

LAKE OUACHITA WATER SUPPLY PROJECT FINISHED WATER TRANSMISSION PIPELINE PROJECT

CONTRACT A

NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7

BID SET

GARLAND COUNTY, ARKANSAS

PREPARED FOR:

CITY OF HOT SPRINGS UTILITIES DEPARTMENT

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AUGUST 2020

CRIST PROJECT NO. 1926



CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
LITTLE ROCK, ARKANSAS

CONTACTS

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CONTRACTOR

T.B.D.

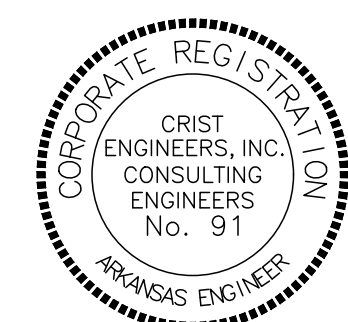
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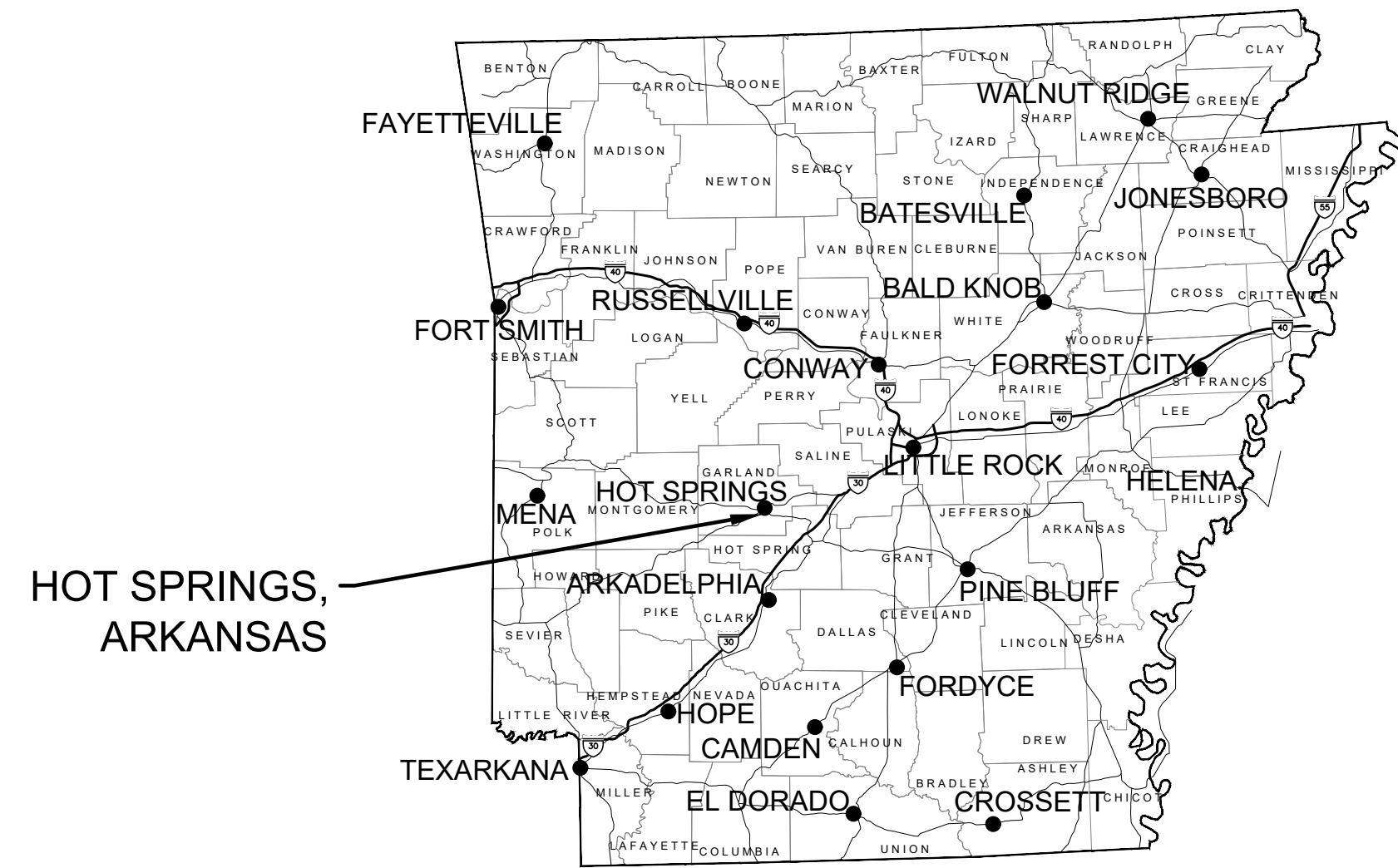
FIRE MARSHAL

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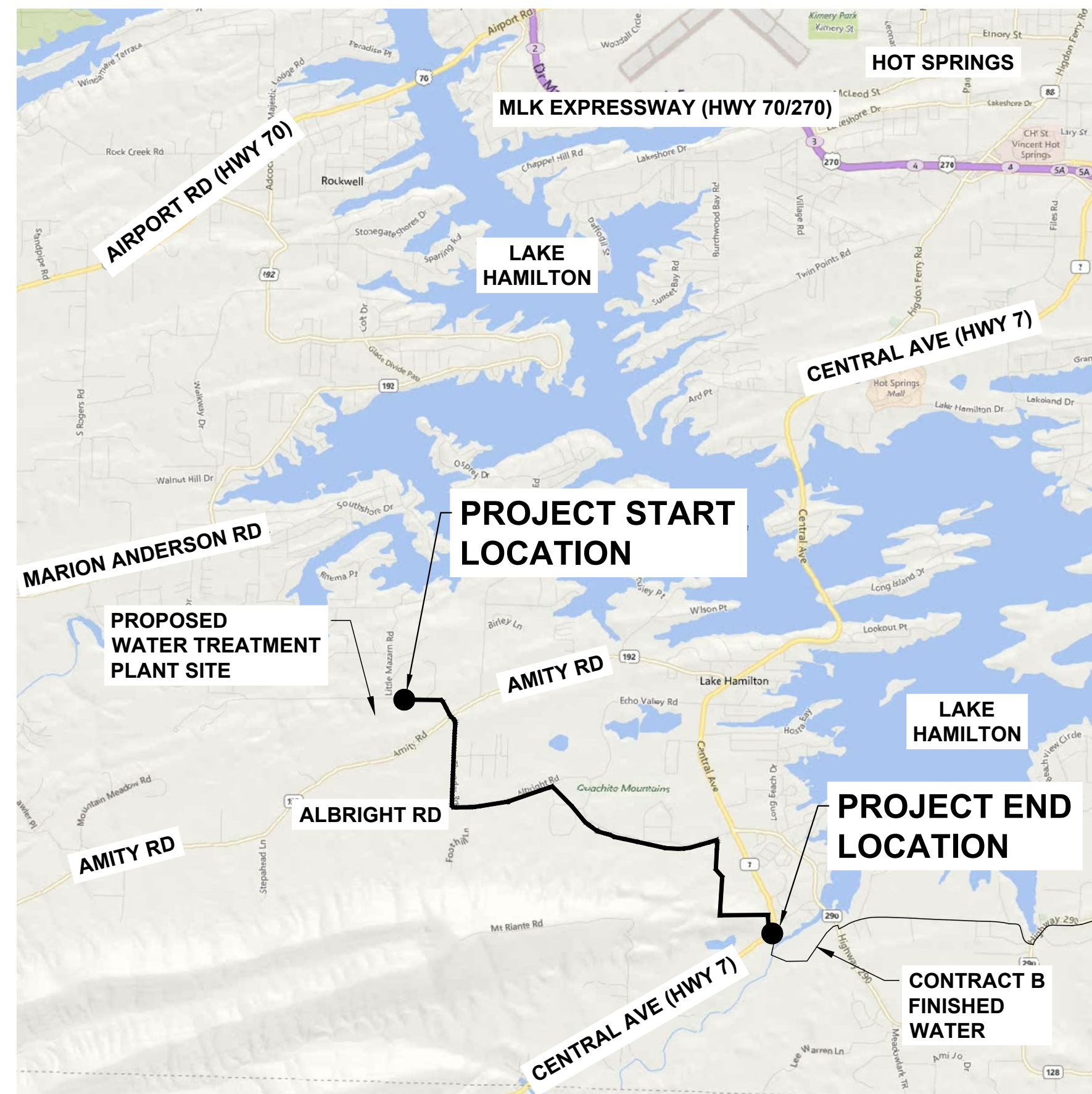
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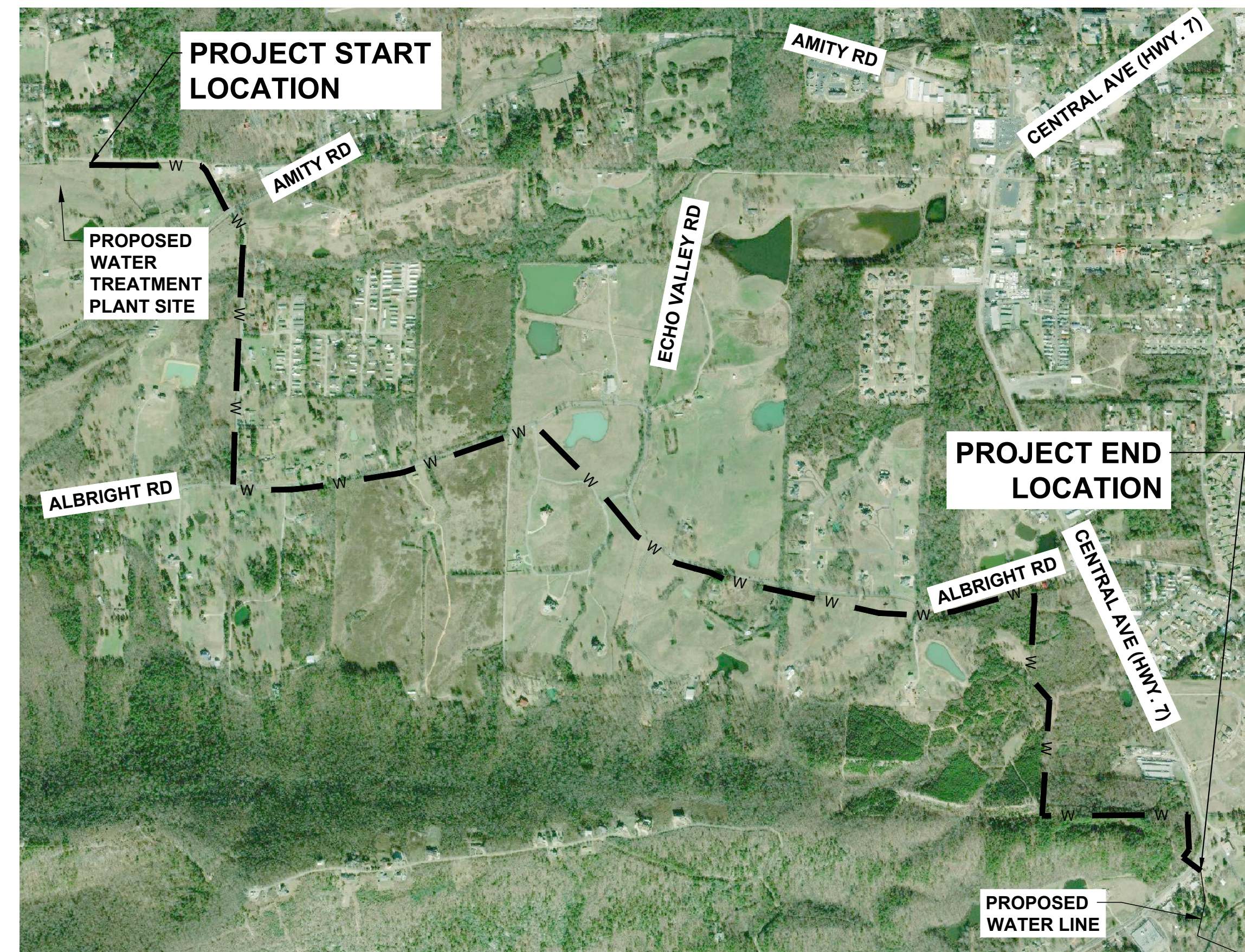




LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.



PROJECT MAP
SCALE: 1" = 1000'

LEGEND

— W —	EXISTING WATER LINE
— + —	PROPOSED WATER LINE
⊗	EXISTING AIR RELEASE VALVE
⊗	PROPOSED AIR RELEASE VALVE
⊗	EXISTING FIRE HYDRANT
⊗	PROPOSED FIRE HYDRANT
—	PROPOSED STEEL ENCASUREMENT PIPE
⊗	EXISTING SIGNS
⊗	EXISTING WATER METER
⊗	EXISTING WATER VALVE
⊗	PROPOSED WATER VALVE
⊗	EXISTING SEWER CLEAN OUT
— UGE —	EXISTING UNDERGROUND ELECTRIC LINE
— OHE —	EXISTING OVERHEAD ELECTRIC LINE
⊗	EXISTING POWER POLE
—	EXISTING GUY WIRE
— FOC —	EXISTING UNDERGROUND FIBER OPTIC CABLE
— T —	EXISTING OVERHEAD TELEPHONE LINE
— UGT —	EXISTING UNDERGROUND TELEPHONE LINE
— SS —	EXISTING SANITARY SEWER
⊗	EXISTING TELEPHONE PEDESTAL
— G —	EXISTING NATURAL GAS LINE
— X —	EXISTING BARBED WIRE FENCE
⊗	EXISTING CHAIN LINK FENCE
⊗	EXISTING IRON FENCE
— 1450 —	MAJOR GROUND CONTOUR
— — —	MINOR GROUND CONTOUR
—	DITCH FLOWLINE
— — —	EXISTING WATER LINE EASEMENT
— — —	PROPOSED WATER LINE EASEMENT
— ROW —	ROAD RIGHT-OF-WAY
— — —	PROPERTY LINE
— — —	OZARK NATIONAL FOREST BOUNDARY
— — —	FLOODPLAIN BOUNDARY
— — —	CAVE BLASTING LIMITS
—	EXISTING TREE LINE
⊗	BENCHMARK
— — —	SILT FENCE

REV. NO.	DATE	DRWN	CHKD	REMARKS

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED:	JDH
DRAFTED:	WRC/JDH
CHECKED:	KDV
DATE:	AUG 2020

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GARLAND COUNTY, ARKANSAS
CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 VICINITY MAPS & LEGEND

JOB NO.	1926
SHEET NO.	1

GENERAL NOTES

- 1. DEFINITIONS
 - a. OWNER - CITY OF HOT SPRINGS, ARKANSAS
 - b. ENGINEER - CRIST ENGINEERS, INC.
 - c. GOVERNMENT - ANY CITY, COUNTY, STATE OR FEDERAL GOVERNMENTAL ENTITY.
- 2. SAFETY
 - a. JOBSITE SAFETY IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
 - b. THIS RESPONSIBILITY COVERS CONTRACTOR'S OWN WORK FORCE, ALL SUBCONTRACTORS, VISITING PERSONNEL, OFFICIALS, AND THE GENERAL PUBLIC WHICH MAY HAVE ACCESS TO THE JOBSITE.
 - c. THE CONTRACTOR SHALL EXERCISE COMPLETE CONTROL OVER WHO HAS ACCESS TO THE JOBSITE TO ENSURE JOBSITE SAFETY.
 - d. THE CONTRACTOR SHALL CONFORM TO ALL SECURITY AND SAFETY REQUIREMENTS OF THE OWNER.
 - e. ANY SAFETY OR OTHER TRAINING REQUIRED BY THE OWNER FOR THE WORK FORCE MUST BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
 - f. CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING TEMPORARY EXCAVATION SUPPORT SYSTEMS, INCLUDING SHEETING, SHORING, AND BRACING TO INSURE THE SAFETY OF PERSONNEL AND PROTECT ADJACENT STRUCTURES, PIPING, ETC. IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, AND REQUIREMENTS.
- 3. PERMITS
 - a. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY STATE, CITY OR COUNTY REQUIRED PERMITS FOR THIS WORK.
 - b. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COMPLYING WITH THE TERMS AND CONDITIONS ASSOCIATED WITH EACH PERMIT, AS WELL AS ADHERING TO THE RULES AND REGULATIONS OF EACH REGULATING AUTHORITY.
- 4. CONTRACT DOCUMENTS
 - a. ALL WORK SHALL CONFORM TO THE PLANS, THESE NOTES, AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
 - b. THESE GENERAL NOTES SHALL BE CONSIDERED AS PART OF THE CONTRACT DOCUMENT AND AS SUPPLEMENTAL CONDITIONS.
- 5. CONSTRUCTION PROCEDURES, MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS UNLESS OTHERWISE MODIFIED ON THE DRAWINGS OR IN THESE NOTES OR SPECIFICATIONS.
 - a. CITY OF HOT SPRINGS ENGINEERING STANDARD SPECIFICATIONS AND STANDARD TERMS AND CONDITIONS. (www.Cityhs.net)
 - b. TECHNICAL SPECIFICATIONS - ATTACHED SEPARATELY (SEE PROJECT MANUAL)
 - c. ARKANSAS DEPARTMENT OF TRANSPORTATION - STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (BY REFERENCE IN THE TECHNICAL SPECIFICATIONS)
 - d. GARLAND COUNTY ROAD DEPARTMENT REQUIREMENT FOR ROAD CROSSINGS.
- 6. CONSTRUCTION LIMITS
 - a. UNDER NO CIRCUMSTANCES IS THE CONTRACTOR TO PERFORM WORK OR CAUSE DAMAGE BEYOND THE DESIGNATED WORK LIMITS.
 - b. SURVEYING AND DEMARCATION OF THE PROJECT LIMITS WILL BE PROVIDED BY THE CONTRACTOR.
- 7. UTILITIES
 - a. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE DRAWINGS, AND ACTUAL LOCATION OF THE UTILITIES MAY VARY FROM THE LOCATION SHOWN ON THE DRAWINGS. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT ARKANSAS ONE CALL, AND MAKE ARRANGEMENTS FOR THE LOCATION OF ALL UTILITIES UNDER THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.
 - b. LOCATIONS OF EXISTING UTILITIES WERE DETERMINED IN THE FIELD WHERE POSSIBLE, SUCH AS MANHOLE LOCATIONS, VALVE BOXES ON EXISTING PIPING, AND DRAINAGE CULVERTS. BEFORE ANY TRENCHING COMMENCES, THE CONTRACTOR SHALL EXPOSE ALL EXISTING UTILITY AND PROCESS LINES WHICH ARE TO BE CROSSED OR CONNECTED WITH NEW PIPING, AND DETERMINE THE POTENTIAL FOR CONFLICTS. CONFLICTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY AND TRENCHING SHALL NOT COMMENCE UNTIL ALL CONFLICTS ARE RESOLVED.
 - c. NO EXCAVATIONS WERE MADE TO CONFIRM SUB-SURFACE UTILITIES. NEITHER THE SURVEYOR NOR PROJECT ENGINEER GUARANTEES THAT ALL UTILITIES HAVE BEEN SHOWN, OR THAT THOSE SHOWN ARE FULLY ACCURATE.
 - d. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADJUSTMENTS AND/OR RELOCATION OF EXISTING UTILITIES THAT ARE DAMAGED AS A RESULT OF WORK OF THIS PROJECT.
 - e. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND PROPERLY DISCONNECTING, ABANDONING, RELOCATING, AND/OR ADJUSTING ALL AFFECTED UTILITIES WITHIN THE PROJECT AREA.

