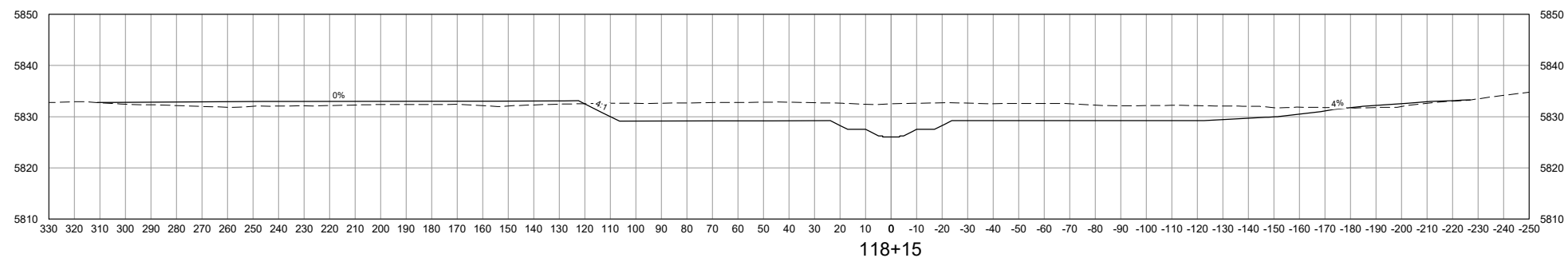
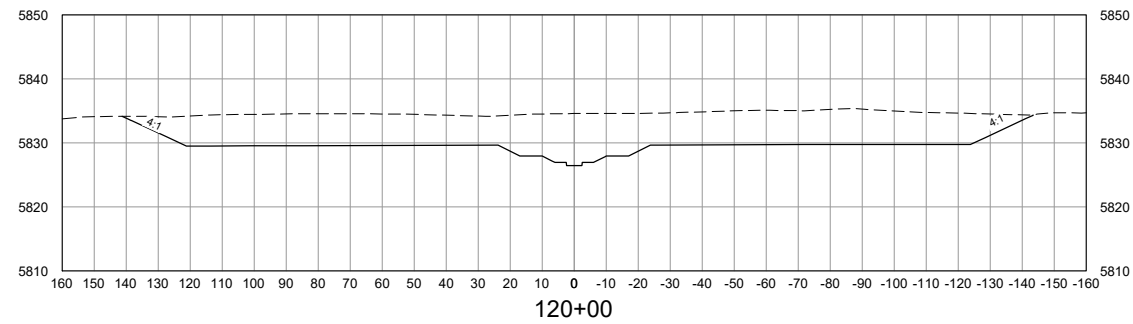
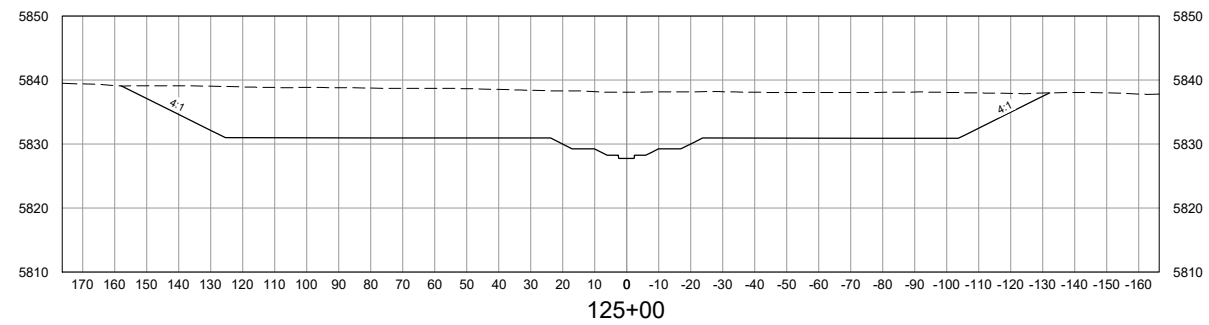
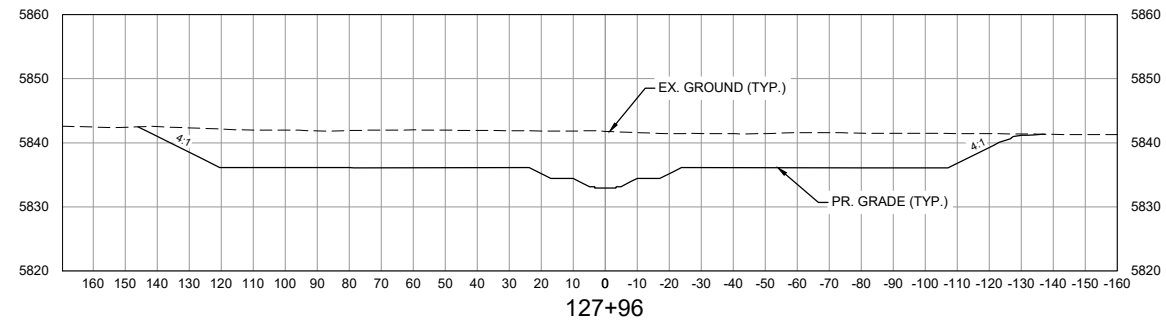
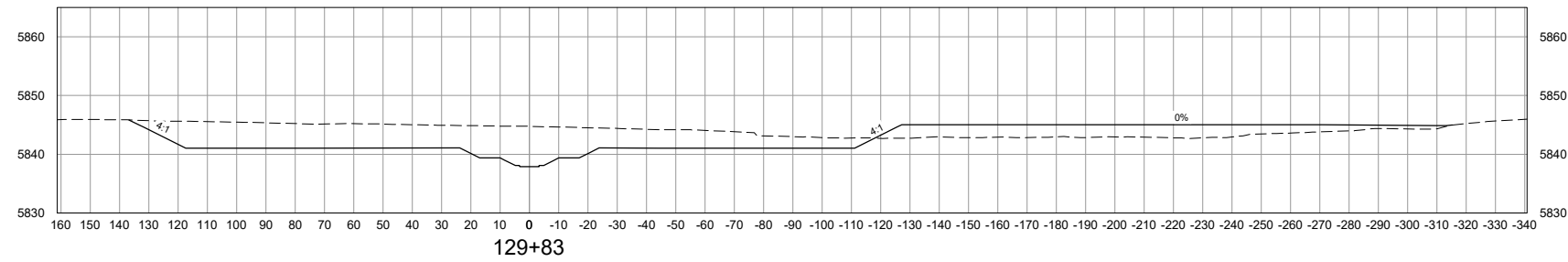
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PROJECT No. 21.1129.009

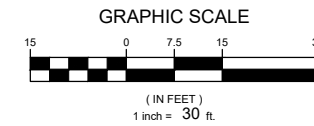
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTIONS STA. 99+42 - 115+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 60'	DATE ISSUED: MARCH 2023	DRAWING No. XS07
CHECKED BY: EAL	VERT. 1" = 30'	SHEET 31 OF 47	



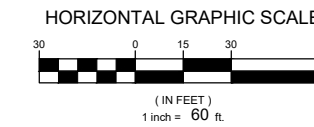
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VERTICAL SCALE: 1" = 30'



HORIZONTAL SCALE: 1" = 60'



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X-1129-PARCELS			
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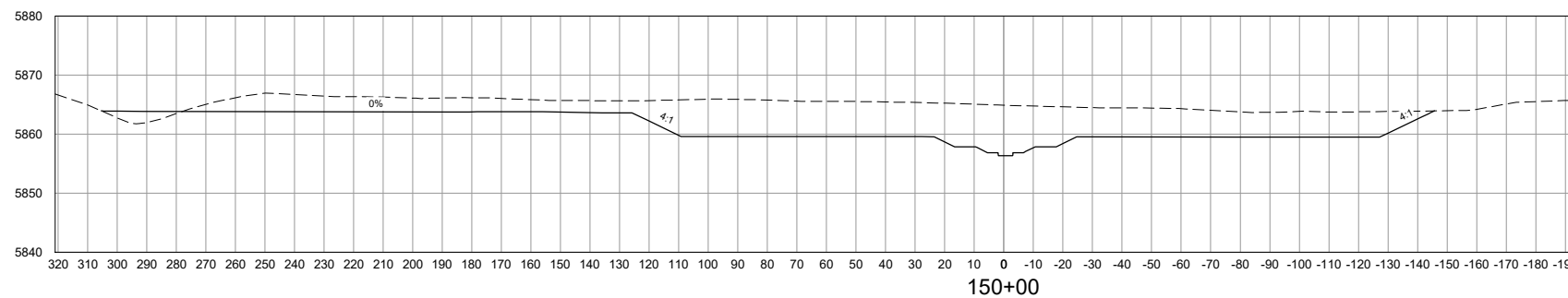
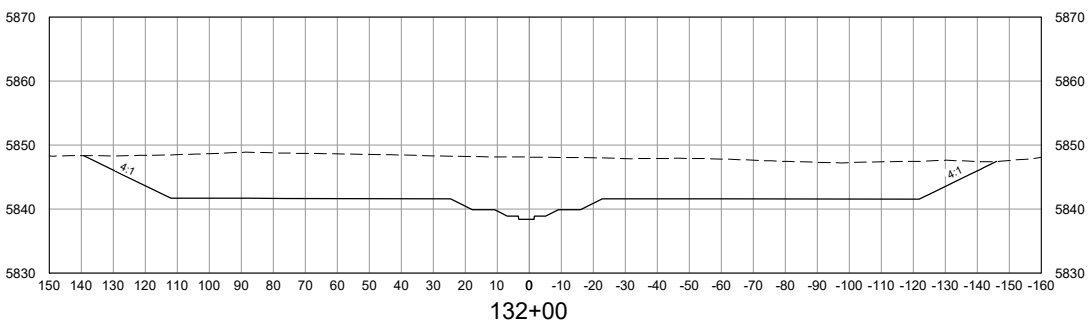
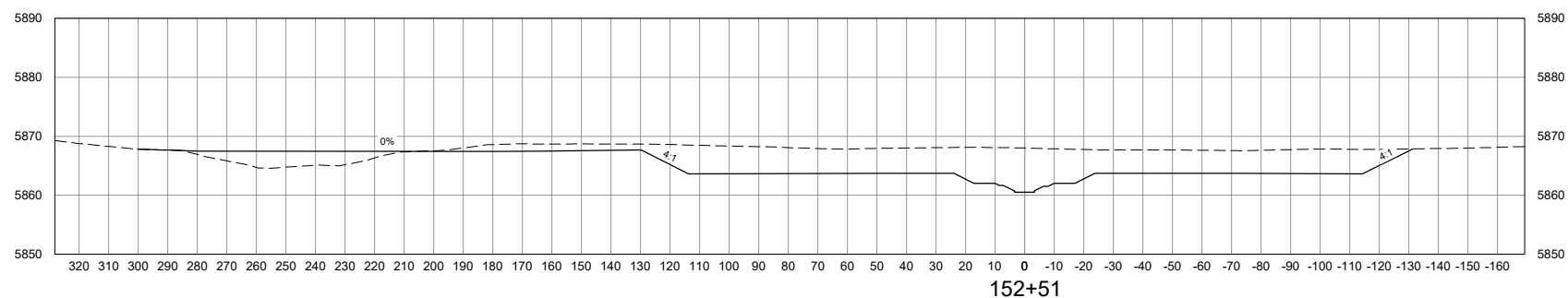
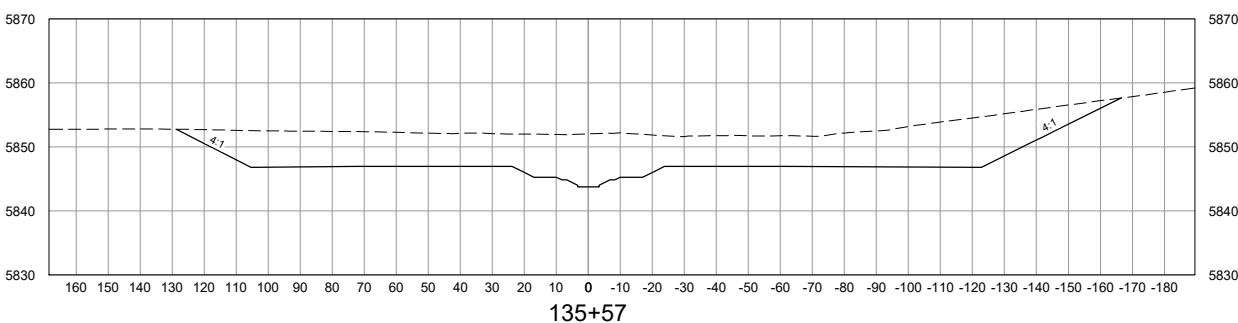
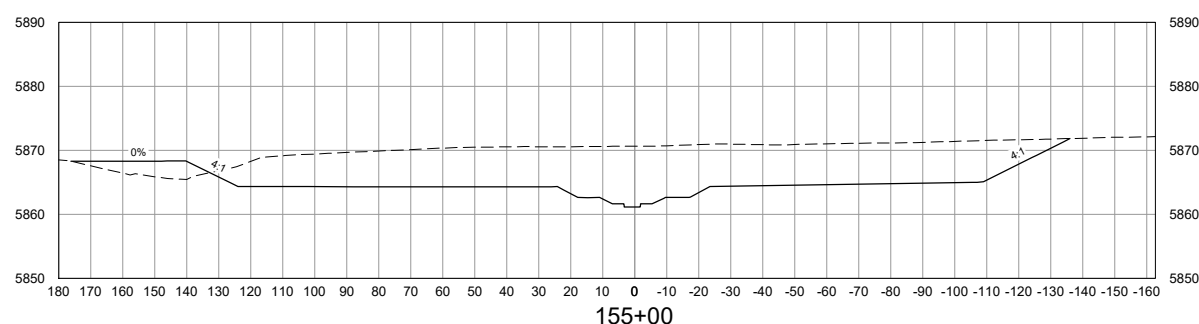
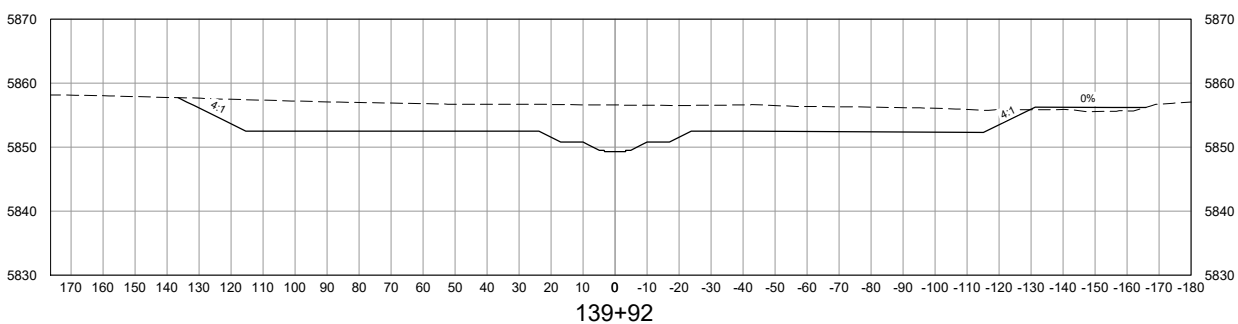
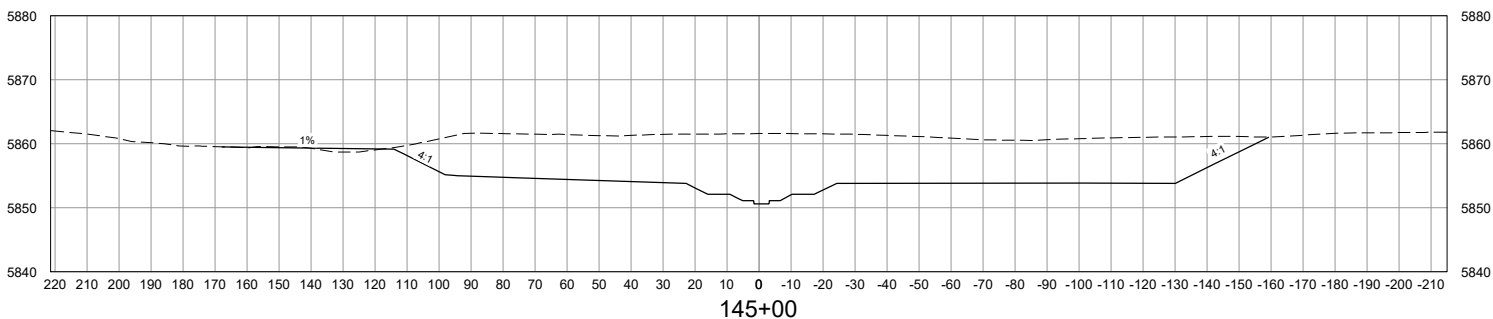
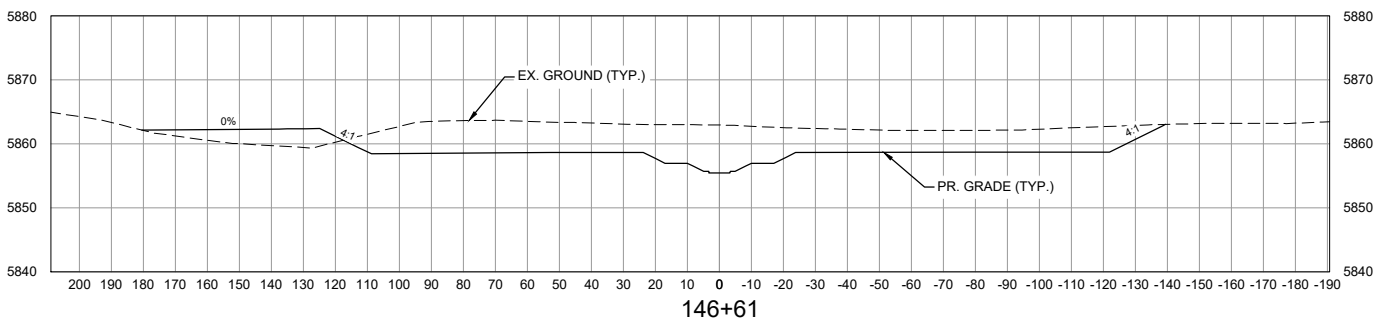
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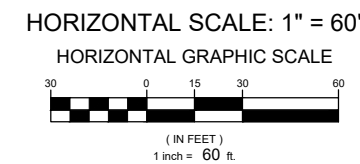
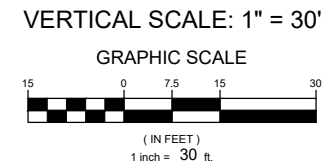
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTIONS STA. 118+14 - 129+82			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 60'	DATE ISSUED: MARCH 2023	DRAWING No. XS08
CHECKED BY: AJS	VERT. 1" = 30'	SHEET 32 OF 47	



