



EXHIBIT A-6

ADDENDUM 1-3

This Addendum forms a part of the Contract documents and modifies the original Bidding Documents.

INCLUSION OF PLAN SET

Item No. AD1-1: Inclusion of Plan Set

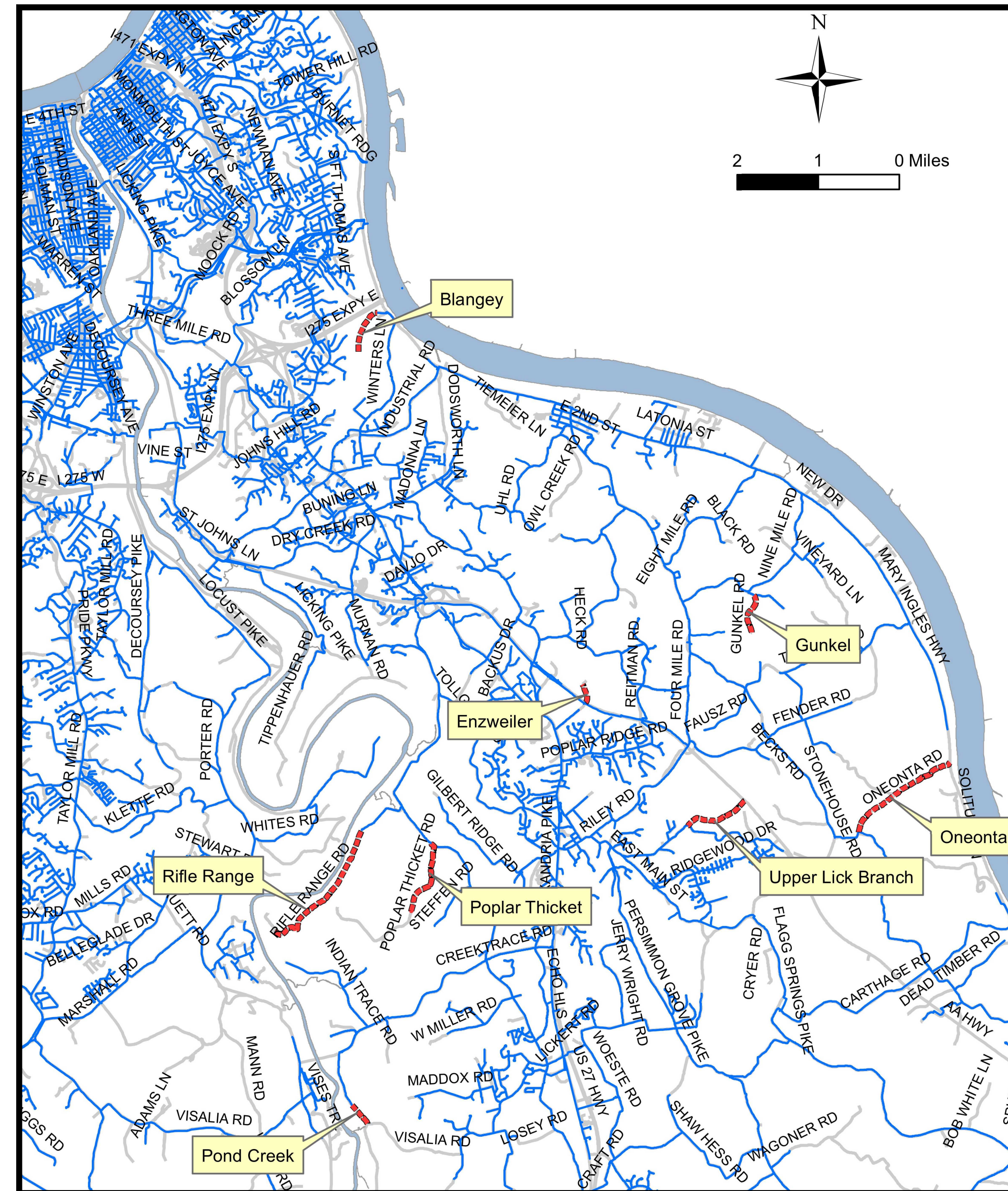
The plans for the project were inadvertently excluded from the project Bidding Documents upload. The enclosed Drawings consisting of a cover sheet and sheets numbered **C-000** through **C-577** inclusive, with each sheet bearing the general title "Sub-District HB Water Main Extension Project", are hereby incorporated into the Bidding and Contract Documents.

END ADDENDUM NO. 1

SUBDISTRICT HB WATER MAIN EXTENSION PROJECT

CAMPBELL COUNTY, KENTUCKY

LEGEND	
EXISTING STRUCTURES AND FEATURES	PROPOSED STRUCTURES AND FEATURES
—O— OVERHEAD ELECTRIC	—W— WATER LINE
—UG— UNDERGROUND ELECTRIC	⊗ WATER VALVE
⊞ ELECTRIC BOX	⊞ FIRE HYDRANT
⊞ ELECTRIC MANHOLE	⊞ NEW METER SETTING
⊞ ANCHOR POLE	⊞ INLET PROTECTION
⊞ LIGHT POLE	⊞ SILT FENCE
⊞ UTILITY POLE	— LIMITS OF CONSTRUCTION
⊞ GROUND LIGHT	▒ MILL EXISTING BITUMINOUS ASPHALT
—OTE— OVERHEAD TELEPHONE	▒ CONCRETE PAVEMENT 1-1/2" AND RESURFACE WITH KDOT APPROVED BITUMINOUS ASPHALT PAVEMENT.
—UTE— UNDERGROUND TELEPHONE	▒ TRENCH RESTORATION ONLY
⊞ TELEPHONE BOX	▒ CONC WALK/DRIVE RESTORATION
⊞ TELEPHONE MANHOLE	▒ CONCRETE PANEL REPLACEMENT
⊞ BOLLARDS	▒ GRAVEL DRIVE RESTORATION
⊞ SIGN	④ REPLACE AND RECONNECT SERVICE LINE (BID ITEM 10.01)
⊞ MAIL BOX	③ INSTALL SERVICE LINE AND WATER METER SETTING (BID ITEM 10.02)
⊞ WATER LINE	② RECONNECT COPPER SERVICE (BID ITEM 10.03)
⊞ WATER VALVE	① ABANDON EXISTING CURB
⊞ FIRE HYDRANT	⊞ STOP/METER SETTING MOVE METER OUTSIDE (BID ITEM 10.08)
⊞ WATER METER	
⊞ WATER VALVE BOX	
⊞ WATER VALVE MANHOLE	
⊞ POST INDICATOR VALVE	
⊞ GAS LINE	
⊞ GAS METER	
⊞ GAS VALVE	
⊞ GAS VALVE BOX	
⊞ UTILITY MANHOLE	
⊞ SEWER MANHOLE	
⊞ STORM MANHOLE	
⊞ DITCH OR CREEK	
⊞ GUARDRAIL	
⊞ FENCE LINE	
⊞ R/W FENCE LINE	



VICINITY MAP
SCALE: 1" = 6000'

SHEET INDEX

C-000	TITLE/VICINITY MAP
C-100	SPECIFICATION SHEET
C-200	SWPPP DETAILS
C-240-241	DETAIL SHEETS
C-504-509	BLANGEY ROAD PLAN AND PROFILE SHEETS
C-510-512	ENZWEILER ROAD PLAN AND PROFILE SHEETS
C-513-518	GUNKEL ROAD PLAN AND PROFILE SHEETS
C-519-534	ONEONTA ROAD (KY 1566) PLAN AND PROFILE SHEETS
C-535-542	UPPER LICK BRANCH PLAN AND PROFILE SHEETS
C-543-546	POND CREEK ROAD (KY 1936) PLAN AND PROFILE SHEETS
C-547-557	POPLAR THICKET ROAD PLAN AND PROFILE SHEETS
C-558-577	RIFLE RANGE ROAD

BENCHMARK INFORMATION

BASIS OF BEARINGS:
BEARING SYSTEM BASED ON THE KENTUCKY STATE PLANE COORDINATE SYSTEM, NORTH ZONE (NAD 83) PERFORMED BY CARDINAL ENGINEERING CORPORATION IN SEPT, 2023.

SOURCE OF ELEVATION:
VERTICAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1988, PER GPS OBSERVATIONS UTILIZING KENTUCKY CORS VIRTUAL REFERENCE STATIONING (NAVD 88)

CONTACTS

ROAD DEPARTMENTS:

(BLANGEY ROAD, GUNKEL ROAD,
UPPER LICK BRANCH, ENZWEILER ROAD,
POPLAR THICKETT ROAD)

LUKE MANTLE
CAMPBELL COUNTY ROAD DEPARTMENT
1175 RACE TRACK ROAD
ALEXANDRIA, KENTUCKY 41001
(859)-635-9100

(KY 8, KY 1566, KY 9, KY 915, KY 1936)

LINZY BREFELD
KENTUCKY TRANSPORTATION CABINET
DISTRICT 6
421 BUTTERMILK PIKE
CRESCENT SPRINGS, KENTUCKY 41017
(502)-564-6014

WATER:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018
(859) 578-9898

SEWER:
SANITATION DISTRICT NO. 1
1045 EATON DRIVE
FORT WRIGHT, KENTUCKY 41011
(859) 578-7450

ELECTRIC:
DUKE ENERGY
1262 COX ROAD
ERLANGER, KENTUCKY 41018
(513) 287-3589

GAS:

DUKE ENERGY
1262 COX ROAD
ERLANGER, KENTUCKY 41018
(859) 287-5408

TELEPHONE:

CINCINNATI BELL TELEPHONE COMPANY
201 EAST FOURTH STREET
103-1175
CINCINNATI, OHIO 45202
(513) 566-7185

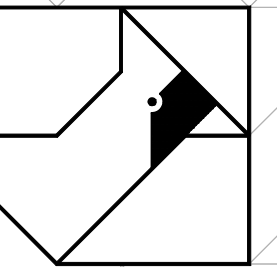
CABLE TELEVISION:

INSIGHT COMMUNICATIONS
7906 DIXIE HIGHWAY
FLORENCE, KENTUCKY 41076
(888) 735-0300

OTHER UTILITIES:

UNITED UTILITIES PROTECTION
(800) 752-6007

REVISIONS	DATE	#	ITEM
	01-12-24	1	REV PER NKWD
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL

ENGINEERING

LAND SURVEYING

ONE MOOCK ROAD

WILDER, KENTUCKY 41071

PHONE: (859) 581-9600

FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

JOB LOG	DATE	ITEM
06-02-23	TO NKWD-CSI-OTTE-K&V	
09-01-23	TO NKWD, CSI, OTTE FINAL REVIEW	
01-12-24	TO NKWD FOR KDOT PERMITTING	
03-21-24	KYTC REV (POND CREEK-ONEONTA)	
04-01-24	CCRD REV (TRUESDELL-ONEONTA)	
05-01-24	KDOT SUBMISSION	
07-29-24	TO NKWD FOR BID	

DRAWN BY:	SEAL
CWH	
CHECKED BY:	KEVIN G. HANSON
KGH	19893
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

TITLE-VICINITY

SHEET
C-000



NOTE:
UNDERGROUND UTILITIES ARE SHOWN BASED ON ABOVE GROUND OBSERVATIONS AND CONSTRUCTION PLANS PROVIDED TO CARDINAL ENGINEERING AND MAY NOT BE COMPLETE OR ACCURATE.
CONTRACTOR TO VERIFY LOCATION AND USE CAUTION WHEN EXCAVATING IN AREAS OF SUSPECTED BURIED UTILITIES.

OSHA NOTES

- 1. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA): IT SHALL BE THE FULL AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO MEET AND COMPLY WITH SAFETY REQUIREMENTS AND REGULATIONS AS ESTABLISHED BY OSHA OR ANY OTHER REGULATORY BODY...

GENERAL NOTES

- 1. CONTRACTOR SHALL NOTIFY KENTUCKY UTILITIES PROTECTION SERVICE AND ALL ENTITIES NOT COVERED BY UTILITY PROTECTION SERVICE AT LEAST (2) DAYS PRIOR TO THE START OF CONSTRUCTION OR ANY EARTHWORK OPERATIONS.
- 2. WATER SERVICE VALVES TO BE LOCATED AND INSTALLED AS DIRECTED BY THE NORTHERN KENTUCKY WATER DISTRICT.
- 3. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE, AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SANITATION DISTRICT NO. 1'S BEST MANAGEMENT PRACTICES.

WATER DISTRIBUTION (FIRE AND DOMESTIC) NOTES:

QUALITY ASSURANCE

- 1. REGULATORY REQUIREMENTS:
A. COMPLY WITH REQUIREMENTS OF KENTUCKY PLUMBING CODE (WHERE APPLICABLE) AND NORTHERN KENTUCKY WATER DISTRICT (NKWD). INCLUDE TAPPING OF WATER MAINS AND BACKFLOW PREVENTION.
- 2. THE WATER MAIN TRENCH EXCAVATIONS THROUGHOUT THE PROJECT MUST BE MADE IN A MANNER THAT PROVIDES FOR THE SAFETY OF WORKERS IN THE EXCAVATIONS AND PROTECTS EXISTING GROUND, PAVEMENT, STRUCTURES, AND INFRASTRUCTURE ADJACENT TO THE EXCAVATIONS FROM DAMAGE.

SWPP PLAN NOTES

1. PETROLEUM PRODUCTS

- A. ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCES OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS, WHICH ARE CLEARLY LABELED, EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS...

2. FERTILIZERS

- A. FERTILIZERS USED WILL ONLY BE APPLIED IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE OF SAID FERTILIZER WILL BE COMPLETELY COVERED...

3. DEBRIS

- A. DEBRIS SHALL BE COLLECTED WITHIN PROPERTY LIMITS WEEKLY OR AS NEEDED FOR PUBLIC SAFETY. SURROUNDING STREETS AFFECTED BY THE CONSTRUCTION SHALL BE CLEANED DAILY OR AS NEEDED FOR PUBLIC SAFETY.

4. BEST MANAGEMENT PRACTICES

- A. BEST MANAGEMENT PRACTICES (BMPs) AS PRESENTED IN THE CURRENT SD1 BEST MANAGEMENT PRACTICES MANUAL SHALL BE FOLLOWED ON THE SITE AT ALL TIMES. A COPY OF THIS MANUAL SHALL BY ONSITE AT ALL TIMES.

5. TRAFFIC CONTROL

- A. THE CONTRACTOR IS REQUIRED TO PROVIDE TRAFFIC CONTROL FOR THE EXPORTING OF MATERIAL FROM THE SITE.

ELECTRIC NOTES

- 1. THE CONTRACTOR SHALL CONTACT THE COMPANY PRIOR TO EXCAVATION IN VICINITY OF ELECTRIC UNDERGROUND FACILITIES (APPROXIMATE PLAN LOCATION SHOWN) OR WHEN WORKING NEAR OVERHEAD ELECTRIC FACILITIES.
a. FOR FIELD INSPECTOR TO LOCATE UNDERGROUND ELECTRIC LINE IN KENTUCKY CALL "KENTUCKY UNDERGROUND PROTECTION INC." 1-800-752-6007 (AT LEAST 48 HOURS IN ADVANCE)...
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO ELECTRIC FACILITIES DURING CONSTRUCTION.
- 3. ELECTRIC FACILITIES TO BE KEPT IN SERVICE AT ALL TIMES.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING EXISTING ELECTRIC FACILITIES AFFECTED BY THE PROPOSED CONSTRUCTION.
a. WHERE HIGH PRESSURE OIL FILLED PIPE TYPE CABLE INSTALLATION ARE EXPOSED OR OTHERWISE INTERFERED WITH BY THE CONTRACTOR, PROTECTION BY THE CONTRACTOR WILL BE REQUIRED AGAINST DAMAGE TO THE COATING OR SURROUNDING THERMAL SAND ENVELOPE.

CAMPBELL COUNTY ROADWAY NOTES

- 1. CONTRACTOR (PERMITEE) SHALL OBTAIN AN ENCRoACHMENT PERMIT FROM THE CAMPBELL COUNTY ROAD DEPARTMENT FOR THE WATER MAIN PROJECTS ALONG BLANGEY ROAD, ENZWEILER ROAD, GUNKEL ROAD, UPPER LICK BRANCH, AND POPLAR THICKET ROAD.
- 2. CONTRACTOR SHALL PROVIDE CAMPBELL COUNTY ROAD DEPARTMENT A PRE-CONSTRUCTION VIDEO OF THESE ROADWAYS (CONSTRUCTION CORRIDOR) PRIOR TO COMMENCEMENT OF CONSTRUCTION (REQUIRED AS PART OF THE COUNTY PERMIT).
- 3. THE CONTRACTOR SHALL NOTIFY THE CAMPBELL COUNTY ROAD DEPARTMENT THREE (3) DAYS PRIOR TO CONSTRUCTION.
- 4. ANY DAMAGE TO THESE ROADS, ESPECIALLY PAVEMENT EDGES, DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR IN ACCORDANCE WITH THE GOVERNING JURISDICTION STANDARDS.
- 5. CONSTRUCTION ACCESS ROADS, EXISTING PAVEMENT OR GRAVEL ROADS, AND DRIVEWAYS IF REMOVED, DISTURBED, OR DAMAGED BY CONTRACTOR'S WORK SHALL BE MAINTAINED BY CONTRACTOR AND RESTORED OR REPLACED TO EXISTING OR BETTER THAN PRE-CONSTRUCTION CONDITIONS AFTER WORK IS COMPLETE...

BACKFILLING:

- 15. UTILITY ASSETS TO BE SHADED PER UTILITY OWNER SPECIFICATIONS. THEN CONTROL DENSITY FILL (CDF) USED TO FILL ENTIRE EXCAVATION TO ELEVATION THAT MEETS RESTORATION SPECIFICATION. ANY AND ALL SPOILS TO BE HAULED AWAY.
- 16. ALL SOILS MUST BE COMPACTED.
- 17. ALL EXCAVATIONS BEGIN WITH SAW CUT.
- 18. 36" MINIMUM COVER TO ASSET (MAIN, SERVICE, ETC.).
- 19. SHADE UTILITY ASSET PER UTILITY OWNER'S SPECIFICATION.
- 20. CONTROL DENSITY FILL (CDF) TO WITHIN NINE AND ONE HALF (9.5) INCHES OF THE ROAD SURFACE AFTER SETTLING.
- 21. TACK APPLIED TO ALL CUT/MILLED SURFACES.
- 22. TWO (2), FOUR (4) INCH LIFTS OF BASE ASPHALT HOT MIX, ONE FOOT FROM ALL SIDES OF SAW CUT MILLED TO A DEPTH OF ONE AND A HALF INCHES (1.5) AND ONE AND A HALF (1.5) INCHES ASPHALT SURFACE HOT MIX COMPACTED EVENLY, WITHOUT RIPPLES OR DIPS, TO MATCH ROAD SURFACE ELEVATION.
- 23. PROPER DRAINAGE RESTORED IN PROJECT AREA.
- 24. ALL JOINTS SEALED.
- 25. UNDERDRAINS INSTALLED AS NEEDED. ONE FOOT BY ONE FOOT EXCAVATION ALONG PROJECT AREA, WRAPPED IN SOIL FILTER FABRIC, FOUR INCH PERFORATED PVC, BACKFILLED IN STONE (#57), CAPPED WITH SOIL, RUN TO CATCH BASIN OR DAY LIGHTED WHERE OUTFLOW WILL NOT CAUSE EROSION OR BE A NUISANCE.
- 26. SEED AND STRAW ALL DISTURBED AREAS. NETTING INSTALLED AS NEEDED.
- 27. ANY SETTLING OR FAILURE, IN OR AROUND PROJECT AREA WILL BE REPAIRED AT UTILITIES/PERMITEE'S EXPENSE FOR A PERIOD OF TWELVE MONTHS.
- 28. ANY CUT OR DAMAGED SIDEWALKS TO BE CLEANLY SAW CUT AND REPLACED AS AN ENTIRE BLOCK AND MEET CURRENT ADA SPECIFICATIONS. EXPANSION JOINTS INSTALLED AS NEEDED.
- 29. ALL SPOILS HAULED OFF FROM PROJECT AREA DAILY.

RESPONSIBILITY FOR DUST, DIRT, AND APPEARANCE:

- 30. ALL PROJECT AREAS WILL BE KEPT CLEAN, SWEEP AND/OR WASHED AS NEEDED. EVERY ACTION WILL BE TAKEN TO KEEP DEBRIS OUT OF STORM WATER SYSTEMS, INCLUDING DITCH LINES. ANY DISTURBANCES WILL BE REMEDIATED.

CAMPBELL COUNTY ROADWAY NOTES (continued)

- CONCRETE ROADS:
(A) IF SLAB IS CUT FOR EXCAVATION THEN ENTIRE SLAB MUST BE REPLACED.
(B) 36" MINIMUM COVER TO ASSET (MAIN, SERVICE...).
(C) SHADE UTILITY ASSET PER UTILITY OWNER'S SPECIFICATION.
(D) CONTROL DENSITY FILL (CDF) TO WITHIN EIGHT (8) INCHES OF ROAD SURFACE AFTER SETTLING.
(E) COMPACT IN SITU MATERIAL AROUND EXCAVATION TO DEPTH OF EIGHT (8) INCHES BELOW SLAB SURFACE.
(F) PINNED EIGHTEEN INCH ON CENTER, EIGHTEEN INCH LENGTH, DRILLED NINE INCHES, CLEAN 5/8" REBAR.
(G) 4000 PSI, 8" THICK.
(H) PROPER DRAINAGE RESTORED IN PROJECT AREA. REPLACE CURBS AS NEEDED.
(I) ALL JOINTS SEALED.
(J) PROPER DRAINAGE RESTORED IN PROJECT AREA.
(K) BLOCKED OFF PER MUTCD FOR SUFFICIENT CURING. NO ROAD CLOSURES.
(L) SEED AND STRAW ALL DISTURBED AREAS. NETTING INSTALLED AS NEEDED.
(M) UNDERDRAINS INSTALLED AS NEEDED. ONE FOOT BY ONE FOOT EXCAVATION ALONG PROJECT AREA, WRAPPED IN SOIL FILTER FABRIC, FOUR INCH PERFORATED PVC, BACKFILLED IN STONE (#57), CAPPED WITH SOIL, RUN TO CATCH BASIN OR DAY LIGHTED WHERE OUTFLOW WILL NOT CAUSE EROSION OR BE A NUISANCE.
(N) ANY SETTLING OR FAILURE, IN OR AROUND PROJECT AREA WILL BE REPAIRED AT UTILITIES/PERMITEE'S EXPENSE FOR A PERIOD OF TWELVE MONTHS.
(O) ANY CUT OR DAMAGED SIDEWALKS TO BE CLEANLY SAW CUT AND REPLACED AS AN ENTIRE BLOCK AND MEET CURRENT ADA SPECIFICATIONS. EXPANSION JOINTS INSTALLED AS NEEDED.
(P) ALL SPOILS HAULED OFF FROM PROJECT AREA DAILY.

