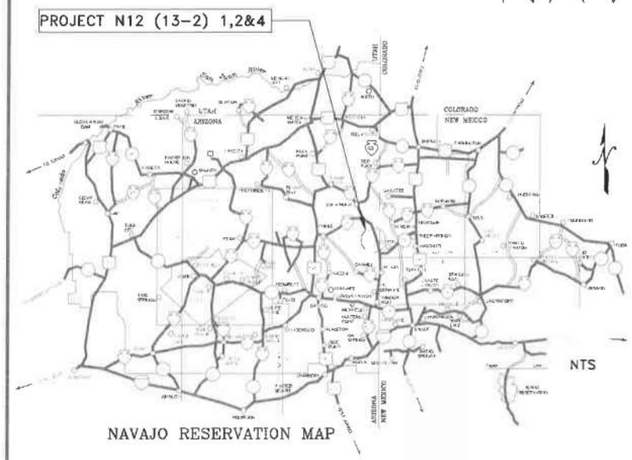
NAVAJO DIVISION OF TRANSPORTATION

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	1	120

N12

PROJECT: N12 (13-2) 1, 2 & 4
AGENCY LINE TO WHEATFIELDS LAKE
GRADE, DRAIN, NEW BRIDGE, AND ASPHALT PAVING

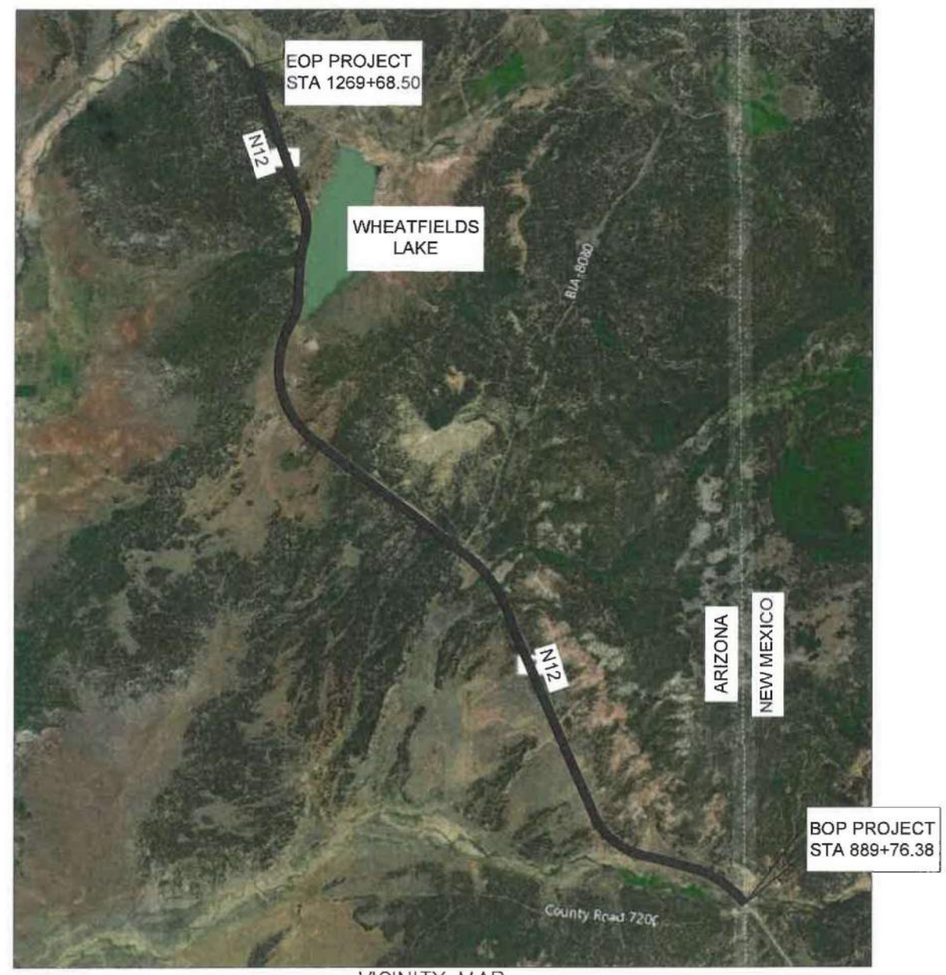
PROJECT N12 (13-2) 1,2&4



NAVAJO RESERVATION MAP

SHEET INDEX

SHT #	SHEET TITLE
1	COVER SHEET
2	GENERAL NOTES
3	UTILITY CONTACTS, NOTES, AND TCE
4	TYPICAL SECTIONS
5	TURNOUT DETAILS
6 - 9	HORIZONTAL CONTROL
10 - 12	SUMMARY OF QUANTITIES
13 - 47	PLAN AND PROFILE SHEETS
48	DETOUR
49	TEMPORARY TRAFFIC CONTROL
50	SIGN DETAILS
50 - 68	SIGNING AND STRIPING
69 - 75	TURNOUT PROFILES
76 - 91	NEW PIPE PROFILES
92	REC AREA PARKING
93 - 95	DRAINAGE DETAILS
96 - 115	STANDARD DETAILS
116 - 120	BRIDGE FOUNDATION DETAILS



VICINITY MAP

N

NTS

PROJECT LENGTH N12

ROADWAY	STATION TO STATION	FEET	MILES
N12	B.O.P. - STA 889+76.38 TO E.O.P. STA 1269+68.50	37,992.12	7.20
	TOTAL:	37,992.12	7.20

RIGHT-OF-WAY TABLE

ROADWAY	STATION TO STATION	WIDTH (FEET) LEFT	WIDTH (FEET) RIGHT
N12	B.O.P. - STA 889+76.38 TO E.O.P. STA 1269+68.50	75	75

DESIGN DATA N12
STA 889+76.38 TO STA 1187+00.00
STA 1216+00.00 TO STA 1269+68.50

DESIGN SPEED	55 MPH
MINIMUM RADIUS	1060'
MAX. GRADIENT	7%
MIN. STOPPING SIGHT DISTANCE	495'
MIN. PASSING SIGHT DISTANCE	900'
MAX. SUPER ELEVATION (e max.)	6%
RIGHT-OF-WAY WIDTH, LT & RT	150'

DESIGN DATA N12
STA 1187+00.00 TO STA 1216+00.00

DESIGN SPEED	25 MPH
MINIMUM RADIUS	154'
MAX. GRADIENT	7%
MIN. STOPPING SIGHT DISTANCE	155'
MIN. PASSING SIGHT DISTANCE	450'
MAX. SUPER ELEVATION (e max.)	4%
RIGHT-OF-WAY WIDTH, LT & RT	150'

INDIAN SERVICE — STATE — COUNTY — FEDERAL

UNIMPROVED — GRADED — GRAVELED — PAVED

STATE OR NATIONAL LINE	
COUNTY LINE	
TOWNSHIP OR RANGE LINE	
QUARTER SECTION LINE	
FOREST OR RESERVATION LINE	SHADING ON INSIDE LINE
HIGHWAY R/W LINE	BLU-ZIP No. 8P33
CONTROL OR ACCESS LINE	SHADING ON OUTSIDE LINE
UNFENCED PROPERTY	
SECTION AND QUARTER CORNERS	
POWER LINE OVERHEAD	OHE
POWER POLE	PP
TELEPHONE LINE OVERHEAD	COM
TELEPHONE POLE	P
TRAFFIC SIGN	
GUARDRAIL	NEW / EXISTING
GUIDE POST	
STANDARD BARBED WIRE FENCE	GATE
WOOD FENCE	
FABRIC WIRE FENCE	
CATTLE GUARD	NEW / EXISTING
PIPE CULVERT	
CONCRETE BOX CULVERT	NEW / EXISTING
GROUND LINE-EARTH	
GROUND LINE-ROCK	
EXISTING ROAD	WIDTH & TYPE
SIDE ROAD TURNOUT	NEW / EXISTING
TREES AND SHRUBS	
CHANNEL OR DITCH	
DYKE OR LEVEE	
BANK PROTECTION	
RETAINING WALL	
WATERLINE	W
GAS LINE	G
IRRIGATION LINE	IRR
SEWER LINE	SL
WATER VALVE	W
SURVEY MONUMENT	
R/W MARKER	
CONSTRUCTION LIMIT-CUT & FILL	

Registered Professional Engineer (Civil) Cert. No. 76131 JOSHUA BROWN Date Signed 02/26/25 ARIZONA, U.S.A.

RECOMMENDED: _____ DATE: 2/26/25

PRINCIPAL ENGINEER
NAVAJO DIVISION OF TRANSPORTATION

APPROVED: _____ DATE: 2/26/2025

DIRECTOR
NAVAJO DIVISION OF TRANSPORTATION

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_1\UTILITY CONTACTS NOTES TCE.DWG2/26/2025
8:10 AM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	2	120

GENERAL NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-14), AND THE SUPPLEMENTAL SPECIFICATIONS FOR THIS PROJECT.

2. ALL PERMANENT AND TEMPORARY ROADSIDE SIGNS AND PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS" (CURRENT EDITION) AND IN ACCORDANCE WITH THE DETAILS ON THESE PLANS. PLACEMENT OF "STOP" BAR, PERMANENT TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE FIELD ADJUSTED AS DIRECTED BY THE CONTRACTING OFFICIAL (CO), AT NO ADDITIONAL COST TO THE NAVAJO DIVISION OF TRANSPORTATION.

3. ALL CONSTRUCTION PRACTICES AND PROCEDURES WILL COMPLY WITH THE PERTINENT PROVISIONS OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS (TITLE 29, CODE OF FEDERAL REGULATIONS) PUBLISHED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR.

4. THE CONTRACTOR WILL KEEP EXISTING PROPERTIES/RESIDENCES AND INTERSECTING ROADS ACCESSIBLE AT ALL TIMES. CONTRACTOR WILL ALSO HAVE TO PLACE SIGNS AT ALL DRIVEWAYS AND TURNOUTS, FOLLOWING AN APPROVED TRAFFIC CONTROL PLAN.

5. THE TEMPORARY TRAFFIC CONTROL DETAILS SHOWN REFLECTS GENERAL REQUIREMENTS FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR PREPARING AND SUBMITTING A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THESE DETAILS, TAKING INTO ACCOUNT THE CONTRACTOR'S CONSTRUCTION SEQUENCING PLAN, MUTCD AND THE SUPPLEMENTAL SPECIFICATIONS FOR SECTION 635.-TEMPORARY TRAFFIC CONTROL. THE CONTRACTOR SHALL ALSO SUBMIT A COPY OF HIS TRAFFIC CONTROL PLAN TO THE NAVAJO DIVISION OF TRANSPORTATION (2) - WEEKS PRIOR TO START OF CONSTRUCTION.

6. THE DESIGN FEATURES INCLUDING HORIZONTAL AND VERTICAL ALIGNMENTS, TYPICAL SECTIONS, AND OTHER DESIGN DETAILS SHOWN SHALL NOT BE ALTERED OR MODIFIED IN ANYWAY DURING CONSTRUCTION WITHOUT THE EXPRESSED WRITTEN DIRECTION AND WRITTEN APPROVAL OF THE NAVAJO DIVISION OF TRANSPORTATION (NDOT) DIVISION MANAGER THROUGH THE CO, UNLESS OTHERWISE NOTED IN THESE PLANS OR SPECIFICATIONS. DRAINAGE STRUCTURES AND TURNOUTS SHALL BE INSTALLED AS SHOWN WITH ONLY MINOR CORRECTIONS IN LOCATION, SKEW, AND/OR INVERT ELEVATIONS AS NEEDED TO FIT FIELD CONDITIONS.

7. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY AND EXPENSE FOR DISPOSAL OF TRASH AND/OR CONSTRUCTION DEBRIS IN ACCORDANCE WITH SECTIONS 107 AND 203 OF THE FP-14 AS WELL AS ANY AND ALL PERMIT REQUIREMENTS. THIS WORK SHALL BE INCIDENTAL OBLIGATIONS OF THE CONTRACTOR.

8. THE BIDDER SHALL READ AND MAKE CAREFUL EXAMINATION OF THE PLANS, SPECIFICATIONS, QUANTITIES, MATERIAL, SURVEYING REQUIREMENTS, AND VISIT THE SITE OF THE PROPOSED CONSTRUCTION TO BECOME FAMILIAR WITH THE SITE CONDITIONS AND LIMITATIONS BEFORE MAKING A PROPOSAL. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL ERRORS RESULTING FROM THE FAILURE TO MAKE SUCH AN EXAMINATION. ANY INFORMATION DERIVED FROM THE MAPS, PLANS, SPECIFICATIONS, PROFILES, DRAWINGS OR THE ENGINEER, SHALL NOT RELIEVE THE CONTRACTOR FROM ANY RISK OR FROM FULFILLING THE TERMS OF THE CONTRACT. THERE ARE SEVERAL AREAS WITH LIMITED WORKING ROOM WITHIN THE PROJECT RIGHT-OF-WAY, AND/OR WITH EXISTING FEATURES WITHIN OR NEAR THE PROJECT RIGHT-OF-WAY, THAT WILL REQUIRE 'SPECIAL' CONSTRUCTION PROCEDURES.

9. THE CONTRACTOR IS REQUIRED TO SUBMIT A REVISED PIPE LIST TO THE NDOT DIVISION MANAGER THROUGH THE CO, BASED ON THE FIELD STAKING IN ACCORDANCE WITH SECTION 152 OF THE CONTRACT SUPPLEMENTAL SPECIFICATION. THE APPROVAL OF ANY AND ALL REVISED PIPE LISTS WITH ACCOMPANYING DRAWINGS IS RENDERED AS A SERVICE ONLY AND IS NOT CONSIDERED A GUARANTEE OF MEASUREMENTS, QUANTITIES, INSTALLATION PROCEDURES, AND/OR DIMENSIONS, NOR SHALL IT BE CONSIDERED AS RELIEVING THE CONTRACTOR FROM COMPLYING WITH THE CONTRACT SPECIFICATIONS AND DESIGN PLANS. THE CONTRACTOR IS HEREBY NOTIFIED THAT UNDER NO CIRCUMSTANCE SHALL ANY DRAINAGE STRUCTURE(S) BE INSTALLED BELOW THE NATURAL FLOW LINE OF THE WASH, CHANNEL, ARROYO, OR DITCH LINE.

10. NO WORK SHALL BE PERFORMED OR GROUND DISTURBED OUTSIDE OF THE DESIGNATED CONSTRUCTION LIMITS IN ACCORDANCE WITH SECTION 107 OF THE FP-14 WITHOUT WRITTEN APPROVAL BY THE NDOT DIVISION MANAGER UNLESS OTHERWISE SHOWN AND LABELED ON THESE PLANS AS CONSTRUCTION ZONE". IN NO CASE SHALL ANY WORK BE PERFORMED OUTSIDE THE DESIGNATED RIGHTS-OF-WAY LIMITS WITHOUT WRITTEN APPROVAL FROM THE NDOT DIVISION MANAGER, UNLESS OTHERWISE SHOWN AND CALLED OUT ON THESE PLANS AS "CONSTRUCTION ZONE". THE CONSTRUCTION LIMIT IS THE CATCH POINT EARTHWORK LIMIT PLUS 9 FEET, NOT TO EXCEED THE RIGHT-OF-WAY LIMITS.

11. THE DETAILS SHOWN ON THE STORM WATER POLLUTION AND EROSION/SEDIMENT CONTROL DETAILS ARE GENERAL REQUIREMENTS TO BE USED BY THE CONTRACTOR IN PREPARING A STORM WATER POLLUTION PREVENTION PLAN ALONG WITH THE REQUIREMENTS IN SECTION 157 OF THE SUPPLEMENTAL SPECIFICATION AND SPECIAL CONTRACT REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO SUBMIT A COURTESY COPY OF THE APPROVED SWPPP TO THE NAVAJO NATION WATER QUALITY EPA OFFICE.

12. THE QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY AND TO COMPARE AND CANVASS BIDS. ACTUAL PAY QUANTITIES WILL BE DETERMINED IN THE FIELD FOR AUTHORIZED CHANGES THAT AFFECT THE QUANTITIES. ANY OVER-RUN OR UNDER-RUN OF QUANTITIES SHALL BE SUBJECT TO FEDERAL ACQUISITION REQUIREMENT 52.211-18, VARIATION IN ESTIMATED QUANTITY.

13. ALL TURNOUT/DRIVEWAYS, AS CALLED FOR ON THESE PLANS, SHALL EITHER BE CONSTRUCTED, REBUILT, RESHAPED AND/OR REMOVED UP TO THE RIGHT-OF-WAY LIMITS. ALL TURNOUTS SHALL BE PAVED TO THE CATTLE GUARD, THEN FROM THE BACK OF CATTLE GUARD TO THE R/W LINE, PLACE AGGREGATE BASE FOR ALL 13 FEET WIDE TURNOUTS; PLACE AGGREGATE AND HOT ASPHALTIC CONCRETE FOR TURNOUTS WIDER THAN 13 FEET TO MATCH THE STRUCTURAL SECTION. REQUIRED GRADING, SHAPING, AND EARTH COMPACTION OUTSIDE OF THE RIGHT-OF-WAY, TO CONNECT NEW TURNOUTS TO THE EXISTING ROADWAY/DRIVEWAY (AS SHOWN ON THE PLANS OR AS DIRECTED BY THE CO) SHALL BE INCIDENTAL TO BID ITEM 20401. ANY REQUIRED AGGREGATE BASE AND/OR ASPHALT MATERIAL SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THIS WORK AS SHOWN IN THE BID SCHEDULE.

14. STRUCTURAL EXCAVATION AND BEDDING/BACKFILL OF ALL DRAINAGE STRUCTURES (CULVERTS AND CONCRETE HEAD/WING WALLS) SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF STRUCTURES. BEDDING AND BACKFILL MATERIAL SHALL MEET ALL REQUIREMENTS OF FP-14, SECTIONS 209 AND 704. APPROVED EXCESS EXCAVATION MATERIAL MAY BE USED TO REBUILD TURNOUTS, EARTHEN DITCH BLOCKS, AND/OR PLACED ALONG ROADWAY SHOULDERS AS EMBANKMENT IN AREAS ADJACENT TO THE REMOVAL AND AS DIRECTED BY THE CO.

15. ALL FURROW AND DRAINAGE DITCHES SHALL BE STAKED AND GRADED TO DRAIN UP TO THE RIGHT-OF-WAY LIMITS. EARTHEN DITCH BLOCKS, DIKES AND DITCHES SHALL BE CONSTRUCTED AS SHOWN ON THESE PLANS AND/OR ADDED AT LOCATIONS DESIGNATED BY THE CO. ALL DITCH BLOCKS, DIKES AND FURROW DITCHES SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THIS WORK AS SHOWN IN THE BID SCHEDULE. AT ALL DRAINAGE PIPE REPLACEMENTS, INSTALLATIONS, EXTENSIONS, AND IN-PLACE PIPE CLEANING LOCATIONS, THE CONTRACTOR SHALL CLEAN, REGRADE, AND RESHAPE THE INLET AND OUTLET CHANNELS TO THE RIGHT-OF-WAY LINE AS DIRECTED BY THE CO. THIS WORK SHALL BE INCIDENTAL TO BID ITEMS FOR SECTIONS 602, 603, AND/OR 607.

16. IMMEDIATELY PRIOR TO PLACING EMBANKMENT, AGGREGATE BASE AND/OR RECYCLED MATERIAL, THE TOP 6 INCHES OF THE ORIGINAL GROUND, OR FINISHED SUBGRADE (INCLUDING TURNOUTS) SHALL BE CHECKED FOR COMPACTION AND GRADE. IF COMPACTION DOES NOT MEET THE MINIMUM SPECIFIED COMPACTION AND TOLERANCE REQUIREMENTS, THE ORIGINAL GROUND AND/OR SUBGRADE SHALL BE RE-WATERED AND/OR SCARIFIED AS NEEDED AND RE-COMPACTED TO THE REQUIRED DENSITY AND TOLERANCE, AT THE CONTRACTOR'S EXPENSE. IN NO CASE SHALL ANY EMBANKMENT OR SURFACING MATERIAL BE PLACED ON FROZEN, MUDDY OR UNSTABLE NATURAL GROUND OR SUBGRADE. THIS WORK SHALL BE CONSIDERED AN INCIDENTAL OBLIGATION OF THE CONTRACTOR.

17. THE CONTRACTOR WILL INCLUDE THE COST OF WATER NEEDED IN ITEMS 20401, ROADWAY EXCAVATION, 20410 BORROW, 20414 SUBGRADE PREPARATION, 30101 AGGREGATE BASE, AND 62501 SEEDING IN HIS BID COST FOR THE INDIVIDUAL ITEMS. THE COST FOR WATER WHICH IS NEEDED DURING THE COURSE OF THE PROJECT FOR ALL OTHER PURPOSES, INCLUDING DUST CONTROL AND FOUNDATION COMPACTION, WILL ALSO BE INCLUDED IN THE OVERALL BID COST FOR THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPUTING THIER OWN WATER QUANTITIES AND THEN BASING THIER BID ON THIER OWN COMPUTED QUANTITIES.

18. THE EARTHWORK TABLE SHOWN IS TO ASSIST THE CONTRACTOR IN ESTABLISHING A BID UNDER THE EARTHWORK ITEMS SHOWN IN THE BID SCHEDULE. ANY BORROW MATERIAL CALLED FOR ON THE PLANS SHALL BE TAKEN FROM CONTRACTOR IDENTIFIED SOURCES OUTSIDE THE RIGHT-OF-WAY LIMITS. IT IS THE SOLE RESPONSIBILITY AND EXPENSE OF THE CONTRACTOR TO PROVIDE ANY NECESSARY BORROW MATERIAL FOR THIS PROJECT INCLUDING ALL NECESSARY PERMITS. ALL EXCAVATION, BORROW, WASTE AND EMBANKMENT MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS 20402 AND 20410. IF MATERIAL IS APPROVED, THE WASTE MATERIAL SHOWN ON THESE PLANS SHALL BE USED AS NECESSARY TO CONSTRUCT TURNOUTS, DITCH BLOCKS, AND/OR BE PLACED AS EMBANKMENT ALONG THE SHOULDERS IN AREAS AS DIRECTED BY THE CO. WASTE MATERIAL NOT USED WITHIN THE PROJECT LIMITS, SHALL BE DISPOSED OF AS PER THE FP-14 SECTION 204.14.

19. AT ALL TOP EDGES OF CUT SLOPES 10 FEET OR HIGHER THAN THE DITCH FLOWLINE, THE CONTRACTOR SHALL REMOVE ALL LOOSE AND UNSTABLE ROCK OR ROCK THAT AS DETERMINED BY THE CO, MAY BECOME LOOSE WITHIN 17 FEET OF THE TOP CUT SLOPE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM 20401, AND NO ADDITIONAL PAYMENT WILL BE MADE.

20. THE LOCATION OF UTILITIES AS SHOWN IN THESE PLANS ARE APPROXIMATE AND ARE ONLY TO ASSIST THE CONTRACTOR IN COMPLETING THE WORK. THE CONTRACTOR SHALL CONTACT ALL UTILITY OWNERS PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONTACT THE AZ 811 AT 811, NAVAJO TRIBAL UTILITY AUTHORITY (NTUA WATER/WW) AT (928) 729-6191 AND NAVAJO TRIBAL UTILITY AUTHORITY (NTUA POWER) AT (928)-729-5721. PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES AND THEIR LOCATIONS WITH THE UTILITY OWNERS PRIOR TO CONSTRUCTION. ANY UTILITIES DAMAGED DUE TO NEGLIGENCE OF THE CONTRACTOR SHALL BE RESTORED TO CODE REQUIREMENTS AT THE CONTRACTOR'S EXPENSE. SEE SHEET 3 FOR FURTHER INFORMATION.

21. THE CONTRACTOR SHALL REMOVE, CLEAN, AND STOCKPILE ALL SALVAGEABLE EXISTING CULVERTS, GUARDRAIL, CATTLE GUARDS, FENCING MATERIALS, ETC., AS CALLED FOR ON THESE PLANS AND/OR SECTIONS 203 AND 607 IN A DESIGNATED LOCATION ADJACENT TO THE REMOVAL LOCATION BUT OUTSIDE OF THE RIGHT-OF-WAY. THE COTR SHALL OFFER THIS SALVAGED MATERIALS TO THE COMMUNITY MEMBERS AND/OR PROPERTY OWNERS. IF THEY ACCEPT, THE MATERIALS MUST BE PICKED UP THAT SAME DAY. ANY PIPE MATERIALS DETERMINED TO BE UNUSABLE BY THE COTR OR UNACCEPTABLE BY THE LAND OWNER/ COMMUNITY MEMBERS SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH SECTIONS 107 AND 203. THE SALVAGE WORK SHALL BE INCLUDED IN THE APPROPRIATE UNIT PRICE BID ITEMS FOR SECTIONS 203 AND/OR 607.

22. THE COST FOR YARD/STORAGE SITE-THE CONTRACTOR IS NOTIFIED THAT ONE AREA HAS BEEN DESIGNATED FOR THE CONTRACTORS YARD SITE AND STOCKPILING. THIS SITE HAS BEEN CLEARED ENVIRONMENTALLY FOR USE BY THE CONTRACTOR TO STORE ALL EQUIPMENT AND MATERIALS USED ON THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SITE, CLEARING AND GRUBBING AND REVEGETATION UPON COMPLETION OF THE PROJECT. COST FOR YARD/STORAGE SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND THE CONTRACTOR SHALL NOT RECEIVE ADDITIONAL COMPENSATION FOR THESE COSTS. THE CONTRACTOR SHALL CONTACT NDOT TO VERIFY THE LIMITS OF THE SITE IN THE FIELD. REQUIREMENTS AND PAYMENT FOR USE OF THE STORAGE AREA SHALL BE COORDINATED WITH NDOT PRIOR TO OCCUPYING.

23. THE CONTRACTOR SHALL BE REQUIRED TO REPAIR ALL DENTED, BENT OR OTHERWISE DAMAGED PIPE EDGES FOR THE SECTION AS CALLED FOR REPAIR WORK. THIS WORK SHALL MEET THE APPROVAL OF THE COTR, AND IS EXPECTED TO INCLUDE STRAIGHTENING OF DENTED/BENTED CULVERT EDGES, WELDING OF CUTS/TEARS IN THE EXISTING CULVERTS, TRIMMING BACK THE EXISTING CULVERT TO CREATE AN END SUITABLE FOR AN EXTENSION COLLAR, ETC. NO SEPARATE PAYMENT FOR THIS WORK WILL BE MADE. THE CONTRACTOR SHALL CONSIDER THESE REPAIRS INCIDENTAL TO THE DRAINAGE PIPE BID ITEMS UNDER SECTION 602 AND 603.

24. THE ROADWAY TYPICAL SECTION SHOWN IS THE BASIC TEMPLATE TO WHICH THE PROJECT IS TO BE STAKED AND BUILT. HOWEVER, THERE WILL BE LOCATIONS WHERE, DUE TO EXISTING GROUND SCHEDULE. CONDITIONS, TURNOUTS, CULVERTS OR OTHER STRUCTURES, ETC., THE SHOWN TYPICAL SLOPES CANNOT BE CONSTRUCTED. IN THIS CASE, THE NDOT DIVISION MANAGER, THROUGH THE CO, SHALL BE CONSULTED FOR CHANGES IN THE TYPICAL SECTIONS, DESIGN SLOPES, AND/OR OTHER ADJUSTMENTS BEFORE PROCEEDING WITH THE WORK UNLESS NOTED OTHERWISE ON THE PLANS. THE FINAL CONSTRUCTED ROAD SECTION SHALL BE BASED ON THE GOVERNMENT FURNISHED COMPUTERIZED STAKING REPORT AS ADJUSTED TO FIT FIELD CONDITIONS. THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF CONSTRUCTION ,UNLESS OTHERWISE APPROVED. IN NO CASE SHALL THE CUT AND FILL BACK SLOPES BE BUILT STEEPER THAN THE MAXIMUM ALLOWED IN THE ROADWAY TYPICAL SECTION SHOWN.

25. THE CONTRACTOR SHALL SAW CUT (FULL DEPTH) THE EXISTING ASPHALT PAVEMENT (INCLUDING TURNOUTS) WHERE NEW ASPHALT IS TO TIE INTO THE OLD ASPHALT PAVEMENT AT THE LOCATIONS NOTED ON THE PLANS. THE CONTRACTOR SHALL MATCH THE NEW ASPHALTIC CONCRETE PAVEMENT SURFACE TO EXISTING PAVEMENT SECTION AT TIE-IN POINTS AND TO PROVIDE FOR A SMOOTH TRANSITION AS DIRECTED BY THE CO. ALL SAWED PAVEMENT EDGES TO RECEIVE ASPHALT TACK THIS WORK SHALL BE INCIDENTAL TO BID ITEM 40201 AS SHOWN IN THE BID SCHEDULE.

26. ALL CONSTRUCTION ACTIVITIES & WORKERS SHALL STAY WITHIN THE RIGHT-OF-WAY AND TEMPORARY CONSTRUCTION EASEMENTS AT ALL TIMES.

27. ROADWAY SHALL BE OPENED TO FULL TWO-WAY TRAFFIC AT THE END OF THE WORK DAY AND WEEKENDS. SEE TRAFFIC CONTROL SHEETS FOR ADDITIONAL REQUIREMENTS.

28. THE FOLLOWING SHALL BE SUBMITTED AND APPROVED BY THE NDOT & BIA, PRIOR TO ISSUANCE OF THE NOTICE TO PROCEED: QUALITY CONTROL PLAN, B. TRAFFIC CONTROL PLAN, C. STORM WATER POLLUTION PREVENTION PLAN, D. SAFETY PLAN, E. CONSTRUCTION PLAN & SCHEDULE.

29. AMERICAN MADE PRODUCTS SHALL BE PURCHASED AND USED FOR THIS PROJECT WHEN APPLICABLE, PER CFR 635.410.

30. PROTECTION OF SURVEY CONTROL & MONUMENTS: CONTRACTOR SHALL REPLACE IF DAMAGED OR REMOVED. NO ADDITIONAL COMPENSATION SHALL BE MADE.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET, SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

GENERAL NOTES

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 2 OF 120
CHECK	ASF		

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_1\UTILITY CONTACTS NOTES TCE.DWG2/25/2025 1:18 PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	3	120

WATER UTILITY CONSTRUCTION NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE NAVAJO TRIBAL UTILITY AUTHORITY (NTUA), TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTEWATER FACILITIES, MARCH 2002.
2. CONTRACTOR SHALL OBTAIN APPROVED PERMISSION TO TAP (PTT) FORM PRIOR TO TAPPING EXISTING WATER AND SEWER MAIN.
3. CONTRACTOR SHALL COORDINATE WITH NTUA PRESENT AT THE SITE TO VERIFY LOCATION, DEPTH, SIZE AND TYPE OF UNDERGROUND UTILITIES.
4. CONTRACTOR TO COORDINATE WITH NTUA REGARDING WATER SHUT OFF WITH AT LEAST 3 DAYS ADVANCE NOTICE TO ISOLATE LINE(S), TO NOTIFY AFFECTED CUSTOMERS AND TO MINIMIZE OUTAGE TIME PRIOR TO CONNECTION OF NEW WATER SERVICE.
5. UNLESS OTHERWISE DIRECTED, ONLY AUTHORIZED NTUA STAFF WILL BE ALLOWED TO CLOSE/OPEN WATER VALVES FOR ANY CONNECTIONS TO EXISTING LINES AND FOR THE USAGE OF WATER.
6. ROUGH GRADING SHALL BE COMPLETED WITHIN 1/10 OF A FOOT OF PLAN GRADE PRIOR TO INSTALLING WATER AND WASTEWATER UTILITIES.
7. COORDINATE WITH LOCAL UTILITY PROVIDERS FOR ANY REMOVAL OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL PROTECT EXISTING UTILITIES IN PLACE. CONTRACTOR SHALL RESTORE AT OWN EXPENSE ANY DAMAGE TO EXISTING UTILITIES.
9. ALL WATER MAINS SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE PIPE WITH A MINIMUM OF 200 PSI PRESSURE CLASS UNLESS SPECIFIED OTHERWISE.
10. ALL FITTINGS AND VALVES 4" OR GREATER IN SIZE SHALL BE MADE FROM DUCTILE IRON FURNISHED WITH MECHANICAL JOINT ENDS AND SHALL HAVE A PRESSURE RATING OF 350 PSI. ALL MJ ENDS SHALL HAVE "MEGALUG" MECHANICAL RESTRAINT WITH CONCRETE THRUST BLOCK, STD DTL WS-19. POLYETHYLENE WRAPPING (8 MILS MINIMUM THICKNESS IN ACCORDANCE WITH AWWA STANDARD C-105) SHALL BE INSTALLED AROUND DUCTILE IRON PIPES, FITTINGS, AND VALVES, FIRE HYDRANT BARRELS AND RODS AND CLAMPS.
11. A WARNING/DETECTABLE MARKING TAPE SHALL BE INSTALLED AT 12" MINIMUM AND 18" MAXIMUM ABOVE THE WATER AND SEWER PIPE. MARKING TAPE SHALL CONSIST OF ONE LAYER OF ALUMINUM FOIL LAMINATED BETWEEN TWO COLORED LAYERS OF INERT PLASTIC FILM. THE LAMINATION BOND SHOULD BE STRONG ENOUGH THAT THE LAYERS CANNOT BE SEPARATED BY HAND. TAPE SHALL BE A MINIMUM OF 5 MILS THICK AND 6 INCHES WIDE. TAPE SHALL BEAR A CONTINUOUS, PRINTED MESSAGE EVERY 16 TO 36 INCHES WARNING OF THE INSTALLATION BURIED BELOW. TAPE SHALL BE TERRA TAPE, LINETEC, OR AS APPROVED BY NTUA.
12. DEFLECTION (VERTICAL OR HORIZONTAL) OF PIPES IS PERMITTED AND SHALL CONFORM TO AMERICAN WATER WORKS ASSOCIATION (AWWA) JOINT DEFLECTION FOR AWWA PRESSURE PIPE AND AT 80% OF MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION, WHICHEVER IS MORE STRINGENT. A COPY OF THE MANUFACTURER'S RECOMMENDATION SHALL BE SUBMITTED TO NTUA.
13. PIPES SHALL NOT BE BACKFILLED (INCLUDING BEDDING MATERIAL ABOVE THE SPRING LINE OF THE PIPE) UNTIL THE CONSTRUCTION HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY A NTUA REPRESENTATIVE.
14. CONTRACTOR IS TO PURCHASE AMI WATER METER(S) WITH MODULE(S) AT LOCAL NTUA DISTRICT OFFICE.
15. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF ALL UTILITIES TO OWNER AND NTUA IN HARD COPY AND DIGITAL FORMAT.
16. HYDROSTATIC TESTING, FLUSHING AND CHLORINATION (SHALL BE CONDUCTED IN ACCORDANCE WITH NTUA TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTEWATER FACILITIES, MARCH 2002) SHALL BE COORDINATED WITH NTUA AT LEAST 3 DAYS IN ADVANCE. NTUA REPRESENTATIVE SHALL BE PRESENT TO RECORD THE INFORMATION AND CERTIFY THE TESTING.
17. UTILITY CONSTRUCTION ACCEPTANCE AND UTILITY TRANSFER: CONTRACTOR SHALL SCHEDULE A FINAL OR PRE-FINAL INSPECTION WITH NTUA HQ ENGINEERING AND LOCAL DISTRICT OFFICE, OWNER AND GENERAL CONTRACTOR AT THE END OF CONSTRUCTION. DOCUMENTS SHALL BE PROVIDED BY THE CONTRACTOR AS FOLLOWS: AS-BUILT DRAWING, APPROVED PTT, HYDROSTATIC TESTING RESULTS, BACTERIOLOGICAL TESTING RESULTS, MATERIALS SUBMITTALS AND COST OF PLANT. PLEASE FOLLOW THE NTUA TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTEWATER FACILITIES, MARCH 2002, SECTION TP 5.0.
18. THE CONTRACTOR/ENGINEER SHALL PROVIDE WARRANTY ON ALL NEW WATER AND WASTEWATER FACILITIES AGAINST DEFECTS IN MATERIALS, WORKMANSHIP AND FOR ANY DESIGN DEFICIENCIES, ERRORS AND OMISSIONS FOR THE PERIOD OF ONE YEAR WHEN THE FACILITIES WERE INSPECTED, ACCEPTED AND APPROVED.