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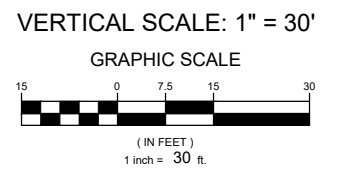
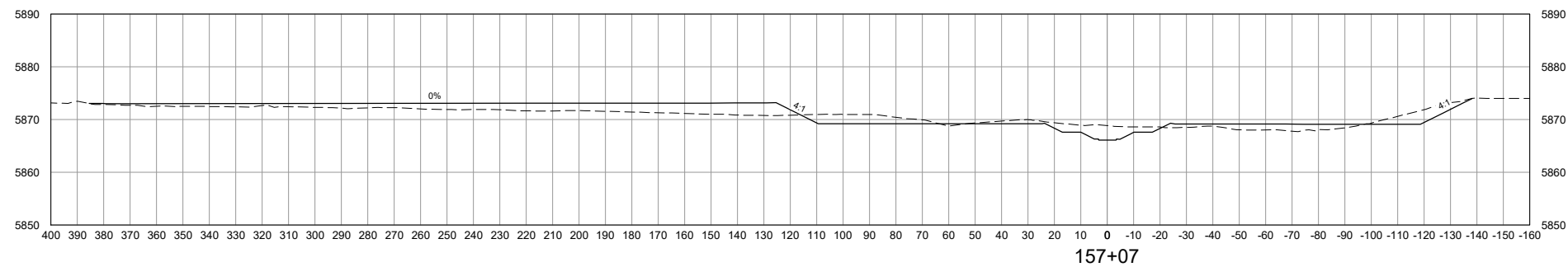
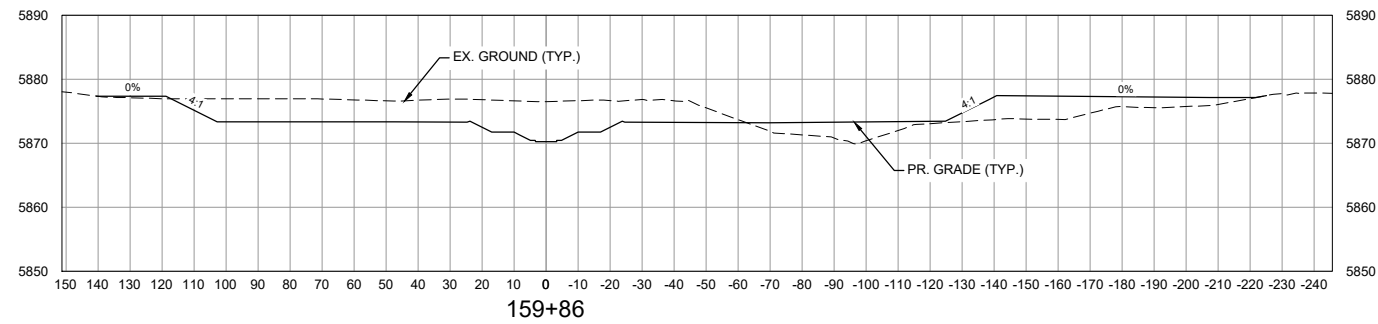
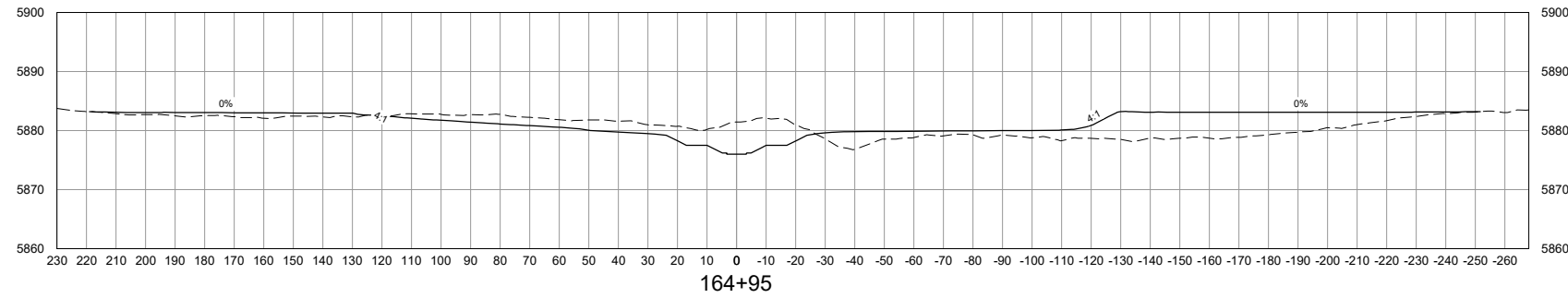
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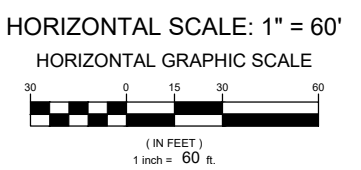
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTIONS STA. 132+00 - 155+00			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 60'	DATE ISSUED: MARCH 2023	DRAWING No. XS09
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X-1129-PARCELS			
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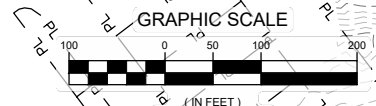
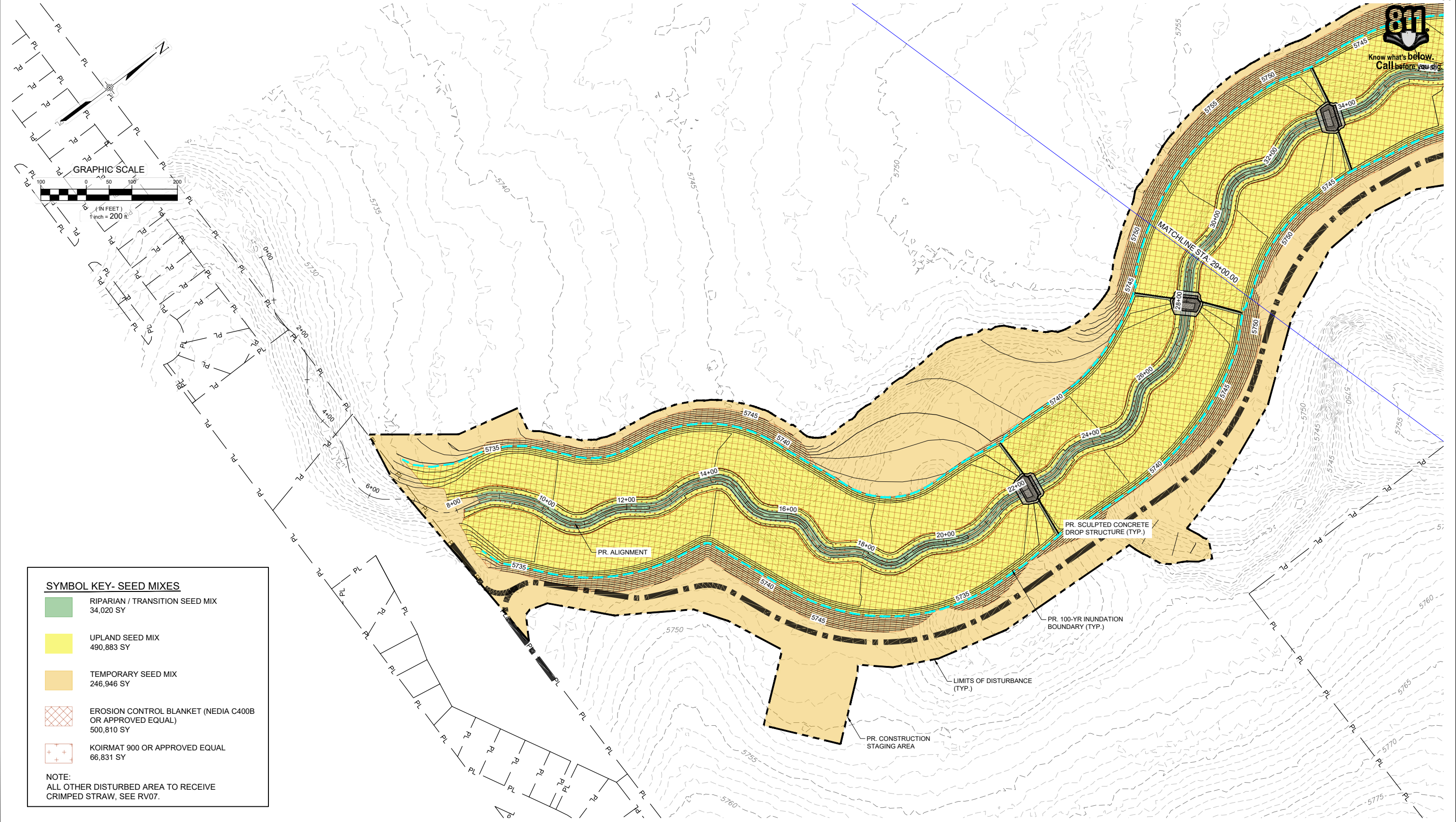
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ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
CROSS SECTIONS STA. 157+06 - 164+94			
DESIGNED BY: TKM	SCALE: HORIZ 1" = 60'	DATE ISSUED: MARCH 2023	DRAWING No. XS10
CHECKED BY: AJS	VERT. 1" = 30'	SHEET 34 OF 47	



SYMBOL KEY- SEED MIXES

	RIPARIAN / TRANSITION SEED MIX 34,020 SY
	UPLAND SEED MIX 490,883 SY
	TEMPORARY SEED MIX 246,946 SY
	EROSION CONTROL BLANKET (NEDIA C400B OR APPROVED EQUAL) 500,810 SY
	KOIRMAT 900 OR APPROVED EQUAL 66,831 SY

NOTE:
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X-1129-PR STRUCT				
X-1129-PARCELS				
X-1129-PR-REV06				

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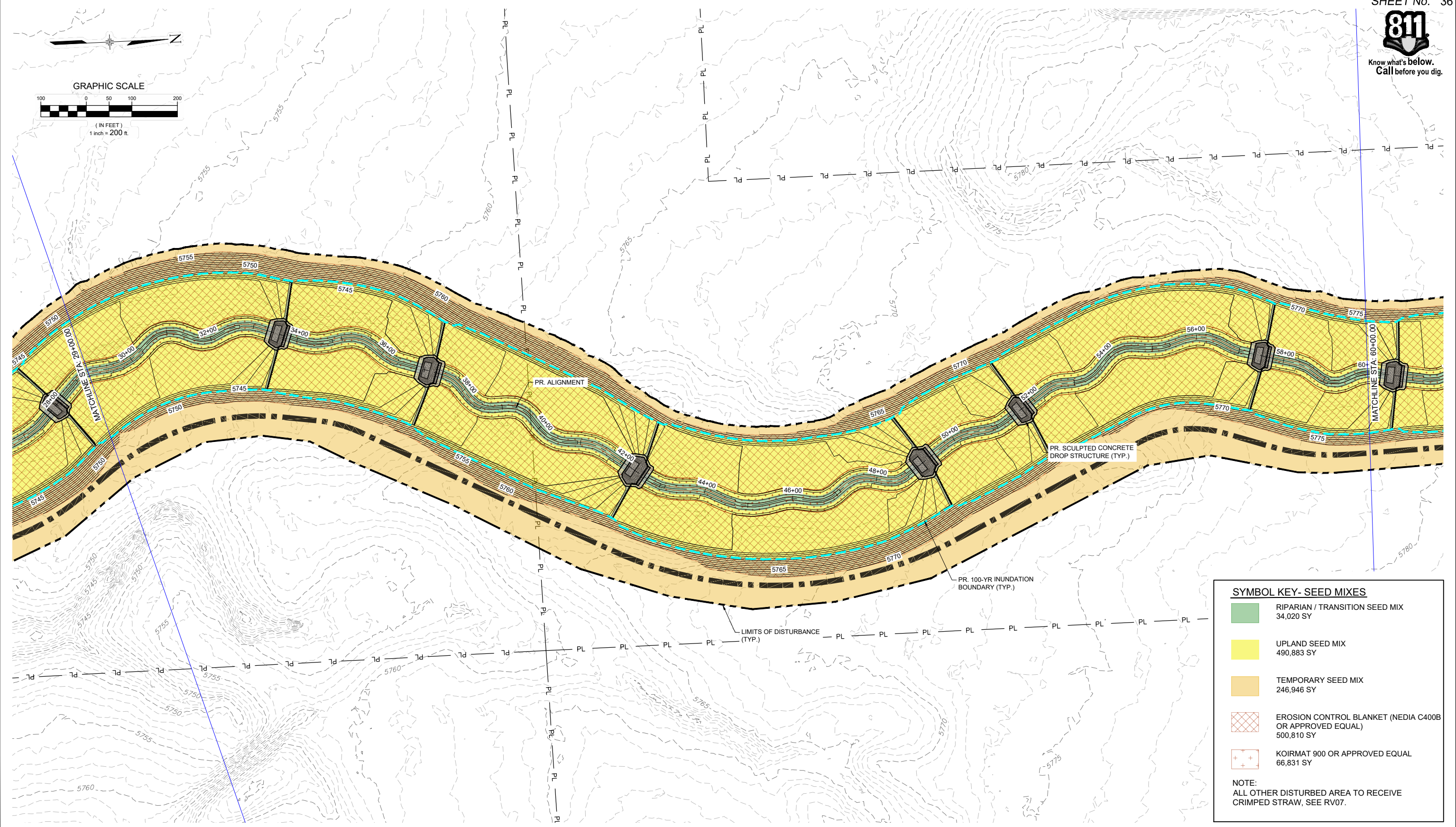
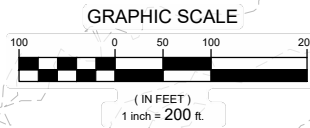
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		<p>ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS</p>	
<p>DESIGNED BY: EEG DRAWN BY: EAL CHECKED BY: AJS</p>		<p>REVEGETATION PLAN STA. 7+00 - 29+00</p>	
		<p>SCALE: HORIZ 1" = 200' VERT. N/A</p> <p>DATE ISSUED: MARCH 2023 SHEET 35 OF 47</p> <p>DRAWING No. RV01</p>	