KYTC ROADWAY NOTES

- 1. PAVEMENT OF STATE ROUTES SHALL NOT BE OPEN CUT UNLESS OTHERWISE NOTED ON PLANS, OR BY PRIOR AUTHORIZATION FROM KYTC.
- 2. THE NORTHERN KENTUCKY WATER DISTRICT WILL PAY FOR AND OBTAIN ALL PERMITS FROM THE KENTUCKY TRANSPORTATION CABINET, DISTRICT 6.
- 3. APPLICABLE ROADWAYS INCLUDE MARY INGLES HIGHWAY (KY 8), ONEONTA ROAD (KY 1566), AA HIGHWAY (KY 9), POND CREEK ROAD (KY 1936), AND LICKING PIKE (915).
- 4. CONTRACTOR SHALL COMPLY WITH THE TERMS OF THE KENTUCKY TRANSPORTATION CABINET ENCRoACHMENT PERMITS.
- 5. THE CONTRACTOR SHALL NOTIFY THE KENTUCKY TRANSPORTATION CABINET, DISTRICT 6 THREE (3) DAYS PRIOR TO CONSTRUCTION.
- 6. ANY DAMAGE TO TO SAID ROADWAYS, ESPECIALLY PAVEMENT EDGES, DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION CABINET STANDARDS.
- 7. ALL PAVEMENT CUTS SHALL BE SAW CUT AND NEATLY PATCHED TO MATCH EXISTING PAVEMENT SECTION. ALL COSTS FOR SUCH PAVEMENT CUTS, PATCHING, AND OVERLAYS AS REQUIRED SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
- 8. CONTRACTOR SHALL RESTORE DISTURBED PAVEMENT AFTER CONSTRUCTION, SHALL MINIMIZE INCONVENIENCE TO TRAFFIC DURING CONSTRUCTION, AND SHALL PROVIDE SMOOTH TRANSITIONS TO EXISTING PAVEMENT. PAVING MATERIALS AND CONSTRUCTION THEREOF SHALL BE IN ACCORDANCE WITH THE KYTC STANDARD SPECIFICATIONS AND THE PROJECT SPECIFICATIONS.
- 9. CONSTRUCTION ACCESS ROADS, EXISTING PAVEMENT OR GRAVEL ROADS, AND DRIVEWAYS IF REMOVED, DISTURBED, OR DAMAGED BY CONTRACTOR'S WORK SHALL BE MAINTAINED BY CONTRACTOR AND RESTORED OR REPLACED TO EXISTING OR BETTER THAN PRE-CONSTRUCTION CONDITIONS AFTER WORK IS COMPLETE. THE COST OF THIS RESTORATION OR REPLACEMENT SHALL BE INCLUDED IN THE TOTAL COST FOR THE PROJECT. NO ADDITIONAL PAYMENT WILL BE MADE.
- 10. CONTRACTOR SHALL MAKE EVERY EFFORT TO PREVENT DAMAGE TO SAID ROADWAY PAVEMENTS DURING CONSTRUCTION. IF ANY DAMAGE DOES OCCUR DURING CONSTRUCTION, THE CONTRACTOR, AT HIS/HER EXPENSE, SHALL REPAIR SAID DAMAGE TO THE SATISFACTION OF THE KENTUCKY DEPARTMENT OF TRANSPORTATION DISTRICT 6.

Table with 2 columns: REVISIONS DATE #, ITEM



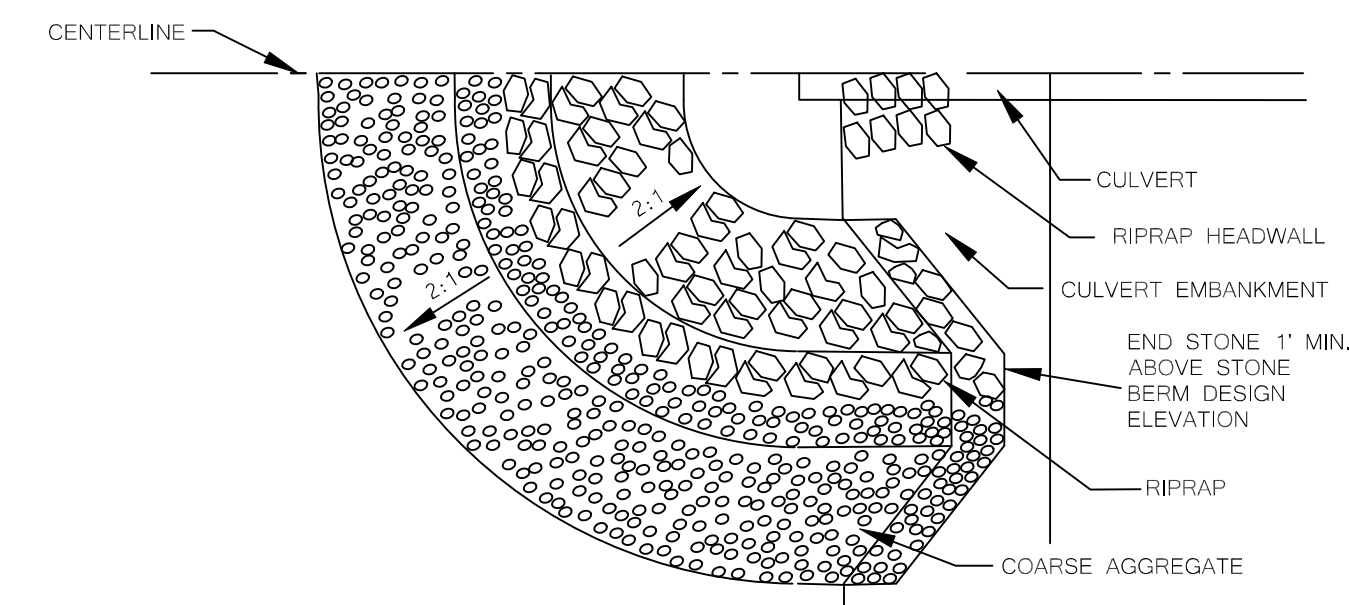
WEBSITE: http://www.cardinalengineering.net

PROJECT: WATER MAIN PLAN SUB DISTRICT HB WATER MAIN EXTENSION
CLIENT: NORTHERN KENTUCKY WATER DISTRICT 2835 CRESCENT SPRINGS ROAD P.O. BOX 18640 ERLANGER, KY 41018-0640

Table with 2 columns: DRAWN BY: SEAL, CHECKED BY: KGH, PROJECT MANAGER: KGH

Table with 2 columns: PROJECT NO. 23-001, SCALE AS NOTED, DATE 1-11-23

SPECIFICATIONS SHEET C-100



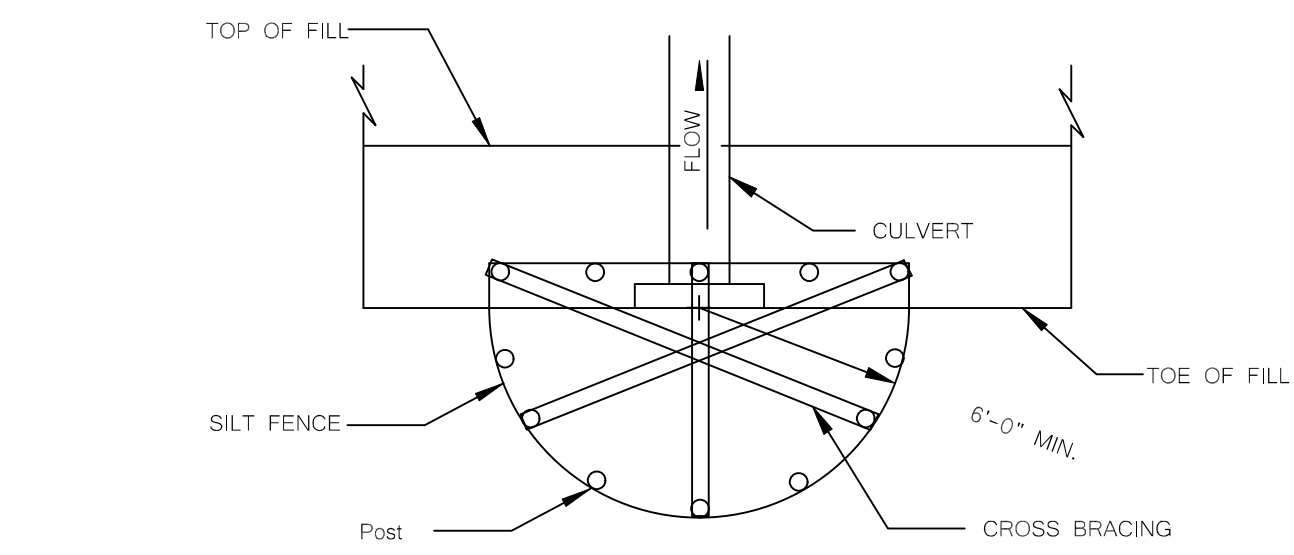
NOTES:

1. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE STONE BERM.
2. COARSE AGGREGATE SHALL MEET ONE OF THE FOLLOWING KTO COARSE AGGREGATE GRADATIONS: KDOT #3, #557, OR #5.
3. RIPRAP SHALL MEET KDOT CLASS II.
4. THE MAXIMUM DRAINAGE AREA TO THE CULVERT BEING PROTECTED IS 3 ACRES. SEE PLANS FOR H DIMENSION.
5. TIE THE STONE BERM INTO THE CULVERT EMBANKMENT A MINIMUM OF 1 FOOT ABOVE THE DESIGN ELEVATION OF THE STONE BERM.

HALF PLAN VIEW

CENTERLINE CROSS SECTION

1 CULVERT INLET PROTECTION - STONE
C-200 SCALE: NTS



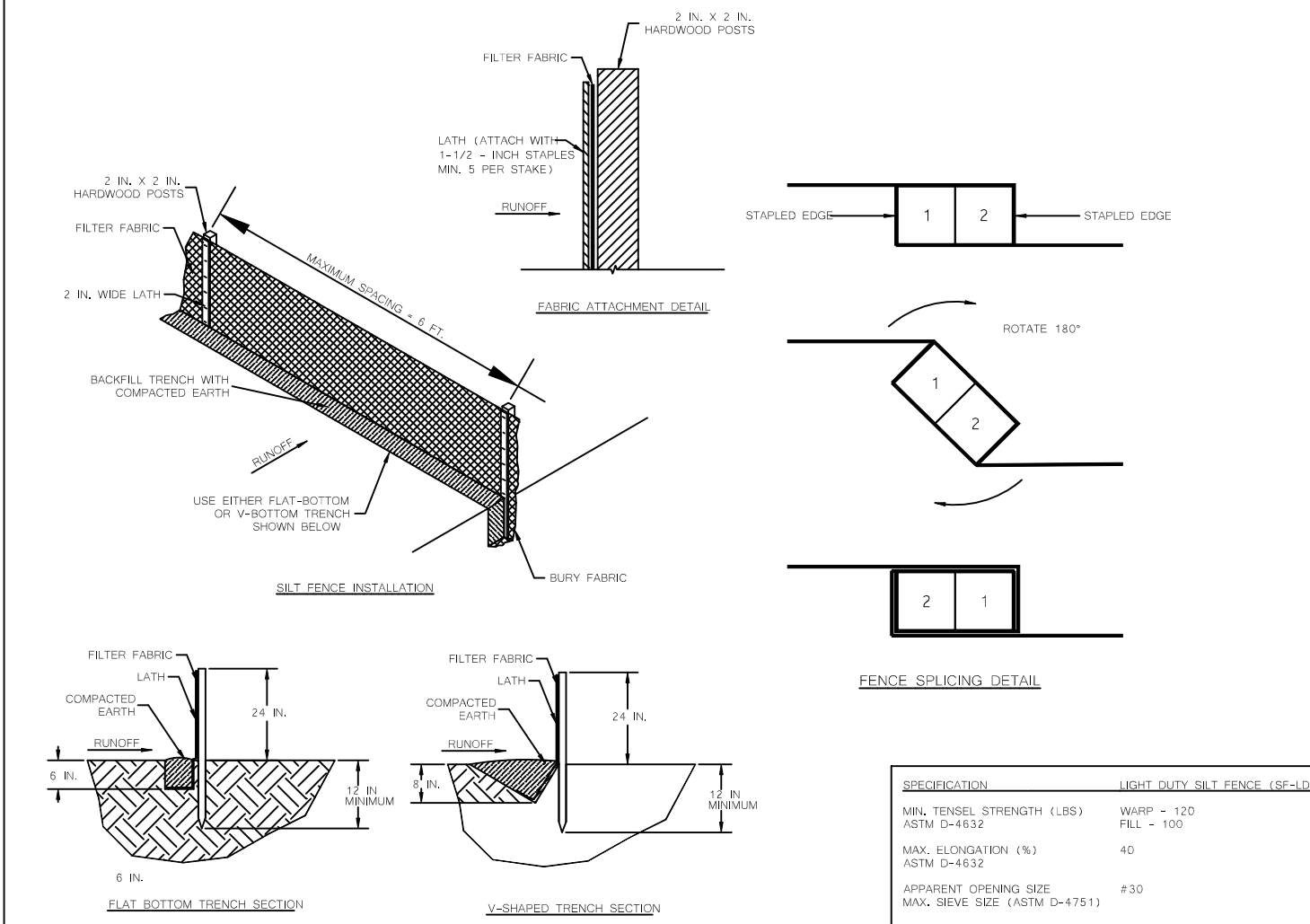
NOTES:

1. THE SILT FENCE SHALL MEET THE REQUIREMENTS AS SHOWN ON STANDARD DRAWING NOS 2.1, 2.2, & 2.3 EXCEPT THE MAXIMUM POST SPACING SHALL BE 3 FEET AND THE TOPS OF POSTS SHALL BE CROSS BRACED.
2. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE SILT FENCE.
3. THE MAXIMUM DRAINAGE AREA TO THE CULVERT BEING PROTECTED IS 1 ACRE.

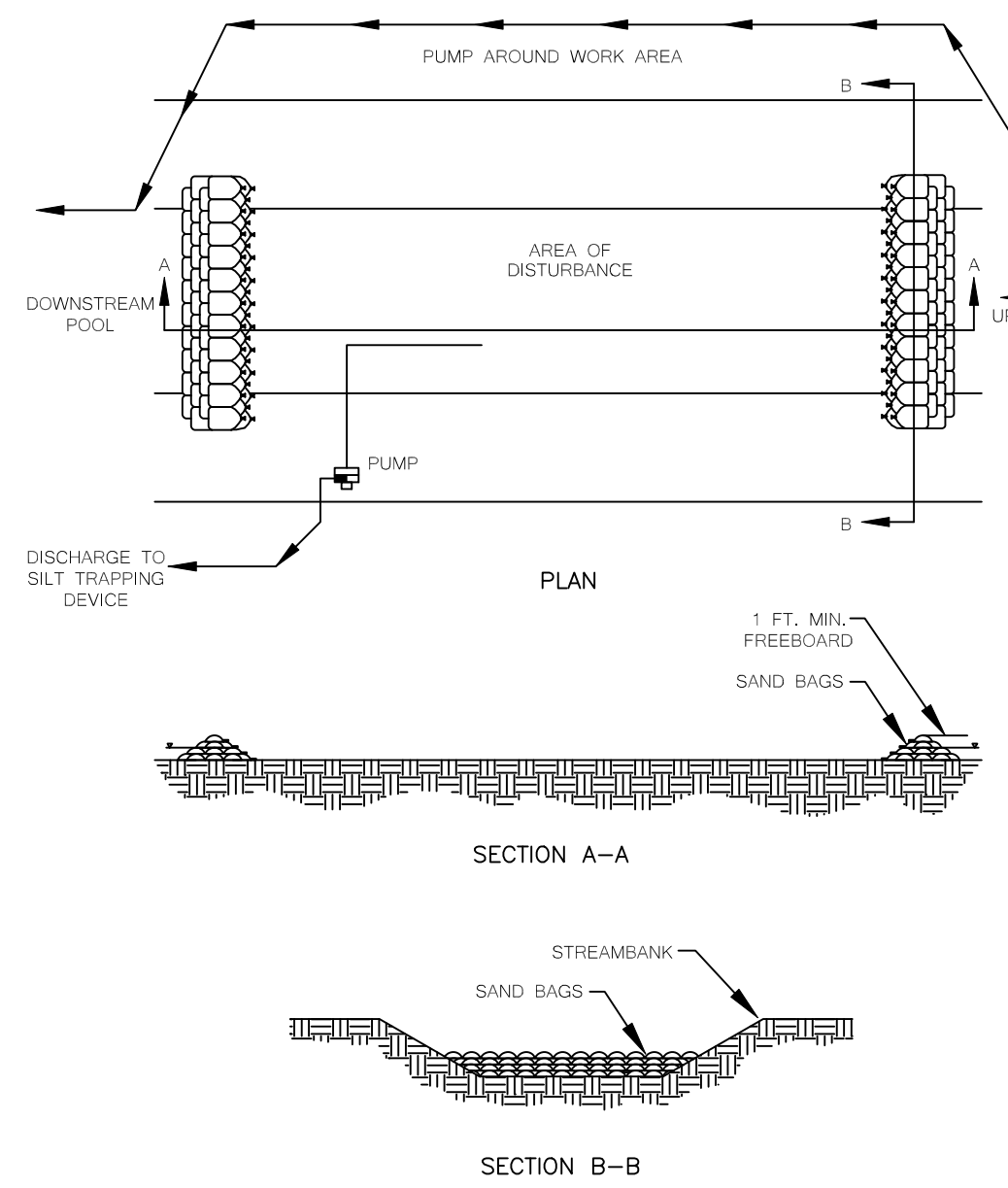
PLAN VIEW

CENTERLINE CROSS SECTION

2 CULVERT INLET PROTECTION - SILT FENCE
C-200 SCALE: NTS



3 SILT FENCE DETAIL
C-200 SCALE: NTS

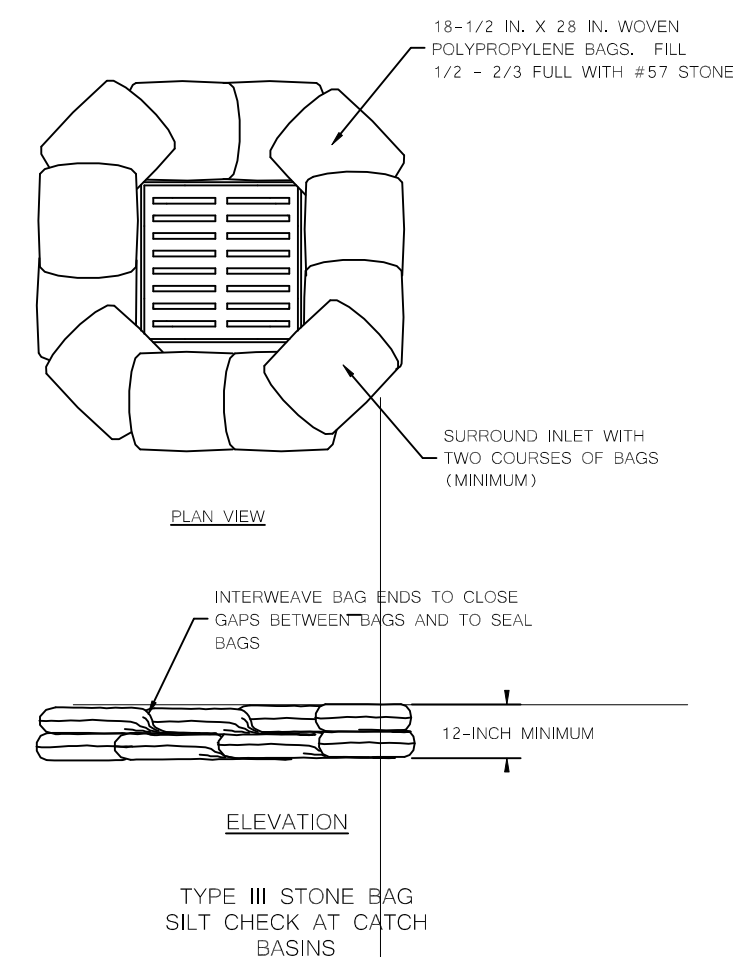


11 PUMP AROUND FLOW DIVERSION DETAIL

PUMP AROUND FLOW DIVERSION NOTES

1. USE PUMP AROUND DIVERSION WHEN CONSTRUCTION ACTIVITY IS WITHIN A FLOWING STREAM, CREEK, OR DITCH.
2. PUMP AROUND DIVERSION LOCATIONS IDENTIFIED ON THE PLANS MAY NOT BE REQUIRED IF STREAM, CREEK OR DITCH CROSSING IS DRY AND NOT FLOWING.

4 PUMP AROUND DIVERSION DETAIL
C-200 SCALE: NTS



NOTE:

THE 12-INCH HEIGHT REQUIREMENT IS WAIVED IN CASES WHERE IT WILL CAUSE FLOOD DAMAGE IF THE STONE BAGS ARE OVERTOPPED.

INSTALLATION:

STONE BAGS SHALL BE FILLED WITH APPROXIMATE DIMENSIONS OF 18-1/2 INCHES BY 28 INCHES. THE BAGS SHALL BE FILLED 3/4 TO 2/3 FULL WITH KTO NO. 57 STONE. TIE THE ENDS OF FILLED BAGS USING EITHER DRAW STRINGS OR WIRE TIES. INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT THE GAPS BETWEEN BAGS ARE FILLED AND THE ENDS OF THE BAGS ARE SEALED.

INSPECTION AND MAINTENANCE:

INSPECTIONS SHOULD BE MADE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2-INCHES OR MORE OF PRECIPITATION; ANY NEEDED REPAIRS SHOULD BE HANDLED IMMEDIATELY. IF SEDIMENT ACCUMULATES, REMOVE IT FROM THE FACE OF THE BAGS BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE STRUCTURE HEIGHT. ANY NEEDED REPAIRS SHOULD BE HANDLED IMMEDIATELY. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE BAGS WHEN REMOVING SEDIMENT. REMOVE AND REPLACE ANY DAMAGED BAGS AND DISPOSE OF THEM PROPERLY. STORM DRAIN INLET PROTECTION STRUCTURES SHOULD BE REMOVED ONLY AFTER THE DISTURBED AREAS ARE PERMANENTLY STABILIZED. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT, AND DISPOSE OF THEM PROPERLY. GRADE THE DISTURBED AREA TO THE ELEVATION OF THE DROP INLET STRUCTURE CREST. USE APPROPRIATE PERMANENT STABILIZATION METHODS TO STABILIZE BARE AREAS AROUND THE INLET.

