March 3, 2023

Joe DesJardin Winsome, LLC 1864 Woodmoor Drive, Suite 100 Monument, CO 80132

Re: Winsome Filing No. 2 Public Certification Letter

El Paso County, Colorado

Dear Mr. DesJardin:

This letter serves as the certification for Winsome Filing No. 2, El Paso County, CO consistent with El Paso County Engineering Manual ("ECM") Section 5.10.B, which states that Engineering Record Drawings shall be accompanied by a certification letter from the Engineer of Record which shall state that the site and adjacent properties (as affected by work performed under the County permit) are stable and that the improvements (public improvements, common development improvements, site grading and paving) meet or exceed the minimum design requirements.

Based upon this information and information gathered during periodic site visits to the site during significant/key phases of the infrastructure installation, *Kimley-Horn & Associates, Inc.* is of the opinion that the work performed under the County Permit, per Section 5.10.B of the ECM, have been constructed in general compliance with the approved Construction Plans as filed with the County dated November 16, 2021.

Kimley-Horn previously provided a Pond Certification Letter dated October 31, 2022 (attached to this letter) which certified the full spectrum detention facility, Pond 5 was in general conformance with the criteria as part of Section 5.10.B of the ECM. Kimley-Horn has provided Record Drawings dated February 27, 2023 (attached to this letter) which certify that the public improvements meet or exceed the minimum design requirements and do not adversely affect the adjacent properties. In addition, there was an Affidavit of Correction filed for the final plat, dated February 15, 2022, which corrected the Lot Number for Lot 18 on the final plat. This Affidavit has been provided for reference.

Statement Of Engineer In Responsible Charge:

I, <u>Kevin R. Kofford</u>, a registered Professional Engineer in the State of Colorado, in accordance with Sections 5.2 and 5.3 of the Bylaws and Rules of the State Board of Registration for Professional Engineers and Professional Land Surveyors, do hereby certify that I or a person under my responsible charge periodically observed the construction of the above-mentioned project. Based on the on-site field observations and review of pertinent documentation, it is my professional opinion that the required infrastructure improvements have been installed and are in general compliance with the approved Construction Plans as filed with El Paso County.

Kevin R. Kofford, P.E. Colorado No. 57234



WINSOME FILING NO. 2 CONSTRUCTION DOCUMENTS

A PORTION OF SECTIONS 13 AND 24, TOWNSHIP 11 SOUTH, RANGE 65 SOUTH, AND A PORTION OF THE WEST HALF SECTON 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH P.M. COUNTY OF EL PASO, STATE OF COLORADO

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BY (IMLEY-HORN AND ASSOCIATES, INC. BASED ON SURVEY NFORMATION PROVIDED BY EDWARD JAMES URVEYING, INC. THESE RECORD DRAWINGS ARE NOT JARANTEED TO BE "AS-BUILT", BUT RATHER BASED OF

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SHEET NUMBER

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10/29/2021

10/29/2021

EL PASO COUNTY

OWNER'S STATEMENT

🗸 Joseph W. DesJardin

MONUMENT, CO 80132

OWNER SIGNATURE

WINSOME, LLC

SPECIFICATIONS.

DETAILED PLANS AND SPECIFICATIONS.

1864 WOODMOOR DRIVE, SUITE 100

ENGINEER'S STATEMENT

JOE DESJARDIN, DIRECTOR OF ENTITLEMENTS

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2. AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

KEVIN KOFFORD, PE (CO #57234) - KIMLEY-HORN AND ASSOCIATES, INC. DATE

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF

THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE SPECIFIED IN THESE

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION

TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE.

GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND

MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE

OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND

PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE

RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR

SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND

DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT

AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING

Engineering Department 11/16/2021 4:25:38 PM

JENNIFER IRVINE, PE COUNTY ENGINEER/ECM ADMINISTRATOR

PCD FILE NO. SF2115

CONTACTS:

1864 WOODMOOR DRIVE, SUITE 100 MONUMENT, CO 80132 TEL: (719) 476-0800 CONTÀCT: JOSEPH DESJARDIN PLANNER/LANDSCAPE ARCHITECT: 619 N CASCADE AVENUE, SUITE 200 COLORADO SPRINGS, CO 80903 TEL: (719) 471-0073 EMAIL: ABARLOW@NESCOLORADO.COM

KIMLEY-HORN AND ASSOCIATES, INC. 2 NORTH NEVADA, SUITE 300 COLORADO SPRINGS, CO 80903 (719) 453-0180 ÈMAIL: KEVIN.KOFFORD@KIMLEY-HORN.COM CONTACT: KEVIN KOFFORD

SURVEY: EDWARD JAMES SURVEYING, INC. 926 ELKTON DRIVE COLORADO SPRINGS, CO 80907 TEL: (719) 576-1216 CONTACT: JONATHAN TESSIN

CONTACT: ANDREA BARLOW

EL PASO COUNTY PLANNING DEPARTMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910

TEL: (719) 520-6313 EMAIL: NINARUIZ@ELPASOCO.COM

GILBERT LAFORCE TEL: (719) 520-7945 EMAIL: GILBERTLAFORCE@ELPASOCO.COM

(719) 433-4863 ÈMAIL: CHRISTINAFURCHAK@ELPASOCO.COM EPC PCD INSPECTIONS SUPERVISOR: TEM: BRAD WALTERS (719) 520-6819

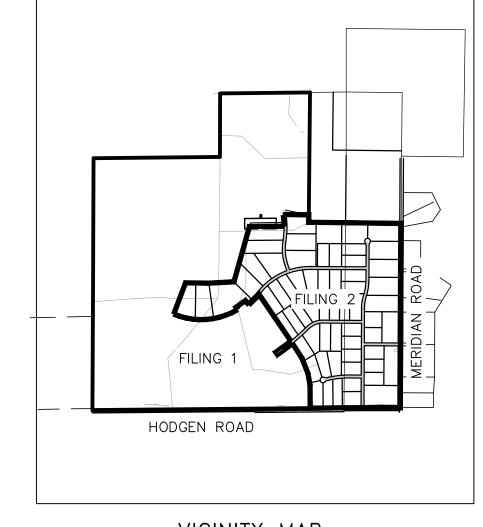
EPC DPW STORMWATER TEAM: CHRISTINA FURCHAK

FALCON FIRE DEPARTMENT: AREA: FAL D2 FIRE CHIEF T. HARWIG 7030 OLD MERIDIAN ROAD PAYTON, CO 80831 TEL: (719) 495-4050

EMAIL: FALCONFIRE@FALCONFIREPD.ORG COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT:
WATER QUALITY CONTROL DIVISION 4300 CHERRY CREEK DRIVE SOUTH DENVER, CO 80246

TEL: (303) 692-3500

ÈMAIL: BRADWALTERS@ELPASOCO.COM





VICINITY MAP 1"=2,000'

FLOODPLAIN NOTE

FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP, MAP NUMBER 08041C0350G, EFFECTIVE DECEMBER 7, 2018 INDICATES THE AREA IN THE VICINITY OF THIS PARCEL OF LAND TO BE IN ZONE X (AREA DETERMINED TO BE OUT OF THE 500 YEAR FLOODPLAIN). A CONDITIONAL LETTER OF MAP REVISION HAS BEEN PROCESSED AND APPROVED FOR THIS REACH OF WEST KIOWA

SHEET INDEX SHEET NO. SHEET TITLE 01 COVER 02 GENERAL NOTES AND CROSS SECTIONS 03 HORIZONTAL CONTROL GRADING PLAN 04 05 GRADING PLAN 06 GRADING PLAN 07 GRADING PLAN 80 EARLY LIGHT DRIVE ROADWAY PLAN AND PROFILE EARLY LIGHT DRIVE ROADWAY PLAN AND PROFILE 09 10 EARLY LIGHT DRIVE ROADWAY PLAN AND PROFILE FLAPJACK LN ROADWAY PLAN AND PROFILE 11 12 WOODRIDGE ROADWAY PLAN AND PROFILE 13 ALAMAR WAY ROADWAY PLAN AND PROFILE 14 ALAMAR WAY ROADWAY PLAN AND PROFILE 15 ALAMAR WAY ROADWAY PLAN AND PROFILE 16 RAMBLING RD ROADWAY PLAN AND PROFILE 17 RAMBLING RD ROADWAY PLAN AND PROFILE 18 TWINKLING STAR LN ROADWAY PLAN AND PROFILE CUL-DE-SAC PLAN AND PROFILES 19 20 ON-SITE STRIPING & SIGNAGE PLAN CUT FILL MAP 21 -22-- FINAL GEC PLAN 23 FINAL GEC PLAN 24 FINAL GEC PLAN FINAL GEC PLAN -25-- ROADSIDE DITCH PLAN 26 27 CHANNEL PROFILES CULVERT PLANS 28 CULVERT PLANS 29 30 POND 5 OVERVIEW 31 POND 5 DETAILS HODGEN ROAD PLAN AND PROFILE 32 33 HODGEN ROAD CROSS SECTIONS 34 HODGEN ROAD CROSS SECTIONS HODGEN ROAD SIGNAGE AND STRIPING - 35 -36 --- - EROSION CONTROL DETAILS

- EROSION CONTROL DETAILS

- EROSION CONTROL DETAILS

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LEGAL DESCRIPTION

COMMENCING AT THE WEST QUARTER CORNER OF SAID SECTION 24, SAID POINT BEING THE POINT OF BEGINNING; THENCE NOO"14'25"E ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24. SAID LINE ALSO BEING ON THE WEST BOUNDARY OF PARCEL 4, AS RECORDED UNDER RECEPTION NUMBER 218900072, A DISTANCE OF 2636.99 FEET TO THE NORTHWEST CORNER OF SAID SECTION 24; THENCE N89°21'38"E ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 2633.02 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 24; THENCE NO010'29"E ON THE WEST LINE OF THE SOUTH HALF OF THE SOUTH EAST QUARTER OF SECTION 13. TOWNSHIP 11 SOUTH, RANGE 65 WEST, A DISTANCE OF 1321.95 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE N89'20'26"E ON THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13, A DISTANCE OF 1873.37 FEET; THENCE S00°34'43"W A DISTANCE OF 2,706.21 FEET; THENCE S89°15'17"E A DISTANCE OF 769.17 FEET TO A POINT ON THE WEST LINE OF SECTION 19 TOWNSHIP 11 SOUTH RANGE 64 WEST THENCE S89"15'18"E A DISTANCE OF 1.158.32 FEET TO THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19; THENCE SOO 17'06"W ON THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19, A DISTANCE OF 3,838.66 FEET TO A POINT 30.00 FEET NORTH OF THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 19; THENCE \$89°55'06"W, ON A LINE 30.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 19, ON SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 30.00 FEET TO A POINT ON THE BOUNDARY LINE PARCEL NUMBER RW-36 AS SHOWN IN THE WARRANTY DEED AS RECORDED UNDER RECEPTION NUMBER 213096397; THENCE ON THE BOUNDARY OF SAID PARCEL THE FOLLOWING (3) THREE COURSES:

1. NOO'17'06'E, 30.00 WEST OF AND PARALLEL WITH THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19, A DISTANCE OF 5.25 FEET 2. N89°47'54"W A DISTANCE OF 368.05 FEET 3. S89"14'50"W A DISTANCE OF 603.68 FEET TO A POINT BEING 30.00 FEET NORTH OF THE SOUTH LINE OF SOUTHWEST QUARTER OF SAID SECTION 19:

THENCE S89'55'06"W ON A LINE 30.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 19. ON SAID NORTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 173.03 FEET TO A POINT ON THE EAST LINE OF SAID SECTION 24; THENCE S89°30'15"W ON A LINE 30.00 NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 24, A DISTANCE OF 5238.44 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE NOO"14'17"E ON THE WEST LINE OF SOUTHWEST QUARTER A DISTANCE OF 2,606.92 FEET TO THE POINT OF

CONTAINING A CALCULATED AREA OF 33,455,315 SQUARE FEET OR 768.028 COLORADO.

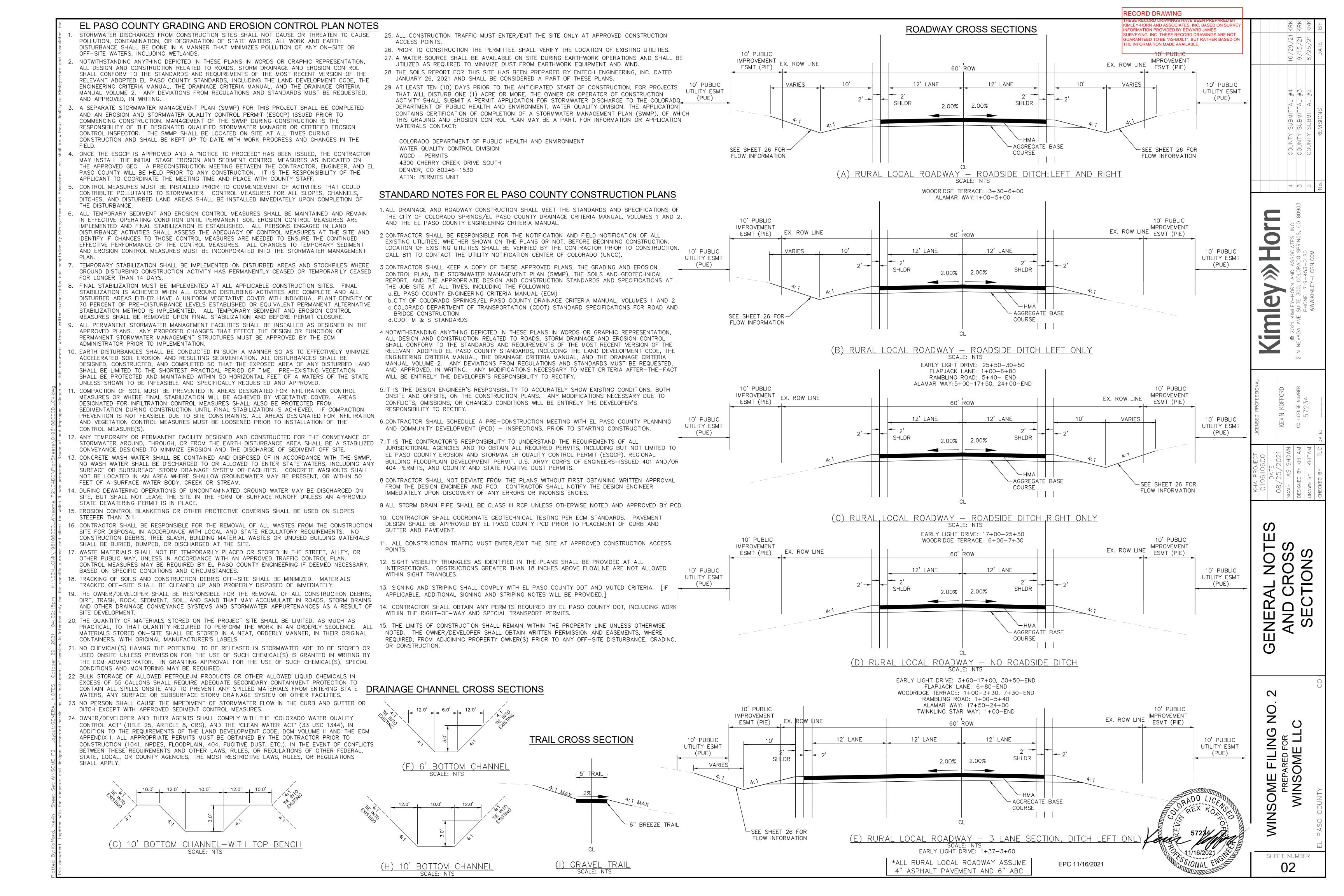
BENCHMARK

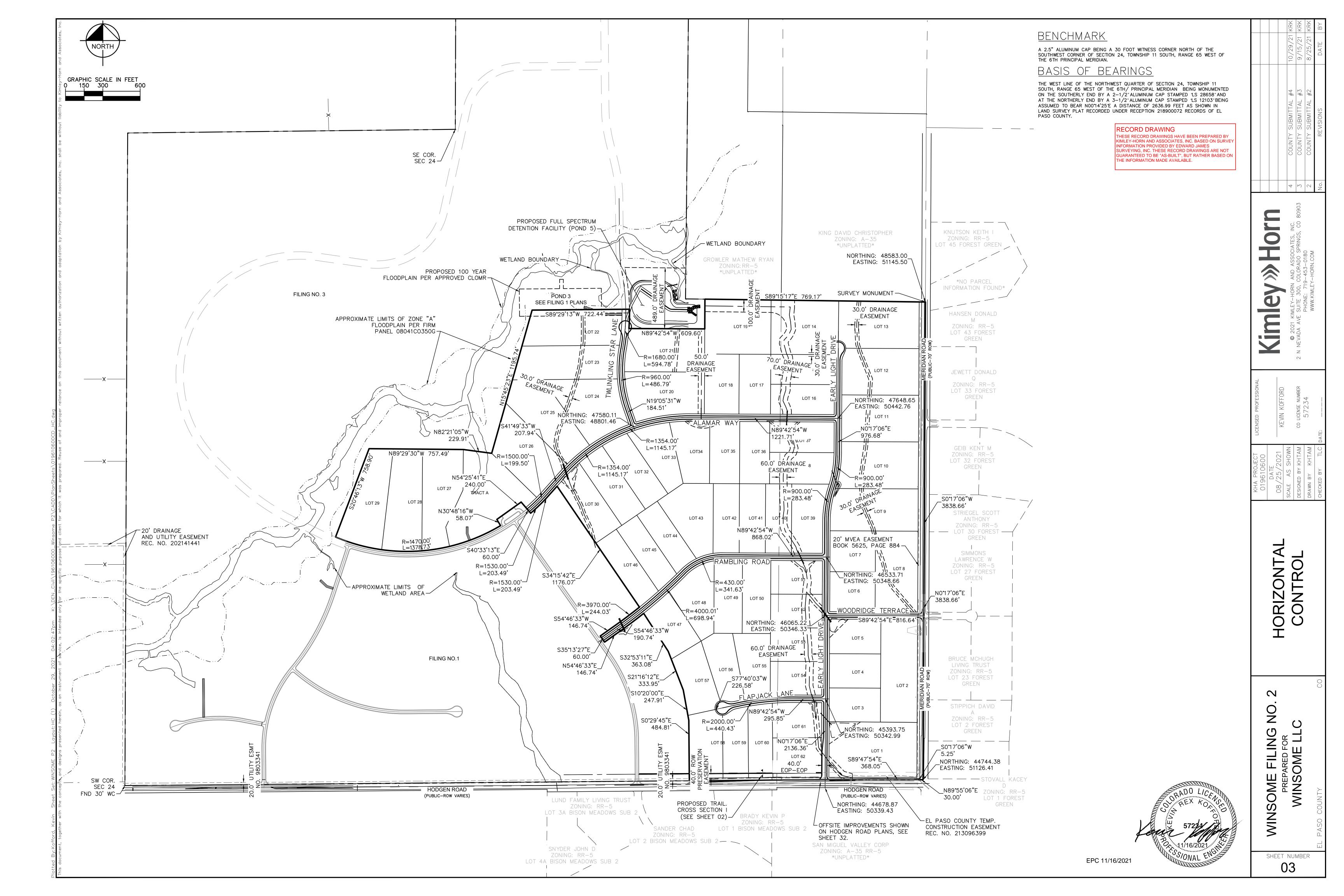
BEGINNING.