N12(13-2) TEMPORARY CONSTRUCTION EASEMENTS (TCEs)

TCE - ##	STATION	LOCATION (LT/RT)	LENGTH (FT)	WIDTH (FT)	AREA (ACRES)	DESCRIPTION	COORDINATES (LAT/LONG - NAD83) POINT 1 LATITUDE	POINT 1 LONGITUDE	POINT 2 LATITUDE	POINT 2 LONGITUDE	POINT 3 LATITUDE	POINT 3 LONGITUDE	POINT 4 LATITUDE	POINT 4 LONGITUDE
TCE - 2	928+00	LT	36	25	0.0207	FOR DRIVEWAY INSTALLATION	N36° 08' 39.90"	W109° 03' 27.47"	N36° 08' 39.66"	W109° 03' 27.55"	N36° 08' 39.75"	W109° 03' 27.98"	N36° 08' 39.99"	W109° 03' 27.90"
TCE - 3	928+68	RT	36	20	0.0165	FOR DRIVEWAY INSTALLATION	N36° 08' 41.61"	W109° 03' 28.23"	N36° 08' 41.80"	W109° 03' 28.16"	N36° 08' 41.70"	W109° 03' 27.74"	N36° 08' 41.51"	W109° 03' 27.81"
TCE - 5	980+92	LT	56	60	0.0771	FOR DRIVEWAY INSTALLATION	N36° 09' 21.05"	W109° 04' 03.72"	N36° 09' 20.82"	W109° 04' 04.40"	N36° 09' 21.34"	W109° 04' 04.66"	N36° 09' 21.57"	W109° 04' 03.98"
TCE - 9	1050+54	RT	36	45	0.0372	FOR CG-09 INSTALLATION	N36° 10' 24.46"	W109° 04' 37.62"	N36° 10' 24.76"	W109° 04' 37.22"	N36° 10' 24.50"	W109° 04' 36.92"	N36° 10' 24.20"	W109° 04' 37.32"
TCE - 11	1063+24	LT	36	15	0.0124	FOR CG-11 INSTALLATION	N36° 10' 31.79"	W109° 04' 49.84"	N36° 10' 31.68"	W109° 04' 49.97"	N36° 10' 31.92"	W109° 04' 50.29"	N36° 10' 32.03"	W109° 04' 50.16"
TCE - 14	1105+19	LT	36	35	0.0289	FOR CG-14 INSTALLATION	N36° 10' 57.83"	W109° 05' 29.45"	N36° 10' 57.55"	W109° 05' 29.71"	N36° 10' 57.76"	W109° 05' 30.06"	N36° 10' 58.03"	W109° 05' 29.81"
TCE - 15	1110+50	LT	36	25	0.0207	FOR CG-15 INSTALLATION	N36° 11' 00.93"	W109° 05' 34.67"	N36° 11' 00.73"	W109° 05' 34.85"	N36° 11' 00.95"	W109° 05' 35.21"	N36° 11' 01.14"	W109° 05' 35.03"
TCE - 16	1113+45	RT	36	20	0.0165	FOR CG-16 INSTALLATION	N36° 11' 04.07"	W109° 05' 36.84"	N36° 11' 04.23"	W109° 05' 36.70"	N36° 11' 04.01"	W109° 05' 36.35"	N36° 11' 03.85"	W109° 05' 36.49"
TCE - 18	1140+01	LT	44	15	0.0152	FOR CG-18 INSTALLATION	N36° 11' 19.61"	W109° 06' 02.45"	N36° 11' 19.53"	W109° 06' 02.62"	N36° 11' 19.89"	W109° 06' 02.91"	N36° 11' 19.97"	W109° 06' 02.75"
TCE - 20	1168+32	RT	36	15	0.0124	FOR CG-20 INSTALLATION	N36° 11' 46.50"	W109° 06' 04.06"	N36° 11' 46.44"	W109° 06' 03.89"	N36° 11' 46.77"	W109° 06' 03.72"	N36° 11' 46.83"	W109° 06' 03.88"
TCE - 21	1190+15	LT	36	22	0.0182	FOR CG-21 INSTALLATION	N36° 12' 07.36"	W109° 05' 59.22"	N36° 12' 07.36"	W109° 05' 59.49"	N36° 12' 07.71"	W109° 05' 59.49"	N36° 12' 07.72"	W109° 05' 59.22"
TCE - 22	1191+32	LT	44	33	0.0333	FOR CG-22 INSTALLATION	N36° 12' 08.51"	W109° 05' 59.22"	N36° 12' 08.51"	W109° 05' 59.63"	N36° 12' 08.95"	W109° 05' 59.61"	N36° 12' 08.94"	W109° 05' 59.21"
TCE - 24	1206+95	LT	50	22	0.0253	FOR CG-24 INSTALLATION	N36° 12' 23.79"	W109° 05' 56.05"	N36° 12' 23.83"	W109° 05' 56.31"	N36° 12' 24.31"	W109° 05' 56.19"	N36° 12' 24.27"	W109° 05' 55.93"
TCE - 25	1211+85	RT	50	32	0.0367	FOR CG-25 INSTALLATION	N36° 12' 29.02"	W109° 05' 53.58"	N36° 12' 29.05"	W109° 05' 53.18"	N36° 12' 28.56"	W109° 05' 53.14"	N36° 12' 28.54"	W109° 05' 53.55"
TCE - 40	SEE TABLE				0.9435	BRIDGE DETOUR								
TCE - 41	925+50	LT	83	30	0.0572	EROSION CONTROL FOR DITCH	N36° 08' 39.25"	W109° 03' 24.30"	N36° 08' 38.96"	W109° 03' 24.39"	N36° 08' 39.16"	W109° 03' 25.37"	N36° 08' 39.45"	W109° 03' 25.28"
TCE - 42	1133+80	RT	110	45	0.1136	SLOPE GRADING	N36° 11' 15.61"	W109° 05' 55.86"	N36° 11' 15.94"	W109° 05' 55.48"	N36° 11' 16.70"	W109° 05' 56.45"	N36° 11' 16.38"	W109° 05' 56.84"
TCE - 43	SEE TABLE				0.3178	REC AREA PAVING								
TCE - 44	1205+10	RT	315	100	0.7231	EROSION CONTROL FOR DAM	N36° 12' 23.79"	W109° 05' 56.05"	N36° 12' 23.98"	W109° 05' 57.25"	N36° 12' 20.93"	W109° 05' 58.01"	N36° 12' 20.74"	W109° 05' 56.81"
				TOTAL =	2.5264	Acres								

TCE - ##	STATION	LOCATION (LT/RT)	LENGTH (FT)	WIDTH (FT)	AREA (ACRES)	DESCRIPTION
TCE - 40	895+50	LT	822	50	0.9435	BRIDGE DETOUR
	TCE POINT	LATITUDE	LONGITUDE			
	TCE 40-1	N36° 08' 24.72"	W109° 02' 47.57"			
	TCE 40-2	N36° 08' 25.65"	W109° 02' 49.67"			
	TCE 40-3	N36° 08' 26.98"	W109° 02' 51.74"			
	TCE 40-4	N36° 08' 29.37"	W109° 02' 55.73"			
	TCE 40-5	N36° 08' 29.77"	W109° 02' 55.39"			
	TCE 40-6	N36° 08' 27.36"	W109° 02' 51.36"			

TCE - ##	STATION	LOCATION (LT/RT)	WIDTH (FT)	AREA (FT^2)	AREA (ACRES)	DESCRIPTION
TCE - 43	1193+15	RT	VARIES	13845	0.3178	REC AREA PAVING
	TCE POINT	LATITUDE	LONGITUDE	TCE POINT	LATITUDE	LONGITUDE
	TCE 43-1	N36° 12' 07.01"	W109° 05' 57.38"	TCE 43-8	N36° 12' 10.87"	W109° 05' 57.11"
	TCE 43-2	N36° 12' 07.39"	W109° 05' 56.96"	TCE 43-9	N36° 12' 11.24"	W109° 05' 56.96"
	TCE 43-3	N36° 12' 07.85"	W109° 05' 56.93"	TCE 43-10	N36° 12' 11.66"	W109° 05' 56.72"
	TCE 43-4	N36° 12' 08.20"	W109° 05' 57.10"	TCE 43-11	N36° 12' 12.06"	W109° 05' 56.58"
	TCE 43-5	N36° 12' 09.08"	W109° 05' 57.29"	TCE 43-12	N36° 12' 12.50"	W109° 05' 56.50"
	TCE 43-6	N36° 12' 09.60"	W109° 05' 57.24"	TCE 43-13	N36° 12' 13.42"	W109° 05' 56.55"
	TCE 43-7	N36° 12' 10.29"	W109° 05' 57.15"	TCE 43-14	N36° 12' 13.45"	W109° 05' 56.76"

UTILITY CONTACTS:

WATER & WASTEWATER (SANITARY SEWER)

NAVAJO TRIBAL UTILITY AUTHORITY
P.O. BOX 170
FT. DEFIANCE, AZ 86504
CONTACT PERSON: ADRIAN TOLEDO
PHONE: (928) 729-6191
EMAIL: adriant@ntua.com

TELECOMMUNICATIONS

FRONTIER COMMUNICATION
STATE HIGHWAY 264
ST. MICHAELS, ARIZONA 86511
CONTACT PERSON: SHAWN MITCHELL
PHONE: 928-871-3800
EMAIL: shawn.mitchell@ftr.com

ELECTRIC POWER

NAVAJO TRIBAL UTILITY AUTHORITY
P.O. BOX 170
FT. DEFIANCE, AZ 86504
CONTACT PERSON: ART MCCABE
PHONE: (928) 729-5721
EMAIL: artm@ntua.com

ARIZONA 811

PHONE: #811 OR (602)-659-7500

UTILITY NOTES

1. A MINIMUM VERTICAL CLEARANCE OF 28' SHALL BE MAINTAINED FOR FOR OVERHEAD POWER AND TELEPHONE LINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET, SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

UTILITY CONTACTS NOTES TCE

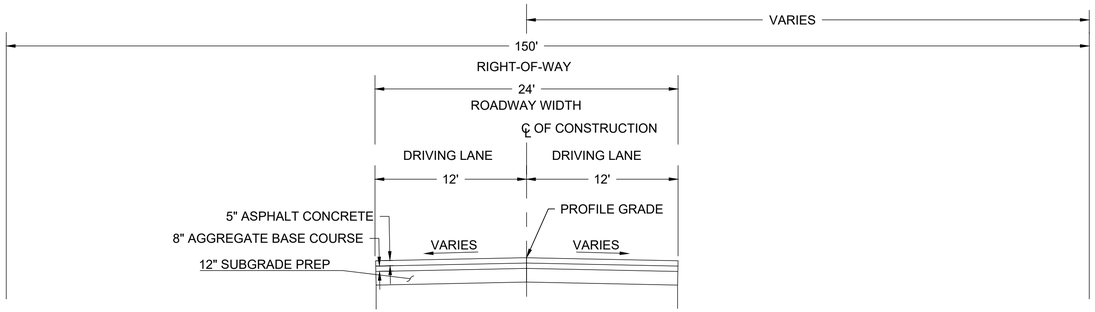
Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/2025 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

DESIGN JEB	WCEA NO. 1710009012	DATE 2025	
DRAWN ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 3 OF 120	
CHECK ASF			

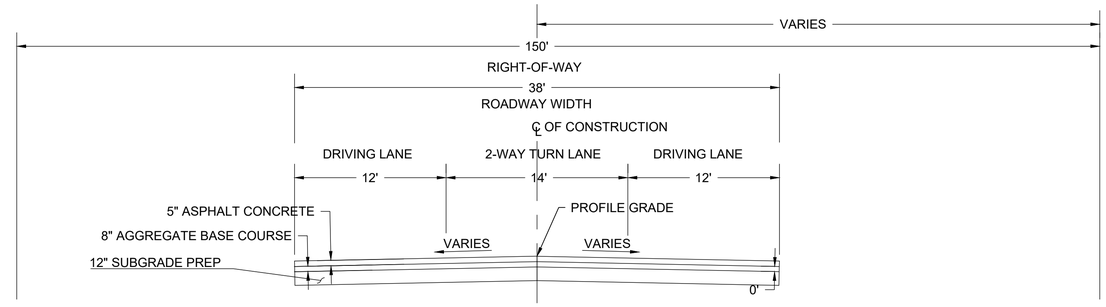
M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_1\UTILITY CONTACTS NOTES TCE.DWG2/25/2025 1:18 PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	4	120



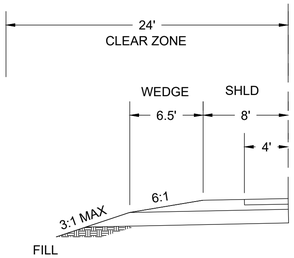
N12 TYPICAL SECTION C1

STA 889+76.38 TO STA 1214+50.00
STA 1231+00.00 TO STA 1269+68.50



N12 TYPICAL SECTION C2

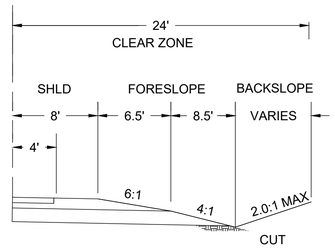
STA 1214+50.00 TO STA 1231+00.00



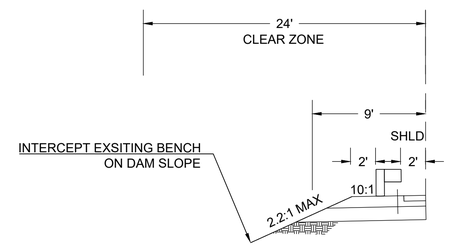
L1

STA 889+76.38 TO STA 891+53.00
STA 898+22.00 TO STA 905+00.00
STA 906+00.00 TO STA 924+90.00
STA 926+00.00 TO STA 932+74.00
STA 944+45.00 TO STA 945+30.00
STA 948+50.00 TO STA 1047+75.00
STA 1048+50.00 TO STA 1063+50.00
STA 1072+84.00 TO STA 1196+00.00
STA 1211+45.00 TO STA 1269+68.50

R1



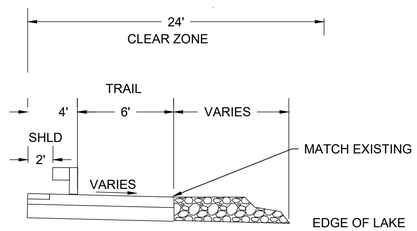
STA 889+76.38 TO STA 891+53.00
STA 896+27.00 TO STA 938+20.00
STA 940+60.00 TO STA 1189+57.00
STA 1211+60.00 TO STA 1269+68.50



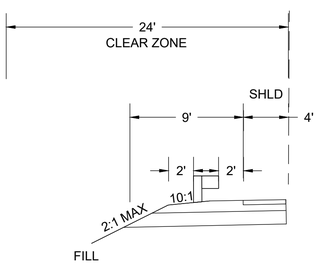
L4

STA 1199+70.00 TO STA 1205+30

R4



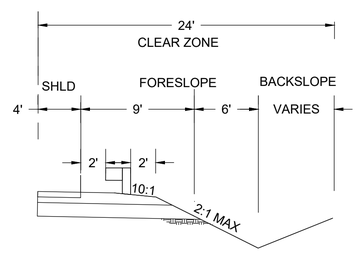
STA 1196+00.00 TO STA 1211+44.00



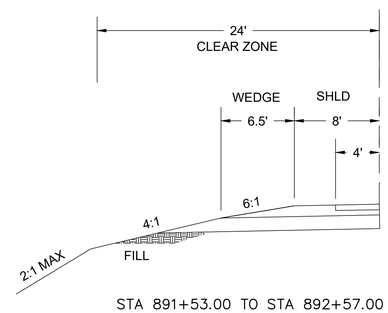
L2

STA 892+57.00 TO STA 894+28.00
STA 895+43.00 TO STA 896+22.00
STA 1196+00.00 TO STA 1199+70.00
STA 1205+30.00 TO STA 1211+45.00

R2



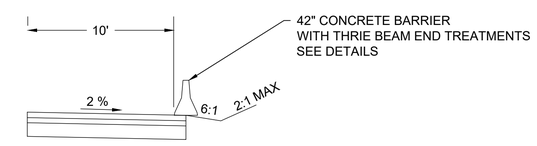
STA 891+53.00 TO STA 894+28.00
STA 895+43.00 TO STA 896+27.00
STA 1189+57.00 TO STA 1195+19.00
STA 1195+83.00 TO STA 1196+00.00



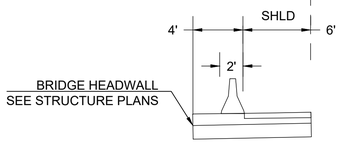
L5

STA 891+53.00 TO STA 892+57.00
STA 896+22.00 TO STA 898+22.00
STA 905+00.00 TO STA 906+00.00
STA 924+90.00 TO STA 926+00.00
STA 932+74.00 TO STA 944+45.00
STA 945+30.00 TO STA 948+50.00
STA 1047+75.00 TO STA 1048+50.00
STA 1063+50.00 TO STA 1072+84.00

R5



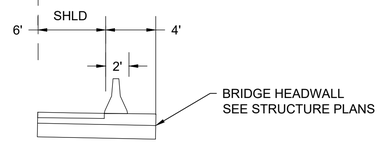
STA 938+20.00 TO 940+60.00



L3

STA 894+28.00 TO STA 895+43.00

R3



STA 894+28.00 TO STA 895+43.00

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET,
SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

TYPICAL SECTIONS

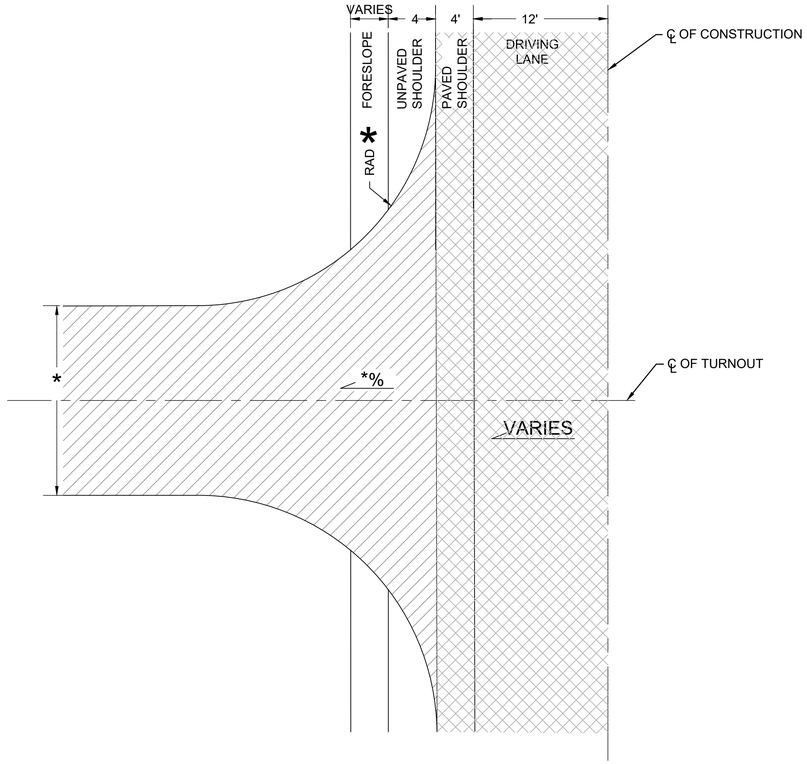
Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 12/25/2025 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 4	OF 120
CHECK	ASF			

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_2\TYPICAL SECTIONS.DWG2/25/2025 11:18 PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	5	120



TYPICAL TURNOUT DETAIL (PAVING LIMITS)

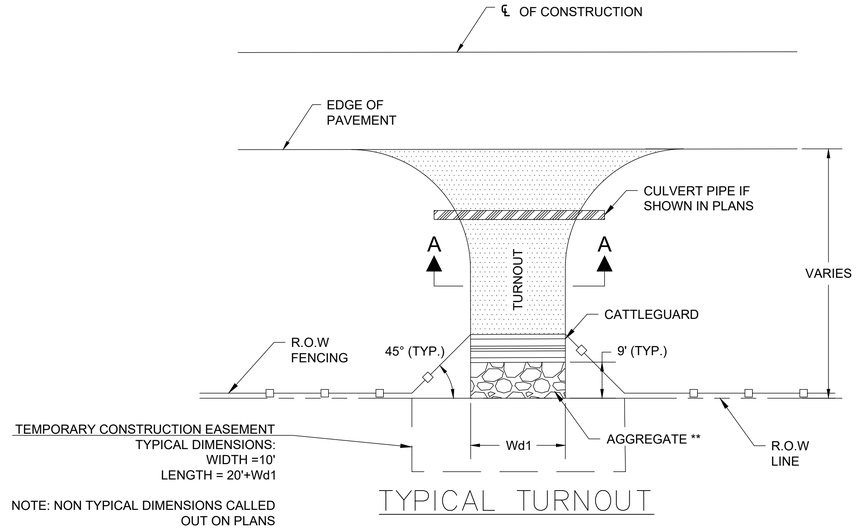
NTS

LEGEND

* SEE ROADWAY PLAN AND PROFILE SHEETS FOR TURNOUT WIDTHS, RADII CALLOUTS.
SEE TURNOUT PROFILE SHEETS FOR PROFILE GRADES AND STATIONING.

LIMITS OF DRIVEWAY PAVING

LIMITS OF ROADWAY PAVING

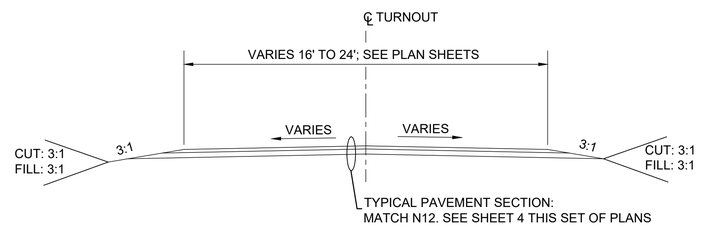


NOTE: NON TYPICAL DIMENSIONS CALLED OUT ON PLANS

TYPICAL TURNOUT

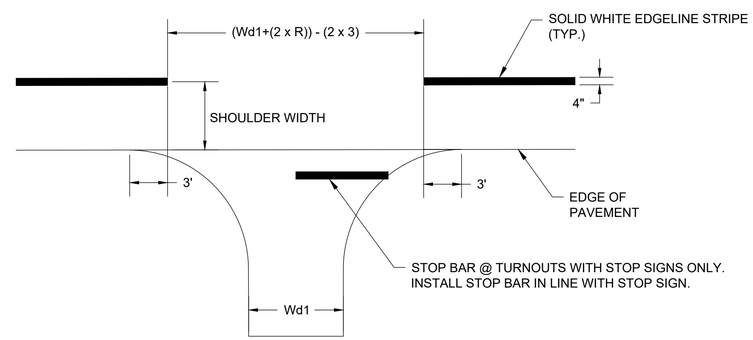
NOTE: IN THE EVENT THE TURNOUT CATTLE GUARD IS LOCATED WITHIN THE TURNOUT RADII, SO THAT THE ASPHALT/GRAVEL/DIRT WIDTH IS NARROWER ON THE BACK SIDE OF THE CATTLE GUARD THAN ON THE FRONT SIDE, THE ASPHALT/GRAVEL/ DIRT WIDTH ON THE BACK SIDE SHALL BE WIDENED TO MATCH THE WIDTH ON THE FRONT SIDE AND TAPERED BACK TO THE STANDARD ROADWAY/DRIVEWAY WIDTH IN 16'. THIS WORK SHALL BE INCLUDED IN THE EARTHWORK, GRAVEL, ASPHALT, ETC. BID ITEMS AS APPROPRIATE.

** AGGREGATE LIMITS MAY EXTEND BEYOND ROW TO TIE IN NEW TURNOUT TO EXISTING ACCESS. SEE TURNOUT PROFILES AND PLANS.



SECTION A–A

NOTE: TYPICAL TURNOUT DIMENSIONS UNLESS NOTED OTHERWISE ON PLANS.



TYPICAL PAVEMENT MARKING @ TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET, SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

TURNOUT DETAILS

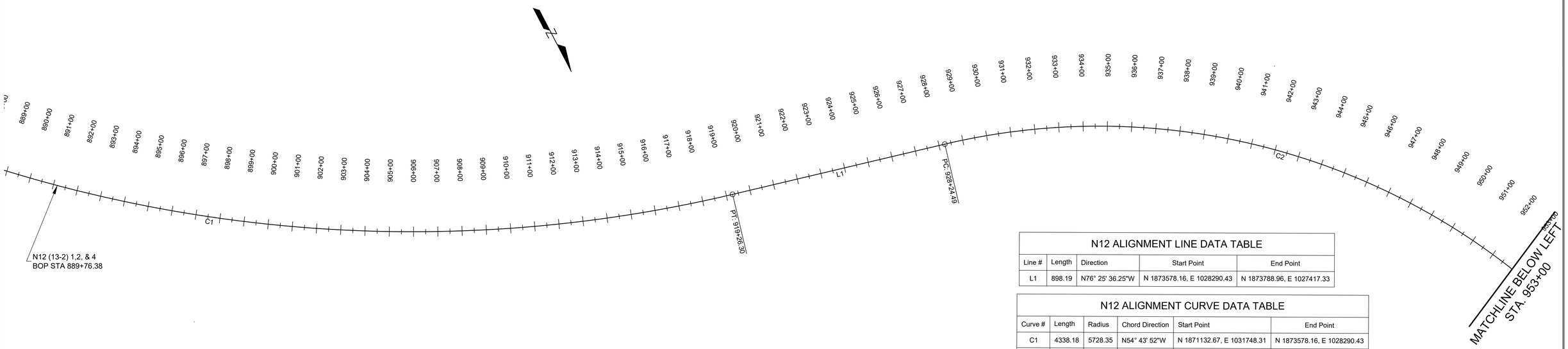
Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE	2025	
DRAWN	ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 5	OF 120	
CHECK	ASF				

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_2\TYPICAL SECTIONS.DWG2/25/2025 11:19 PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	6	120



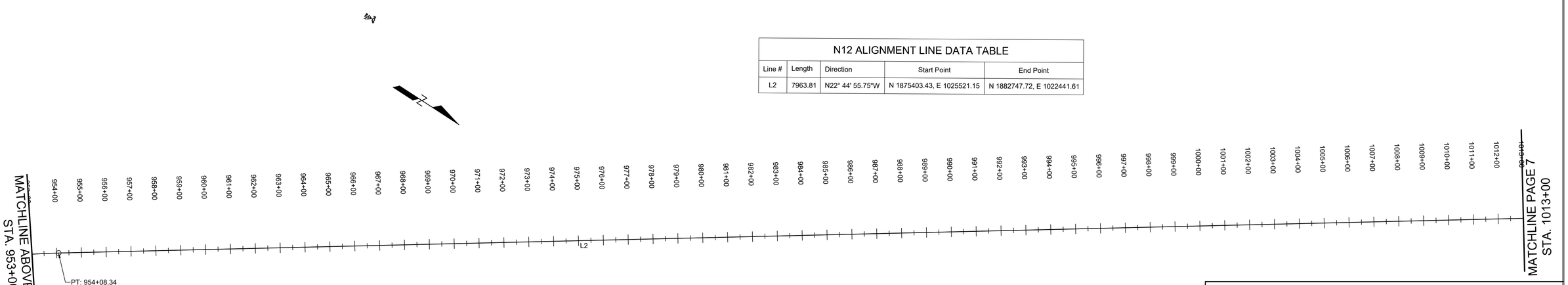
N12 ALIGNMENT LINE DATA TABLE				
Line #	Length	Direction	Start Point	End Point
L1	898.19	N76° 25' 36.25"W	N 1873578.16, E 1028290.43	N 1873788.96, E 1027417.33

N12 ALIGNMENT CURVE DATA TABLE					
Curve #	Length	Radius	Chord Direction	Start Point	End Point
C1	4338.18	5728.35	N54° 43' 52"W	N 1871132.67, E 1031748.31	N 1873578.16, E 1028290.43
C2	2583.85	2758.00	N49° 35' 16"W	N 1873788.96, E 1027417.33	N 1875403.43, E 1025521.15

N12 HORIZONTAL CONTROL

SCALE: 1"=200'

N12 ALIGNMENT LINE DATA TABLE				
Line #	Length	Direction	Start Point	End Point
L2	7963.81	N22° 44' 55.75"W	N 1875403.43, E 1025521.15	N 1882747.72, E 1022441.61



N12 HORIZONTAL CONTROL

SCALE: 1"=200'

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET, SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

HORIZONTAL CONTROL

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 05/16/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

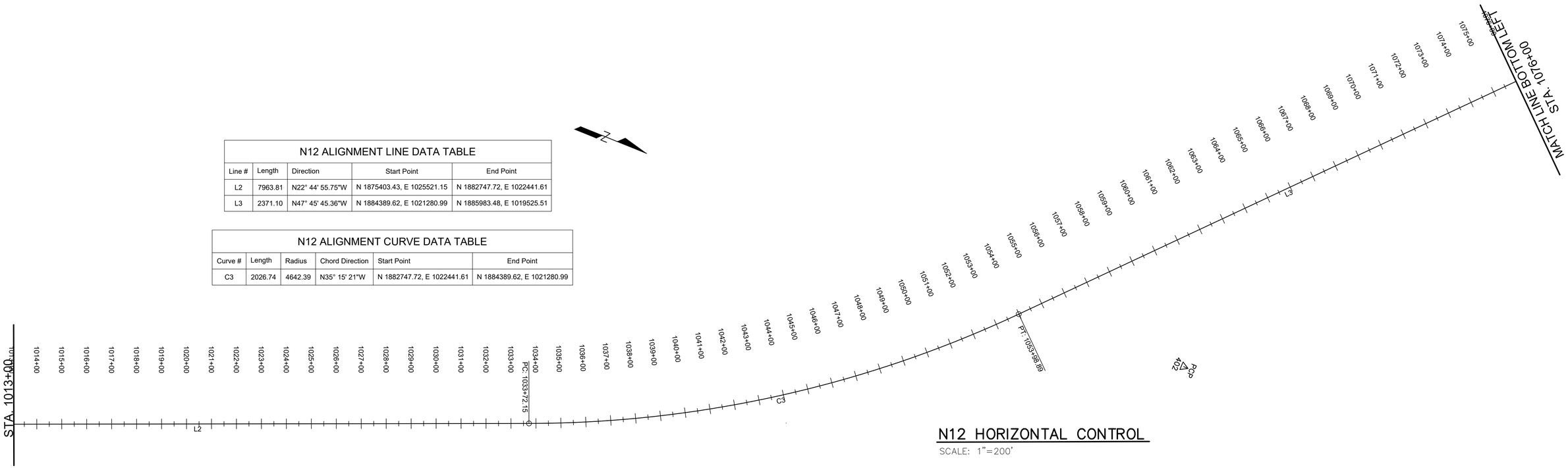
DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 6 OF 120	
CHECK	ASF			

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_3\HORIZONTAL CONTROL 4.DWG2/25/2025 11:19
PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	7	120

N12 ALIGNMENT LINE DATA TABLE				
Line #	Length	Direction	Start Point	End Point
L2	7963.81	N22° 44' 55.75"W	N 1875403.43, E 1025521.15	N 1882747.72, E 1022441.61
L3	2371.10	N47° 45' 45.36"W	N 1884389.62, E 1021280.99	N 1885983.48, E 1019525.51

N12 ALIGNMENT CURVE DATA TABLE					
Curve #	Length	Radius	Chord Direction	Start Point	End Point
C3	2026.74	4642.39	N35° 15' 21"W	N 1882747.72, E 1022441.61	N 1884389.62, E 1021280.99

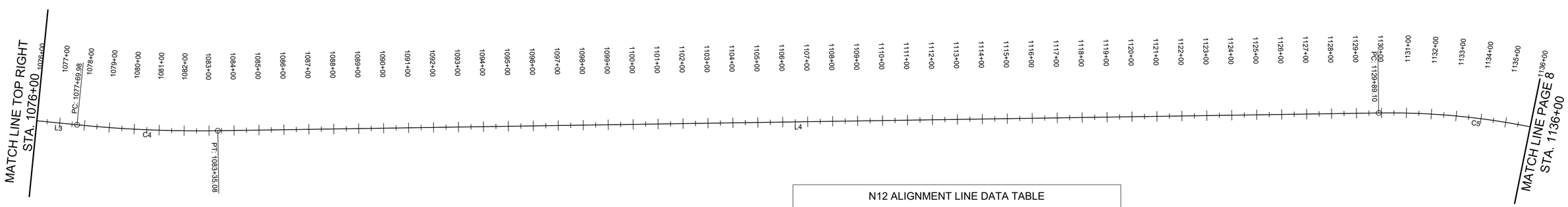


N12 HORIZONTAL CONTROL

SCALE: 1"=200'

N12 ALIGNMENT LINE DATA TABLE				
Line #	Length	Direction	Start Point	End Point
L3	2371.10	N47° 45' 45.36"W	N 1884389.62, E 1021280.99	N 1885983.48, E 1019525.51
L4	4654.02	N54° 20' 30.19"W	N 1886338.51, E 1019086.27	N 1889051.57, E 1015304.83

N12 ALIGNMENT CURVE DATA TABLE					
Curve #	Length	Radius	Chord Direction	Start Point	End Point
C4	565.10	4921.26	N51° 03' 08"W	N 1885983.48, E 1019525.51	N 1886338.51, E 1019086.27
C5	3997.86	2864.17	N14° 21' 16"W	N 1889051.57, E 1015304.83	N 1892617.77, E 1014392.20



N12 HORIZONTAL CONTROL

SCALE: 1"=200'

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET, SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

HORIZONTAL CONTROL

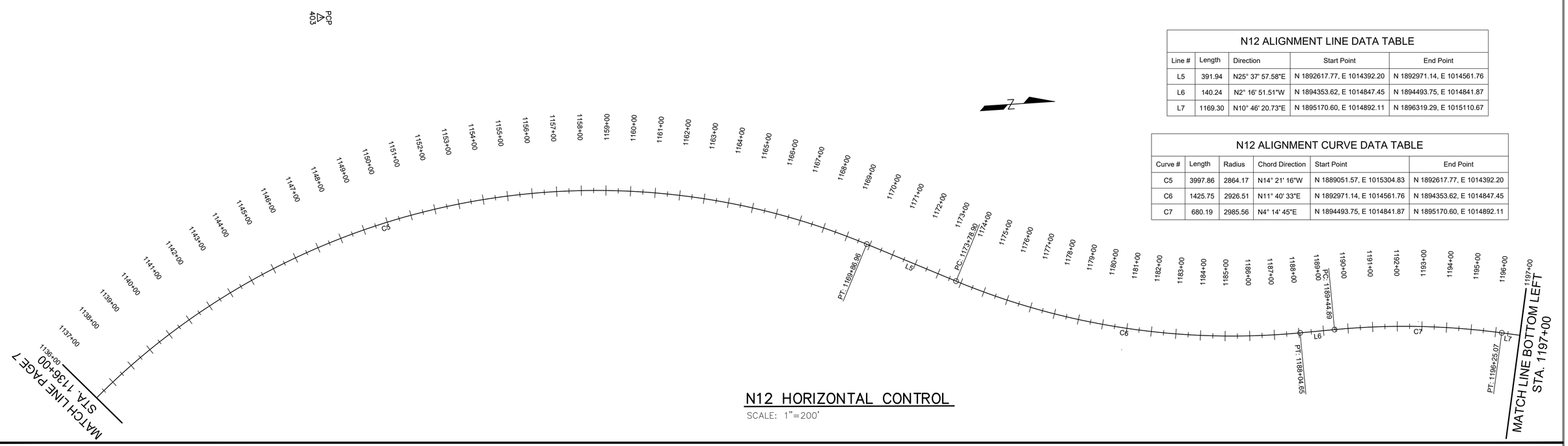
Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/25 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 7 OF 120
CHECK	ASF		