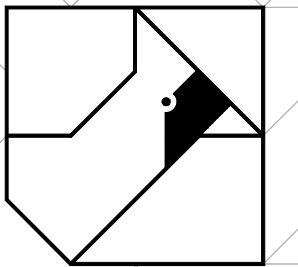
PLAN VIEW

ELEVATION

TYPE III STONE BAG SILT CHECK AT CATCH BASINS

5 STONE BAG INLET PROTECTION
C-200 SCALE: NTS

REVISIONS	DATE	#	ITEM



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

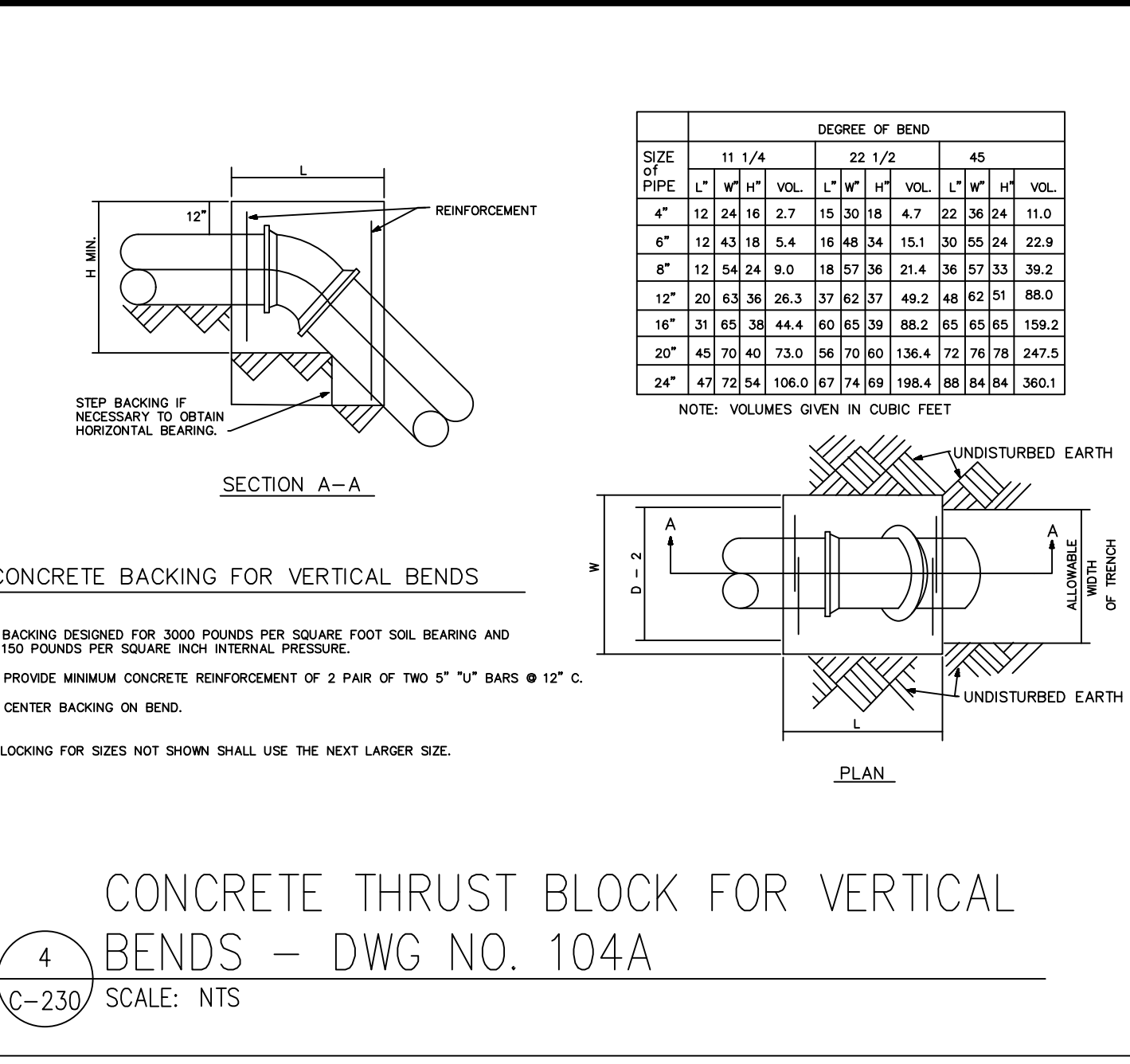
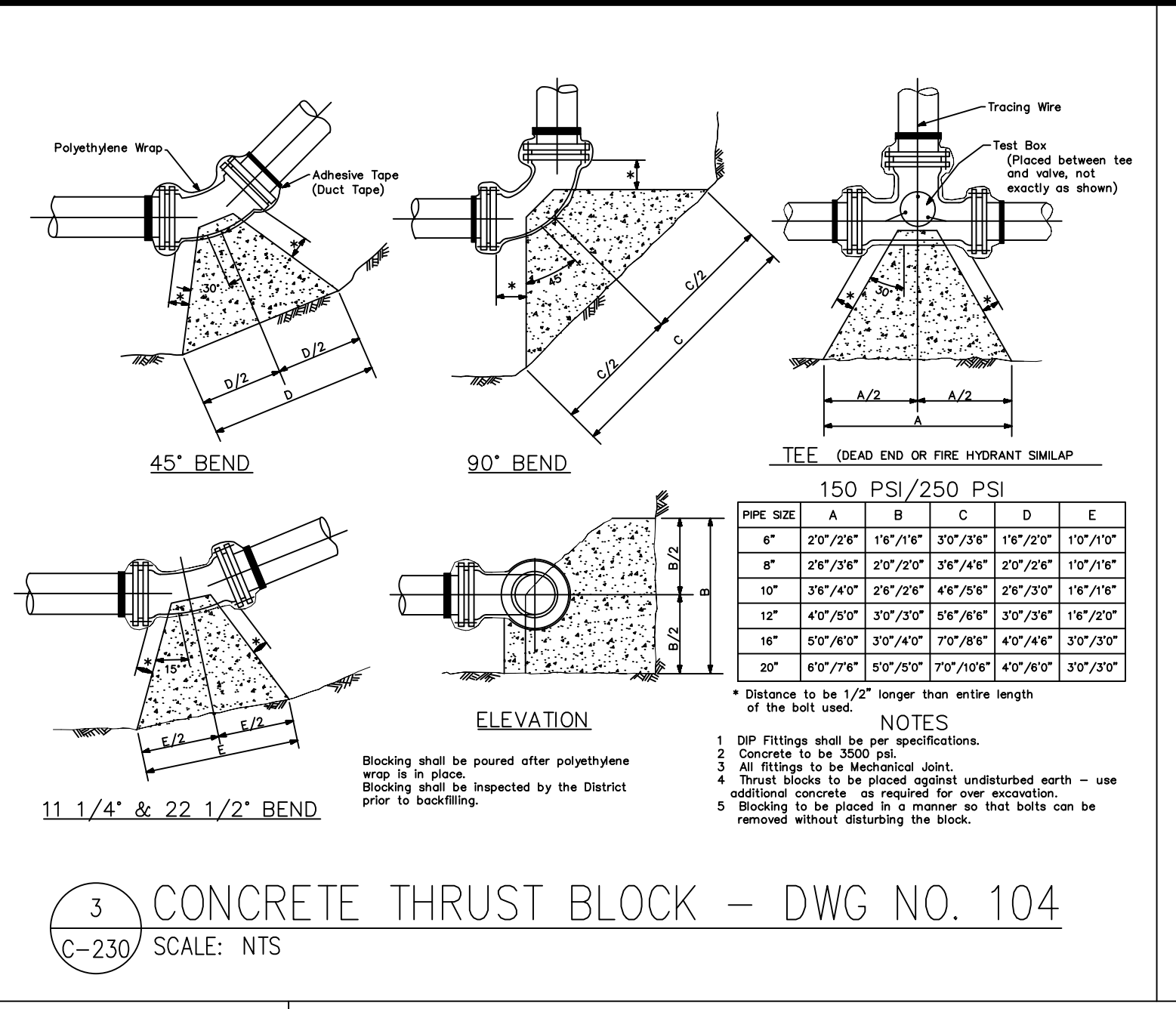
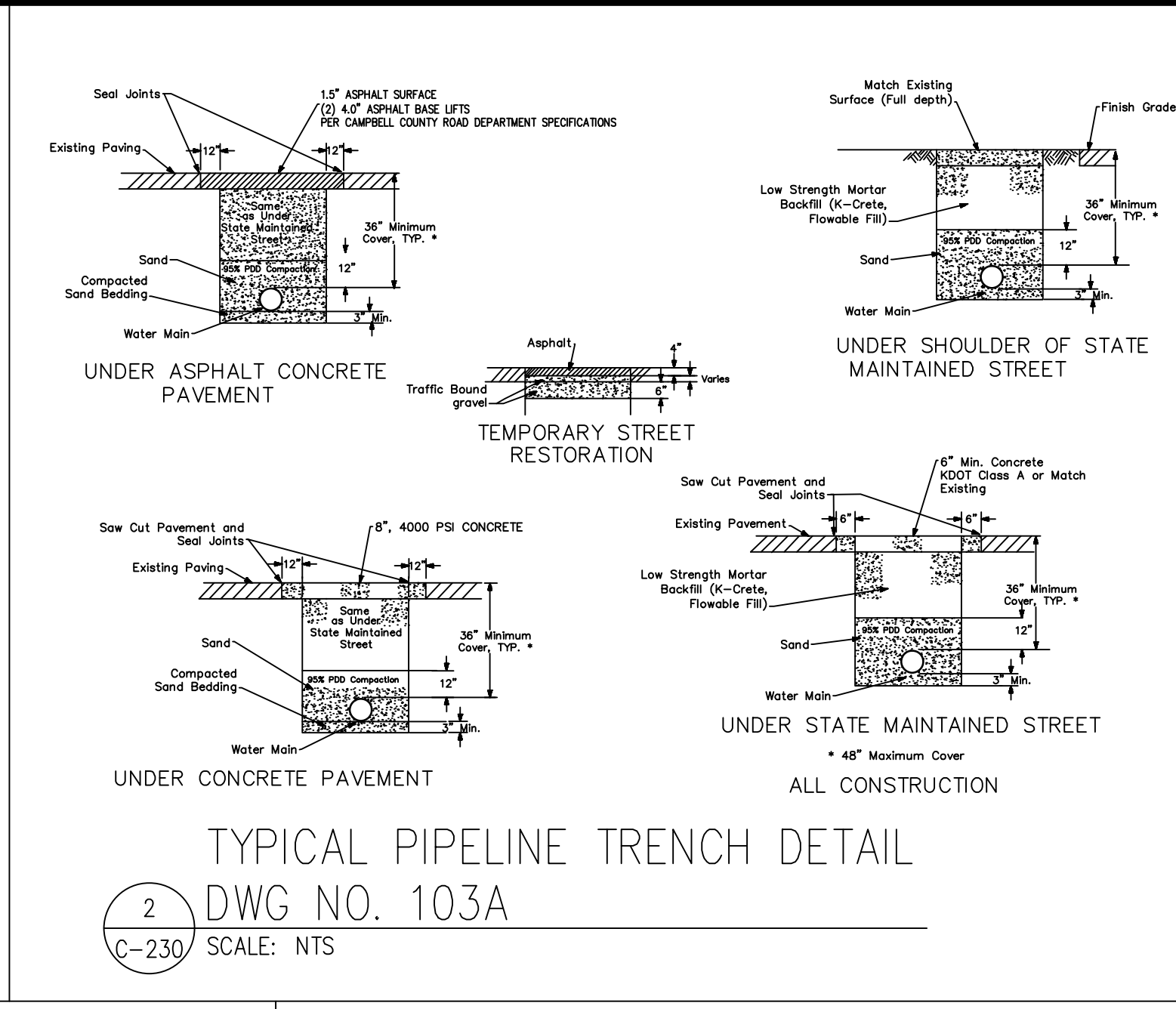
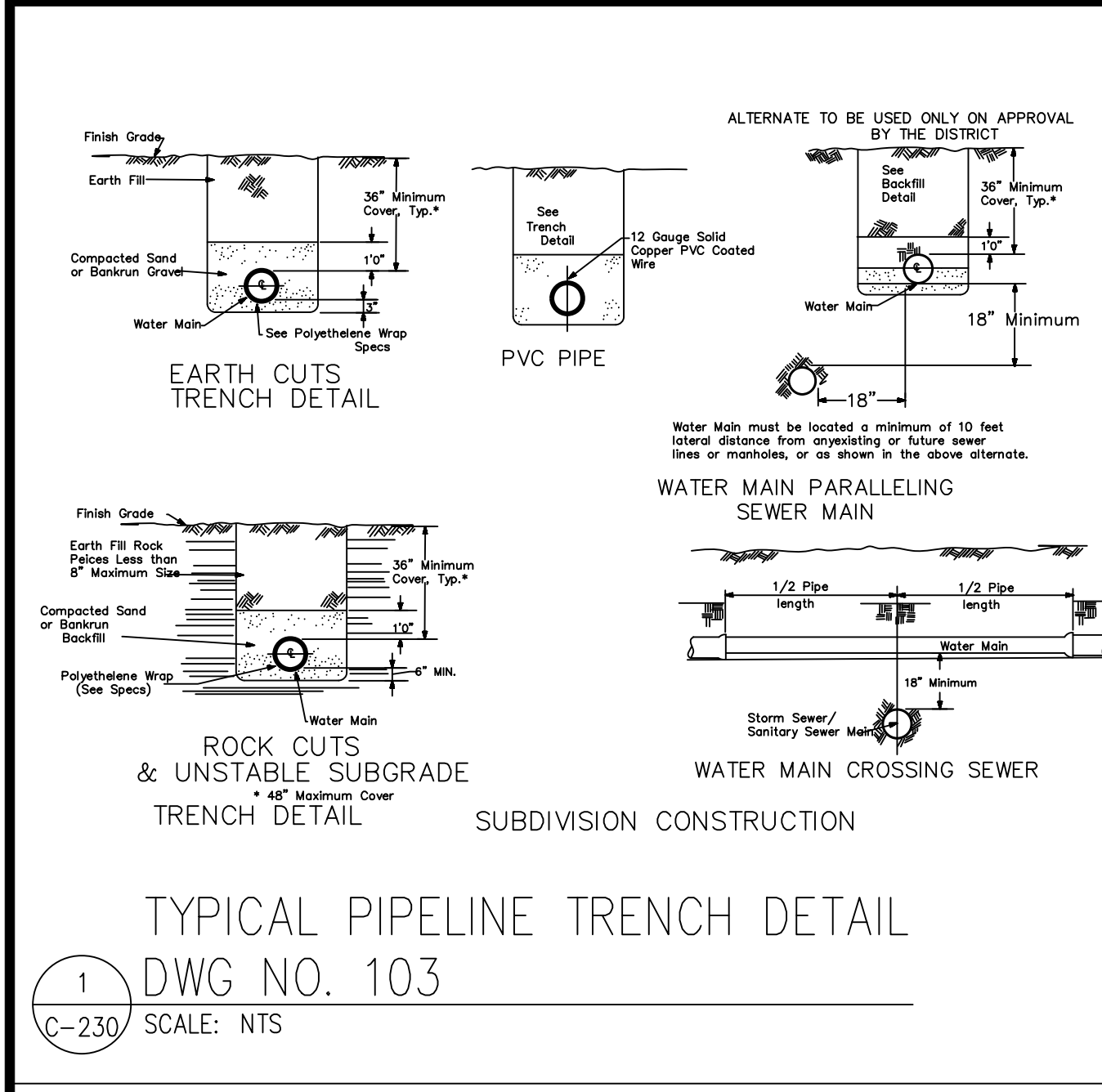
PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

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KGH	
CHECKED BY:	-
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 1-11-23

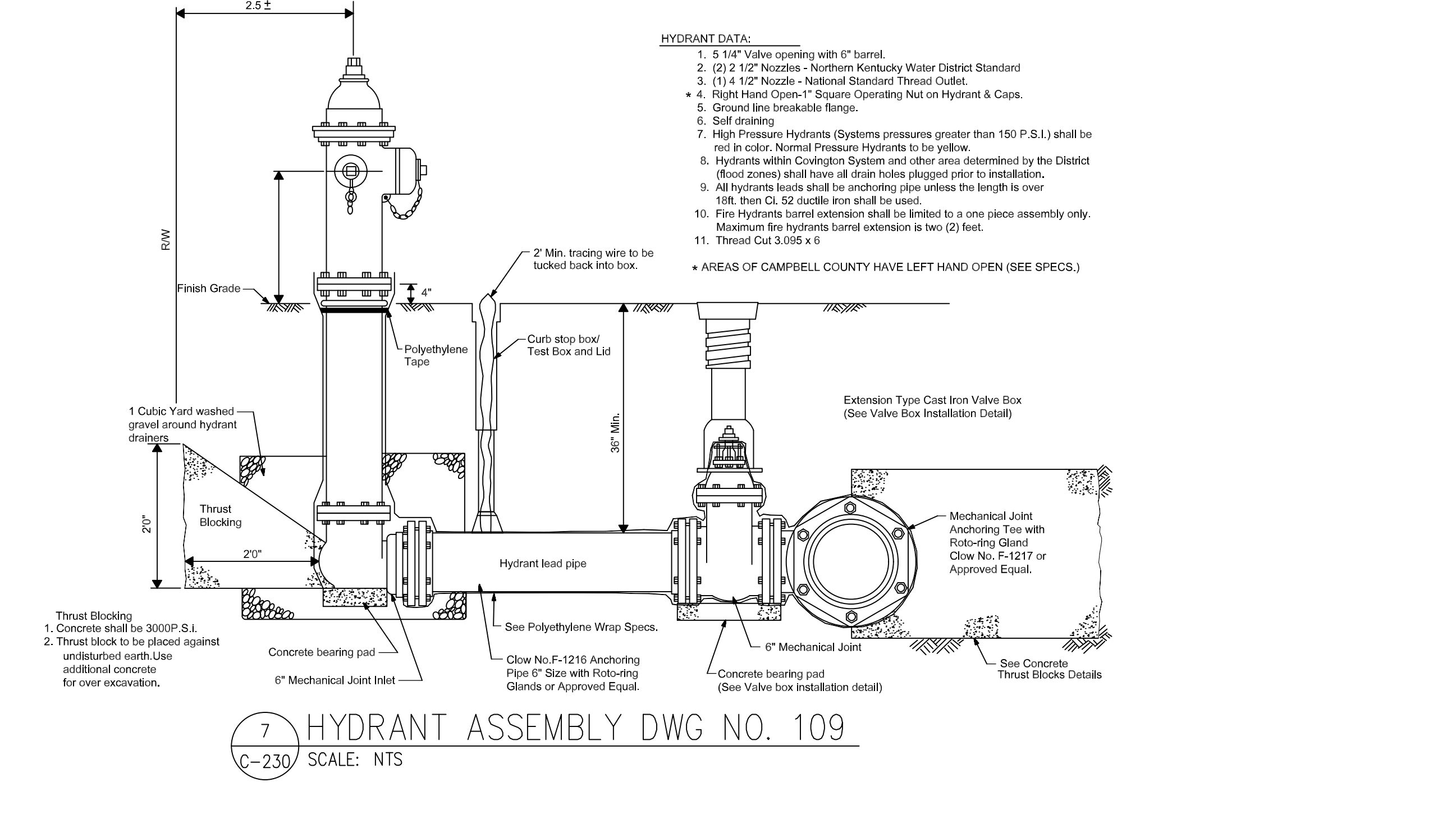
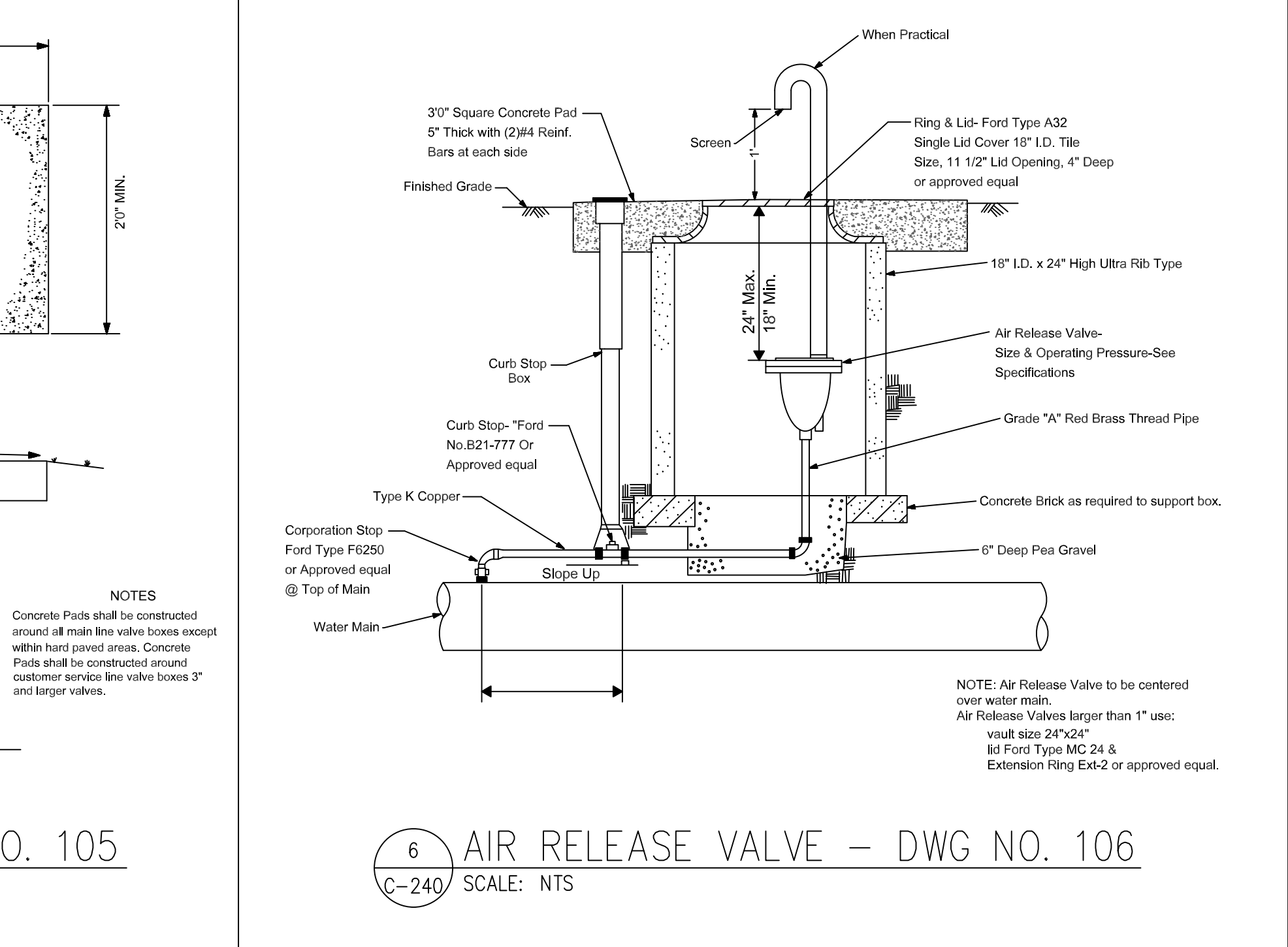
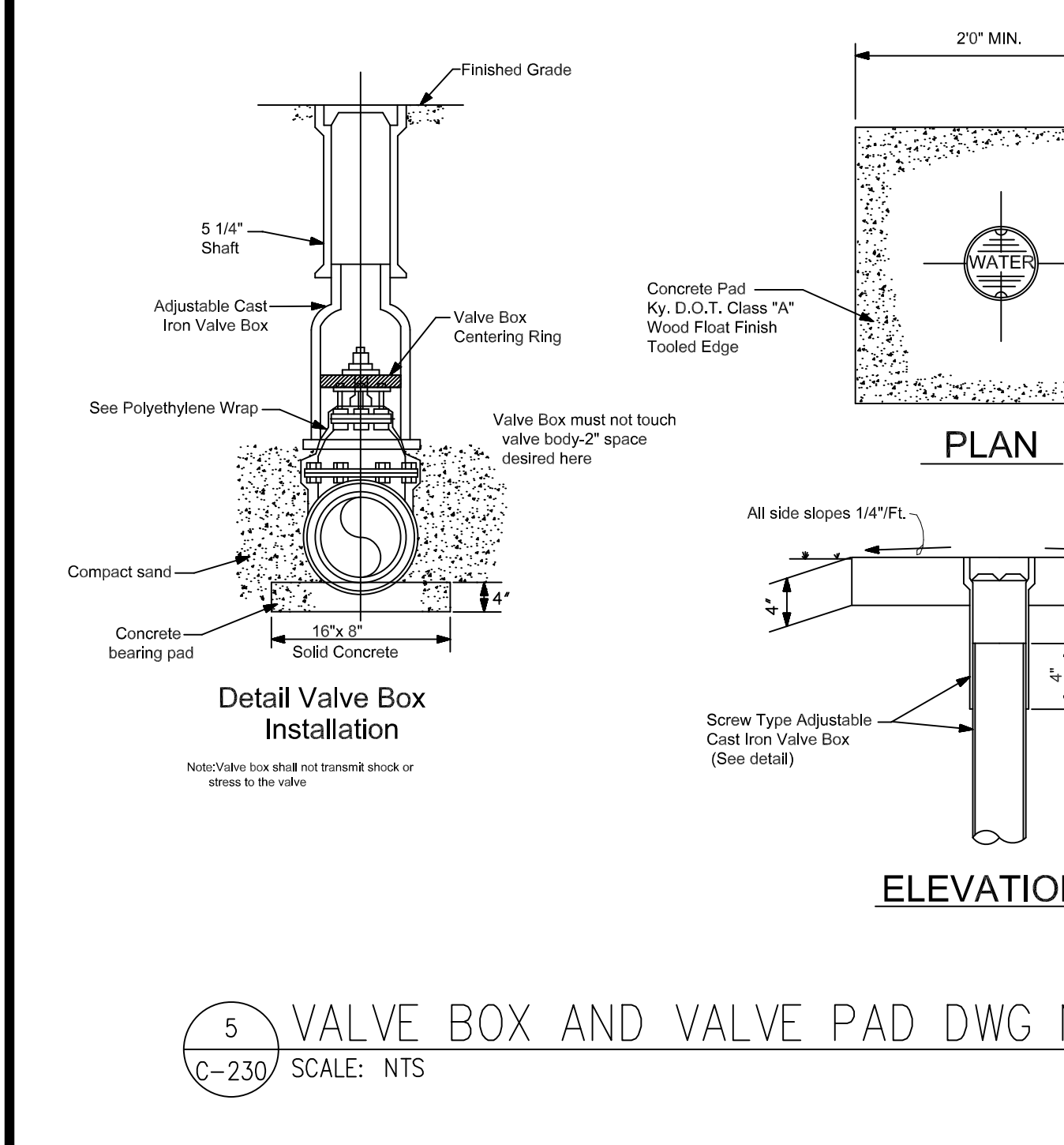
WATER DETAILS
SHEET **C-200**