- f. ALL UTILITY WORK SHALL BE COORDINATED AND EXECUTED IN ACCORDANCE WITH THE OWNER AND/OR GOVERNING UTILITY COMPANY CODES, SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
- 8. DISPOSAL OF DEBRIS, WASTE OR SPOIL
 - a. BURNING OF DEBRIS AND WASTE IS NOT ALLOWED. UNLESS APPROVED BY LOCAL FIRE CHIEF.
 - b. CONTRACTOR IS REQUIRED TO PROPERLY HAUL AWAY AND DISPOSE OF ANY WASTE MATERIAL REMOVED FROM THE SITE.
 - c. EXISTING MATERIALS LABELED "TO BE REMOVED" IN THESE PLANS SHALL BE REMOVED AND DISPOSED OF ON SITE AS DIRECTED BY THE OWNER OR ENGINEER. REMOVAL AND DISPOSAL CONSIDERED SUBSIDIARY TO ALL OTHER ITEMS IN THE PROJECT, AND WILL NOT BE PAID FOR SEPARATELY.
 - d. ANY WASTE OR SPOIL MATERIAL WHICH IS EXCAVATED FROM THE JOB SITE IS TO BE DISPOSED OF AS DIRECTED BY THE OWNER.
 - e. UNLESS OTHERWISE NOTED ON THE DRAWINGS, DEMOLISHED ASPHALT PAVEMENT AND CONCRETE AND UNCLASSIFIED EXCAVATION SHALL BE REMOVED OFFSITE AND CONSTRUCTION MATERIAL SHALL BE DISPOSED OF AT AN APPROVED LANDFILL OR SITE.
- 10. SUBSTITUTIONS
 - a. SUBSTITUTIONS ARE NOT ALLOWED WITHOUT PRIOR APPROVAL FROM THE PROJECT ENGINEER OR OWNER.
- 11. MAINTENANCE OF TRAFFIC
 - a. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF TRAFFIC THROUGHOUT THE LIFE OF THE PROJECT, PER THE SPECIFICATIONS.
- 12. LAYDOWN AREA
 - a. LAYDOWN AREAS MAY BE CONSTRUCTED AND/OR DESIGNATED FOR USE DURING CONSTRUCTION OF THIS PROJECT.
 - b. LAYDOWN AREAS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
 - c. CONTRACTORS MUST HAVE WRITTEN AGREEMENTS WITH PROPERTY OWNERS FOR LAYDOWN AREAS. A COPY OF AGREEMENTS MUST BE SUBMITTED TO OWNER.
- 13. FIELD OFFICE
 - a. A FIELD OFFICE BUILDING IS NOT REQUIRED FOR THIS PROJECT.
- 14. ENVIRONMENTAL
 - a. THE CONTRACTOR IS TO MEET ALL ENVIRONMENTAL REQUIREMENTS OF THE OWNER AND ANY REGULATORY AGENCY.
 - b. THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A STORM WATER POLLUTION PREVENTION PLAN MEETING ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY REQUIREMENTS. A COPY OF THE SWPPP IS TO BE SUBMITTED TO GARLAND COUNTY AND, IF REQUIRED, ADEQ.
 - c. A NOTICE OF INTENT (NOI) SHALL BE FILED WITH THE ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) BY THE CONTRACTOR FOR THE PROJECT TO BE COVERED UNDER THE ARKANSAS GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
 - d. ALL AREAS DISTURBED BY THIS WORK SHALL BE CLEANED, GRADED, TOPSOIL REPLACED, FERTILIZED, SEEDED, MULCHED, AND WATERED FOLLOWING COMPLETION AS REQUIRED IN THE STANDARD SPECIFICATIONS FOR SEEDING, TOPSOIL, AND CLEANUP, BEST MANAGEMENT PRACTICES, AND THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 - e. ANY DISTURBED AREAS THAT ARE LEFT UNATTENDED FOR TWO WEEKS OR MORE, BUT MORE WORK IS ANTICIPATED AT A LATER TIME, MUST BE STABILIZED IN ACCORDANCE WITH THE SWPPP.
 - f. PER THE REQUIREMENTS SHOWN IN THE SWPPP, CONTRACTOR SHALL ERECT TEMPORARY SEDIMENT AND EROSION CONTROLS PRIOR TO STARTING WORK; AND SHALL MAINTAIN DRAINAGE AND EROSION CONTROLS FOR THE DURATION OF THE CONSTRUCTION WORK. THE TEMPORARY EROSION CONTROL DEVICES ARE TO BE REMOVED UPON COMPLETION OF THE WORK AS PART OF OVERALL CLEANUP ACTIVITIES.
 - g. CONTRACTOR SHALL KEEP CURRENT COPY OF THE SWPPP ON SITE AT ALL TIMES.
 - h. CONTRACTOR SHALL KEEP WORK AREA CLEAN AND FREE OF ACCUMULATED TRASH AND DEBRIS. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING MEASURES TO AVOID TRACKING OF MUD, DIRT, ROCKS, AND DEBRIS ONTO AREAS OUTSIDE THE PROJECT AREA. CONTRACTOR SHALL CLEAN PAVEMENTS WHEN NECESSARY OR AS OTHERWISE DIRECTED, AND SHALL CONTROL DUST BY SWEEPING AND WATERING AS NEEDED. DE-TRACKING IS REQUIRED AT ALL ENTRANCES.
 - i. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL PAY ALL COSTS ASSOCIATED WITH FINES OR PENALTIES THAT MAY BE IMPOSED BY THE GOVERNMENTAL AUTHORITY FOR THE FAILURE OF THE CONTRACTOR, THE CONTRACTOR'S SUBCONTRACTORS, THE CONTRACTOR'S SUPPLIERS, OR THE CONTRACTOR'S AGENTS HAVING ACCESS TO THE SITE TO COMPLY WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND/OR COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN. THE OWNER SHALL BE ENTITLED TO WITHHOLD SUCH FROM CONTRACT FUNDS THAT MAY BE DUE TO THE CONTRACTOR AND/OR CLAIM THROUGH THE APPROPRIATE COURT HAVING JURISDICTION.

- j. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE POSTING AND MAINTENANCE OF NOTICES IN THE AREA OF THE CONSTRUCTION WITH INFORMATION AS REQUIRED BY ADEQ REGULATION.
- k. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN AND UPDATE RECORDS AND INSPECTIONS REPORTS REQUIRED BY THE GENERAL PERMIT FROM STORM WATER DISCHARGES AND THE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN. COPIES OF ALL DOCUMENTS SHALL BE AVAILABLE AT ALL TIMES AND PROVIDED TO THE OWNER AND/OR THE OWNER'S REPRESENTATIVE UPON DEMAND AND SHALL BE DELIVERED TO THE OWNER PRIOR TO FINAL PAYMENT.
- l. INFORMATION REGARDING THE STORM WATER POLLUTION PREVENTION PLAN AND THE PERTINENT REGULATION MAY BE ACCESSED AT WWW.ADEQ.STATE.AR.US
- 15. CONFLICT IN CONTRACT DOCUMENTS
 - a. IN THE CASE THAT CONFLICT BETWEEN THESE NOTES AND THE TECHNICAL SPECIFICATIONS OCCURS, THESE GENERAL NOTES WILL PREVAIL.
 - b. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. SHOULD CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH THE WORK.
 - c. CONTRACTOR SHALL IMMEDIATELY REPORT AND DOCUMENT ANY KNOWN OR SUSPECTED ERRORS, OVERSIGHTS, INCONSISTENCIES, CONFLICTS, OR AMBIGUOUS INFORMATION TO THE PROJECT ENGINEER THAT THE CONTRACTOR DISCOVERS WITHIN THE CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS; AND SHALL NOT PROCEED WITH ANY WORK THAT IS AFFECTED BY THE MATTER OF CONCERN UNTIL IT HAS BEEN FULLY RESOLVED AND ANY COST ADJUSTMENTS HAVE BEEN MET. THE PROJECT ENGINEER AND THE OWNER SHALL BE HELD HARMLESS IN THE EVENT THE PROJECT ENGINEER IS NOT IMMEDIATELY NOTIFIED OF CONFLICTS OR PROBLEMS, OR IF THE CONTRACTOR SHOULD FAIL TO CEASE WORK AND PROVIDE IMMEDIATE NOTIFICATION UPON ITS DISCOVERY.
- 16. MEASUREMENT AND PAYMENT
 - a. REFER TO SECTION 012900 "MEASUREMENT AND PAYMENT".
 - b. ALL OTHER WORK ITEMS REQUIRED FOR COMPLETING THE SCOPE OF WORK IN THIS CONTRACT SHALL NOT BE PAID FOR SEPARATELY BUT IS CONSIDERED SUBSIDIARY TO ALL THE OTHER BID ITEMS.

GENERAL CONSTRUCTION NOTES - SITE WORK

- 1. SURVEY CONTROL POINTS ARE SHOWN ON THE DRAWINGS. ALL CONTROL POINTS AND LAND MONUMENTS LOCATED WITHIN AND ADJACENT TO THE CONSTRUCTION AREA SHALL BE PROTECTED DURING ALL PHASES OF CONSTRUCTION. ANY DISTURBED MONUMENTATION SHALL BE RE-ESTABLISHED BY A PROFESSIONAL LAND SURVEYOR. THE COST OF RE-ESTABLISHING THE MONUMENTATION SHALL BE BORNE BY THE CONTRACTOR.
- 2. RIM AND INVERT ELEVATIONS ON EXISTING MANHOLES AND DRAINAGE STRUCTURES ARE INCLUDED FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL NOT USE THESE ELEVATIONS AS BENCHMARKS UNDER ANY CIRCUMSTANCES. PRIOR TO CONSTRUCTION INVOLVING THESE STRUCTURES, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL EXISTING ELEVATIONS.
- 3. CONTRACTOR SHALL CLEAR AND GRUB THE ENTIRE WIDTH OF THE PERMANENT EASEMENT.
- 4. TREES THAT DO NOT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED. CARE SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED ARE PROTECTED FROM CONSTRUCTION OPERATIONS. CONSTRUCTION EQUIPMENT SHALL NOT WORK WITHIN THE DRIP LINE OF TREES TO BE PROTECTED. REMOVED TREES ARE TO BE DISPOSED OF AS APPROVED BY THE OWNER, SEE GENERAL NOTE NO. 8 THIS SHEET.
- 5. CRUSHER SCREENINGS (CRUSHER DUST) MAY NOT BE USED AS SELECT FILL IN EMBANKMENT.
- 6. THE CONTRACTOR SHALL MAINTAIN POSITIVE SITE DRAINAGE AT ALL TIMES.
- 7. THE GROUND SURFACE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE GRADED TO DRAIN AWAY FROM THE DISTURBANCE. ALL ROCK AND DEBRIS (2" DIAMETER AND LARGER) SHALL BE REMOVED AND DISPOSED OF OFF THE JOB SITE.
- 8. ALL DISTURBED AREAS SHALL BE RESTORED WITH A 4-INCH (4") LAYER OF TOPSOIL AND SOLID SOD OR SEED, FERTILIZER, AND MULCH AS SPECIFIED.
- 9. WHERE IT IS NECESSARY TO CUT EXISTING ASPHALT OR CONCRETE PAVEMENT FOR TRENCHING, PAVEMENT REPAIR OR MATCHING NEW CONSTRUCTION, THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT TO PROVIDE A STRAIGHT EDGE, AND SMOOTH TRANSITION.
- 10. THE CONTRACTOR SHALL DE-WATER STRUCTURAL AND TRENCH EXCAVATION IN ACCORDANCE WITH THE SPECIFICATIONS.
- 11. THE CONTRACTOR SHALL, BY REPAIR OR REPLACEMENT, RETURN TO EQUAL OR BETTER CONDITION ALL PAVEMENT, FENCES, LAWNS, UTILITIES, AND OTHER ITEMS OR PROPERTY DAMAGED BY THIS CONSTRUCTION ACTIVITY OR OPERATIONS.
- 12. THE CONTRACTOR SHALL COMPLETE ALL SPECIAL CONSIDERATION ITEMS REQUIRED BY THE PROPERTY OWNERS THAT WERE AGREED TO BE PROVIDED IN EXCHANGE FOR AN EASEMENT. COPIES OF "SPECIAL CONSIDERATIONS" FORMS CAN BE OBTAINED FROM THE ENGINEER OR THE OWNER.

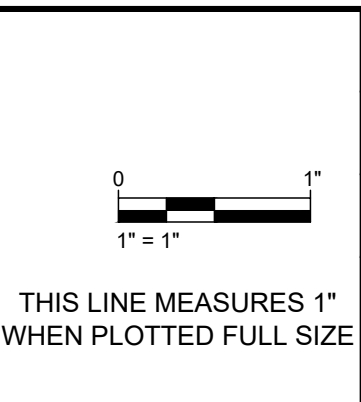
GENERAL CONSTRUCTION NOTES - SITE PIPING

- 1. ALL DUCTILE IRON WATER PIPING AND FITTINGS SHALL CONFORM TO THE TECHNICAL SPECIFICATIONS.
- 2. ALL TRENCHING, BACKFILL AND BEDDING TO MEET REQUIREMENTS SHOWN IN THE DETAILS AND SPECIFICATIONS FOR THIS PROJECT.
- 3. THE MINIMUM DEPTH OF COVER FOR PIPING IS 36 INCHES (36").
- 4. THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST 48 HOURS PRIOR TO SCHEDULED CONNECTIONS OF ANY WORK INVOLVING WATER PIPING. INTERRUPTION OF WATER SERVICE SHALL BE KEPT TO A MINIMUM. SCHEDULING SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER AND THE ENGINEER.
- 5. TESTING LINES - ALL LINES SHALL BE TESTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER OR THE ENGINEER'S REPRESENTATIVE. ALL LINES SHALL BE CLEAN PRIOR TO PERFORMING TESTS. TESTING SHALL INCLUDE HYDROSTATIC TESTING AS REQUIRED IN THE SPECIFICATIONS.
- 6. THE CONTRACTOR SHALL MAINTAIN ALL ADJACENT WATER LINES IN SERVICE DURING CONSTRUCTION, EXCEPT AS ALLOWED BY THE OWNER AND THE ENGINEER. IN ALL CASES, THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, PIPE SUPPORT, AND/OR TRENCH BOXES TO MAINTAIN THE INTEGRITY OF THE EXISTING PIPING.
- 7. ALL SITE PIPING THAT CONNECTS TO STRUCTURES SHALL INCLUDE A DOUBLE FLEXIBLE PIPE CONNECTION TO ACCOMMODATE DIFFERENTIAL SETTLING OF THE STRUCTURE. CONCRETE ENCASED PIPES UNDER STRUCTURES SHALL BE TERMINATED OUTSIDE THE STRUCTURE WITH A DOUBLE FLEXIBLE CONNECTION. THE DOUBLE FLEXIBLE CONNECTION SHALL BE A MJ X MJ SLEEVE JOINT OR DOUBLE MJ BELL, NO MORE THAN 24 INCHES APART.
- 8. MAINTAIN TEN (10) FEET HORIZONTAL DISTANCE BETWEEN WATER MAIN AND STORM DRAIN OR SANITARY SEWER MAIN, AS A MINIMUM.
- 9. STORM AND SANITARY SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS AND BOTH PIPES SHALL BE DUCTILE IRON (DI). WHERE THERE IS NO ALTERNATIVE TO SEWER PIPES CROSSING OVER A WATER MAIN, THE CRITERIA FOR MINIMUM SEPARATION BETWEEN LINES AND JOINTS IN THE ABOVE SHALL BE REQUIRED AND BOTH PIPES SHALL BE DUCTILE IRON IRRESPECTIVE OF SEPARATION. DUCTILE IRON IS NOT REQUIRED FOR STORM SEWERS.

CONCRETE NOTES

- 1. CONCRETE POURED-IN-PLACE FOR THRUST BLOCKS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI, OR AS SHOWN IN THE PLANS OR TECHNICAL SPECIFICATIONS.
- 2. CONCRETE POURED-IN-PLACE FOR STRUCTURES SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, OR AS SHOWN IN THE PLANS OR TECHNICAL SPECIFICATIONS.
- 3. CONCRETE EXPOSED TO FREEZING TEMPERATURES IS TO HAVE 4% - 6% AIR ENTRAINMENT.
- 4. ALL EXPOSED EDGES OF CONCRETE STRUCTURES ARE TO HAVE 3/4" CHAMFERED EDGES.

REV. NO.	DATE	DRWN	CHKD	REMARKS



DESIGNED:	JDH
DRAFTED:	WRC/JDH
CHECKED:	KDV
DATE:	AUG 2020

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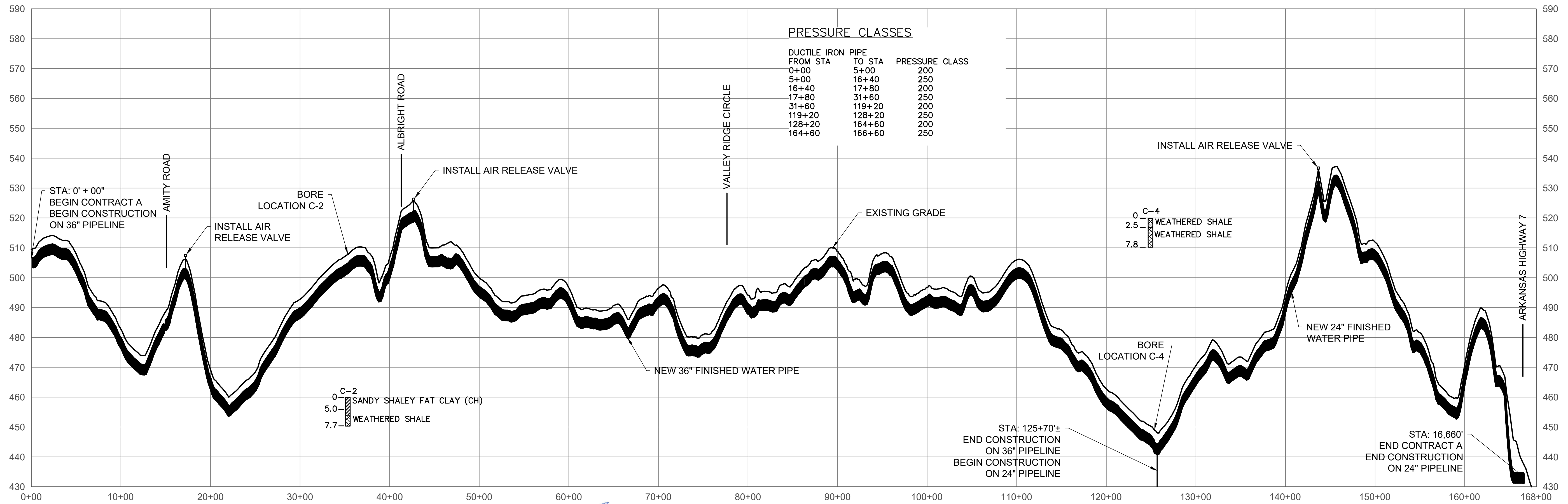
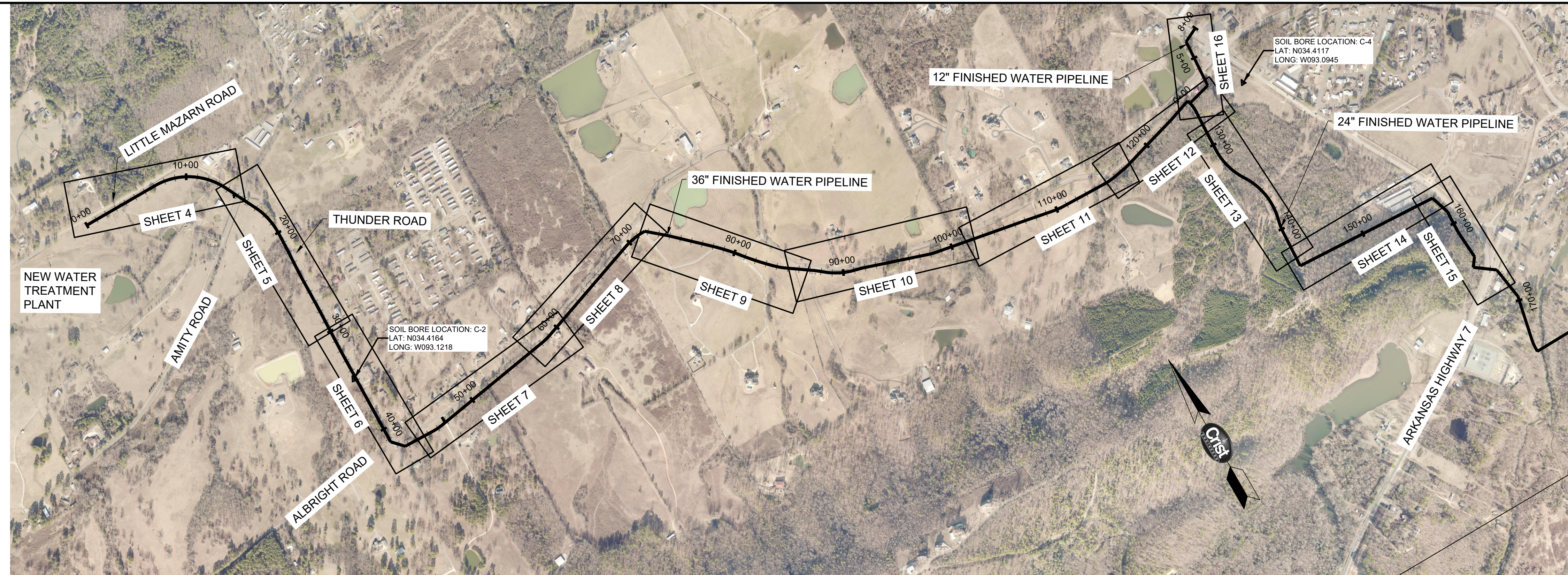
CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT

FINISHED WATER TRANSMISSION PIPELINE

CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7

GENERAL NOTES

JOB NO.	1926
SHEET NO.	2



REV. NO.	DATE	DRWN	CHKD	REMARKS

0" = 30'-0" (VERT)
 0" = 600'-0" (HORIZ)
 THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