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_3\HORIZONTAL CONTROL 4.DWG2/25/2025 11:19 PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	8	120

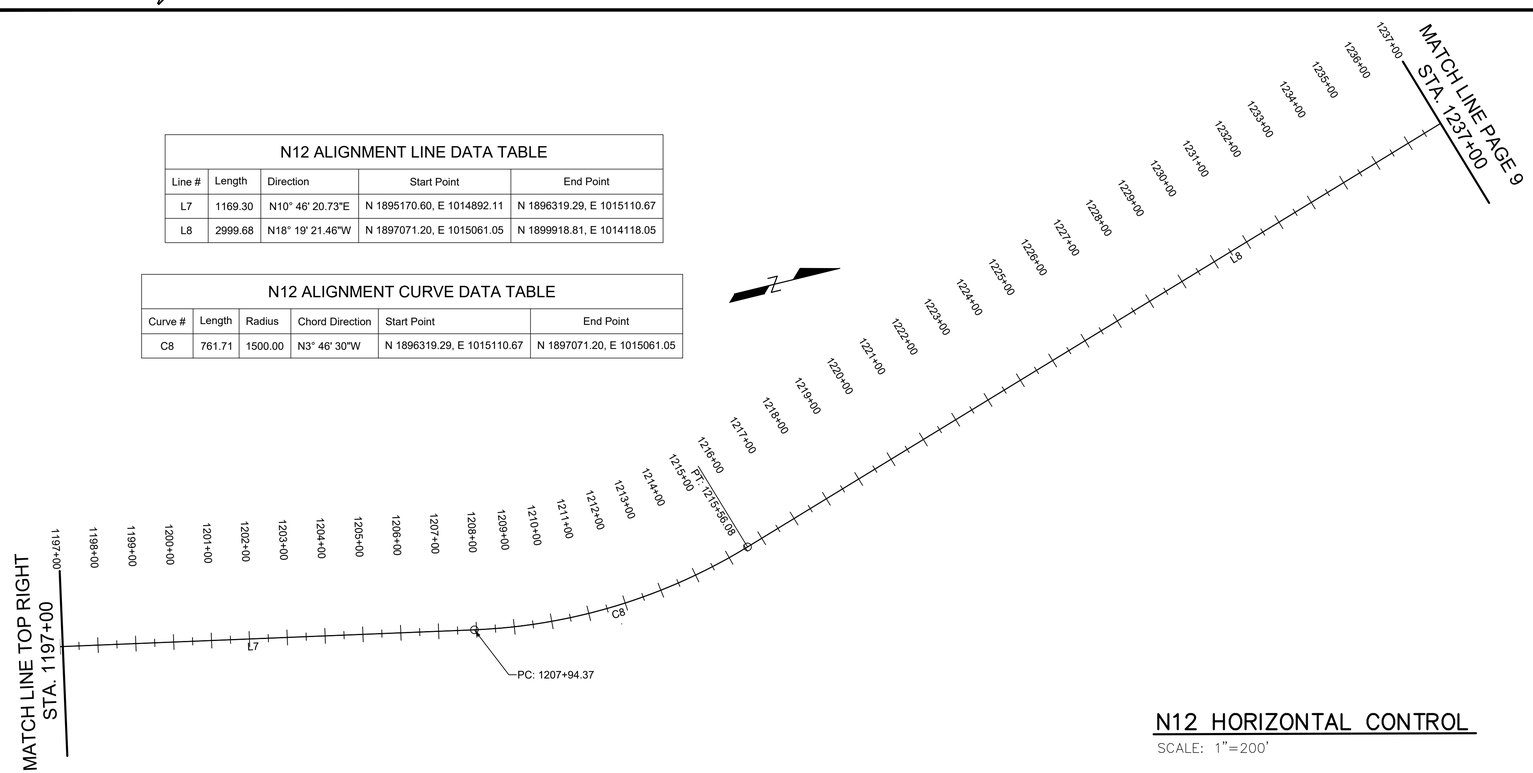


N12 HORIZONTAL CONTROL

SCALE: 1"=200'

N12 ALIGNMENT LINE DATA TABLE				
Line #	Length	Direction	Start Point	End Point
L5	391.94	N25° 37' 57.58"E	N 1892617.77, E 1014392.20	N 1892971.14, E 1014561.76
L6	140.24	N2° 16' 51.51"W	N 1894353.62, E 1014847.45	N 1894493.75, E 1014841.87
L7	1169.30	N10° 46' 20.73"E	N 1895170.60, E 1014892.11	N 1896319.29, E 1015110.67

N12 ALIGNMENT CURVE DATA TABLE					
Curve #	Length	Radius	Chord Direction	Start Point	End Point
C5	3997.86	2864.17	N14° 21' 16"W	N 1889051.57, E 1015304.83	N 1892617.77, E 1014392.20
C6	1425.75	2926.51	N11° 40' 33"E	N 1892971.14, E 1014561.76	N 1894353.62, E 1014847.45
C7	680.19	2985.56	N4° 14' 45"E	N 1894493.75, E 1014841.87	N 1895170.60, E 1014892.11



N12 HORIZONTAL CONTROL

SCALE: 1"=200'

N12 ALIGNMENT LINE DATA TABLE				
Line #	Length	Direction	Start Point	End Point
L7	1169.30	N10° 46' 20.73"E	N 1895170.60, E 1014892.11	N 1896319.29, E 1015110.67
L8	2999.68	N18° 19' 21.46"W	N 1897071.20, E 1015061.05	N 1899918.81, E 1014118.05

N12 ALIGNMENT CURVE DATA TABLE					
Curve #	Length	Radius	Chord Direction	Start Point	End Point
C8	761.71	1500.00	N3° 46' 30"W	N 1896319.29, E 1015110.67	N 1897071.20, E 1015061.05

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET,
SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

HORIZONTAL CONTROL

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 12/29/2025 ARIZONA, U.S.A.

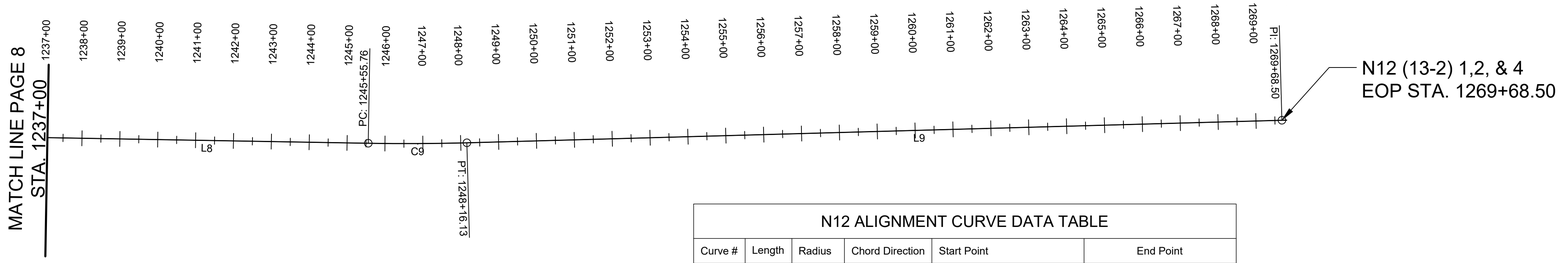
REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 8 OF 120
CHECK	ASF		

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_3\HORIZONTAL CONTROL 4.DWG2/25/2025 11:19
PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	9	120

N12 ALIGNMENT LINE DATA TABLE				
Line #	Length	Direction	Start Point	End Point
L8	2999.68	N18° 19' 21.46"W	N 1897071.20, E 1015061.05	N 1899918.81, E 1014118.05
L9	2389.09	N20° 54' 48.58"W	N 1900164.04, E 1014030.64	N 1902395.74, E 1013177.83



N12 ALIGNMENT CURVE DATA TABLE					
Curve #	Length	Radius	Chord Direction	Start Point	End Point
C9	260.37	5757.87	N19° 37' 05"W	N 1899918.81, E 1014118.05	N 1900164.04, E 1014030.64

N12 HORIZONTAL CONTROL

SCALE: 1"=200'

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET,
SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

HORIZONTAL CONTROL

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 01/07/25 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN JEB	WCEA NO. 1710009012	DATE 2025	
DRAWN ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 9 OF 120	
CHECK ASF			

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_3\HORIZONTAL CONTROL 4.DWG2/25/2025 11:19 PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	10	120

N12 Agency Line to Wheatfields Lake
AZ
SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANT
15101-0000	MOBILIZATION	LPSM	1
15201-0000	CONSTRUCTION SURVEY & STAKING	LPSM	1
15701-0000	SOIL EROSION CONTROL	LPSM	1
20102-0000	CLEARING AND GRUBBING	LPSM	1
20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LPSM	1
20401-0000	ROADWAY EXCAVATION	CUYD	144,550
20403-0000	UNCLASSIFIED BORROW	CUYD	600
20410-0000	SELECT BORROW	CUYD	3,800
21301-0000	SUBGRADE STABILIZATION (12")	SQYD	232,200
25101-0205	PLACED RIPRAP, METHOD A, CLASS 2, WIRE ENCLOSED	CUYD	556
25110-0100	GROUTED RIPRAP, METHOD A, CLASS 1, TYPE M RIPRAP	CUYD	12
25110-0300	GROUTED RIPRAP, METHOD A, CLASS 3	CUYD	58
25110-0700	GROUTED RIPRAP, METHOD A, CLASS 7	CUYD	20
25110-0900	GROUTED RIPRAP, METHOD A, CLASS 9	CUYD	12
25701-0100	CONTRACTOR FURNISHED GABION WALL DESIGN	LPSM	1
30101-0000	AGGREGATE BASE	TON	100,650
40201-0100	ASPHALT CONCRETE PAVEMENT, MARSHALL MIX, CLASS B	TON	39,900
41101-1000	PRIME COAT MATERIAL	TON	436
41201-0000	TACK COAT	TON	48
55201-0100	STRUCTURAL CONCRETE, CLASS A	CUYD	52
55401-1000	REINFORCING STEEL, GRADE 420	LB	1,608
60201-0800	24-INCH PIPE CULVERT	LNFT	3,534
60201-0900	30-INCH PIPE CULVERT	LNFT	1,069
60201-1000	36-INCH PIPE CULVERT	LNFT	312
60201-1200	48-INCH PIPE CULVERT	LNFT	102
60201-1400	60-INCH PIPE CULVERT	LNFT	208
60210-0800	END SECTION FOR 24-INCH PIPE CULVERT	EACH	100
60210-0900	END SECTION FOR 30-INCH PIPE CULVERT	EACH	30
60210-1000	END SECTION FOR 36-INCH PIPE CULVERT	EACH	8
60210-1200	END SECTION FOR 48-INCH PIPE CULVERT	EACH	2
60210-1400	END SECTION FOR 60-INCH PIPE CULVERT	EACH	4
61701-5000	GUARDRAIL SYSTEM SGR04b, TYPE PDE02 W/MSKT-TL3-8 TERMINAL & THRIE E	LNFT	4,043
61801-0000	CONCRETE BARRIER	LNFT	470
61902-0000	PEDESTRIAN CATTLE GUARD	EACH	2
61902-1400	GATE, METAL, TYPE 1, 16; WIDTH	EACH	7
61902-2600	GATE, BARBED WIRE, 5 STRAND, 16' WIDTH	EACH	2
61903-0300	CATTLE GUARD, 16 FEET	EACH	18
61903-0700	CATTLE GUARD, 24 FEET	EACH	10
62510-1000	SEEDING, DRY METHOD	ACRE	79
63304-0400	SIGNS, STEEL PANELS, TYPE 9 SHEETING	SQFT	595
63305-0200	POSTS, STEEL, 2-INCH DIAMETER	LNFT	4,244
63308-2000	OBJECT MARKER, TYPE 2	EACH	110
63309-0010	DELINEATOR, TYPE 1a	EACH	86
63309-0020	DELINEATOR, TYPE 1b	EACH	339
63401-1510	PAVEMENT MARKINGS, TYPE H, SOLID YELLOW	LNFT	25,031
63401-1520	PAVEMENT MARKINGS, TYPE H, SOLID WHITE	LNFT	73,848
63401-1524	PAVEMENT MARKINGS, TYPE H, SOLID WHITE, 24"	LNFT	360
63401-1610	PAVEMENT MARKINGS, TYPE H, BROKEN YELLOW	LNFT	7,773
63405-2900	PAVEMENT MARKINGS, TYPE H, TURN ARROW	EACH	4
63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	1
	Pre-Fabricated Arch Bridge		
20301-0400	REMOVAL OF BRIDGE	LPSM	1
20801-0000	STRUCTURE EXCAVATION	CUYD	1,387
20803-0000	STRUCTURAL BACKFILL	CUYD	1,752
25110-2000	GROUTED RIPRAP, CLASS 2	CUYD	193
55101-0200	CONCRETE FILLED STEEL PIPE PILE (18"), IN PLACE	LNFT	1,320
55104-1000	DYNAMIC PILE LOAD TEST	EACH	4
55115-1000	PREBORING	LNFT	1,280
55401-2000	REINFORCING STEEL, EPOXY COATED	LBS	19,395
56302-1000	PAINTING, CONCRETE STRUCTURE	SQFT	4,622
56501-0300	STRUCTURAL CONCRETE CLASS A (AE) (4000 psi)	CUYD	131
58001-0000	CONTECH PRECAST BRIDGE	LPSM	1

STATION	TO	STATION	LOCATION	PAVEMENT MARKINGS, SOLID YELLOW, TYPE "H" 63401-1510	PAVEMENT MARKINGS, SOLID WHITE TYPE "H" 63401-1520	24" SOLID WHITE STOP BAR (10' LENGTH) 63401-1524	PAVEMENT MARKINGS, BROKEN YELLOW, TYPE "H" 63401-1610	PAVEMENT MARKINGS, TYPE "H" LEFT TURN ARROW 63405-2900	NOTE
				LF	LF	LF	LF	EACH	
889+76.00		1269+68.50	LT		37993				
889+76.00		1269+68.50	RT		37993				
889+76.00		900+00.00	LT	1024					
889+76.00		900+00.00	RT				256		
900+00.00		910+00.00	LT	1000					
900+00.00		910+00.00	RT	1000					
910+00.00		919+00.00	LT	900					
910+00.00		919+00.00	RT				225		
919+00.00		951+50.00	CL				813		
951+50.00		953+00.00	LT				38		
951+50.00		953+00.00	RT	150					
953+00.00		960+00.00	CL				175		
960+00.00		962+00.00	LT	200					
960+00.00		962+00.00	RT				50		
962+00.00		969+50.00	CL				188		
969+50.00		975+00.00	LT				138		
969+50.00		975+00.00	RT	550					
975+00.00		978+00.00	CL				75		
978+00.00		984+00.00	LT	600					
978+00.00		984+00.00	RT				150		
984+00.00		989+00.00	CL				125		
989+00.00		992+00.00	LT				75		
989+00.00		992+00.00	RT	300					
992+00.00		998+00.00	CL				150		
998+00.00		1001+00.00	LT	300					
998+00.00		1001+00.00	RT				75		
1001+00.00		1029+50.00	CL				713		
1029+50.00		1035+00.00	LT				138		
1029+50.00		1035+00.00	RT	550					
1035+00.00		1038+00.00	CL				75		
1038+00.00		1045+00.00	LT	700					
1038+00.00		1045+00.00	RT				175		
1045+00.00		1074+00.00	CL				725		
1074+00.00		1080+50.00	LT				163		
1074+00.00		1080+50.00	RT	650					
1080+50.00		1083+00.00	CL				63		
1083+00.00		1089+00.00	LT	600					
1083+00.00		1089+00.00	RT				150		
1089+00.00		1090+50.00	LT	150					
1089+00.00		1090+50.00	RT	150					
1090+50.00		1100+00.00	LT	950					
1090+50.00		1100+00.00	RT				238		
1100+00.00		1173+50.00	CL				1838		
1173+50.00		1214+50.00	LT	4100					
1173+50.00		1214+50.00	RT	4100					
1214+50.00		1217+50.00	LT	600					TURN BAY
1214+50.00		1217+50.00	RT	600					TURN BAY
1217+50.00		1219+10.00	LT	320					TURN BAY
1217+75.00		1219+10.00	RT		405				12" WHITE
1217+75.00		1219+10.00	CL					2	TURN BAY
1219+75.00		1220+75.00	RT		300				12" WHITE
1219+75.00		1220+75.00	CL					2	TURN BAY
1219+75.00		1221+40.00	RT	330					TURN BAY
1221+40.00		1231+00.00	LT	1920					TURN BAY
1221+40.00		1231+00.00	RT	1920					TURN BAY
1231+00.00		1232+67.00	LT	167					
1231+00.00		1232+67.00	RT				42		
1232+67.00		1247+00.00	CL				358		
1247+00.00		1253+00.00	LT				150		
1247+00.00		1253+00.00	RT	600					
1253+00.00		1256+00.00	CL				75		
1256+00.00		1262+00.00	LT	600					
1256+00.00		1262+00.00	RT				150		
1262+00.00		1269+69.00	CL				192		
Turnouts		36			-2842	360			DWY GAP
				25031	**73848**	**360**	**7773**	**4**	

SURFACING SCHEDULE

STATION TO STATION		LOCATION	DESCRIPTION	21301-0000 SUBGRADE STABILIZATION LENGTH (FT)	WIDTH (FT)	AREA (SY)	30101-0000 AGGREGATE BASE WIDTH (FT)	DEPTH (IN)	(SY)	(TON)	40201-0100 ASPHALT CONCRETE PAVEMENT, MARSHALL MIX, CLASS B WIDTH (FT)	DEPTH (IN)	(SY)	(TON)	41201-0000 TACK COAT WIDTH (FT)	(TON)	41101-1000 PRIME COAT WIDTH (FT)	(TON)
N12																		
889+76.38	1269+68.50	LT & RT	2-12' DRIVING LANES, 2-8' SHOULDER/4'	37992	40	168854	40	8	168854	74483	32.00	5.00	135083	37523	32.00	45.03	32.00	316.6
889+76.38	1269+68.50	LT & RT	TAPERS	37992	13	54878	13	8	54878	24207					0.00	0.00	13.00	102.9
1189+40.00	1196+25.00	RT	WHEATFIELDS REC AREA PAVING			3996			3996	0	0.00	5.00	3996	1110	0.00	1.33	0.00	7.5
					AREA (SF)													
896+64	16' Wide	RT	TO-1		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
928+00	16' Wide	LT	TO-2		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
928+68	16' Wide	RT	TO-3		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
959+42	16' Wide	RT	TO-4		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
980+92	16' Wide	LT	TO-5		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
987+95	16' Wide	RT	TO-6		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1039+96	16' Wide	RT	TO-7		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1044+51	16' Wide	LT	TO-8		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1050+54	16' Wide	RT	TO-9		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1061+18	24' Wide	RT	TO-10		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1063+24	16' Wide	LT	TO-11		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1093+15	16' Wide	RT	TO-12		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1101+58	16' Wide	RT	TO-13		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1105+19	16' Wide	LT	TO-14		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1110+50	16' Wide	LT	TO-15		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1113+45	16' Wide	RT	TO-16		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1126+25	16' Wide	RT	TO-17		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1140+01	24' Wide	LT	TO-18		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1149+22	16' Wide	RT	TO-19		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1168+32	16' Wide	RT	TO-20		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1190+15	16' Wide	LT	TO-21		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1191+32	24' Wide	LT	TO-22		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1195+55	24' Wide	LT	TO-23		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1206+95	24' Wide	LT	TO-24		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1211+85	24' Wide	RT	TO-25		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1215+52	24' Wide	RT	TO-26		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1219+48	24' Wide	RT	TO-27		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1219+48	24' Wide	LT	TO-28		1444	160		8	160	71		5.00	160	45	16.00	0.05	16.00	0.3
1227+87	16' Wide	RT	TO-29		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1235+29	16' Wide	LT	TO-30		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1240+40	24' Wide	RT	TO-31		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1246+73	16' Wide	LT	TO-32		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1249+25	16' Wide	RT	TO-33		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
1261+22	16' Wide	LT	TO-34		1058	118		8	118	52		5.00	118	33	16.00	0.04	16.00	0.2
			N12 Estimate			**232200**				**100650**				**39900**		**48**		**436**

61701-5000

GUARDRAIL SYSTEM SGR04b, Type PDE02 W/MSKT-TL3-8 TERMINAL SECTION

THRIE BEAM & CONCRETE TRANSITION, TYPE A INSTALLATION

STATION	To	STATION	LT/RT	LENGTH (FT)	DESCRIPTION	REMARKS
891+53.00	To	894+28.00	RT	275.000	Std Guardrail SGR04 with End Treatment, MSKT-TL3-8, Thrie Beam Trns	MB-01
892+57.00	To	894+28.00	LT	171.000	Std Guardrail SGR04 with End Treatment, MSKT-TL3-8, Thrie Beam Trns	MB-02
895+43.00	To	896+26.00	RT	83.000	Std Guardrail SGR04 with End Treatment, MSKT-TL3-8, Thrie Beam Trns	MB-03
895+43.00	To	898+22.00	LT	279.000	Std Guardrail SGR04 with End Treatment, MSKT-TL3-8, Thrie Beam Trns	MB-04
937+55.00	To	938+25.00	RT	70.000	Std Guardrail SGR04 with End Treatment, Thrie Beam Trns	RETAINING BARRIER
940+60.00	To	941+30.00	RT	70.000	Std Guardrail SGR04 with End Treatment, Thrie Beam Trns	RETAINING BARRIER
1189+35.00	To	1192+76.00	RT	341.000	Std Guardrail SGR04 with End Treatment, MSKT-TL3-8	MB-05
1193+61.00	To	1195+13.00	RT	152.000	Std Guardrail SGR04 with End Treatment, MSKT-TL3-8	MB-06
1195+97.00	To	1211+44.00	RT	1547.000	Std Guardrail SGR04 with End Treatment, MSKT-TL3-8	MB-07
1195+96.00	To	1206+51.00	LT	1055.000	Std Guardrail SGR04 with End Treatment, MSKT-TL3-9	MB-08
			TOTAL	**4043.000**		

* Note: Length given are Station-To-Station Length and does not reflect actual length of the railings & beams

63309-0020 **DELINEATOR, TYPE 1b**

Curve #	STATION	TO	STATION	Radius	Length	Spacing	Quantity
1	889+76		919+26	5728.35	2950	90	66
2	928+24		954+08	2758.00	2584	90	57
3	1033+72		1053+99	4642.39	2027	90	45
4	1077+70		1083+35	4921.26	565	90	13
5	1129+90		1169+87	2864.17	3997	90	89
6	1173+79		1188+05	2926.51	1426	90	32
7	1189+45		1196+25	2985.56	680	90	15
8	1207+95		1215+56	1500.00	761	90	17
9	1245+56		1248+16	5757.85	260	90	6
							339

63309-0010 **DELINEATOR, TYPE 1a**

Tangent#	STATION	TO	STATION	Radius	Length	Spacing	Quantity
1	919+26		928+24		898	530	3
2	954+08		1033+72		7964	530	30
3	1053+99		1077+70		2371	530	9
4	1083+35		1129+90		4655	530	18
5	1169+87		1173+79		392	530	1
6	1188+05		1189+45		140	530	1
7	1196+25		1207+95		1170	530	4
8	1215+56		1245+56		3000	530	11
9	1248+16		1269+68		2152	530	8
							86

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET, SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

SUMMARY OF QUANTITIES 1

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/25 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

DESIGN JEB	WCEA NO. 1710009012	DATE 2025	
DRAWN ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 10 OF 120	
CHECK ASF			

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_4\QUANTITIES.DWG2/25/2025 11:19 PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	N12(13-2) 1,2&4	11	120

		CATTLE GUARDS			FENCE GATES	
		61903-0300	61903-0700	61902-0000	61902-1400	61902-2600
Station	RT/LT	2-Unit CG (16') no gate	3-Unit CG (24') no gate	PEDESTRIAN CATTLE GUARD	GATE, METAL, TYPE 1, 16' WIDTH	GATE, BARBED WIRE, 5 STRAND, 16' WIDTH
896+64	RT	1				
928+00	LT				1	
928+68	RT				1	
959+42	RT					
980+92	LT				1	
987+95	RT				1	
1039+96	RT	1			1	
1044+51	LT				1	
1050+54	RT	1				
1061+18	RT		1			
1063+24	LT	1				
1093+15	RT	1				
1101+58	RT	1				1
1105+19	LT	1				1
1110+50	LT	1				
1113+45	RT	1				
1126+25	RT	1				
1140+01	LT		1			
1149+22	RT	1				
1168+32	RT	1			1 *	
1190+15	LT	1				
1191+32	LT		1			
1195+55	LT		1			
1206+95	LT		1			
1211+85	RT		1	2		
1215+52	RT		1			
1219+48	RT		1			
1219+48	LT		1			
1227+87	RT	1				
1235+29	LT	1				
1240+40	RT		1			
1246+73	LT	1				
1249+25	RT	1				
1261+22	LT	1				
		18	10	2	7	2

*Sta 1175+40RT mntce gate for access to lake

SIGN CODE	SIGN AREA (SF)	NO. OF SIGNS	63304-0400 SIGNS, STEEL PANELS, TYPE 9 SHEETING (SQFT)	POST SIZE	TOTAL INSTALLS	POST SIZE SIGN AREA	POST SIZE SIGN AREA	POST SIZE SIGN AREA	63305-0200 POSTS, STEEL, 2-INCH DIAMETER NO.	TOTAL LENGTH	NOTES
R1-1	6	35	219	1.75	35	219			35	420.00	stop
R2-1	5	8	40	1.75	8	40			8	96.00	speed limit
R4-1	3	17	51	1.75	17	51			17	187.00	do not pass
W11-4	6	1	6	1.75	1	6			1	12.00	cow
W14-2	6	1	6	1.75	1	6			1	12.00	no outlet
W14-3	8	17	142	2.25	17			142	17	374.00	no pass zone
W1-5L	6	1	6	1.75	1	6			1	12.00	curves ahead
W2-2L	6	1	6	1.75	1	6			1	12.00	turnout left
W2-2R	6	1	6	1.75	1	6			1	12.00	turnout rt
W1-2R	6	5	31	1.75	5	31			5	60.00	right bend
W1-2L	6	4	25	1.75	4	25			4	48.00	left bend
W1-4L	6	2	13	1.75	2	13			2	24.00	veer left
W3-5	6	2	13	1.75	2	13			2	24.00	reduce speed ahead
D10-2	2	12	23	1.75	12	23			12	144.00	mile markers
M1-6	3	2	5	1.75	2	5			2	22.00	C270 rd sign
D3-1	2	2	4	1.75	2	4			2	20.00	road signs
SUBTOTAL			595							1479	
N12 USE			**595**								

SIGN CODE	SIGN AREA (SF)	NO. OF SIGNS	SIGNS, STEEL PANELS, TYPE 9 SHEETING (SQFT)	POST SIZE	TOTAL INSTALLS	POST SIZE SIGN AREA	POST SIZE SIGN AREA	POST SIZE SIGN AREA	63305-0200 POSTS, STEEL, 2-INCH DIAMETER NO.	TOTAL LENGTH	NOTES
OM2		110	0		110				110	1100.00	culvert markers
SUBTOTAL									110	2765	
N12 USE			**0**				**63308-2000**		**110**	**4244**	

Drop Structure at Dam						
25110-0300	**GROUTED RIPRAP, METHOD A, CLASS 3**					
ID	W1	L1	W2	L2	Area (SF)	**Volume (CY)**
Drop Struct1	22.00	5.00	22.00	9.20	312.40	**11.57**
Drop Struct2	22.00	5.00	22.00	9.20	312.40	**11.57**
Drop Struct3	22.00	5.00	22.00	9.20	312.40	**11.57**
Drop Struct4	22.00	5.00	22.00	9.20	312.40	**11.57**
Drop Struct5	22.00	5.00	22.00	9.20	312.40	**11.57**
						58
25110-0700	**GROUTED RIPRAP, METHOD A, CLASS 7**					
ID			W3	L3	Area (SF)	**Volume (CY)**
Drop Struct1			22.00	5.00	110.00	**4.07**
Drop Struct2			22.00	5.00	110.00	**4.07**
Drop Struct3			22.00	5.00	110.00	**4.07**
Drop Struct4			22.00	5.00	110.00	**4.07**
Drop Struct5			22.00	5.00	110.00	**4.07**
						20
25110-0900	**GROUTED RIPRAP, METHOD A, CLASS 9**					
ID			W3	L3	Area (SF)	**Volume (CY)**
Drop Struct1			22.00	3.00	66.00	**2.44**
Drop Struct2			22.00	3.00	66.00	**2.44**
Drop Struct3			22.00	3.00	66.00	**2.44**
Drop Struct4			22.00	3.00	66.00	**2.44**
Drop Struct5			22.00	3.00	66.00	**2.44**
						12
25110-0100	**GROUTED RIPRAP, METHOD A, CLASS 1, TYPE M RIPRAP**					
ID			W3	L3	Area (SF)	**Volume (CY)**
Drop Struct1			22.00	3.00	66.00	**2.44**
Drop Struct2			22.00	3.00	66.00	**2.44**
Drop Struct3			22.00	3.00	66.00	**2.44**
Drop Struct4			22.00	3.00	66.00	**2.44**
Drop Struct5			22.00	3.00	66.00	**2.44**
						12

55201-0100	**STRUCTURAL CONCRETE, CLASS A**										**55401-1000 REINFORCING**
ID	W1	D1	H1	W2	D2	H2	W3	D3	H3	**Volume (CY)**	**LBS**
Drop Struct1	24.00	1.00	5.00	24.00	1.00	5.00	30.75	1.00	3.00	**12.31**	**322**
Drop Struct2	24.00	1.00	5.00	24.00	1.00	5.00	30.75	1.00	3.00	**12.31**	**322**
Drop Struct3	24.00	1.00	5.00	24.00	1.00	5.00	30.75	1.00	3.00	**12.31**	**322**
Drop Struct4	24.00	1.00	5.00	24.00	1.00	5.00	30.75	1.00	3.00	**12.31**	**322**
Drop Struct5	24.00	1.00	5.00	24.00	1.00	5.00	30.75	1.00	3.00	**12.31**	**322**
										62	**1608**

61801-0000	**Concrete Barrier**					
	LT/RT	STATION	TO	STATION	TOTAL	COMMENT
	RT	938+20		940+60	240	RETAINING BARRIER
	RT	894+28		895+43	115	CONCRETE BARRIER ON BRIDGE
	RT	894+28		895+43	115	CONCRETE BARRIER ON BRIDGE
					470	

62510-1000	**SEEDING, DRY METHOD**					**N12**	
STATION	**TO**	**STATION**	**DESCRIPTION**	**Length (ft)**	**Width (ft)**	**QUANTITY (ACRE)**	**QUANTITY (ACRE)**
889+76.00		1269+69.00	PROJECT LIMITS	37993	90	78	
PROJECT TOTAL						78	
PROJECT USE						**79**	

EARTHWORK SUMMARY

STATION	TO	STATION	DESCRIPTION	20401-0000 ROADWAY EXCAVATION	EMBANKMENT	20403-0000 UNCLASSIFIED BORROW	WASTE	20410-0000 SELECT BORROW
				CY	CY	CY	CY	CY
889+76.38		1269+68.50	2-12' DRIVING LANES, 8' SHOULDERS WITH TAPER	141173	81935		59238	
10+50.00		21+00.00	BRIDGE DETOUR	3327	3908	581		
1198+00.00		1206+00.00	DAM FILL SLOPE					3765
PROJECT TOTAL				144500		581	59238	3765
PROJECT USE				**144550**		**600**	**59250**	**3800**

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET, SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

SUMMARY OF QUANTITIES 2

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/2025 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

DESIGN JEB	WCEA NO. 1710009012	DATE 2025	
DRAWN ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 11 OF 120	
CHECK ASF			

M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_4\QUANTITIES.DWG2/25/2025 11:19 PM