REVISIONS
DATE # ITEM
07-29-24 3 REV PER NKWD

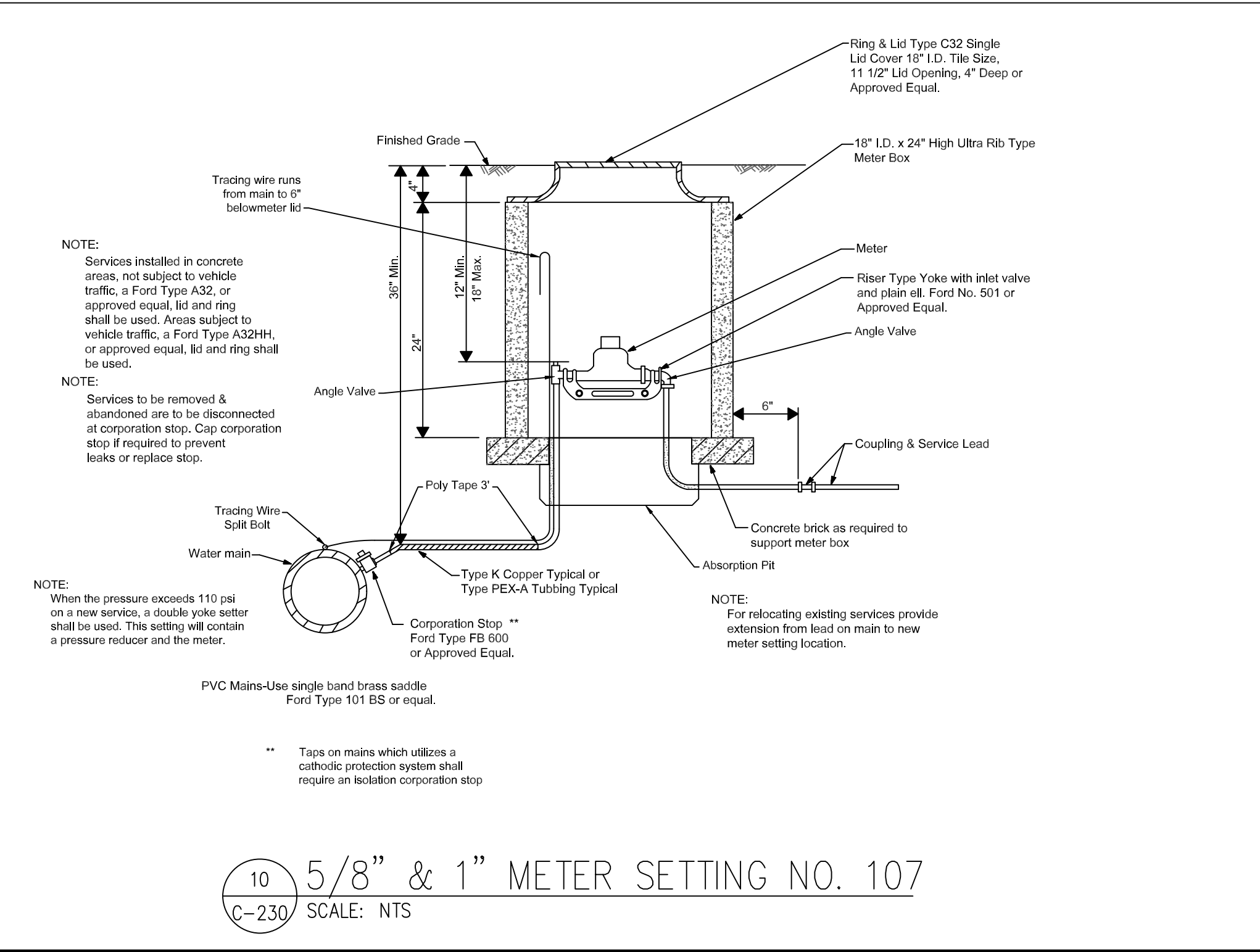
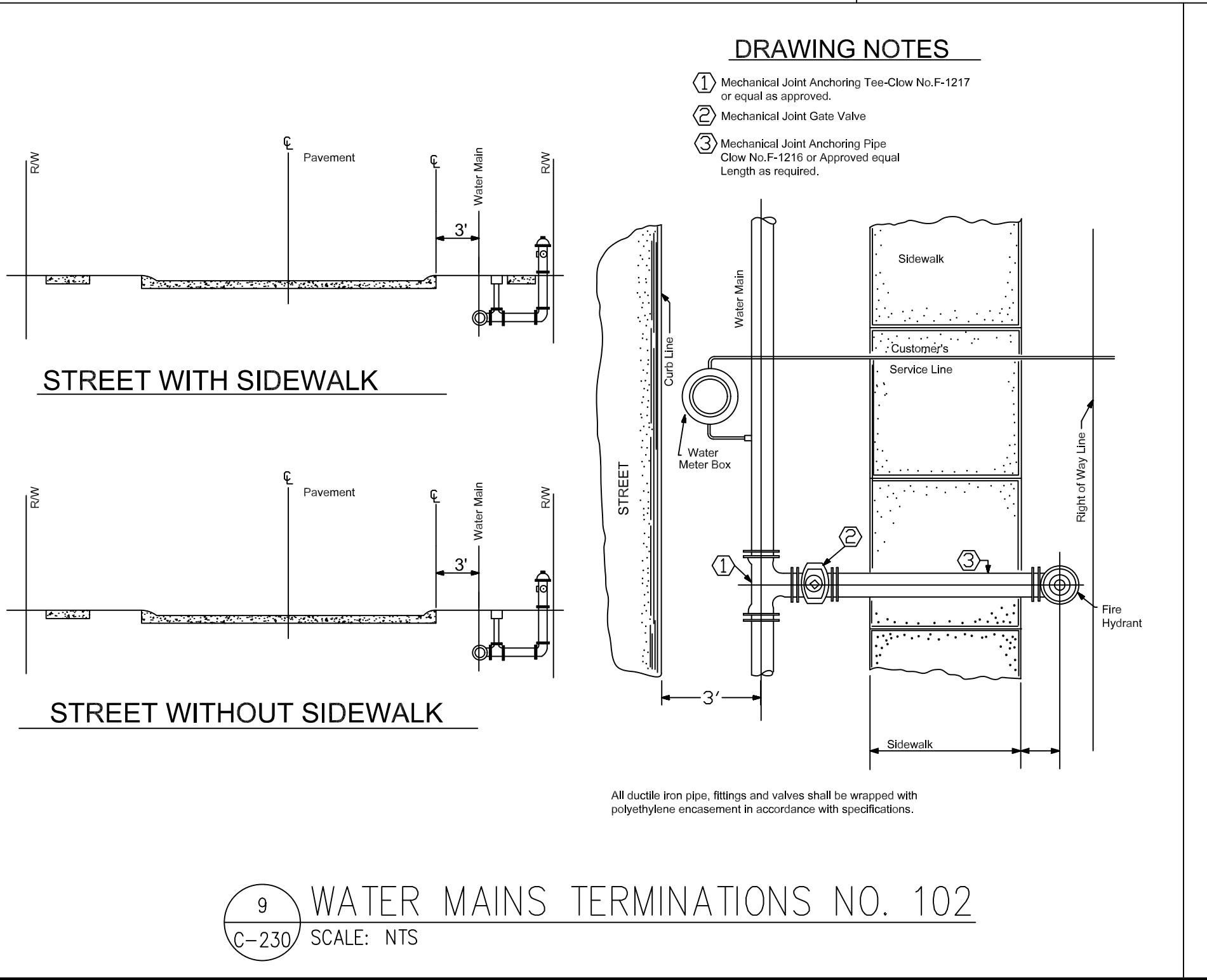
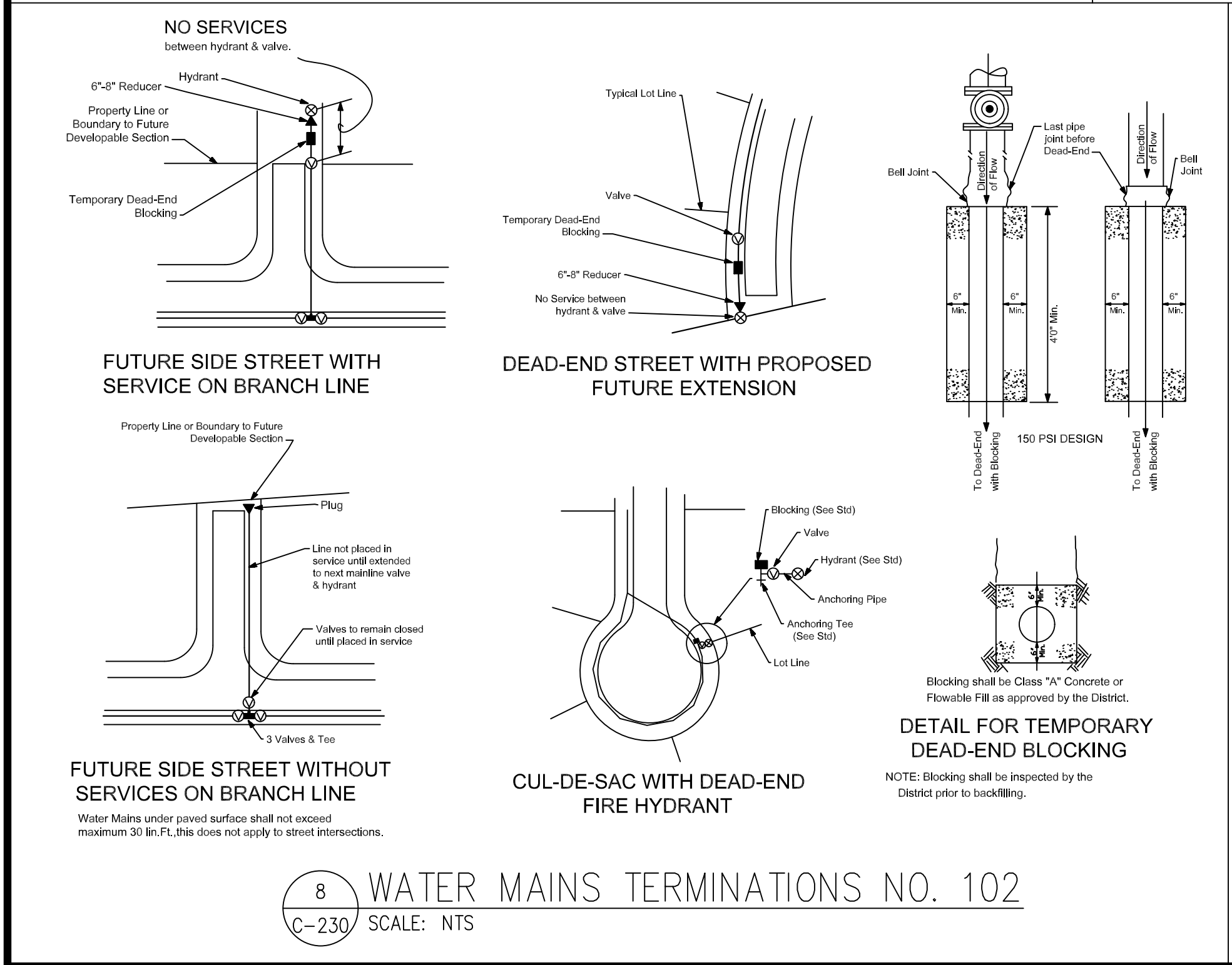
CARDINAL
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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

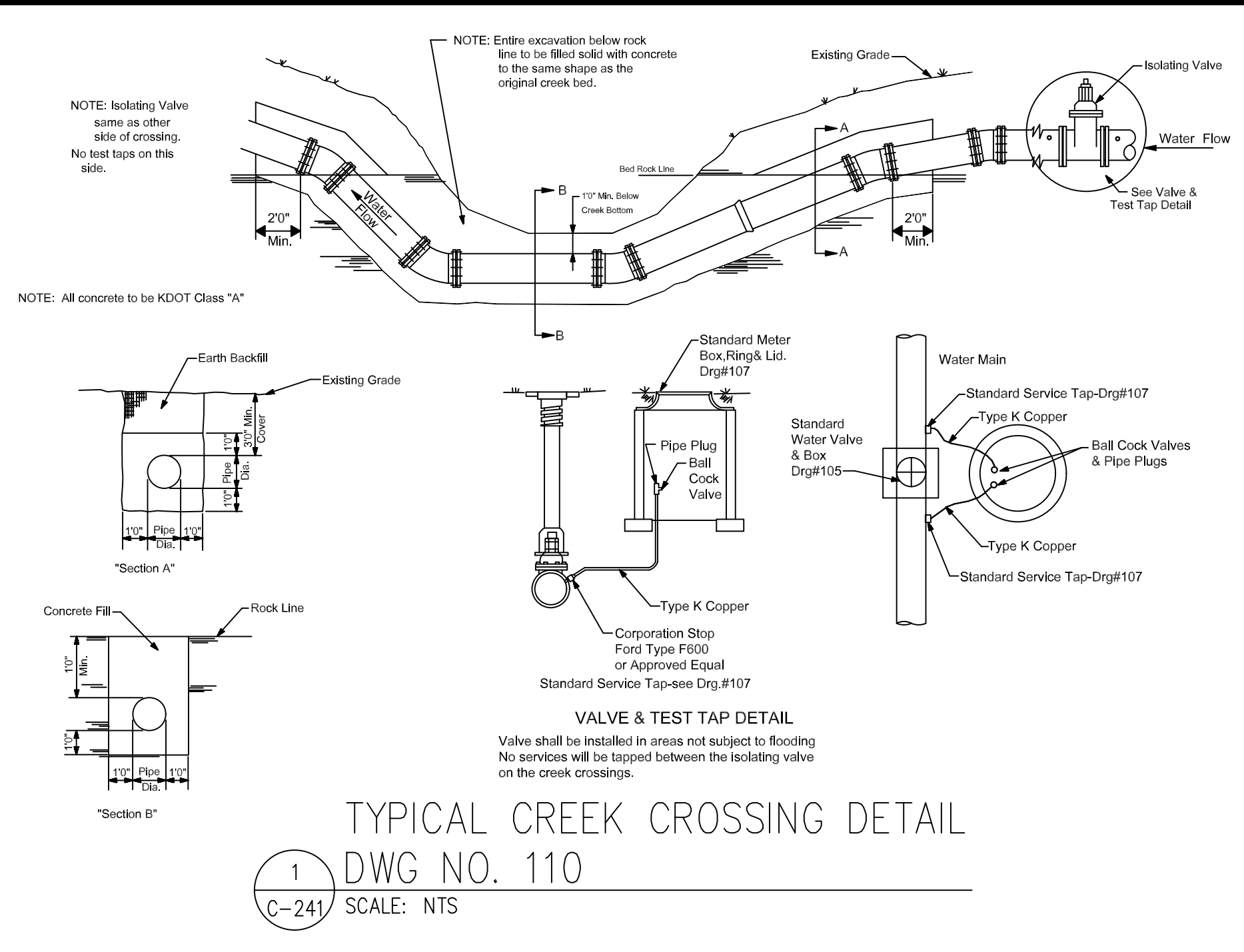
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
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PROJECT MANAGER: KGH

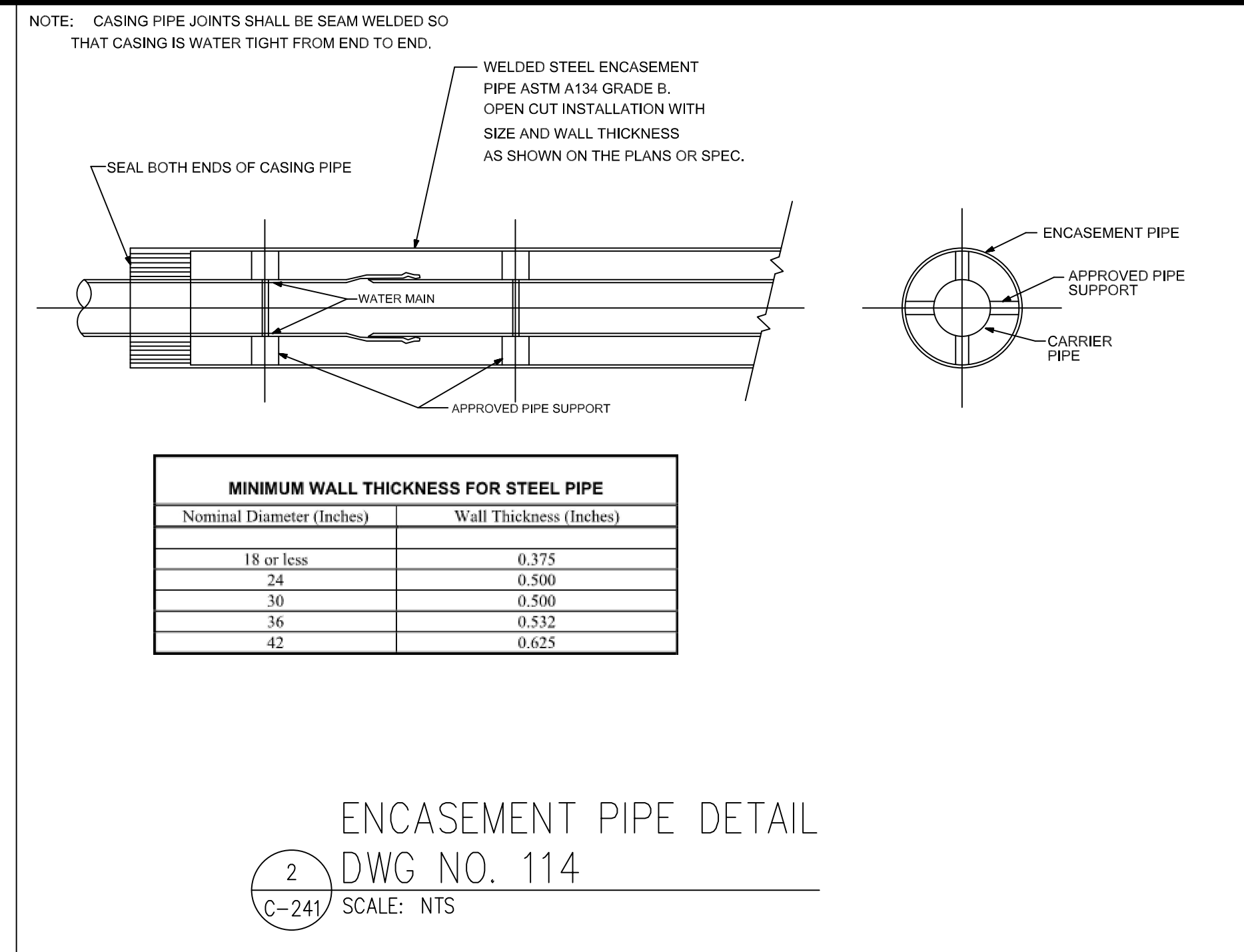
PROJECT NO. 23-001
SCALE: AS NOTED
DATE: 1-11-23

WATER DETAILS
SHEET: **C-230**



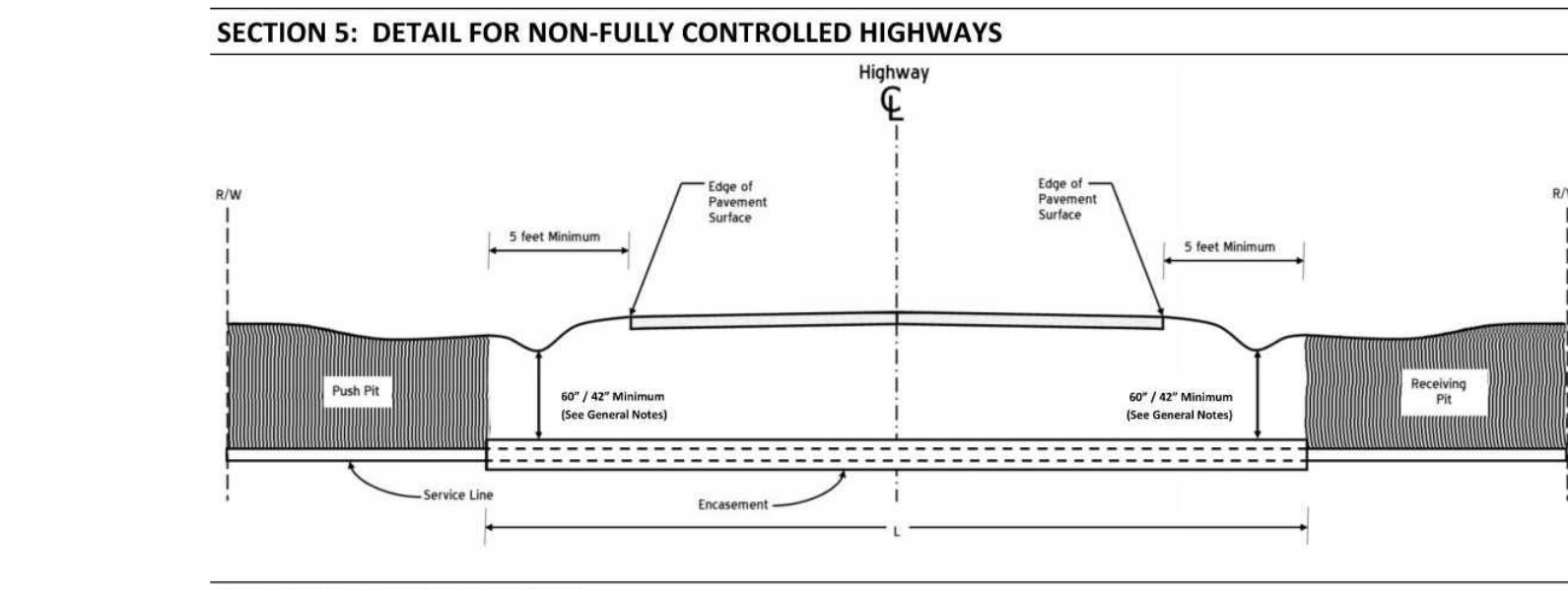
TYPICAL CREEK CROSSING DETAIL

1 DWG NO. 110
C-241 SCALE: NTS



ENCASUREMENT PIPE DETAIL

2 DWG NO. 114
C-241 SCALE: NTS

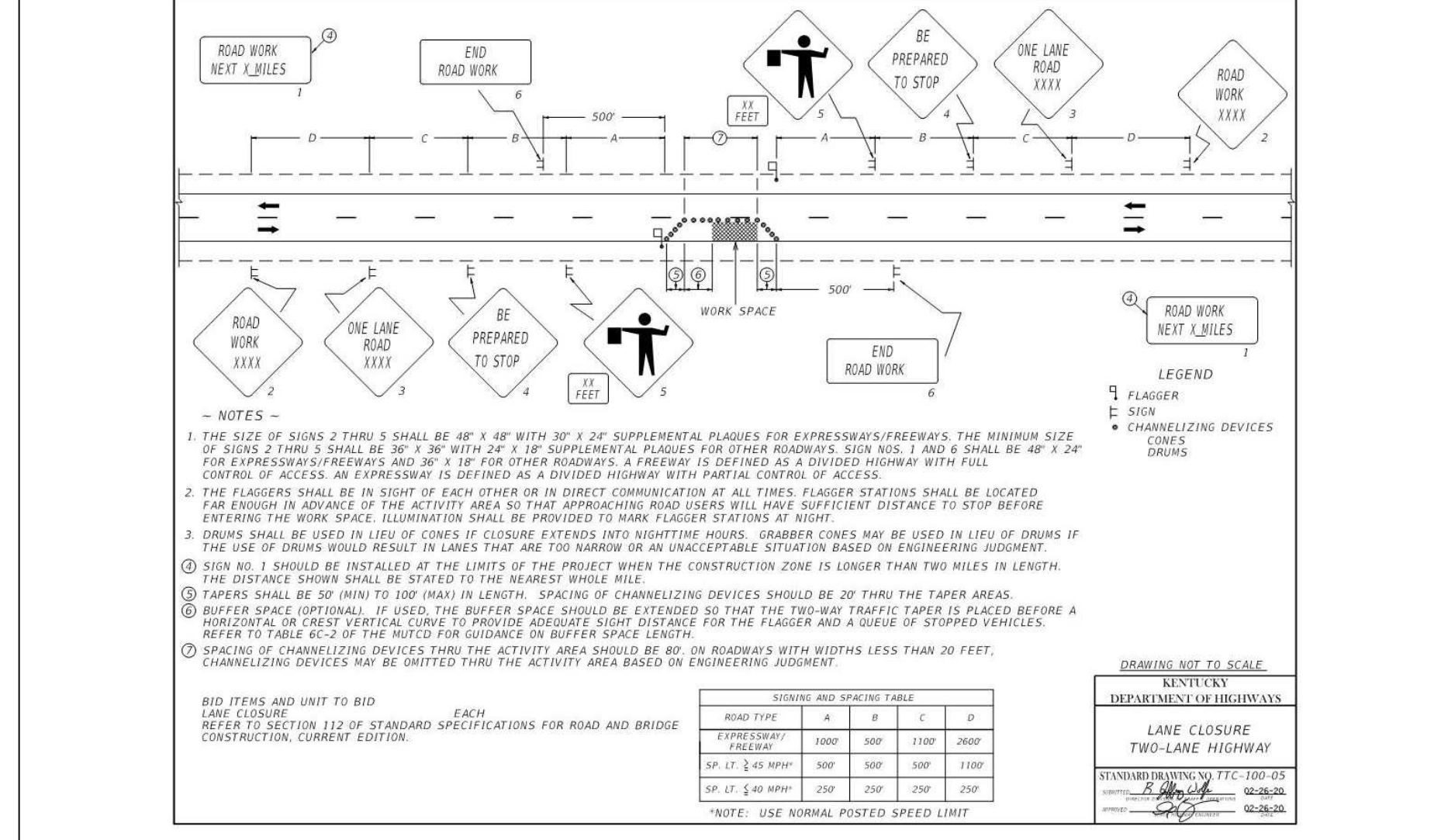


SECTION 6: GENERAL NOTES

- Push Pit and Receiving Pit shall be backfilled and thoroughly compacted.
- All ditch lines are to remain open at all times and restored to original condition.
- Shape, Seed and Straw all disturbed areas immediately after completing the work.
- Provide traffic control as required to ensure the safety of the traveling public in accordance with the current edition of the *Manual on Uniform Traffic Control Devices*.
- The minimum depth for underground electrical lines and natural gas and petroleum fraction lines under roadways, ramps, and ditch lines is 60". The minimum depth for underground electrical lines, natural gas and petroleum fraction lines, and all other underground utilities is 42" in all other areas, unless NESC requires additional depth.
- See *KYTC Permits Manual* for all requirements and specifications.