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SYMBOL KEY - SEED MIXES

	RIPARIAN / TRANSITION SEED MIX 34,020 SY
	UPLAND SEED MIX 490,883 SY
	TEMPORARY SEED MIX 246,946 SY
	EROSION CONTROL BLANKET (NEDIA C400B OR APPROVED EQUAL) 500,810 SY
	KOIRMAT 900 OR APPROVED EQUAL 66,831 SY

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FOR AND ON BEHALF OF
MATRIX DESIGN GROUP, INC.
PROJECT No. 21.1129.009

THE LANDHUIS COMPANY

ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

REVEGETATION PLAN
STA. 29+00 - 60+00

DESIGNED BY: EEG	SCALE: HORIZ 1" = 200'	DATE ISSUED: MARCH 2023	DRAWING No. RV02
CHECKED BY: EAL	VERT. N/A	SHEET 36 OF 47	

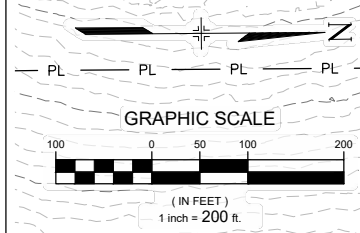
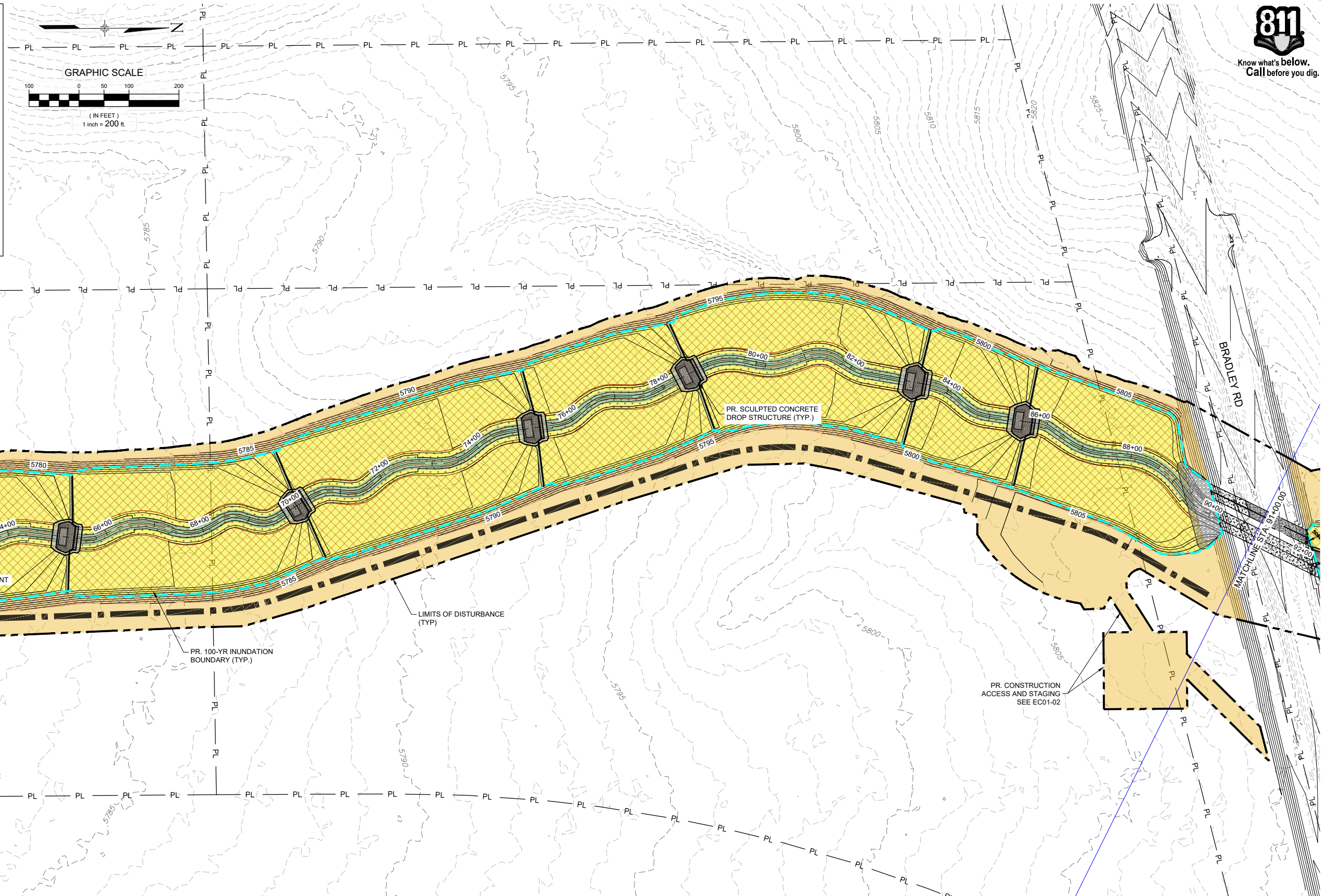


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SYMBOL KEY- SEED MIXES

- RIPARIAN / TRANSITION SEED MIX
34,020 SY
- UPLAND SEED MIX
490,883 SY
- TEMPORARY SEED MIX
246,946 SY
- EROSION CONTROL BLANKET (NEDIA C400B OR APPROVED EQUAL)
500,810 SY
- KOIRMAT 900 OR APPROVED EQUAL
66,831 SY

NOTE:
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THE LANDHUIS COMPANY

ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

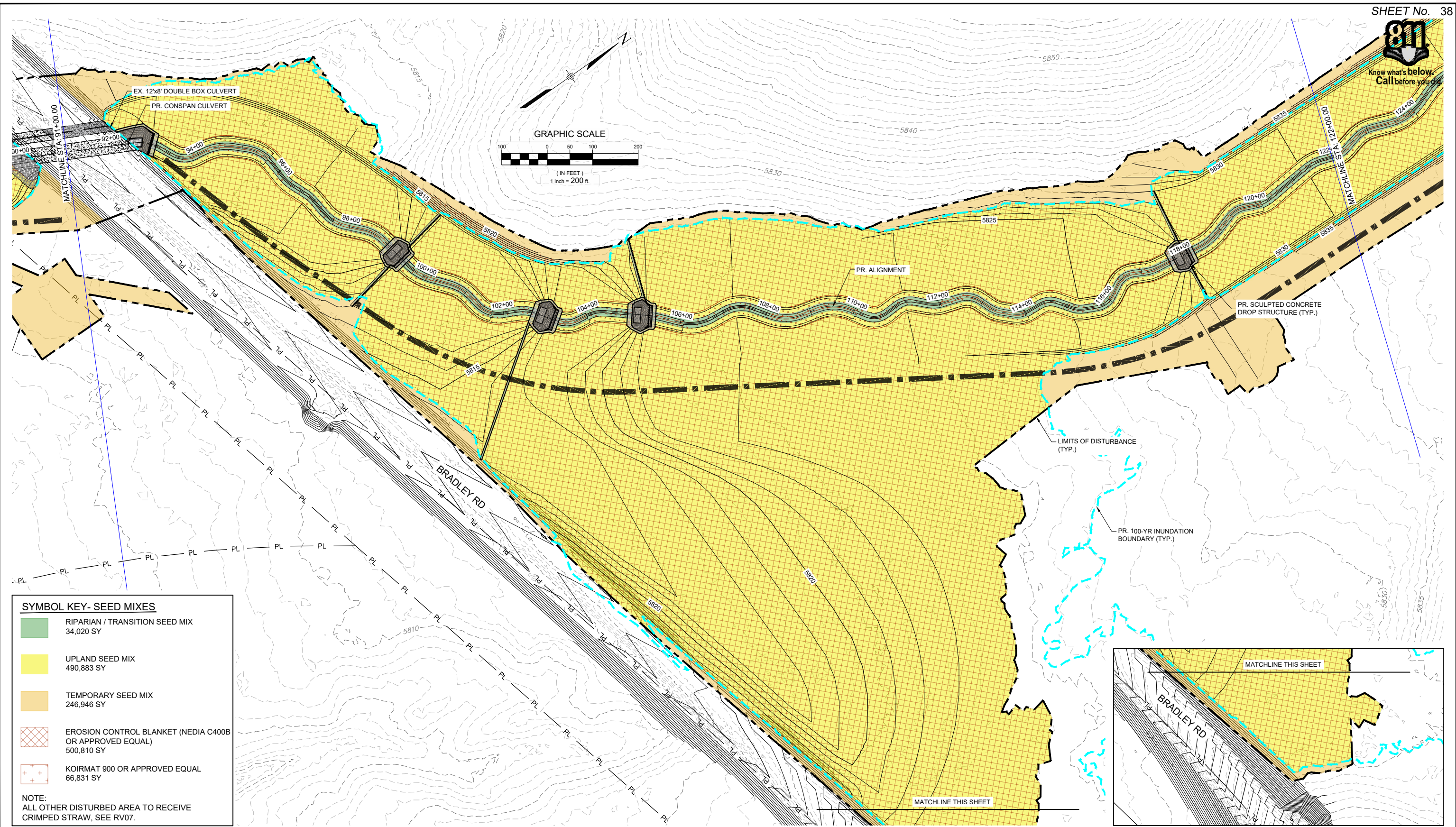
REVEGETATION PLAN
STA. 60+00 - 91+00

DESIGNED BY: EEG	SCALE: HORIZ 1" = 200'	DATE ISSUED: MARCH 2023	DRAWING No.:
CHECKED BY: EAL	VERT. N/A	SHEET: 37 OF 47	RV03

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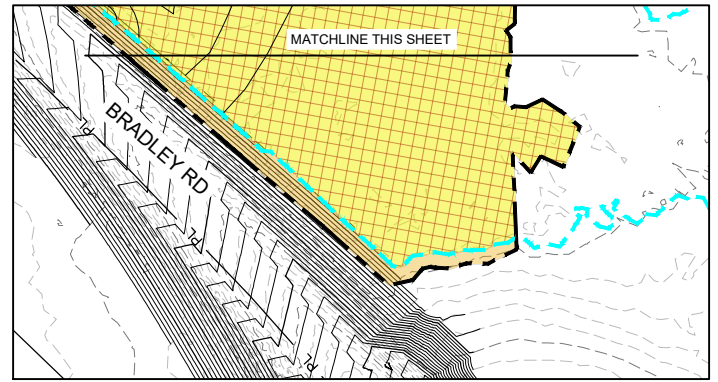
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SYMBOL KEY- SEED MIXES

	RIPARIAN / TRANSITION SEED MIX 34,020 SY
	UPLAND SEED MIX 490,883 SY
	TEMPORARY SEED MIX 246,946 SY
	EROSION CONTROL BLANKET (NEDIA C400B OR APPROVED EQUAL) 500,810 SY
	KOIRMAT 900 OR APPROVED EQUAL 66,831 SY

NOTE:
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REFERENCE DRAWINGS			
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X-1129-PR STRUCT			
X-1129-PARCELS			
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THE LANDHUIS COMPANY

PREPARED BY:

Matrix
Excellence by Design

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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
REVEGETATION PLAN STA. 91+00 - 122+00			
DESIGNED BY: EEG	SCALE: HORIZ 1" = 200'	DATE ISSUED: MARCH 2023	DRAWING No. RV04
CHECKED BY: AJS	VERT. N/A	SHEET 38 OF 47	

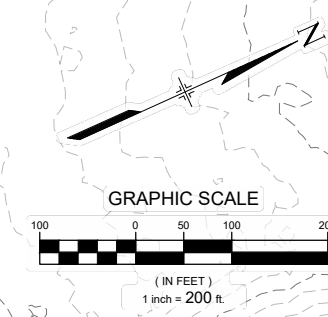
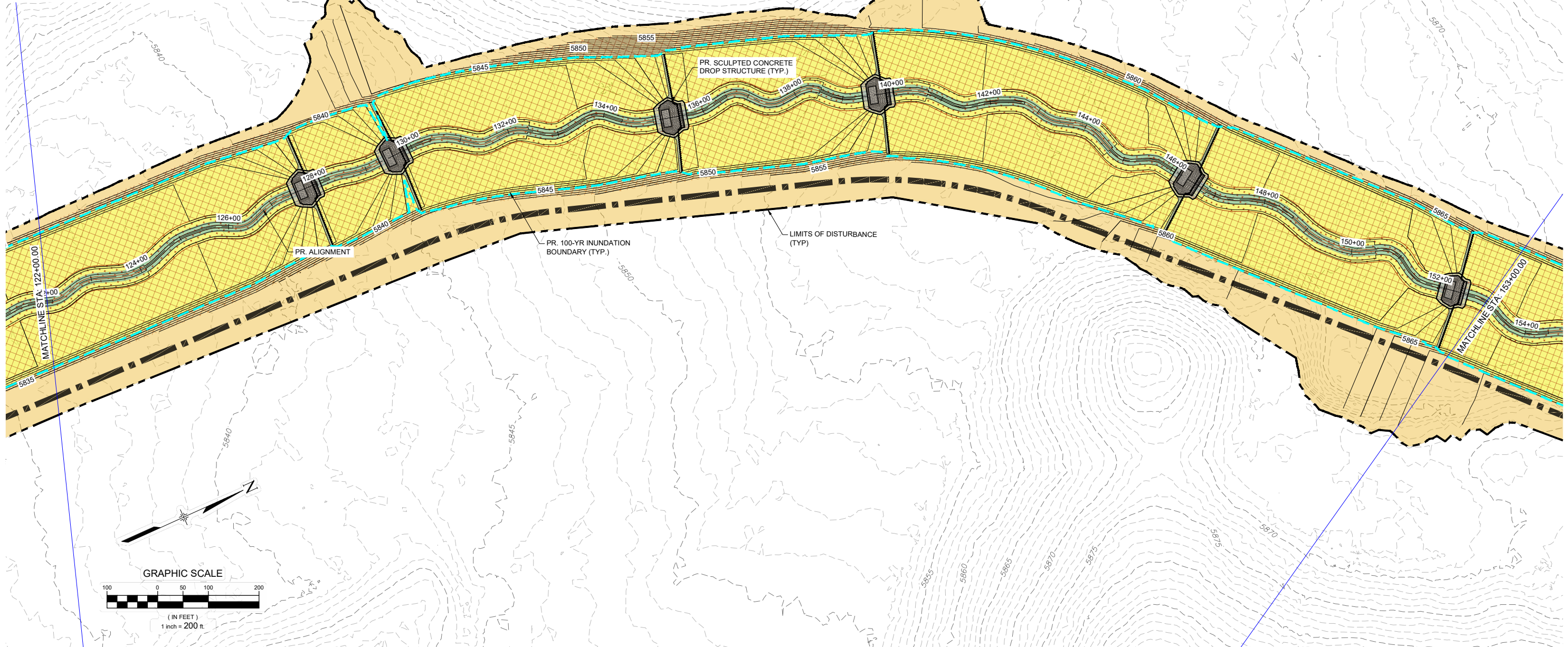


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SYMBOL KEY- SEED MIXES

	RIPARIAN / TRANSITION SEED MIX 34,020 SY
	UPLAND SEED MIX 490,883 SY
	TEMPORARY SEED MIX 246,946 SY
	EROSION CONTROL BLANKET (NEDIA C400B OR APPROVED EQUAL) 500,810 SY
	KOIRMAT 900 OR APPROVED EQUAL 66,831 SY

NOTE:
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REFERENCE DRAWINGS			
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X-1129-PR STRUCT			
X-1129-PARCELS			
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60% DESIGN PLANS

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THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
REVEGETATION PLAN STA. 122+00 - 153+00			
DESIGNED BY: EEG	SCALE: 1" = 200'	DATE ISSUED: MARCH 2023	DRAWING No. RV05
CHECKED BY: EAL	HORIZ: 1" = 200'	SHEET: 39 OF 47	
	VERT: N/A		



Know what's below.
Call before you dig.