DRAINAGE STRUCTURES

DS	STATION	Exst Size (in)	Exst Length (ft)	New Size (in)	New Length (ft)	60201-0800 24" CULVERT PIPE LENGTH (FT)	60210-0800 24" CULVERT PIPE END SECTION EACH	60201-0900 30" CULVERT PIPE LENGTH (FT)	60210-0900 30" CULVERT PIPE END SECTION EACH	60201-1000 36" CULVERT PIPE LENGTH (FT)	60210-1000 36" CULVERT PIPE END SECTION EACH	60201-1200 48" CULVERT PIPE LENGTH (FT)	60210-1200 48" CULVERT PIPE END SECTION EACH	60201-1400 60" CULVERT PIPE LENGTH (FT)	60210-1400 60" CULVERT PIPE END SECTION EACH	601000 REMOVAL OF EXISTING PIPES EACH	25101-0205 Wire Enclosed Riprap, Class 2 (CY)
N12																	
ds-1	898+92.	24	54	24	75	75	2	0	0	0	0	0	0	0	0	1	6
ds-2	905+87.	36	83	24	112	112	2	0	0	0	0	0	0	0	0	1	8
ds-3	920+03.	42	56	24	71	71	2	0	0	0	0	0	0	0	0	1	10
ds-4	925+29.	78	76	48	102	0	0	0	0	0	0	102	2	0	0	1	11
ds-5	935+97	24	82	24	108	108	2	0	0	0	0	0	0	0	0	1	6
ds-6	942+19	24	84	24	110	110	2	0	0	0	0	0	0	0	0	1	6
ds-7	943+69.	30	107	24	135	135	2	0	0	0	0	0	0	0	0	1	7
ds-8	945+82.	36	78	24	113	113	2	0	0	0	0	0	0	0	0	1	11
ds-9	955+06	42	72	36	72	0	0	0	0	72	2	0	0	0	0	1	10
ds-10	959+66	36	58	24	71	71	2	0	0	0	0	0	0	0	0	1	8
ds-11	964+87	36	70	30	71	0	0	71	2	0	0	0	0	0	0	1	8
ds-12	968+50	54	75	36	80	0	0	0	0	80	2	0	0	0	0	1	12
ds-13	985+86	42	64	30	71	0	0	71	2	0	0	0	0	0	0	1	10
ds-14	994+35.	42	71	30	82	0	0	82	2	0	0	0	0	0	0	1	10
ds-15	999+06	30	66	24	71	71	2	0	0	0	0	0	0	0	0	1	7
ds-16	1002+25	42	51	36	69	0	0	0	0	69	2	0	0	0	0	1	10
ds-17	1009+36	36	69	24	87	87	2	0	0	0	0	0	0	0	0	1	8
ds-18	1019+91.	42	61	24	92	92	2	0	0	0	0	0	0	0	0	1	10
ds-19	1026+10	36	70	24	95	95	2	0	0	0	0	0	0	0	0	1	8
ds-20	1033+00	24	66	24	87	87	2	0	0	0	0	0	0	0	0	1	6
ds-21	1039+38.	60	86	24	114	114	2	0	0	0	0	0	0	0	0	1	14
ds-22	1048+10.	84	76	60	208	0	0	0	0	0	0	0	0	208	4	1	18
ds-23	1053+32.	24	57	30	308	0	8	308	8	0	0	0	0	0	0	1	6
ds-24	1062+05.	24	58	24	76	76	2	0	0	0	0	0	0	0	0	0	6
ds-25	1066+45	24	57	24	80	80	2	0	0	0	0	0	0	0	0	1	6
ds-26	1069+85	36	64	24	80	80	2	0	0	0	0	0	0	0	0	1	8
ds-27	1072+85	42	80	24	110	110	2	0	0	0	0	0	0	0	0	1	10
ds-28	1084+46	36	65	24	106	106	2	0	0	0	0	0	0	0	0	1	8
ds-29	1088+85	30	55	24	84	84	2	0	0	0	0	0	0	0	0	1	7
ds-30	1092+65.	36	56	24	78	78	2	0	0	0	0	0	0	0	0	1	8
ds-31	1100+84.	30	58	24	73	73	2	0	0	0	0	0	0	0	0	1	7
ds-32	1105+83.	30	54	24	77	77	2	0	0	0	0	0	0	0	0	1	7
ds-33	1112+83	30	56	30	73	0	0	73	2	0	0	0	0	0	0	1	7
ds-34	1119+93	42	58	24	86	86	2	0	0	0	0	0	0	0	0	1	10
ds-35	1124+53	30	53	30	72	0	0	72	2	0	0	0	0	0	0	1	7
ds-36	1130+28.	36	58	24	86	86	2	0	0	0	0	0	0	0	0	1	8
ds-40	1162+28	30	84	30	95	0	0	95	2	0	0	0	0	0	0	1	7
ds-41	1170+78	30	56	24	86	86	2	0	0	0	0	0	0	0	0	1	7
ds-42	1174+16.	30	62	24	88	88	2	0	0	0	0	0	0	0	0	1	7
ds-43	1184+41	30	73	24	105	105	2	0	0	0	0	0	0	0	0	1	7
ds-46	1223+71	36	76	24	111	111	2	0	0	0	0	0	0	0	0	1	8
ds-47	1228+72	36	54	24	85	85	2	0	0	0	0	0	0	0	0	0	8
ds-48	1231+71	24	52	24	81	81	2	0	0	0	0	0	0	0	0	0	8
ds-49	1237+75	36	54	24	83	83	2	0	0	0	0	0	0	0	0	0	8
ds-50	1242+85.	36	58	24	87	87	2	0	0	0	0	0	0	0	0	1	8
ds-51	1248+42	36	58	30	75	0	0	75	2	0	0	0	0	0	0	1	8
ds-54	1266+55.	36	64	30	100	0	0	100	2	0	0	0	0	0	0	1	8
ds-55	1268+75	36	58	36	91	0	0	0	0	91	2	0	0	0	0	1	8
DSTO-01	896+64.			24	33	33	2	0	0	0	0	0	0	0	0	0	6
DSTO-03	928+68.			30	34	0	0	34	2	0	0	0	0	0	0	0	2
DSTO-06	987+95.			24	35	35	2	0	0	0	0	0	0	0	0	0	6
DSTO-09	1050+54.			24	48	48	2	0	0	0	0	0	0	0	0	0	6
DSTO-19	1149+22.			24	33	33	2	0	0	0	0	0	0	0	0	0	6
DSTO-21	1190+15.			24	36	36	2	0	0	0	0	0	0	0	0	0	6
DSTO-22	1191+32.			24	44	44	2	0	0	0	0	0	0	0	0	0	6
DSTO-23	1195+55.			24	44	44	2	0	0	0	0	0	0	0	0	0	6
DSTO-24	1206+95.			30	40	0	0	40	2	0	0	0	0	0	0	0	7
DSTO-25	1211+85.			24	55	55	2	0	0	0	0	0	0	0	0	0	6
DSTO-26	1215+52.			24	49	49	2	0	0	0	0	0	0	0	0	0	6
DSTO-28	1219+48.			30	48	0	0	48	2	0	0	0	0	0	0	0	7
DSTO-30	1235+29.			24	44	44	2	0	0	0	0	0	0	0	0	0	5
DSTO-32	1246+73.			24	34	34	2	0	0	0	0	0	0	0	0	0	5
DSTO-33	1249+25.			24	38	38	2	0	0	0	0	0	0	0	0	0	6
DSTO-34	1261+22.			24	38	38	2	0	0	0	0	0	0	0	0	0	7
																	8
N12 TOTAL						**3534**	**100**	**1069**	**30**	**312**	**8**	**102**	**2**	**208**	**4**	**49**	**556**

STRUCTURE RIPRAP FOR BRIDGE

	LENGTH	HEIGHT	THICKNESS	25110-2000 Grouted Riprap, Class 2 VOLUME (CY)
SOUTH SIDE	90	29	1	97
NORTH SIDE	90	29	1	97
				193

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET, SUITE 460
PHOENIX, ARIZONA 85008
(602) 283-2701

ROUTE N12

SUMMARY OF QUANTITIES 3

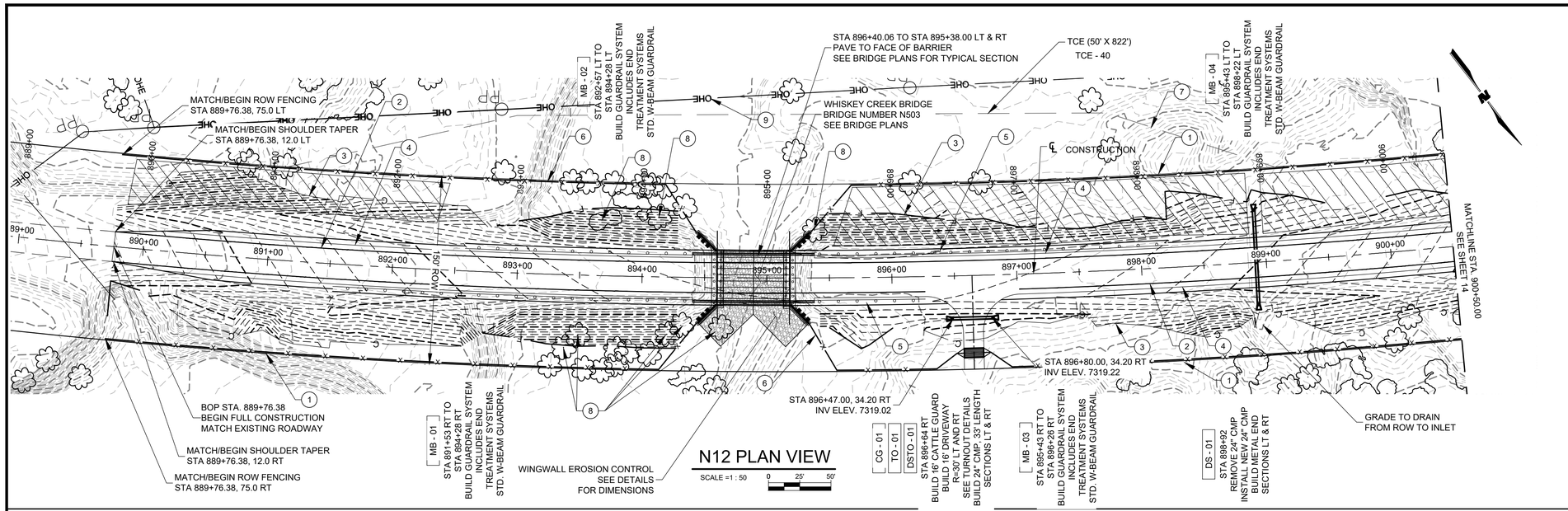
Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/2025 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

DESIGN JEB	WCEA NO. 1710009012	DATE 2025	
DRAWN ERG	PROJECT NO. N12(13-2) 1,2,&4	SHEET NO. 12 OF 120	
CHECK ASF			

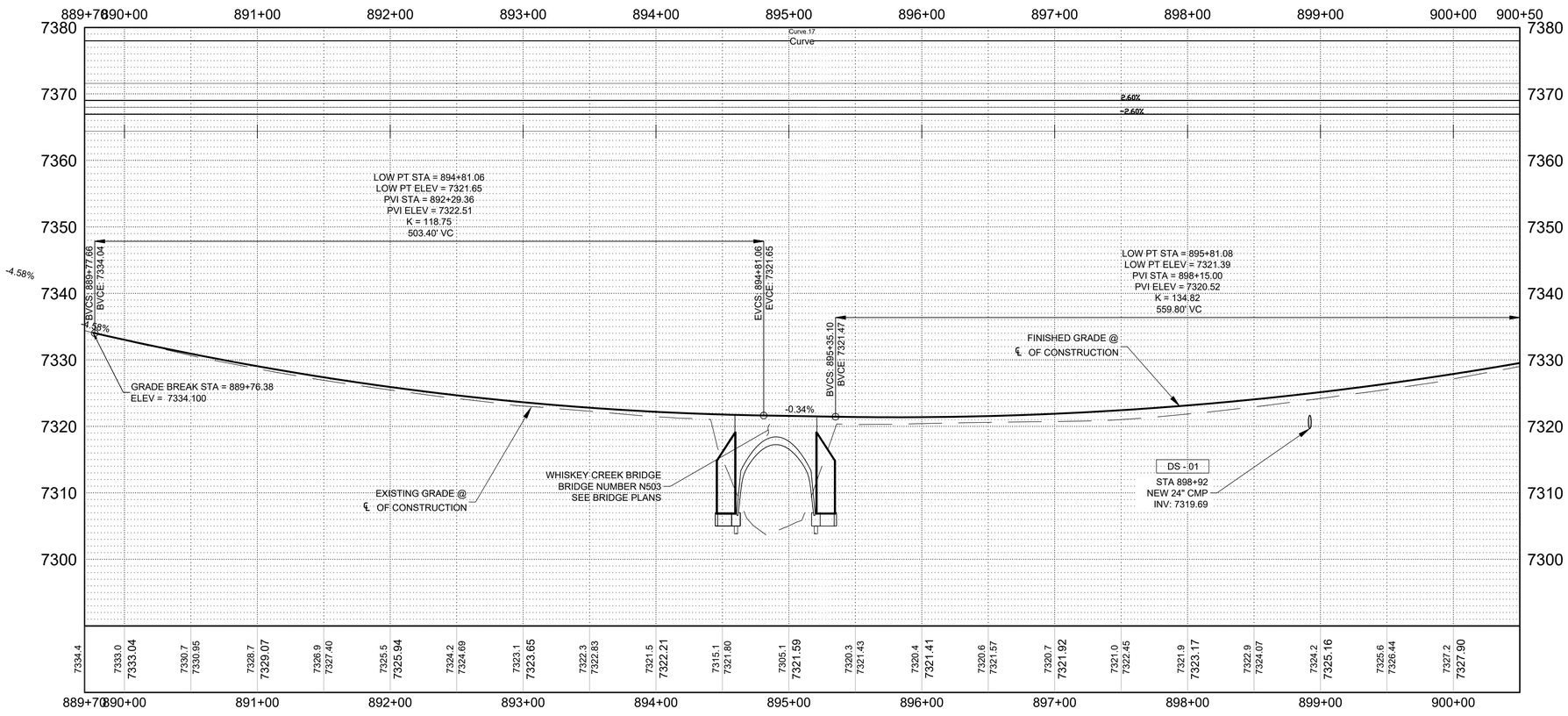
M:\TRN\17-100-090-12\2_DISCIPLINES_SHEETS\3_SHEETS - ROADWAY\SHEET_4\QUANTITIES.DWG2/25/2025 11:19 PM

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	13	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

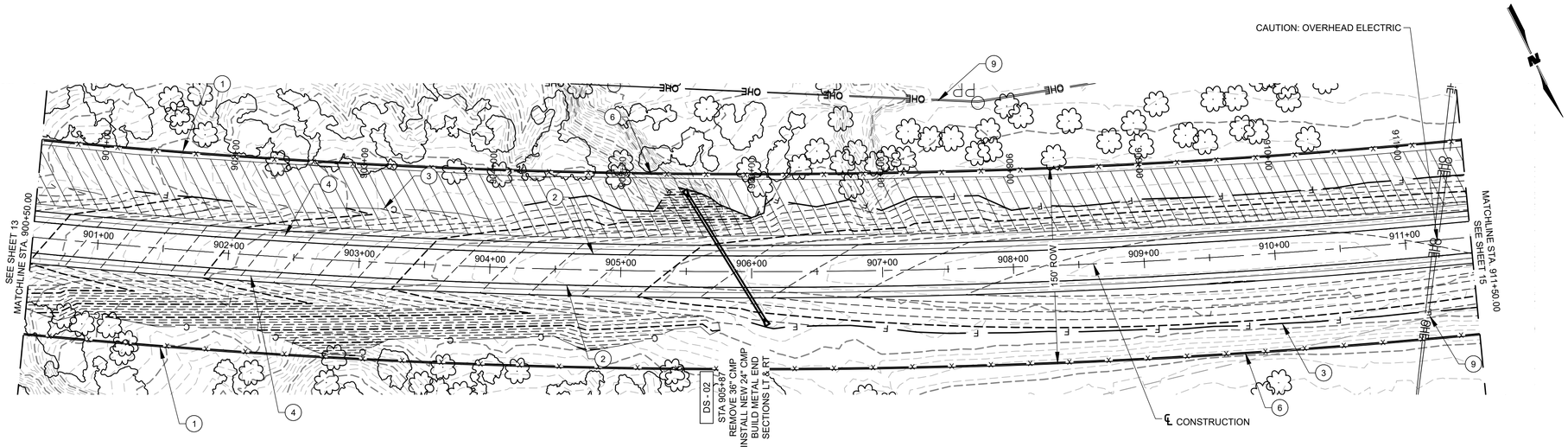
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 09/09/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

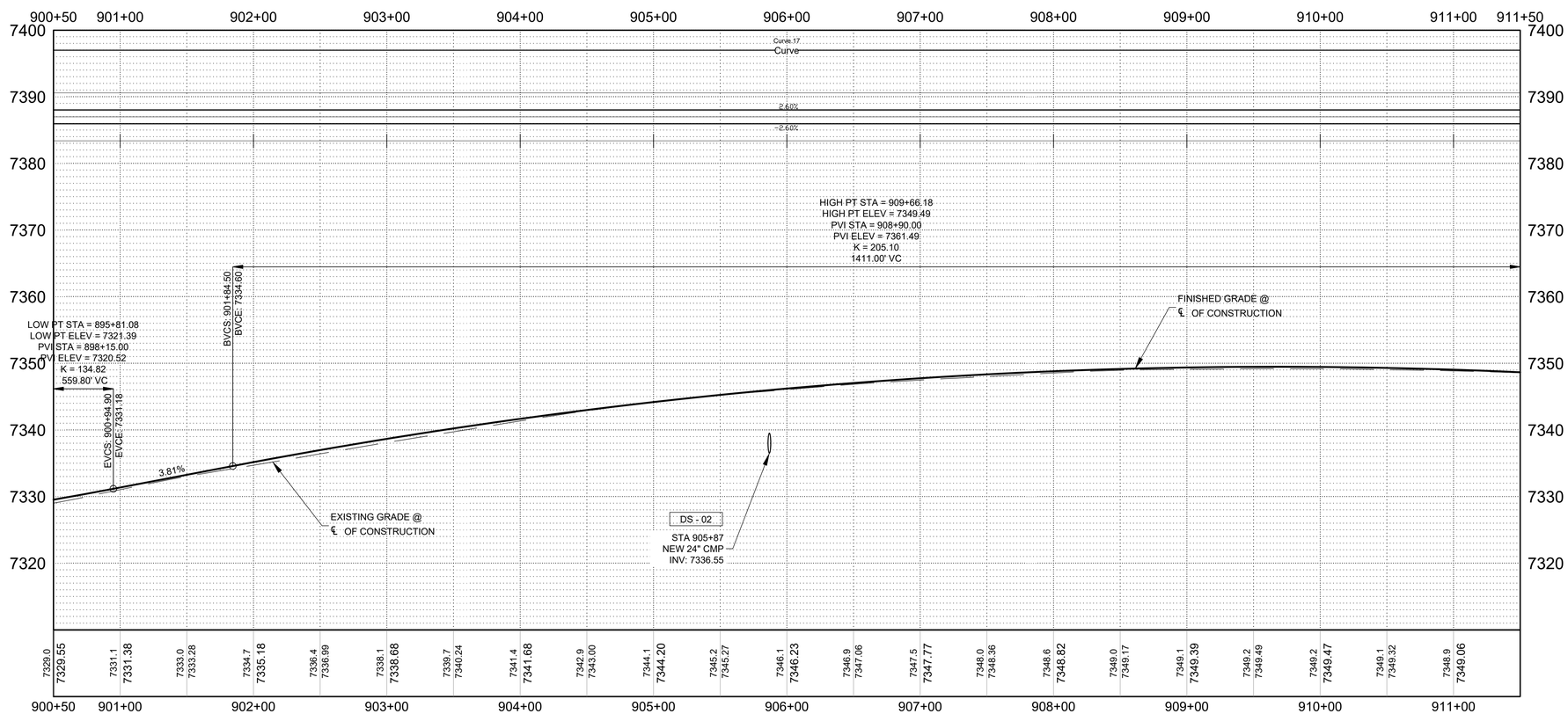
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 13 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	14	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

- CG - XX — CATTLE GUARD
- TO - XX — TURNOUT/DRIVEWAY
- DS - XX — DRAINAGE STRUCTURE
- DSTO - XX — DRAINAGE STRUCTURE AT TURNOUT
- POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

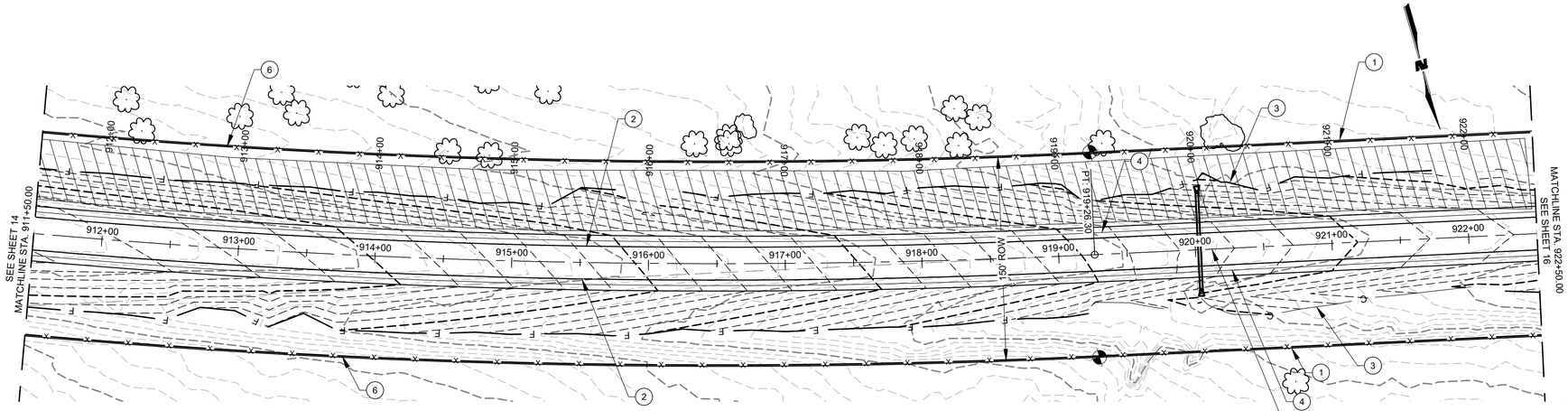
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/24/2026 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

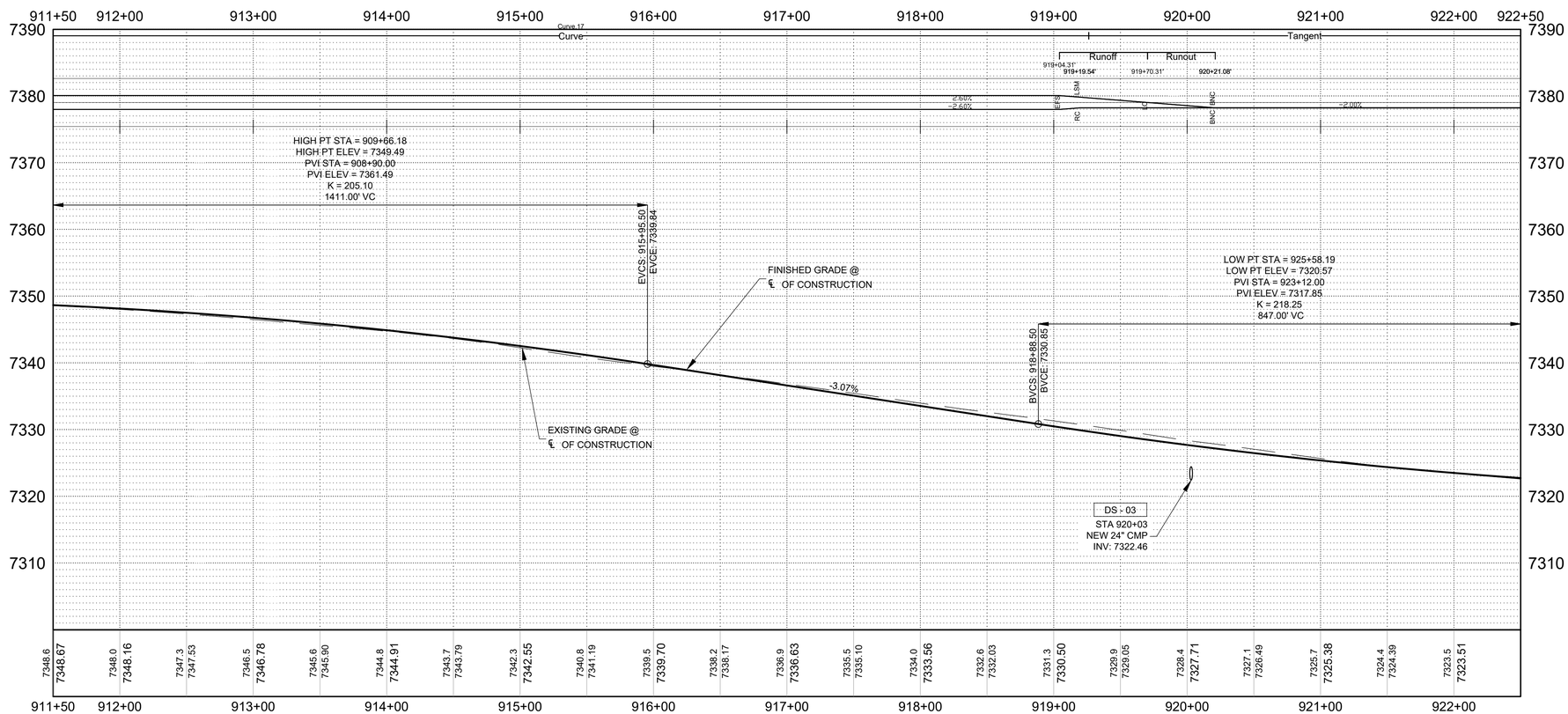
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 14 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	15	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL

LEGEND

- CG - XX — CATTLE GUARD
- TO - XX — TURNOUT/DRIVEWAY
- DS - XX — DRAINAGE STRUCTURE
- DSTO - XX — DRAINAGE STRUCTURE AT TURNOUT
- POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

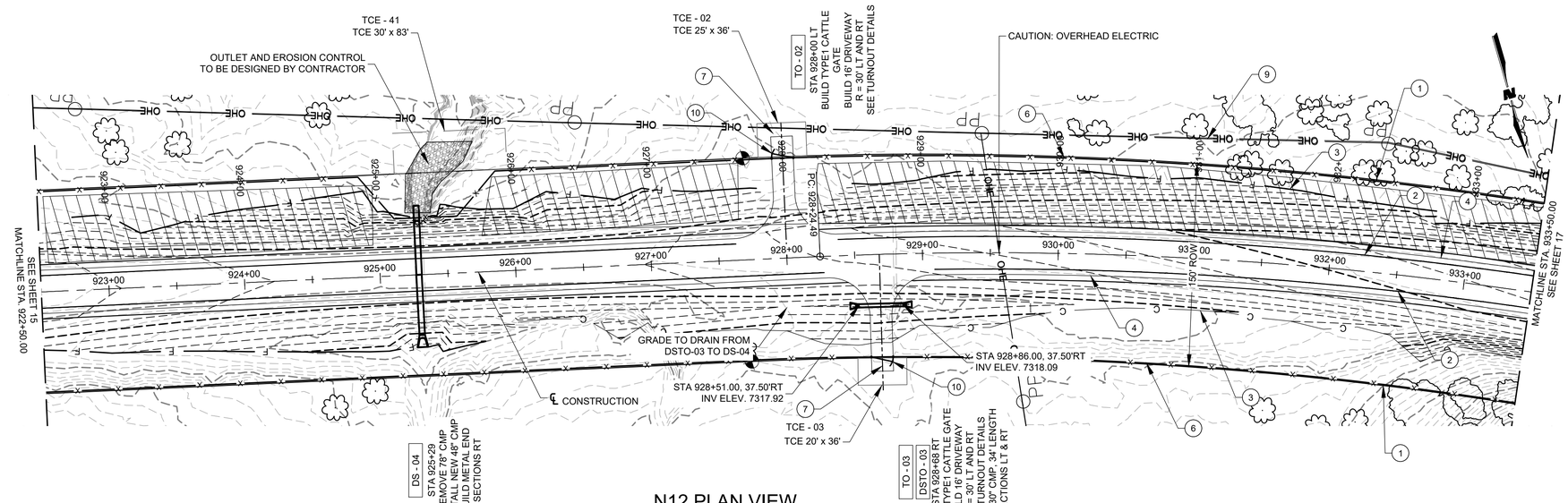
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 10/29/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

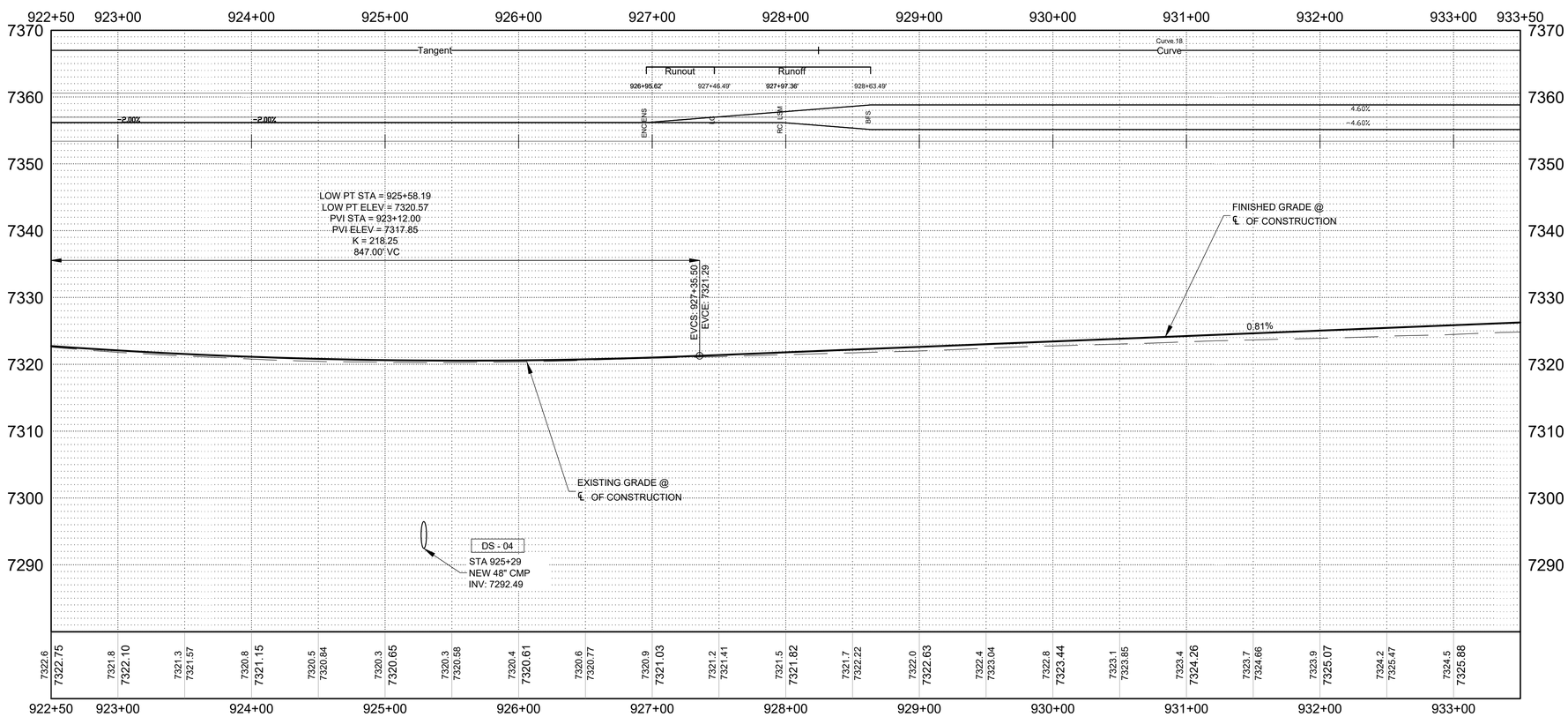
DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	N12	SHEET NO.	15 - 120
CHECK	ASF			

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	16	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, .5', 1')

VERT =1 : 10 (0, .5', 1')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC
10. TYPE 1 CATTLE GATE

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

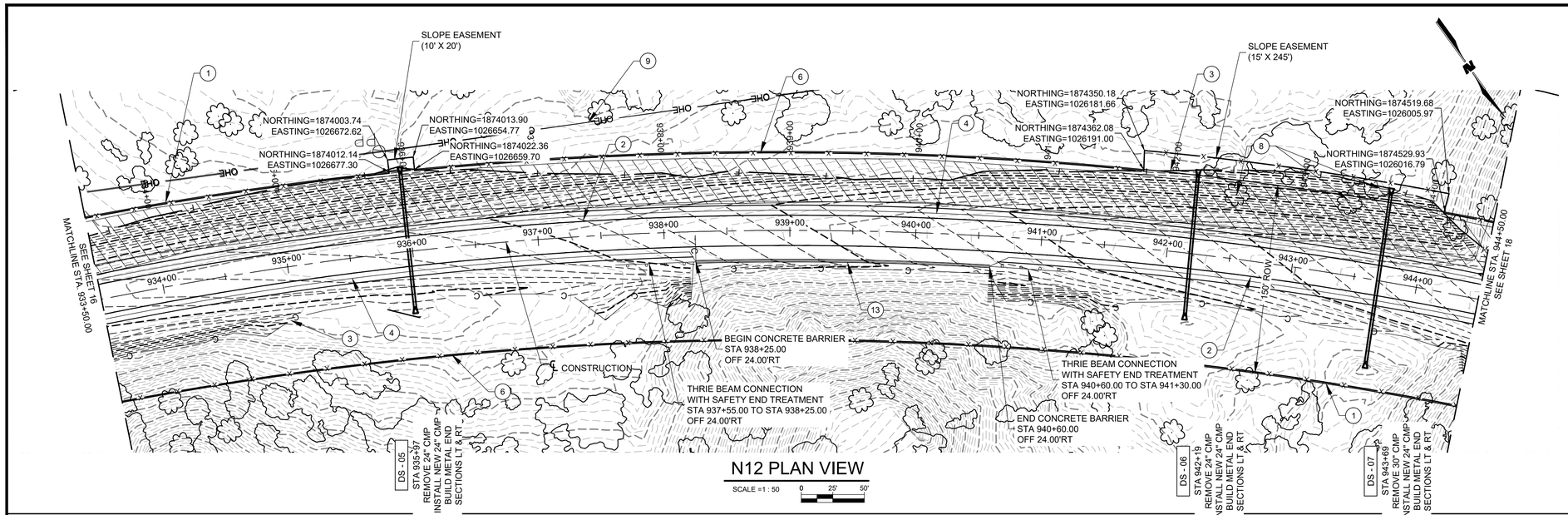
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/2020 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

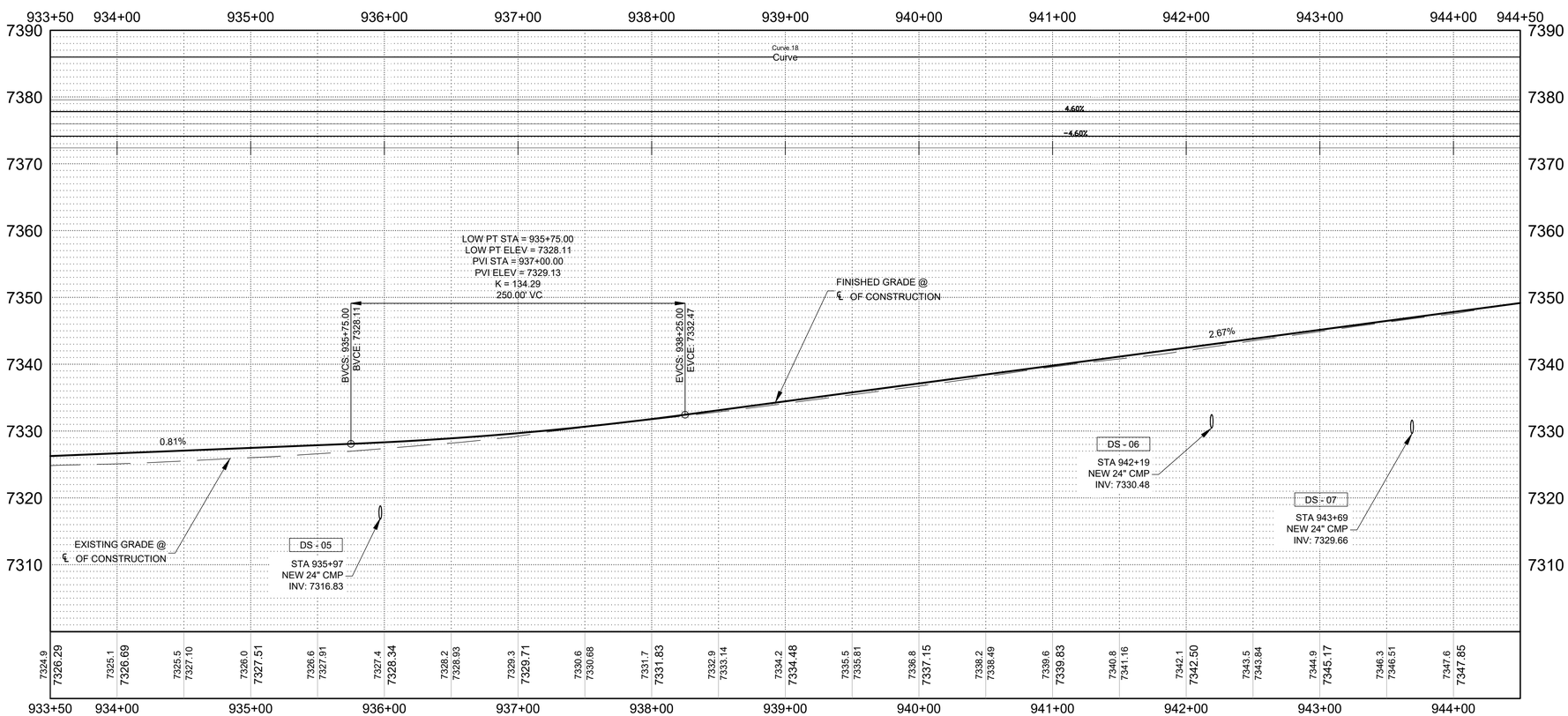
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 16 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	17	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC
13. CONCRETE BARRIER