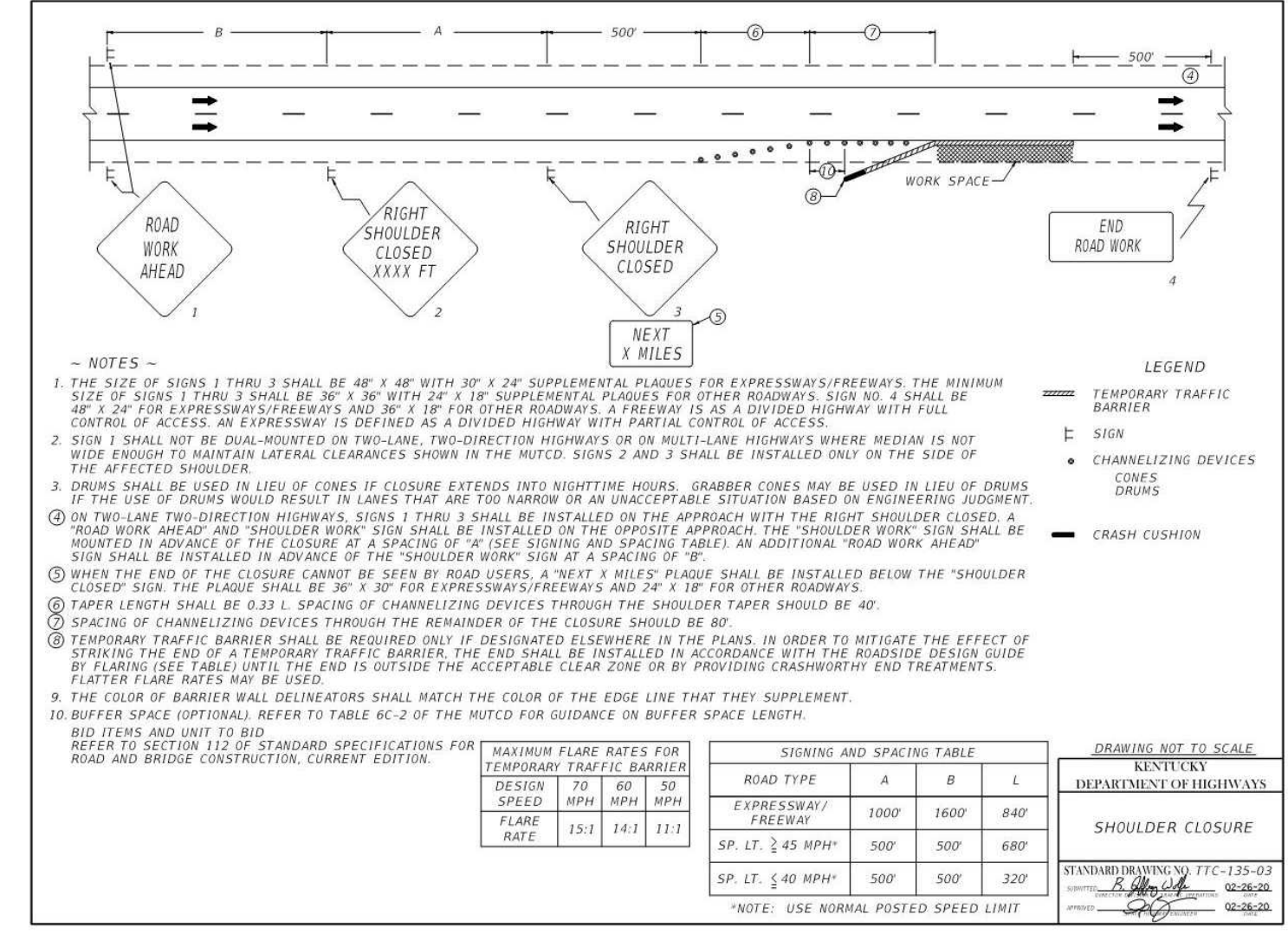
4 TYPICAL HIGHWAY BORE DETAIL

C-241 SCALE: NTS



5 SINGLE LANE CLOSURE DETAIL

C-241 SCALE: NTS



6 SHOULDER CLOSURE DETAIL

C-241 SCALE: NTS

REVISIONS

DATE	#	ITEM

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PROJECT:

WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:

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PROJECT MANAGER:

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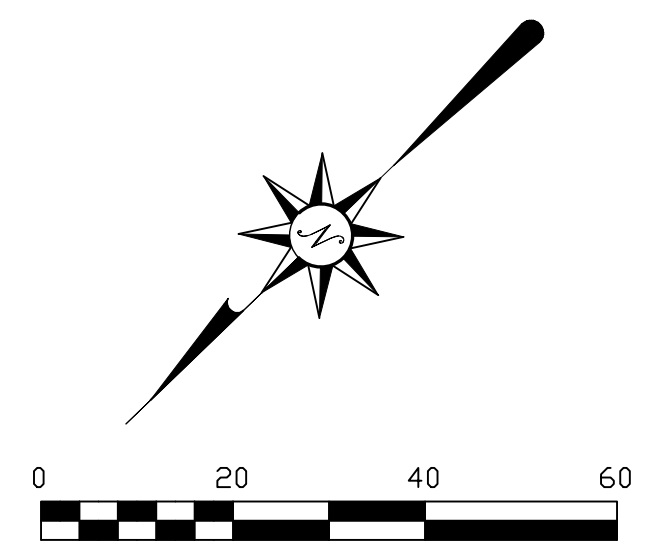
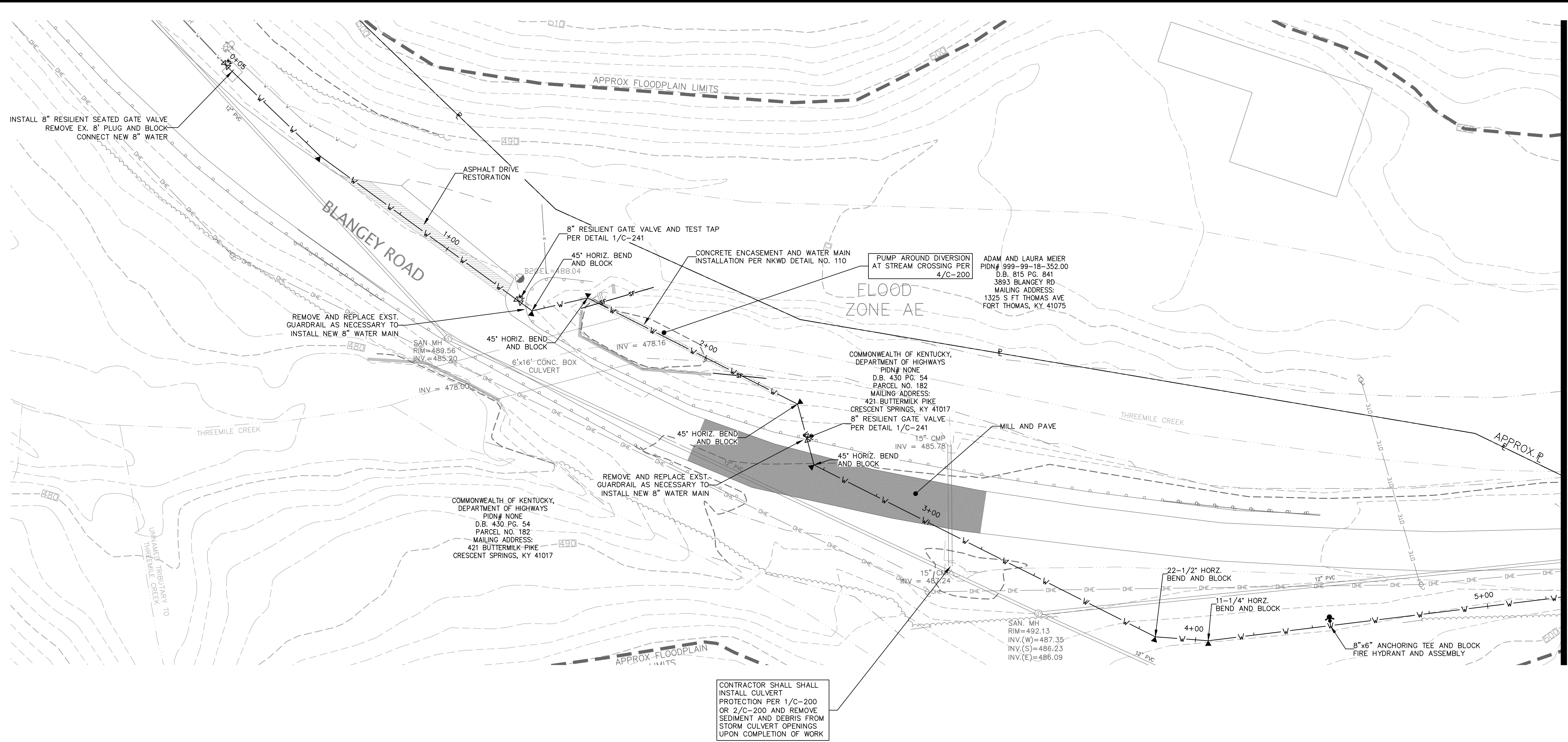
PROJECT NO. 23-001

SCALE AS NOTED

DATE 1-11-23

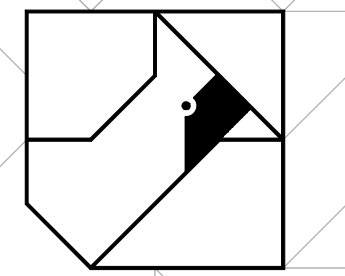
WATER DETAILS

SHEET C-241



SEE SHEET C-505

REVISIONS	DATE	#	ITEM
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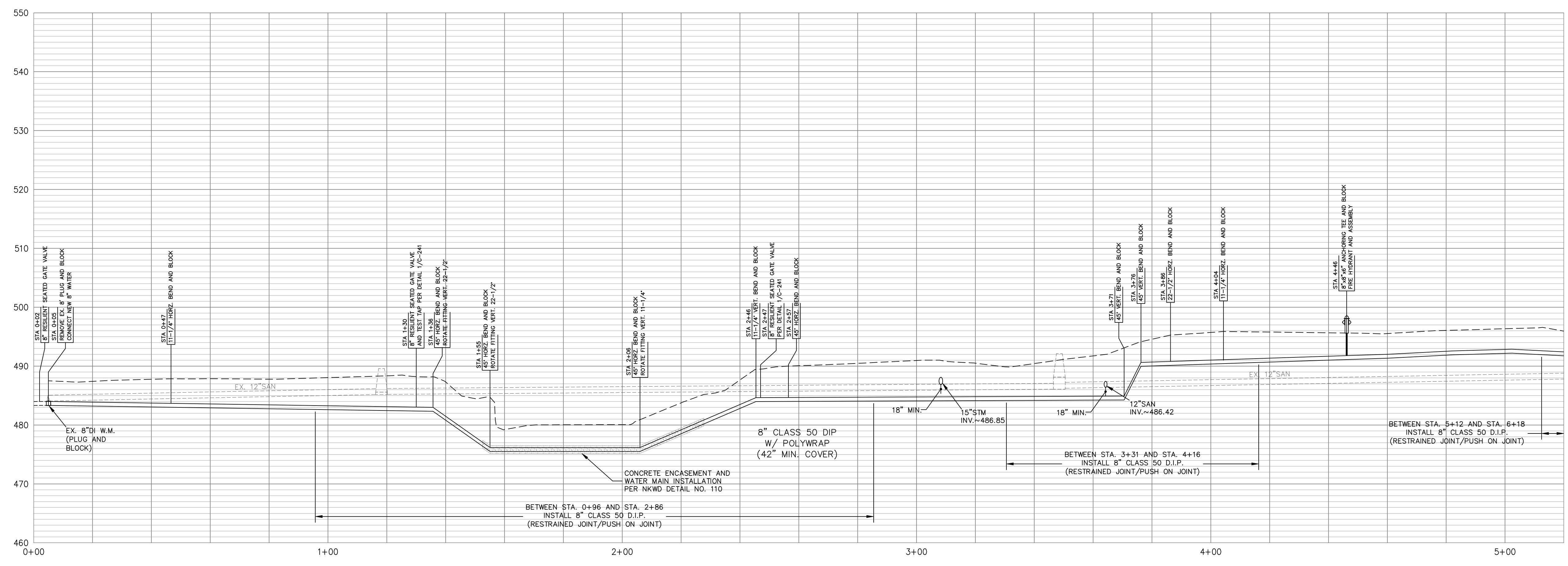


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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

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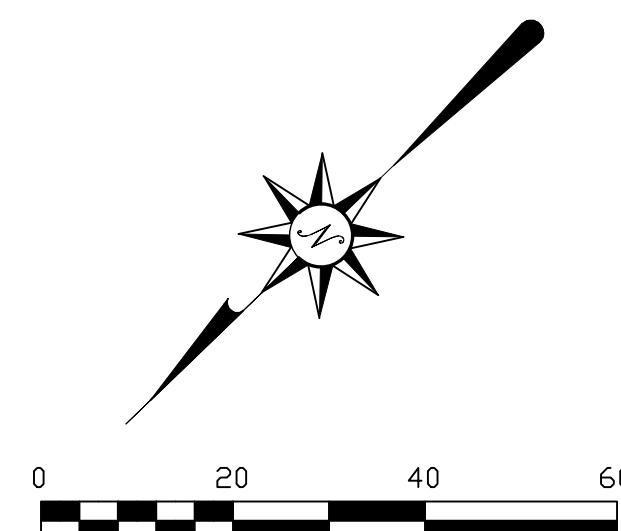
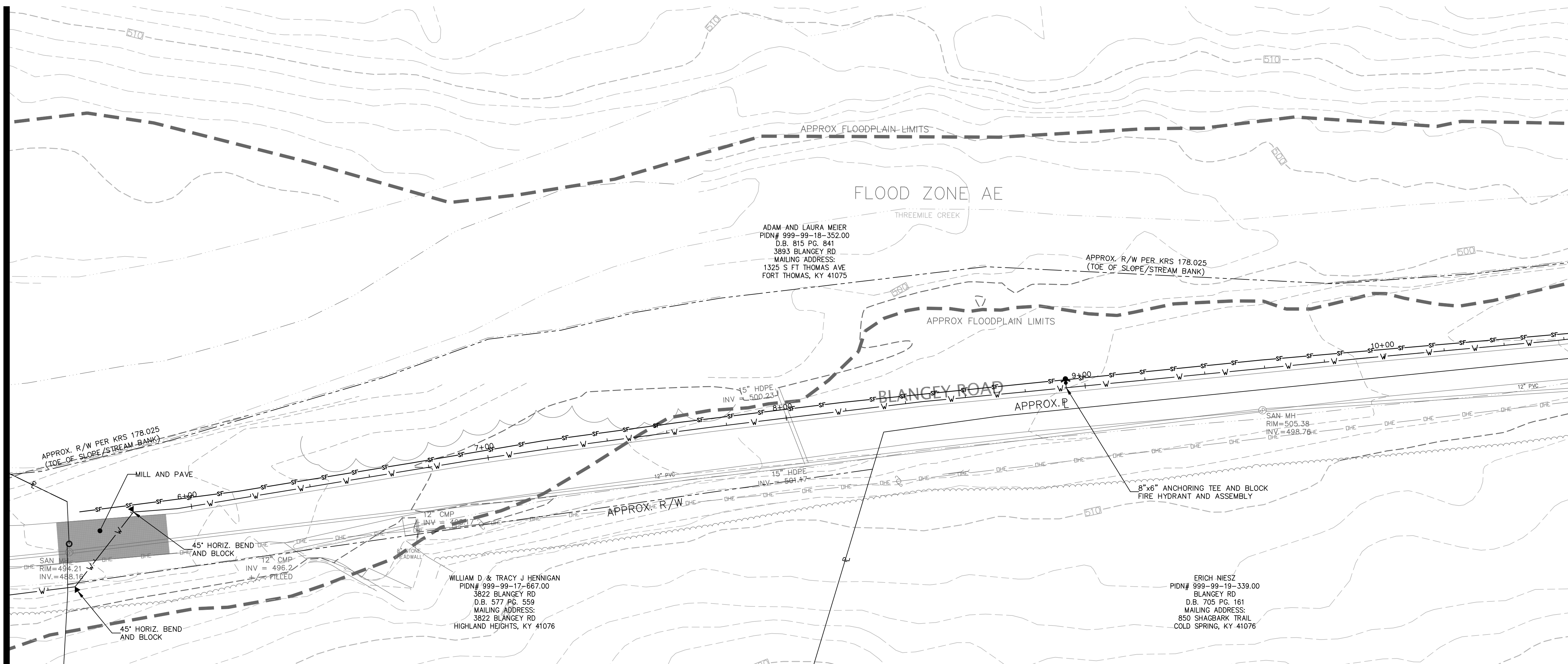
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PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

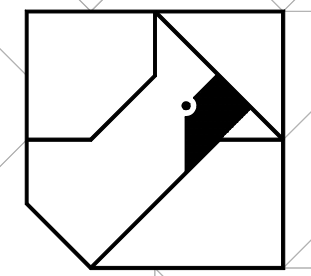
PLAN & PROFILE
SHEET **C-504**

SEE SHEET C-504



SEE SHEET C-506

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



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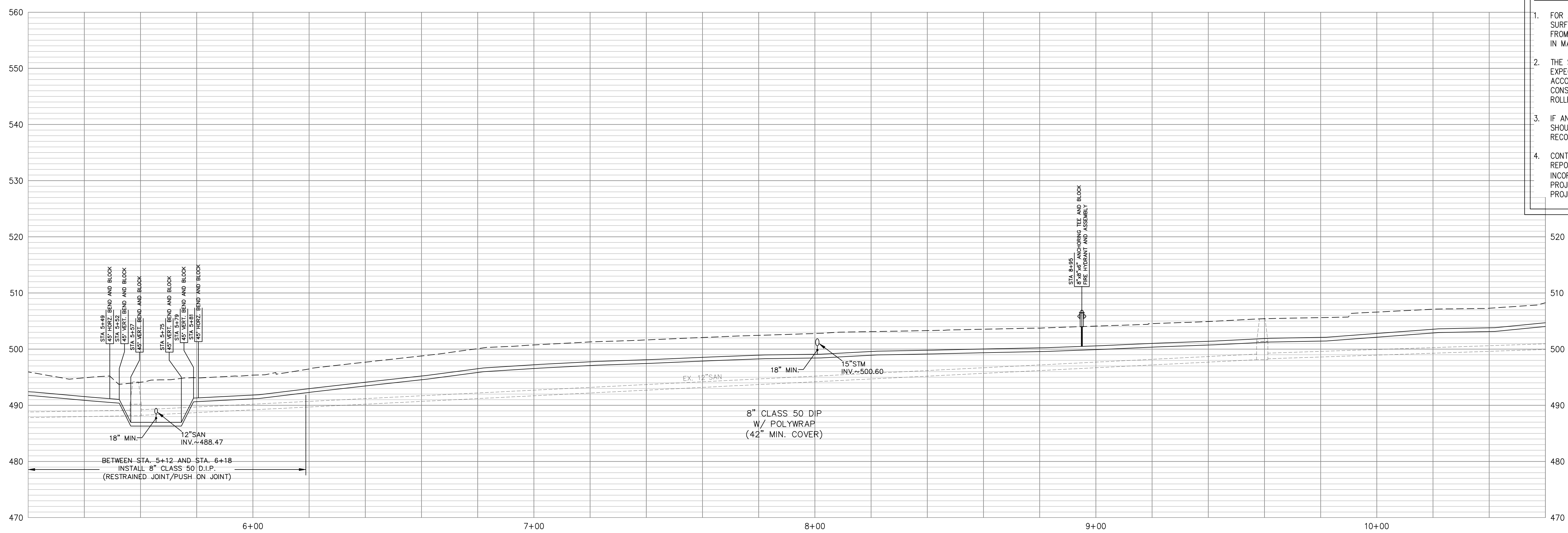
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PROJECT:
 WATER MAIN PLAN
 SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
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 2835 CRESCENT SPRINGS ROAD
 P.O. BOX 18640
 ERLANGER, KY 41018-0640