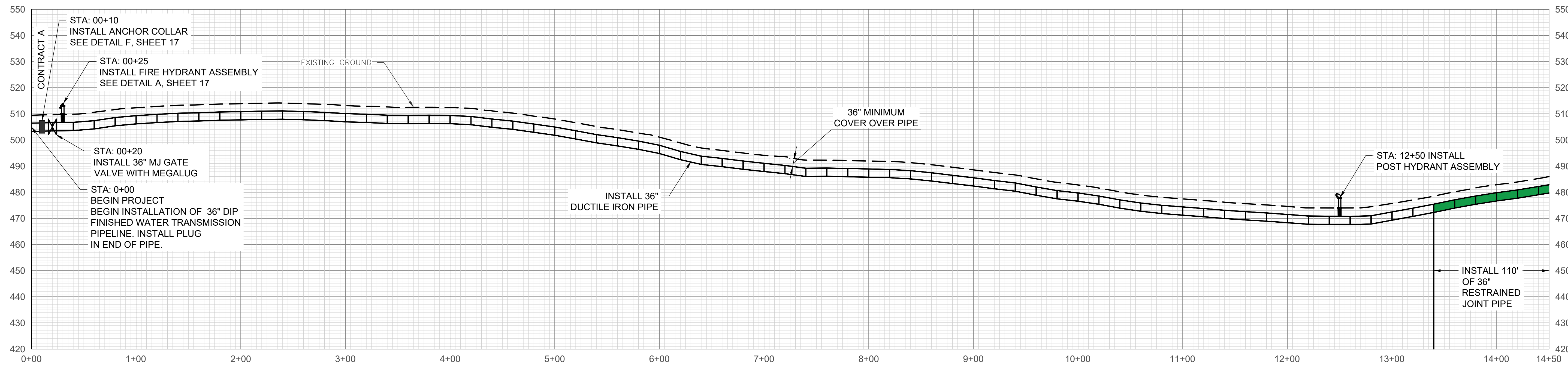
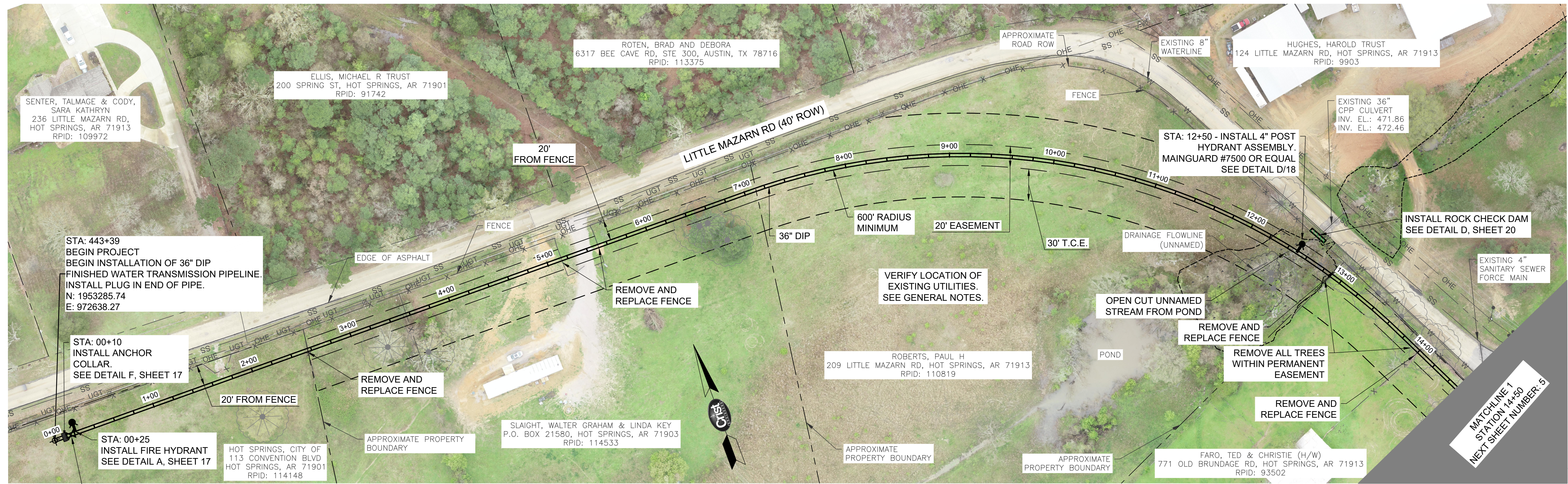
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 DRAFTED: WRC/JDH
 CHECKED: KDV
 DATE: AUG 2020



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 CONSULTING ENGINEERS
 205 EXECUTIVE COURT
 LITTLE ROCK, ARKANSAS 72205
 TELEPHONE: (501) 664-1552
 FAX: (501) 664-8579
 WWW.CRISTENGINEERS.COM

GARLAND COUNTY, ARKANSAS
CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 OVERALL PLAN & PROFILE

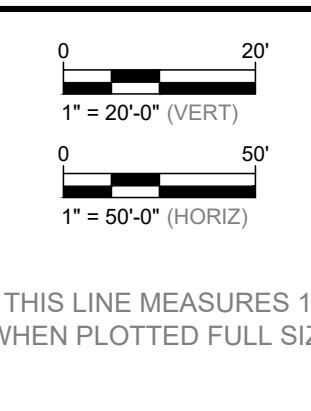
JOB NO. 1926
 SHEET NO. 3



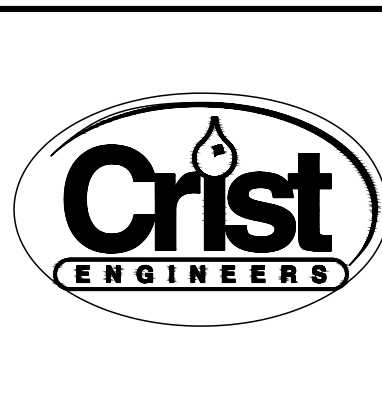
REV. NO.	DATE	DRWN	CHKD	REMARKS

KRISTINA D. VANLANDINGHAM
REGISTERED PROFESSIONAL ENGINEER
No. 7996
STATE OF ARKANSAS

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
No. 91
ARKANSAS ENGINEERS



DESIGNED: JDH
 DRAFTED: WRC/JDH
 CHECKED: KDV
 DATE: AUG 2020

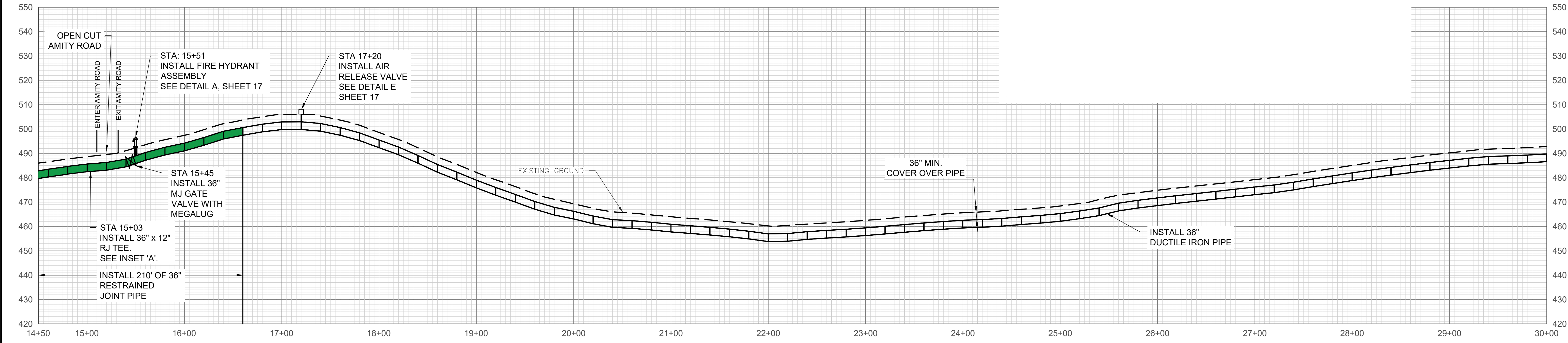
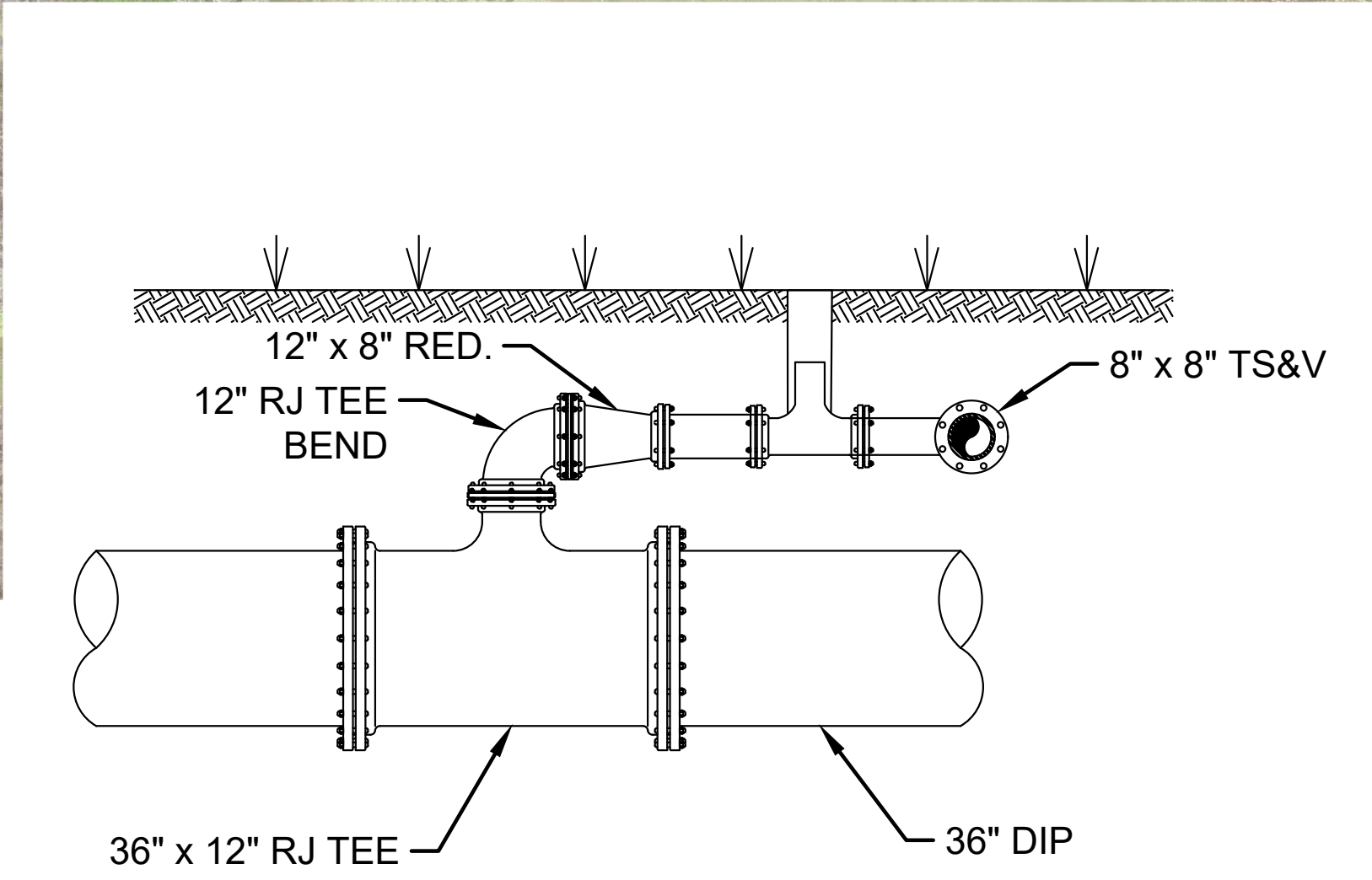
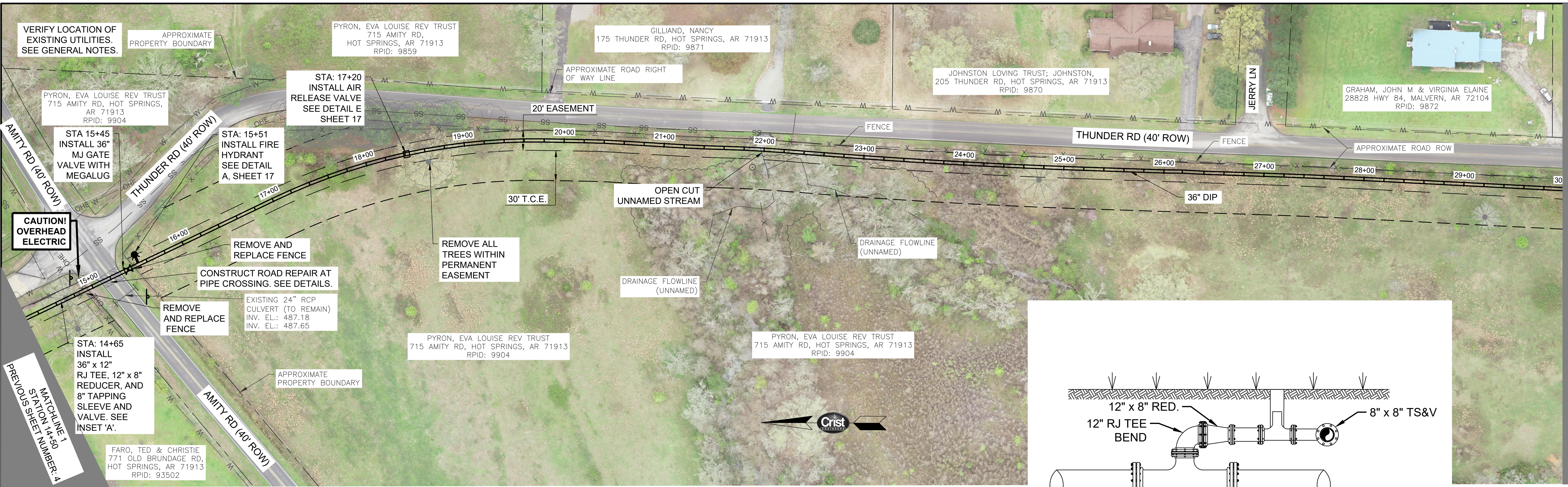


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LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 0+00 TO 14+50

JOB NO.
1926
 SHEET NO.
4

P:\2019 Projects\1926 - CHS Lake Ouachita Water Supply - Raw & Finished Lines\10 - Finished Water Line\1926 - Contract A - Finished Water Line\1926 - CADD\05 - Finished Water Line\1926 - Contract A - Finished Water Line.dwg 8/19/2020 3:32:59 PM
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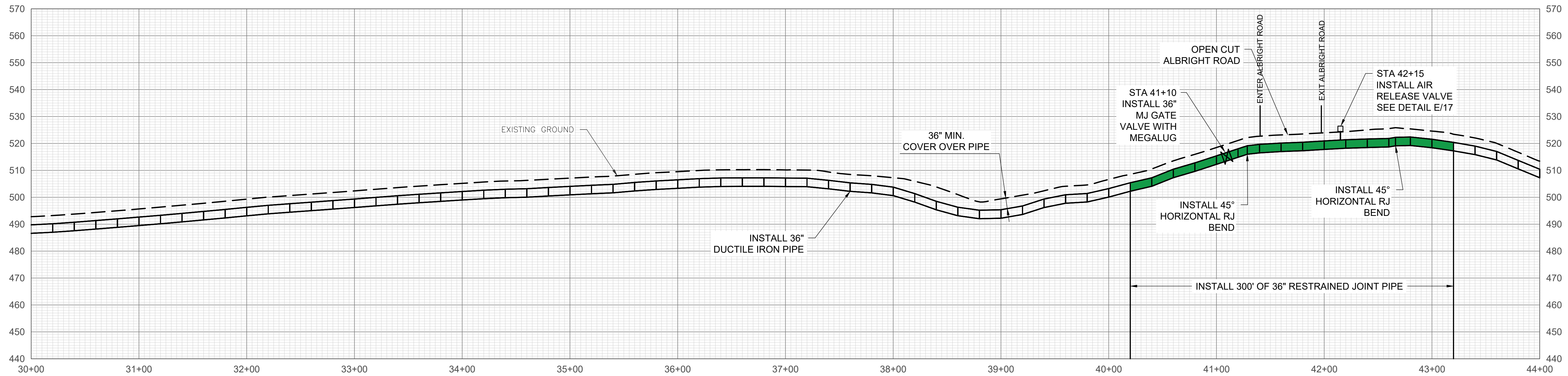
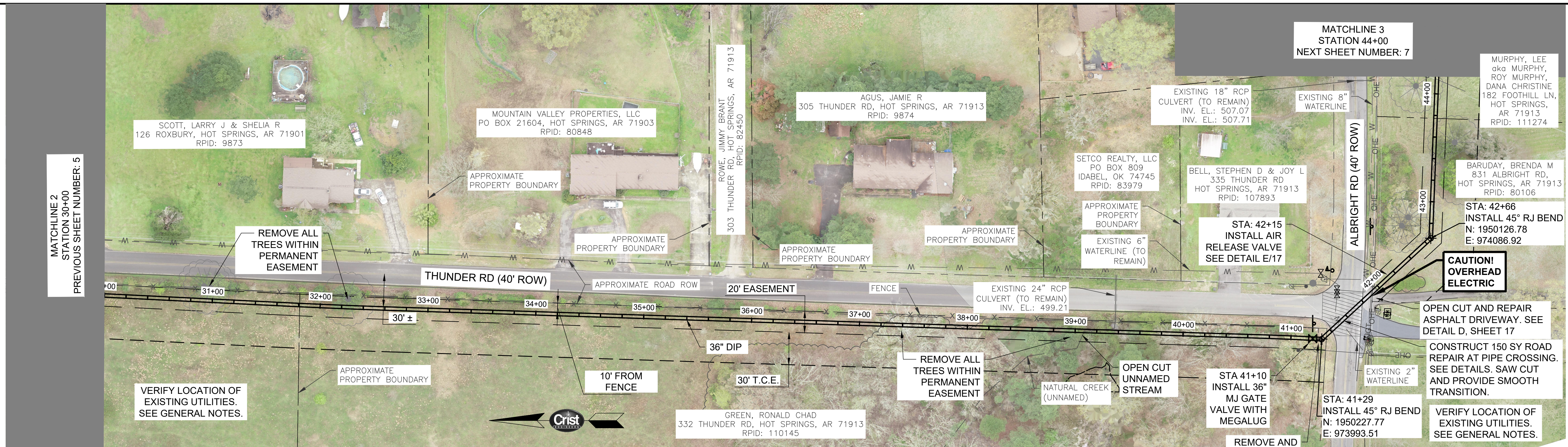
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DRAFTED: WRC/JDH	
CHECKED: KDV	
DATE: AUG 2020	

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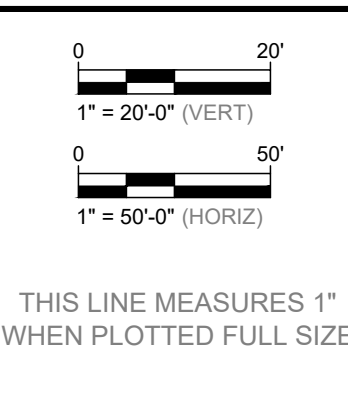
GARLAND COUNTY, ARKANSAS
CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 14+50 TO 30+00