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

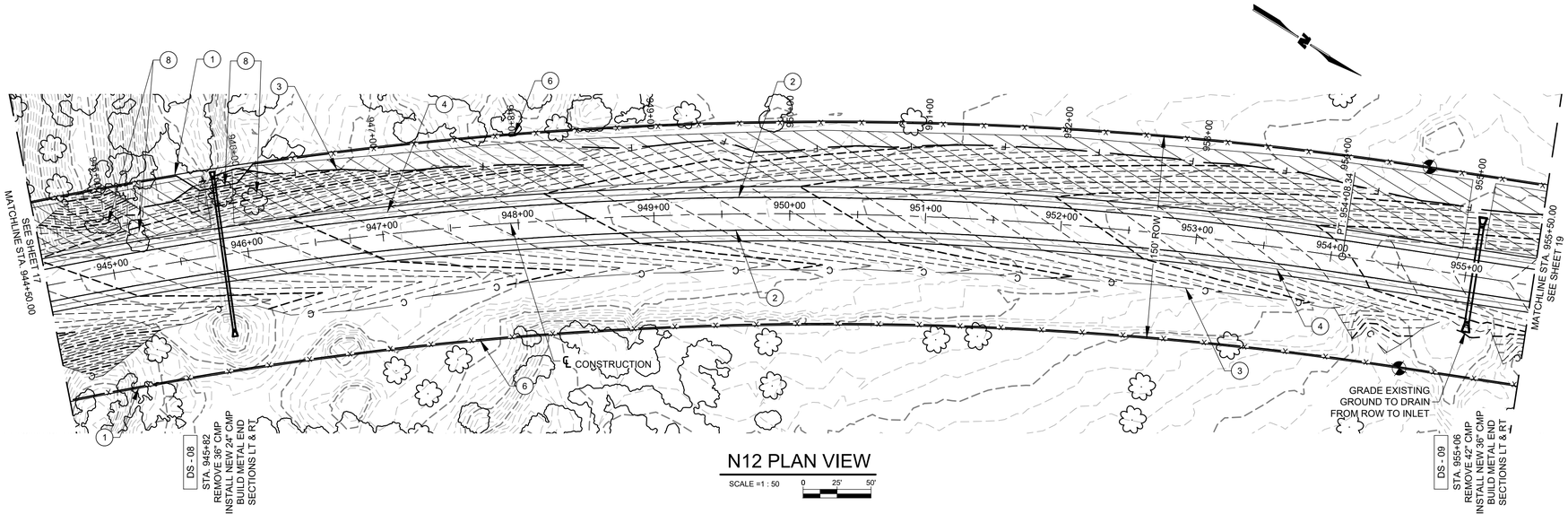
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/20/2025 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

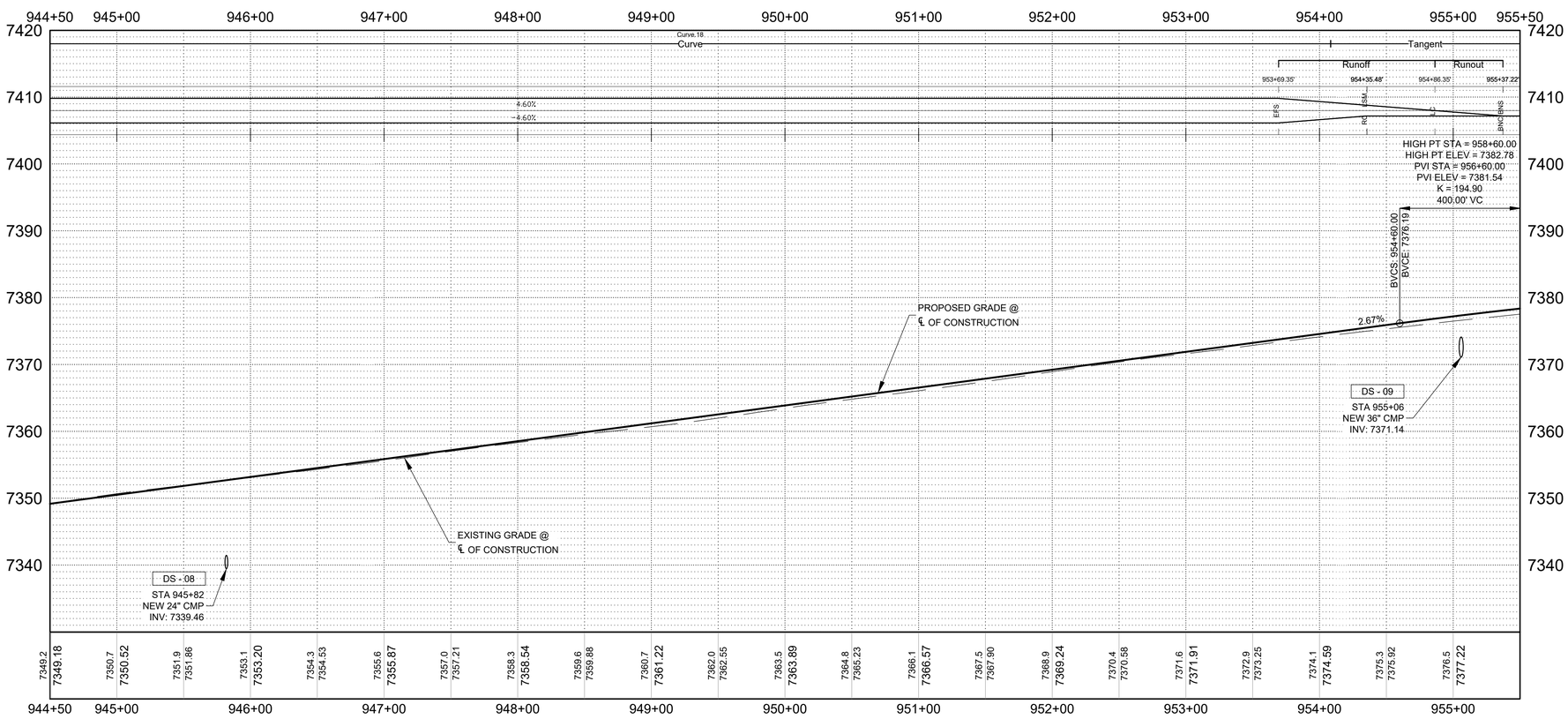
DESIGN JEB	WCEA NO. 1710009012	DATE	2025
DRAWN ERG	N12	SHEET NO.	17 - 120
CHECK ASF			

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	18	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXSITING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
LW - XX	LOW WATER CROSSING
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

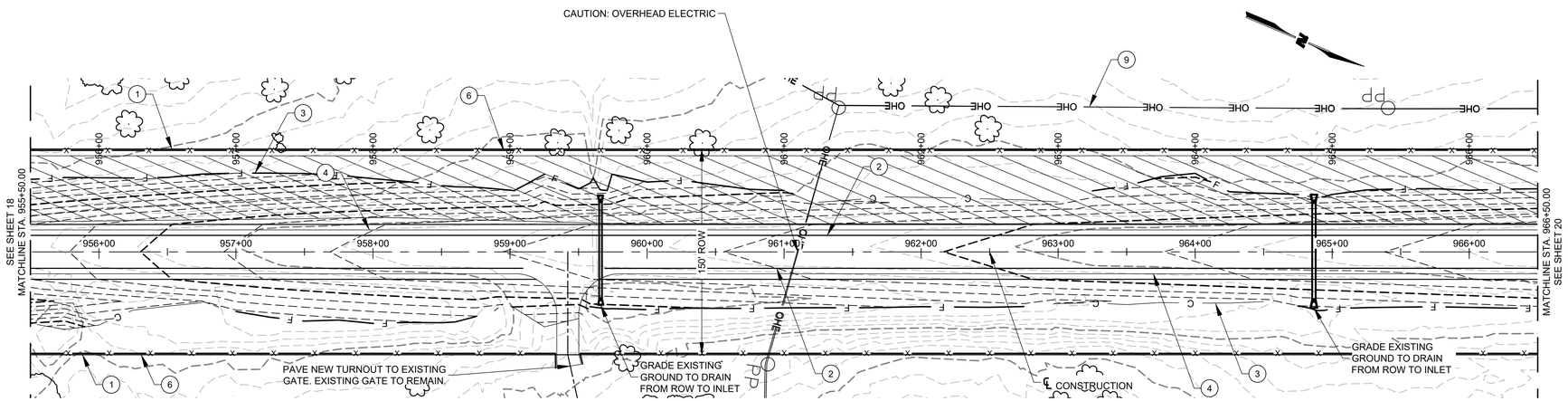
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 05/29/2020 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

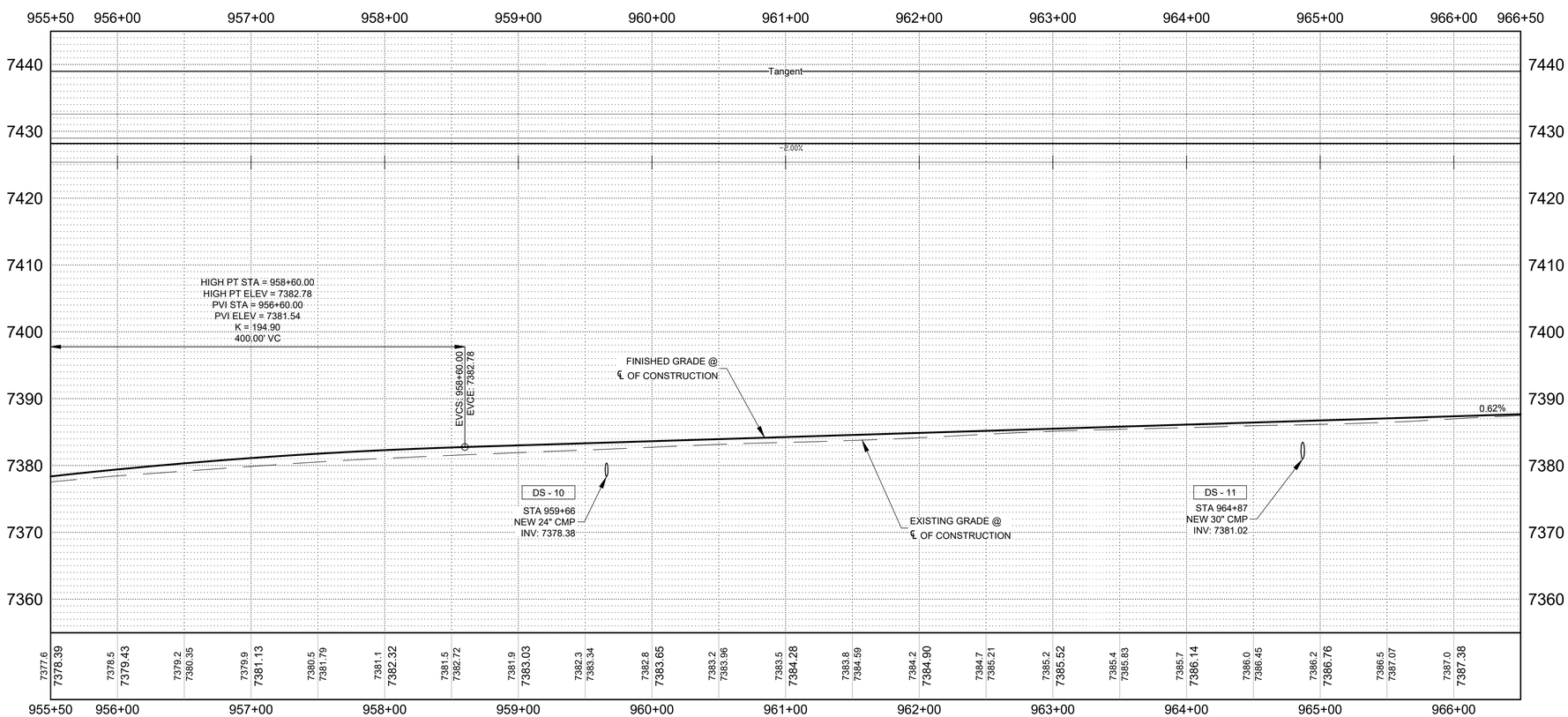
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 18 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	19	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXSITING OVERHEAD ELECTRIC

LEGEND

- CG - XX — CATTLE GUARD
- TO - XX — TURNOUT/DRIVEWAY
- DS - XX — DRAINAGE STRUCTURE
- DSTO - XX — DRAINAGE STRUCTURE AT TURNOUT
- POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

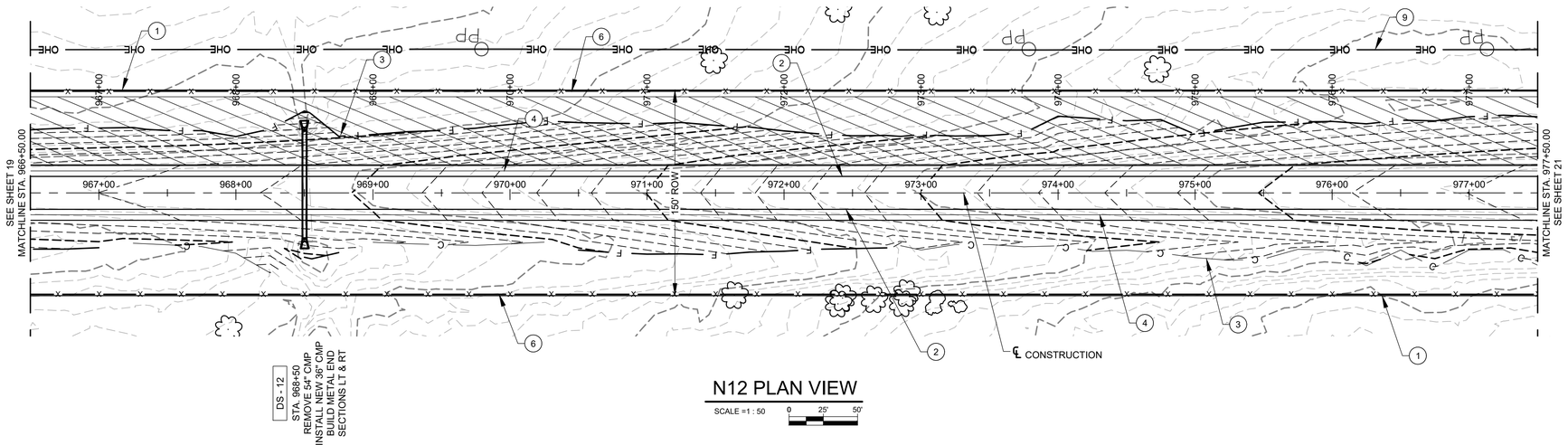
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 05/29/2026 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

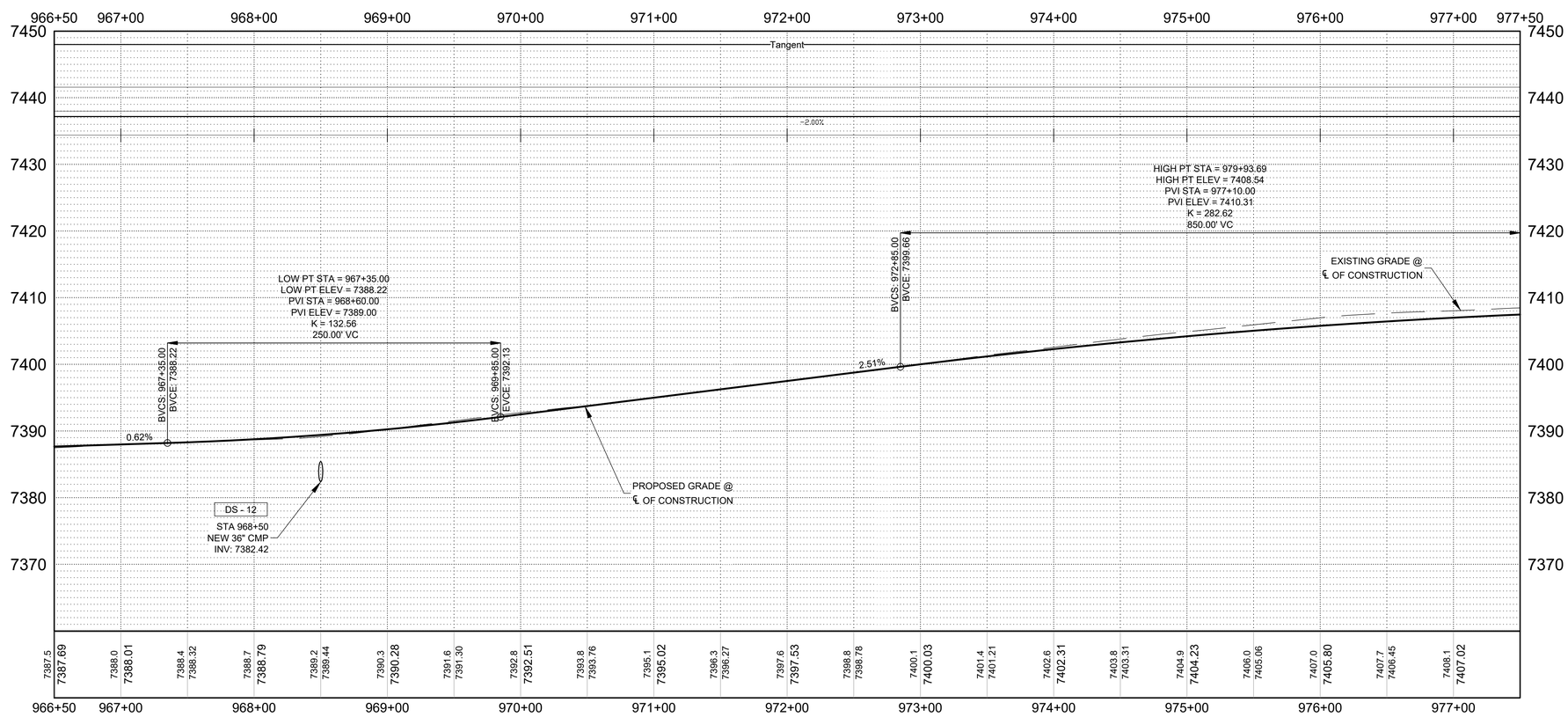
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 19 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	20	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXSITING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
LW - XX	LOW WATER CROSSING
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

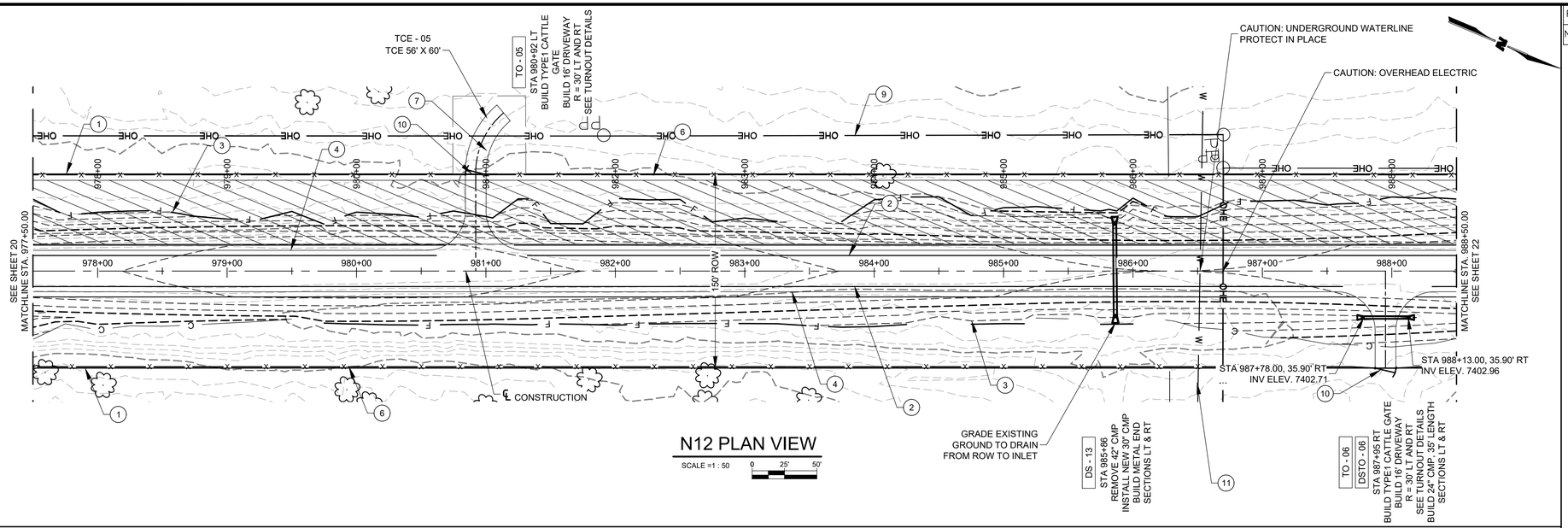
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

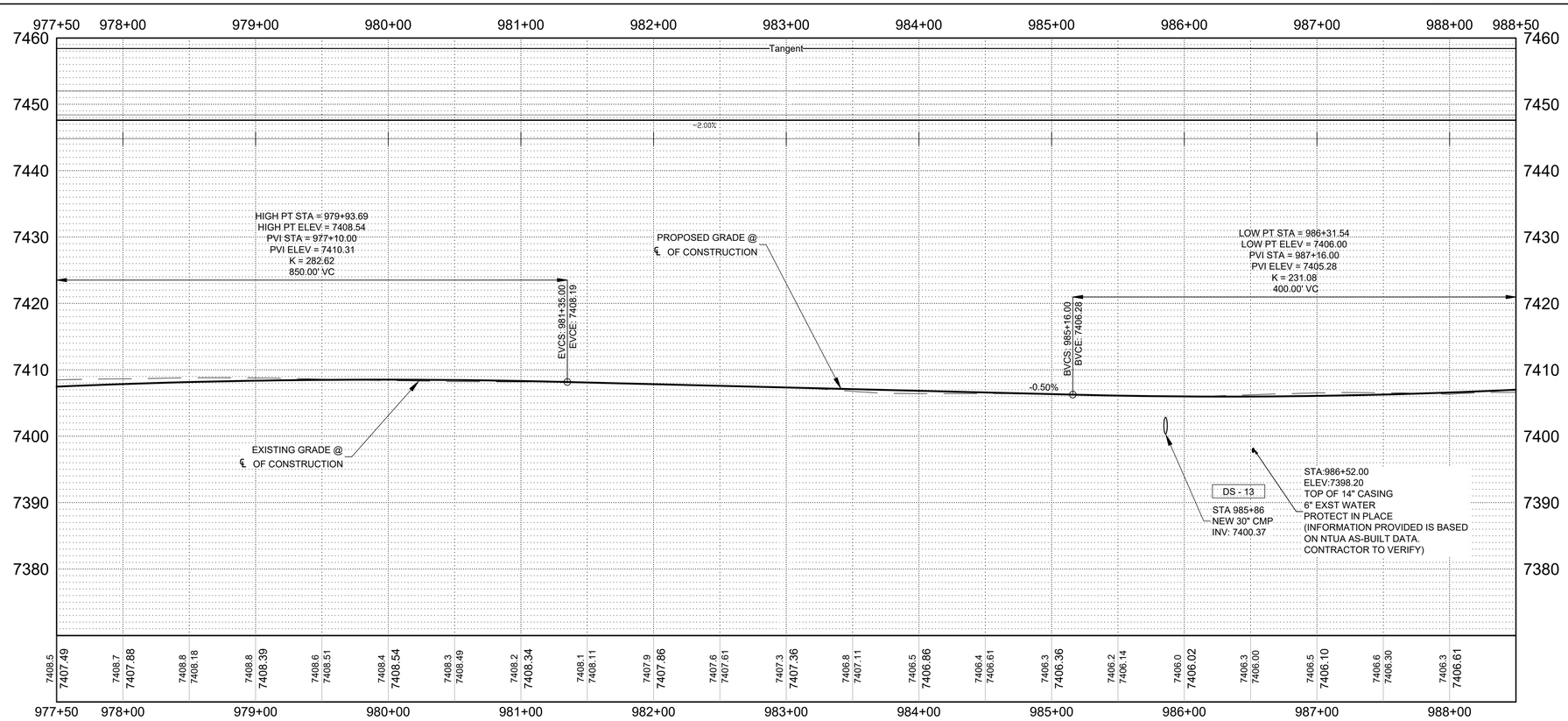
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 20 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	21	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXSITING OVERHEAD ELECTRIC
10. TYPE 1 CATTLE GATE
11. EXSITING WATER LINE

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT
	POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

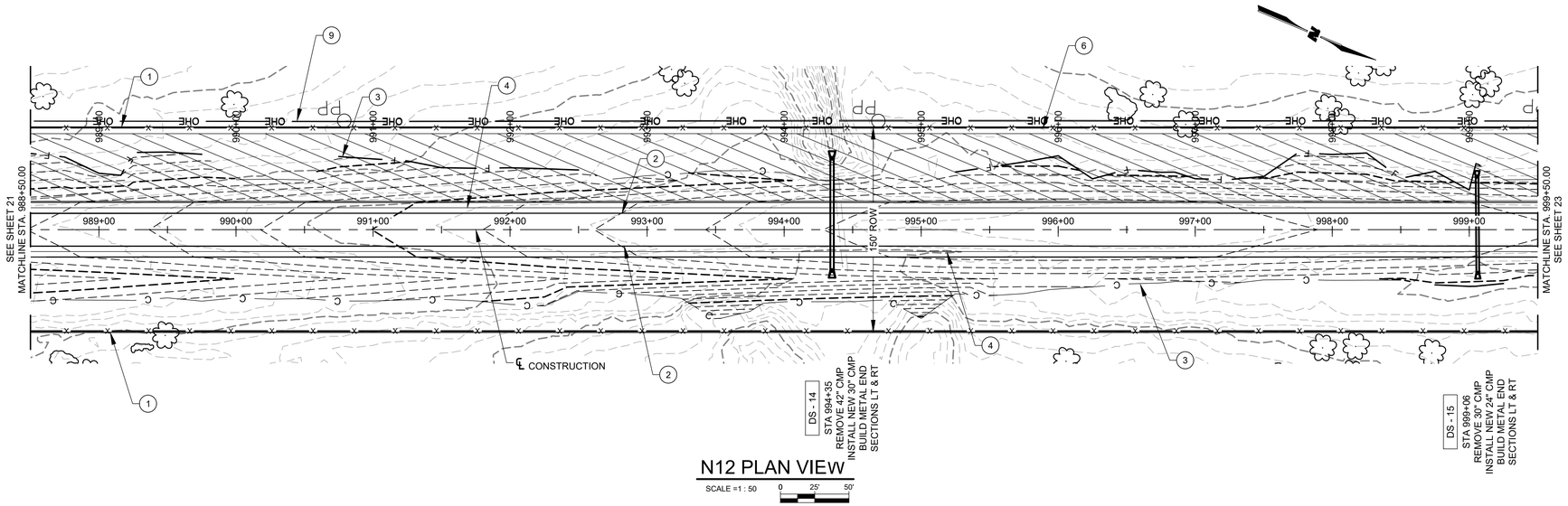
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 10/29/2025 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

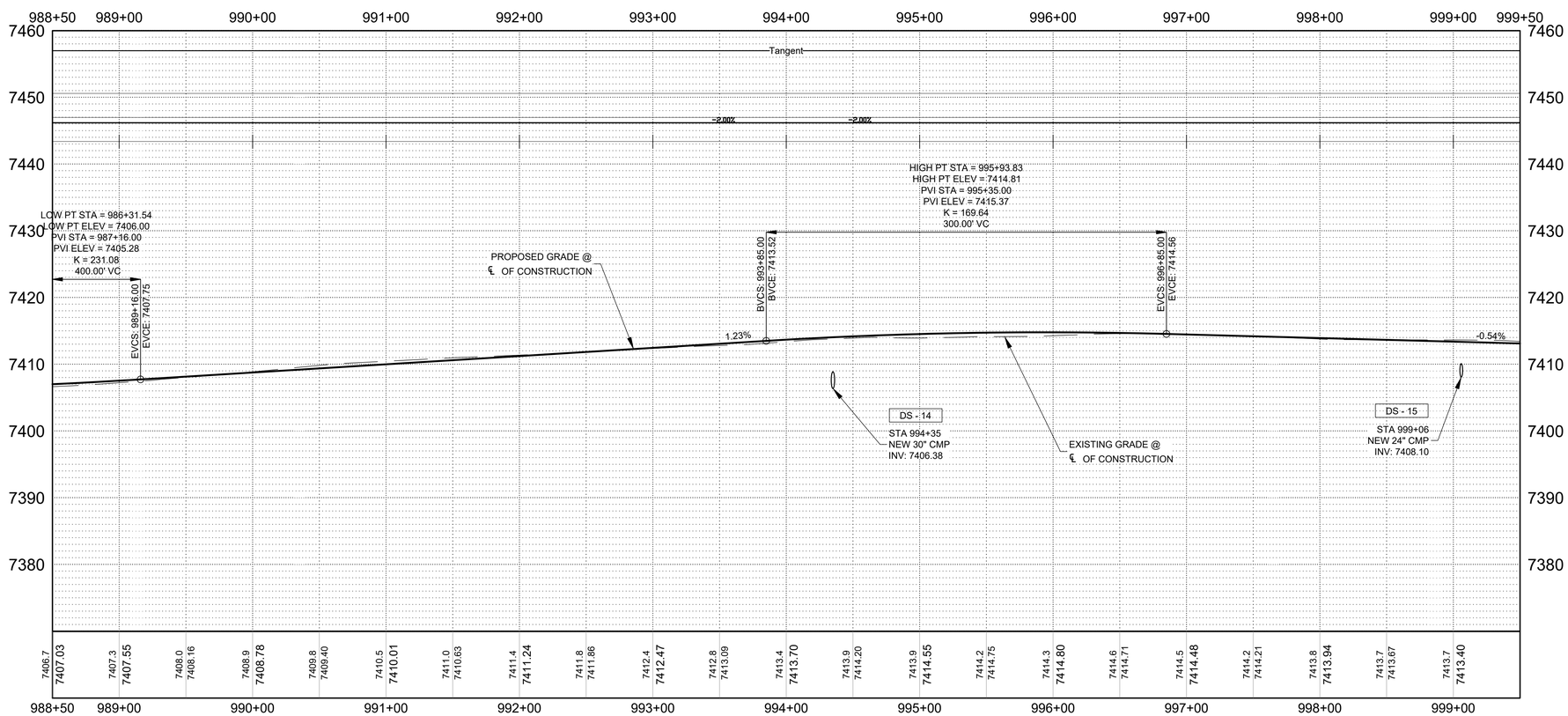
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 21 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	22	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

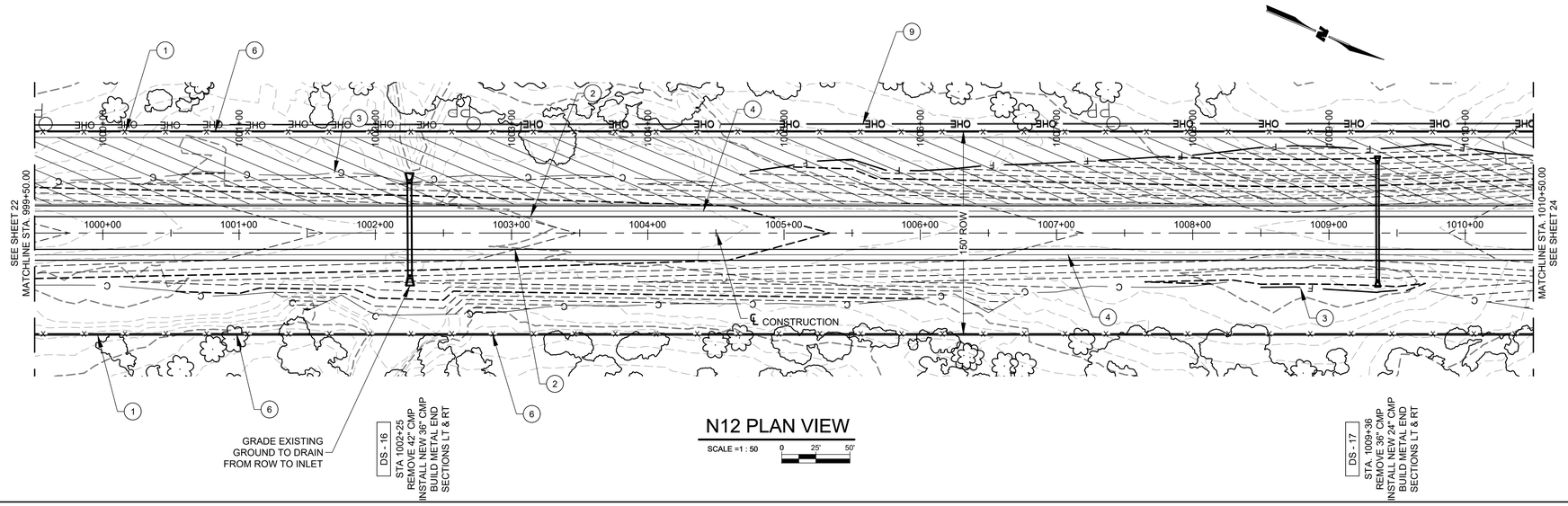
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 09/27/2024 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

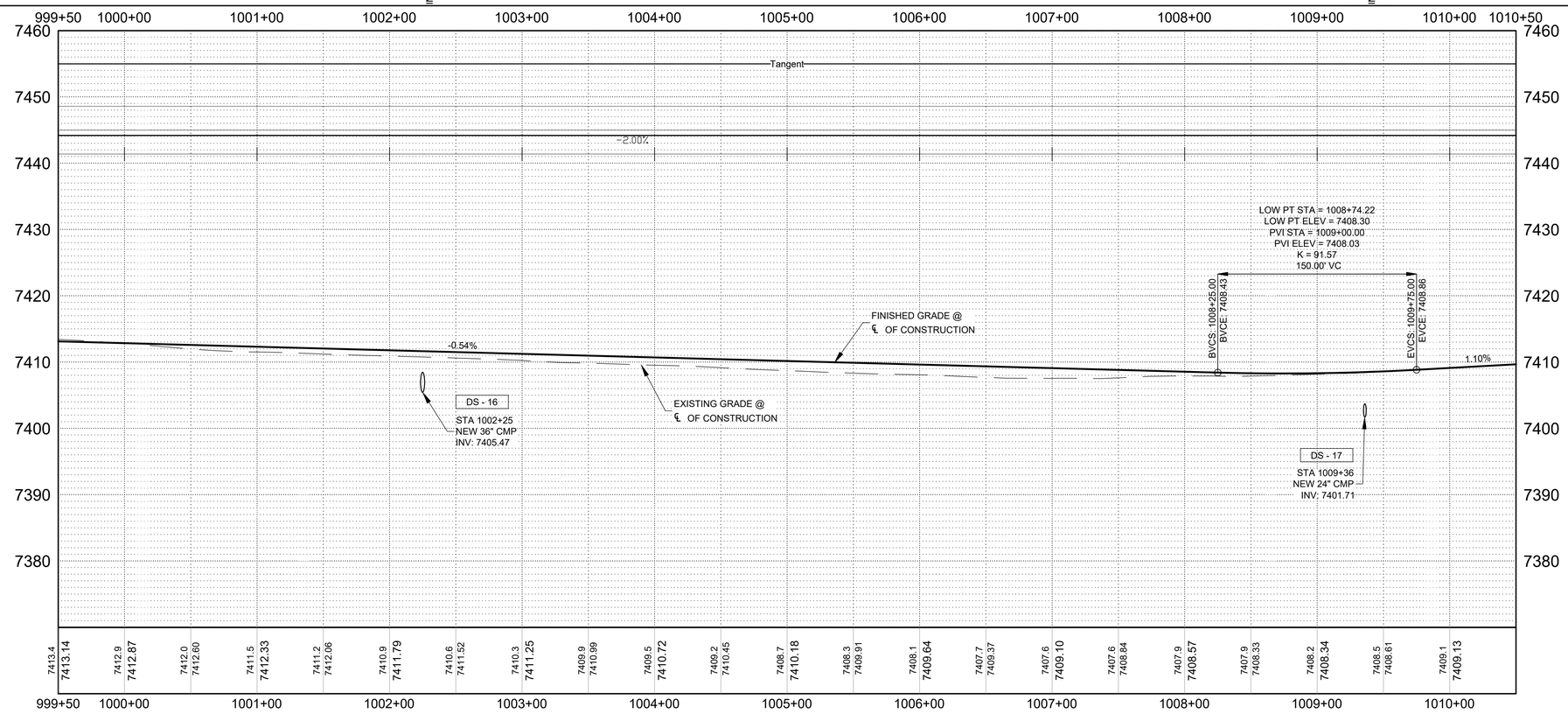
DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	N12	SHEET NO.	22 - 120
CHECK	ASF			