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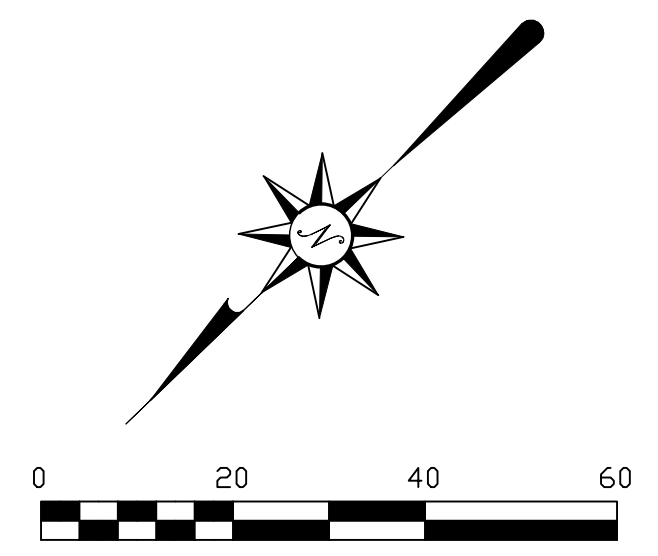
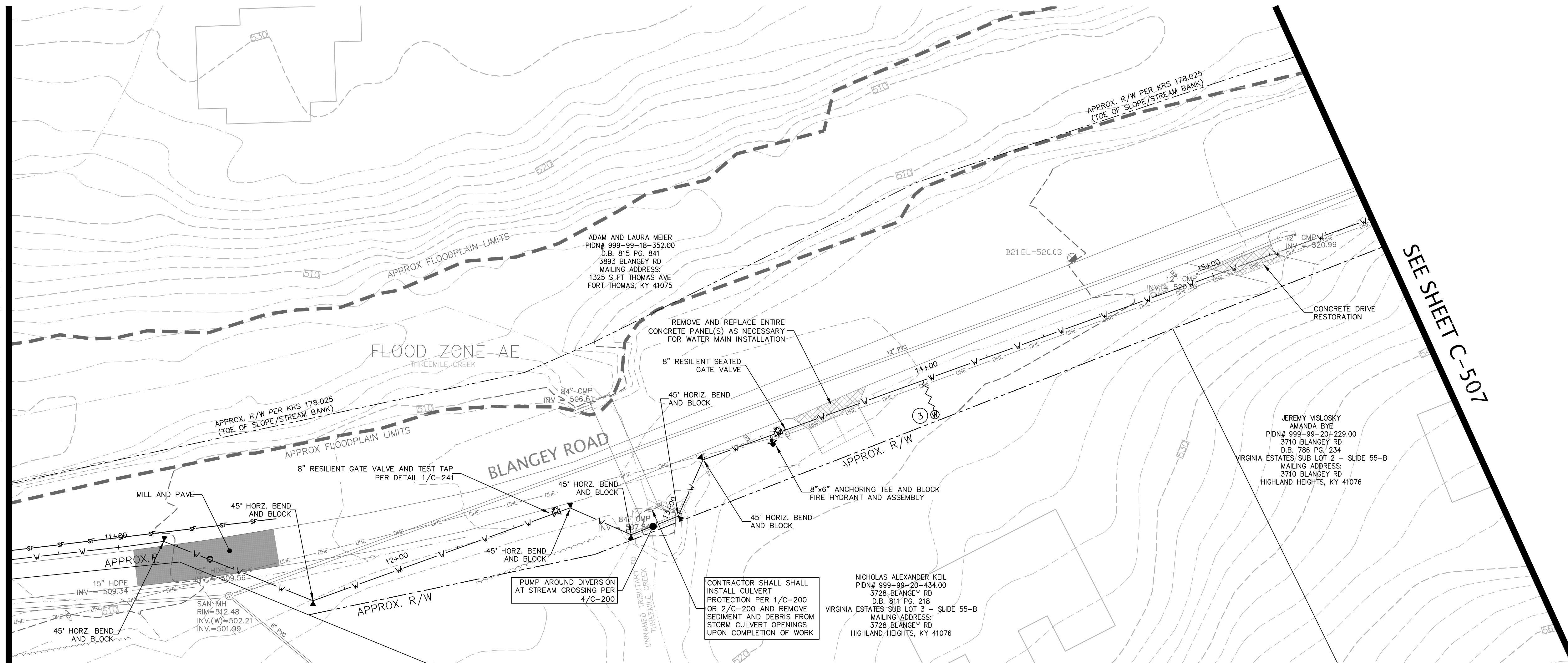


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PROJECT MANAGER:	
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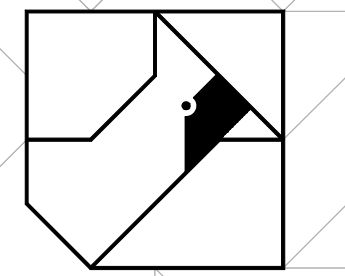
PROJECT NO. 23-001
 SCALE AS NOTED
 DATE 01-11-23

PLAN & PROFILE
 SHEET **C-505**

SEE SHEET C-505



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
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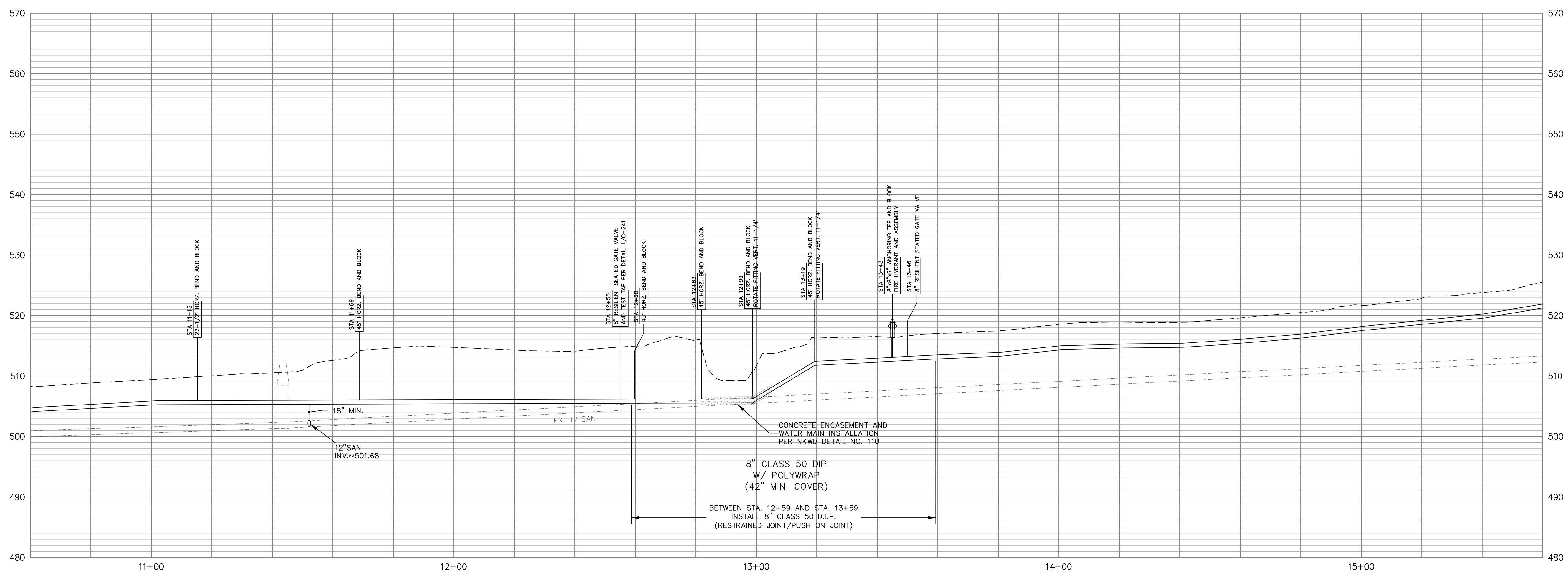
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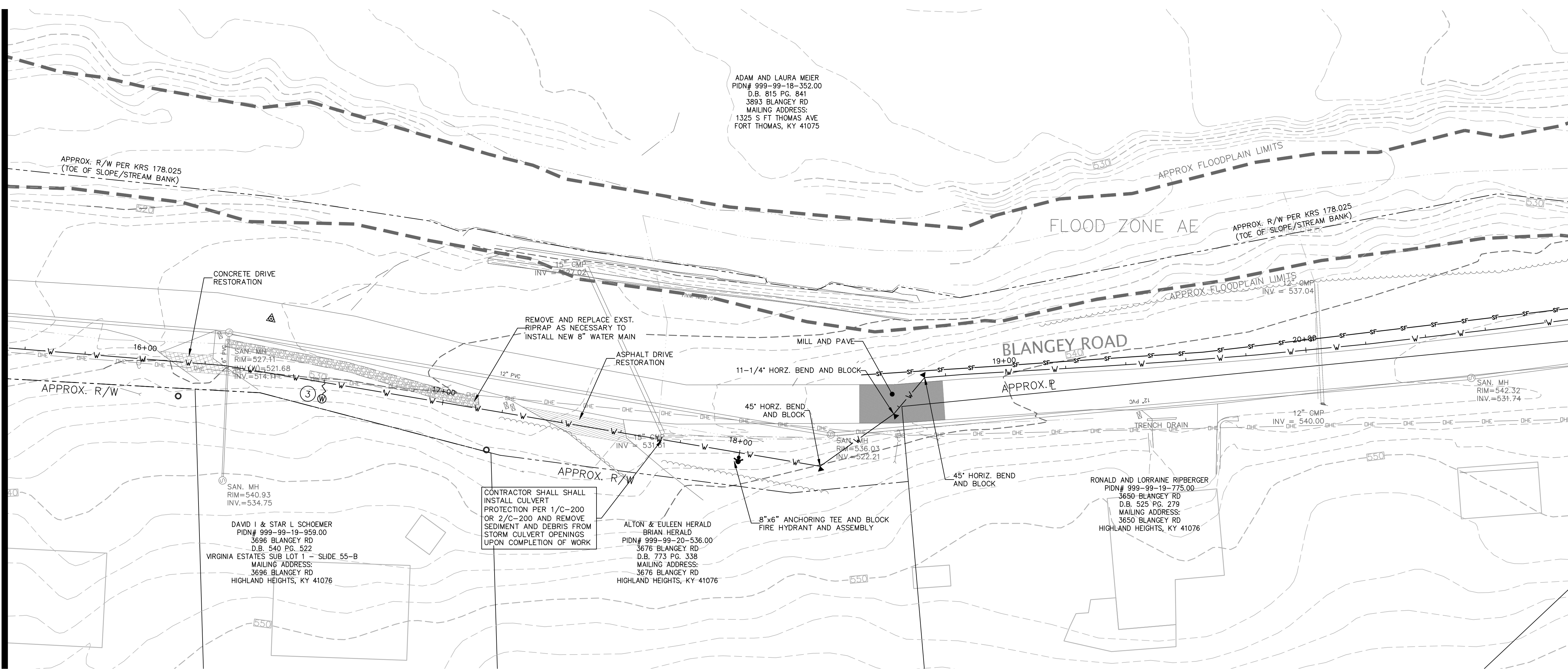


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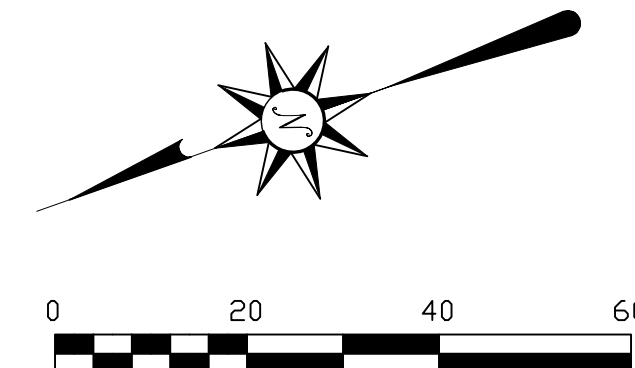
PROJECT NO. 23-001
SCALE AS NOTED
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PLAN & PROFILE
SHEET **C-506**

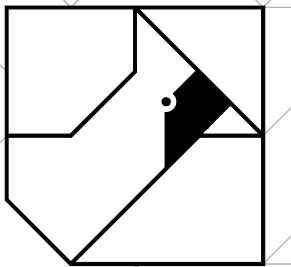
SEE SHEET C-506



SEE SHEET C-508



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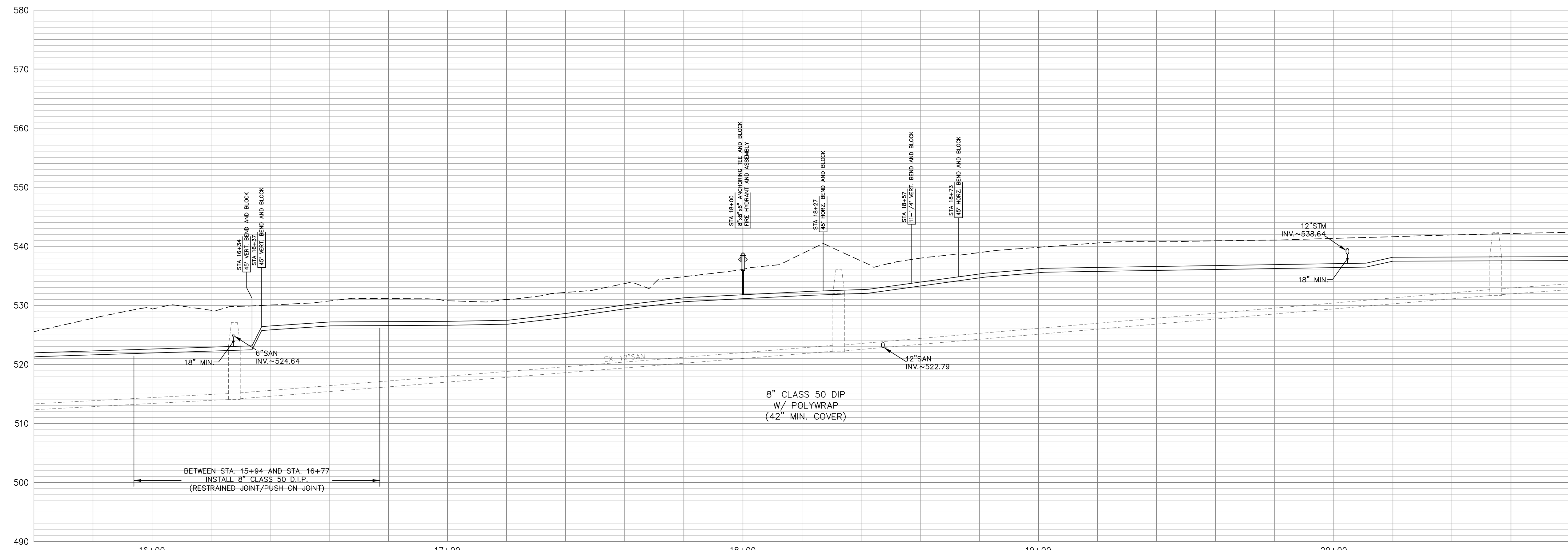
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WATER MAIN CONSTRUCTION NOTES

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CLIENT: NORTHERN KENTUCKY WATER DISTRICT
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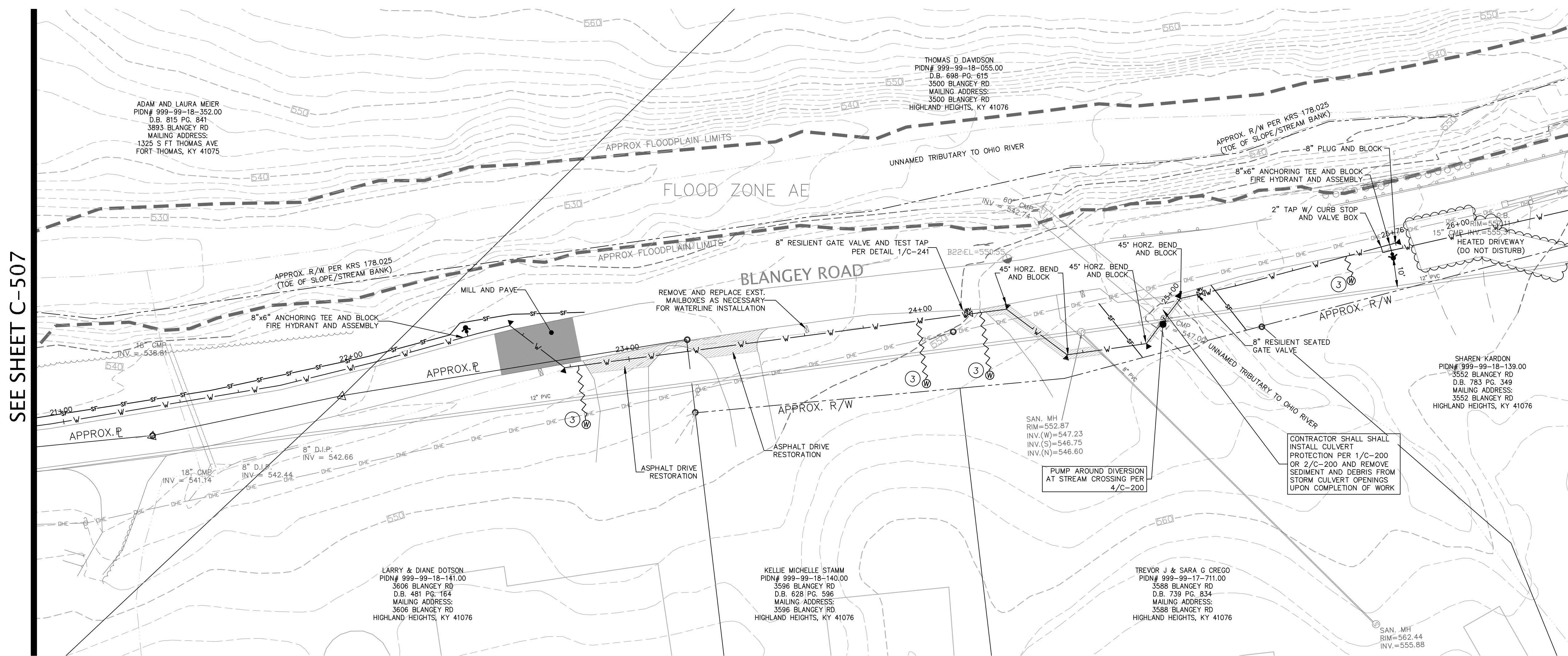
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PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
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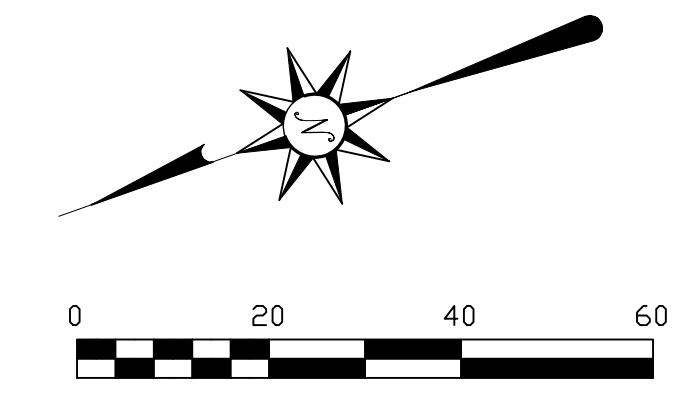
PLAN & PROFILE

SHEET **C-507**

SEE SHEET C-507

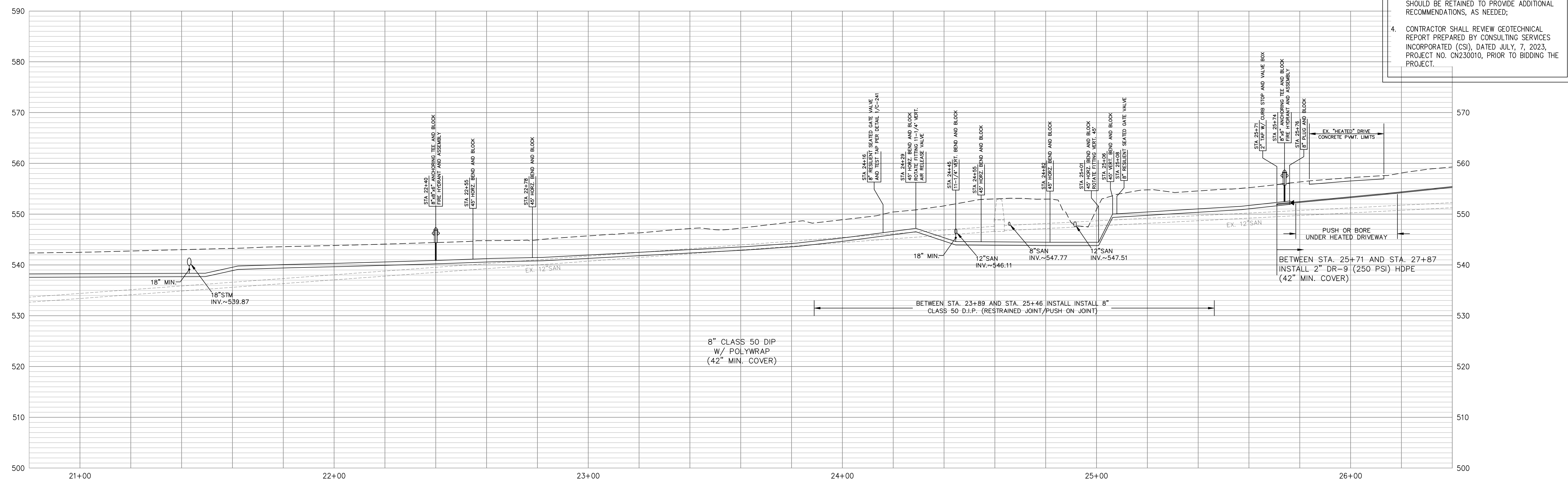


SEE SHEET C-509



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SUB DISTRICT HB WATER MAIN EXTENSION

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KGH

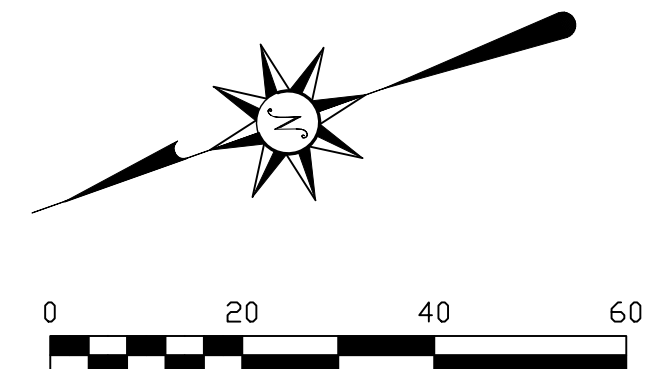
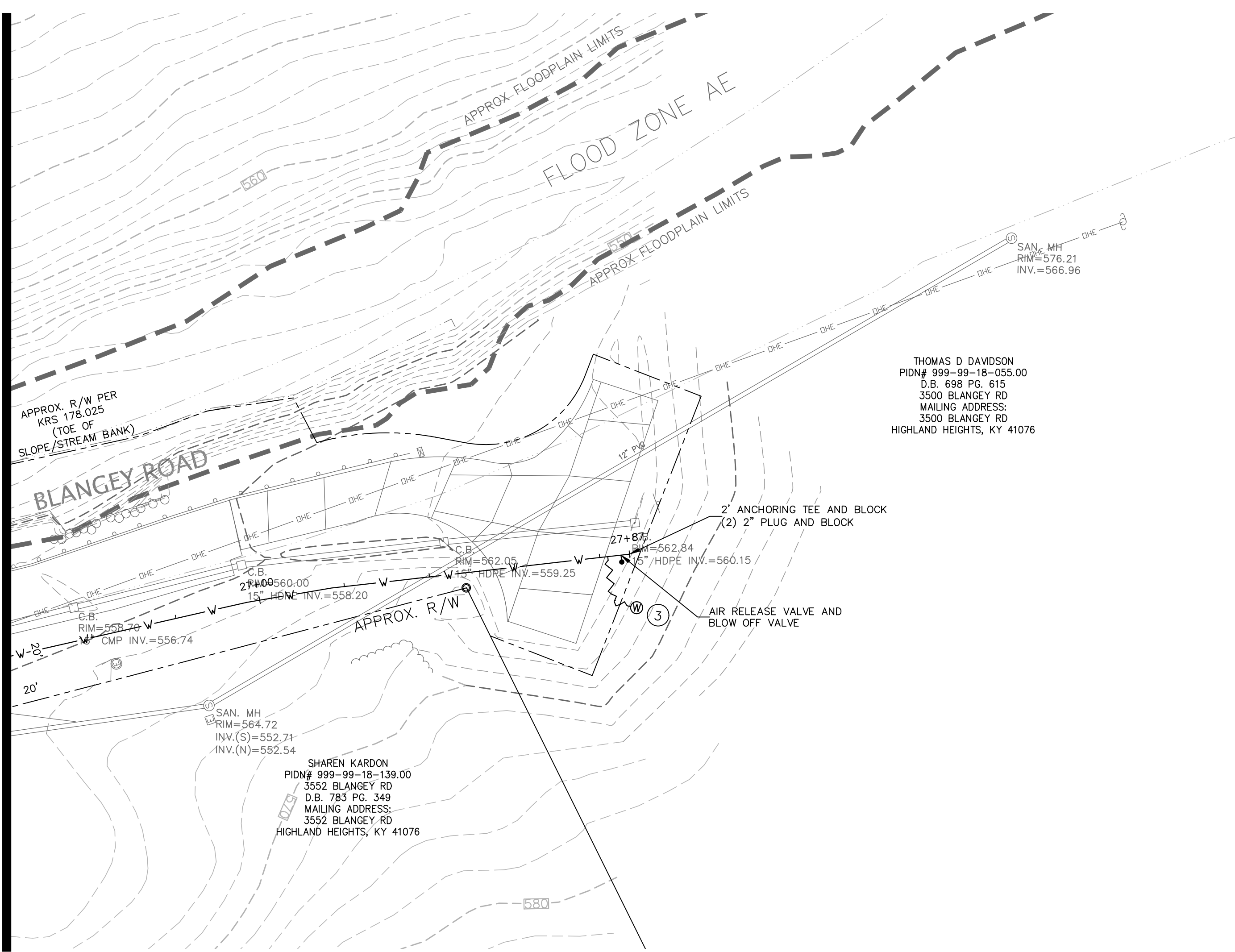
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KGH