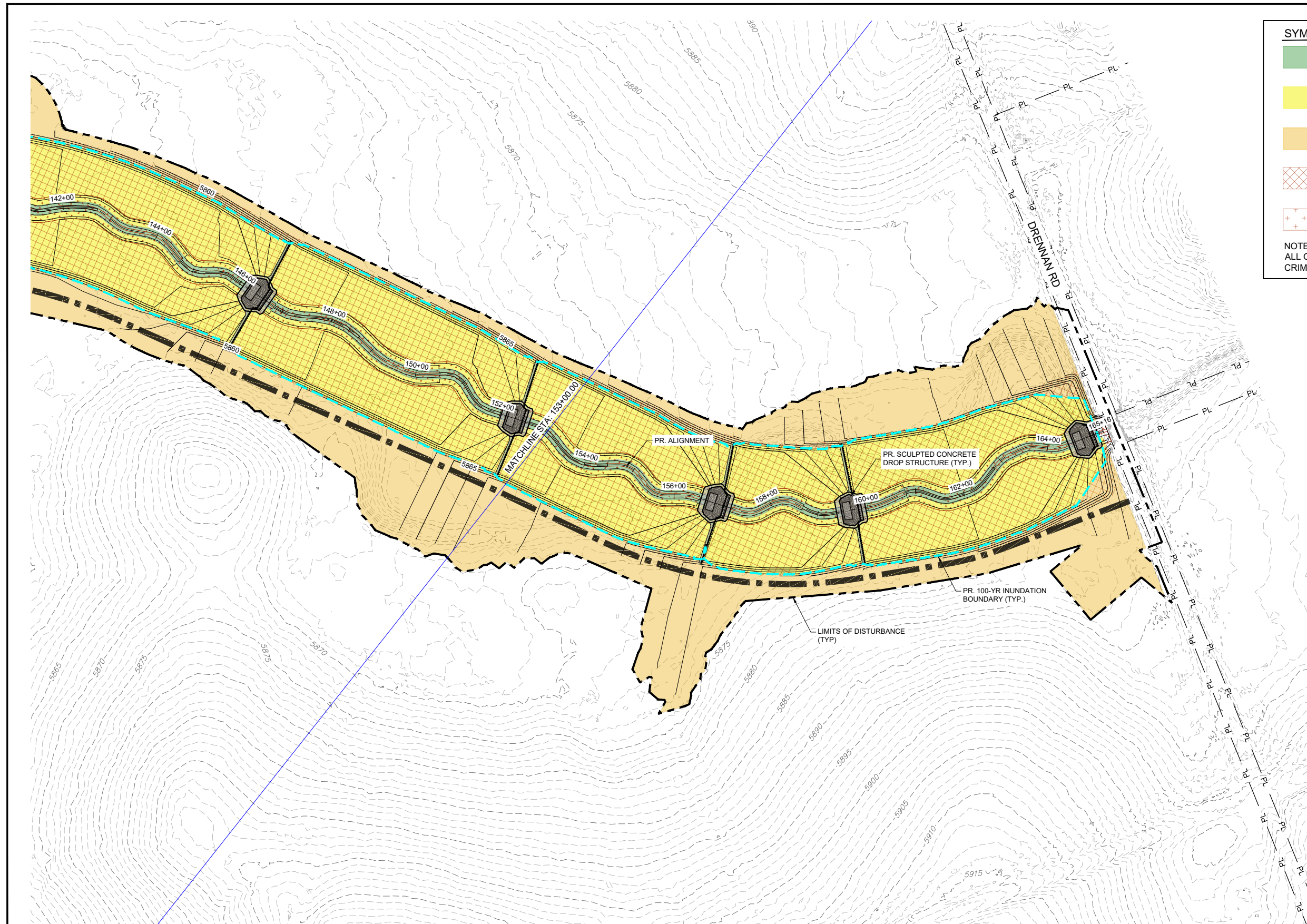
SYMBOL KEY- SEED MIXES

- RIPARIAN / TRANSITION SEED MIX
34,020 SY
- UPLAND SEED MIX
490,883 SY
- TEMPORARY SEED MIX
246,946 SY
- EROSION CONTROL BLANKET (NEDIA C400B OR APPROVED EQUAL)
500,810 SY
- KOIRMAT 900 OR APPROVED EQUAL
66,831 SY

NOTE:
ALL OTHER DISTURBED AREA TO RECEIVE CRIMPED STRAW, SEE RV07.

GRAPHIC SCALE

(IN FEET)
1 inch = 200 ft.



REFERENCE DRAWINGS			
X-1129-MDG22x34			
X-1129-PR STRUCT			
X-1129-PARCELS			
X-1129-PR-REVEG			
No.	DATE	DESCRIPTION REVISIONS	BY
COMPUTER FILE MANAGEMENT			
FILE NAME: S:\21.1129.009 rolling hills floodplain and permitting\DWG\design plans\1129.009-RV01-03.dwg			
CTB FILE: Matrix(black).ctb			
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THE LANDHUIS COMPANY

ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

REVEGETATION PLAN
STA. 153+00 - 165+16

DESIGNED BY: EEG	SCALE: HORIZ 1" = 200'	DATE ISSUED: MARCH 2023	DRAWING No.:
CHECKED BY: AJS	VERT. N/A	SHEET 40 OF 47	RV06



Know what's below.
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Riparian Transition Seed Mix						
Scientific Name	Variety	Common Name	PLS lbs/ac	% of Seed Mix by Wgt	PLS/sq ft	% of PLS/sq ft
Graminoids						
<i>Andropogon gerardi</i>	vns.	big bluestem	2.00	5	7	4
<i>Bouteloua gracilis</i>	CO Native	blue grama	1.00	3	17	10
<i>Distichlis spicata</i>	vns.	inland saltgrass	0.60	2	7	4
<i>Juncus balticus</i>	vns.	Baltic rush	0.12	0	8	5
<i>Koeleria macrantha</i>	vns.	prairie junegrass	0.10	0	5	3
<i>Nassella viridula</i>	vns.	green needlegrass	4.00	10	15	10
<i>Schizachyrium scoparium</i>	Cimarron	little bluestem	1.20	3	5	3
<i>Sporobolus airoides</i>	vns.	alkali sacaton	0.15	0	6	4
<i>Sporobolus cryptandrus</i>	vns.	sand dropseed	0.12	0	15	10
<i>Panicum obtusum</i>	vns.	vine mesquite	5.00	13	17	10
<i>Paspopyron smithii</i>	Arriba	western wheatgrass	5.00	13	15	10
<i>Panicum virgatum</i>	Blackwell	switchgrass	2.00	5	12	7
Graminoid Total			21.29	55	130	81
Forbs						
<i>Asclepias speciosa</i>	vns.	showy milkweed	4	10	7	4
<i>Helianthus annuus</i>	vns.	common sunflower	2.00	5	2	1
<i>Echinacea moench</i>	vns.	purple coneflower	1.50	4	5	3
<i>Liatris punctata</i>	vns.	dotted blazing star	4.00	10	6	4
<i>Monarda fistulosa</i>	vns.	wild bergamot	0.20	1	6	4
<i>Vicia americana</i>	vns.	American vetch	5.50	14	4	3
Forb Total			17.20	45	30	19
Total			38.49	100	160	100

*var. = variety; vns. = variety not specified

Upland Seed Mix						
Scientific Name	Variety	Common Name	PLS lbs/ac	% of Seed Mix by Wgt	PLS/sq ft	% of PLS/sq ft
Graminoids						
<i>Acantharum hymenoides</i>	Paloma	Indian ricegrass	1.50	4	6	4
<i>Bouteloua curtipendula</i>	vns.	sideoats grama	2.00	6	7	5
<i>Bouteloua gracilis</i>	CO Native	blue grama	1.50	4	25	17
<i>Paspopyron smithii</i>	Arriba	western wheatgrass	5.00	15	15	10
<i>Schizachyrium scoparium</i>	Cimarron	little bluestem	1.80	5	8	5
<i>Hesperostipa comata</i>	vns.	needle and thread	2.75	8	9	6
<i>Andropogon gerardi</i>	vns.	big bluestem	2.00	6	7	4
<i>Nassella viridula</i>	vns.	green needlegrass	3.50	10	13	9
<i>Andropogon hallii</i>	vns.	sand bluestem	6.00	18	13	9
<i>Pleuraphis jamesii</i>	Viva	James' galleta	2.00	6	7	5
<i>Bouteloua dactyloides</i>	vns.	buffalograss	1.00	3	8	5
Graminoid Total			29.05	86	118	80
Forbs and Sub-Shrubs						
<i>Artemisia ludoviciana</i>	vns.	white sagebrush	0.05	0	5	3
<i>Dalea purpurea var. purpurea</i>	Kaneb	purple prairie clover	0.50	1	4	2
<i>Gaillardia aristata</i>	vns.	blanketflower	1.50	4	5	3
<i>Heterotheca villosa</i>	vns.	hairy false goldenaster	0.50	1	6	4
<i>Rudbeckia laciniata</i>	vns.	cutleaf coneflower	1.00	3	6	4
<i>Helianthus maximiliani</i>	vns.	Maximilian sunflower	1.20	4	5	4
Forb and Sub-Shrub Total			4.75	14	30	20
Total			33.80	100	148	100

*var. = variety; vns. = variety not specified

Shrub Overseed Mix						
Scientific Name	Variety	Common Name	PLS lbs/ac	% by Wgt	PLS/sq ft	% of PLS/sq ft
Shrubs						
<i>Amorpha canescens</i>	vns.	leadplant	0.50	1	2	15
<i>Atriplex canescens</i>	vns.	fourwing saltbush	3.00	8	3	20
<i>Ericameria nauseosa</i>	vns.	rubber rabbitbrush	0.20	1	2	12
<i>Krascheninnikovia lanata</i>	vns.	winterfat	2.5	7	6	42
<i>Prunus pumila</i>	vns.	western sandcherry	30	83	2	11
Total			36.20	100	15	100

*var. = variety; vns. = variety not specified

Temporary Seed Mix						
Scientific Name	Variety	Common Name	PLS lbs/ac	% by Weight	PLS/sq ft	% of PLS/sq ft
Graminoids						
<i>Acantharum hymenoides</i>	Paloma	Indian ricegrass	2.00	6	7	6
<i>Elymus trachycaulus</i>	Pryor	slender wheatgrass	8.00	24	29	25
<i>Bouteloua gracilis</i>	CO Native	blue grama	1.50	4	25	21
<i>Paspopyron smithii</i>	Arriba	western wheatgrass	8.00	24	24	21
<i>Elymus canadensis</i>	vns.	Canada wildrye	8.00	24	21	18
<i>Bouteloua dactyloides</i>	vns.	buffalograss	1.50	4	12	10
Total			29.00	86	119	100

*var. = variety; vns. = variety not specified

REVEGETATION NOTES:

- ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE FREE OF NOXIOUS SPECIES, UNDESIRABLE SPECIES AS DEFINED IN THE SEEDING SPECIFICATION, AND AGGRESSIVE NON-NATIVE SPECIES INCLUDING BUT NOT LIMITED TO CHEATGRASS, KOCHIA, SMOOTH BROME, AND RUSSIAN THISTLE.
- ALL MATERIALS SHALL BE FURNISHED IN ORIGINAL MANUFACTURER'S SHIPPING BAGS OR CONTAINERS AND REMAIN IN THESE BAGS OR CONTAINERS UNTIL THEY ARE USED. ALL MATERIALS SHALL BE STORED IN A MANNER THAT WILL PREVENT THEM FROM COMING INTO CONTACT WITH PRECIPITATION, SURFACE WATER, OR ANY OTHER CONTAMINATING SUBSTANCE. ANY MATERIALS THAT HAVE BECOME WET, MOLDY, OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE SHALL NOT BE USED.
- AFTER ROUGH GRADING HAS BEEN COMPLETED, A MINIMUM OF 2 COMPOSITE SOIL SAMPLES, 1 FROM THE SEED MIX AREA SUBSOILS AND 1 FROM THE TOPSOIL STOCKPILE, SHALL BE COLLECTED FROM THE PROJECT AREA AND SUBMITTED FOR SOIL FERTILITY AND TEXTURE TESTING PRIOR TO APPLICATION OF SOIL CONDITIONER, SEEDING, OR PLANTING. A COMPOSITE SAMPLE IS COMPRISED OF AT LEAST 4 INDIVIDUAL GRAB SAMPLES CAPTURING THE TOP 6 INCHES OF SOIL. EXACT LOCATIONS OF SAMPLES TO BE DETERMINED BY THE PROJECT ECOLOGIST / LANDSCAPE ARCHITECT. A RECOMMENDED SOIL CONDITIONING AMENDMENT AND APPLICATION RATE SHALL BE DETERMINED BASED ON THE SOIL TEST RESULTS. NO SOIL CONDITIONING, SEEDING, OR PLANTING SHALL OCCUR PRIOR TO SOIL TEST AND UNTIL A SOIL CONDITIONING AMENDMENT IS ACCEPTED.

TOPSOIL:

- IF THE SOIL FERTILITY TESTING INDICATES NATIVE TOPSOIL MEETS THE MINIMUM SPECIFICATIONS, NATIVE MATERIAL MAY BE REUSED UNAMENDED AS DETERMINED BY THE PROJECT ECOLOGIST / LANDSCAPE ARCHITECT. IF SOIL FERTILITY TESTING INDICATES NATIVE TOPSOIL DOES NOT MEET MINIMUM SPECIFICATIONS, THE PROJECT ECOLOGIST / LANDSCAPE ARCHITECT SHALL CONFIRM THE REQUIRED APPLICATION RATE OF COMPOST AMENDMENT OR SOIL CONDITIONER PER THE CONSTRUCTION DOCUMENTS AS NECESSARY TO MEET THE MINIMUM SPECIFICATIONS.
- WITHIN THE PROJECT AREA, ANY AREAS WITH ADEQUATE TOPSOIL SHALL BE SALVAGED AND STOCKPILED FOR REUSE.
- TOPSOIL SHALL BE PLACED TO A MINIMUM DEPTH OF 6 INCHES ON ALL DISTURBED AREAS. WHERE SOIL AMENDMENT IS REQUIRED, IT SHALL BE EVENLY DISTRIBUTED AND TILLED TO A DEPTH OF 12 INCHES MINIMUM OR AS SPECIFIED BY THE PRODUCT MANUFACTURER INSTRUCTIONS. IF DEPTH IS NOT POSSIBLE, NOTIFY PROJECT ENGINEER IMMEDIATELY. RECOMMENDATIONS OR MODIFICATIONS TO DEPTH OF TOPSOIL SHALL BE DETERMINED BY THE PROJECT ECOLOGIST / LANDSCAPE ARCHITECT BASED ON THE SOIL TEST RESULTS. NO SOIL CONDITIONING, SEEDING, OR PLANTING SHALL OCCUR PRIOR TO SOIL TEST AND UNTIL TOPSOIL TESTING IS ACCEPTED.
- HUMATE SOIL CONDITIONER WILL BE APPLIED AT A RATE OF 250 POUNDS PER ACRE AND SHALL BE TOPICALLY APPLIED OR AS SPECIFIED BY THE PRODUCT MANUFACTURER INSTRUCTIONS.