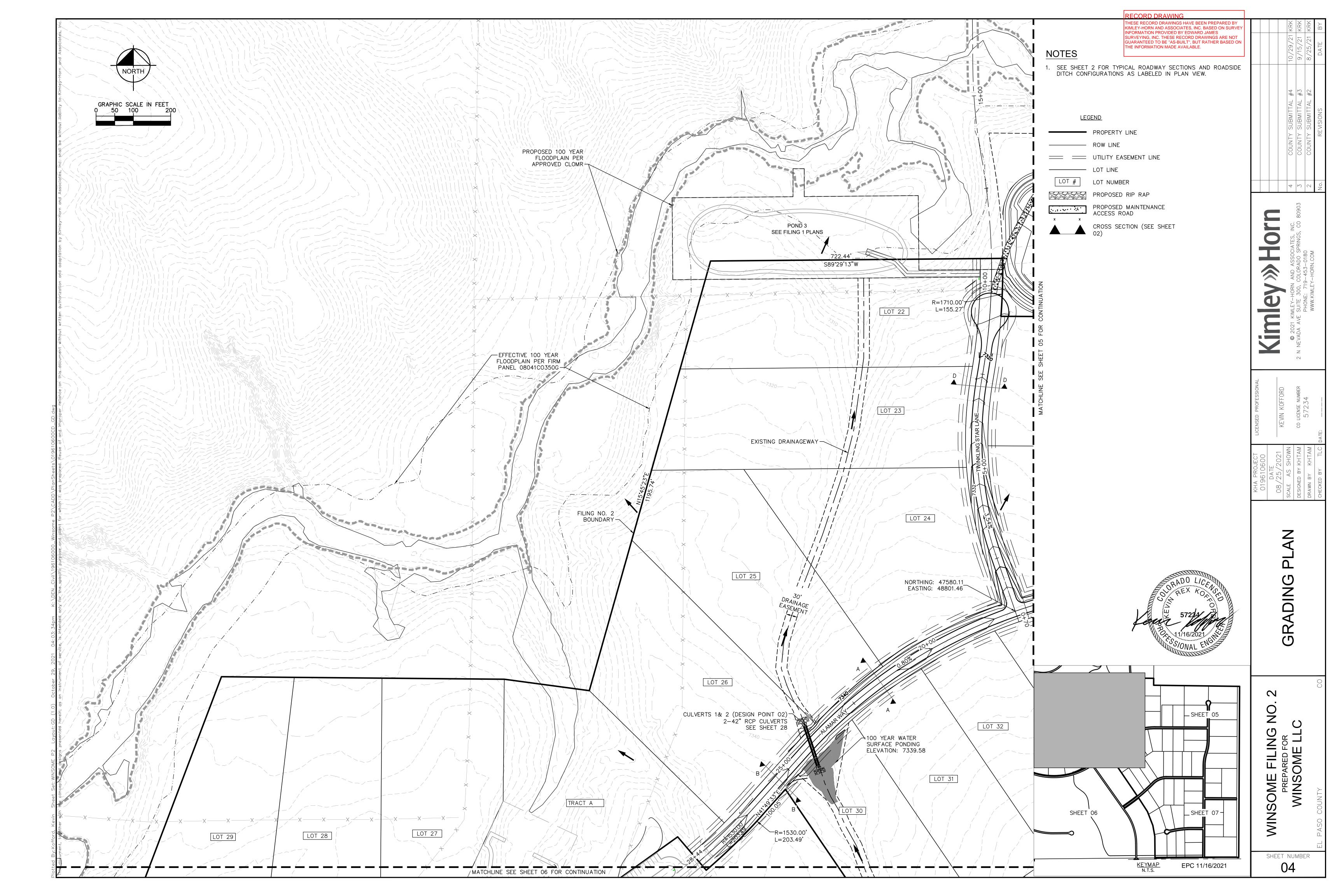
A 2.5" ALUMINUM CAP BEING A 30 FOOT WITNESS CORNER NORTH OF THE SOUTHWEST CORNER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN.

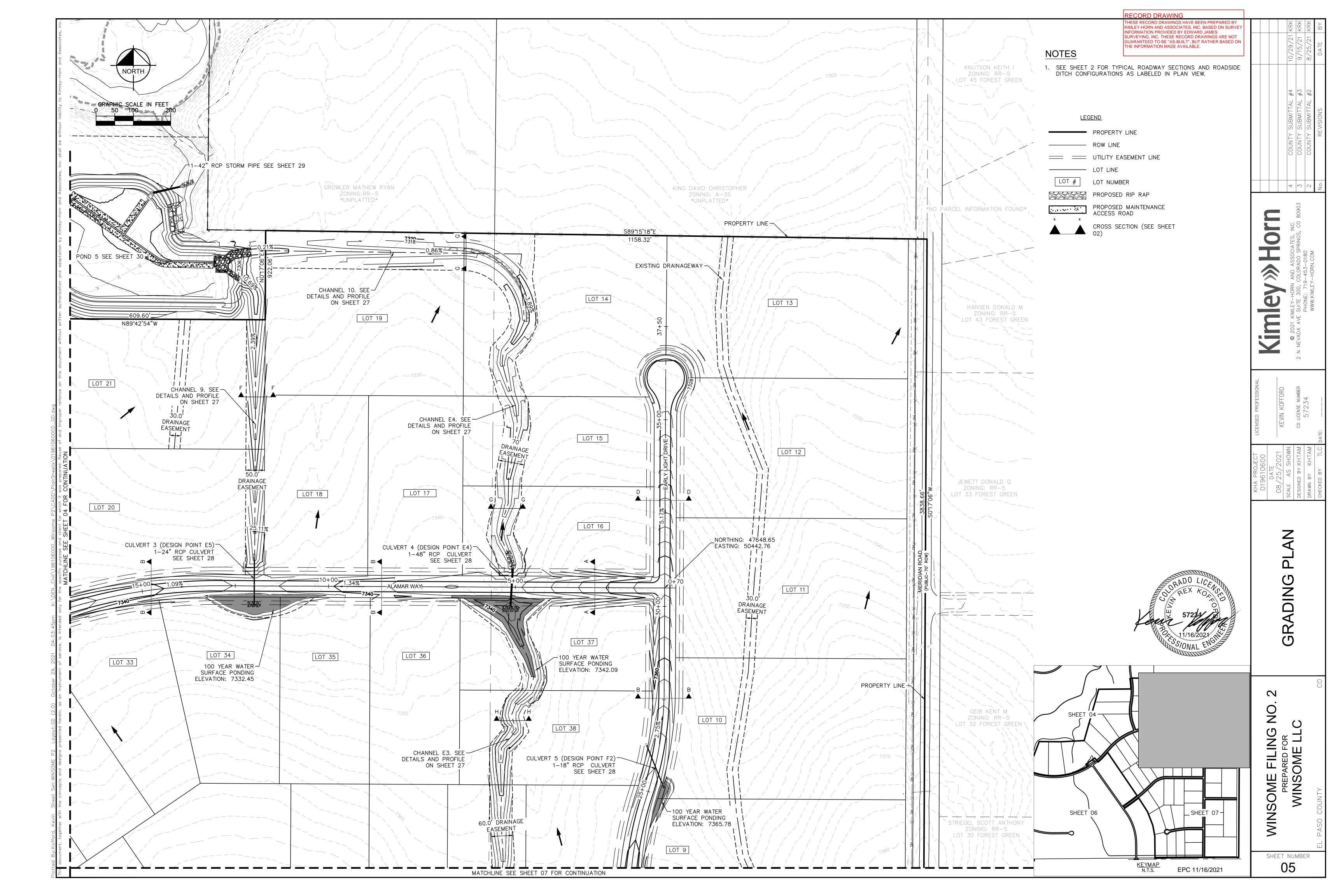
BASIS OF BEARINGS

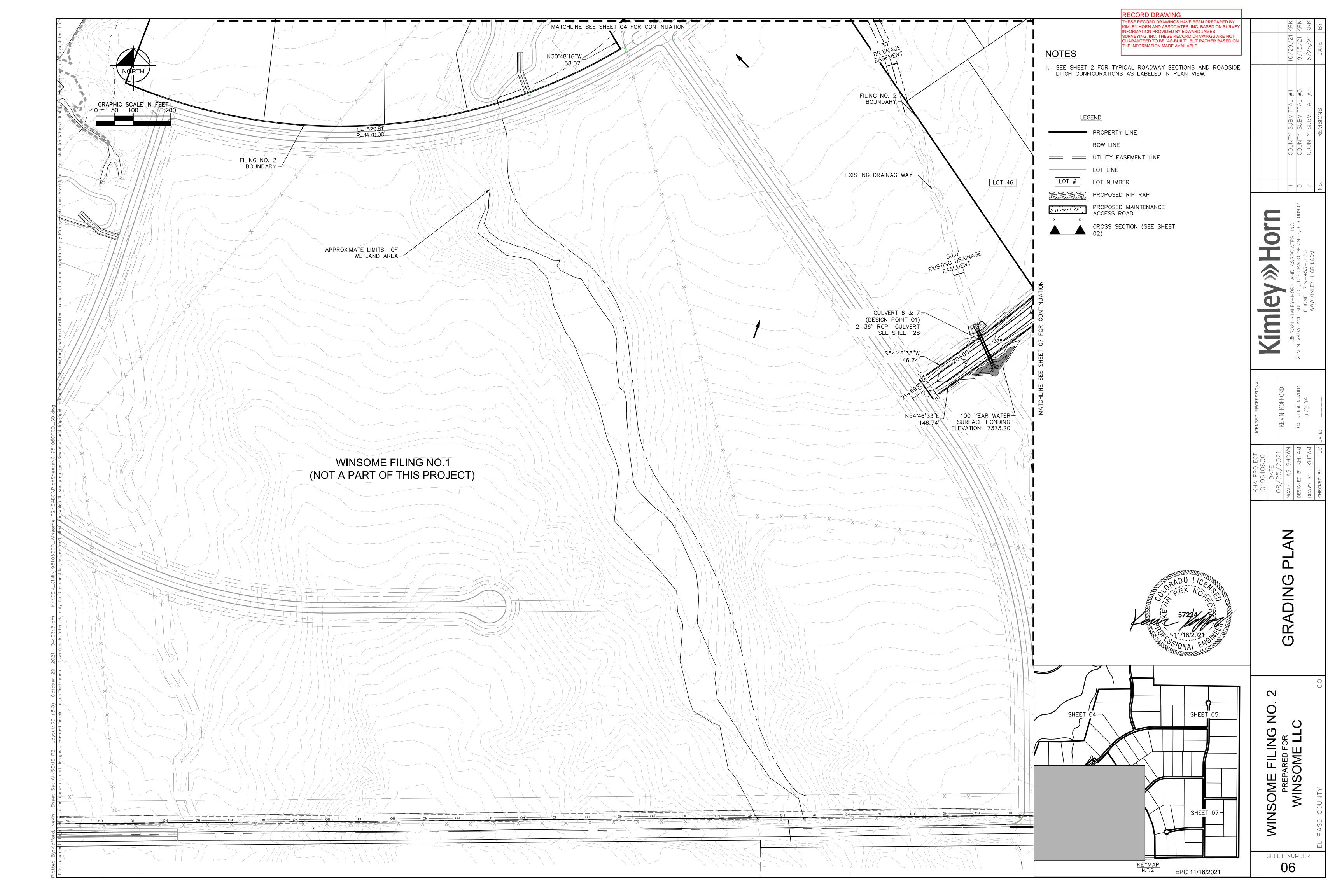
THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH/ PRINCIPAL MERIDIAN BEING MONUMENTED ON THE SOUTHERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "LS 28658" AND AT THE NORTHERLY END BY A 3-1/2" ALUMINUM CAP STAMPED "LS 12103" BEING ASSUMED TO BEAR NOO 14'25'E A DISTANCE OF 2636.99 FEET AS SHOWN IN LAND SURVEY PLAT RECORDED UNDER RECEPTION 218900072 RECORDS OF EL