PROJECT MANAGER: KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET C-508

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THOMAS D DAVIDSON
 PIDN# 999-99-18-055.00
 D.B. 698 PG. 615
 3500 BLANGEY RD
 MAILING ADDRESS:
 3500 BLANGEY RD
 HIGHLAND HEIGHTS, KY 41076

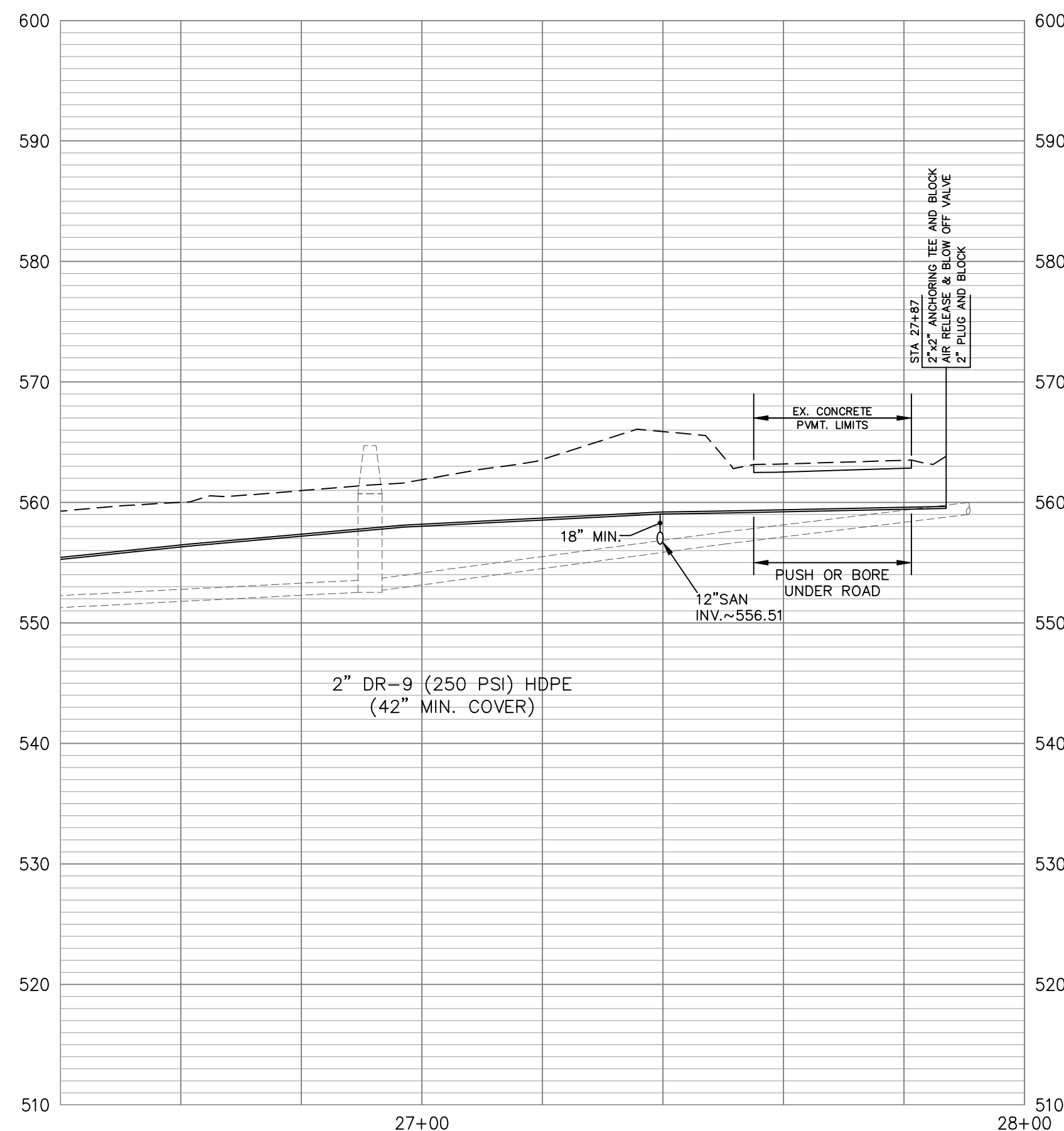
SHAREN KARDON
 PIDN# 999-99-18-139.00
 3552 BLANGEY RD
 D.B. 783 PG. 349
 MAILING ADDRESS:
 3552 BLANGEY RD
 HIGHLAND HEIGHTS, KY 41076

WATER MAIN CONSTRUCTION NOTES

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2. THE COST OF CLEARING, TREE REMOVAL, AND THE REMOVAL/REPLACEMENT OF MAILBOXES, STREET SIGNS, LANDSCAPING, HARDSCAPING, CULVERT PIPES, GUARDRAIL, AND FENCES IS INCIDENTAL TO THE COST OF INSTALLING THE WATER MAIN.
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REVISIONS DATE	#	ITEM
05-01-24	2	REV PER NKWD
07-29-24	3	REV PER NKWD

CARDINAL
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 ONE MOCK ROAD
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 PHONE: (859) 581-9600
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PROJECT:
 WATER MAIN PLAN
 SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
 NORTHERN KENTUCKY WATER DISTRICT
 2835 CRESCENT SPRINGS ROAD
 P.O. BOX 18640
 ERLANGER, KY 41018-0640

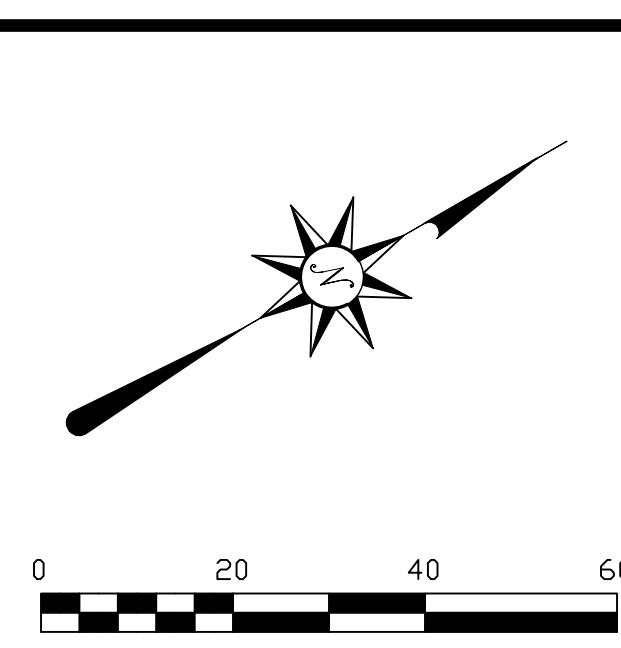
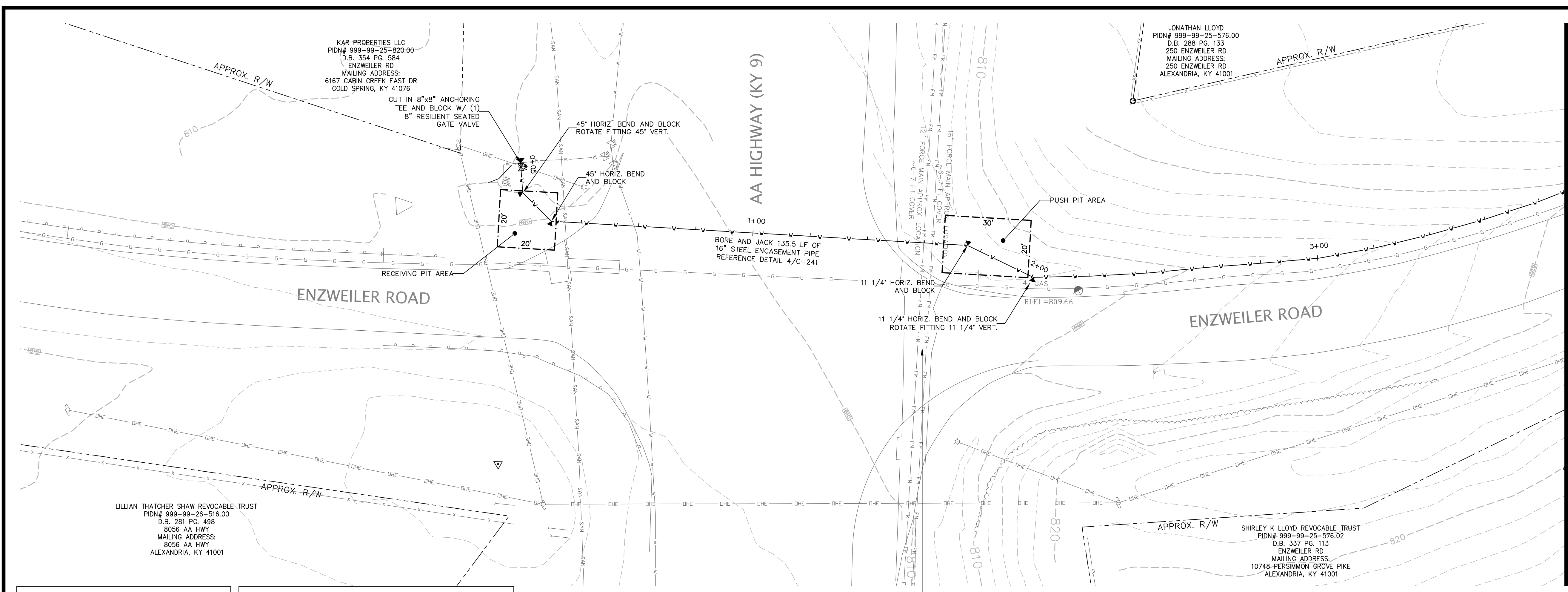
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 KGH

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PROJECT MANAGER:
 KGH

PROJECT NO. 23-001
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PLAN & PROFILE
SHEET C-509



REVISIONS		
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SEE SHEET C-511

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SECTION 706 - ENCASEMENT PIPE

706.01 DESCRIPTION. PROVIDE AN ENCASEMENT PIPE, OPEN CUT OR A BORED AND JACKED PIPE UNDER A ROADWAY OR OTHER SENSITIVE AREA.

706.02 MATERIALS.

706.02.01 WELDED AND SEAMLESS STEEL PIPE, CONFORM TO THE FOLLOWING TABLE FOR THE MINIMUM WALL THICKNESS FOR STEEL PIPE.

NOMINAL DIAMETER (INCHES)	WALL THICKNESS INCHES
18 OR LESS	0.375
24	0.500
30	0.500
36	0.532
42	0.625

706.03 CONSTRUCTION.

706.03.01 OPEN CUT. INSTALL THE PIPE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION PROCEDURES. WHEN THE ENGINEER REQUESTS, PROVIDE A MANUFACTURER'S TECHNICAL REPRESENTATIVE TO ASSIST IN PIPE INSTALLATION.

706.03.02 BORE AND JACK. CONSTRUCT ACCESS PITS ON BOTH SIDES OF THE AREA TO BE TUNNELED, ONE FOR THE BORING EQUIPMENT AND ONE ON THE RECEIVING END.

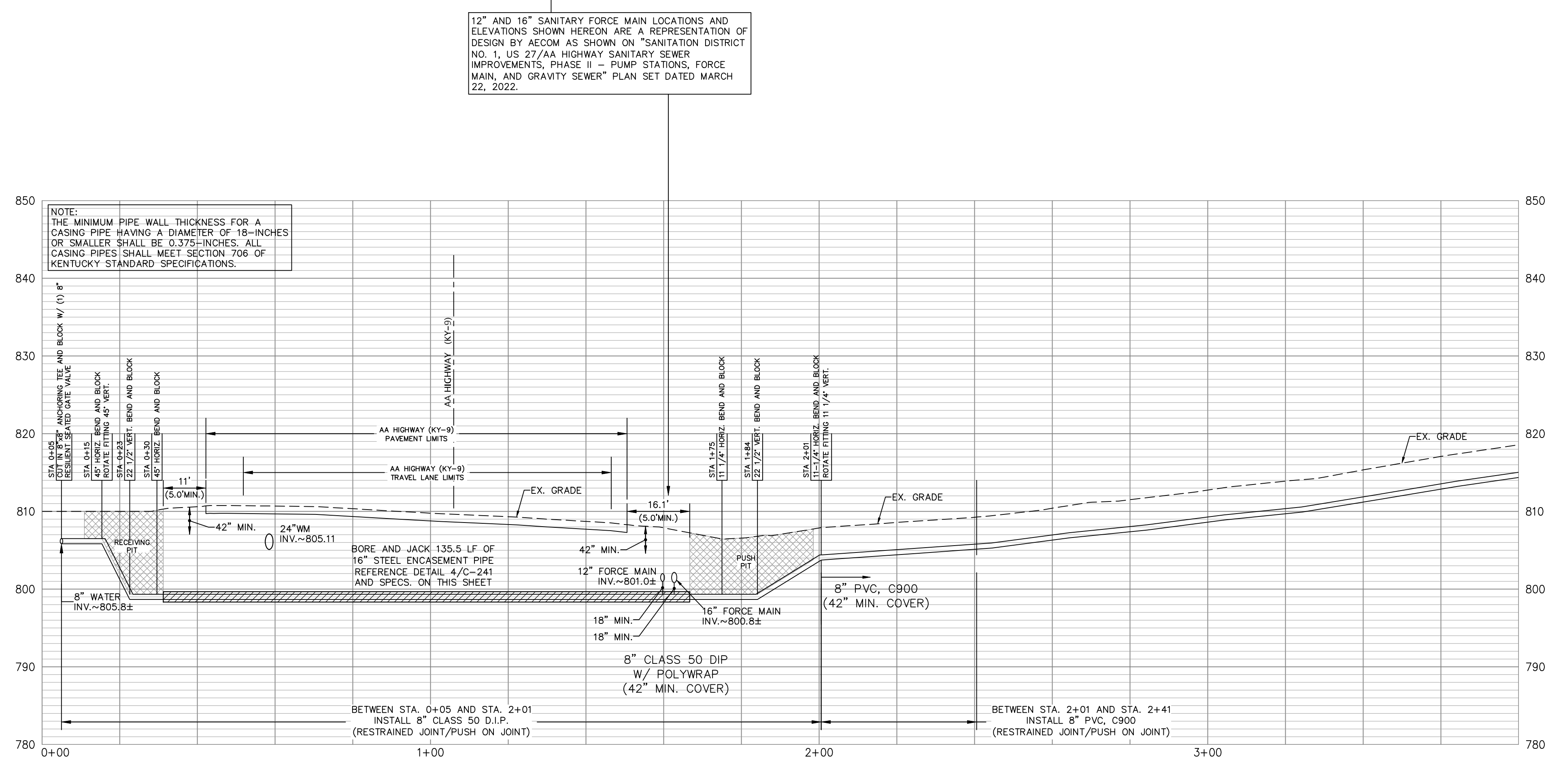
USE A BORING AND JACKING MACHINE THAT IS CAPABLE OF KEEPING THE ADVANCED BORE HOLE WITHIN THE REQUIRED ALIGNMENT. MAINTAIN THE ALIGNMENT OF THE GUIDE RAILS TO THE PROPER LINE AND GRADE, IMMEDIATELY CORRECTING ANY POSSIBLE DISPLACEMENT, UNTIL COMPLETING THE BORING AND JACKING OPERATION.

USE A SMOOTH CASING PIPE OF SUFFICIENT STRENGTH AND DIAMETER TO PROVIDE A TIGHT FIT AGAINST THE EARTH SIDES OF THE BORE HOLE AND OF SUFFICIENT SIZE TO ALLOW INSTALLATION OF THE CARRIER PIPE AND ANY REQUIRED POSITIVE ANCHORAGE. WELD THE JOINTS WITH A CONTINUOUS CIRCUMFERENTIAL WELD.

FREQUENTLY CHECK THE LINE AND GRADE AND ADJUST THE ALIGNMENT AS PRACTICAL. WHEN A PHYSICAL OBSTRUCTION OR OTHER SITUATION REQUIRES THE ABANDONMENT OF A PARTIALLY COMPLETED BORE HOLE AND THE STARTING A NEW HOLE, BACKFILL AS THE ENGINEER DIRECTS.

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- KYTC BORING AND CONSTRUCTION NOTES**
- PUSH PIT AND RECEIVING PIT SHALL BE BACKFILLED AND THOROUGHLY COMPACTED.
 - ALL DITCH LINES ARE TO REMAIN OPEN AT ALL TIMES AND RESTORED TO ORIGINAL CONDITION.
 - SHAPE, SEED, AND STRAW ALL DISTURBED AREAS IMMEDIATELY AFTER COMPLETING THE WORK.
 - PROVIDE TRAFFIC CONTROL AS REQUIRED TO INSURE THE SAFETY OF THE TRAVELING PUBLIC IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
 - THE MINIMUM DEPTH FOR UNDERGROUND ELECTRICAL LINES AND NATURAL GAS AND PETROLEUM FRACTION LINES UNDER ROADWAYS, RAMPS, AND DITCH LINES IS 60". THE MINIMUM DEPTH FOR UNDERGROUND ELECTRICAL LINES AND NATURAL GAS AND PETROLEUM FRACTION LINES, AND ALL OTHER UNDERGROUND UTILITIES IS 42" IN ALL OTHER AREAS, UNLESS NESCC REQUIRES ADDITIONAL DEPTH.
 - SEE "KYTC PERMITS MANUAL" FOR ALL REQUIREMENTS AND SPECIFICATIONS.



PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
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ERLANGER, KY 41018-0640

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PROJECT MANAGER: KGH

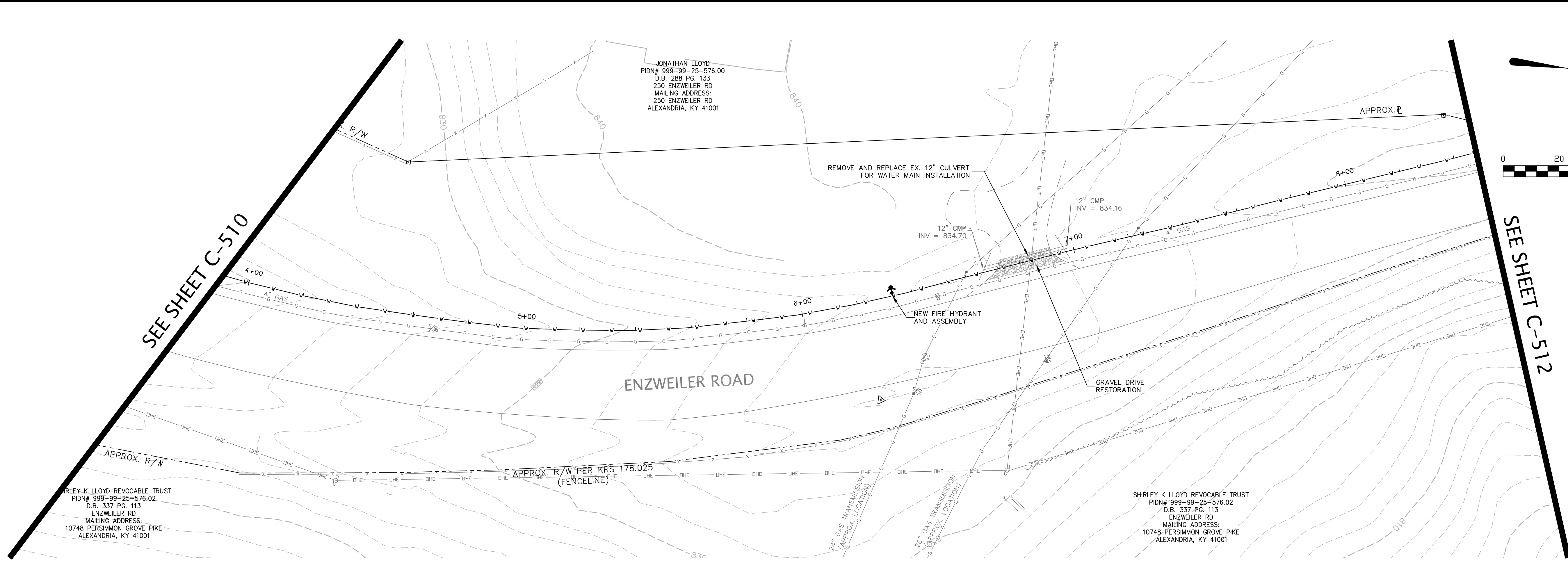
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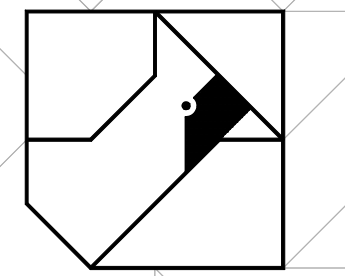
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PLAN & PROFILE

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REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