SOIL AMENDMENT:

- FOR BIDDING PURPOSES, IT IS ASSUMED ALL SEEDING AREAS OUTSIDE OF 10 FEET FROM THE ACTIVE WATERWAY SHALL BE AMENDED WITH 3 CUBIC YARDS OF ORGANIC, WEED FREE, CLASS A COMPOST PER 1,000 S.F AND ALL SEEDING AREAS, INCLUDING ALONG THE ACTIVE WATERWAY, SHALL BE AMENDED WITH HUMATE SOIL CONDITIONER THAT SHALL BE APPLIED AT A RATE OF 250 POUNDS PER ACRE. FINAL COMPOST AMENDMENT AND SOIL CONDITIONER APPLICATION RATES SHALL BE CONFIRMED BY THE PROJECT ECOLOGIST / LANDSCAPE ARCHITECT FROM THE RESULTS OF THE SOIL FERTILITY TESTS.
- SOIL AMENDMENTS
COMPOST: COMPOST SHALL BE CLASS A AS DEFINED BY CFR TITLE 40, PART 503 OR CLASS 1 AS DESCRIBED IN THE TABLE BELOW. THE AMOUNT OF COMPOST ADDED TO THE SOIL MAY VARY DEPENDING ON SOIL TEST RESULTS.

Compost Parameters	Reported As	Requirements	Test Method
pH	pH units	6.0 - 8.4	TMECC 04.11-A
Soluble Salts (Electrical Conductivity)	dS m ⁻¹ or mmhos cm ⁻¹	0-3 mmhos/cm	TMECC 04.11-A
Moisture Content	%, wet weight basis	35 - 60%	TMECC 03.09-A
Organic Matter Content	%, dry weight basis	30 - 70%	TMECC 05.07-A
Particle Size (Sieve Sizes)	%, dry weight basis for each sieve fraction	Passing 1 inch - 100% 1/2 inch - 95%	TMECC 02.02-B
Man-made Inert Contamination	%, dry weight basis	< 1%	TMECC 03.08-A
Stability (Respirometry)	mg CO ₂ - C per g TS per day mg CO ₂ - C per g OM per day	8 or below	TMECC 05.08-B
Select Pathogens	(PASS/FAIL) Limits: Salmonella < 3 MPN/4grams of TS, or Coliform Bacteria < 1000 MPN/gram	Pass	TMECC 07.01-B Fecal Coliforms, or 07.02 Salmonella
Trace Metals	(PASS/FAIL) Limits (mg kg ⁻¹ dw basis): As 41, Cd 38, Cu 1500, Pb 300, Hg 17, Ni 420, Se 100, Zn 2800	Pass	TMECC 04.06
Maturity (Bioassay) Percent Emergency Relative Seeding Vigor	%, (average)	> 80%	TMECC 05.05-A

Notes: The Contractor shall provide a CTR in accordance with subsection 106.13 of CDOT standard specifications confirming that the material has been tested in accordance with TMECC.

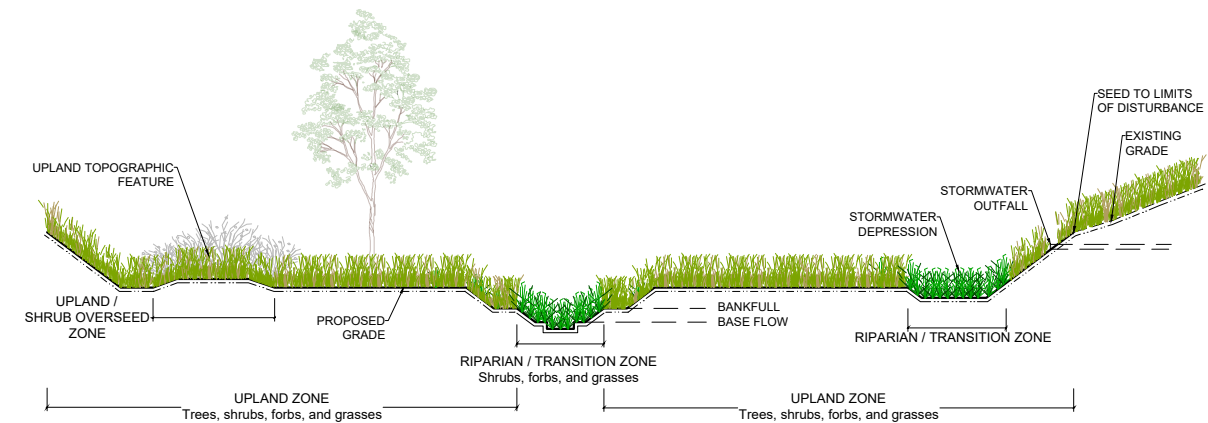
- HUMATE SOIL CONDITIONER, NATURAL MINERAL, CARBON, AND HUMIC ACID-BASED SOIL CONDITIONER SHOULD HAVE THE FOLLOWING CHARACTERISTICS:
 - HUMIC ACIDS >50%
 - ORGANIC MATTER >85%
 - 1%N, <0.1% AS P2O5, <0.10%K AS K2O
 - PH 3.4
 - APPLICATION RATE IS ASSUMED TO BE 250 LBS/ACRE FOR BIDDING PURPOSES BUT IS DEPENDENT ON SOIL TEST RESULTS. HUMATE WORKS BEST WHEN MINIMUM DAILY SOIL TEMPERATURES REACH 55°F AND IS THOROUGHLY MIXED INTO SOIL. CAN BE TOPICALLY APPLIED IF SITE CONDITIONS DO NOT ALLOW PROPER MIXING.
- CONTRACTOR SHALL SUBMIT A LAB TEST OF THE COMPOST SAMPLE TO BE USED FOR APPROVAL. LAB TEST OF COMPOST SHALL BE TAKEN FROM THE SAME SOURCE THAT IS TO BE USED ON THIS PROJECT. LAB TEST SHALL BE TAKEN A MAXIMUM OF SIX (6) MONTHS PRIOR TO APPLICATION. THE COMPOST SHALL BE TESTED IN ACCORDANCE WITH THE U.S. COMPOSTING COUNCIL'S TEST METHODS FOR EXAMINING OF COMPOSTING AND COMPOST (TMECC) MANUAL.

SITE PREPARATION:

- ALL DISTURBED AREAS SHALL BE RIPPED TO A MINIMUM DEPTH OF TWELVE (12) INCHES, WITH NO MORE THAN A TEN (10) INCH INTERVAL BETWEEN FURROWS. SLOPES FLATTER THAN 2:1 SHALL HAVE A WELL SETTLED SEEDBED EIGHT (8) INCHES DEEP. SLOPES 2:1 OR STEEPER SHALL BE LEFT IN A ROUGHENED CONDITION.
- SLOPES SHALL BE FREE OF SOIL CLODS, STICKS, STONES, AND DEBRIS IN EXCESS OF FOUR (4) INCHES IN ANY DIMENSION, AND BE BROUGHT TO THE DESIRED GRADE AND LINE. SOIL PREPARATION FOR SEEDING SHALL NOT OCCUR WHEN SOIL IS FROZEN OR IN AN EXTREME WET OR DRY CONDITION.
- DRAGGING EXCAVATOR TEETH IS NOT AN ACCEPTABLE METHOD FOR RIPPING.

SEEDING:

- CONTRACTOR SHALL BE REQUIRED TO SUBMIT SIGNED STATEMENTS OF GUARANTEE, SEED CERTIFICATIONS, AND SEED LOT ANALYSIS FROM VENDORS WHO SUPPLY SEED AND SOIL CONDITIONER. SEED CERTIFICATION SHOULD PROVIDE INFORMATION THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY FOR SEED TESTING WITHIN TWELVE (12) MONTHS PRIOR TO THE DATE OF SEEDING AND SHALL BE FREE OF NOXIOUS OR UNDESIRABLE SPECIES AS APPROVED BY THE PROJECT ECOLOGIST / LANDSCAPE ARCHITECT PRIOR TO PURCHASE. ANY SEED PURCHASED PRIOR TO APPROVAL IS DONE AT THE CONTRACTORS EXPENSE AND MAY NOT BE BILLED TO THE PROJECT.
 - ANY SUBSTITUTIONS OF SEED SPECIES MUST BE APPROVED BY THE PROJECT ECOLOGIST / LANDSCAPE ARCHITECT PRIOR TO DELIVERY OF SEED TO CONSTRUCTION SITE.
 - ALL SEED SHALL BE FURNISHED IN BAGS OR CONTAINERS CLEARLY AND PROPERLY LABELED TO SHOW THE NAME AND ADDRESS OF THE SUPPLIER, THE SEED NAME, THE LOT NUMBER, NET WEIGHT, ORIGIN, THE PERCENT OF WEED SEED CONTENT, THE GUARANTEED PERCENTAGE OF PURITY AND GERMINATION, POUNDS OF PURE LIVE SEED (PLS) OF EACH SEED SPECIES, AND THE TOTAL POUNDS OF PLS IN THE CONTAINER. ALL SEED SHALL BE GUARANTEED FOR PURITY AND GERMINATION, FREE OF NOXIOUS WEED SEED AND SUPPLIED ON A PURE LIVE SEED (PLS) BASIS.
 - CONTRACTOR IS RESPONSIBLE TO MEET THE SUCCESS RATE OF SEEDING ESTABLISHMENT AS DEFINED IN THE SPECIFICATIONS.
 - SEED MIXES SHALL BE INSTALLED WITH A 2' OVERLAP BETWEEN SEED AREAS.
 - NATIVE SEEDING SHALL BE RESTRICTED TO BETWEEN SPRING THAW AND MAY 15 AND BETWEEN OCTOBER 15 UNTIL CONSISTENT GROUND FREEZE AND SHALL NOT BE APPLIED DURING INCLEMENT WEATHER INCLUDING RAIN AND HIGH WINDS, OR WHEN SOIL MOISTURE IS TOO HIGH TO EVENLY DISTRIBUTE SEED.
 - SEEDING SHALL BE ACCOMPLISHED WITHIN 24 HOURS OF PREPARING THE SEEDING SURFACE.
 - SEEDING OR PLANTING SHALL NOT OCCUR WHEN THE GROUND IS FROZEN, WHEN FREEZING TEMPERATURES ARE FORECASTED WITHIN 24 HOURS, OR WHEN CONDITIONS ARE OTHERWISE UNSUITABLE.
 - DRILL SEEDING OR BROADCAST SEEDING SHALL BE USED FOR REVEGETATION. THE SIZE AND SLOPE OF THE DISTURBED AREA SHALL DETERMINE WHICH SEEDING METHOD(S) IS APPROPRIATE AND ACCEPTABLE. WHERE FEASIBLE, DRILL SEEDING IS THE REQUIRED METHOD. IF BROADCAST SEEDING IS EMPLOYED, EITHER BY HAND, SPREADER, OR OTHER APPROVED MEANS, THE SEEDING RATE (PLS LBS/ACRE) SHALL BE DOUBLED AS SHOWN ON THE DESIGN PLAN. HYDROMULCHING, HYDRAULIC SEEDING, AND STRAW MULCHING WILL NOT BE ACCEPTED UNLESS APPROVED BY THE PROJECT ENGINEER / LANDSCAPE ARCHITECT.
 - FOR SLOPES EQUAL TO OR LESS THAN 3:1, SEED SHALL BE PLANTED USING A RANGELAND DRILL WITH A SMALL SEED/LEGUME BOX AND AN AGITATOR BOX FOR FLUFFY OR BULKY SEED. SEED ROWS SHALL BE SPACED SEVEN (7) TO TEN (10) INCHES APART, AND PLANTED 1/2 INCH TO 3/4 INCH DEEP. THE DRILL SHALL HAVE DOUBLE-DISK FURROW OPENERS WITH DEPTH BANDS AND PACKER WHEELS. SEEDING SHALL BE ACCOMPLISHED USING BI-DIRECTIONAL DRILLING AND WITH THE SECOND DIRECTION FOLLOWING THE SLOPE CONTOUR. THE DRILL EQUIPMENT SHALL BE CALIBRATED EACH DAY OR WHENEVER THERE IS A CHANGE IN THE SEED MIX TO ENSURE PROPER SEED DISTRIBUTION AND RATE.
 - FOR SLOPES GREATER THAN 3:1, SEED SHALL BE BROADCAST BY HAND OR MECHANICAL SPREADER. ALL SEED SOWN BY BROADCAST-TYPE SEEDERS SHALL BE RAKED IN OR COVERED WITH SOIL TO A DEPTH OF AT LEAST 1/4 INCH. BROADCAST SEEDING SHALL PROCEED ON FRESHLY DISTURBED (RAKED OR HARROWED) SOIL SURFACE AND BROADCAST SEED SHALL BE IMMEDIATELY RAKED OR HARROWED INTO THE SURFACE. RAKING SHALL BE ACCOMPLISHED USING METAL-TINED GARDEN OR LANDSCAPE RAKES; NO PLASTIC LEAF RAKES SHALL BE ALLOWED. IF HARROWING IS USED, AN ENGLISH HARROW OR ITS EQUIVALENT SHALL BE REQUIRED. BROADCAST SEEDING SHALL BE AVOIDED WHEN WIND SPEED EXCEEDS 15 MILES-PER-HOUR.
 - FOLLOWING SEEDING, HEAVY MACHINERY SHALL NOT BE DRIVEN ACROSS SEEDED AREAS TO AVOID RE-COMPACTION OF SOILS.
 - ACCESS ROUTES SHALL BE REVEGETATED AFTER CONSTRUCTION. SEED AND BLANKET ALONG ACCESS SHOULD MATCH HYDROLOGIC ZONES AS SHOWN IN REVEGETATION PLANS AND AS DIRECTED BY THE PROJECT ECOLOGIST / LANDSCAPE ARCHITECT.
- EROSION CONTROL:
- ALL EROSION CONTROL FABRIC, BLANKET, OR MATTING SHALL BE INSTALLED PERPENDICULAR TO THE CHANNEL UNLESS OTHERWISE APPROVED BY THE PROJECT ENGINEER.
 - CONTRACTOR SHALL SUBMIT SAMPLES OF THE EROSION CONTROL FABRIC, BLANKET, AND/OR MATTING, GROUND ANCHORING DEVICES, AND METHOD OF ANCHORING PRIOR TO INSTALLATION FOR APPROVAL.