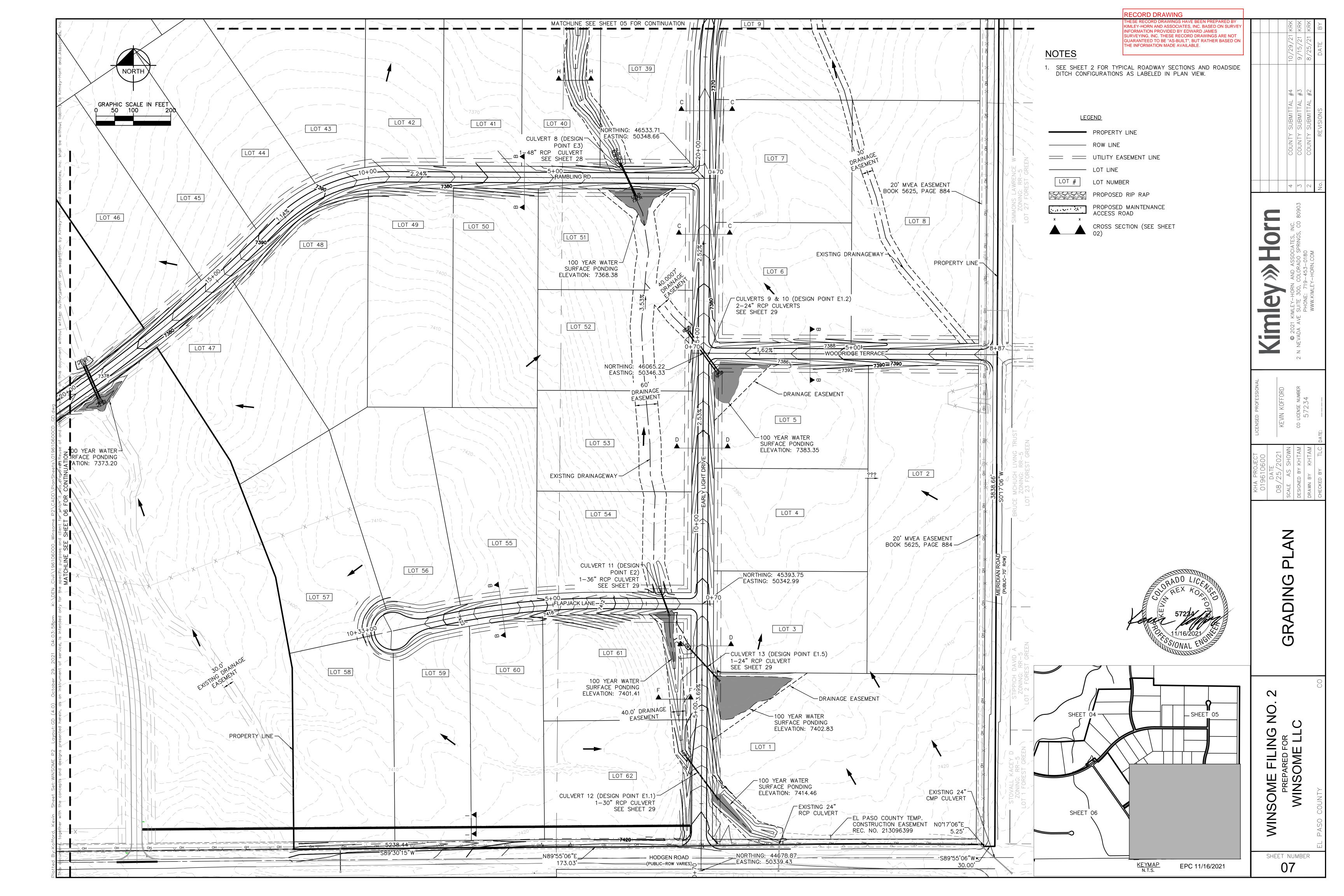


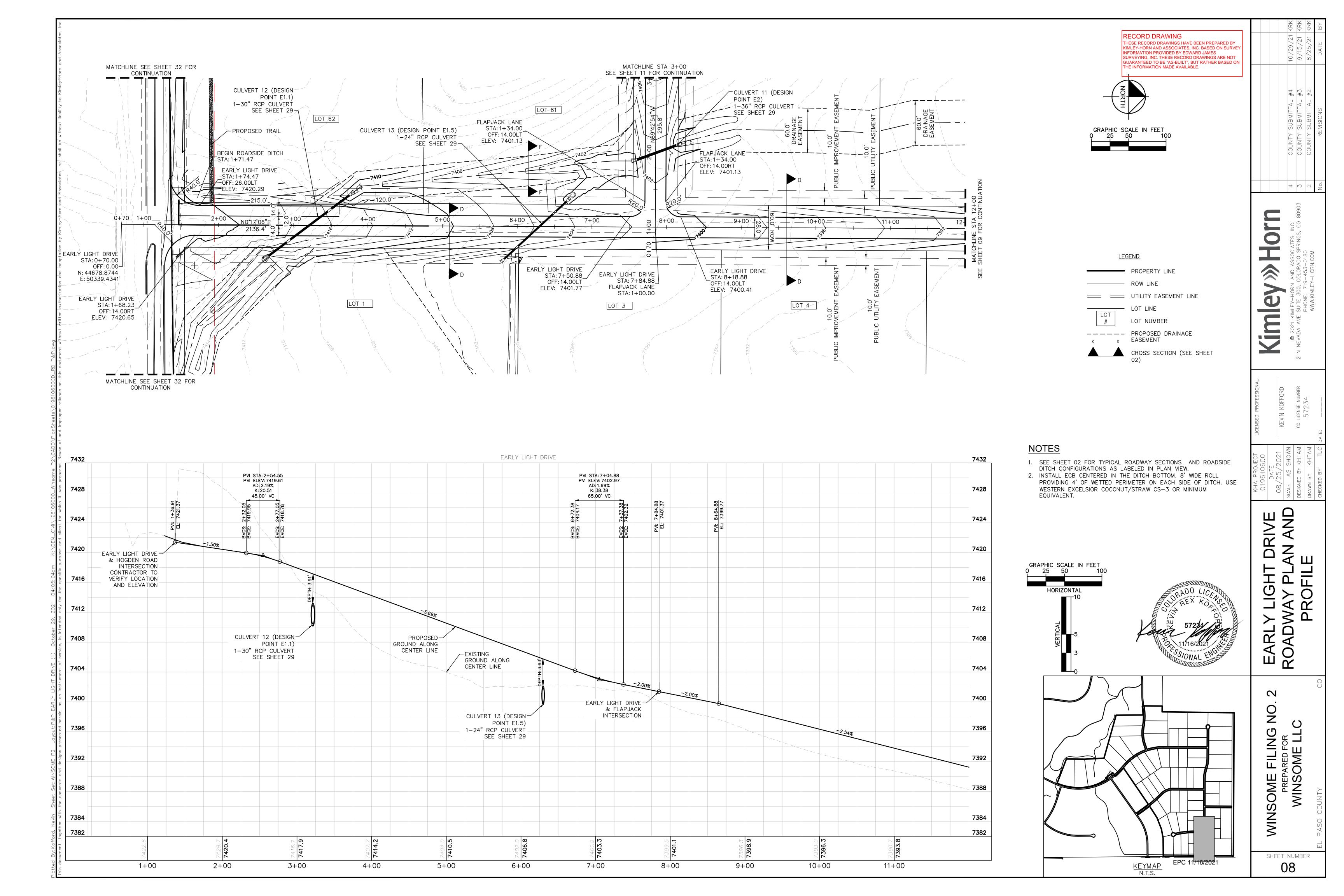


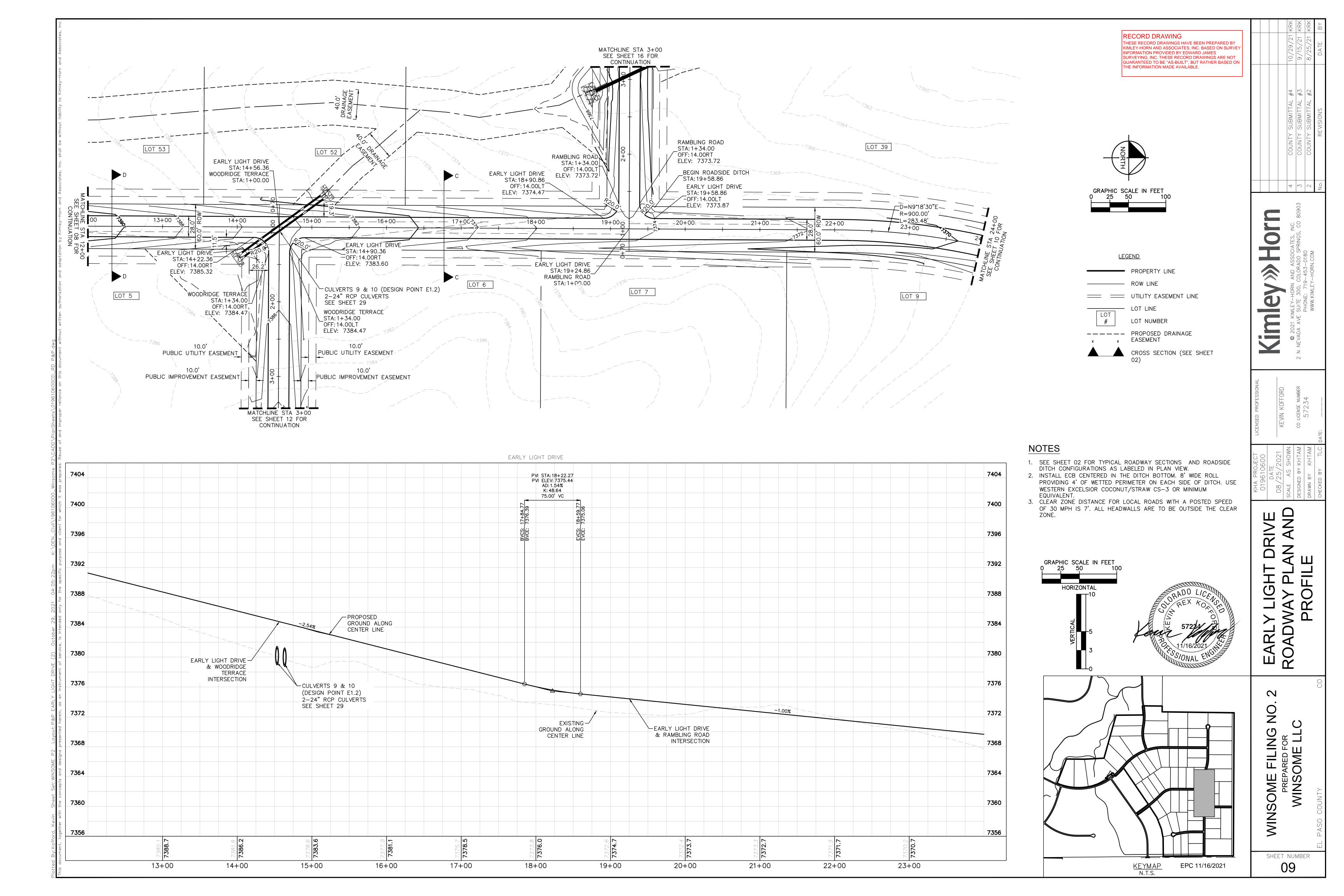


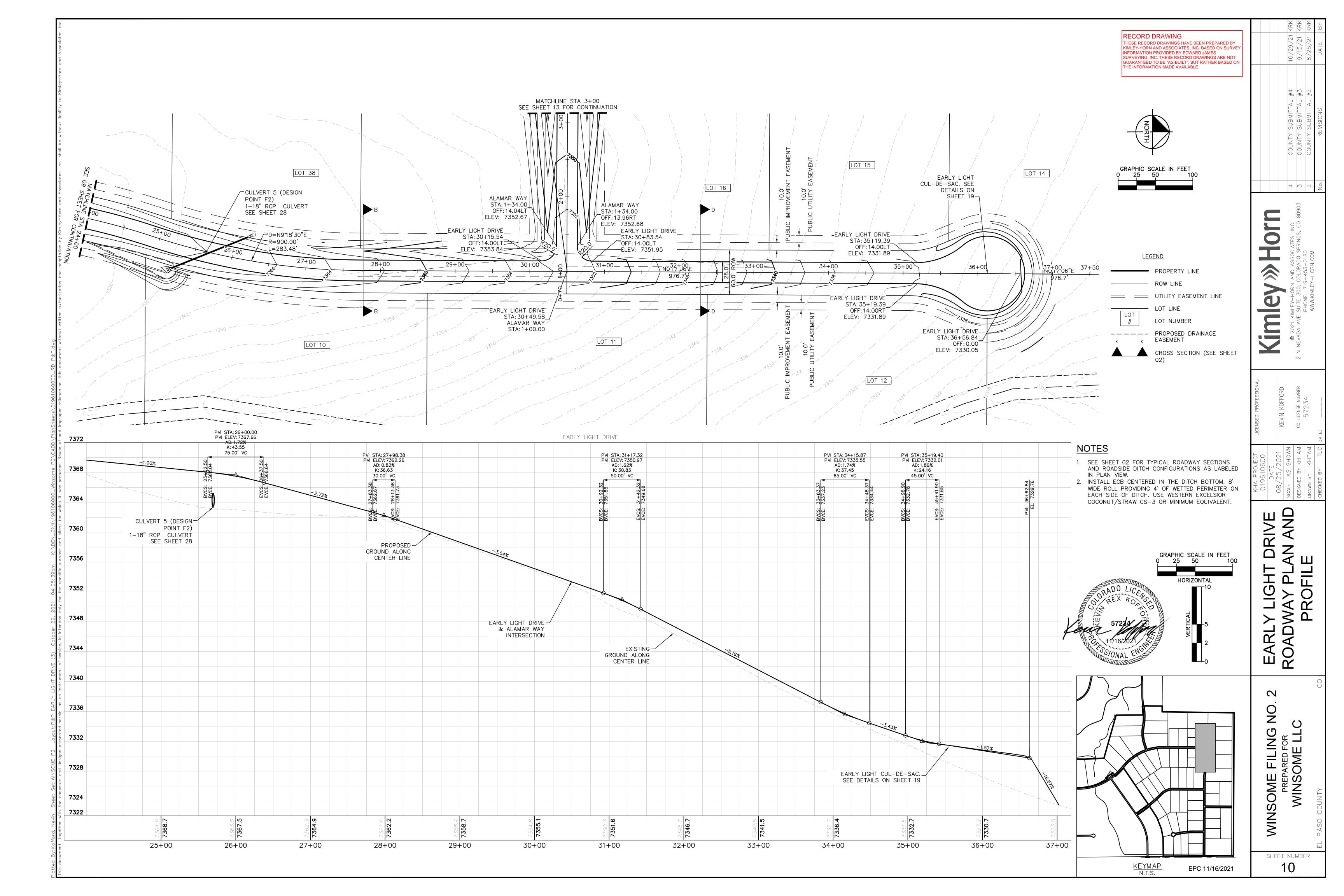


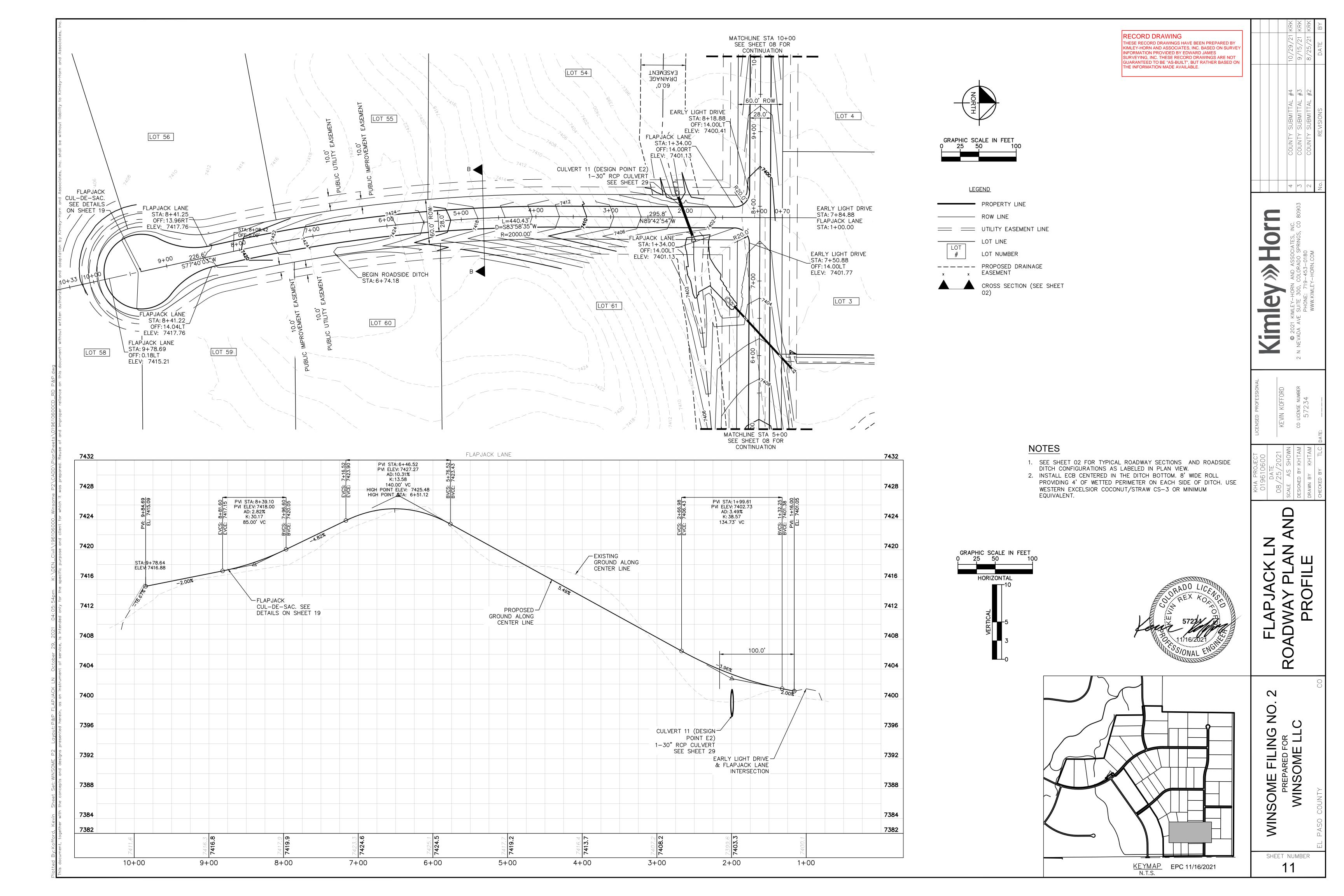


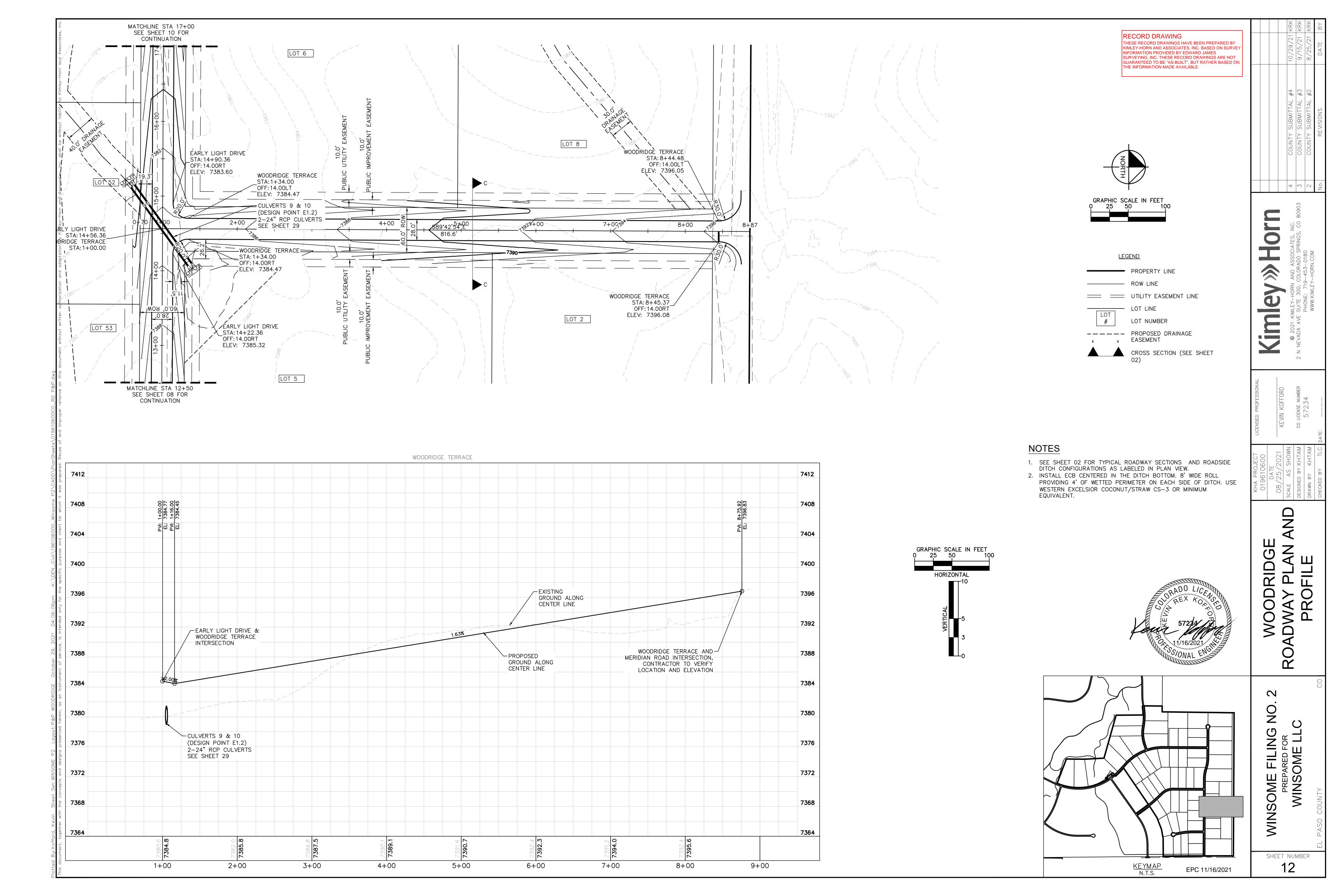


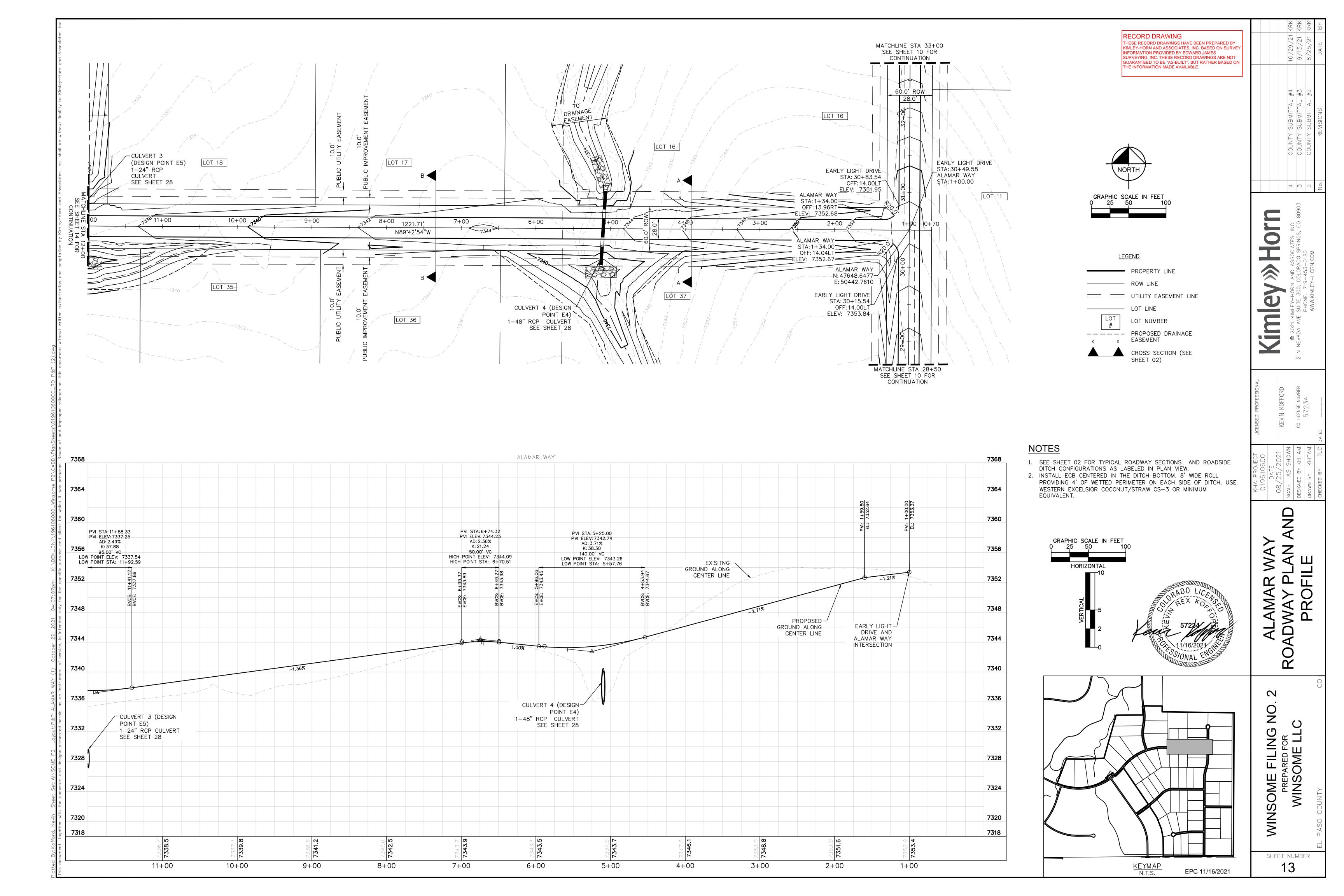


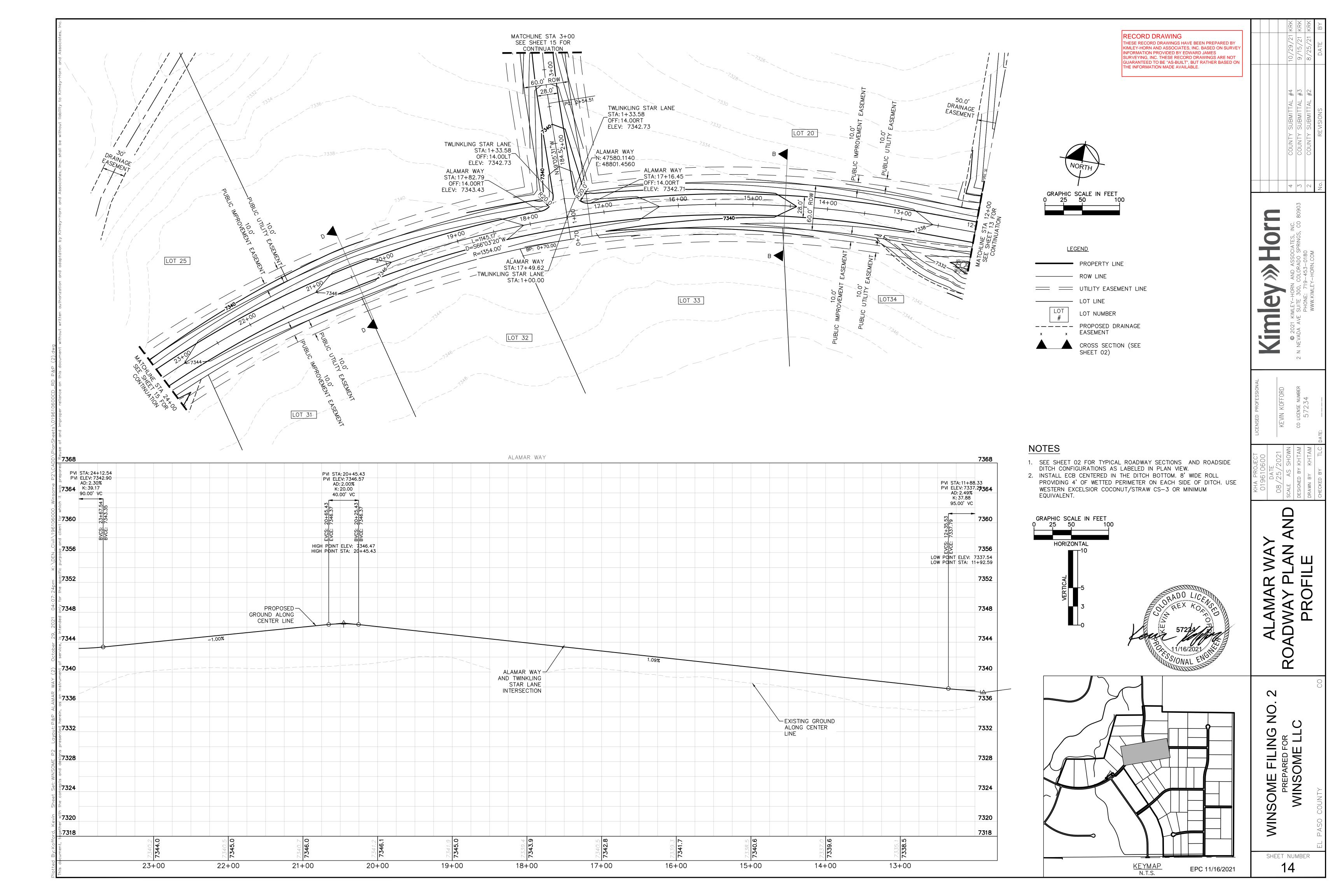


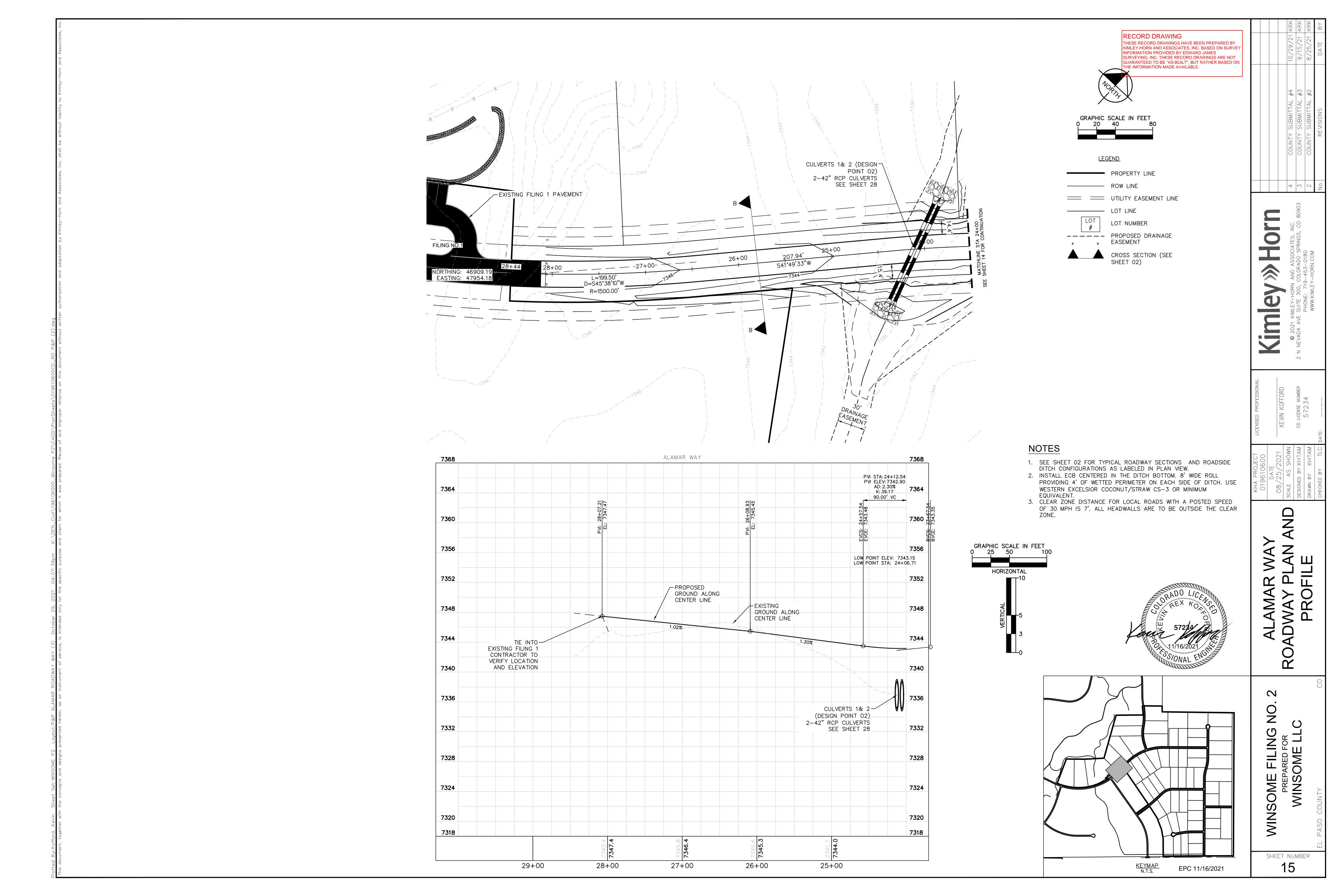


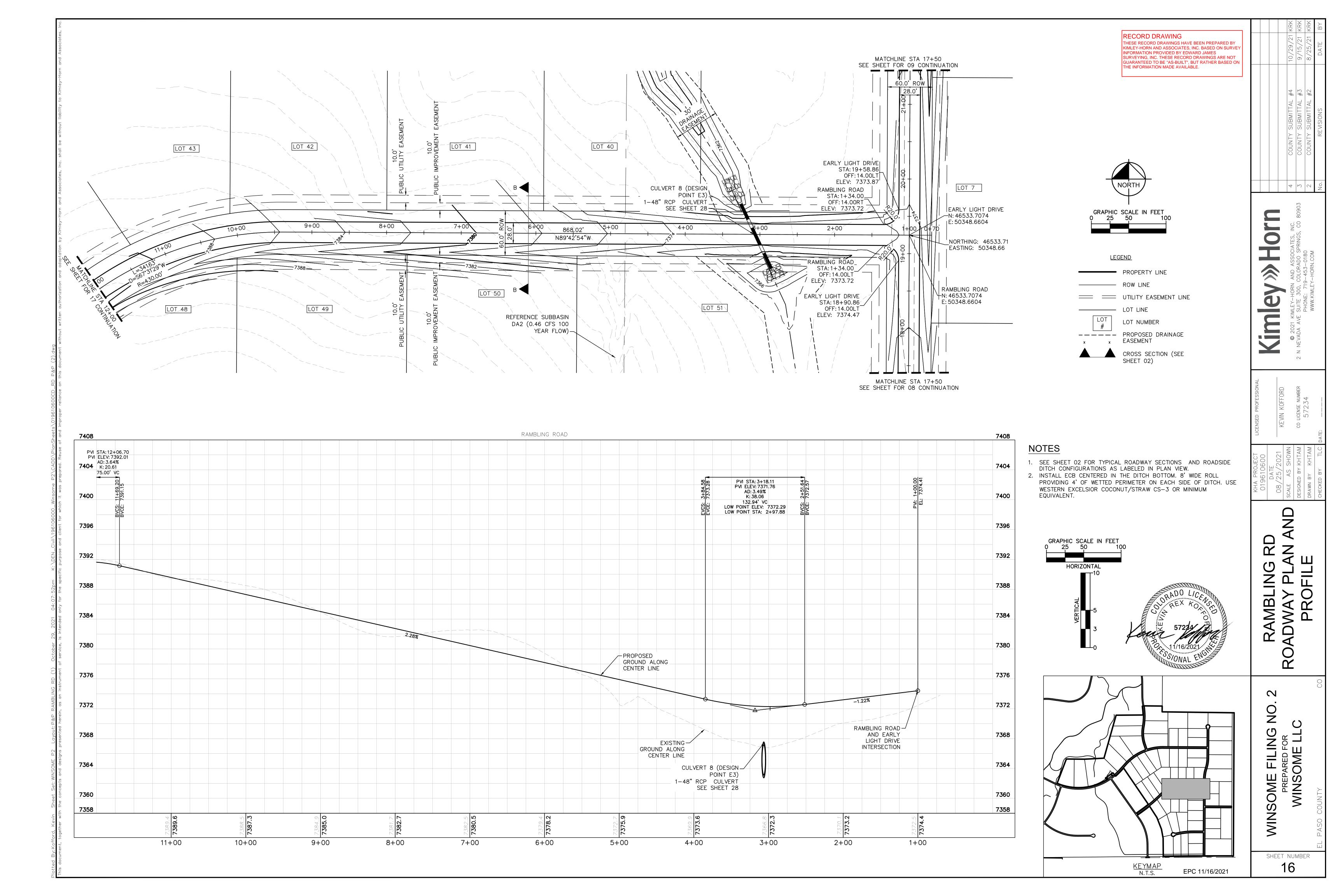


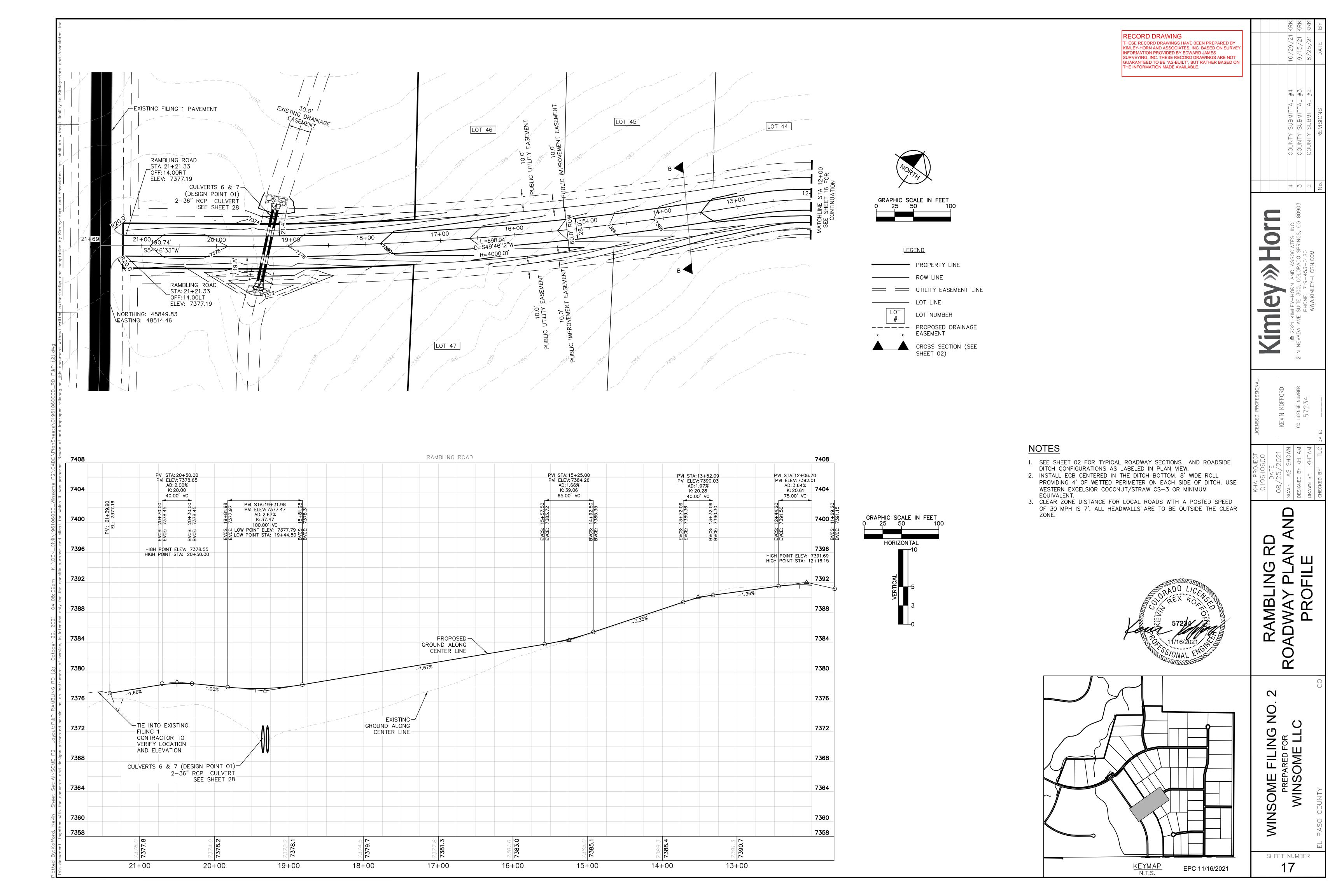


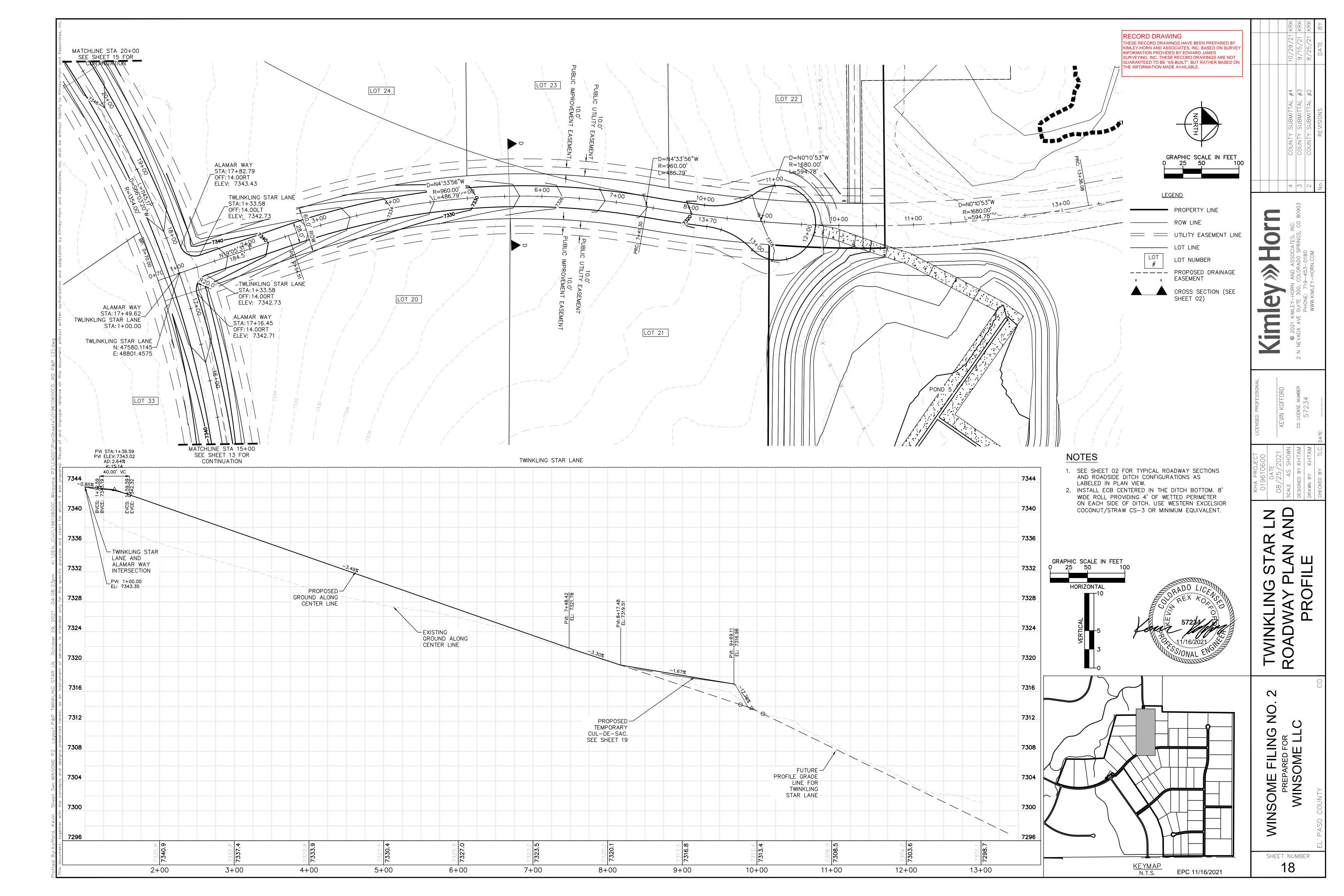


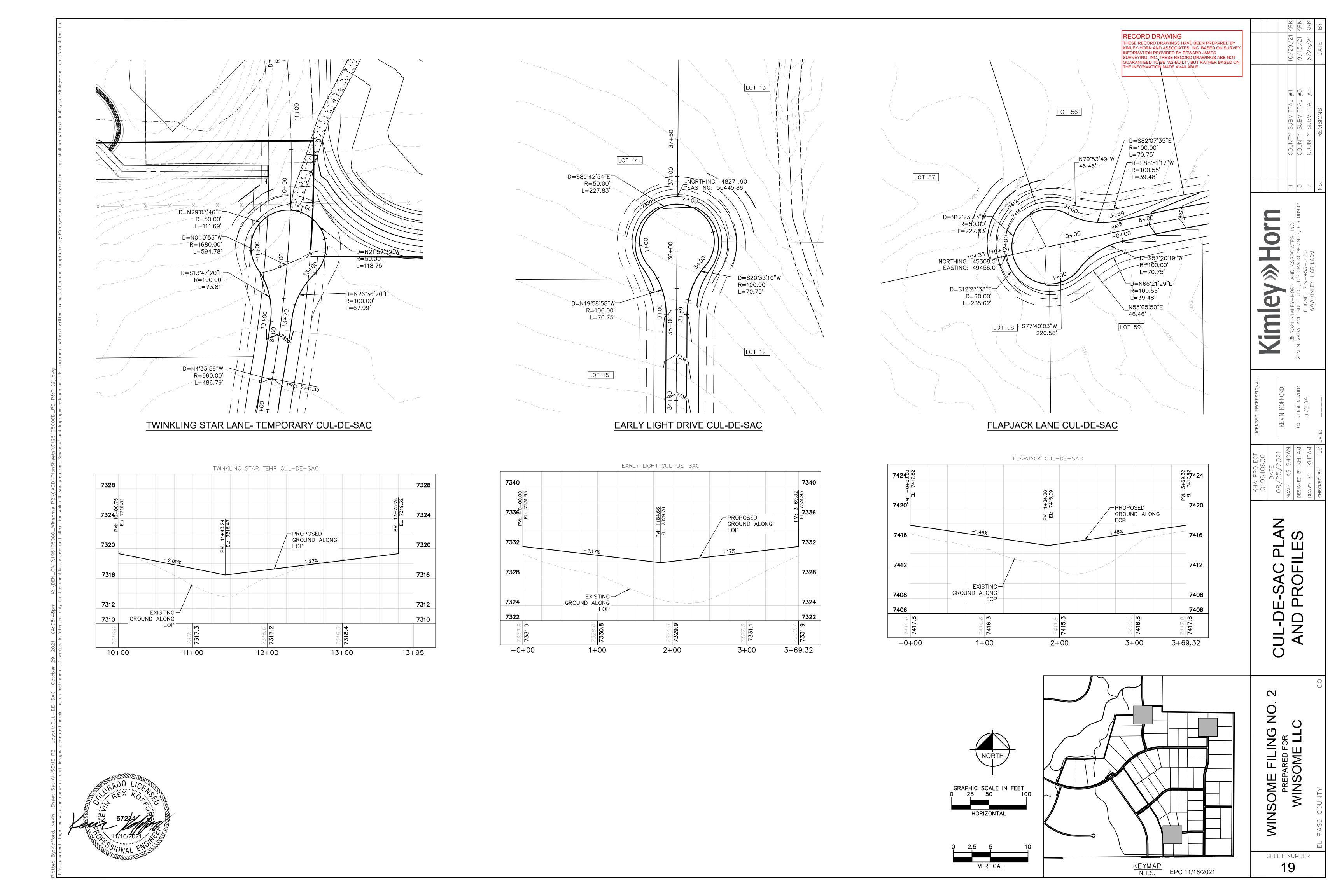


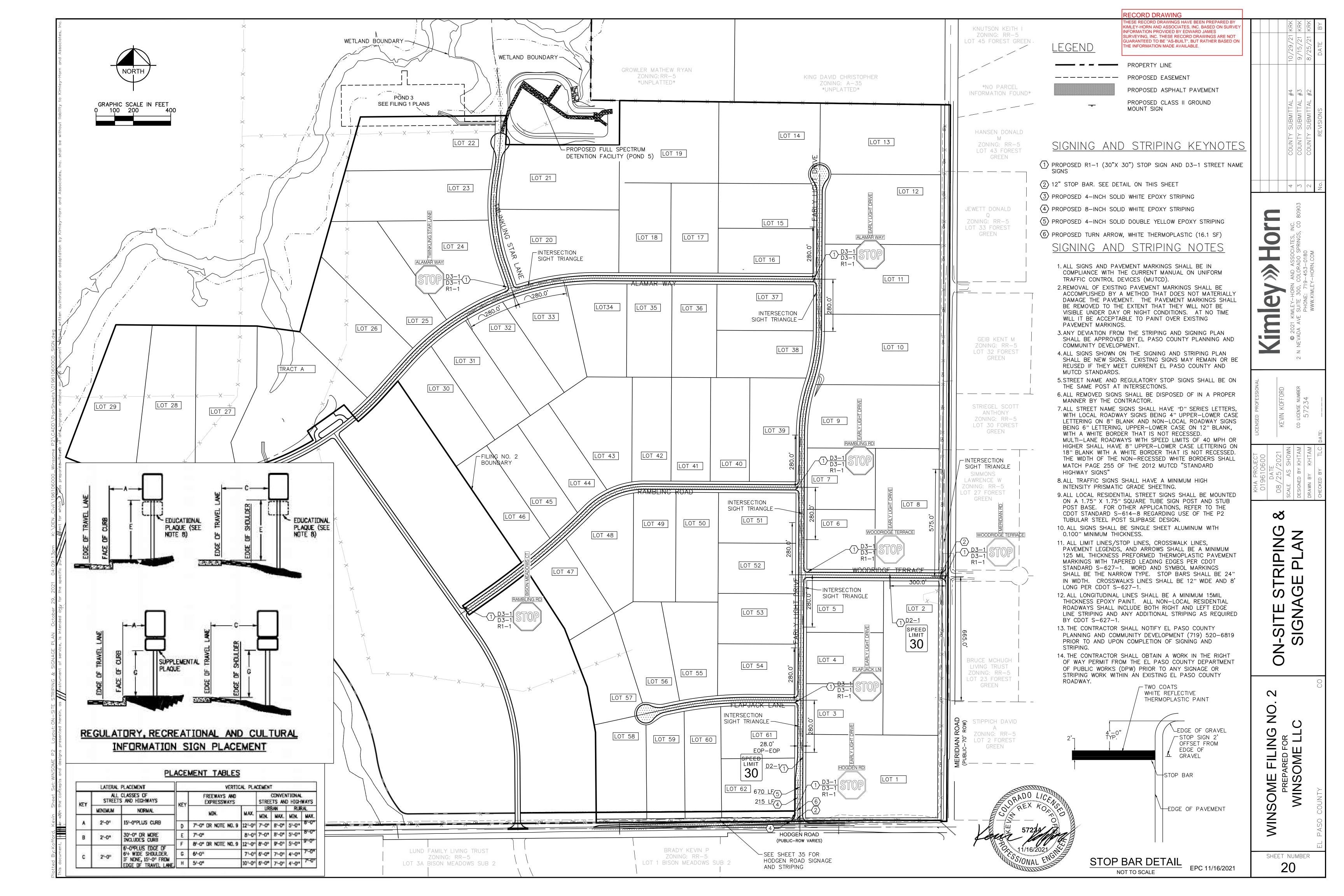


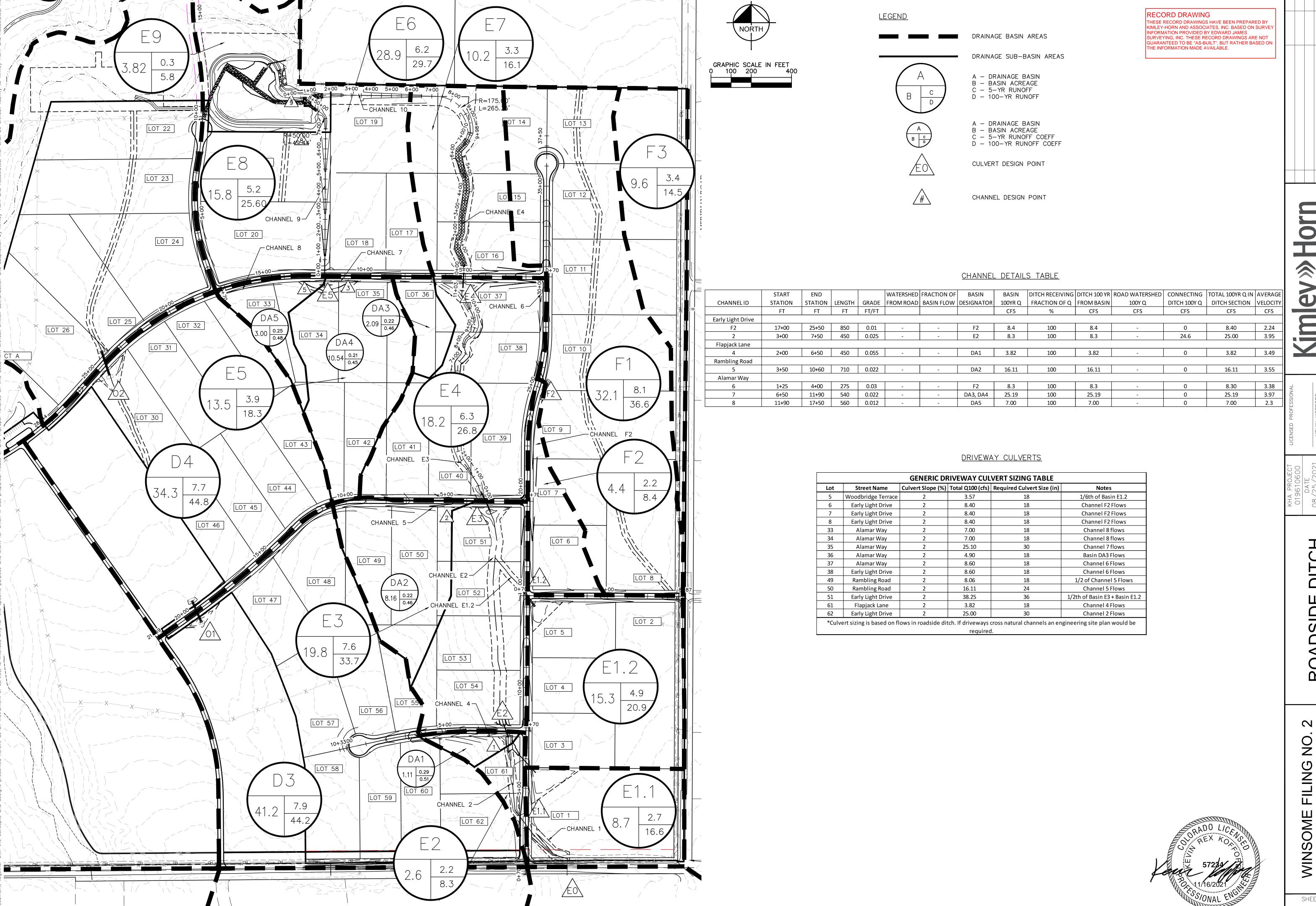








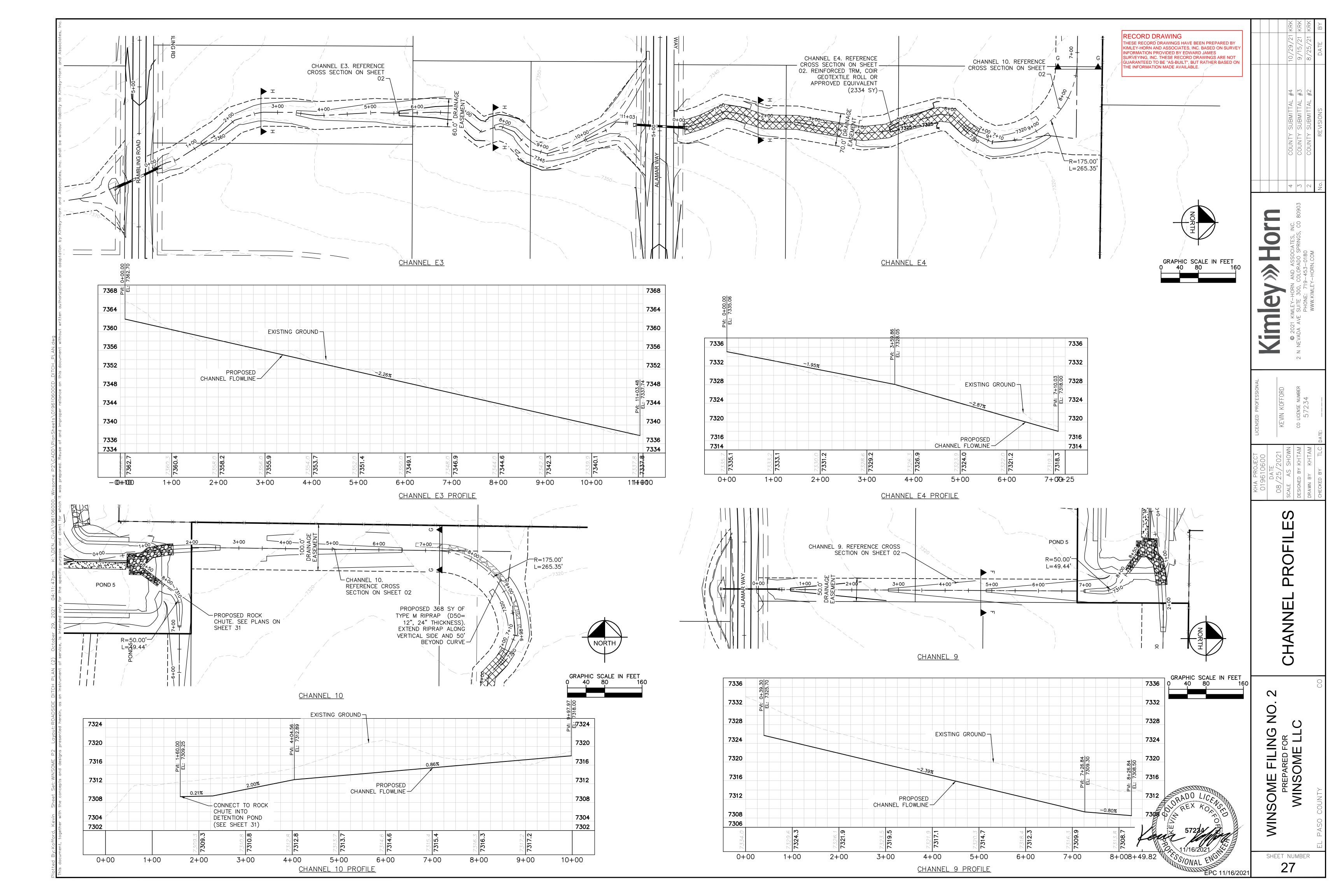


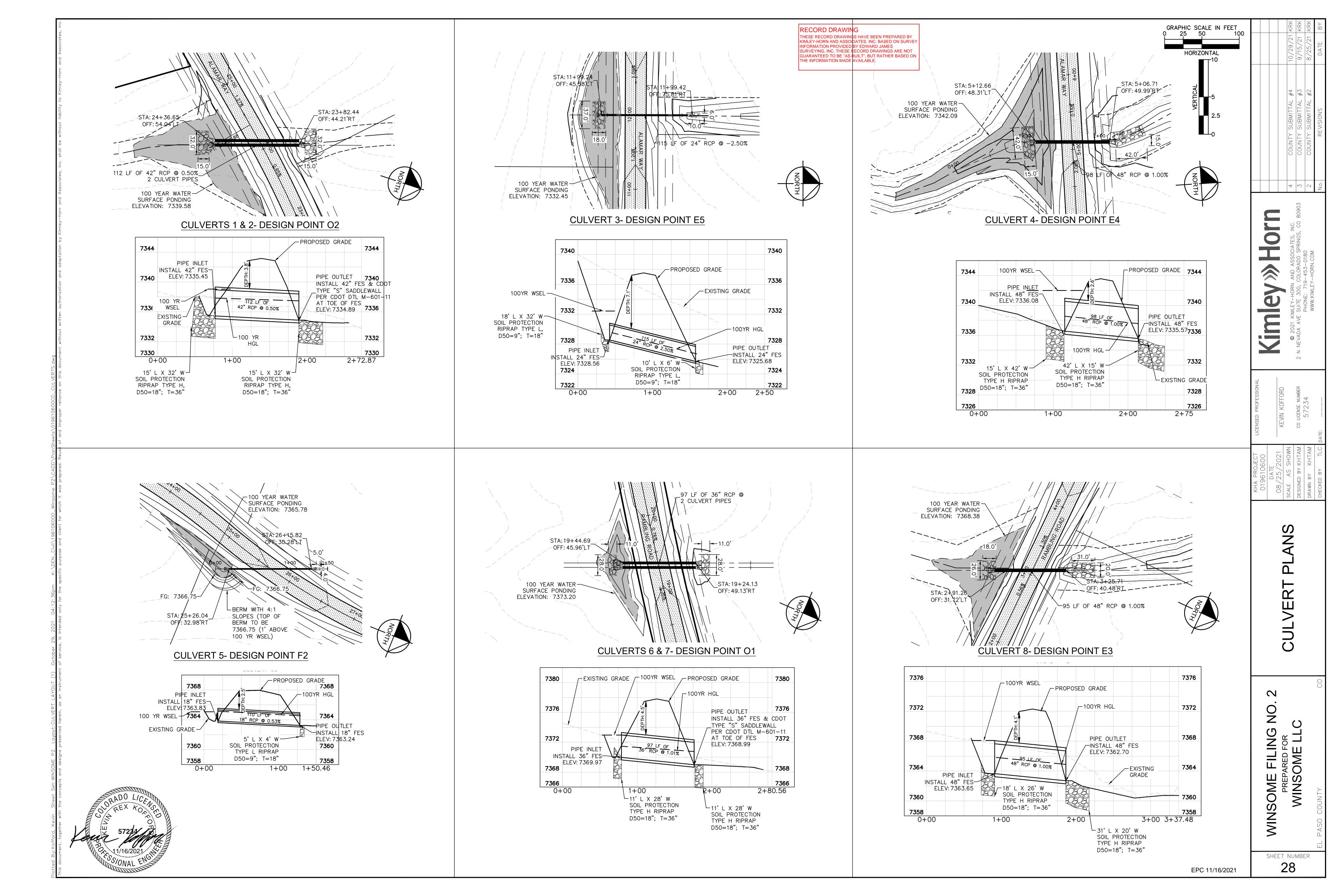


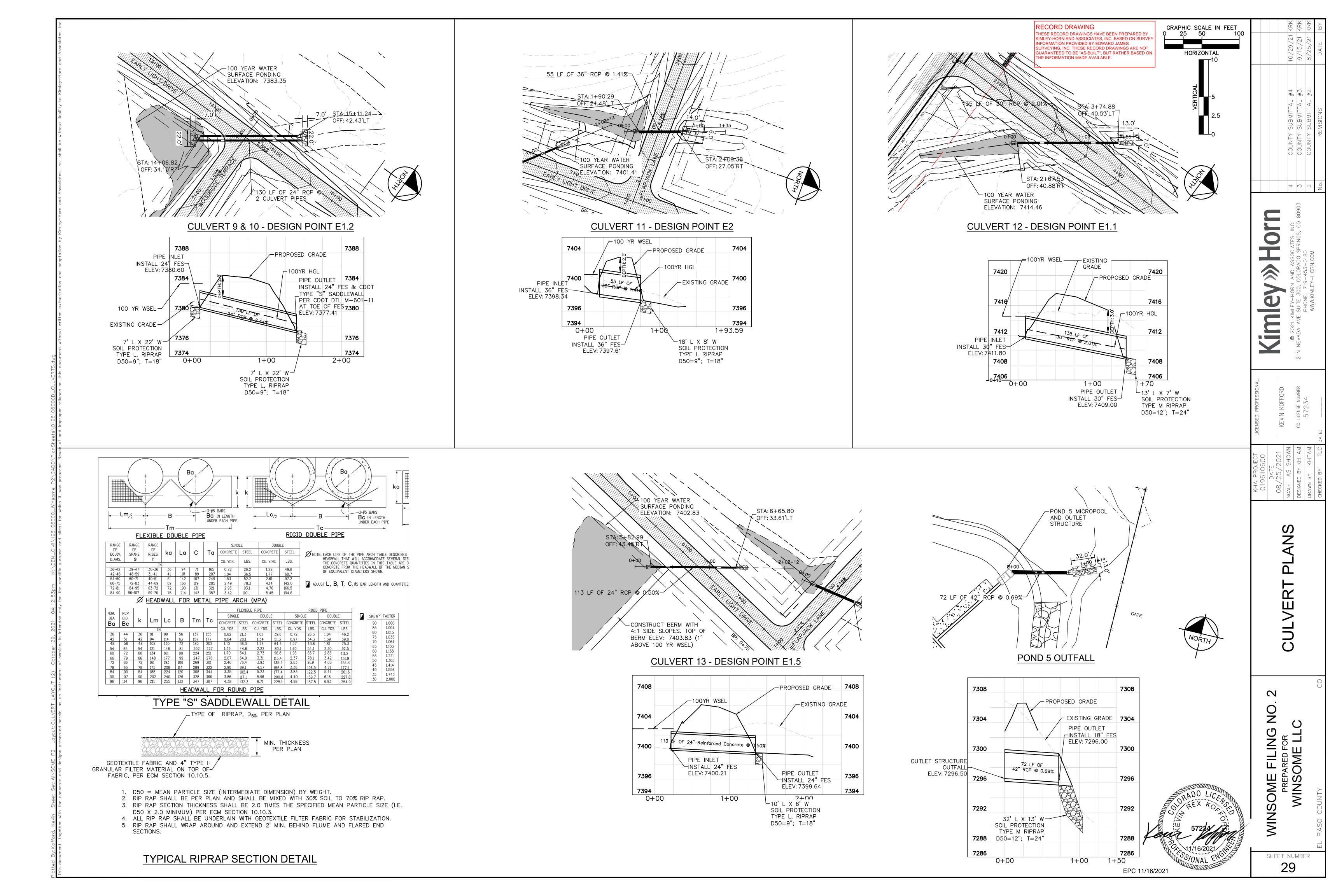
WINSOME

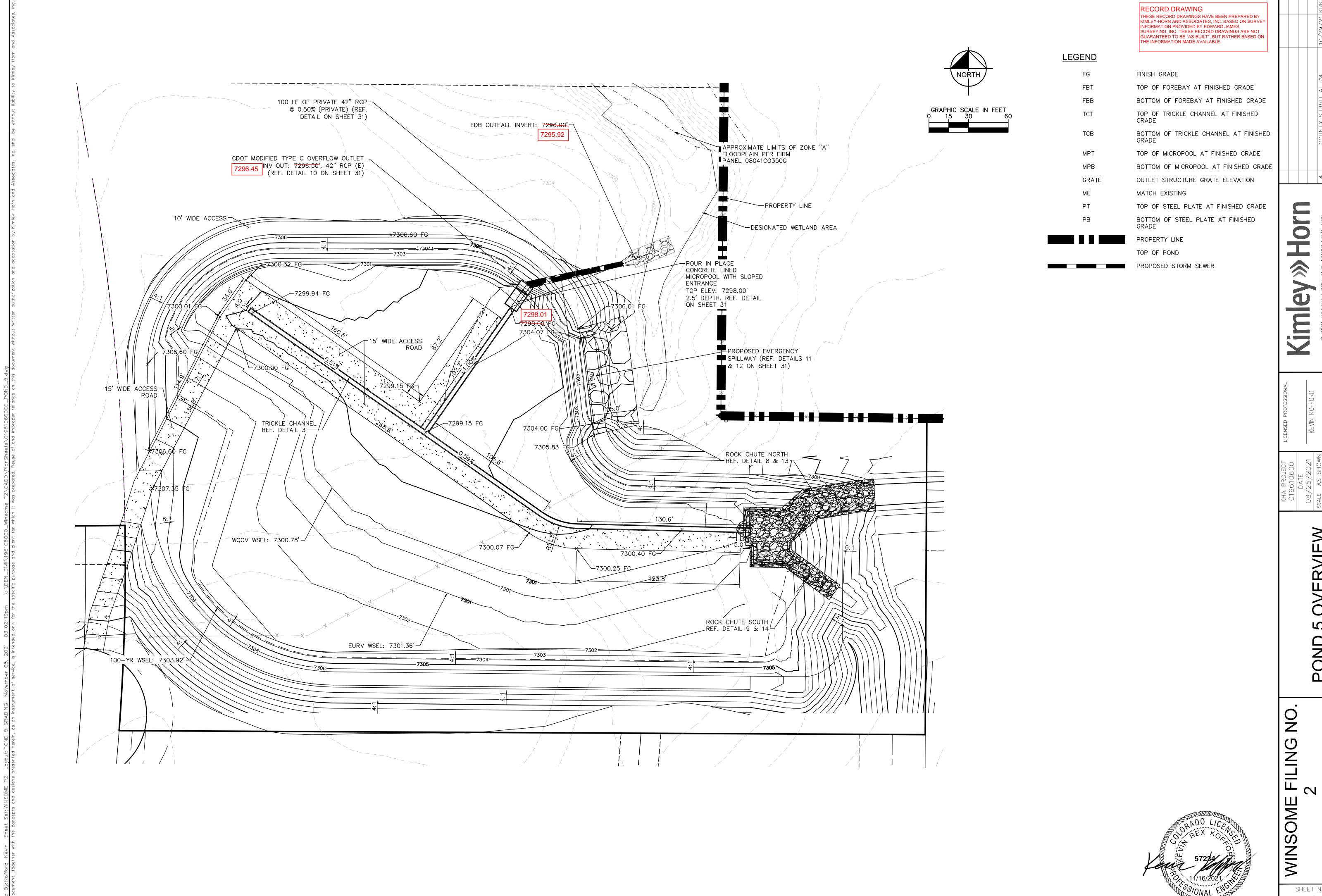
SHEET NUMBER 26

EPC 11/16/2021







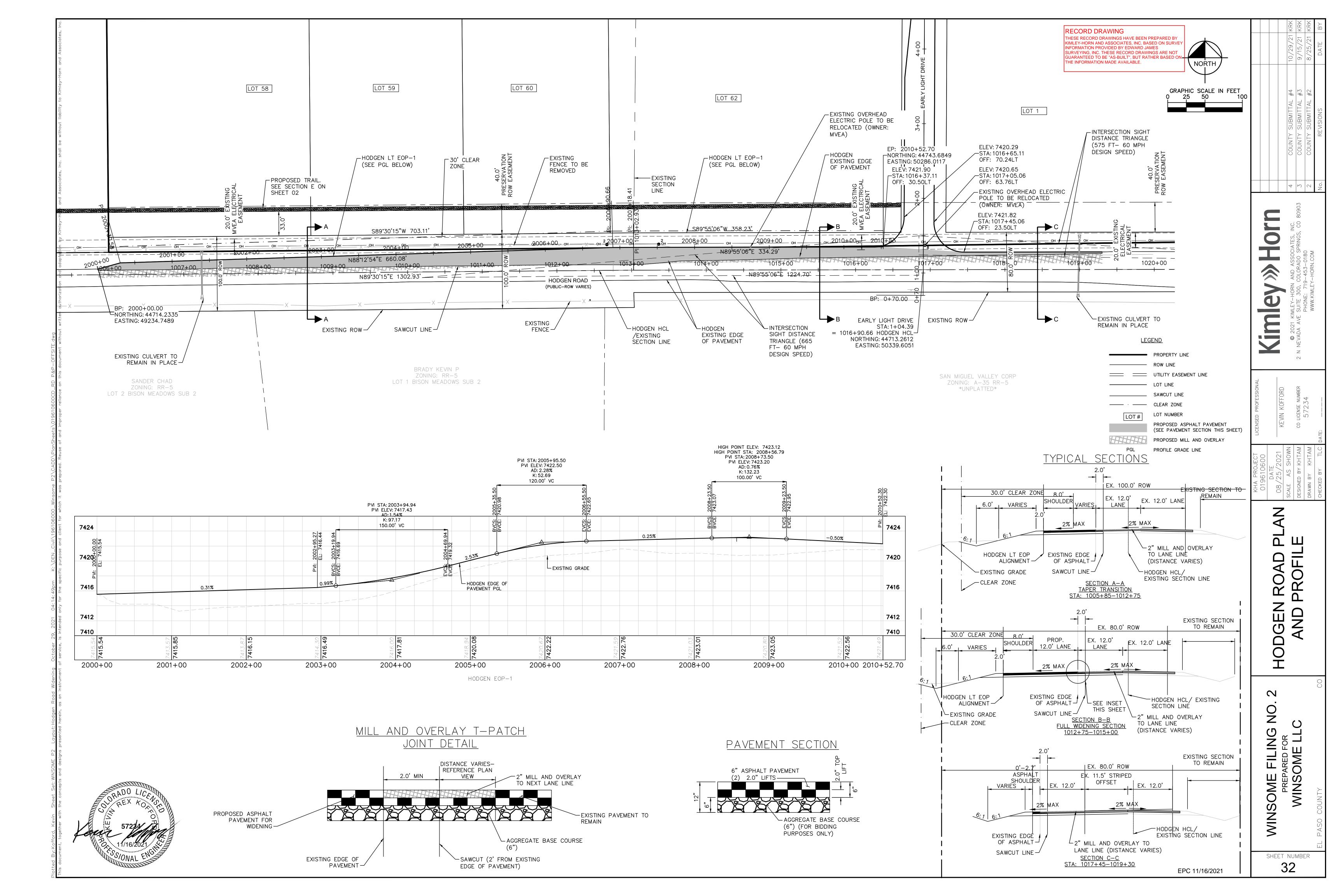


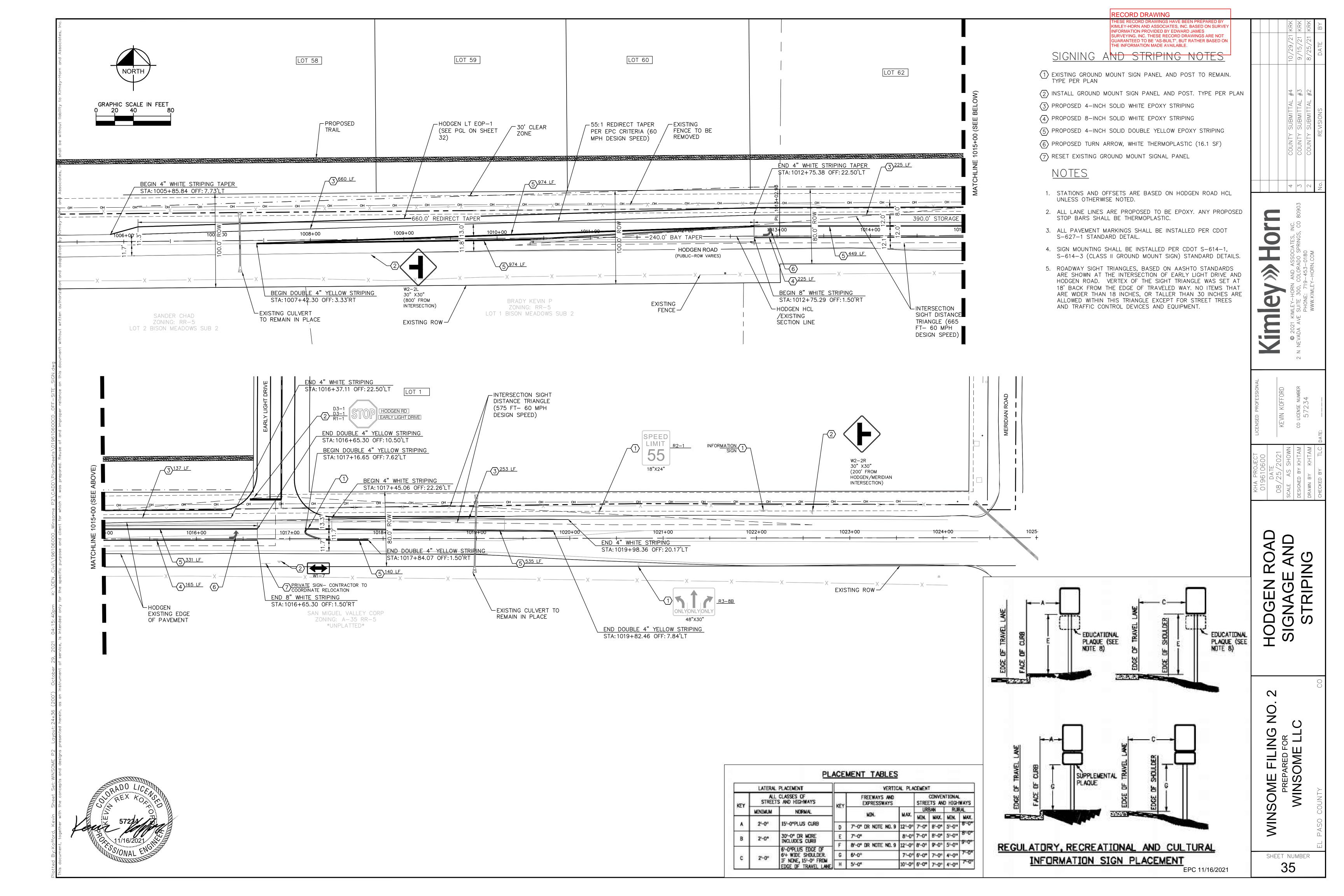
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SHEET NUMBER

OME WINS

SHEET NUMBER







October 31, 2022

Gilbert LaForce, PE El Paso County 2880 International Circle, Suite 110 Colorado Springs, CO 8010

Re: Winsome Filing No. 2 Certification Letter