JOB NO. 1926
SHEET NO. 5

MATCHLINE 2
 STATION 30+00
 NEXT SHEET NUMBER: 6



REV. NO.	DATE	DRWN	CHKD	REMARKS



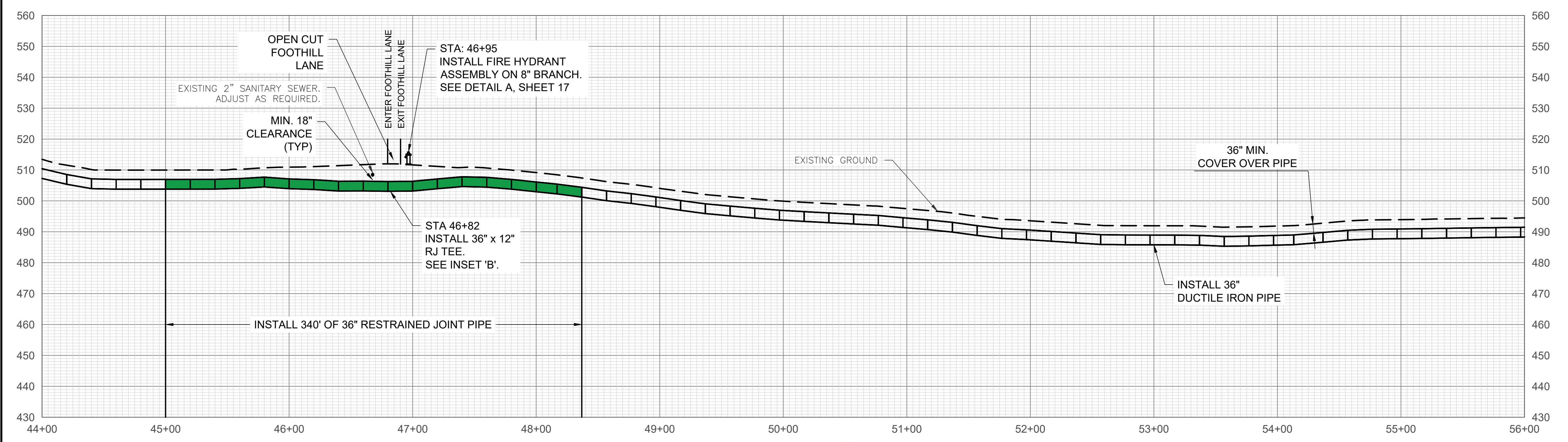
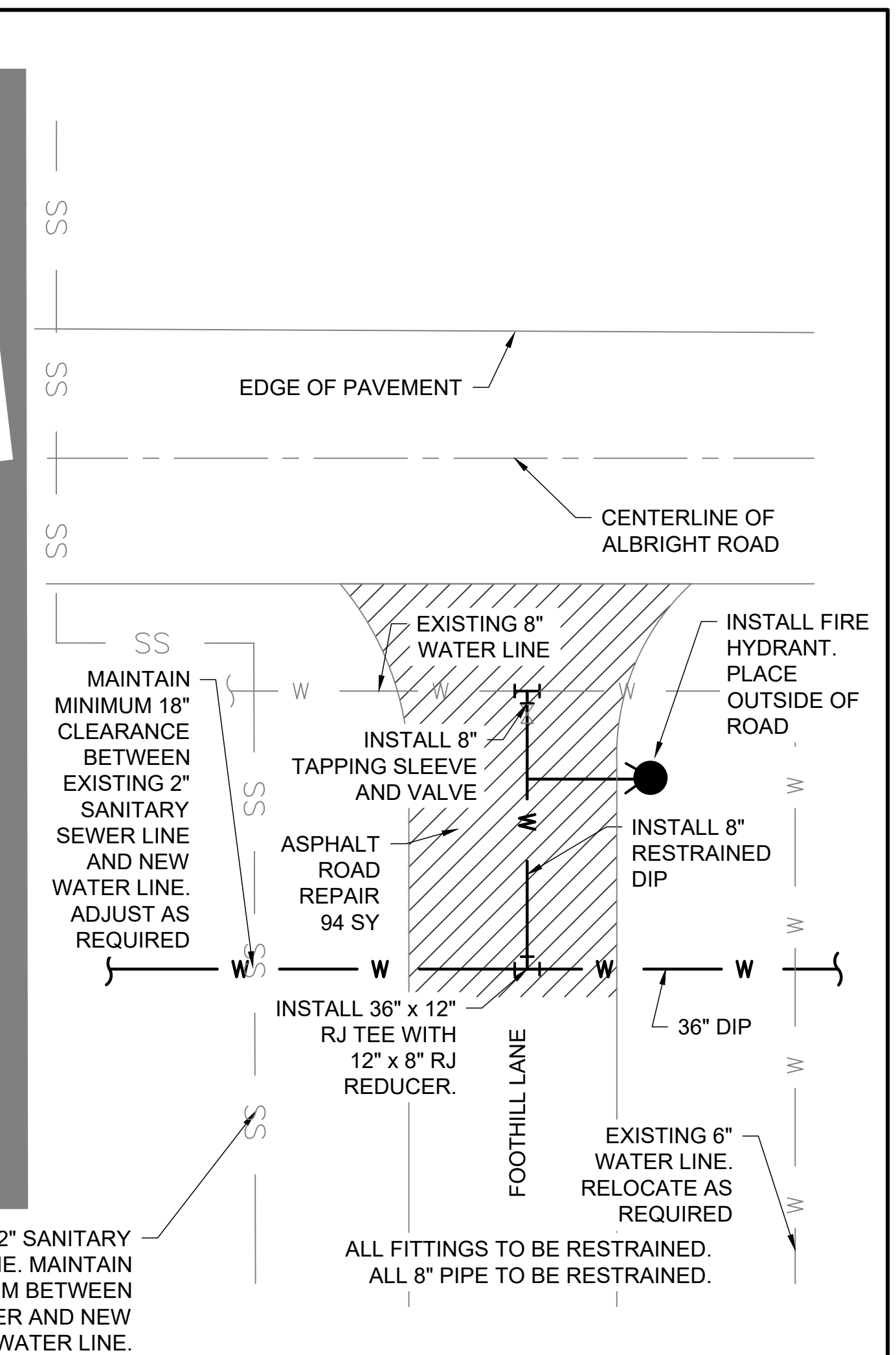
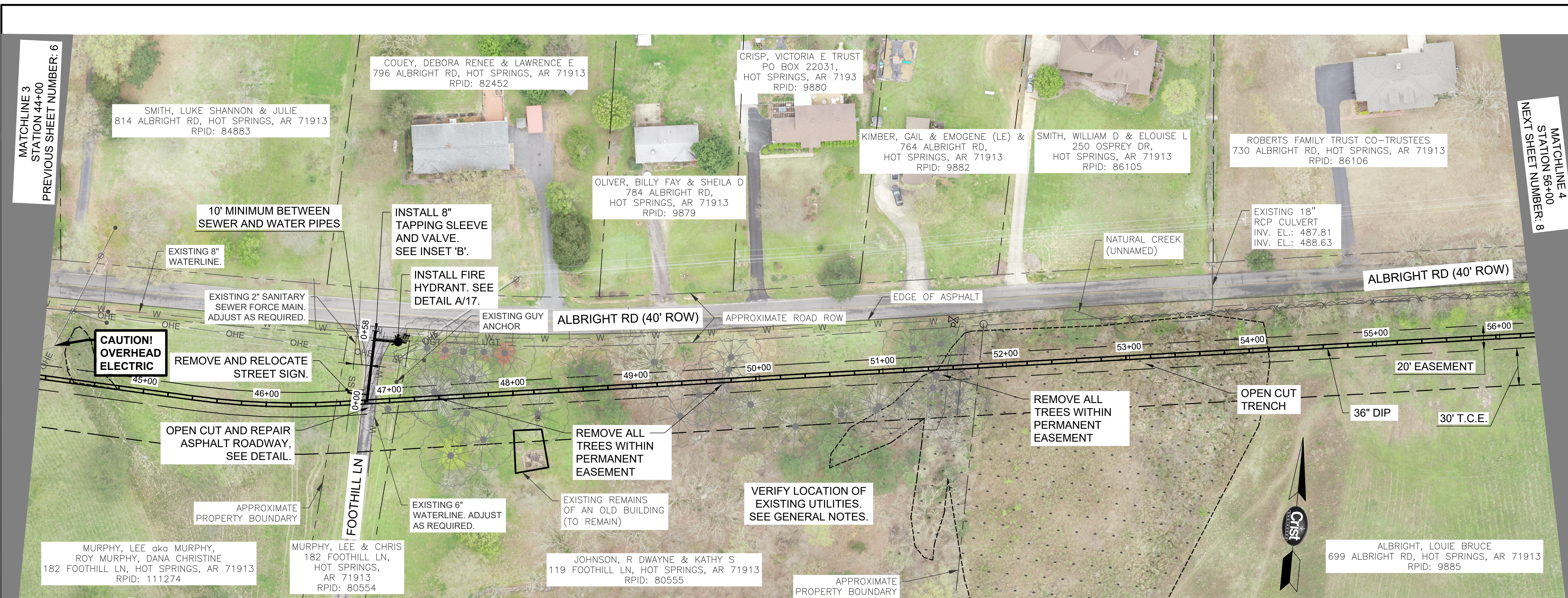
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CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 30+00 TO 44+00

JOB NO. 1926
 SHEET NO. 6

P:\2019 Projects\1926 - CHS Lake Ouachita Water Supply - Raw & Finished Lines\10 - Finished Water Line\1926 - Contract A\06 - CADD\05 - Finished Water Line\1926 - Contract A - Finished Water Plan & Profile.dwg 8/19/2020 3:32:59 PM



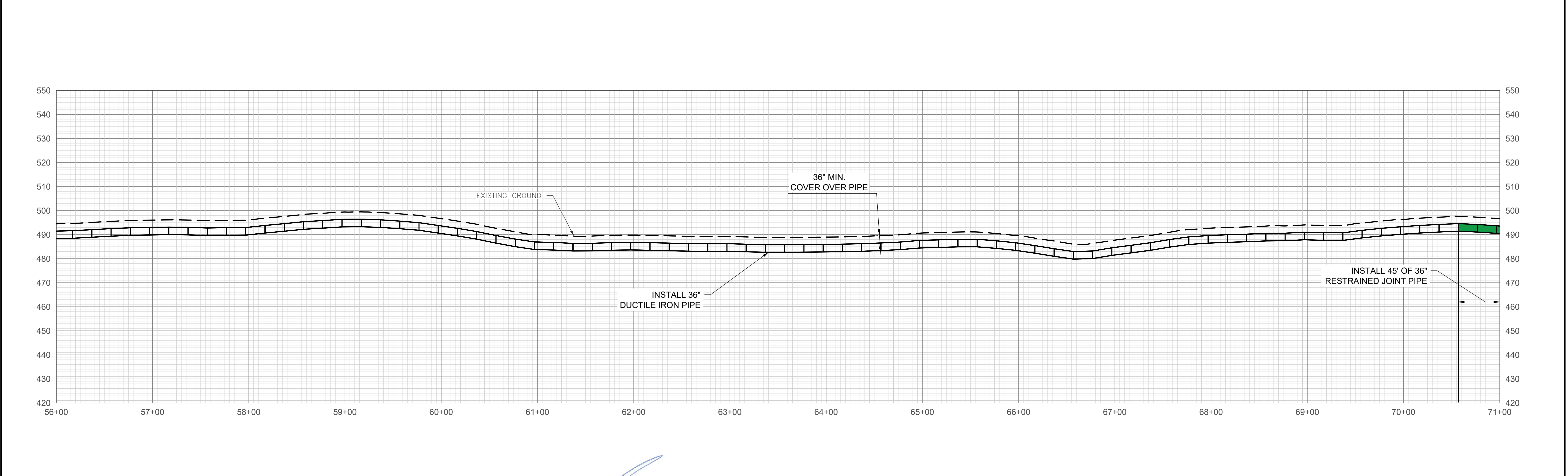
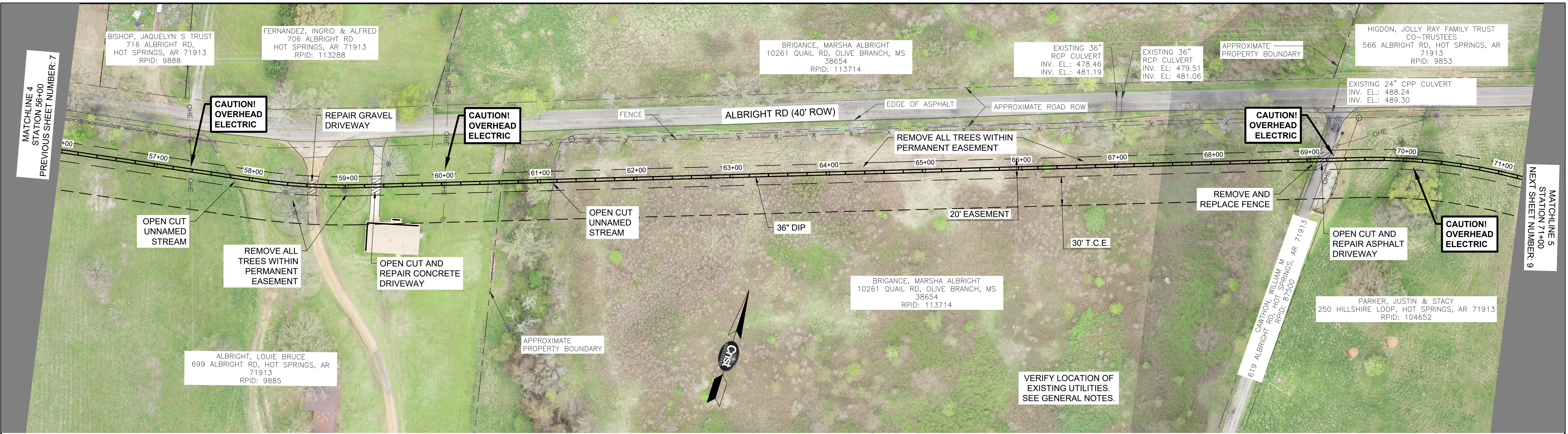
REV. NO.	DATE	DRWN	CHKD	REMARKS

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LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 44+00 TO 56+00

JOB NO.
 1926
 SHEET NO.
 7



REV. NO.	DATE	DRWN	CHKD	REMARKS

CORPORATE REGISTRATION
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CONSULTING ENGINEERS
No. 91
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7996
VANLAND, INGHAM

0 20'
1" = 20'-0" (VERT)
0 50'
1" = 50'-0" (HORIZ)

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: JDH
DRAFTED: WRC/JDH
CHECKED: KDV
DATE: AUG 2020

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CONSULTING ENGINEERS

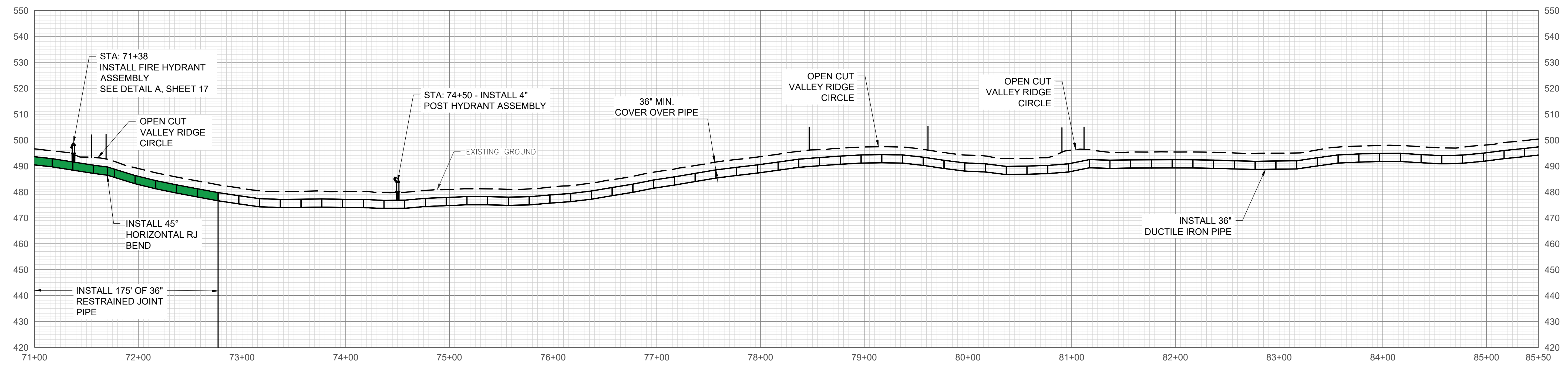
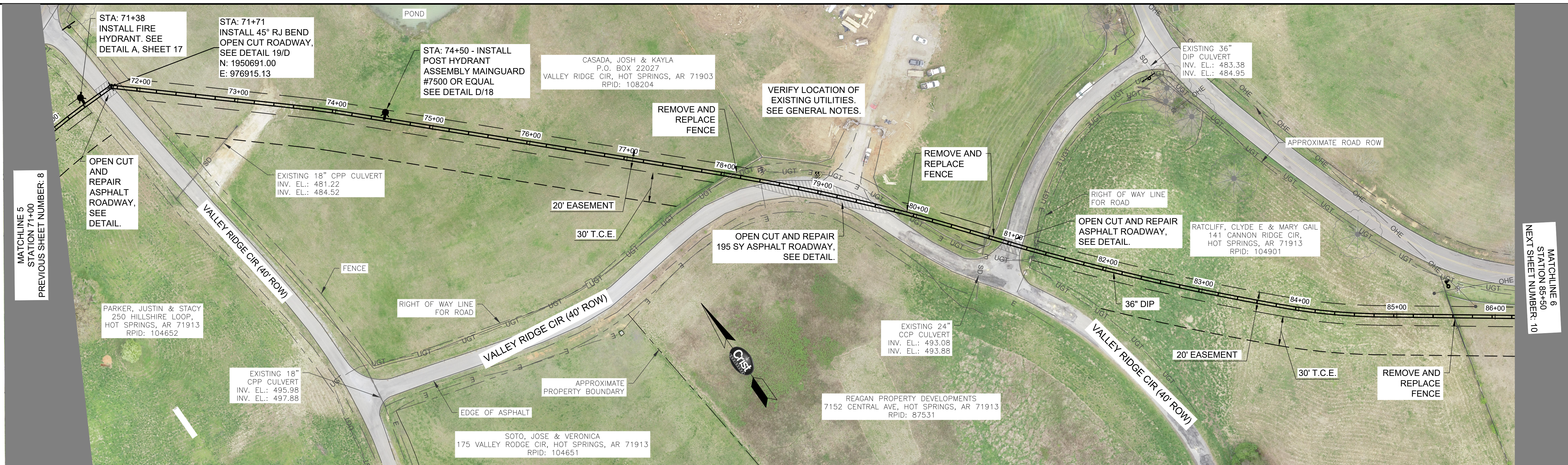
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CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT

FINISHED WATER TRANSMISSION PIPELINE
CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
PLAN & PROFILE STA. 56+00 TO 71+00

JOB NO.	1926
SHEET NO.	8



REV. NO.	DATE	DRWN	CHKD	REMARKS

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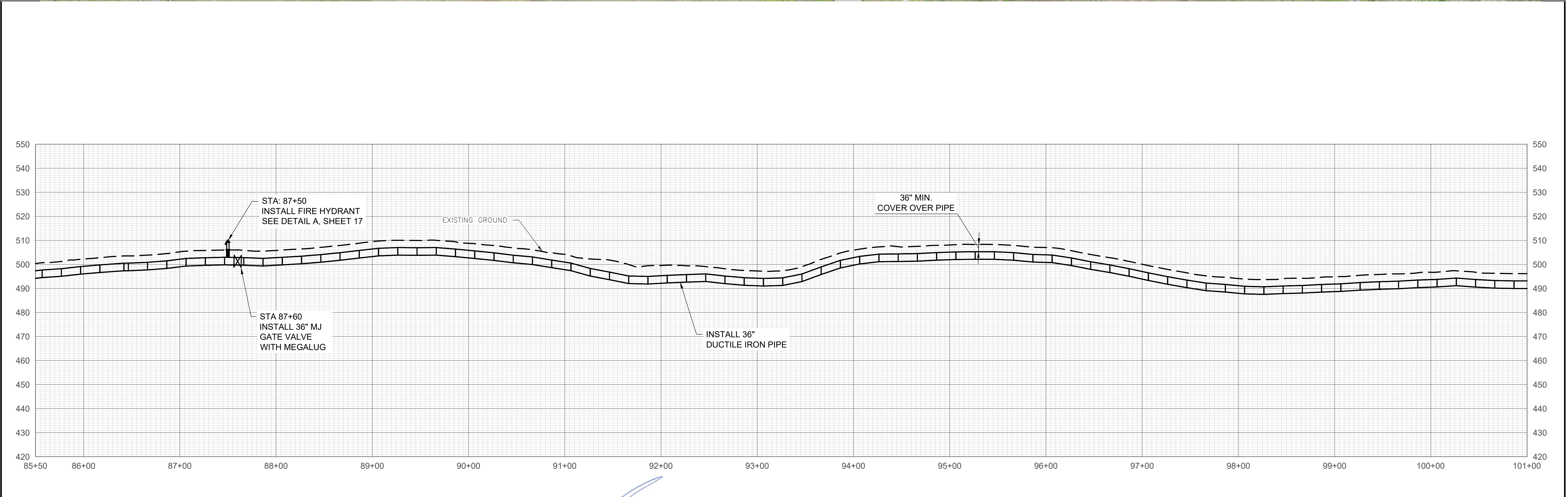
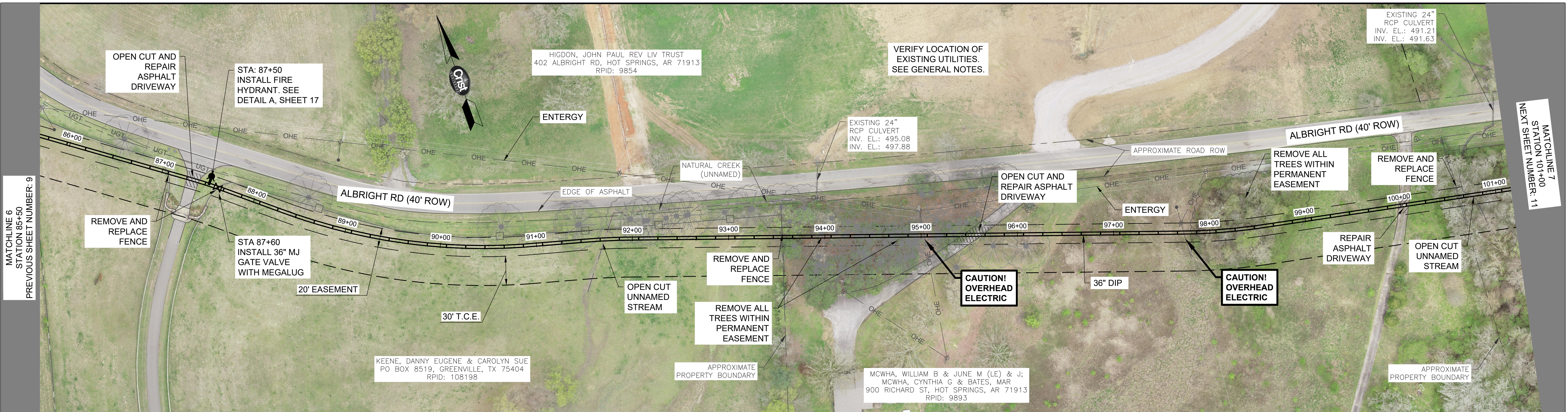
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CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT

FINISHED WATER TRANSMISSION PIPELINE
CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
PLAN & PROFILE STA. 71+00 TO 85+50

JOB NO.	1926
SHEET NO.	9



REV. NO.	DATE	DRWN	CHKD	REMARKS

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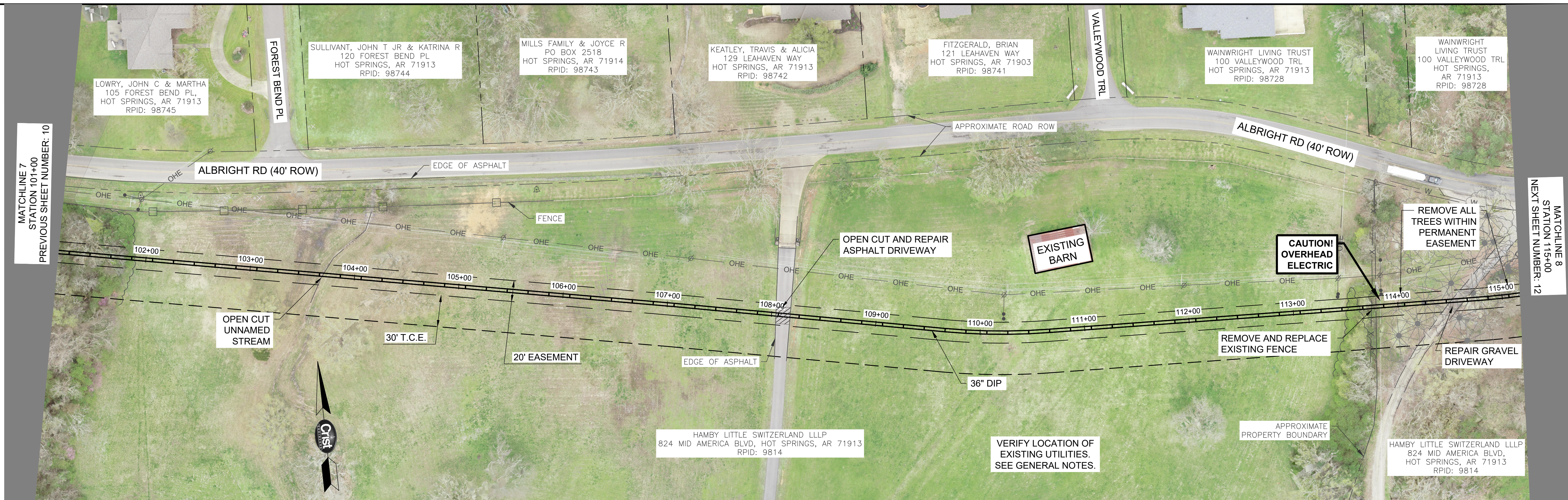
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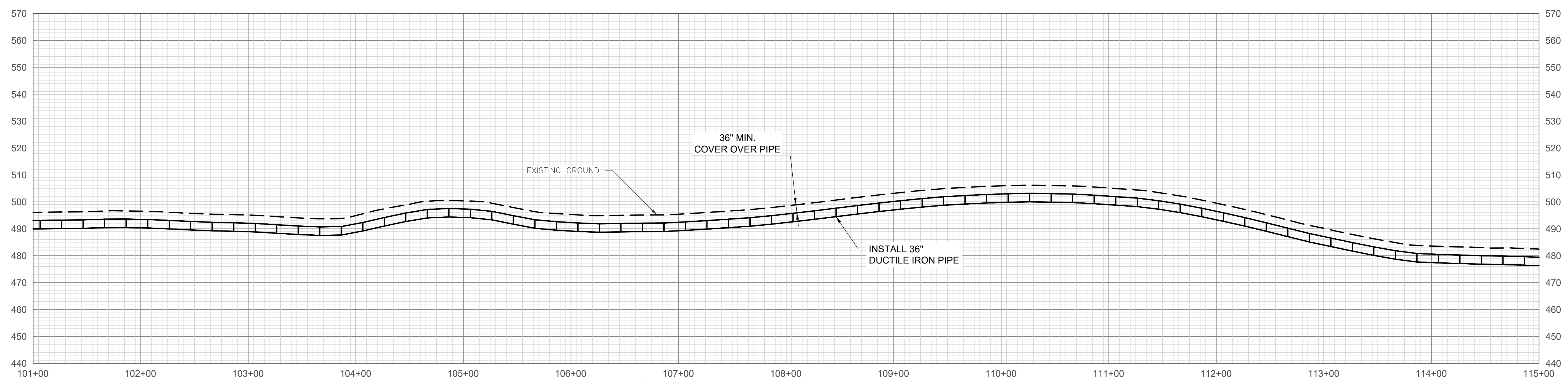
GARLAND COUNTY, ARKANSAS
CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 85+50 TO 101+00

JOB NO.	1926
SHEET NO.	10



MATCHLINE 7
STATION 101+00
PREVIOUS SHEET NUMBER: 10

MATCHLINE 8
STATION 115+00
NEXT SHEET NUMBER: 12



REV. NO.	DATE	DRWN	CHKD	REMARKS

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

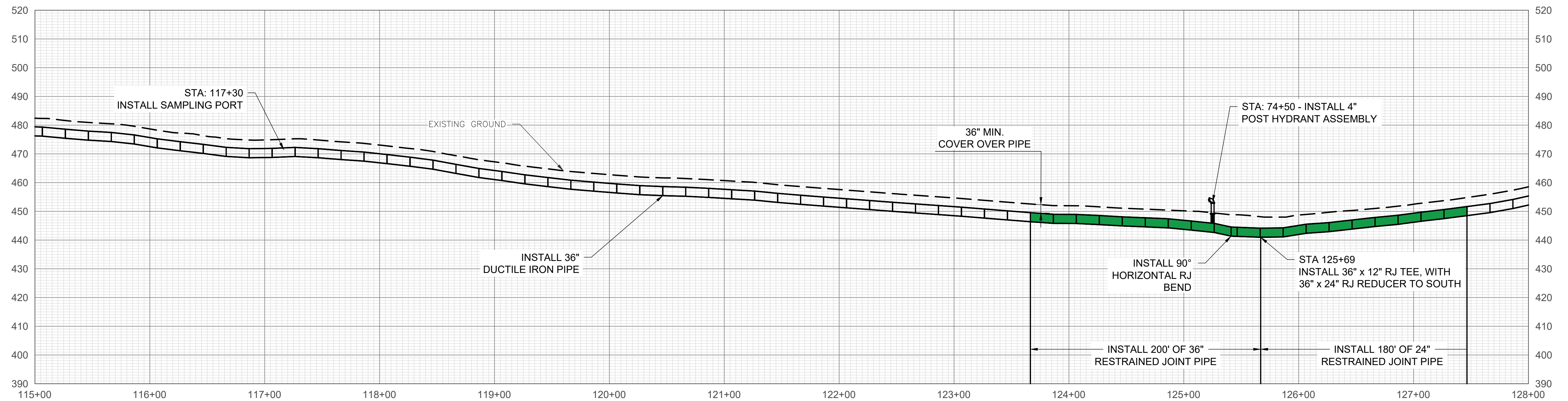
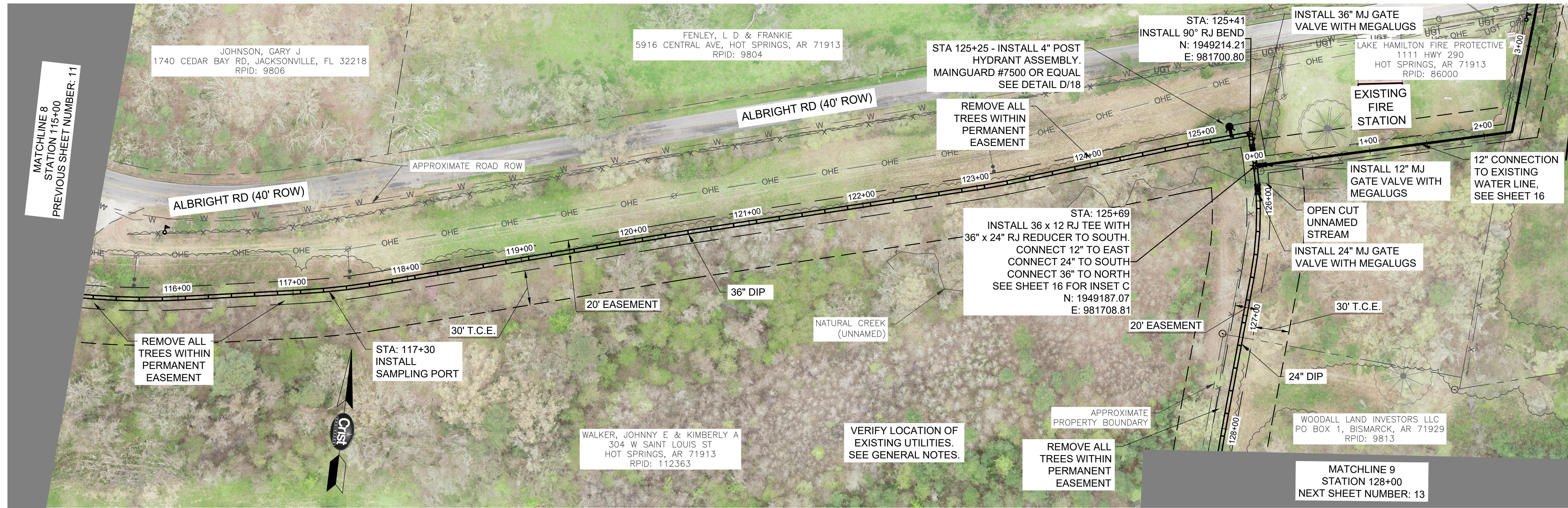
DESIGNED: JDH
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 CHECKED: KDV
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CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 101+00 TO 115+00

JOB NO.
1926
 SHEET NO.
11



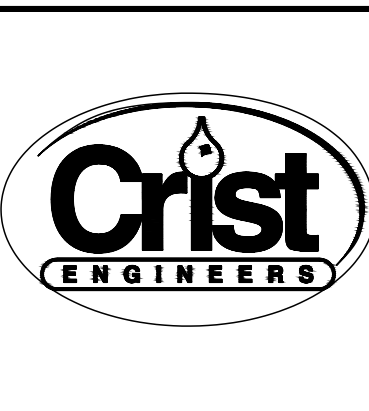
REV. NO.	DATE	DRWN	CHKD	REMARKS

REGISTERED PROFESSIONAL ENGINEER
No. 7996
KRYSTINA D. VANLANDINGHAM

REGISTERED PROFESSIONAL ENGINEER
No. 7996
KRYSTINA D. VANLANDINGHAM

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

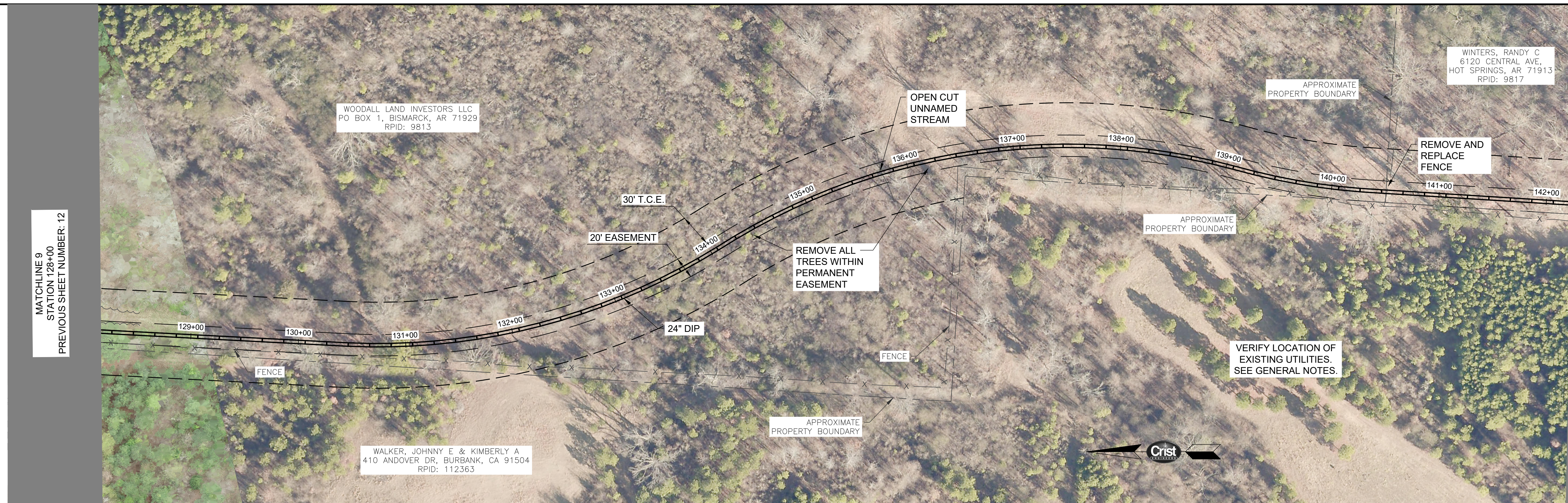
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 CHECKED: KDV
 DATE: AUG 2020



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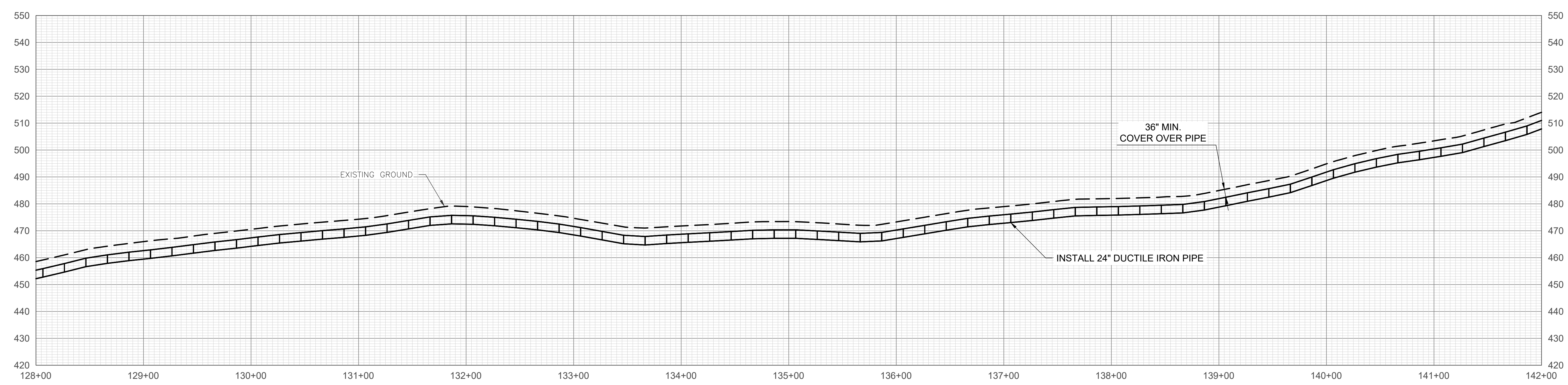
GARLAND COUNTY, ARKANSAS
CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 115+00 TO 128+00

JOB NO.
1926
 SHEET NO.
12



MATCHLINE 9
STATION 128+00
PREVIOUS SHEET NUMBER: 12

MATCHLINE 10
STATION 142+00
NEXT SHEET NUMBER: 14



REV. NO.	DATE	DRWN	CHKD	REMARKS

CORPORATE REGISTRATION
CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
No. 91
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7996
VANLAND, IGHAM

0 20'
1" = 20'-0" (VERT)
0 50'
1" = 50'-0" (HORIZ)

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

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GARLAND COUNTY, ARKANSAS

CITY OF HOT SPRINGS UTILITIES DEPARTMENT

LAKE OUACHITA WATER SUPPLY PROJECT

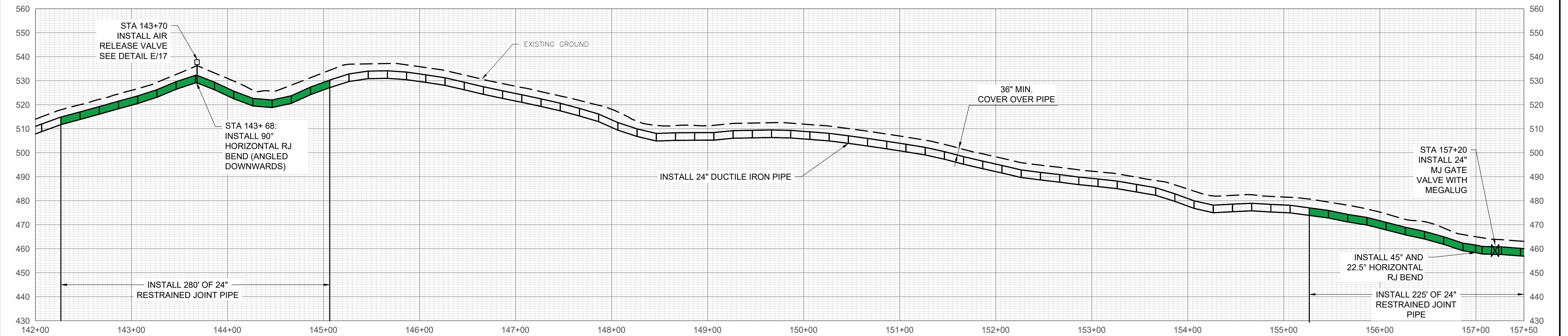
FINISHED WATER TRANSMISSION PIPELINE

CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7

PLAN & PROFILE STA. 128+00 TO 142+00

JOB NO.	1926
SHEET NO.	13

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REV. NO.	DATE	DRWN	CHKD	REMARKS