REFERENCE DRAWINGS	No.	DATE	DESCRIPTION	BY
X-1129-MDG22-34 X-1129-PR-STRUCT X-1129-PARCELS X-1129-FR-REVEG				
COMPUTER FILE MANAGEMENT				
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CTB FILE: Matrix(black).ctb				
PLOT DATE: March 7, 2023 12:50:46 PM				
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60% DESIGN PLANS

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Matrix
Excellence by Design

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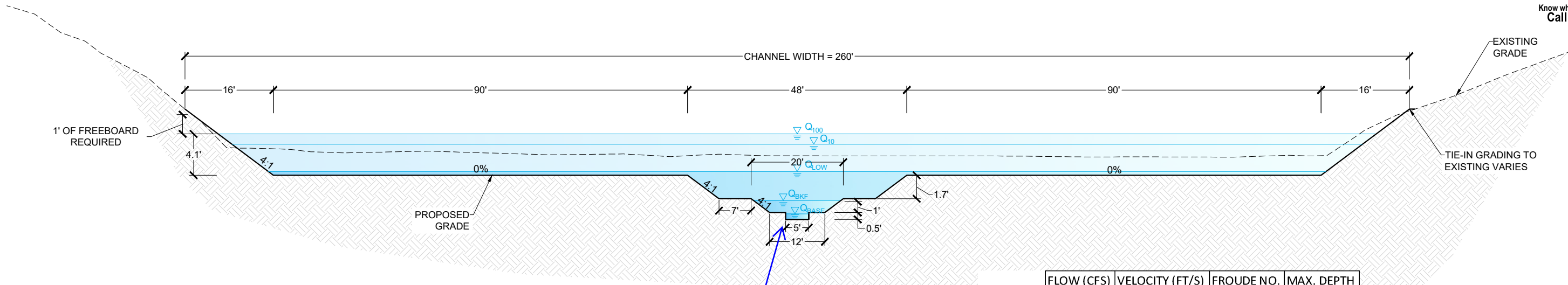
THE LANDHUIS COMPANY
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION
60% DESIGN PLANS

REVEGETATION PLAN
NOTES & SCHEDULE

DESIGNED BY: EEG	SCALE:	DATE ISSUED: MARCH 2023	DRAWING No.:
DRAWN BY: EAL	HORIZ: N/A	SHEET: 41 OF 47	RV07
CHECKED BY: AJS	VERT: N/A		



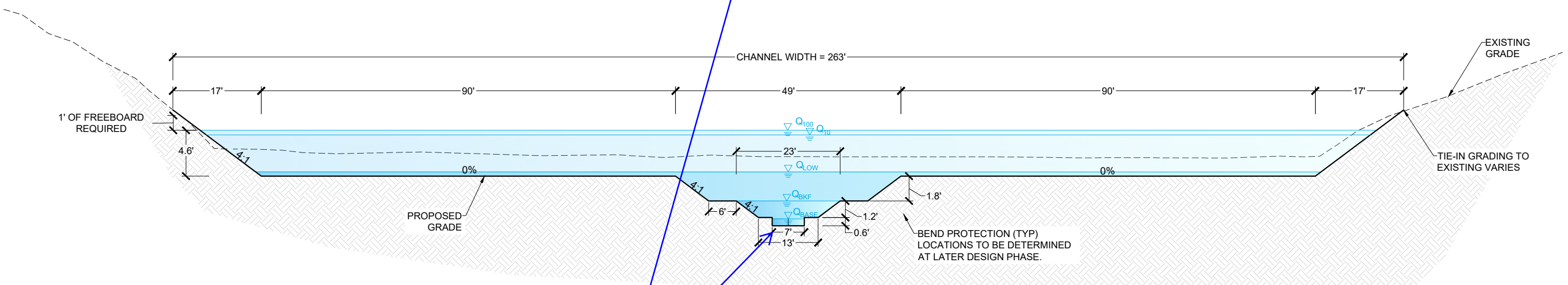
Know what's below.
Call before you dig.



	FLOW (CFS)	VELOCITY (FT/S)	FROUDE NO.	MAX. DEPTH
Q _{BASE}	2	1.03	0.29	0.39
Q _{BKF}	25	1.14	0.25	1.60
Q _{LOW}	183	1.05	0.21	3.58
Q ₁₀	2320	2.80	0.27	6.29
Q ₁₀₀	3600	3.29	0.28	7.32

UPPER CHANNEL TYPICAL SECTION
STA 92+06 TO 165+37; SLOPE = 0.25%
NOT TO SCALE NOTE 3:1 VERTICAL EXAGGERATION

NOTE:
FLOODPLAIN DEPTH VARIES BASED
ON CHANNEL HYDRAULICS.



	FLOW (CFS)	VELOCITY (FT/S)	FROUDE NO.	MAX. DEPTH
Q _{BASE}	4	1.19	0.30	0.48
Q _{BKF}	40	1.39	0.27	1.89
Q _{LOW}	227	1.15	0.22	4.02
Q ₁₀	3729	3.33	0.29	7.74
Q ₁₀₀	4400	3.54	0.29	8.21

LOWER CHANNEL TYPICAL SECTION
STA 00+00 TO 90+98; SLOPE = 0.25%
NOT TO SCALE NOTE 3:1 VERTICAL EXAGGERATION

Unresolved:
Deviation request for
low-flow channel should
be submitted to finalize
that aspect of design.

FLOW DATA SOURCES:
Q₁₀₀ - FEMA FIS
Q₁₀ - 2015 DBPS
Q_{LOW} - CITY/COUNTY EQUATIONS
Q_{BKF} - MATRIX REGRESSION EQUATIONS
Q_{BASE} - MIN. CONSTRUCTIBLE CHANNEL
SEE CHANNEL DESIGN REPORT FOR ADDITIONAL DETAIL.

REFERENCE DRAWINGS	No.	DATE	DESCRIPTION REVISIONS	BY
X-1129-MDG22x34				

COMPUTER FILE MANAGEMENT
FILE NAME: S:\21.1129.009 Rolling Hills Floodplain and Permitting\Drawings\Design Plans\1129.009-DT01-XX.dwg
CTB FILE: Matrix(black).ctb
PLOT DATE: March 22, 2023 9:43:30 AM
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60% DESIGN PLANS

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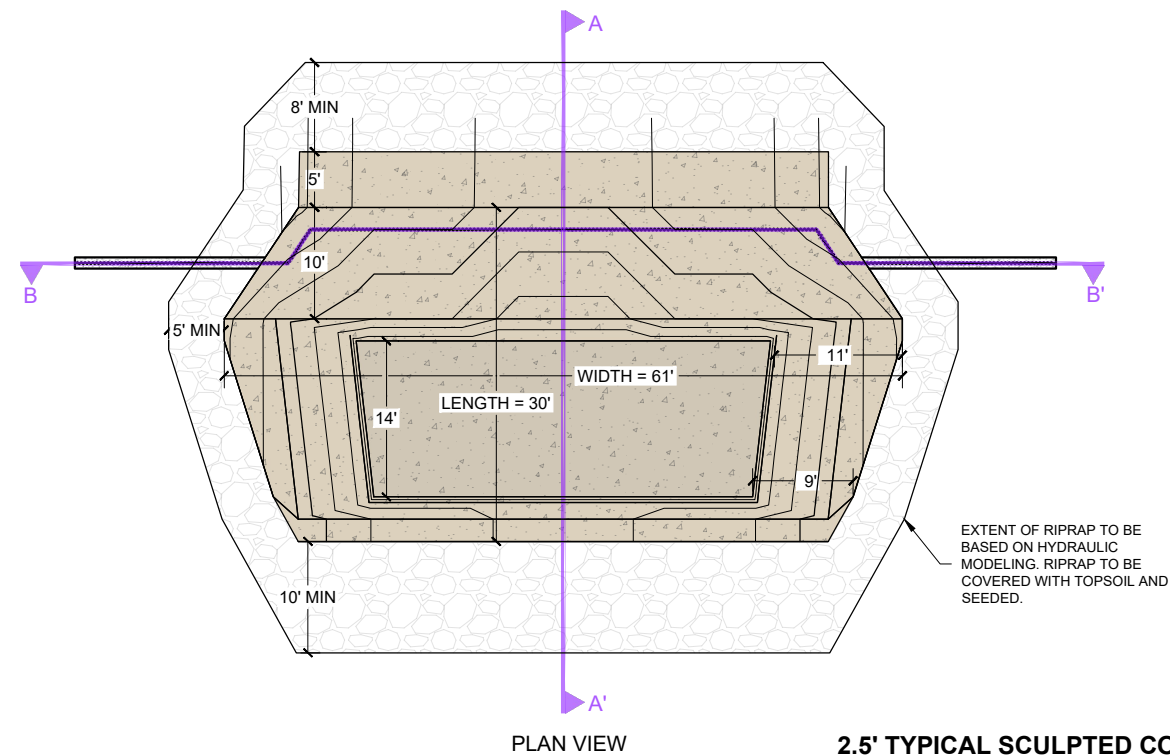
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FOR AND ON BEHALF OF
MATRIX DESIGN GROUP, INC.
PROJECT No. 21.1129.009

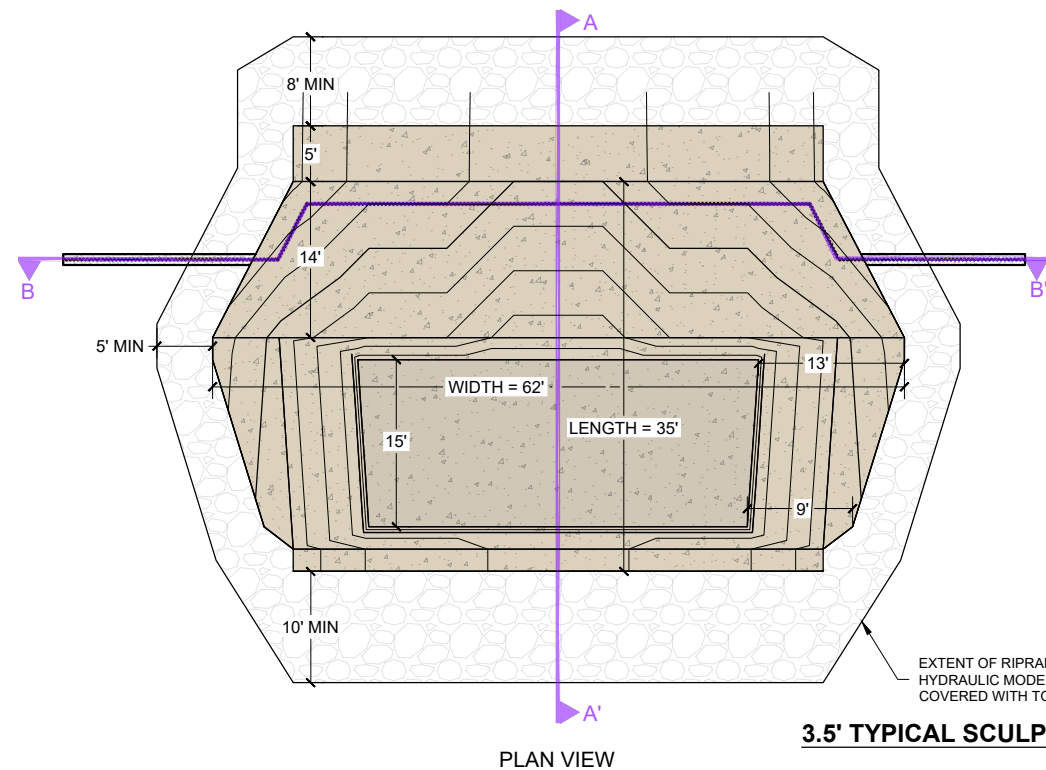
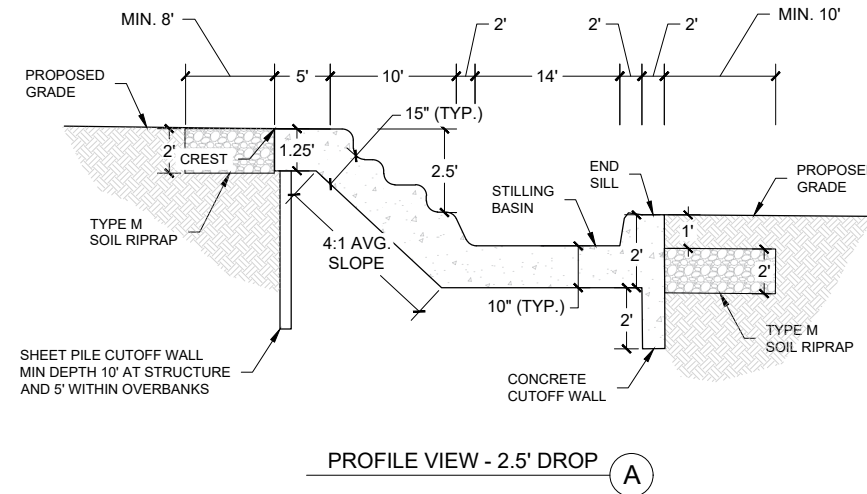
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
TYPICAL DESIGN CHANNEL SECTION			
DESIGNED BY: TKM	SCALE: HORIZ N/A	DATE ISSUED: MARCH 2023	DRAWING No. DT01
CHECKED BY: AJS	VERT. N/A	SHEET 42 OF 47	



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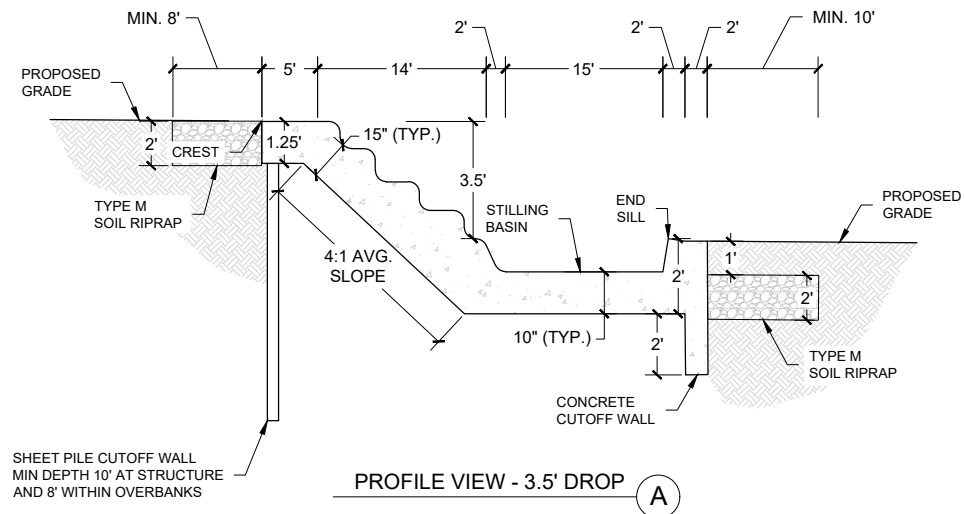
2.5' TYPICAL SCULPTED CONCRETE DROP STRUCTURE



3.5' TYPICAL SCULPTED CONCRETE DROP STRUCTURE

PLAN AND PROFILE VIEW OF TYPICAL SCULPTED CONCRETE DROP STRUCTURES

NOT TO SCALE



- NOTES:
1. DROPS SHOWN ARE TYPICAL FOR THE UPSTREAM CHANNEL SECTION. MINOR VARIATION IN THE DROPS EXIST BETWEEN UPSTREAM AND DOWNSTREAM CHANNEL SECTIONS.
 2. FOR ALL DROPS, DOWNSTREAM CUTOFF WALL DEPTH IS SET TO PROTECT AGAINST RISK OF DOWNSTREAM DEGRADATION, WITH MINIMUM DEPTH BEING 2'.
 3. STILLING BASIN OF ALL DROPS IS 1'.
 4. PROFILES FOR ALL DROPS CAN BE SEEN IN PP03-PP15. PROFILES FOR EACH CONCRETE DROP STRUCTURE WILL BE PROVIDED AT 90% DESIGN.