El Paso County, Colorado

Dear Mr. LaForce:

This letter serves as the certification for Winsome Filing No. 2, El Paso County, CO consistent with El Paso County Engineering Manual ("ECM") Section 5.10.B, which states, "Engineering Record Drawings shall be accompanied by a certification letter from the Engineer of Record which shall state that the site and adjacent properties (as affected by work performed under the County permit) are stable with respect to settlement and subsidence, sloughing of cut and fill slopes, revegetation or other ground cover, and that the improvements (public improvements, common development improvements, site grading and paving) meet or exceed the minimum design requirements. For sites including detention and/or water quality facilities, the certification letter shall include a statement that the facilities provide the required storage volume and will meet the required release rates, as documented by an attached UDFCD design form submitted with the original application, the stage areas, elevations and outlet dimensions."

Based upon this information and information gathered during periodic site visits to the site during significant/key phases of the infrastructure installation, *Kimley-Horn & Associates, Inc.* is of the opinion that the work performed under the County Permit, per Section 5.10.B of the ECM, have been constructed in general compliance with the approved Construction Plans as filed with the County dated November 16, 2021.

Statement Of Engineer In Responsible Charge:

I, <u>Kevin R. Kofford</u>, a registered Professional Engineer in the State of Colorado, in accordance with Sections 5.2 and 5.3 of the Bylaws and Rules of the State Board of Registration for Professional Engineers and Professional Land Surveyors, do hereby certify that I or a person under my responsible charge periodically observed the construction of the above-mentioned project. Based on the on-site field observations and review of pertinent documentation, it is my professional opinion that the required infrastructure improvements have been installed and are in general compliance with the approved Construction Plans as filed with El Paso County. For BMPs with a Water Quality Capture Volume (WQCV), I have attached the post-construction As-Built drawings. The As-Built drawings accurately depict the final installation of the stormwater BMPs and verify the WQCV.

Kevin R. Kofford, P.E. Colorado No. 57234