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	23	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES OR CLEAN EXISTING STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW OR REMOVE EXISTING DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

- CG - XX — CATTLE GUARD
- TO - XX — TURNOUT/DRIVEWAY
- DS - XX — DRAINAGE STRUCTURE
- DSTO - XX — DRAINAGE STRUCTURE AT TURNOUT
- POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

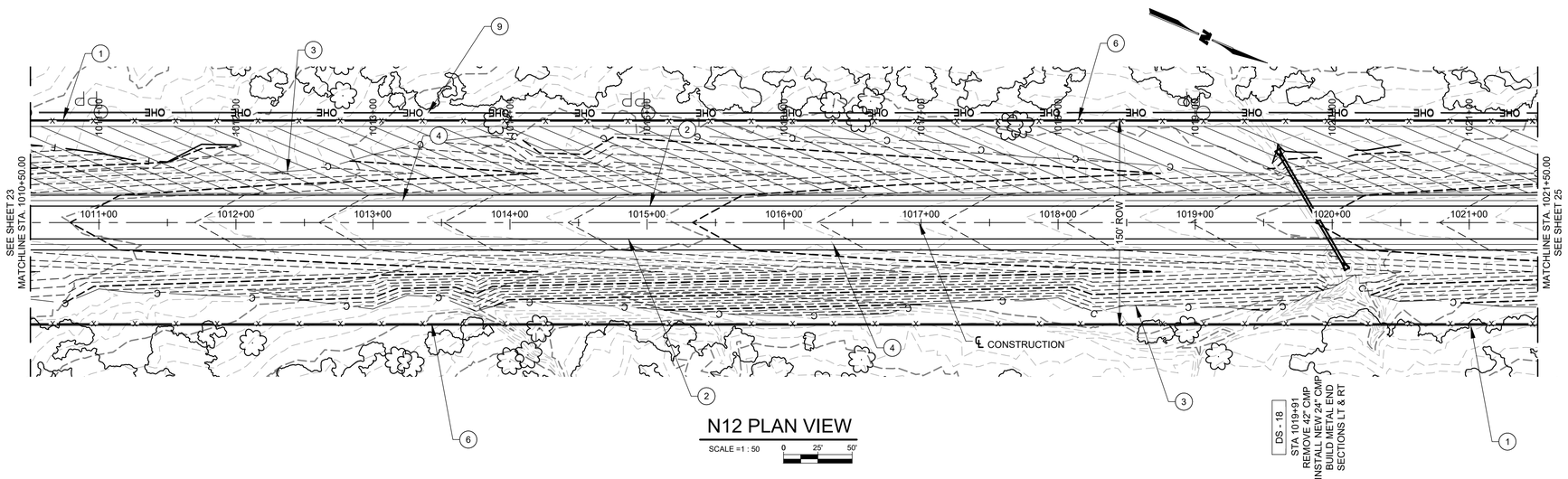
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/28/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

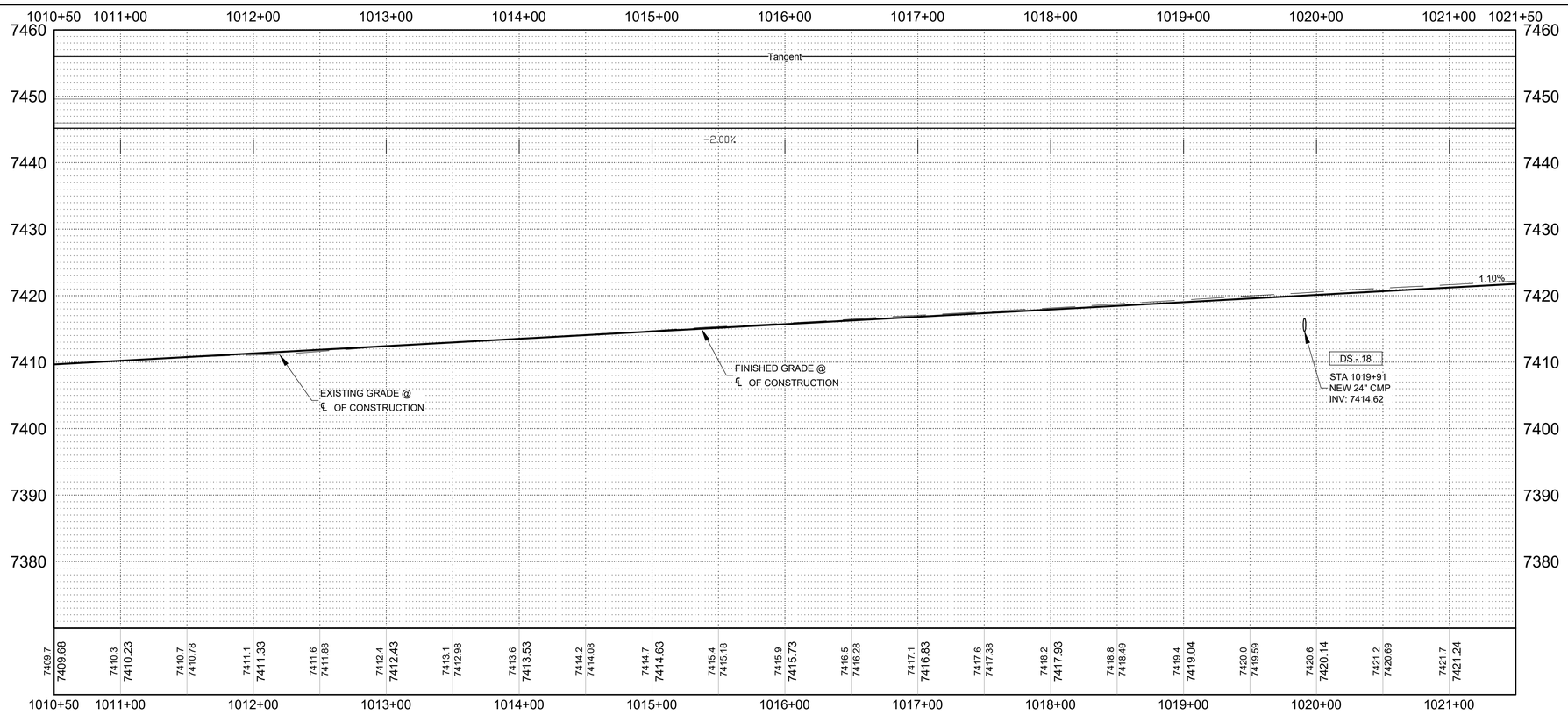
DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	N12	SHEET NO.	23 - 120
CHECK	ASF			

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	24	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES OR CLEAN EXISTING STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW OR REMOVE EXISTING DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

- CG - XX — CATTLE GUARD
- TO - XX — TURNOUT/DRIVEWAY
- DS - XX — DRAINAGE STRUCTURE
- DSTO - XX — DRAINAGE STRUCTURE AT TURNOUT
- POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

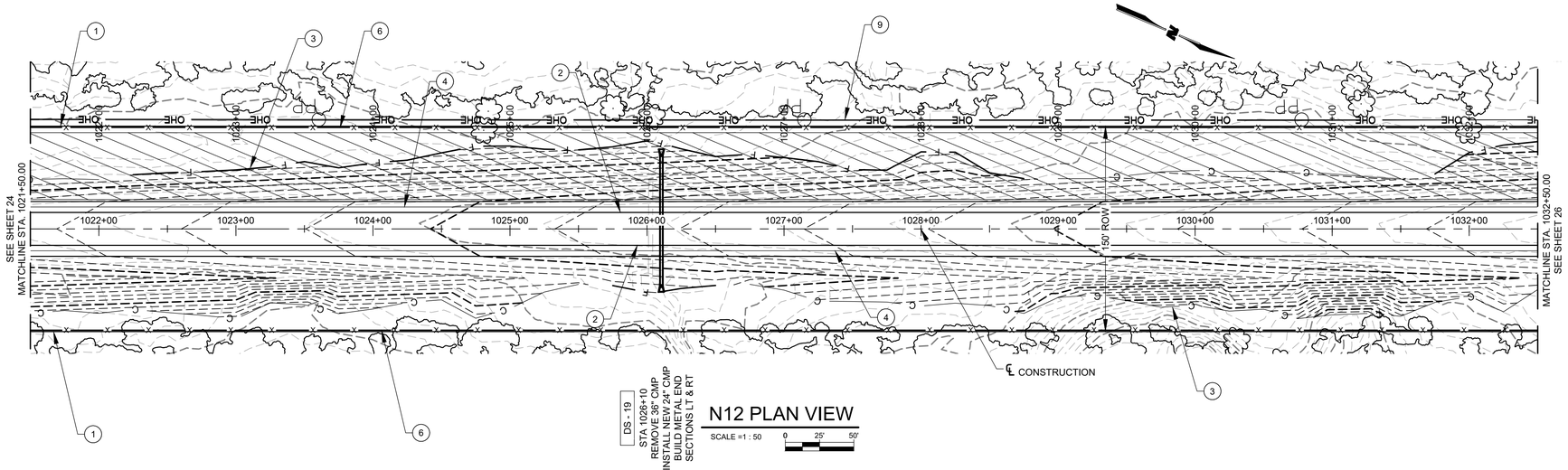
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/28/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

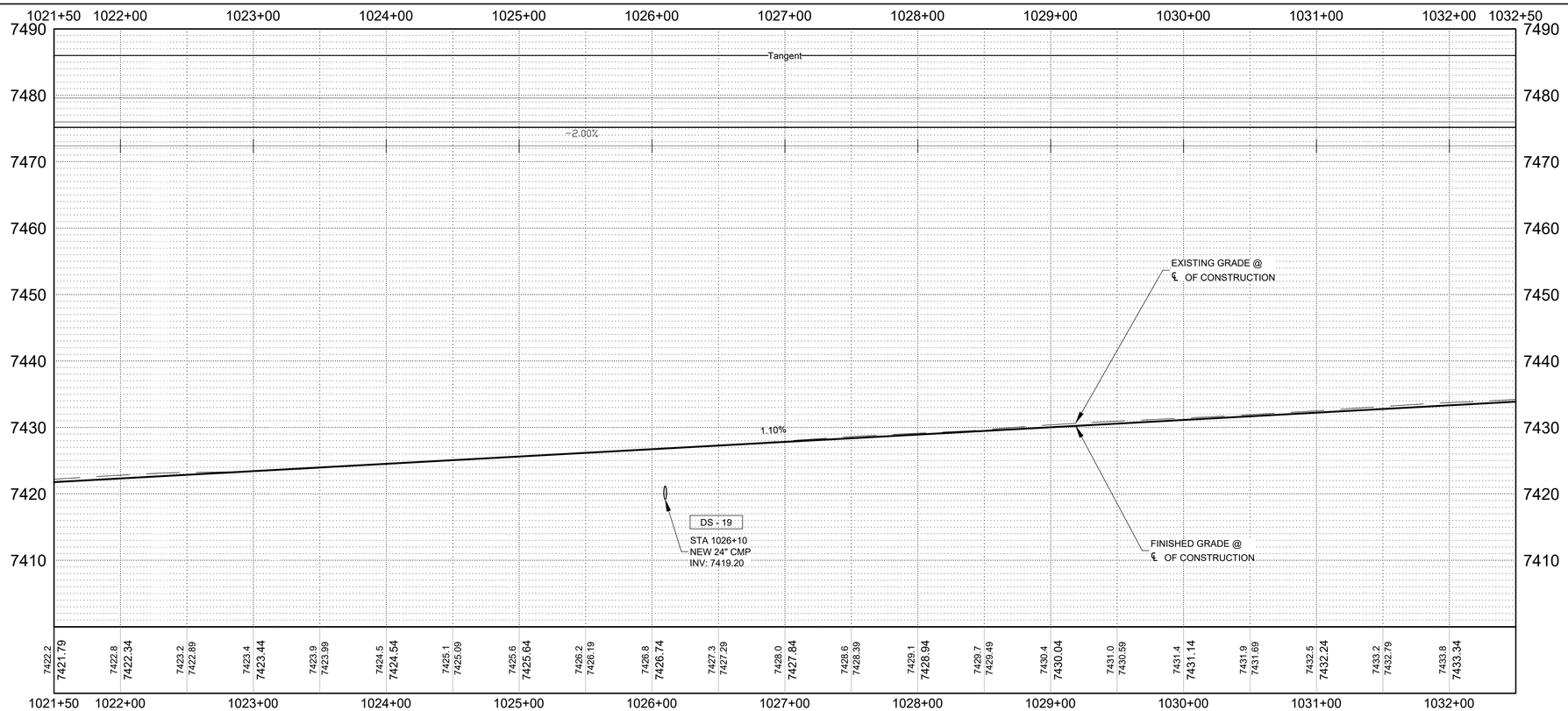
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 24 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	25	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

- CG - XX — CATTLE GUARD
- TO - XX — TURNOUT/DRIVEWAY
- DS - XX — DRAINAGE STRUCTURE
- DSTO - XX — DRAINAGE STRUCTURE AT TURNOUT
- POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

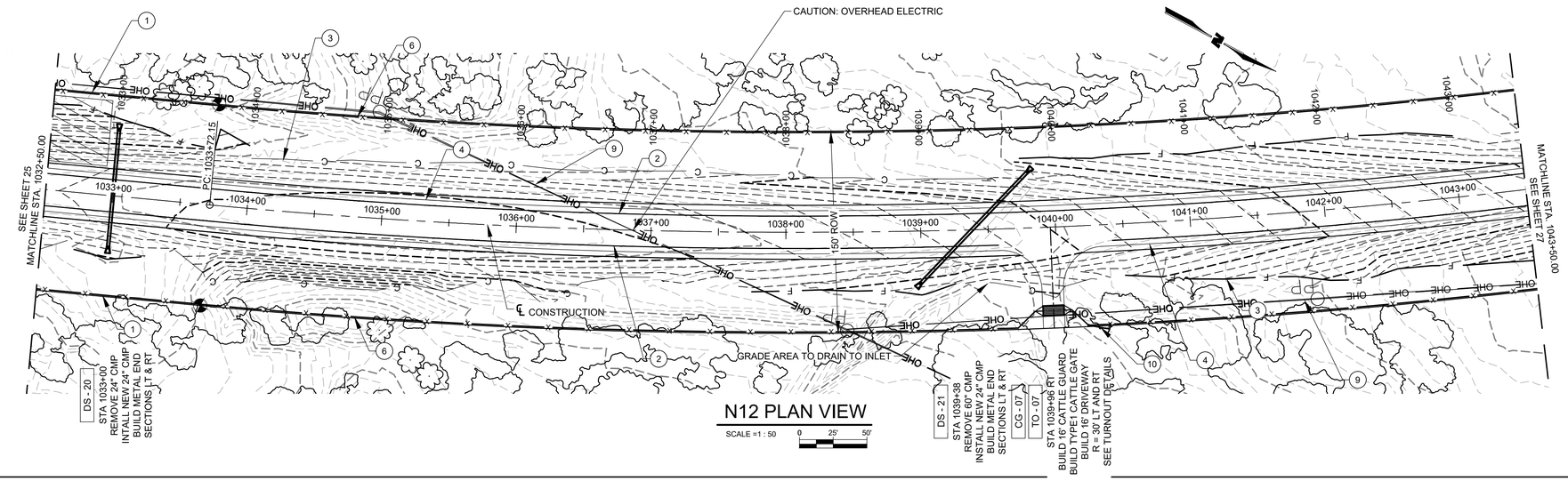
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/28/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

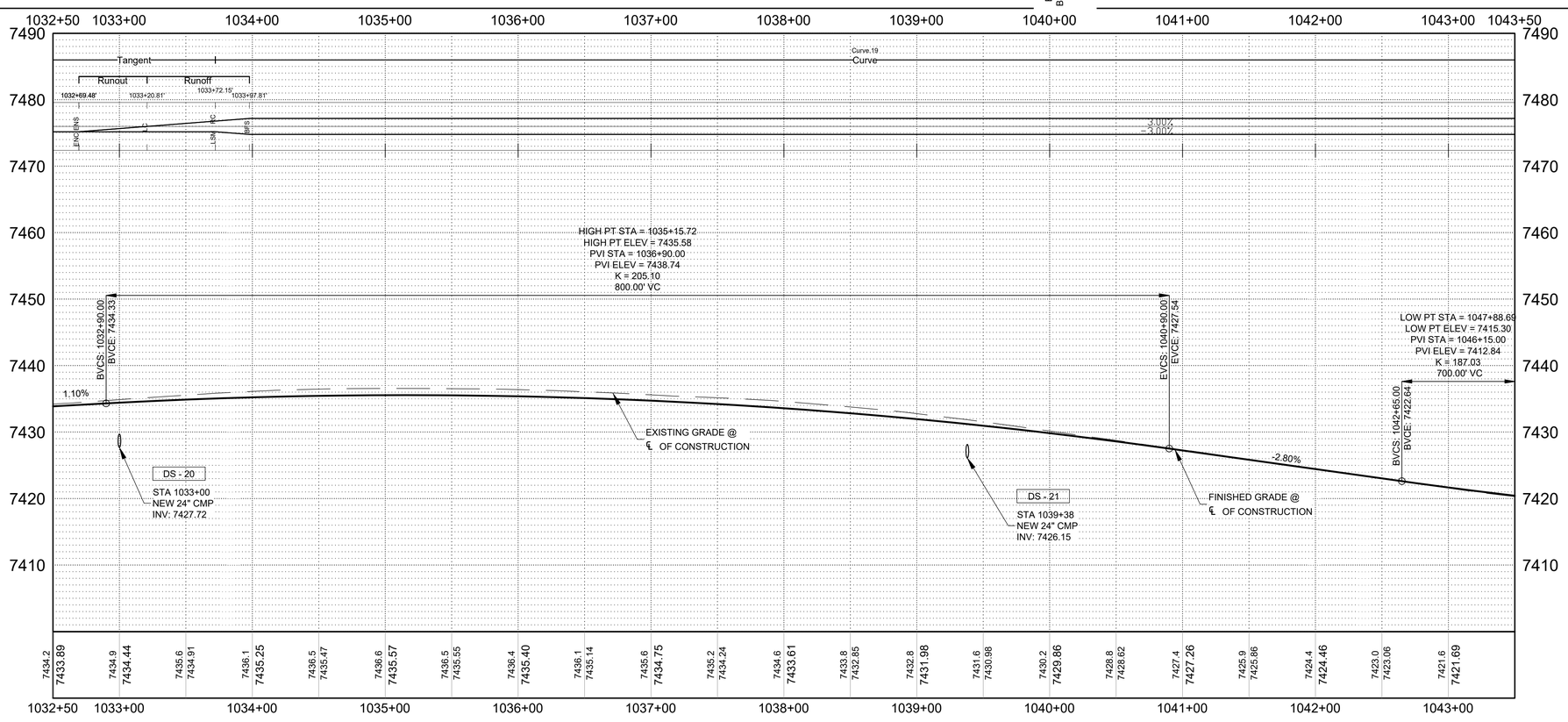
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 25 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	26	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC
10. TYPE 1 CATTLE GATE

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

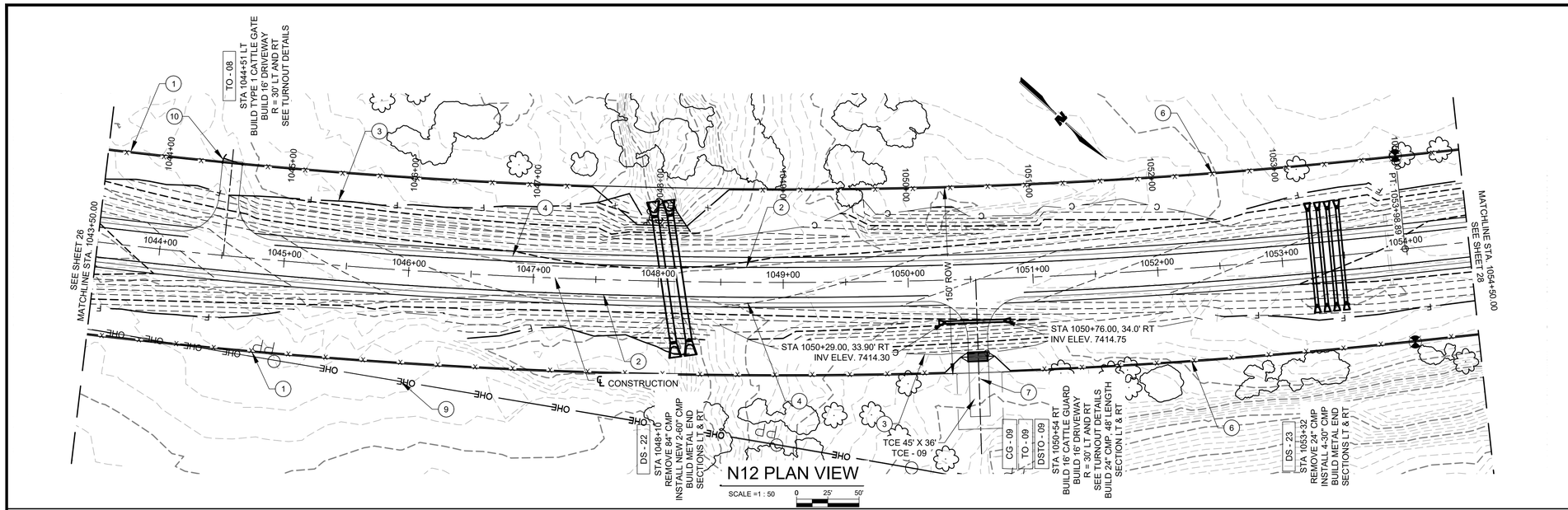
PLAN AND PROFILE

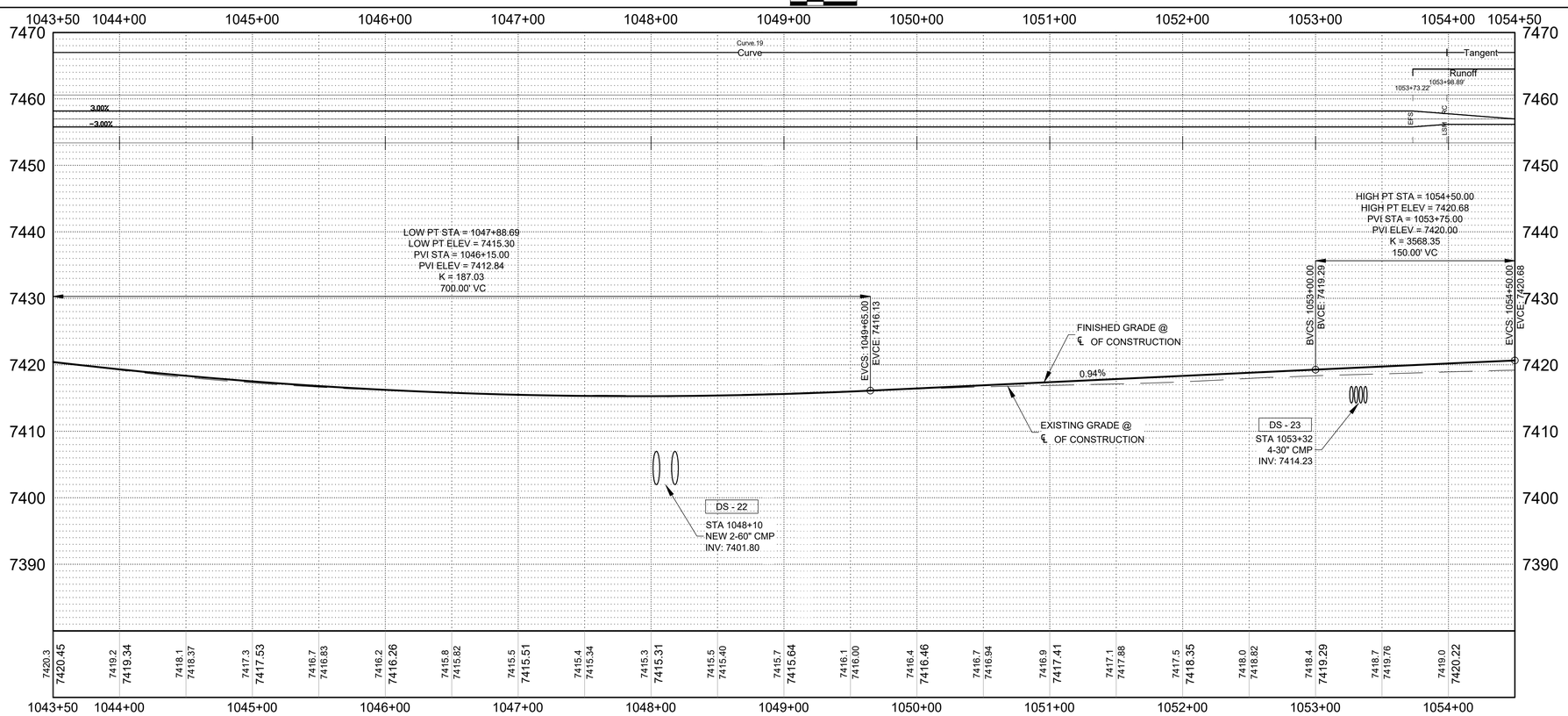
Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 12/18/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 26 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	27	120





N12 PROFILE VIEW

SCALE =1 : 50 0 25' 50'

VERT =1 : 10 0 5' 10'

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC
10. TYPE 1 CATTLE GATE

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

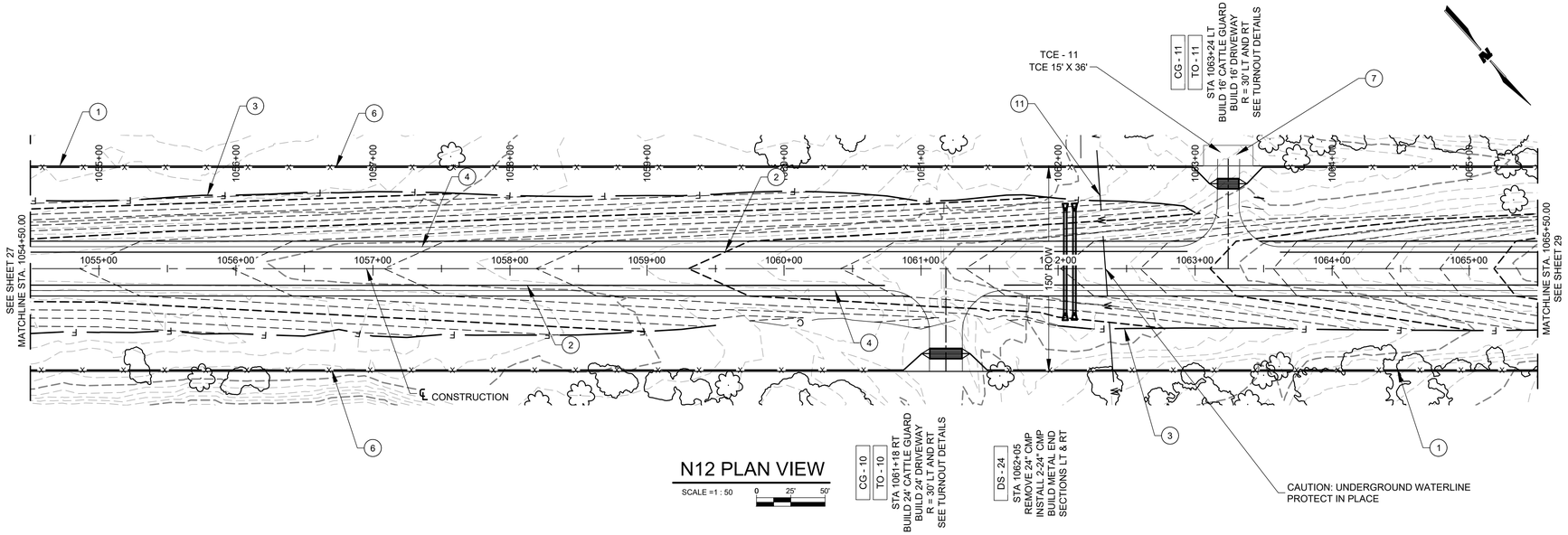
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 09/26/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

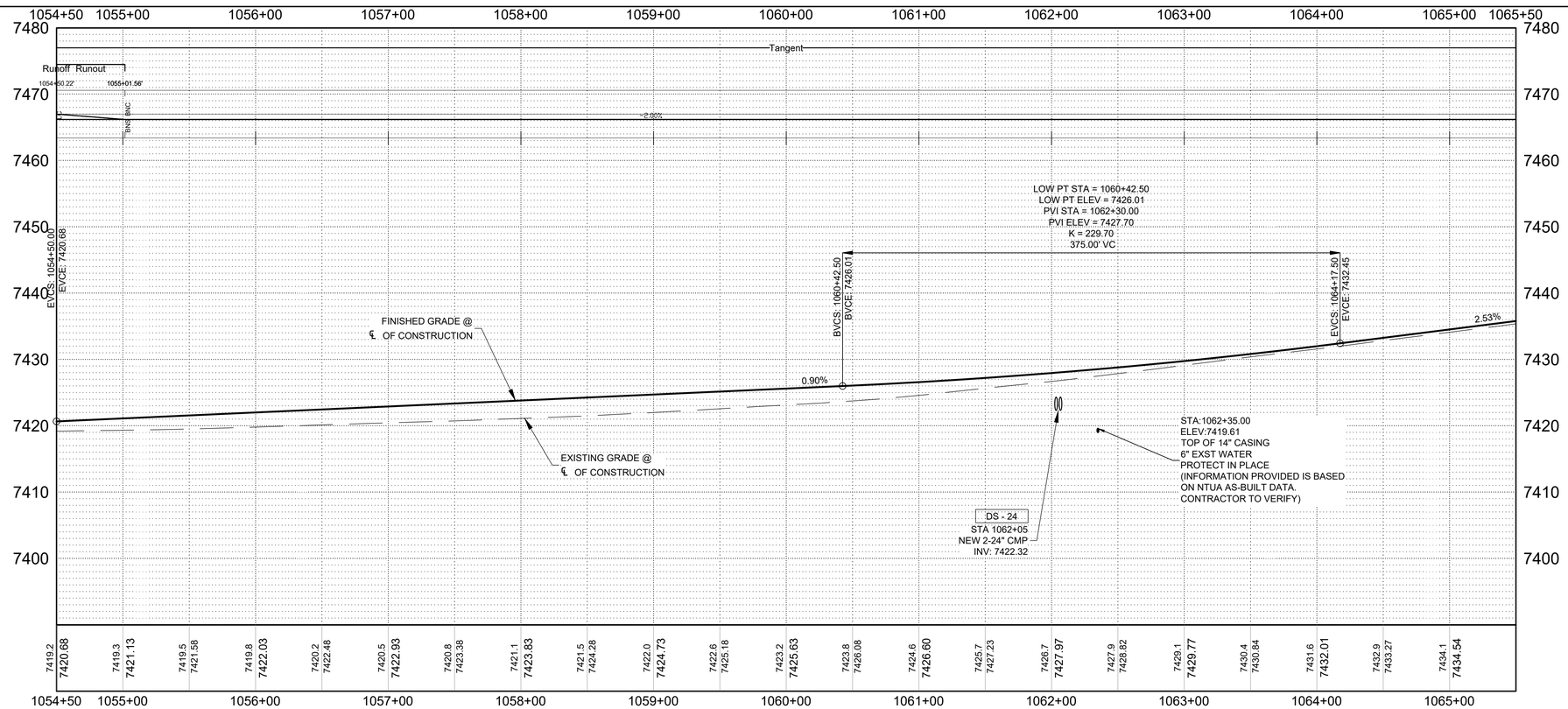
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 27 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	28	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC
11. EXISTING WATER LINE

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

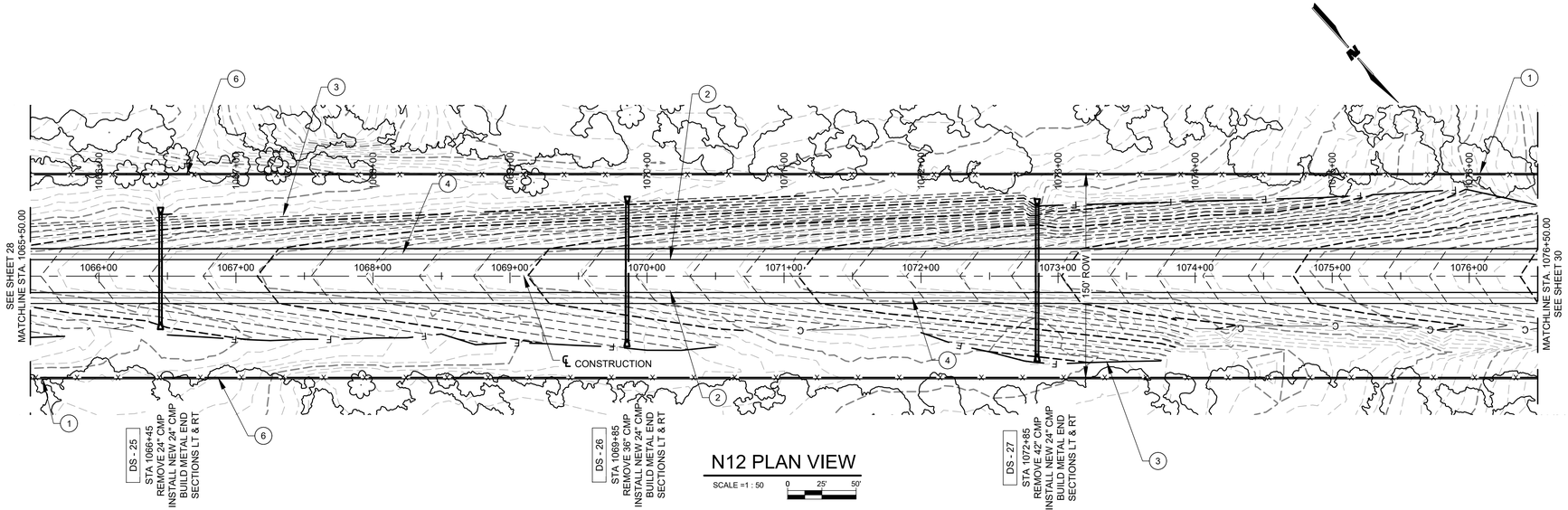
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/26/2025 ARIZONA, U.S.A.