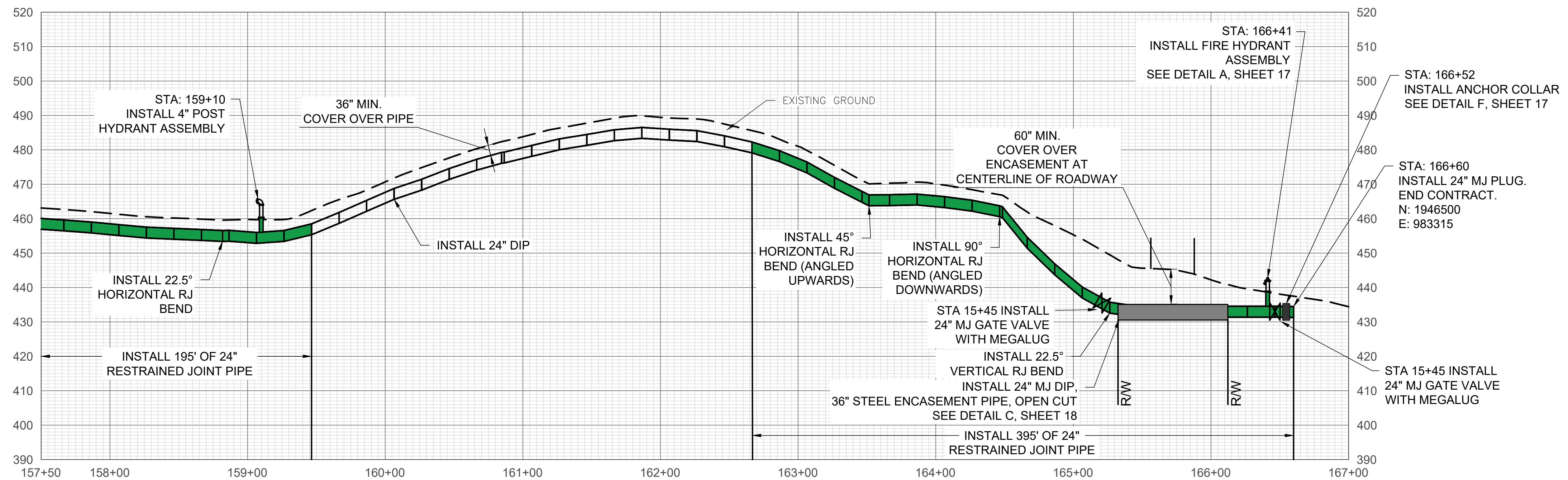
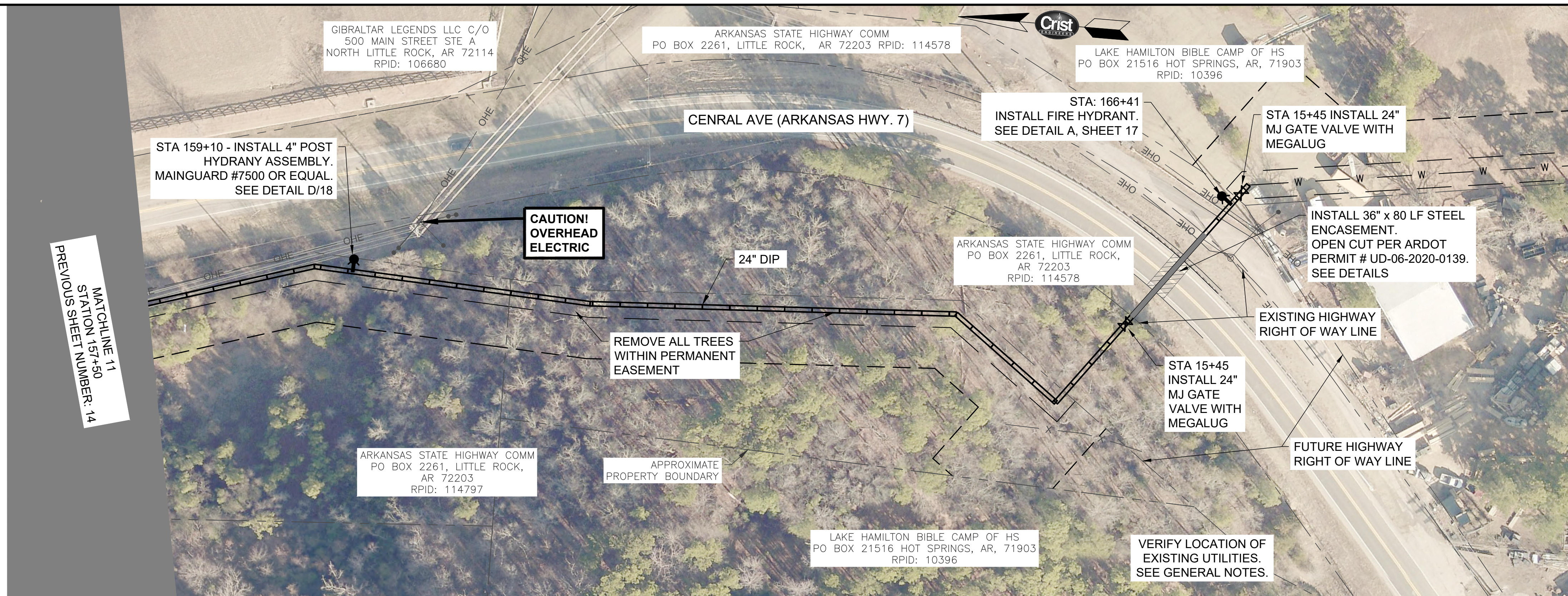
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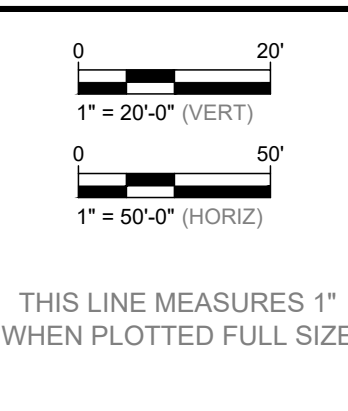
GARLAND COUNTY, ARKANSAS
CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 142+00 TO 157+50

JOB NO.
1926

SHEET NO.
14



REV. NO.	DATE	DRWN	CHKD	REMARKS



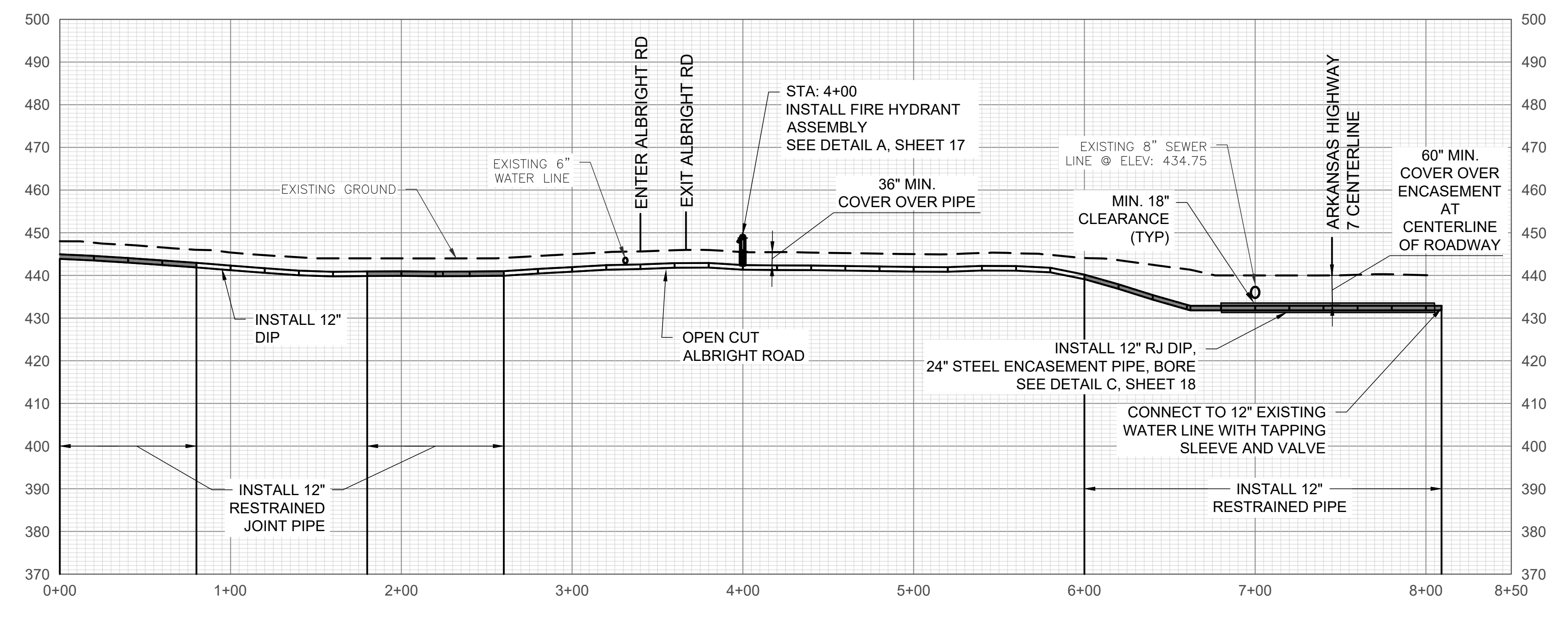
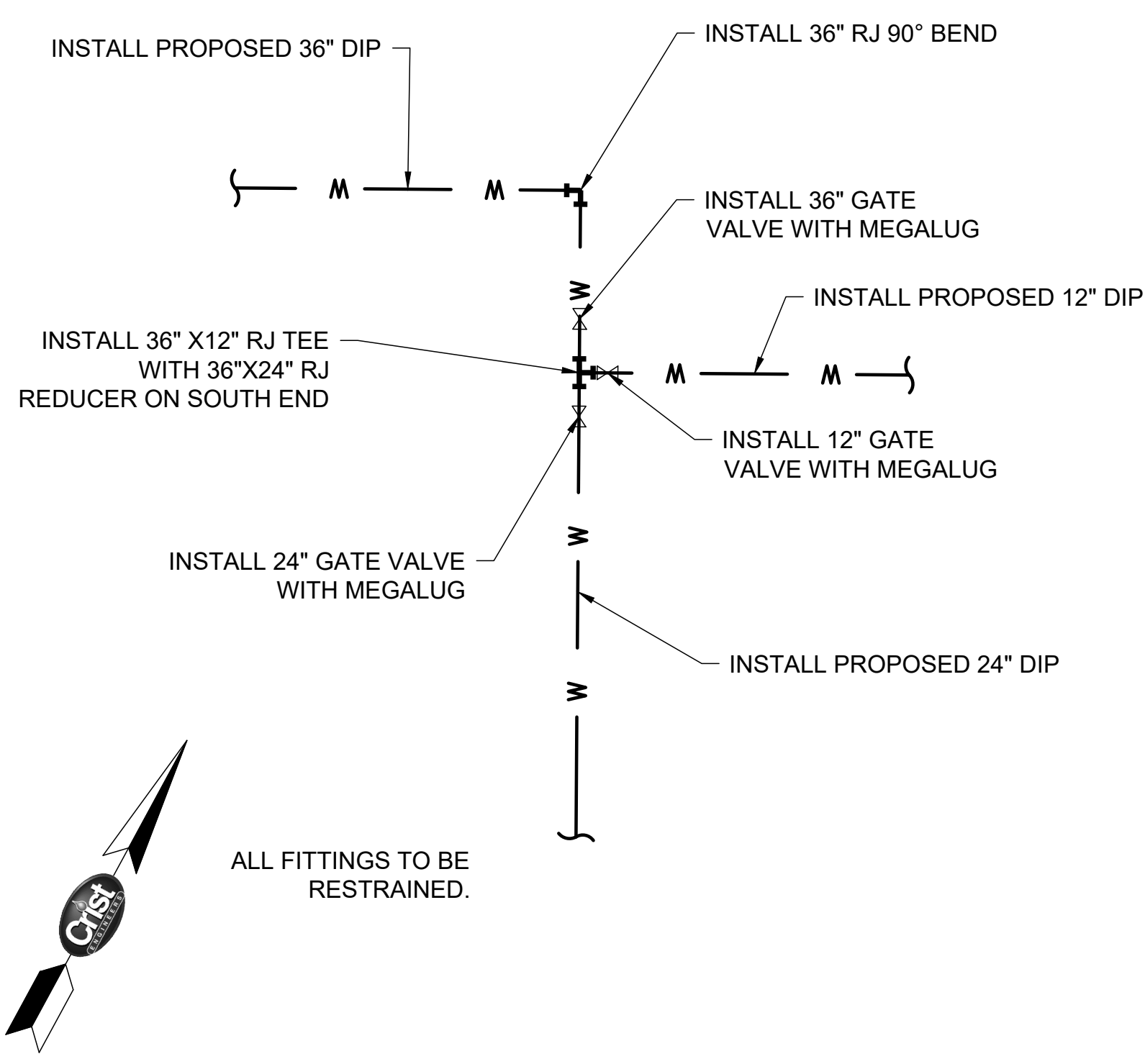
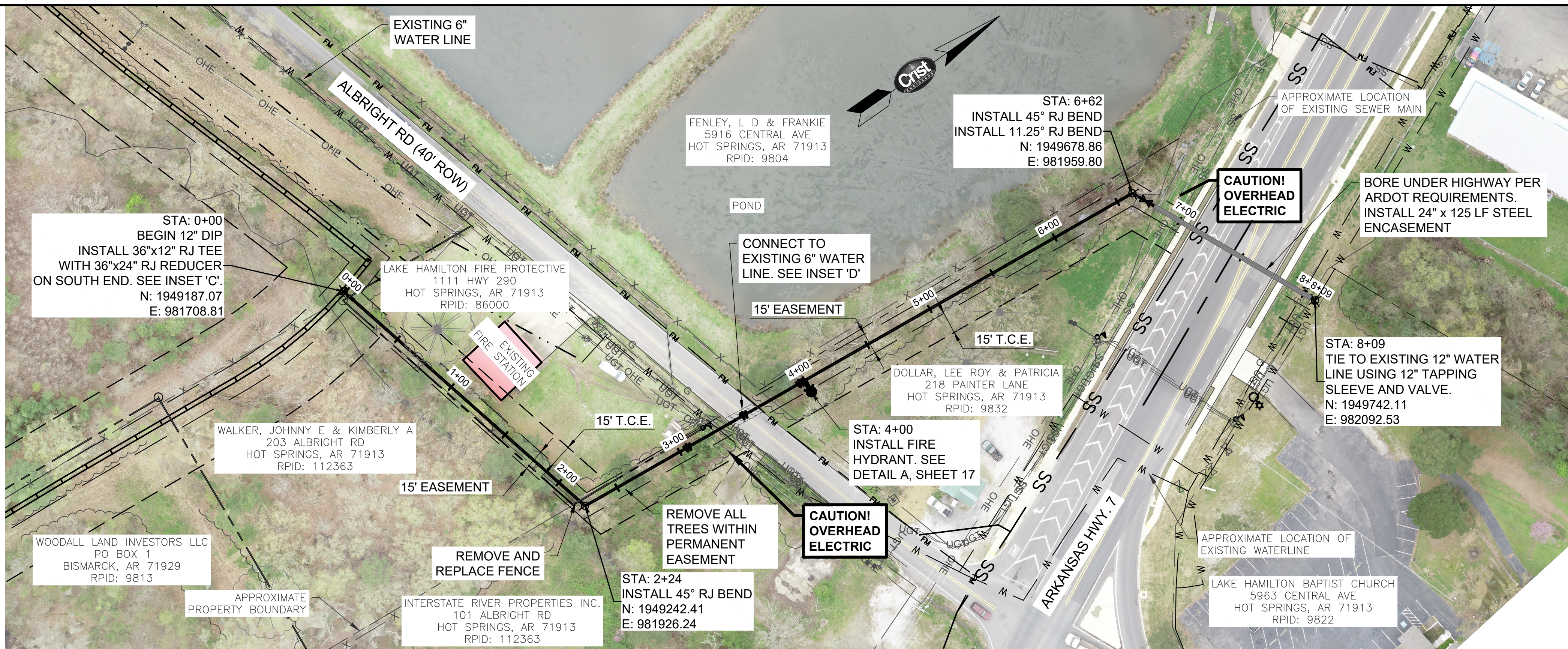
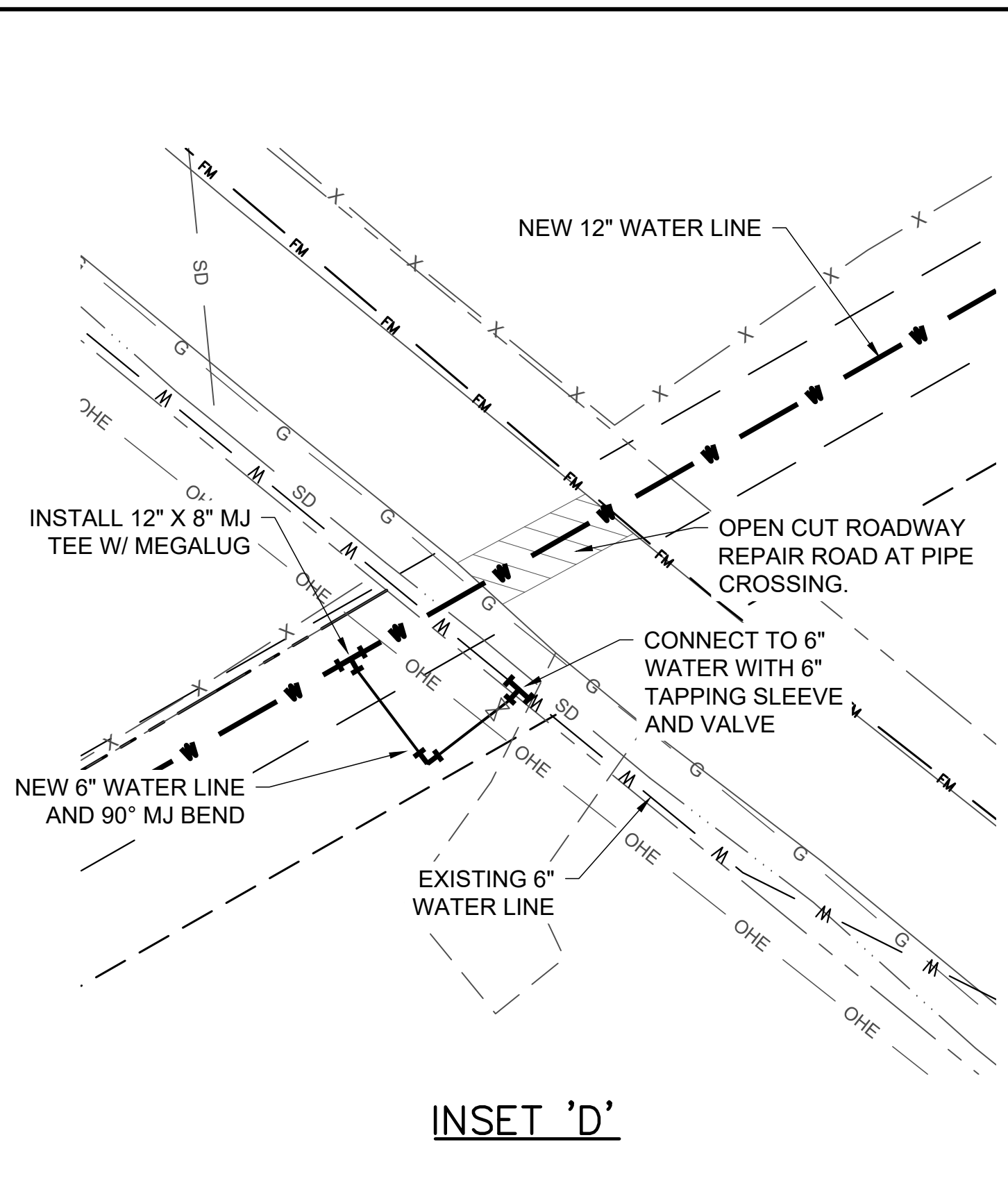
DESIGNED: JDH
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CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 PLAN & PROFILE STA. 157+50 TO 167+00

JOB NO. 1926
 SHEET NO. 15

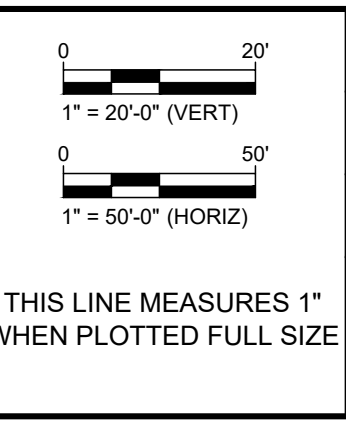
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ARIZONA REGISTERED ENGINEER
No. 91

STATE OF ARIZONA
REGISTERED PROFESSIONAL ENGINEER
No. 7996
VANLAND, IGHAN



DESIGNED: JDH
 DRAFTED: WRC/JDH
 CHECKED: KDV
 DATE: AUG 2020

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CONSULTING ENGINEERS

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CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT 6 - FINISHED WATER PIPELINE HIGHWAY 7 CONNECTION LINE
 PLAN & PROFILE STA. 0+00 TO 8+09