Kimley»Horn





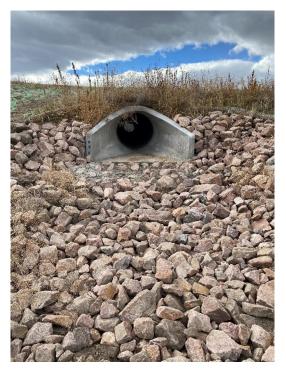
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Kimley » Horn





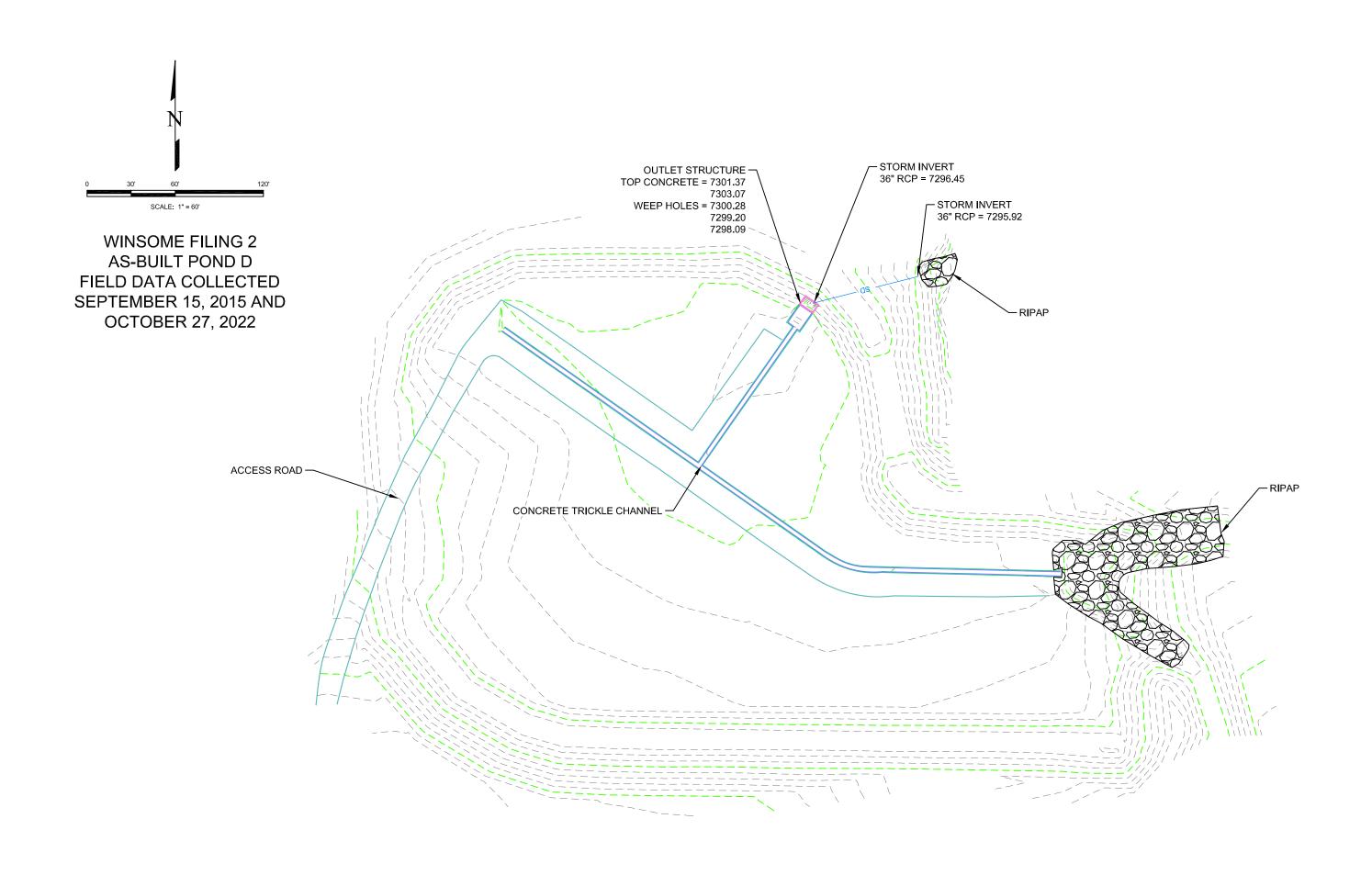


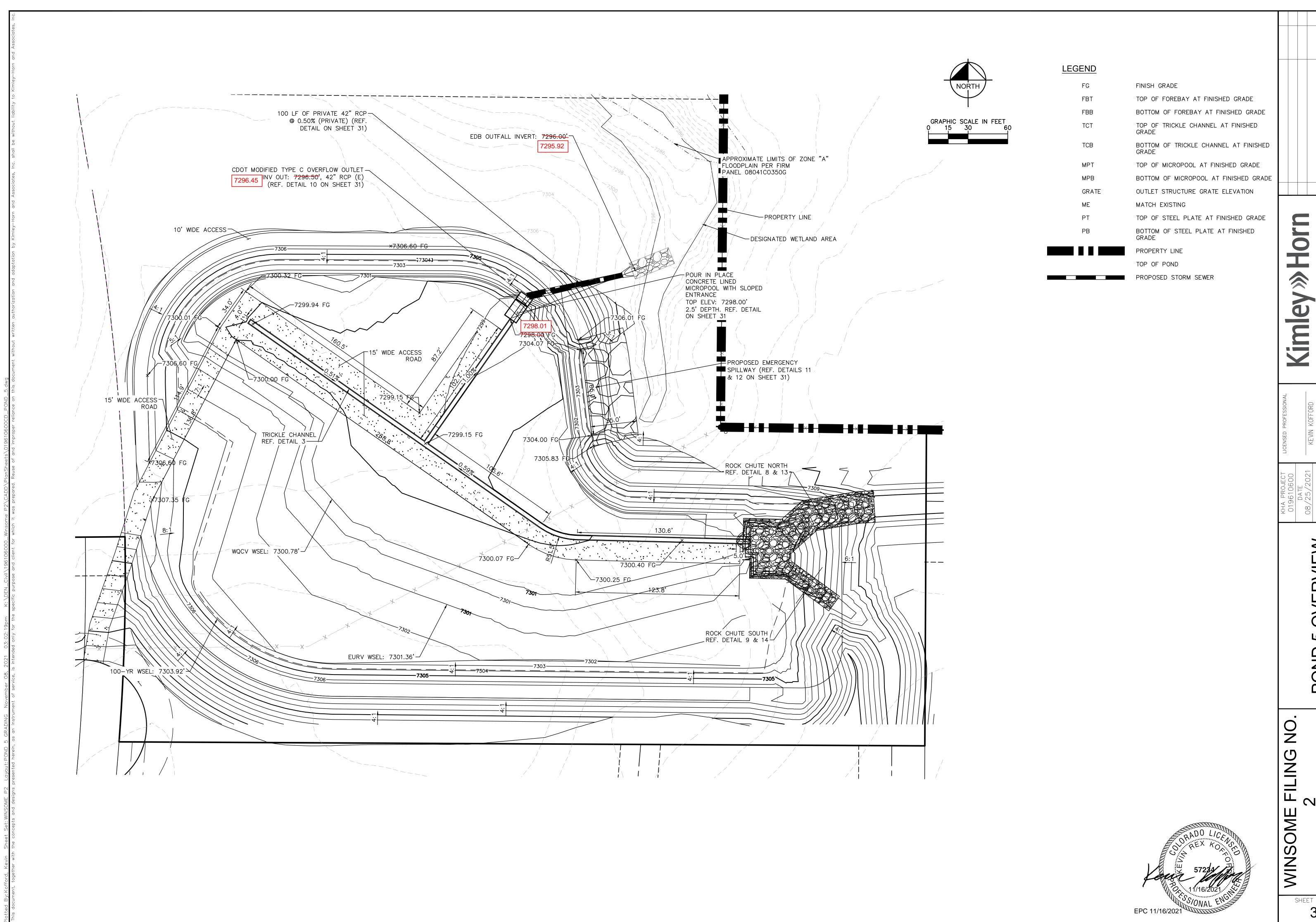


Kimley»Horn







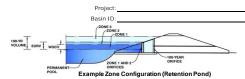


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SHEET NUMBER

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.06 (July 2022)



Watershed Information

Selected BMP Type =	EDB	
Watershed Area =	151.30	acres
Watershed Length =	6,210	ft
Watershed Length to Centroid =	2,295	ft
Watershed Slope =	0.026	ft/ft
Watershed Imperviousness =	12.30%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	98.1%	percent
Percentage Hydrologic Soil Groups C/D =	1.9%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using

the embedded Colorado Urban Hydro	graph Procedu	ıre.
Water Quality Capture Volume (WQCV) =	1.033	acre-feet
Excess Urban Runoff Volume (EURV) =	1.825	acre-feet
2-yr Runoff Volume (P1 = 1.19 in.) =	2.329	acre-feet
5-yr Runoff Volume (P1 = 1.5 in.) =	4.848	acre-feet
10-yr Runoff Volume (P1 = 1.75 in.) =	7.343	acre-feet
25-yr Runoff Volume (P1 = 2 in.) =	11.651	acre-feet
50-yr Runoff Volume (P1 = 2.25 in.) =	14.636	acre-feet