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60% DESIGN PLANS

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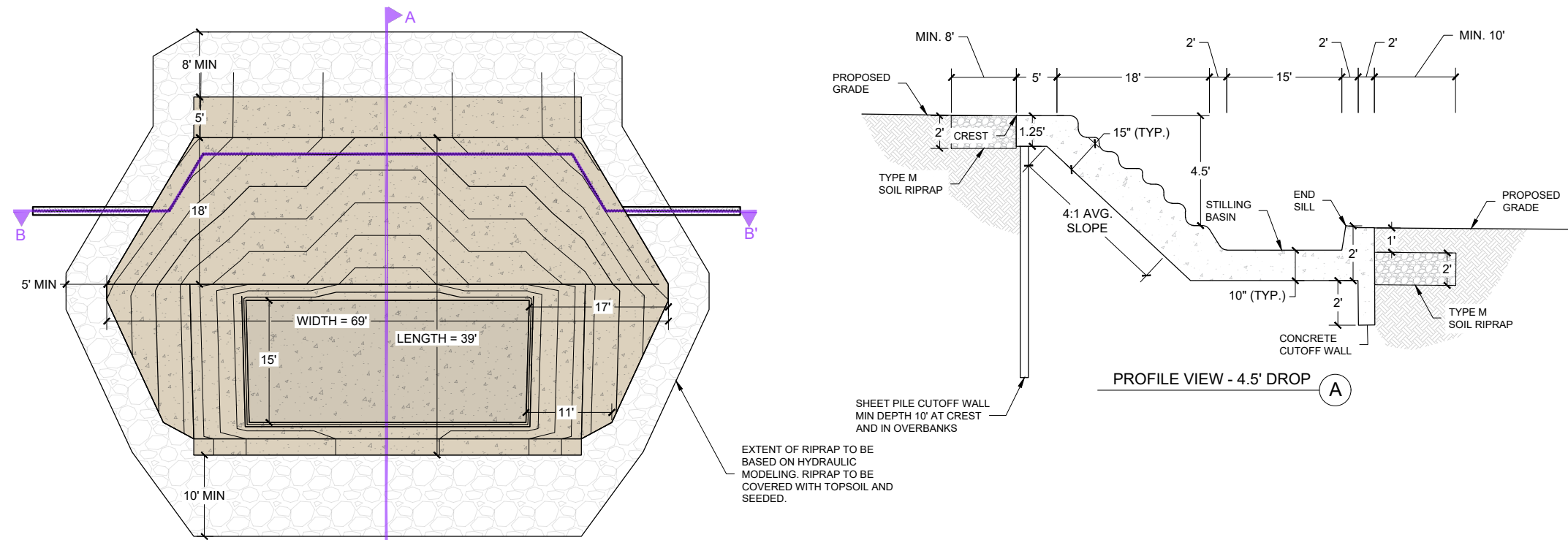
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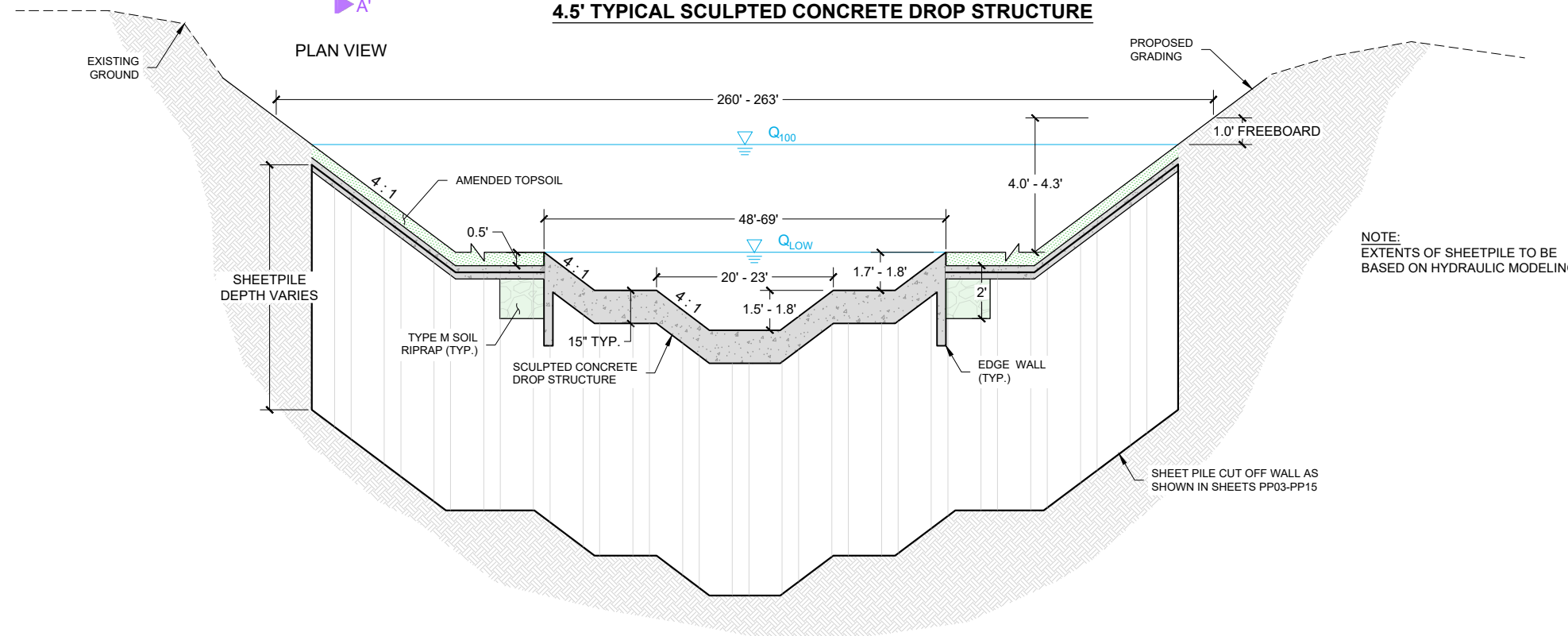
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
TYPICAL DROP STRUCTURE PLAN AND PROFILE VIEWS			
DESIGNED BY: TKM	SCALE: HORIZ N/A	DATE ISSUED: MARCH 2023	DRAWING No. DT02
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4.5' TYPICAL SCULPTED CONCRETE DROP STRUCTURE



CROSS SECTION VIEW - ALL DROPS (B)

TYPICAL SCULPTED CONCRETE DROP STRUCTURES

NOT TO SCALE

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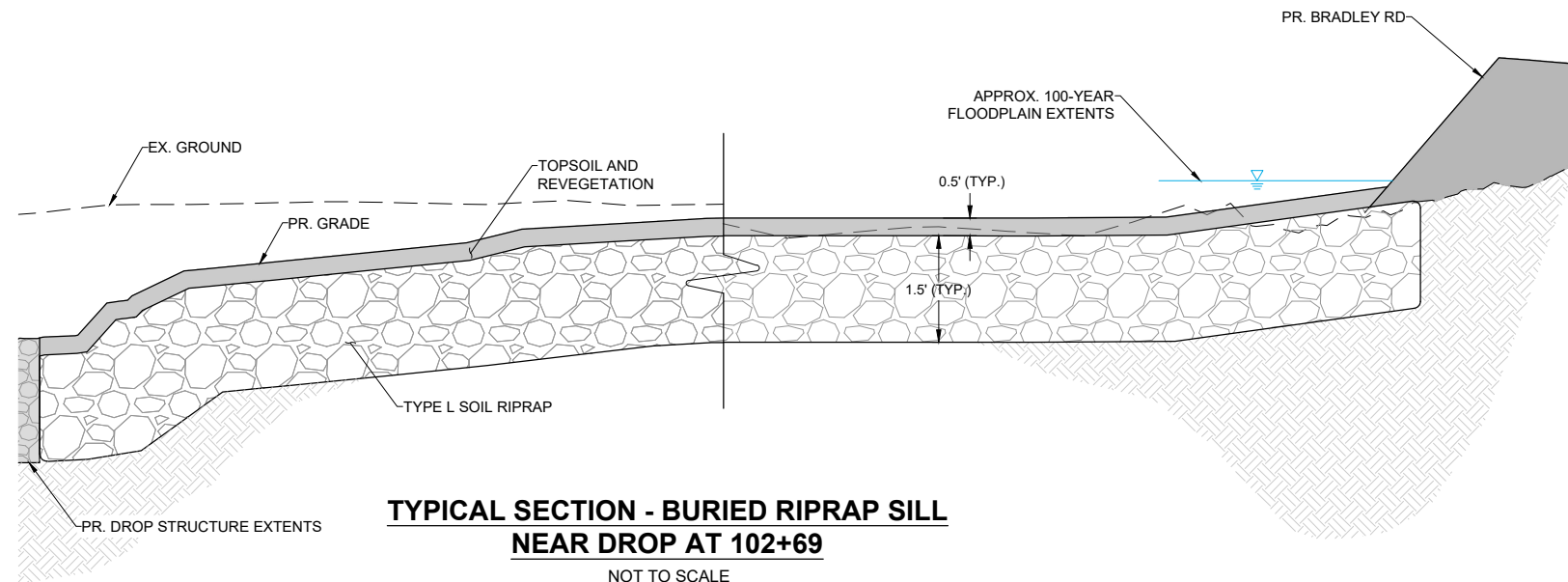
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ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
TYPICAL DROP STRUCTURE			
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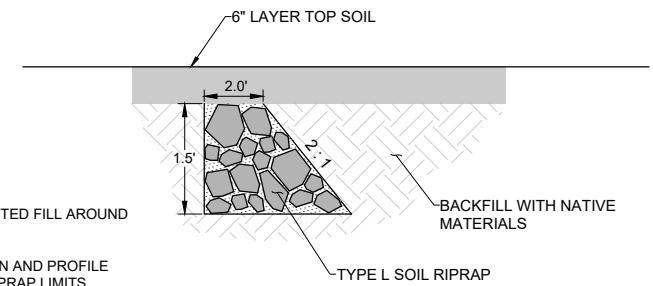


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**TYPICAL SECTION - BURIED RIPRAP SILL
NEAR DROP AT 102+69**

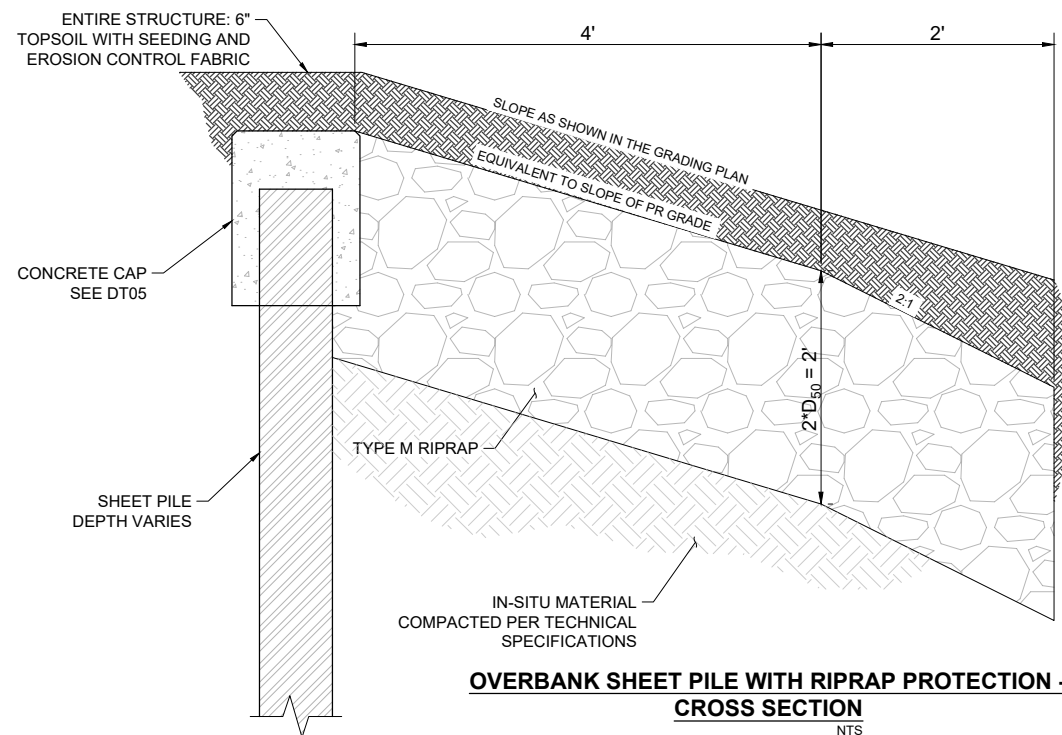
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**TYPICAL PROFILE -
BURIED RIPRAP SILL**

NOTES

- 1) PLACE COMPACTED FILL AROUND RIPRAP SILLS.
- 2) SEE SHEET PLAN AND PROFILE SHEETS FOR RIPRAP LIMITS.



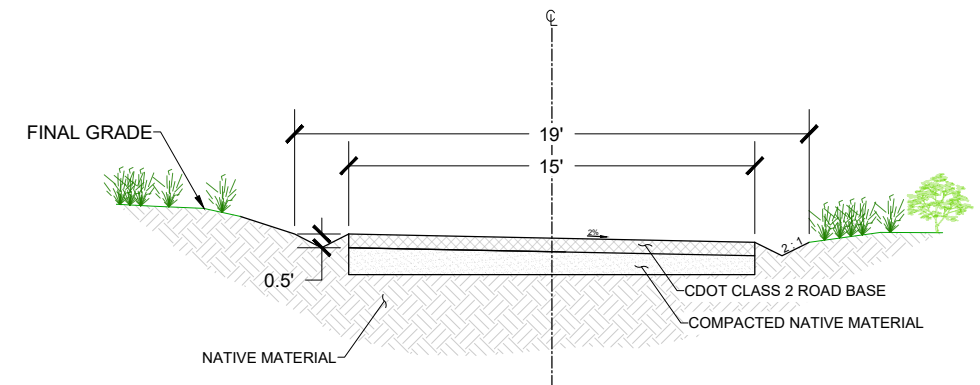
**OVERBANK SHEET PILE WITH RIPRAP PROTECTION -
CROSS SECTION**

NTS

NOTE:
SHEET PILE CAN BE REMOVED AND REPLACED WITH RIPRAP APRON PROTECTING OVERBANK. DETAIL NOT SHOWN.

NOTES:

1. SHEETPILE TO BE PLACED WHERE NOTED IN THE PP SHEETS.



TYPICAL COUNTY ACCESS ROAD CROSS SECTION

NTS

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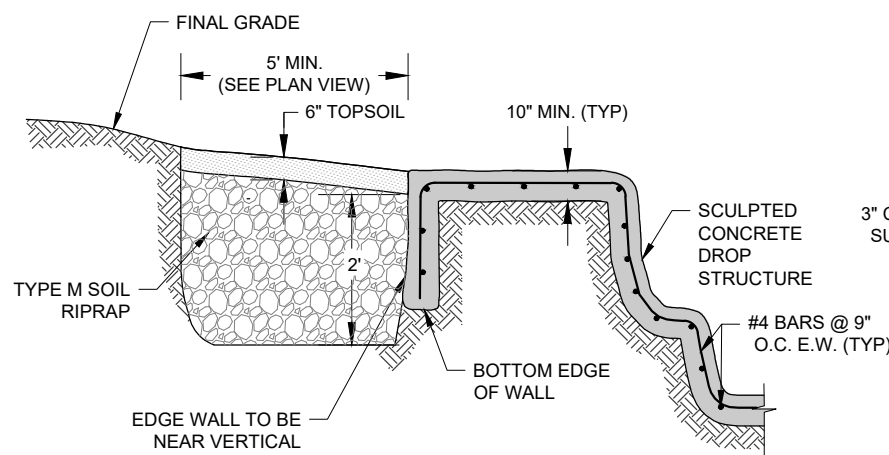
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TYPICAL DETAILS			
DESIGNED BY: TKM	SCALE: HORIZ N/A	DATE ISSUED: MARCH 2023	DRAWING No. DT04
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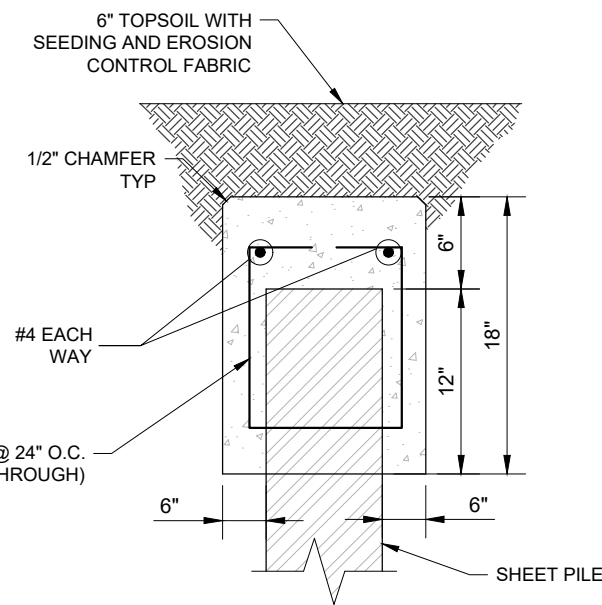


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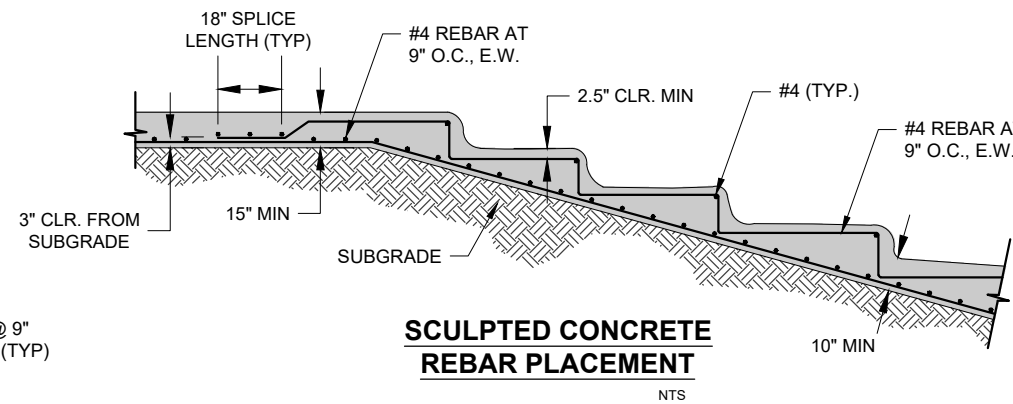
NOTES:
1. DETAIL APPLIES TO THE OUTER PERIMETER OF THE STRUCTURE.
2. SEE THE REBAR PLACEMENT DETAIL FOR RIPRAP LIMITS IN THE CHANNEL PORTION OF THE STRUCTURE.