REVISIONS NO.	DATE	REMARKS	BY

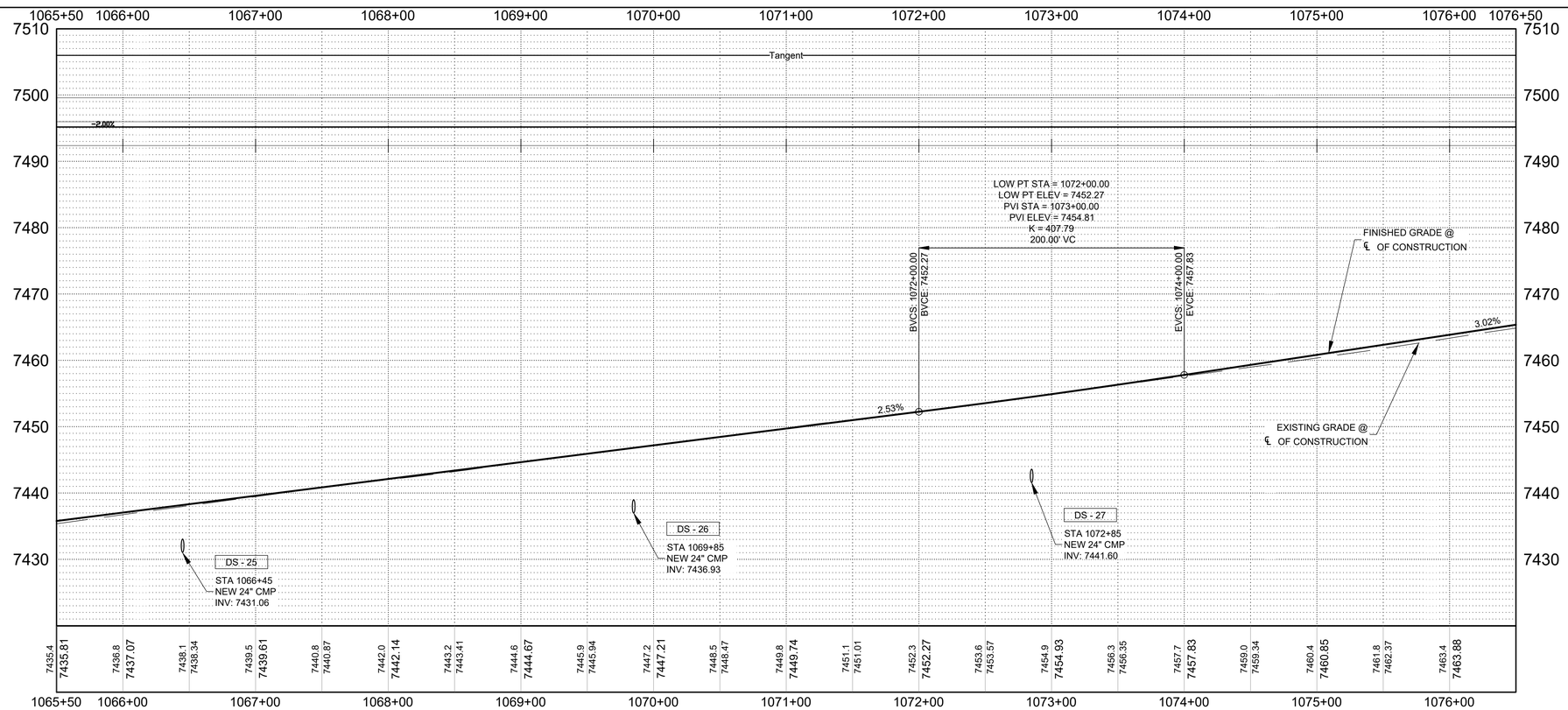
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 28 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	29	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

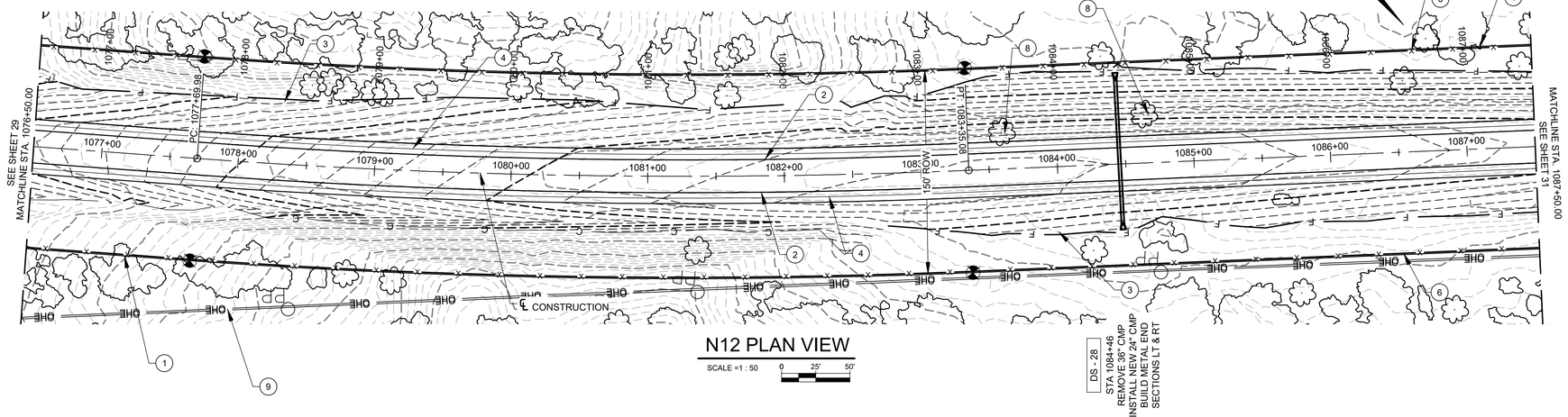
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/27/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

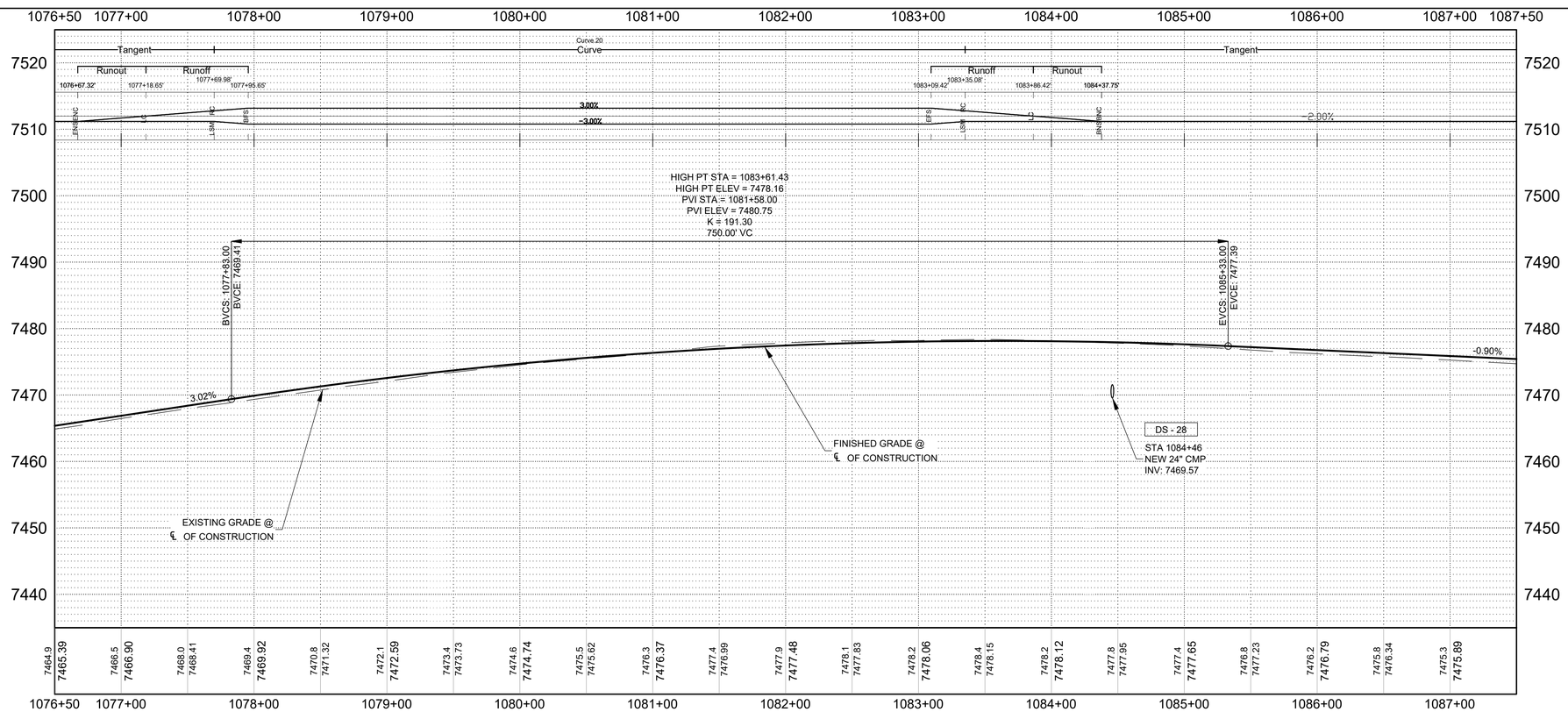
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 29 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	30	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

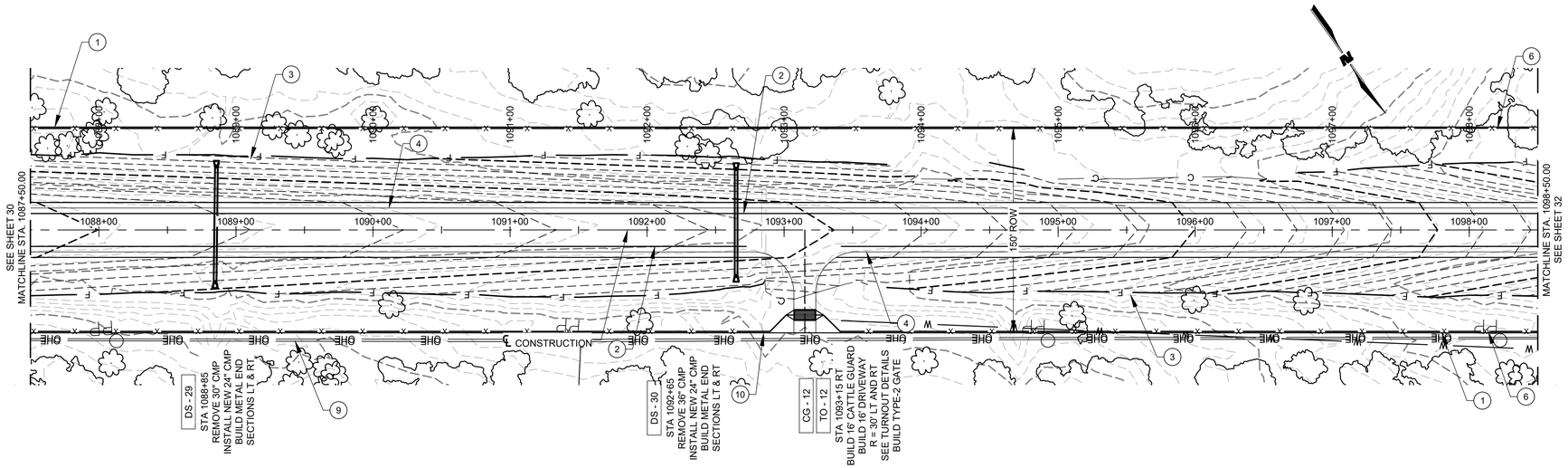
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 09/27/25 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

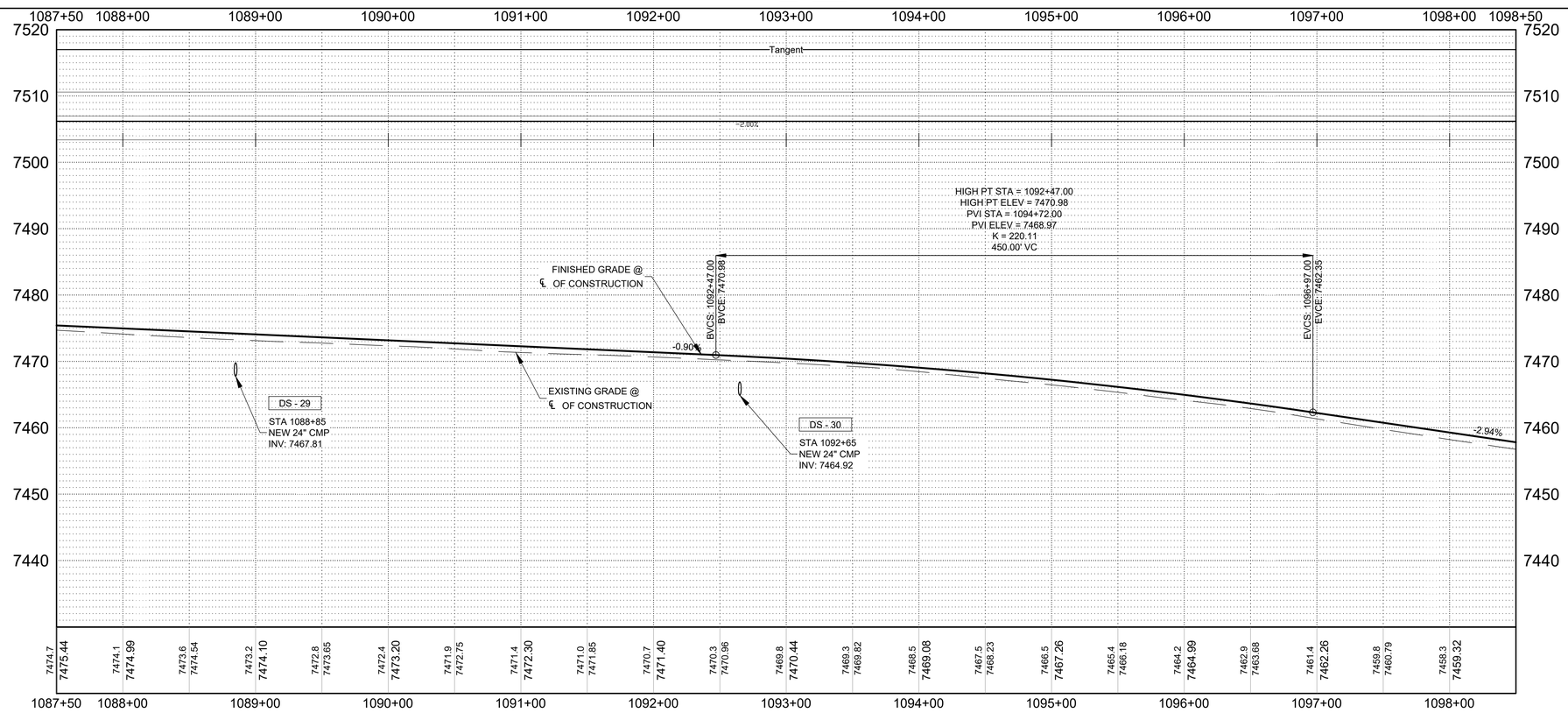
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 30 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	31	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

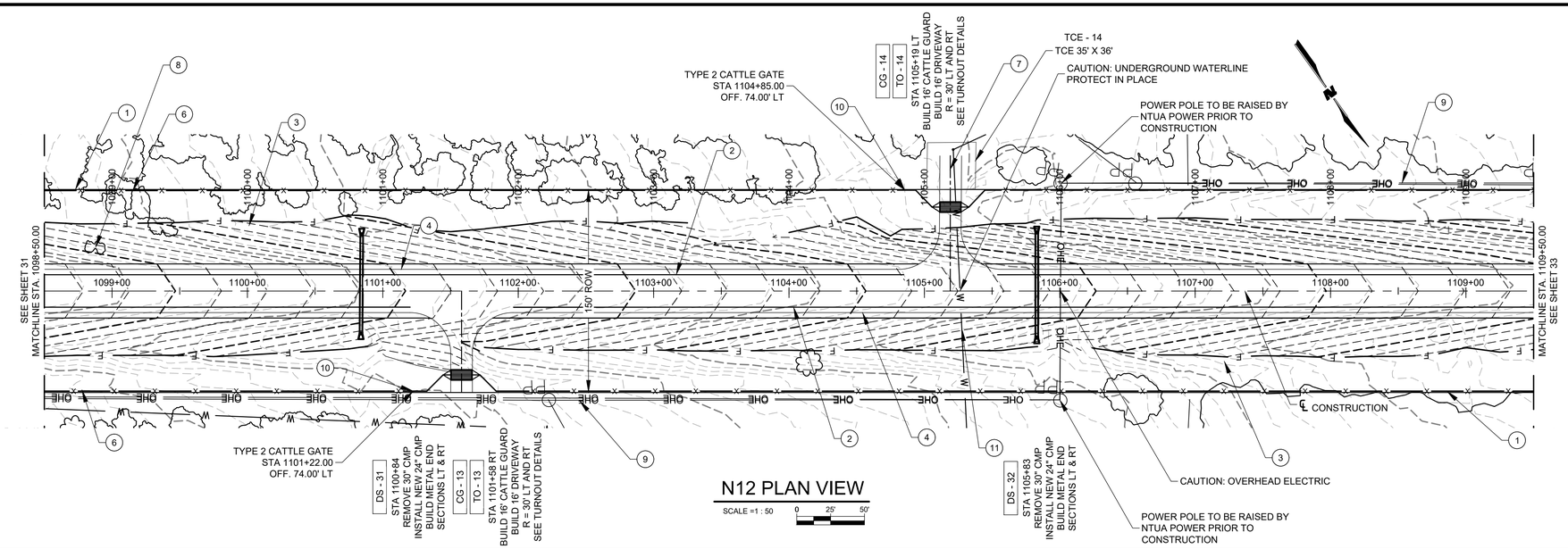
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 09/26/25 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

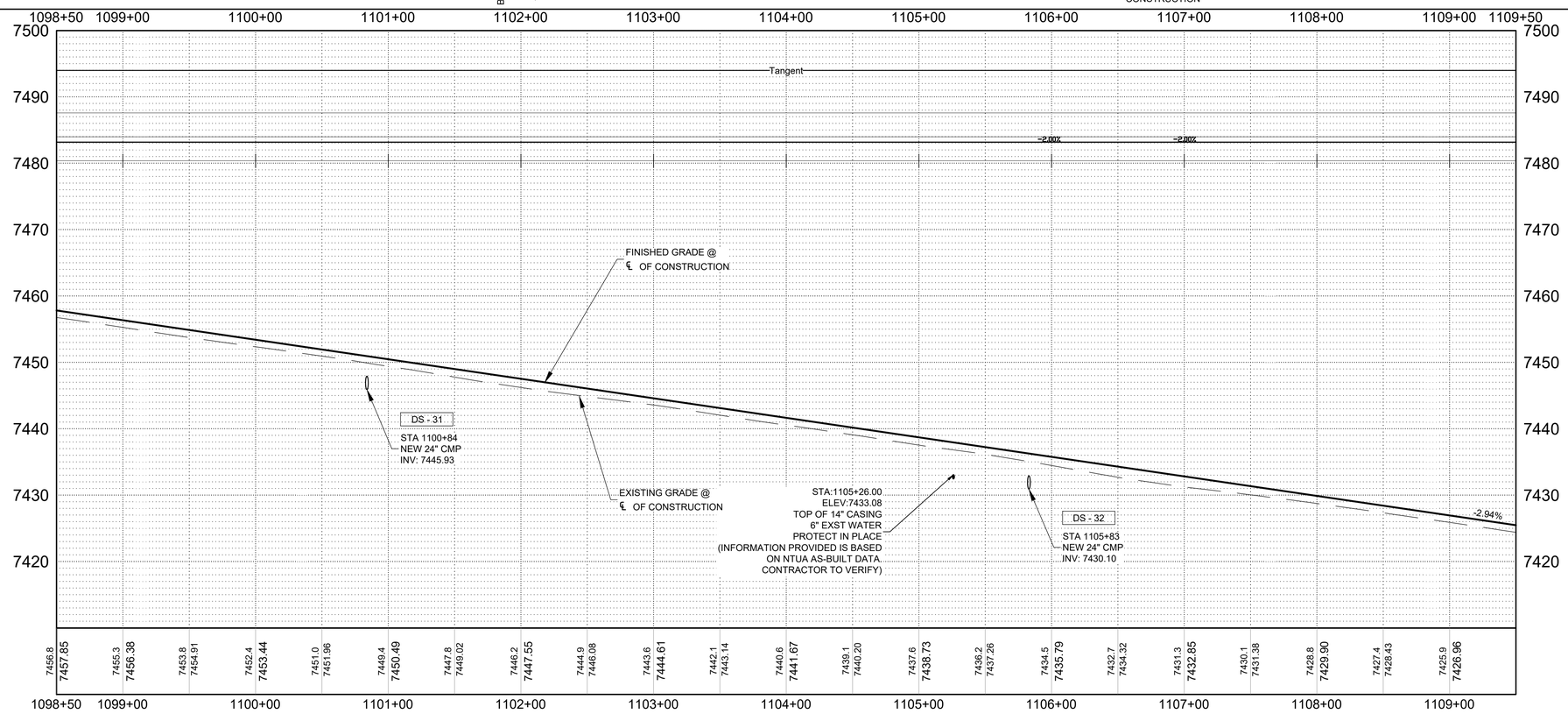
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 31 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	32	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC
10. TYPE 2 CATTLE GATE
11. EXISTING WATER LINE

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

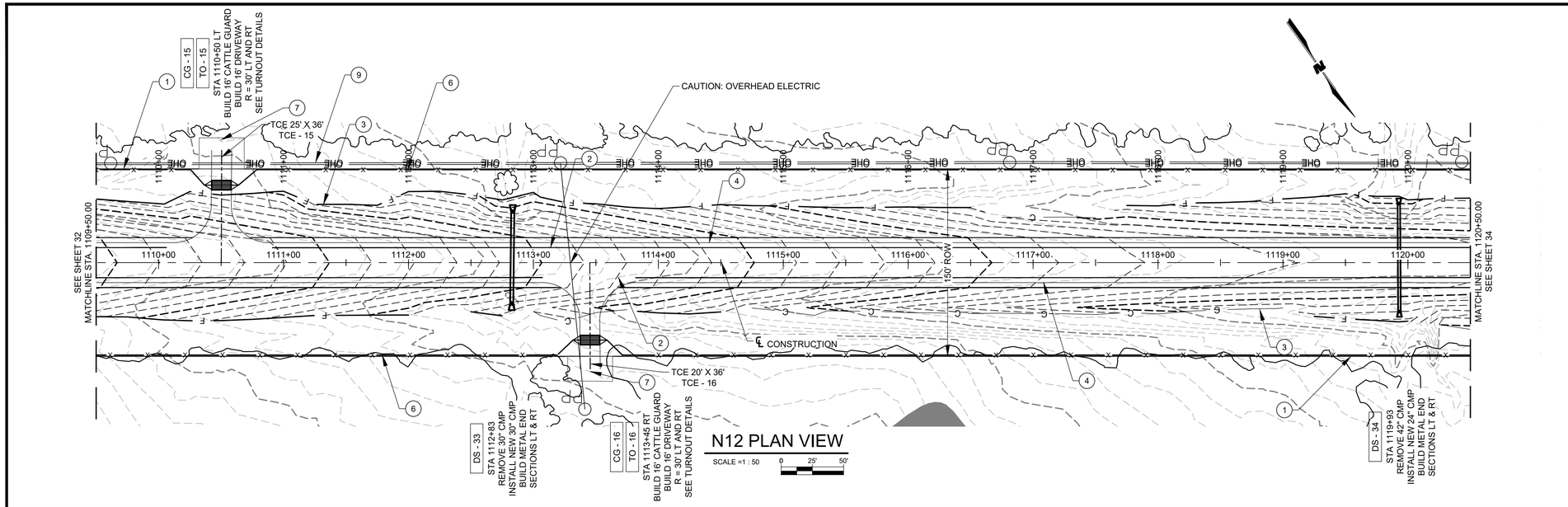
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/25/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

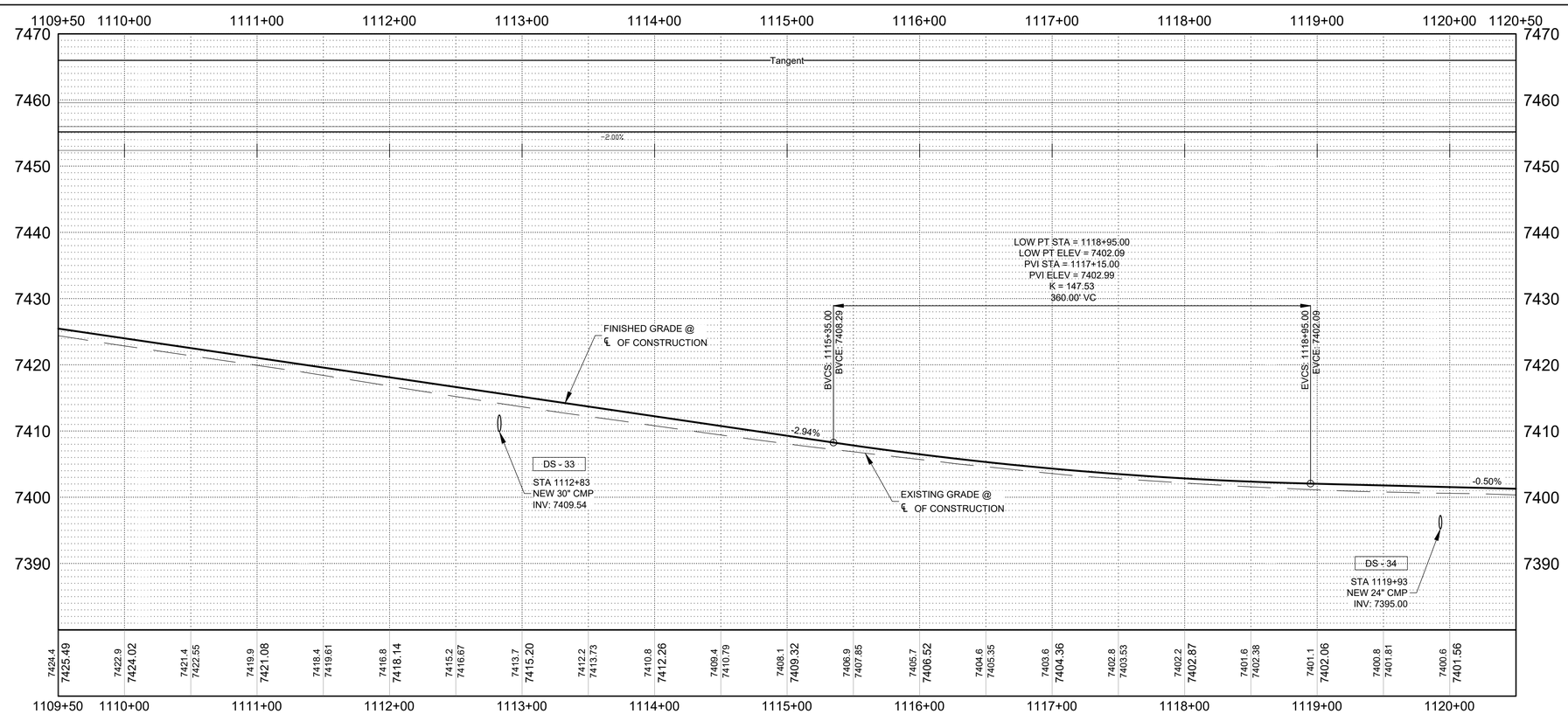
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 32 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	33	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

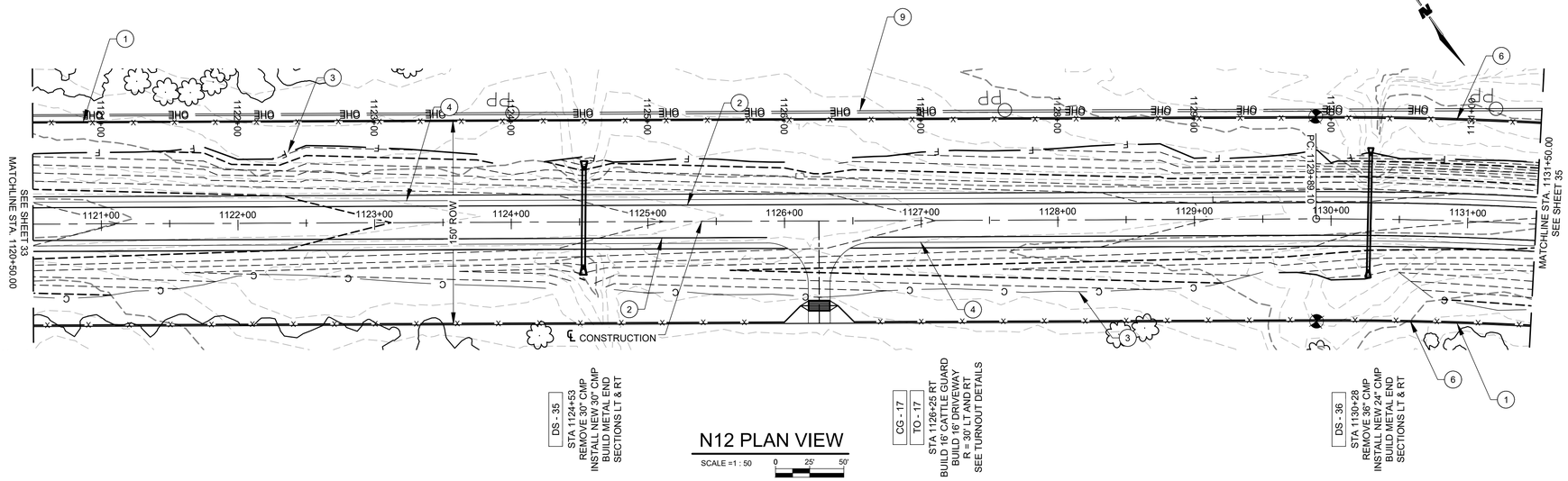
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/20/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

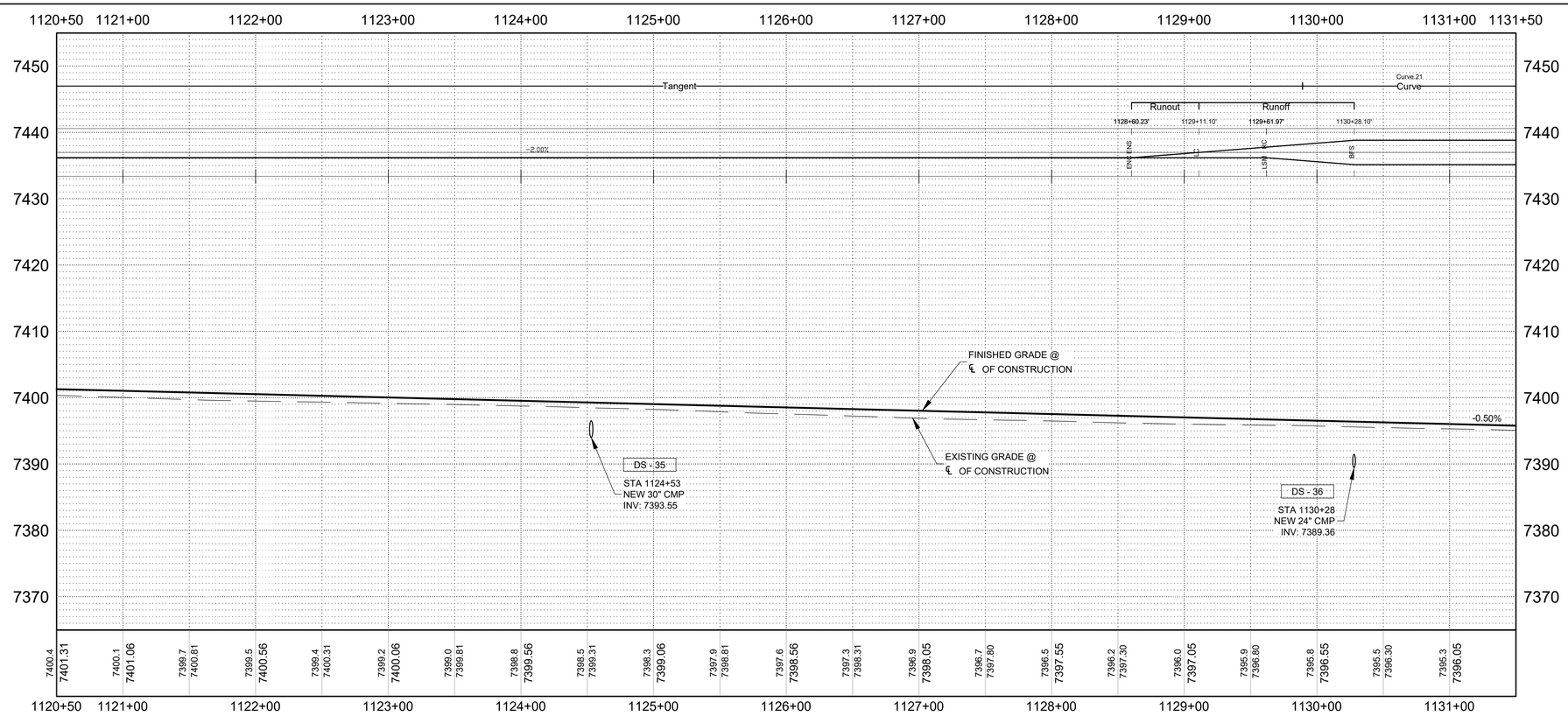
DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	N12	SHEET NO.	33 - 120
CHECK	ASF			

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	34	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

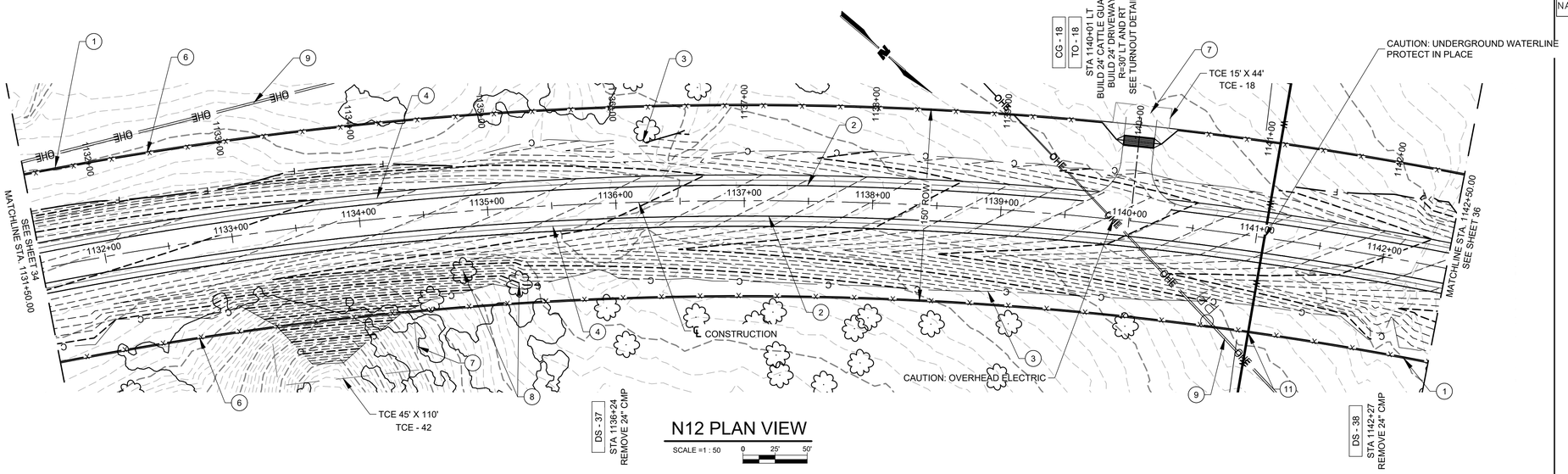
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 09/26/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