100-yr Runoff Volume (P1 = 2.52 in.) =	18.889	acre-feet
500-yr Runoff Volume (P1 = 3.14 in.) =	26.699	acre-feet
Approximate 2-yr Detention Volume =	1.162	acre-feet
Approximate 5-yr Detention Volume =	1.808	acre-feet
Approximate 10-yr Detention Volume =	3.412	acre-feet
Approximate 25-yr Detention Volume =	4.591	acre-feet
Approximate 50-yr Detention Volume =	4.825	acre-feet
Approximate 100-yr Detention Volume =	6.164	acre-feet

Optional User	Overrides
1.033	acre-feet
1.825	acre-feet
1.19	inches
1.50	inches
1.75	inches
2.00	inches
2.25	inches
2.52	inches
	inches
	1.033 1.825 1.19 1.50 1.75 2.00 2.25

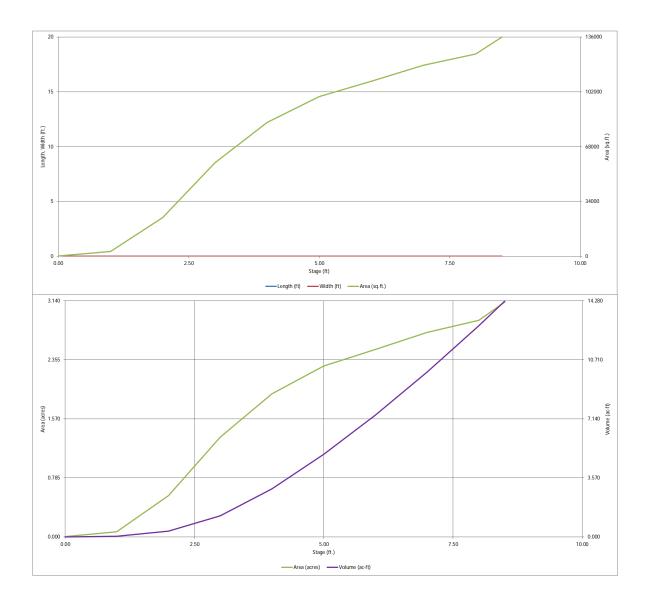
Define Zones and Basin Geometry

Define Zones and Dasin Ocometry		
Zone 1 Volume (WQCV) =	1.033	acre-f
Zone 2 Volume (EURV - Zone 1) =	0.792	acre-f
Zone 3 Volume (100-year - Zones 1 & 2) =	4.339	acre-f
Total Detention Basin Volume =	6.164	acre-f
Initial Surcharge Volume (ISV) =	user	ft ³
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H _{total}) =	user	ft
Depth of Trickle Channel (H _{TC}) =	user	ft
Slope of Trickle Channel (S _{TC}) =	user	ft/ft
Slopes of Main Basin Sides (Smain) =	user	H:V
Basin Length-to-Width Ratio (R _{L/W}) =	user	