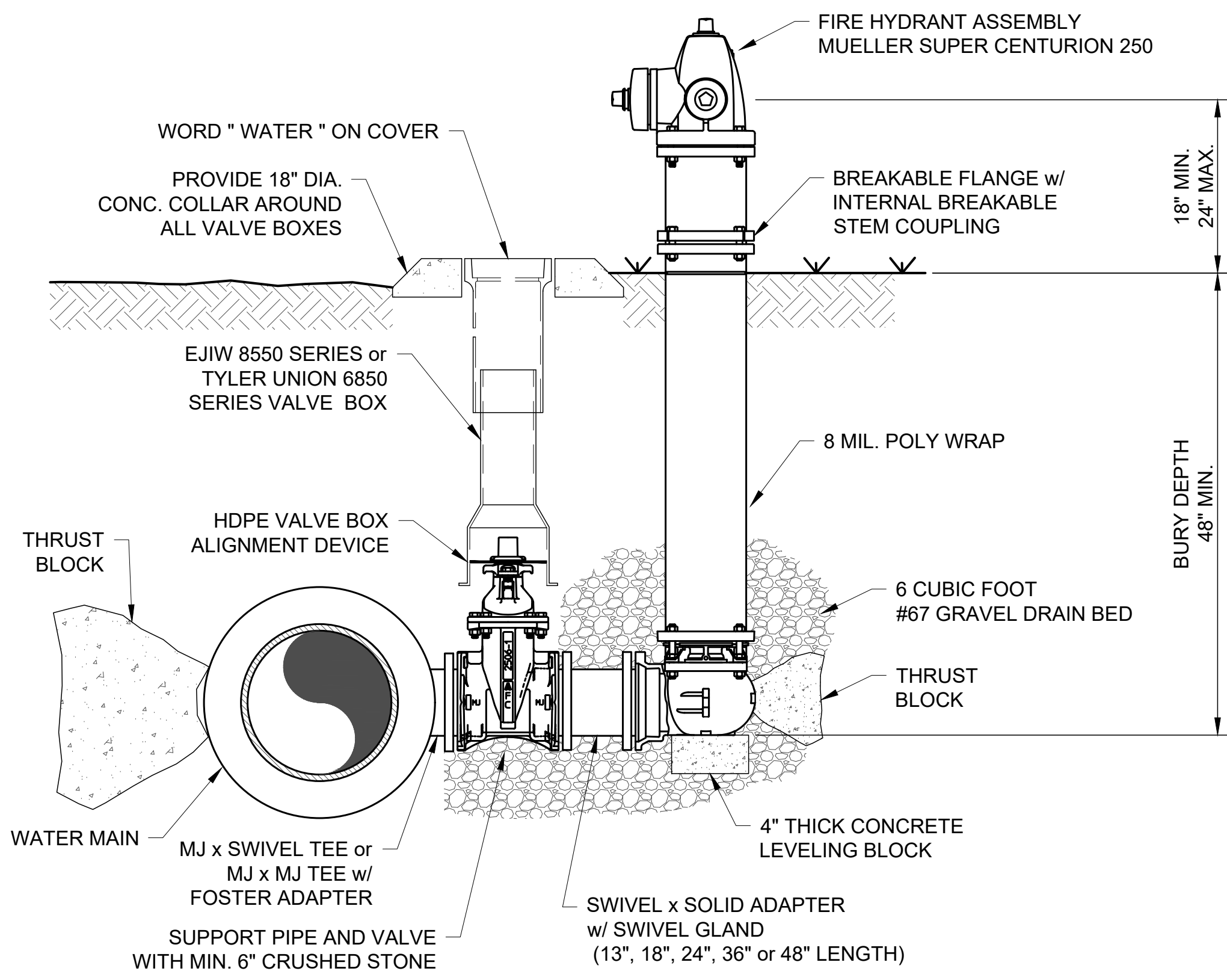
JOB NO.
1926

SHEET NO.
16

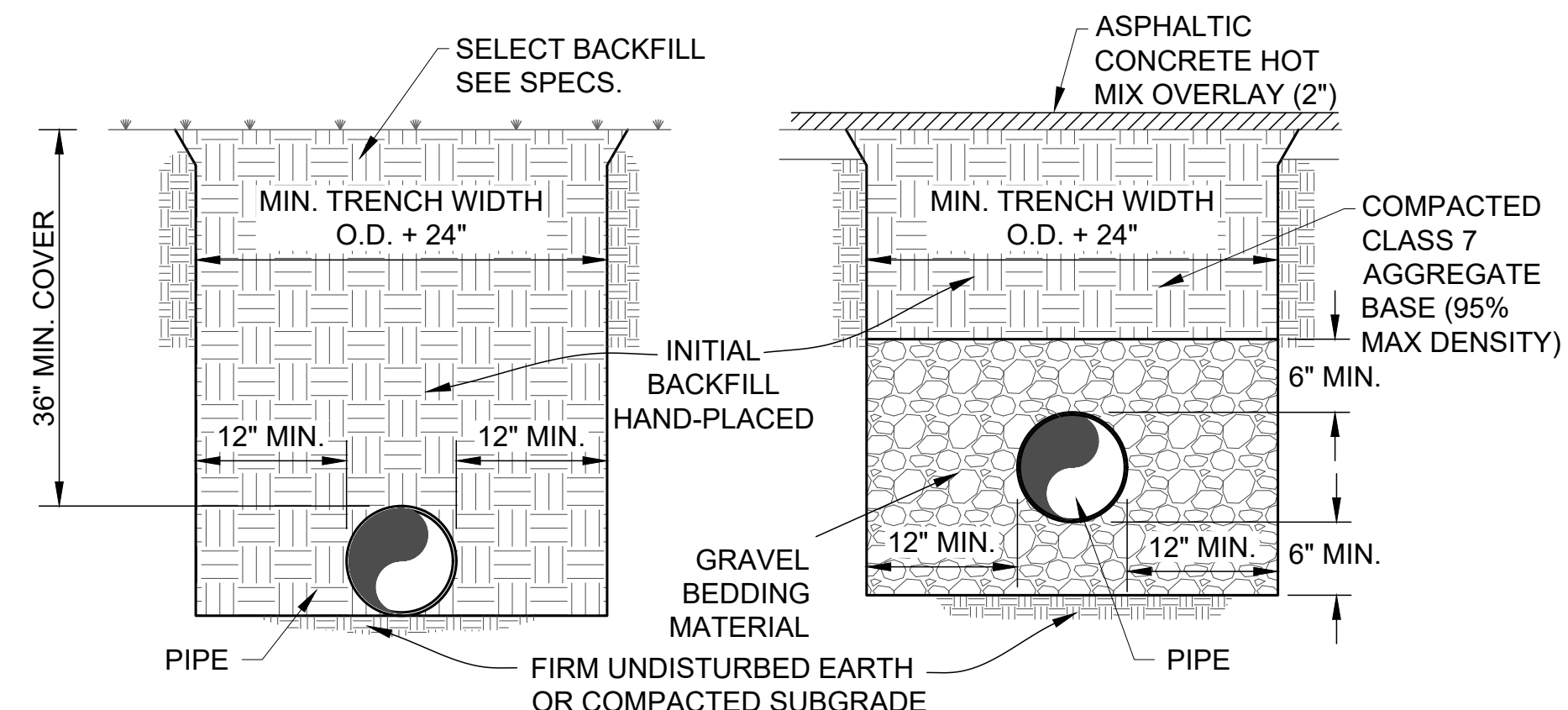
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- NOTES:**
1. THE 6" GATE VALVE SHALL BE POSITIVELY RESTRAINED TO THE MAIN BY THE USE OF EITHER A SWIVEL TEE OR FOSTER ADAPTER.
 2. FIRE HYDRANTS SHALL BE DESIGNED FOR A MINIMUM 48" BURY.
 3. BURY LINE OF HYDRANT SHALL BE NO LESS THAN THE PROPOSED FINISHED ELEVATION OF BACK OF CURB, OR SIDEWALK, WHICHEVER IS GREATER.
 4. NO MORE THAN ONE EXTENSION PER HYDRANT.
 5. IF SIDEWALK IS PRESENT, HYDRANT SHALL BE INSTALLED 2' MINIMUM BEHIND THE BACK OF THE SIDEWALK OR CURB. VALVES SHALL BE INSTALLED 1' MINIMUM BEHIND THE BACK OF THE SIDEWALK OR CURB.
 6. DO NOT COVER UP WEEP HOLE WITH CONCRETE.
 7. MJ RETAINER GLANDS ARE REQUIRED FOR ALL FITTINGS.
 8. 6" DUCTILE IRON PIPE IS REQUIRED FOR ALL FIRE HYDRANT LEADS GREATER THAN 48-INCHES FROM THE MAIN VALVE.
 9. AN ADDITIONAL GUARDIAN VALVE IS REQUIRED FOR ALL FIRE HYDRANT LEADS GREATER THAN 30 FEET IN LENGTH.

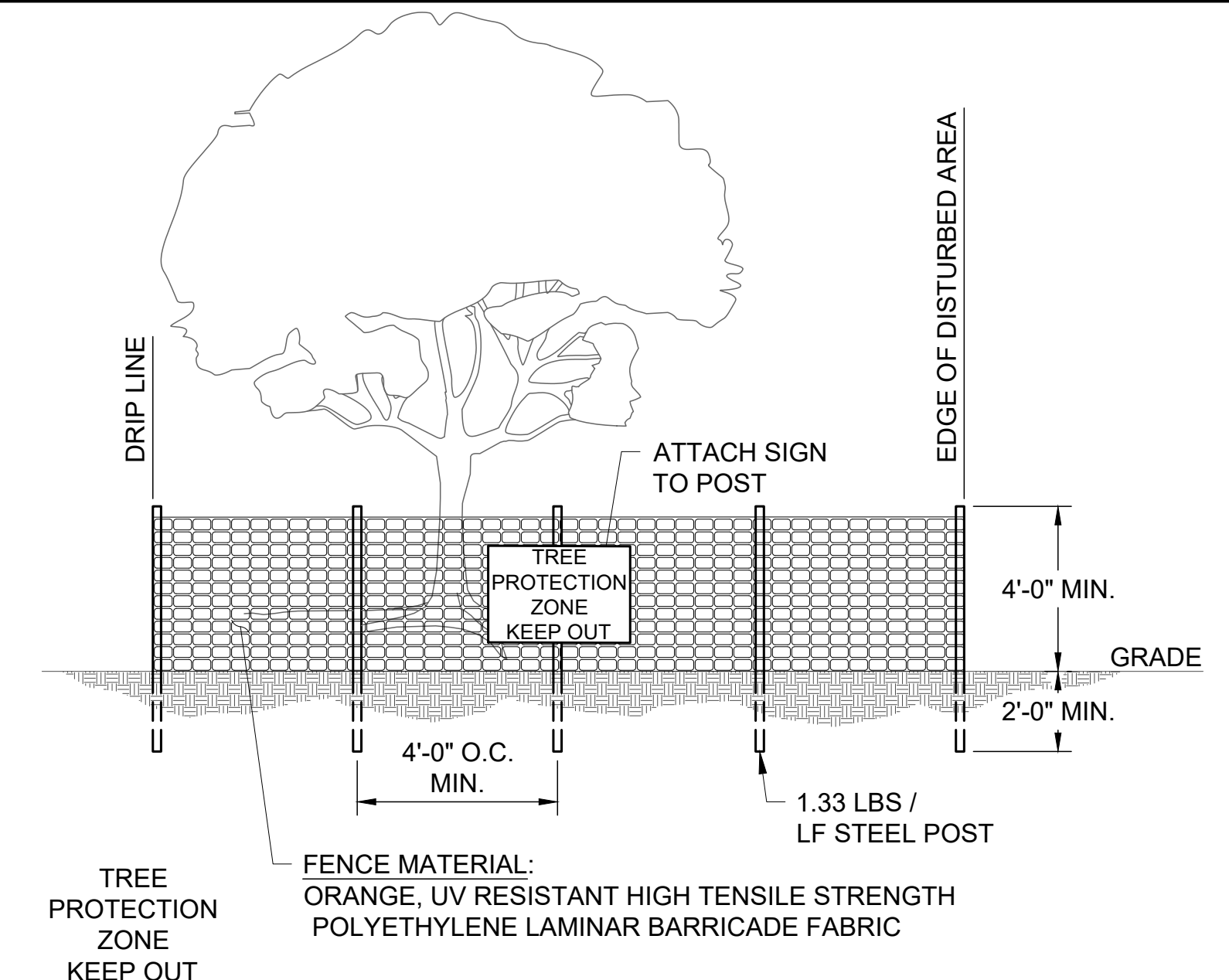


FIRE HYDRANT ASSEMBLY (A)
N.T.S.



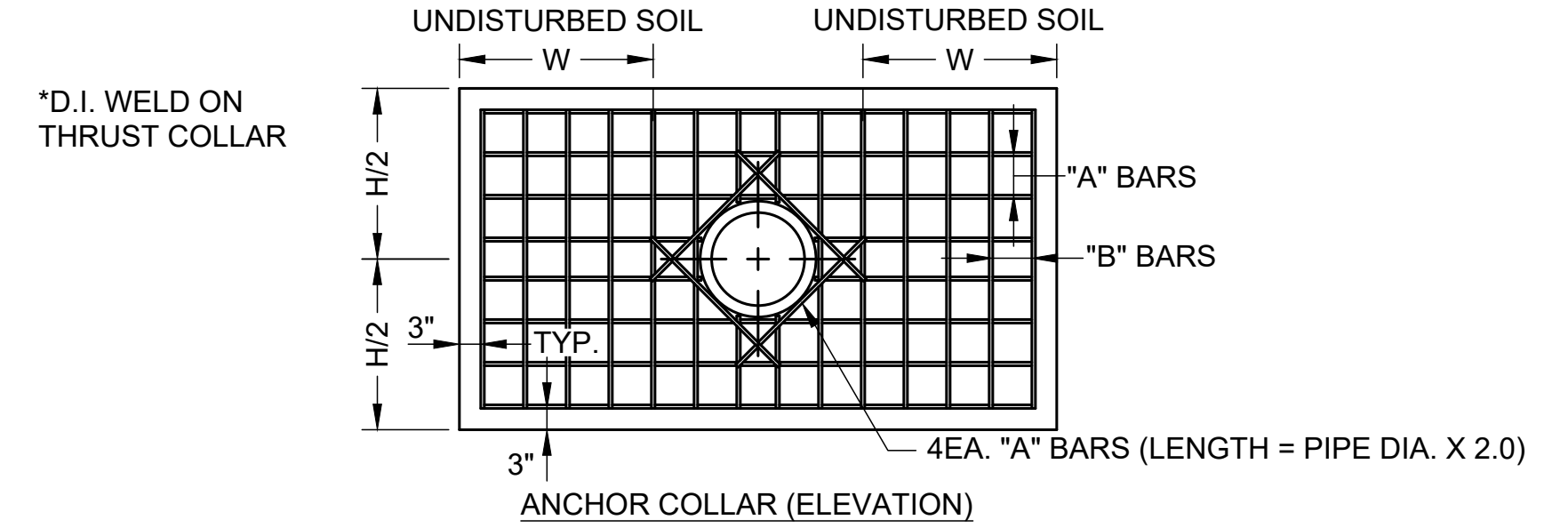
WATER LINE BEDDING - DUCTILE IRON PIPE (B)
N.T.S.

- BEDDING NOTES:**
1. USE "SPECIAL BEDDING" WHERE MUCK OR ROCK IS FOUND IN TRENCH BOTTOM.
 2. GRAVEL BEDDING MATERIAL SHALL BE SAND, WASHED GRAVEL, OR PEA GRAVEL, MAXIMUM SIZE 3/4".
 3. INITIAL BACKFILL BEDDING MATERIAL SHALL BE NON-PLASTIC, NATIVE, OR BORROWED SOILS.
 4. NO ROCKS LARGER THAN 4" IN DIAMETER IN BACKFILL.



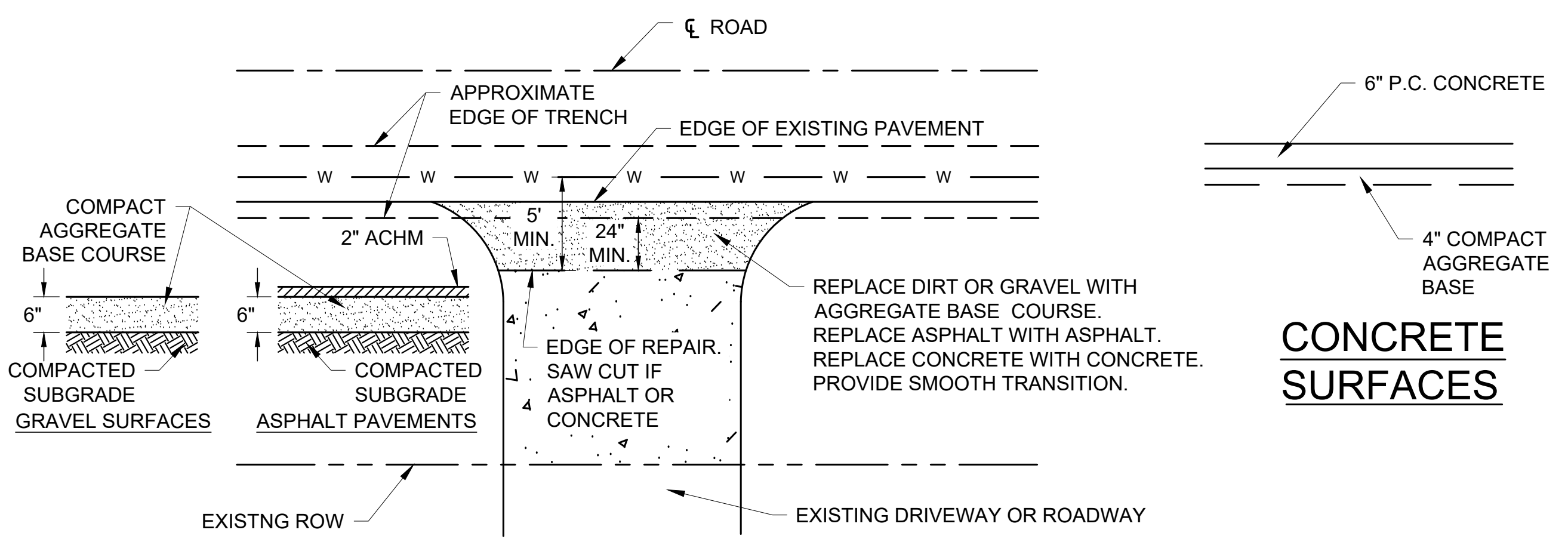
TREE PROTECTION FENCE (C)
N.T.S.

ANCHOR COLLAR SCHEDULE						
PIPE SIZE	* MINIMUM DIMENSIONS *				REINFORCING BARS	
	W	H	T	THRUST COLLAR	"A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	M.J. RETAINER GLAND	#6 @ 6"	#6 @ 6"
8"	1.5'	2.5'	1.0'	M.J. RETAINER GLAND	#6 @ 6"	#6 @ 6"
12"	2.0'	4.0'	1.5'	M.J. RETAINER GLAND	#6 @ 6"	#6 @ 6"
16"	3.0'	4.5'	1.5'	M.J. RETAINER GLAND	#6 @ 6"	#6 @ 6"
20"	3.0'	5.0'	2.0'	M.J. RETAINER GLAND	#6 @ 6"	#6 @ 6"
24"	3.5'	5.5'	2.0'	M.J. RETAINER GLAND	#7 @ 6"	#7 @ 10"
30"	6.5'	6.0'	2.5'	*4.5" X 1.0" WELD-ON	#8 @ 6"	#8 @ 10"
36"	7.0'	7.0'	2.5'	*4.7" X 1.0" WELD-ON	#8 @ 6"	#8 @ 10"



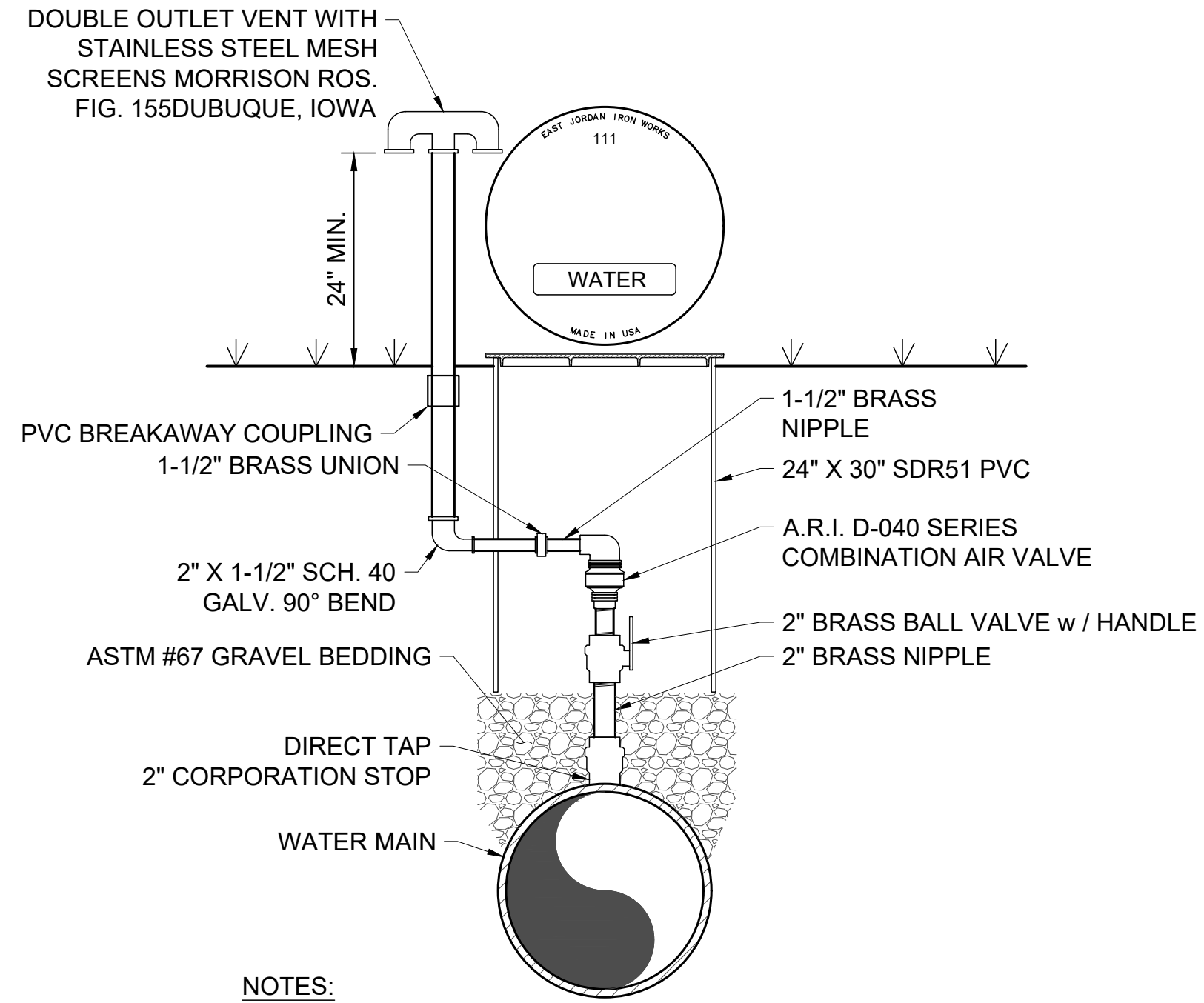
- NOTE:**
- PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE CONCRETE COLLAR IS POURED. 72 HOUR CURE BEFORE PRESSURE APPLIED TO PIPE AND COLLAR.
 - STEEL ANCHOR RING TO BE SHOP WELDED TO PIPE LARGER THAN 24". USE M.J. RETAINER GLANDS FOR D.I. PIPE 24" AND SMALLER.
 - WHEN "T" EXCEEDS 1.5', PLACE SECOND MAT OF REBAR, #6 @ 12" O.C.E.W.