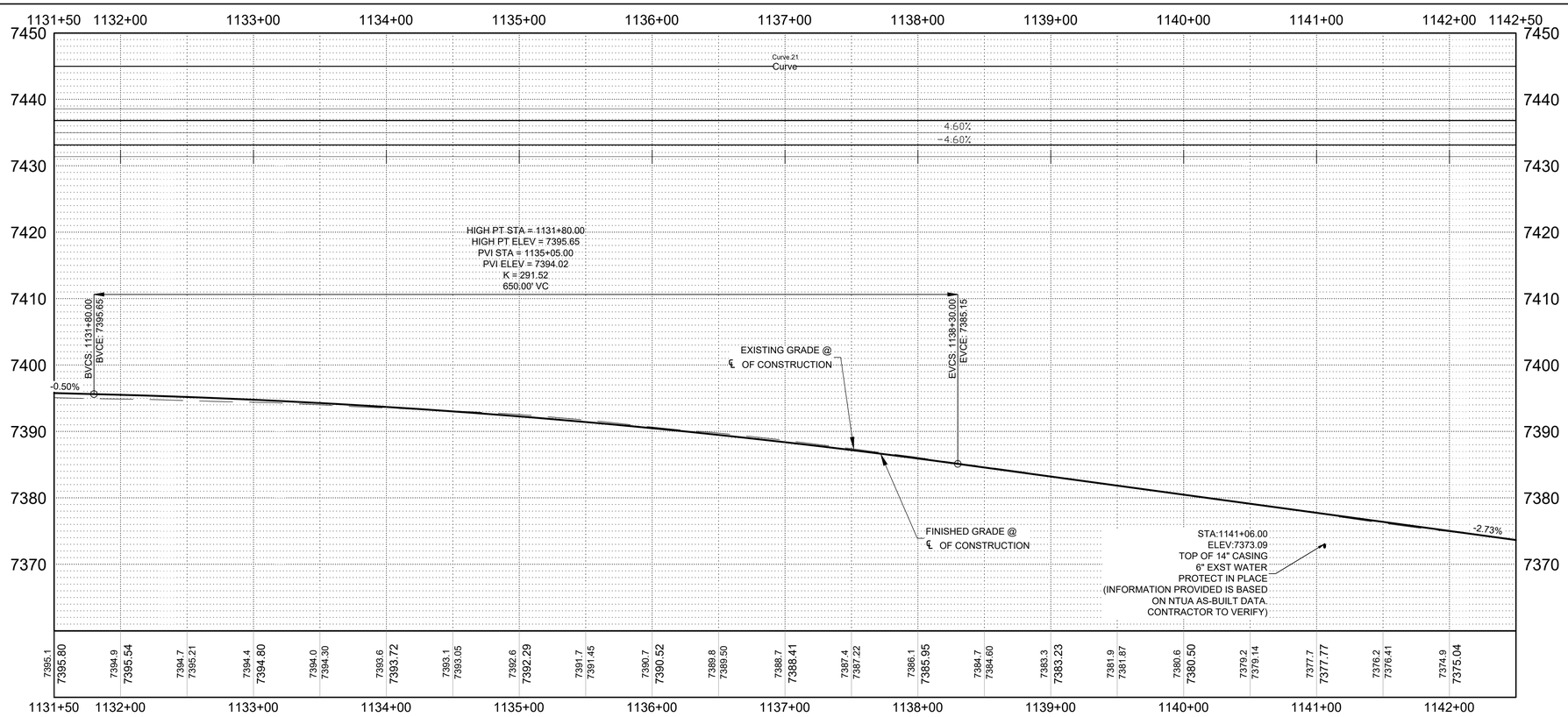
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 34 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	35	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC
11. EXISTING WATER LINE

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

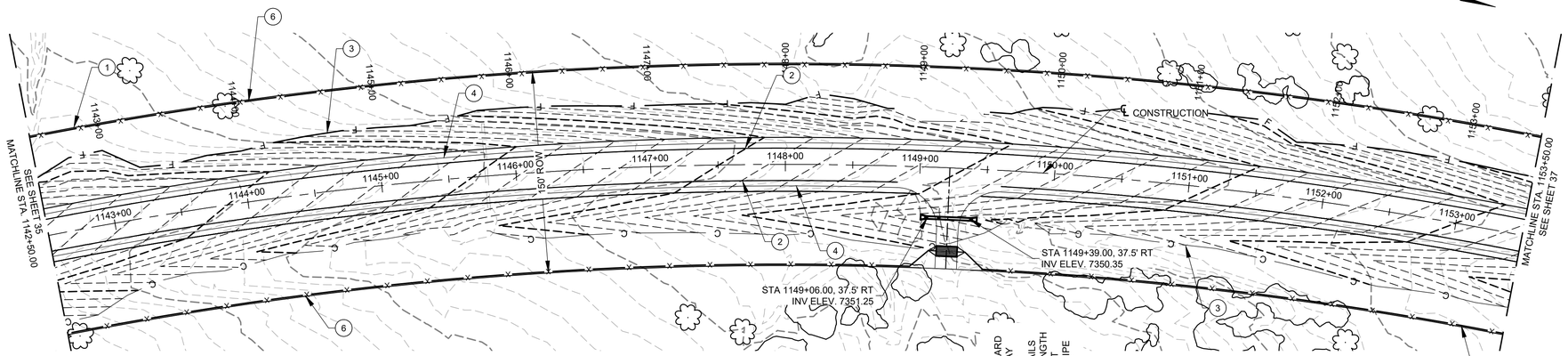
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/27/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 35 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	36	120

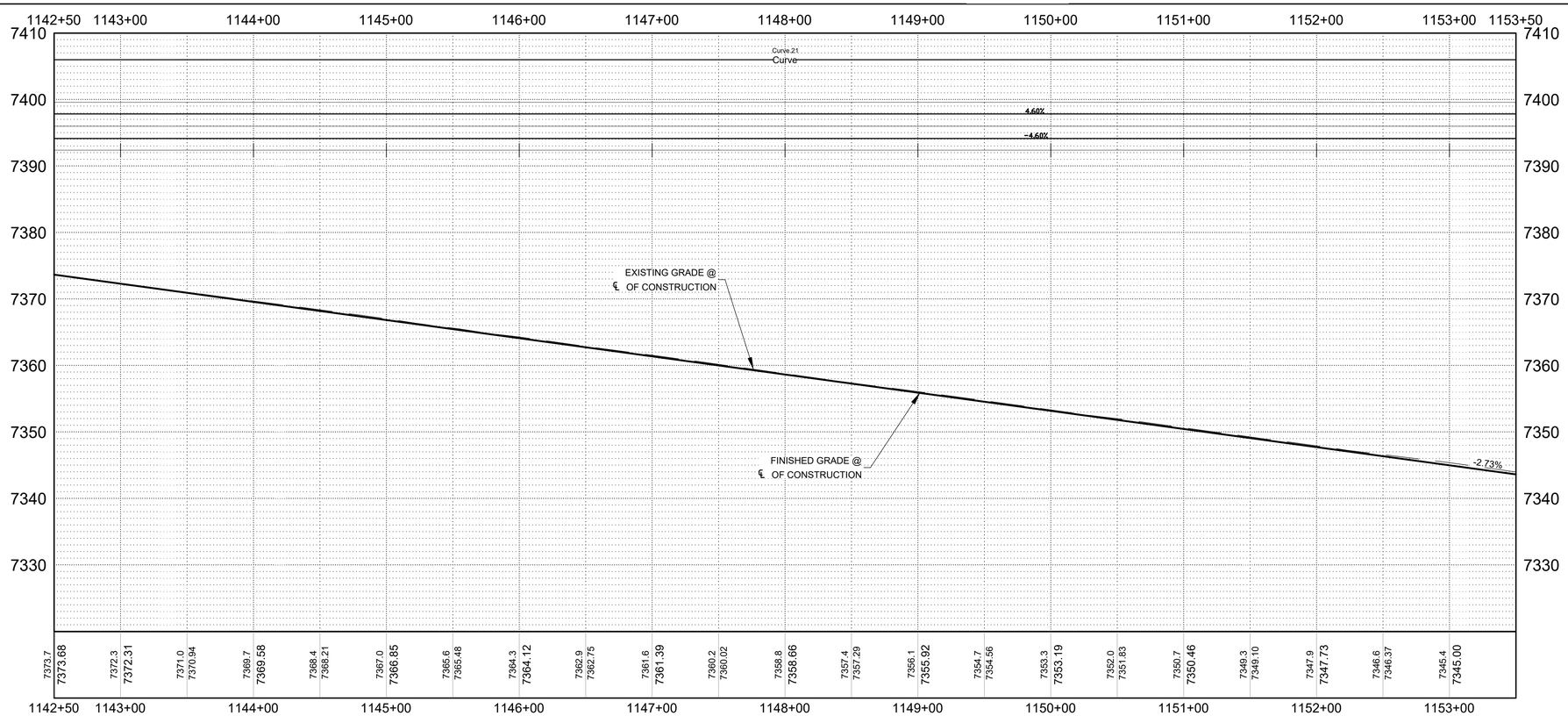


DS - 39
STA 1145+78
REMOVE 24" CMP

CG - 19
TO - 19
DSTO - 19
STA 1149+22 LT
BUILD 16' CATTLE GUARD
BUILD 16' DRIVEWAY
R=30' LT AND RT
SEE TURNOUT DETAILS
BUILD 24" CMP, 33' LENGTH
SECTIONS LT & RT
REMOVE EXST 12" PIPE
FROM TURNOUT

N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

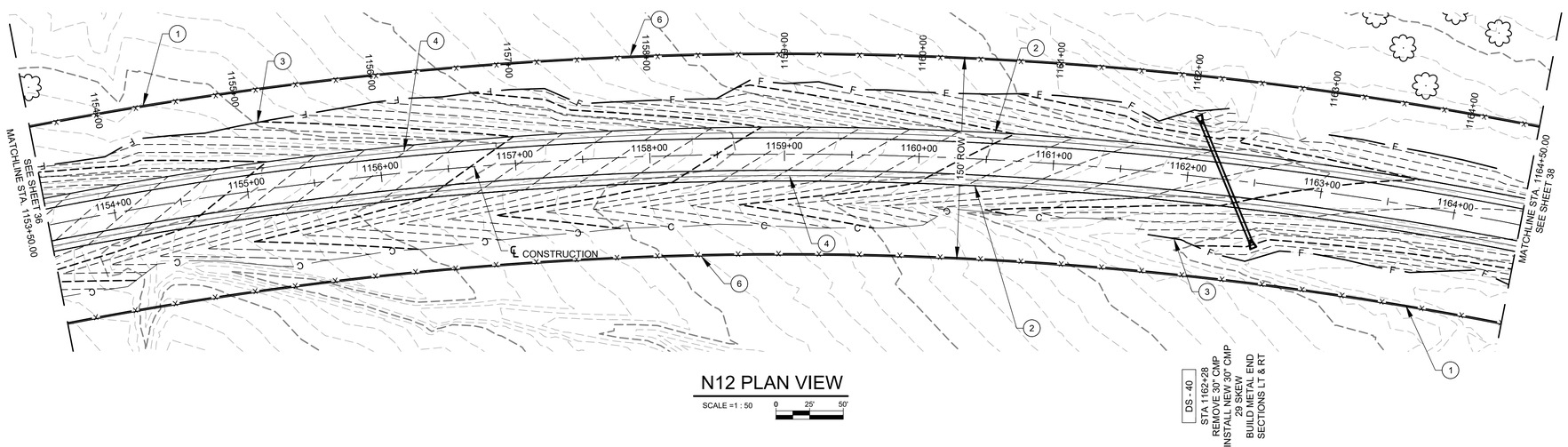
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/20/2026 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

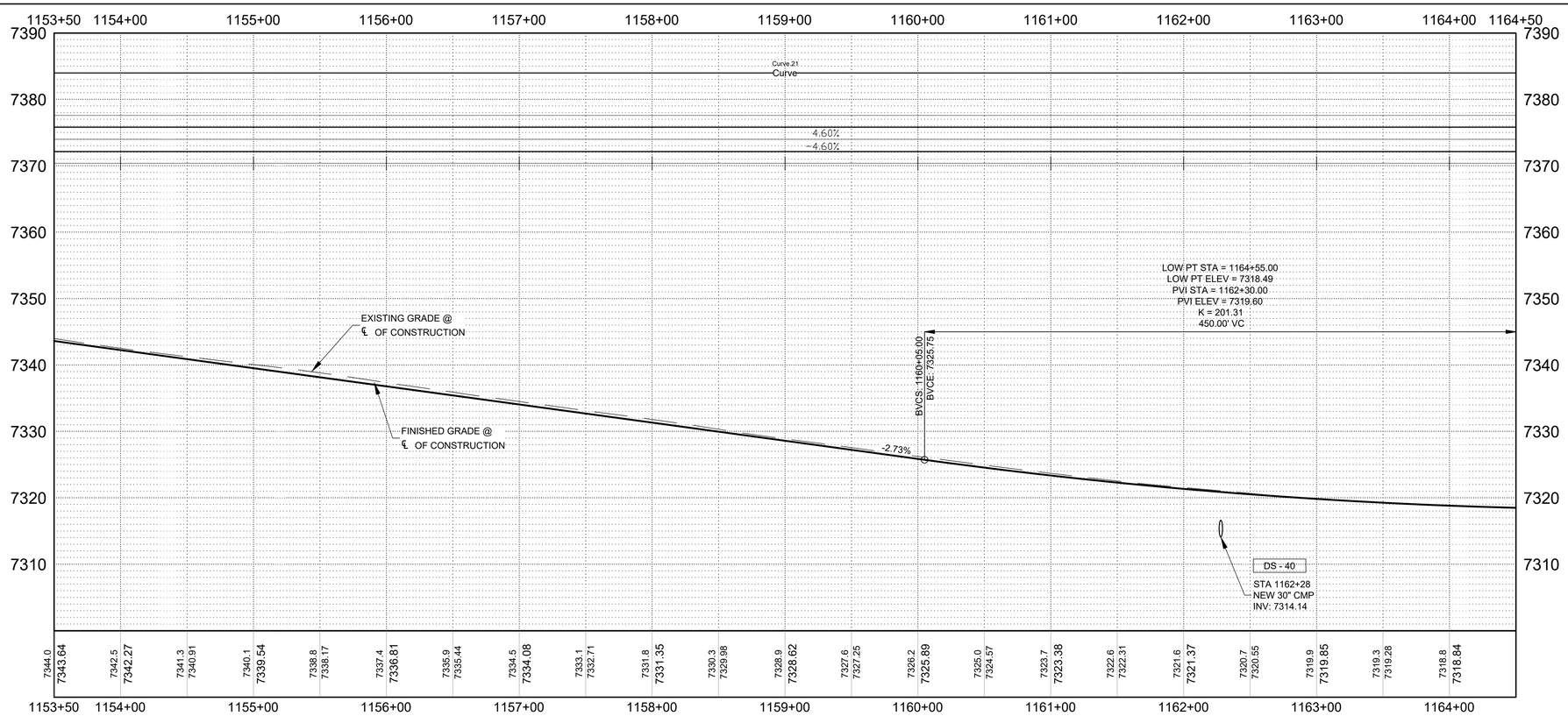
DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 36 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	37	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
9. EXISTING OVERHEAD ELECTRIC

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

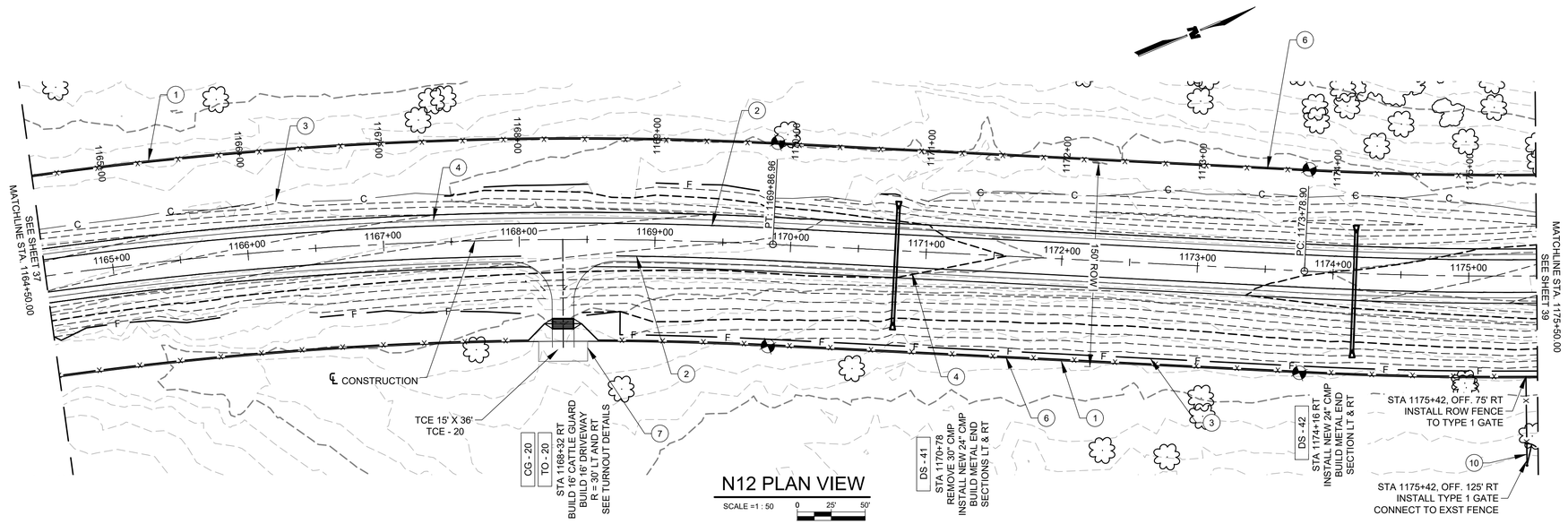
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/28/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

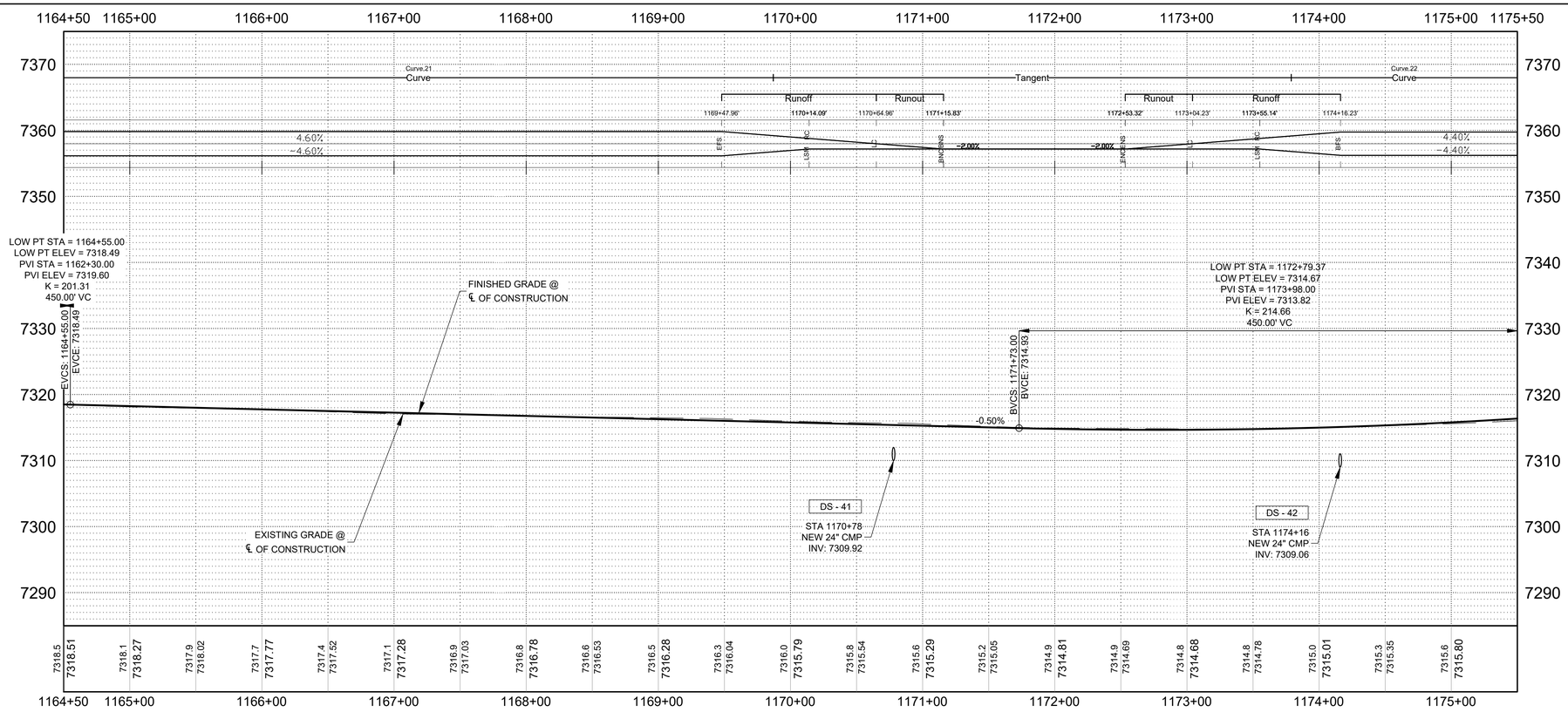
DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	N12	SHEET NO.	37 - 120
CHECK	ASF			

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	38	120



N12 PLAN VIEW

SCALE =1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE =1 : 50 (0, 25', 50')

VERT =1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES OR CLEAN EXISTING STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW OR REMOVE EXISTING DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL
10. TYPE 1 CATTLE GATE

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

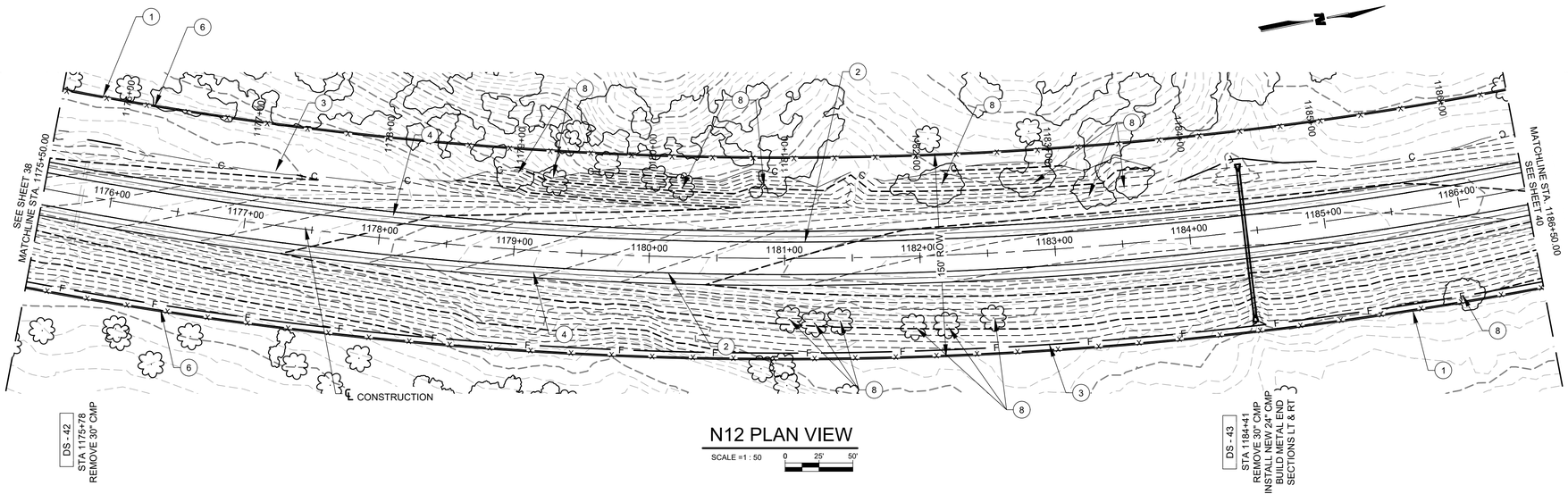
PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 09/27/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

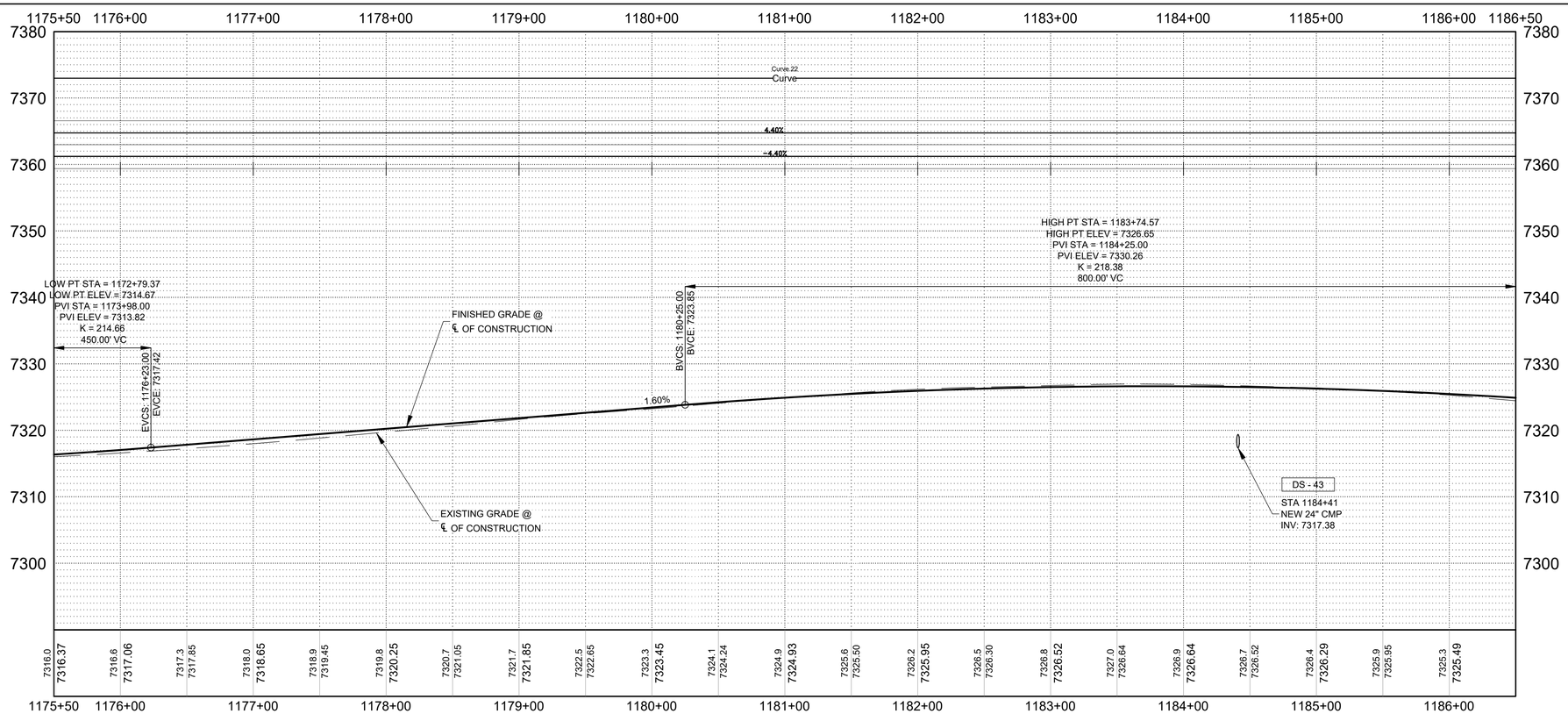
DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	N12	SHEET NO.	38 - 120
CHECK	ASF			

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	39	120



N12 PLAN VIEW

SCALE = 1 : 50 (0, 25', 50')



N12 PROFILE VIEW

SCALE = 1 : 50 (0, 25', 50')

VERT = 1 : 10 (0, 5', 10')

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES OR CLEAN EXISTING STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW OR REMOVE EXISTING DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

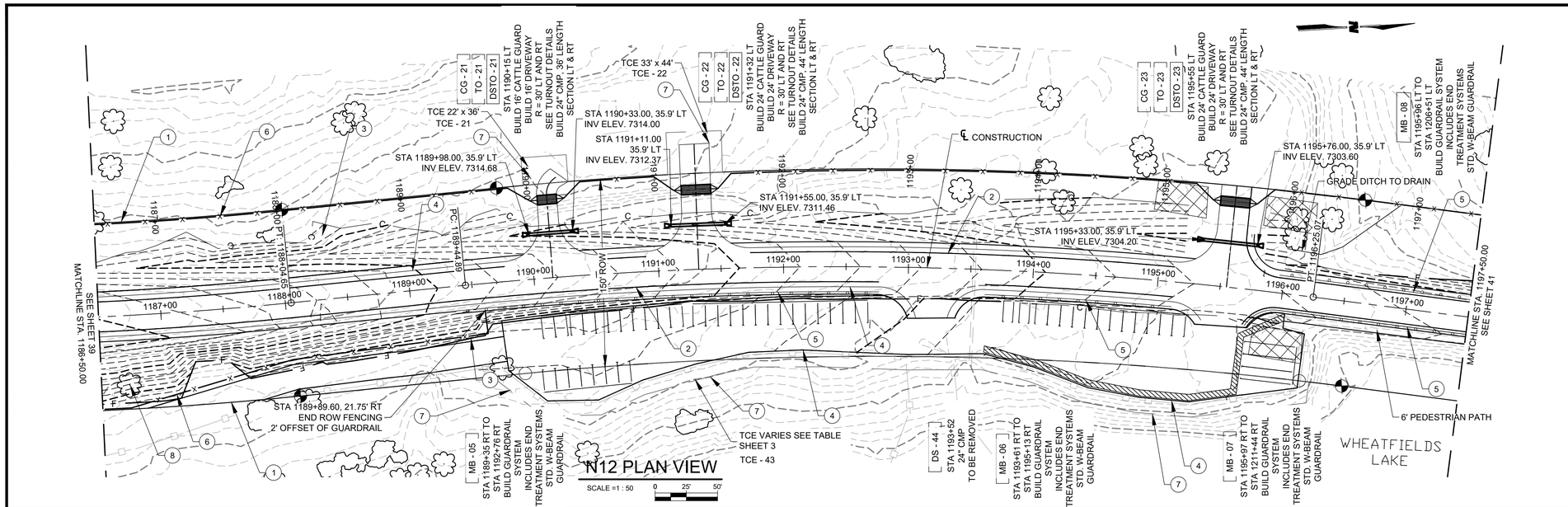
PLAN AND PROFILE

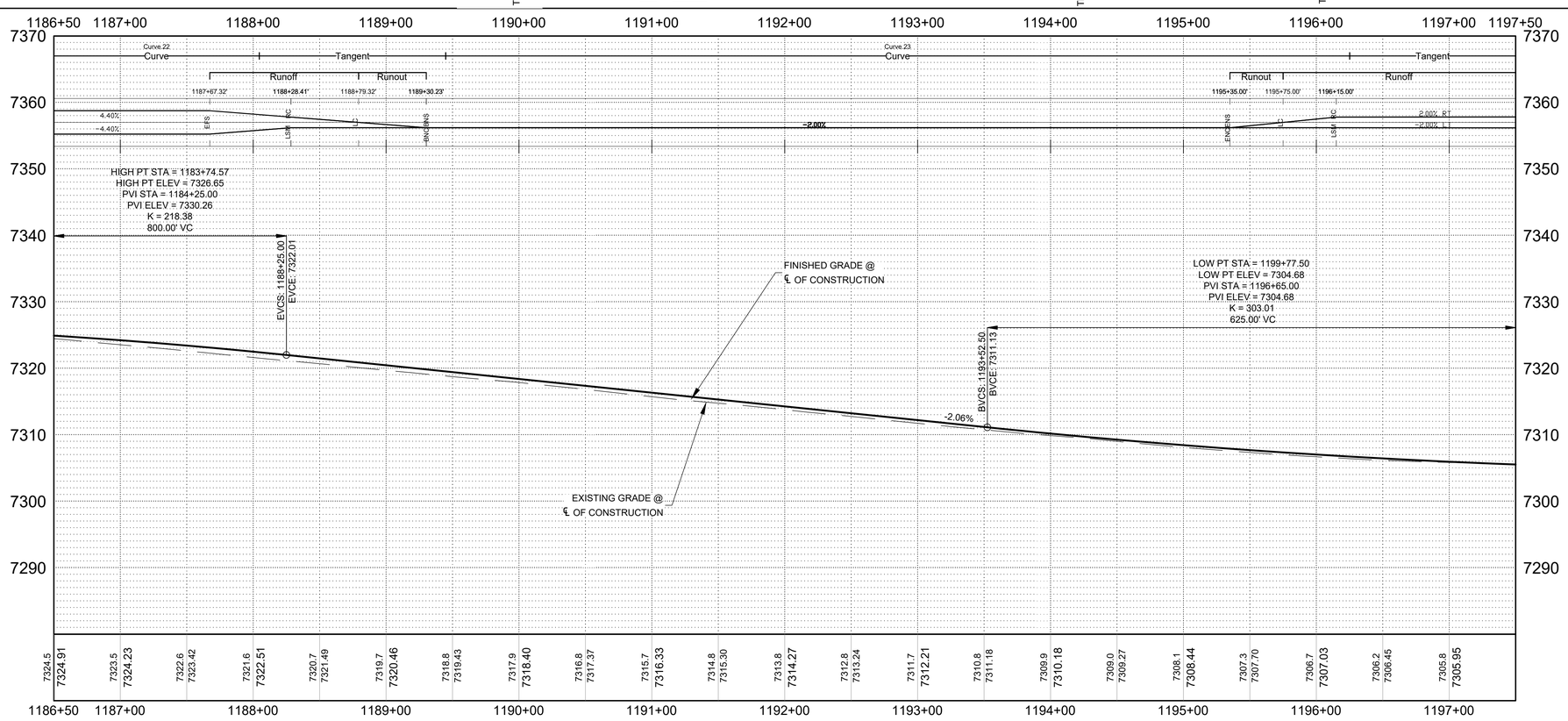
Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 02/24/2026 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE 2025
DRAWN	ERG	N12	SHEET NO. 39 - 120
CHECK	ASF		

REGION	STATE	RESERVATION	ROUTE NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NAVAJO	AZ	NAVAJO	N12	1710009012	40	120





N12 PROFILE VIEW

SCALE =1 : 50 0 25' 50'

VERT =1 : 10 0 5' 10'

GENERAL NOTES

1. CONTRACTOR SHALL REVIEW LOCATIONS OF DRAINAGE STRUCTURES SHOWN HEREIN AND BUILD NEW STRUCTURES OR CLEAN EXISTING STRUCTURES PER THE FULL BUILD NOTES SHOWN ON THE DRAINAGE STRUCTURE SHEETS OF THE PLAN SET.

2. CONTRACTOR SHALL REVIEW LOCATIONS OF DRIVEWAYS SHOWN HEREIN AND BUILD NEW OR REMOVE EXISTING DRIVEWAYS PER THE FULL BUILD NOTES ON THE TURNOUT PROFILES SHEETS ON THIS PLAN SET.

3. INSTALL DELINEATORS AS SHOWN ON BIA STD 3: OBJECT MARKERS.

KEYNOTES

1. EXISTING ROW
2. EDGE OF TRAVEL WAY
3. SLOPE LIMITS
4. EDGE OF PAVEMENT
5. INSTALL GUARDRAIL
6. NEW ROW FENCE
7. TEMPORARY CONSTRUCTION EASEMENT
8. TREE REMOVAL

LEGEND

CG - XX	CATTLE GUARD
TO - XX	TURNOUT/DRIVEWAY
DS - XX	DRAINAGE STRUCTURE
DSTO - XX	DRAINAGE STRUCTURE AT TURNOUT

POSSIBLE AREA FOR TIMBER CHIPPING. CONTRACTOR SHALL NOT PLACE CHIPPED MATERIAL WITHIN 3' OF PROPOSED PIPE INLETS OR OUTLETS AND THEIR CORRESPONDING FLOWLINES.

POSSIBLE AREA FOR STORAGE OF CHOPPED TREES, PROCESSED INTO MANAGEABLE SIZES FOR AREA RESIDENTS TO RECEIVE.

AGENCY LINE TO WHEATFIELDS LAKE

WILSON & COMPANY
410 NORTH 44TH STREET
SUITE 460
PHOENIX, AZ 85008
(602) 283-2701

ROUTE N12

PLAN AND PROFILE

Registered Professional Engineer (Civil) CERTIFICATE NO. 76131 JOSHUA BROWN Date Signed 10/07/2025 ARIZONA, U.S.A.

REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	JEB	WCEA NO. 1710009012	DATE	2025
DRAWN	ERG	N12	SHEET NO.	40 - 120
CHECK	ASF			