STRUCTURE EDGE WALL DETAIL (SC)
NTS

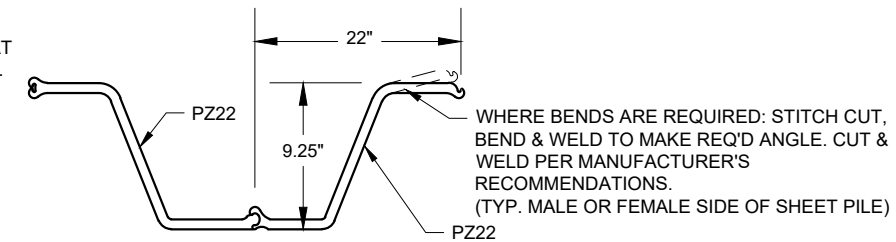


CONCRETE SHEET PILE CAP
NTS

NOTE:
CAN BE REPLACED WITH STEEL CAP

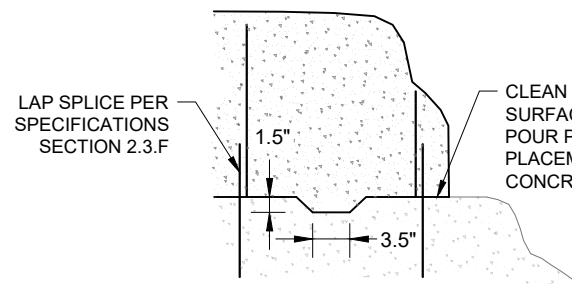


SCULPTED CONCRETE REBAR PLACEMENT
NTS

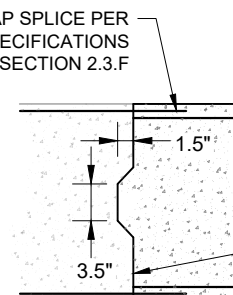


PZ22 SHEET PILE DETAIL
NTS

WHERE BENDS ARE REQUIRED: STITCH CUT, BEND & WELD TO MAKE REQ'D ANGLE. CUT & WELD PER MANUFACTURER'S RECOMMENDATIONS. (TYP. MALE OR FEMALE SIDE OF SHEET PILE)



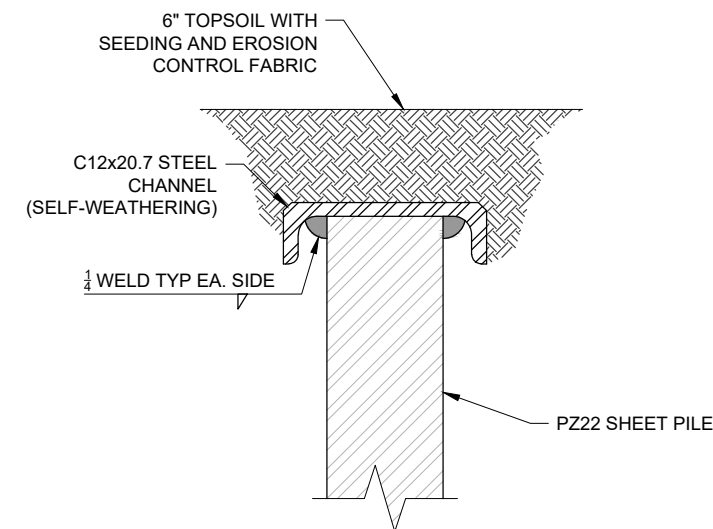
HORIZONTAL CONSTRUCTION JOINT DETAIL
NTS



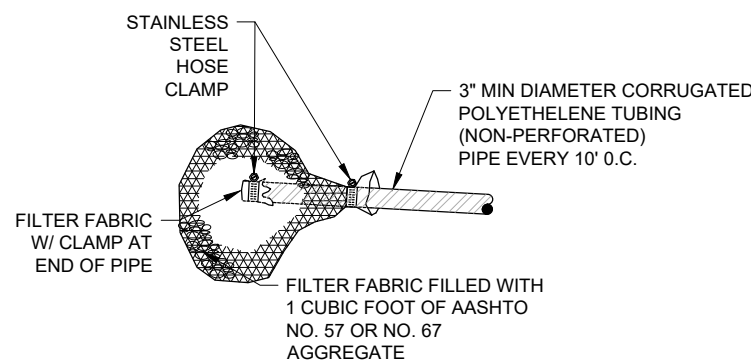
LONGITUDINAL CONSTRUCTION JOINT DETAIL
NTS

GENERAL CONSTRUCTION JOINT NOTES:

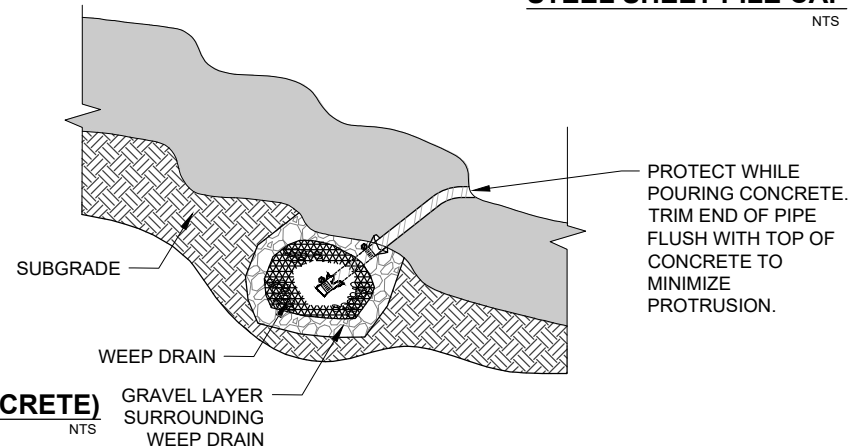
1. CONTRACTOR MUST SHOW THE LOCATION OF CONSTRUCTION JOINTS IN THE SCULPTED CONCRETE CONSTRUCTION PLAN. CONSTRUCTION JOINT LOCATIONS REQUIRE ENGINEER APPROVAL PRIOR TO INSTALLATION.
2. LONGITUDINAL JOINTS ARE NOT PERMITTED IN BASE FLOW CHANNEL
3. PLACE HORIZONTAL CONSTRUCTION JOINTS PERPENDICULAR TO THE DIRECTION OF FLOW IN THE BASE FLOW CHANNEL.



STEEL SHEET PILE CAP
NTS



WEEP DRAINS (SCULPTED CONCRETE)
NTS



PROTECT WHILE POURING CONCRETE. TRIM END OF PIPE FLUSH WITH TOP OF CONCRETE TO MINIMIZE PROTRUSION.

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Matrix
Excellence by Design

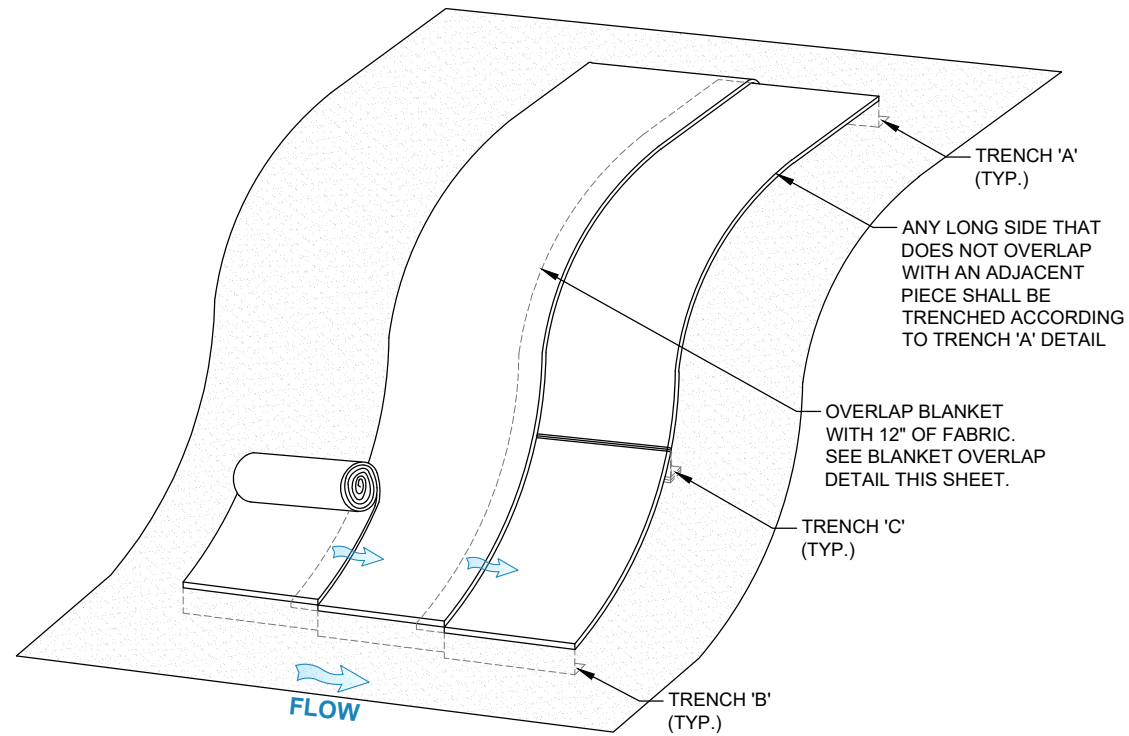
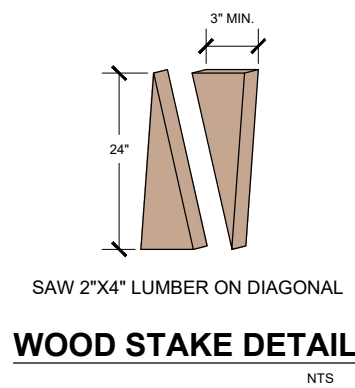
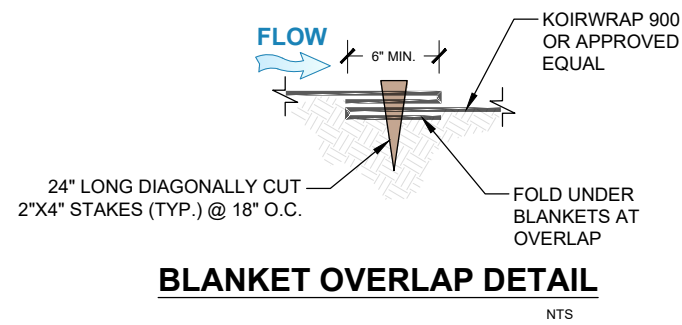
THE LANDHUIS COMPANY			
ROLLING MEADOWS CHANNEL & FLOODPLAIN MODIFICATION 60% DESIGN PLANS			
TYPICAL GRADE CONTROL DETAILS SCULPTED CONCRETE DROP STRUCTURE			
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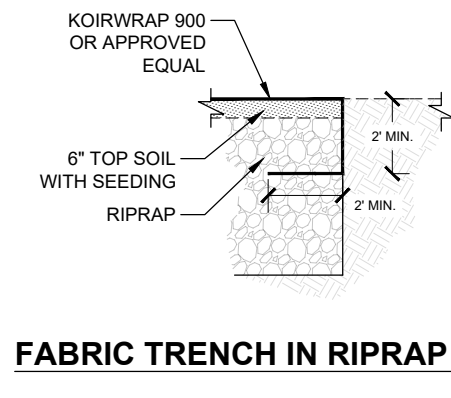
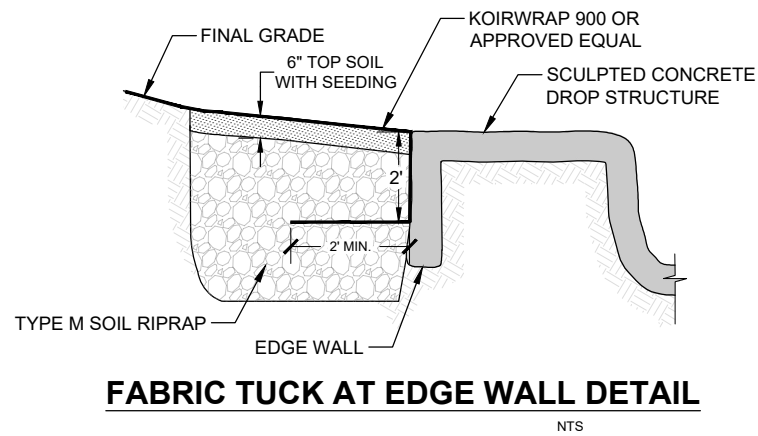
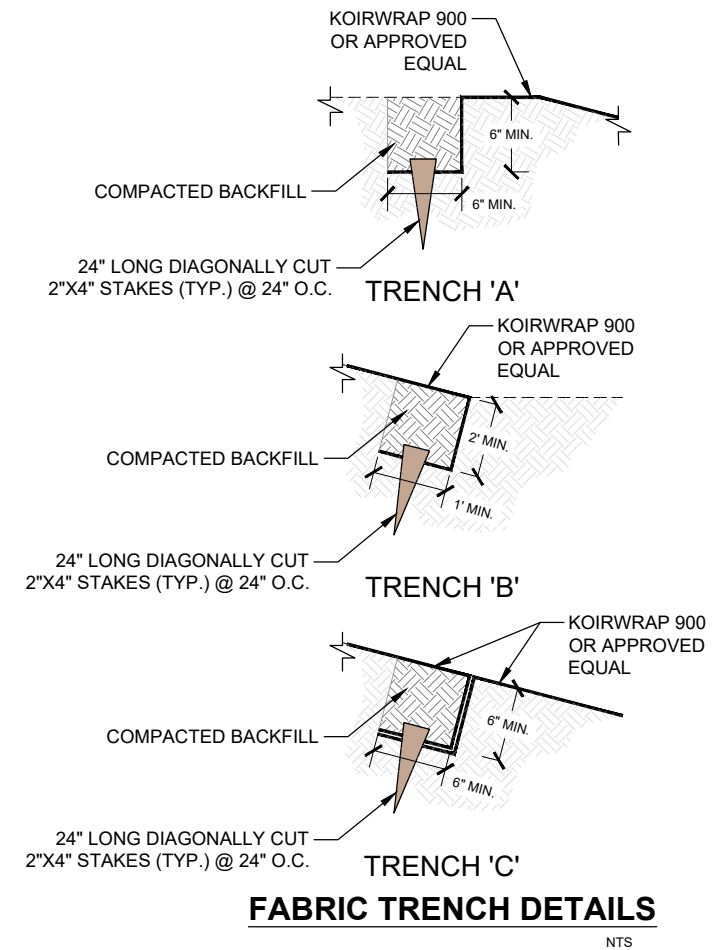
FOR AND ON BEHALF OF
MATRIX DESIGN GROUP, INC.
PROJECT No. 21.1129.009



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NOTE: STAKE @24" O.C. AND ALL SEAMS @18" O.C.



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<p>FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 21.1129.009</p>	<p>DESIGNED BY: TKM EAL CHECKED BY: AJS</p>	<p>SCALE: HORIZ N/A VERT. N/A</p>	<p>DATE ISSUED: MARCH 2023 SHEET 47 OF 47</p>
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