CONCRETE ANCHOR COLLAR (F)
N.T.S.



ASPHALT PAVEMENT OR GRAVEL REPAIR (D)
N.T.S.

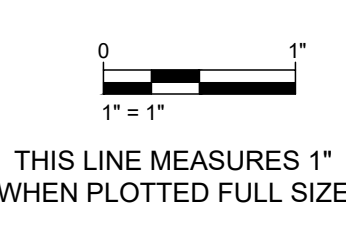
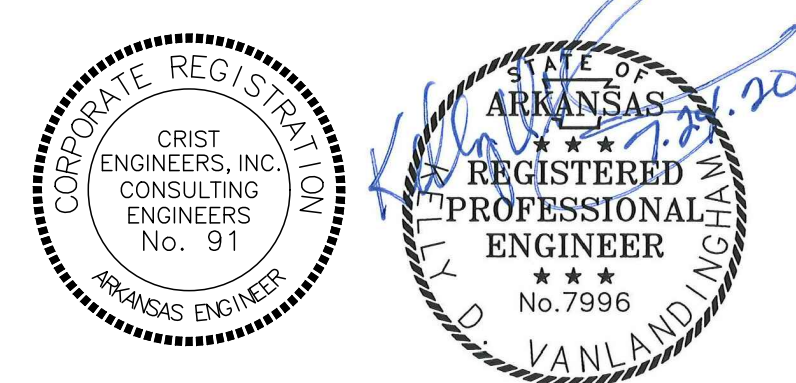
- NOTES:**
1. THIS DETAIL IS FOR REPAIR OF EXISTING DRIVEWAYS AND INTERSECTIONS ONLY.



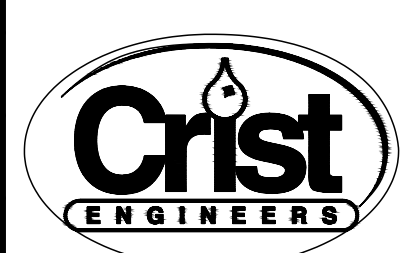
- NOTES:**
1. AIR VALVES SHALL HAVE NPT INLET AND OUTLETS.
 2. TOP OF AIR VALVE SHALL BE MIN. 12" BELOW GROUND.
 3. SEAL WALL PENETRATIONS WITH BUTYL SEALANT.

AIR RELEASE VALVE (E)
N.T.S.

CONCRETE SURFACES



DESIGNED: JDH
 DRAFTED: WRC/JDH
 CHECKED: KDV
 DATE: AUG 2020

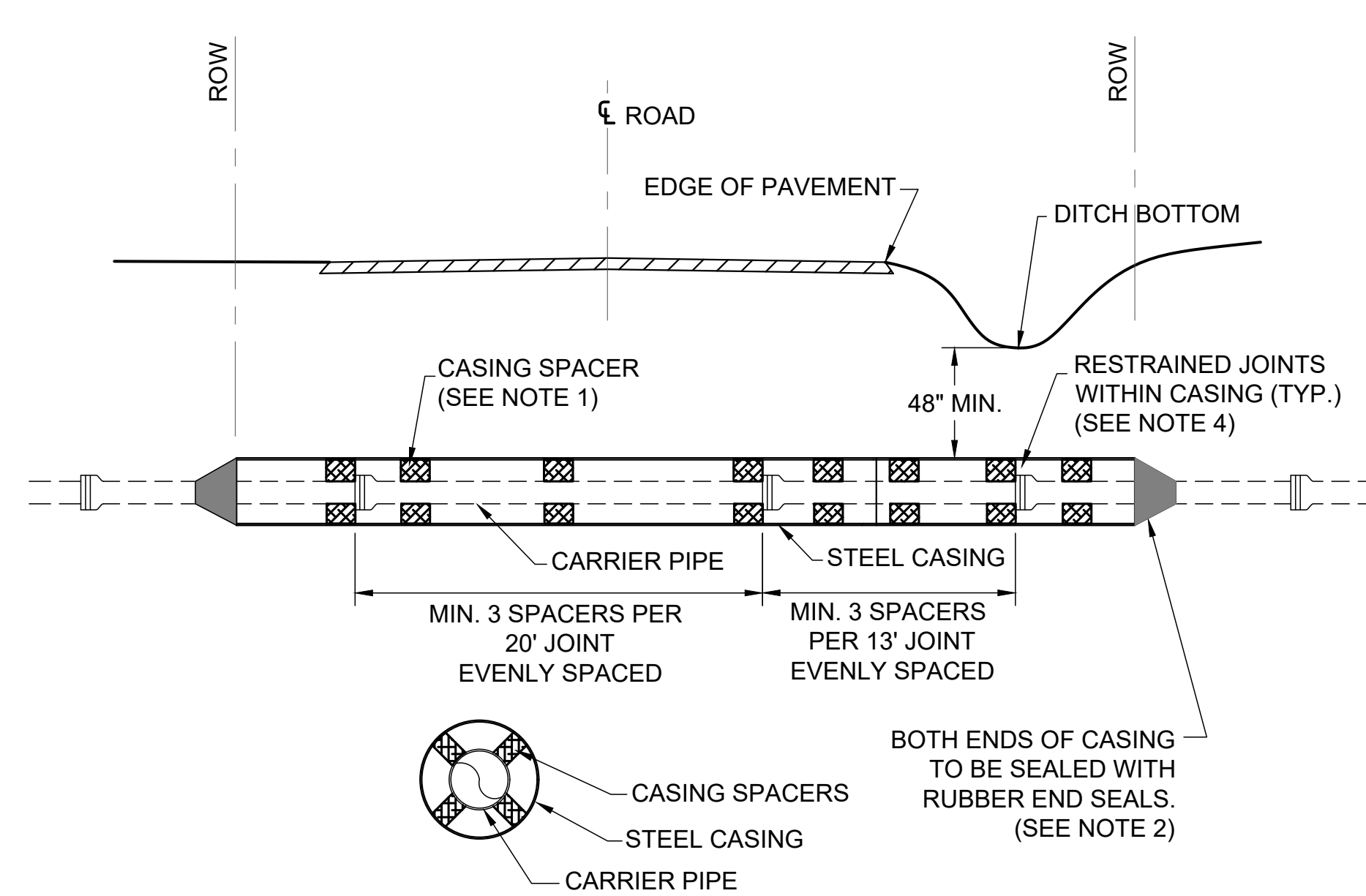


CRIST ENGINEERS, INC.
 CONSULTING ENGINEERS
 205 EXECUTIVE COURT
 LITTLE ROCK, ARKANSAS 72205
 TELEPHONE: (501) 664-1552
 FAX: (501) 664-8579
 WWW.CRISTENGINEERS.COM

GARLAND COUNTY, ARKANSAS
CITY OF HOT SPRINGS UTILITIES DEPARTMENT
LAKE OUACHITA WATER SUPPLY PROJECT
 FINISHED WATER TRANSMISSION PIPELINE
 CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7
 DETAILS

JOB NO. 1926
 SHEET NO. 17

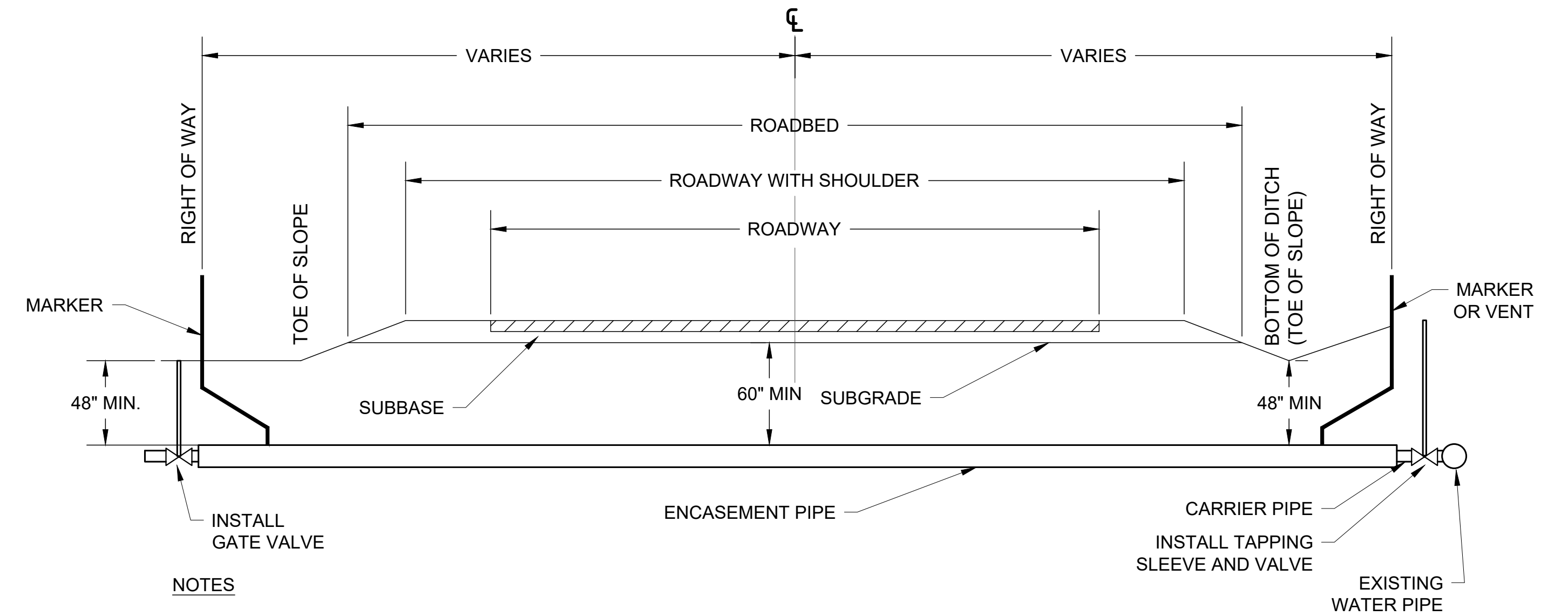
REV. NO.	DATE	DRWN	CHKD	REMARKS



NOTES:

1. PROVIDE CASING SPACERS AS PER SPECIFICATIONS.
2. PROVIDE END SEALS
3. ONE CASING SPACER SHALL BE PLACED AT THE INSERTION STOP LINE TO RESIST OVER INSERTION.
4. RESTRAINED JOINT PIPE SHALL BE USED FOR ALL JOINTS INSIDE THE ENCASEMENT PIPE AND FOR THE FIRST JOINT IN EACH DIRECTION OUTSIDE THE ENCASEMENT PIPE.

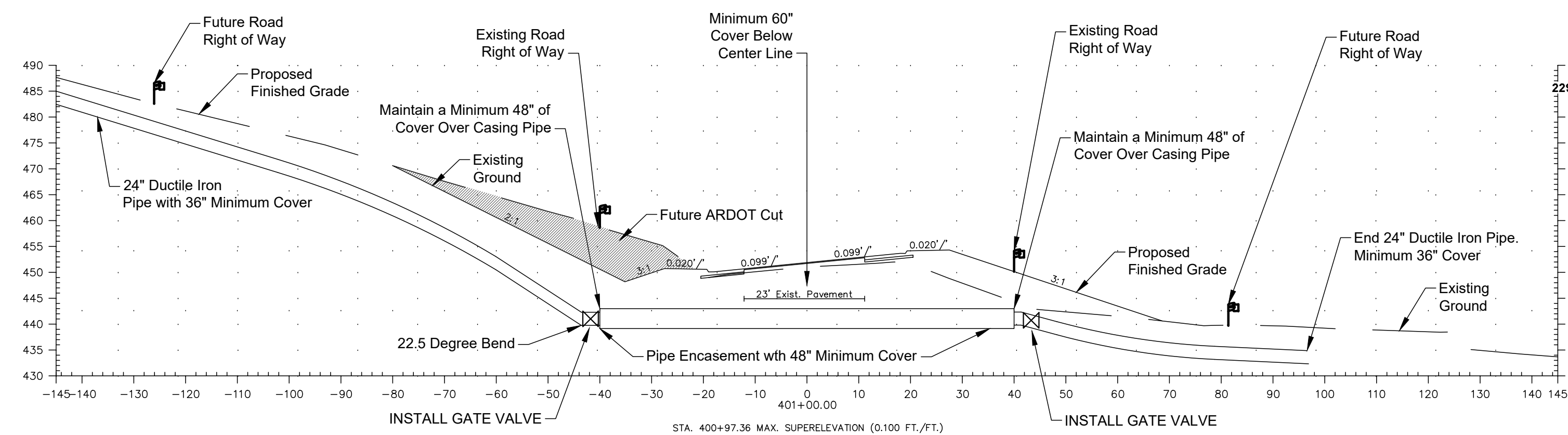
STEEL ENCASEMENT (A)
N.T.S.



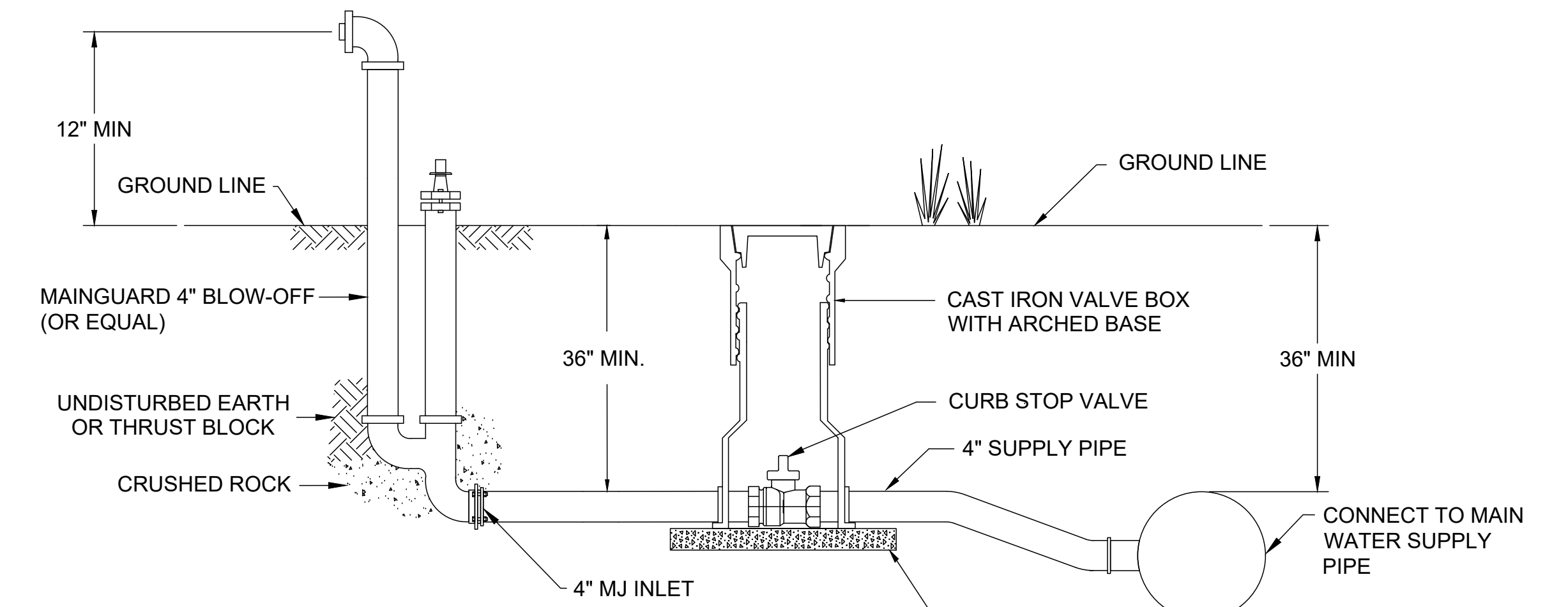
NOTES

1. CASING SHALL EXTEND A MINIMUM OF THREE FEET (3') BEYOND THE FLOW LINE OF PARALLEL DITCHES, TOE OF THE FORESLOPE, OR FACE OF CURB AS APPLICABLE FOR THE HIGHWAY SECTION.
2. THE STRENGTH OF THE ENCASEMENT MATERIAL SHALL EQUAL OR EXCEED STRUCTURAL REQUIREMENTS FOR HIGHWAY DRAINAGE CULVERTS.
3. MARKER: A MARKER BEARING THE UTILITY OWNERS NAME SHALL BE PLACED AT EACH RIGHT OF WAY LINE WHERE CROSSED (NOT REQUIRED FOR SERVICE LINES).
4. OWNERSHIP OF THE LINES SHALL BE SHOWN ON VENTS CASING PIPE SHALL BE SEALED AT THE ENDS WITH A FLEXIBLE MATERIAL.

HIGHWAY BORE DETAIL (B)
N.T.S.



HIGHWAY OPEN CUT DETAIL (C)
N.T.S.



POST HYDRANTS SHALL BE NON-FREEZING, SELF DRAINING TYPE WITH A 36" DEPTH OF BURY. BLOW-OFFS WILL BE FURNISHED WITH A 4" INLET, A NON-TURNING OPERATING ROD AND SHALL OPEN TO THE LEFT. THE OPERATING DRIVE MECHANISM SHALL BE OF BRONZE-TO-BRONZE DESIGN WITH AN ALUMINUM PLUNGER AND BE SERVICEABLE FROM ABOVE GRADE WITH NO DIGGING. UNITS SHALL OPERATE WITH A STANDARD 2" GATE VALVE WRENCH. WHEN OPEN, VALVE SHALL BE 100% UNOBSTRUCTED AND DRAIN HOLE SHALL BE COVERED. THE OUTLET SHALL BE 4" FIP WITH PLUG AND EXTEND A MINIMUM OF 12" ABOVE THE GROUND, AS MANUFACTURED BY KUPFERLE FOUNDRY CO., ST. LOUIS, MO. MODEL #7500, OR APPROVED EQUAL.

POST HYDRANT (D)
N.T.S.

REV. NO.	DATE	DRWN	CHKD	REMARKS

REGISTERED PROFESSIONAL ENGINEER
No. 7996
K. D. VANLANDINGHAM

THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED:	JDH
DRAFTED:	WRC/JDH
CHECKED:	KDV
DATE:	AUG 2020

CRIST ENGINEERS, INC.
CONSULTING ENGINEERS

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GARLAND COUNTY, ARKANSAS

CITY OF HOT SPRINGS UTILITIES DEPARTMENT

LAKE OUACHITA WATER SUPPLY PROJECT

FINISHED WATER TRANSMISSION PIPELINE

CONTRACT A - NEW WATER TREATMENT PLANT TO ARKANSAS HIGHWAY 7

DETAILS II

JOB NO.	1926
SHEET NO.	18