Initial Surcharge Area (A _{ISV}) =	user	ft ²
Surcharge Volume Length (L _{ISV}) =	user	ft
Surcharge Volume Width (W _{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (LFLOOR) =	user	ft
Width of Basin Floor $(W_{FLOOR}) =$		ft
Area of Basin Floor (A _{FLOOR}) =		ft ²
Volume of Basin Floor (V _{FLOOR}) =	user	ft ³
Depth of Main Basin (H _{MAIN}) =	user	ft
Length of Main Basin $(L_{MAIN}) =$	user	ft
Width of Main Basin (W _{MAIN}) =		ft
Area of Main Basin (A _{MAIN}) =	user	ft ²
Volume of Main Basin (V _{MAIN}) =	user	ft ³
Calculated Total Basin Volume (Vtotal) =	user	acre-feet

Object September Septemb	Depth Increment =		ft					
Description (1) Supply (2) (1) (1) (1) No. (1)			Optional		Optional			
Top of Micropool								
17300							(11.7	(dc II)
17300	7299		1.00	 	 2,850	0.065	1,504	0.035
3301								
37302								
1396								2.893
7305	7303	-	5.00	 	 98,948	2.272	216,950	4.980
7300							320,688	
7307								
	7307		8.50		135,981	3.122	621,454	14.267
		-		 				
		-		 				

M#FD-Detention_v4-06.xkm, Basin 10/31/2022, 1:47 PM



M#FD-Detention_w4-06.xkm, Basin 10/31/2022, 1:47 PM

DETENTION BASIN OUTLET STRUCTURE DESIGN MHFD-Detention, Version 4.06 (July 2022 Project Basin ID: Estimated Estimated Stage (ft) Volume (ac-ft) Outlet Type Orifice Plate Zone 1 (WQCV) 2.81 1.033 0.792 Zone 2 (EURV) 3.39 Orifice Plate 100-YEAR Zone 3 (100-year) 5.51 4.339 Weir&Pipe (Restrict) Example Zone Configuration (Retention Pond) Total (all zones) 6.164 User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP) Calculated Parameters for Underdrain ft (distance below the filtration media surface) Underdrain Orifice Area Underdrain Orifice Invert Depth = N/A N/A Underdrain Orifice Diameter = N/A inches Underdrain Orifice Centroid : N/A feet User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP) Calculated Parameters for Plate Centroid of Lowest Orifice = 0.00 ft (relative to basin bottom at Stage = 0 ft) WQ Orifice Area per Row N/A ft (relative to basin bottom at Stage = 0 ft) Elliptical Half-Width Depth at top of Zone using Orifice Plate 3.28 N/A Orifice Plate: Orifice Vertical Spacing inches Elliptical Slot Centroid N/A N/A feet Orifice Plate: Orifice Area per Row = N/A N/A sa, inches Elliptical Slot Area: User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest) Row 1 (required) Row 2 (optional) Row 3 (optional) Row 4 (optional) Row 5 (optional) Row 6 (optional) Row 7 (optional) Row 8 (optional) Stage of Orifice Centroid (ft) 0.00 1.11 2.19 3.14 3.14 10.00 Orifice Area (sq. inches) Row 9 (optional) Row 10 (optional) Row 11 (optional) Row 12 (optional) Row 13 (optional) Row 14 (optional) Stage of Orifice Centroid (ft) Orifice Area (sq. inches) User Input: Vertical Orifice (Circular or Rectangular) Calculated Parameters for Vertical Orifice Not Selected Not Selected Not Selected Not Selected Invert of Vertical Orifice Vertical Orifice Area N/A N/A N/A ft (relative to basin bottom at Stage = 0 ft) N/A Depth at top of Zone using Vertical Orifice = N/A N/A ft (relative to basin bottom at Stage = 0 ft) Vertical Orifice Centroid = N/A N/A Vertical Orifice Diameter = NI/A NI/A nches User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir and No Outlet Pipe) Calculated Parameters for Overflow Weir Zone 3 Weir Not Selected Not Selected Zone 3 Weir Overflow Weir Front Edge Height, Ho Height of Grate Upper Edge, Ht = 3.28 N/A t (relative to basin bottom at Stage = 0 ft) 4.78 N/A eet Overflow Weir Front Edge Length 10.00 N/A feet Overflow Weir Slope Length 6.18 N/A feet Overflow Weir Grate Slope 4.00 N/A H:V Grate Open Area / 100-yr Orifice Area = 5.31 N/A Horiz, Length of Weir Sides = 6.00 N/A feet Overflow Grate Open Area w/o Debris 43.05 N/A Overflow Grate Type Overflow Grate Open Area w/ Debris = 21.52 Type C Grate N/A N/A Debris Clogging % = 50% N/A User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice) Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate Zone 3 Restrictor Not Selected Zone 3 Restrictor Not Selected Depth to Invert of Outlet Pipe 1 64 N/A ft (distance below basin bottom at Stage = 0 ft) Outlet Orifice Area 8 11 N/A Outlet Pipe Diameter 42.00 N/A Outlet Orifice Centroid : N/A inches 1.51 Restrictor Plate Height Above Pipe Invert = 33.00 Half-Central Angle of Restrictor Plate on Pipe 2.18 inches radians User Input: Emergency Spillway (Rectangular or Trapezoidal) Calculated Parameters for Spillway Spillway Invert Stage= 6.53 ft (relative to basin bottom at Stage = 0 ft) Spillway Design Flow Depth= 0.84 feet Stage at Top of Freeboard Spillway Crest Length 67.00 8.37 feet feet Spillway End Slopes = Basin Area at Top of Freeboard 4.00 H:V 3.06 acres Freeboard above Max Water Surface = 1 00 feet Basin Volume at Top of Freeboard = 13.86 acre-ft Routed Hydrograph Results Design Storm Return Period WQCV **EURV** 2 Year 5 Year 10 Year 25 Year 50 Year 100 Year 500 Year One-Hour Rainfall Depth (in) N/A 1.19 N/A 1.50 2.00 2.25 2.52 3.14 CUHP Runoff Volume (acre-ft) 2.329 7.343 11.65 14.636 18.889 26.699 Inflow Hydrograph Volume (acre-ft) N/A N/A 2.329 4.848 7.343 11.651 14.636 18.889 26.699 CUHP Predevelopment Peak Q (cfs) N/A N/A 11.5 32.3 50.1 92.4 116.2 149.4 209.6 OPTIONAL Override Predevelopment Peak Q (cfs) N/A N/A Predevelopment Unit Peak Flow, q (cfs/acre) NI/A NI/A 0.08 n 21 U 33 0.61 0.77 0.00 1 30 Peak Inflow Q (cfs) N/A N/A 21.2 43.2 61.4 102.9 127.0 161.0 221.9 Peak Outflow Q (cfs) 0.6 1.0 1.8 11.2 22.8 45.6 61.8 86.1 160.9 Ratio Peak Outflow to Predevelopment Q N/A N/A N/A 0.3 0.5 0.5 0.5 0.6 8.0

MHFD-Detention_v4-06.xlsm, Outlet Structure 10/31/2022, 1:47 PM

Overflow Weir 1

N/A

61

4.23

1.99

Overflow Weir 1

N/A

59

4.73

2.17

Overflow Weir

N/A

44

57

5.44

2.37

Overflow Weir 1

N/A

55

5.86

2.46

Overflow Weir 1

N/A

53

6.42

2.59

Spillway

N/A

49

6.96

9.831

Overflow Weir 1

N/A

56

3.39

Plate

N/A

N/A

40

43

2.81

1.18

Overflow Weir 1

N/A

61

1.63

Structure Controlling Flow

Max Velocity through Grate 1 (fps)

Max Velocity through Grate 2 (fps)

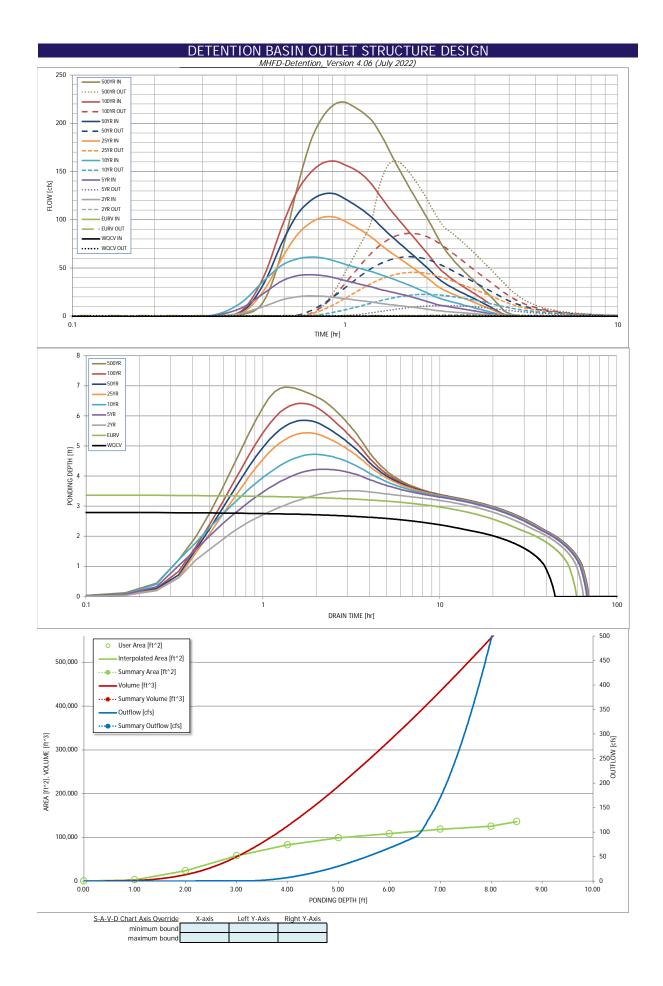
Maximum Ponding Depth (ft)

Maximum Volume Stored (acre-ft) =

Time to Drain 97% of Inflow Volume (hours)

Time to Drain 99% of Inflow Volume (hours)

Area at Maximum Ponding Depth (acres)



MHFD-Detention_v4-06.xlsm, Outlet Structure 10/31/2022, 1:47 PM

DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename:

Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP
Time Interval	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
5.00 min	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00 0:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.04
	0:20:00	0.00	0.00	0.10	0.16 1.13	0.20 1.74	0.14	0.19	0.17	1.76
	0:25:00	0.00	0.00	3.30	8.51	14.40	3.22	4.09	5.67	14.18
	0:30:00	0.00	0.00	10.04	23.37	35.96	25.12	32.23	39.26	64.00
	0:35:00	0.00	0.00	16.78	36.26	52.47	58.75	74.25	90.66	132.23
	0:40:00 0:45:00	0.00	0.00	20.29	42.06	59.52	84.32	105.06	129.25	181.76
	0:50:00	0.00	0.00	21.16 20.76	43.19 42.27	61.45 60.50	97.12 102.76	120.12 126.81	149.38 159.08	207.63 219.90
	0:55:00	0.00	0.00	19.63	39.92	57.34	102.91	127.02	160.98	221.91
	1:00:00	0.00	0.00	18.25	37.09	53.90	98.48	121.80	157.02	216.82
	1:05:00	0.00	0.00	17.06	34.66	51.15	93.16	115.74	152.34	211.03
	1:10:00	0.00	0.00	15.98	32.56	48.72	87.83	109.65	146.11	203.21
	1:15:00	0.00	0.00	14.83 13.66	30.44 28.27	46.35 43.78	81.93 75.67	102.77 95.25	137.02 126.53	191.74 178.07
	1:25:00	0.00	0.00	12.63	26.39	41.26	69.62	87.81	116.13	164.17
	1:30:00	0.00	0.00	11.81	24.85	38.76	64.54	81.51	107.17	151.79
	1:35:00	0.00	0.00	11.05	23.37	36.26	59.89	75.69	99.10	140.50
	1:40:00	0.00	0.00	10.32	21.85	33.79	55.57	70.26	91.74	130.10
	1:45:00	0.00	0.00	9.61 8.90	20.25 18.63	31.37 29.00	51.44 47.45	65.06 60.06	84.82 78.14	120.28 110.85
	1:55:00	0.00	0.00	8.17	17.00	26.65	43.53	55.15	71.64	101.68
	2:00:00	0.00	0.00	7.43	15.39	24.24	39.67	50.32	65.30	92.75
	2:05:00	0.00	0.00	6.68	13.79	21.79	35.81	45.48	59.04	83.91
	2:10:00	0.00	0.00	6.00	12.42	19.75	31.98	40.66	52.86	75.38
	2:15:00 2:20:00	0.00	0.00	5.48 5.09	11.42 10.62	18.20 16.89	28.92 26.56	36.84 33.87	47.88 43.95	68.50 62.93
	2:25:00	0.00	0.00	4.75	9.89	15.69	24.58	31.33	40.57	58.07
	2:30:00	0.00	0.00	4.42	9.20	14.55	22.81	29.05	37.54	53.69
	2:35:00	0.00	0.00	4.11	8.55	13.47	21.20	26.97	34.77	49.67
	2:40:00	0.00	0.00	3.81	7.91	12.43	19.68	25.01	32.18	45.91
	2:45:00 2:50:00	0.00	0.00	3.51 3.23	7.29 6.68	11.43 10.46	18.22 16.82	23.13 21.34	29.76 27.51	42.40 39.13
	2:55:00	0.00	0.00	2.95	6.09	9.54	15.45	19.59	25.31	35.96
	3:00:00	0.00	0.00	2.68	5.51	8.65	14.10	17.88	23.14	32.85
	3:05:00	0.00	0.00	2.41	4.94	7.77	12.76	16.19	20.98	29.76
	3:10:00	0.00	0.00	2.13	4.37	6.91	11.42	14.50	18.82	26.69
	3:15:00 3:20:00	0.00	0.00	1.87	3.82	6.06 5.21	10.10 8.77	12.82 11.15	16.66 14.51	23.62
	3:25:00	0.00	0.00	1.33	2.72	4.36	7.45	9.48	12.37	17.51
	3:30:00	0.00	0.00	1.07	2.17	3.53	6.13	7.82	10.23	14.47
	3:35:00	0.00	0.00	0.81	1.63	2.70	4.82	6.17	8.10	11.44
	3:40:00 3:45:00	0.00	0.00	0.56	1.10	1.91	3.52	4.53	5.98	8.46
	3:50:00	0.00	0.00	0.35	0.71	1.36	2.28 1.46	2.97 1.98	3.97 2.66	5.76 4.01
	3:55:00	0.00	0.00	0.18	0.40	0.84	0.98	1.38	1.83	2.86
	4:00:00	0.00	0.00	0.14	0.32	0.68	0.68	0.98	1.25	2.03
	4:05:00 4:10:00	0.00	0.00	0.12	0.26	0.55	0.46	0.69	0.84	1.41
	4:10:00 4:15:00	0.00	0.00	0.09	0.21 0.16	0.43	0.33 0.23	0.50 0.36	0.54	0.95 0.62
	4:20:00	0.00	0.00	0.06	0.12	0.25	0.16	0.25	0.20	0.39
	4:25:00 4:30:00	0.00	0.00	0.05	0.09	0.18 0.13	0.12	0.19 0.14	0.15 0.11	0.29 0.22
	4:35:00	0.00	0.00	0.03	0.05	0.10	0.07	0.14	0.09	0.17
	4:40:00 4:45:00	0.00	0.00	0.02	0.04	0.08	0.05 0.04	0.08	0.07 0.05	0.13 0.10
	4:50:00	0.00	0.00	0.02	0.02	0.03	0.04	0.04	0.03	0.10
	4:55:00	0.00	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.05
	5:00:00 5:05:00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.03
	5:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	5:15:00 5:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:35:00 5:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:50:00 5:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
•		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	•	•	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·

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Surveyor's Affidavit of Correction

On this 15th day of February, 2023 I Jonathan W. Tessin, having no ownership interest in the after described lands, upon oath and under penalty of perjury, depose and say, as provided in CRS 38-51-111 as follows:

That I am a Licensed Professional Land Surveyor in the State of Colorado and prepared the Plat of Winsome Filing No. 2, a subdivision of a tract of land situated in Section 19, Township 11S, Range 64 West and Section 24, Township 11S, Range 65 West, of the 6th Meridian, the said Plat of Winsome Filing No. 2, having been recorded at Reception Number 222714900 of the El Paso County Records.

Affiant further states: Lot 79 on page 4 and page 8 is <u>incorrectly</u> shown on the face of said plat. Said Lot 79 on page 4 and page 8 is hereby <u>corrected</u> to read as Lot 18 on page 4, and page 8 of on the face of the plat. This correction meets the requirements of CRS 38-51-111 (2) (b.)

Affiant further states that the aforementioned Plat of Winsome Filing No. 2 is hereby corrected to conform to the above described descriptions in the same manner as if said descriptions had been re-recorded with the proper notations contained hereon.

Licensed Professional Land Surveyor

Jonathan W. Tessin

Colorado Registration Number 33196

State of Colorado

)ss

County of El Paso

Subscribed and sworn to before me this 19h day of February, 20 27 My commission expires 19425

DESTIN FISHER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20094017541
MY COMMISSION EXPIRES JUNE 4, 2025

Notary Public

Chuck Broerman 02/15/2022 04:12:14 PM Doc \$0.00 1

Rec \$13.00

Page

El Paso County, CO

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