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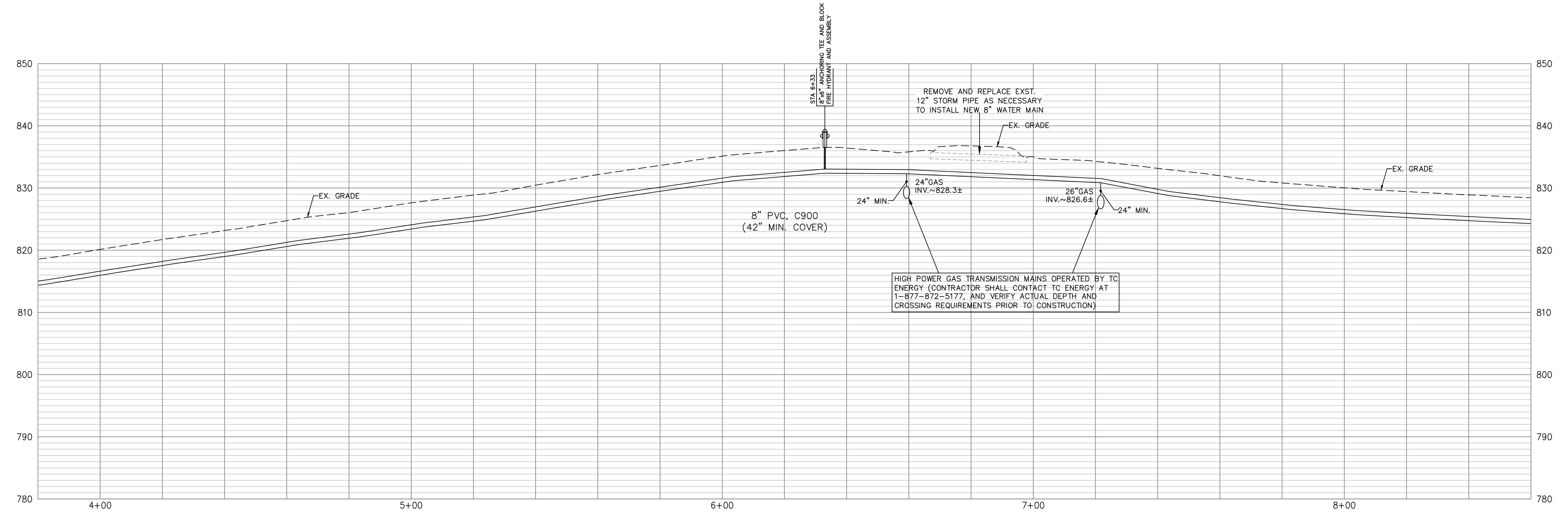
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SUB DISTRICT HB WATER MAIN EXTENSION

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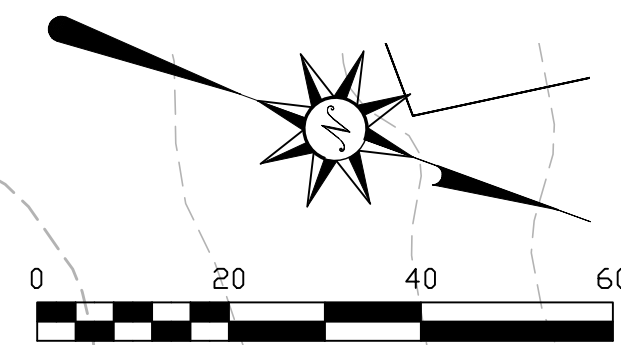
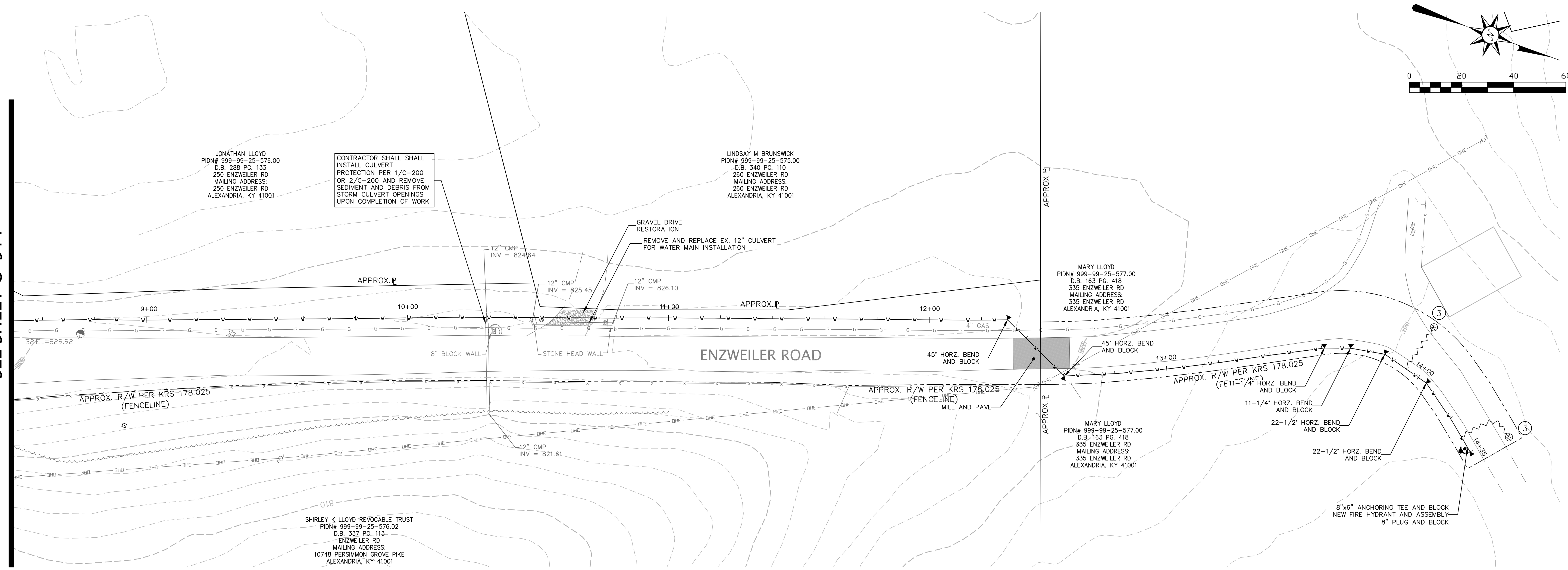


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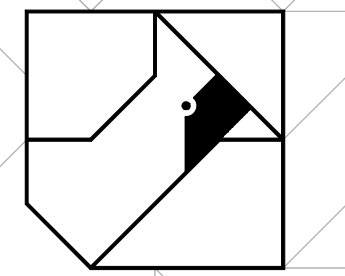
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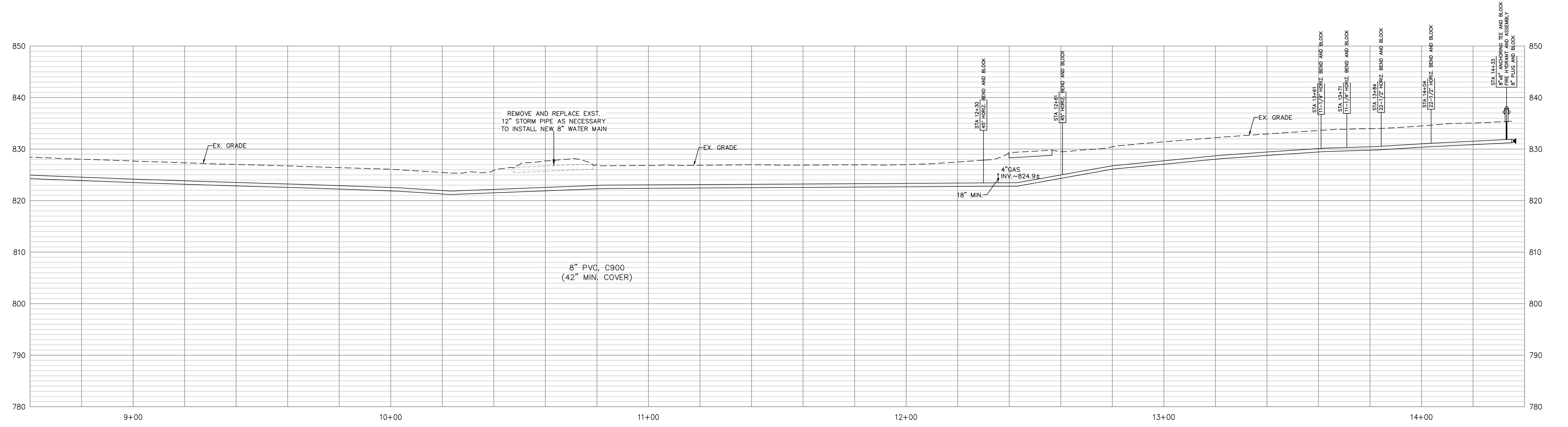
CARDINAL
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2835 CRESCENT SPRINGS ROAD
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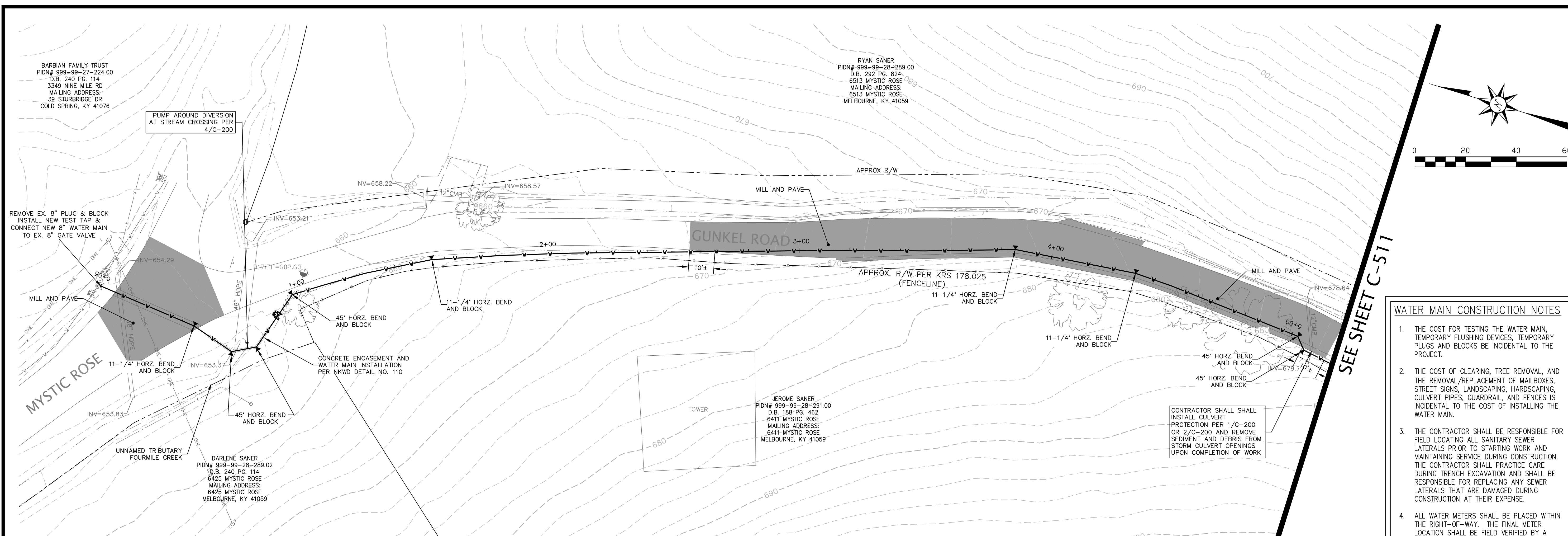
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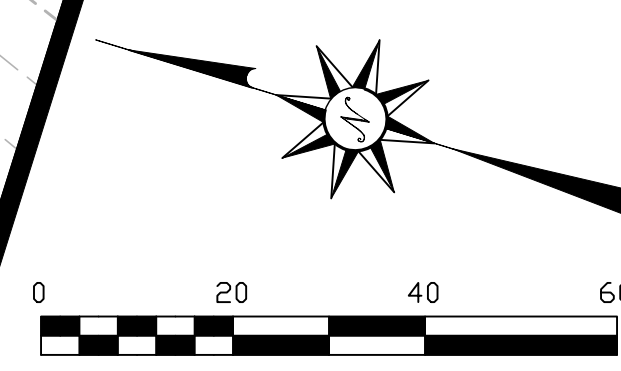
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PLAN & PROFILE
SHEET C-512



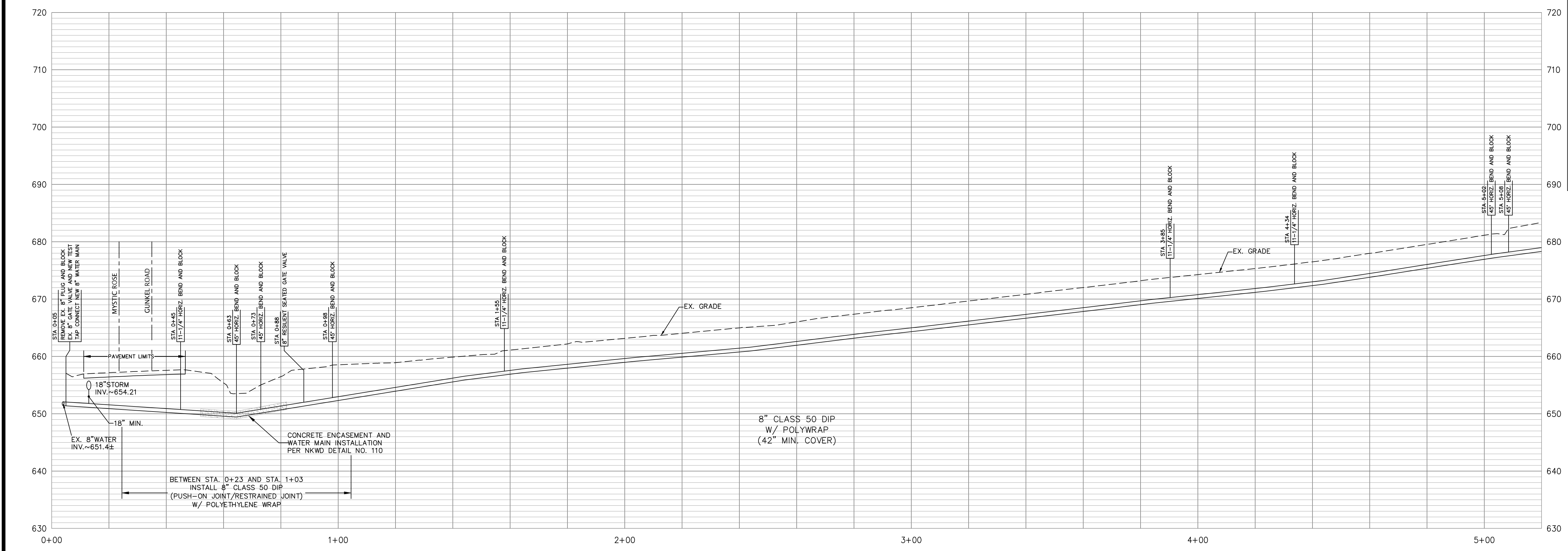
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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
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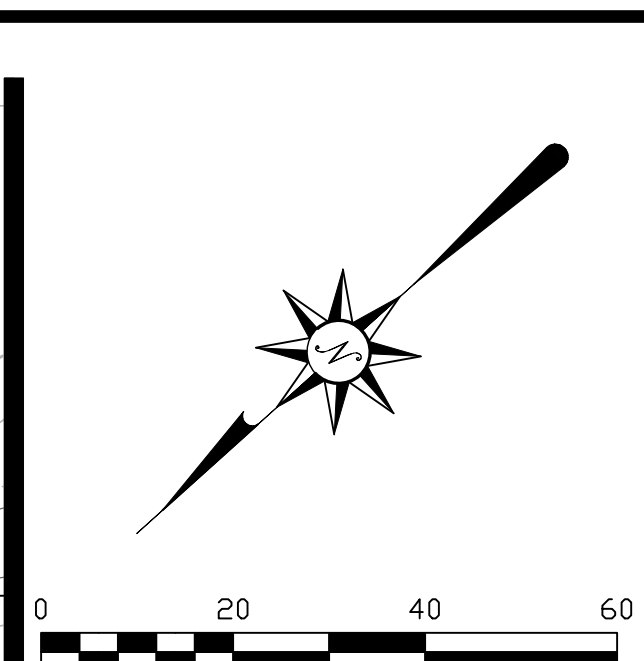
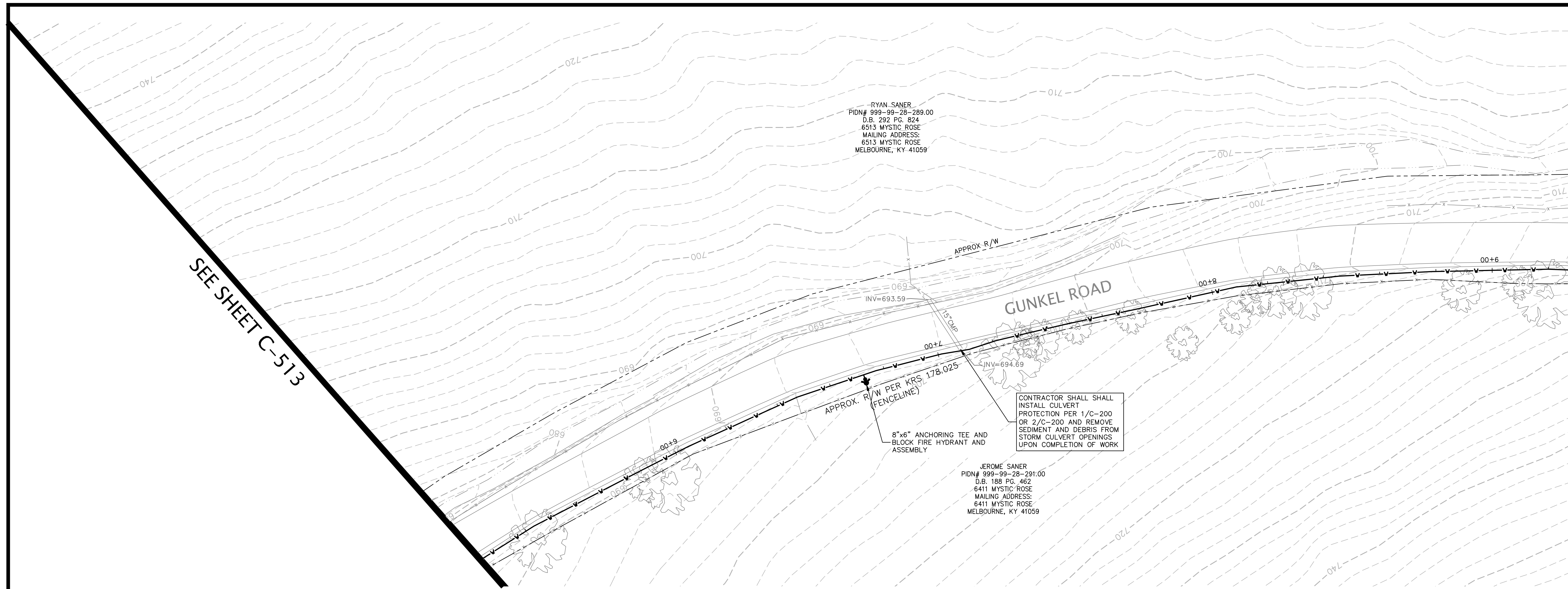
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KGH

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PROJECT MANAGER: KGH

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PLAN & PROFILE
SHEET **C-513**



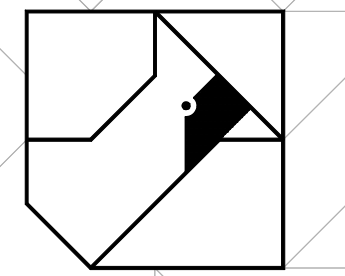
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SEE SHEET C-515

RYAN SANER
PID# 999-99-28-289.00
D.B. 292 PG. 824
6513 MYSTIC ROSE
MAILING ADDRESS:
6513 MYSTIC ROSE
MELBOURNE, KY 41059

GEROME SANER
PID# 999-99-28-291.00
D.B. 188 PG. 462
6411 MYSTIC ROSE
MAILING ADDRESS:
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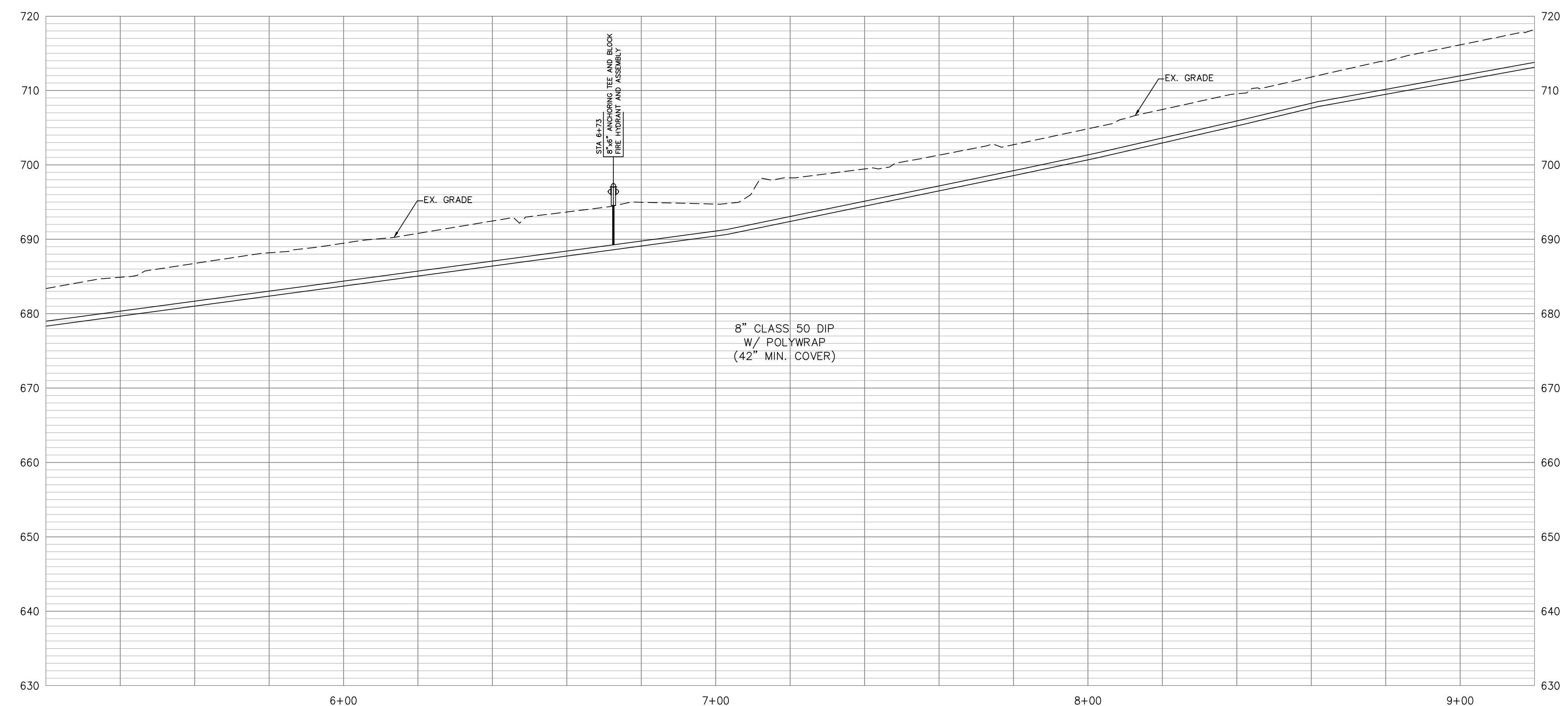


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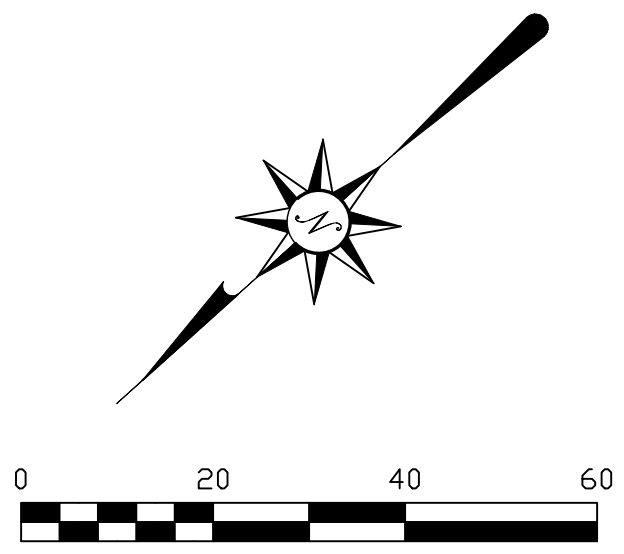
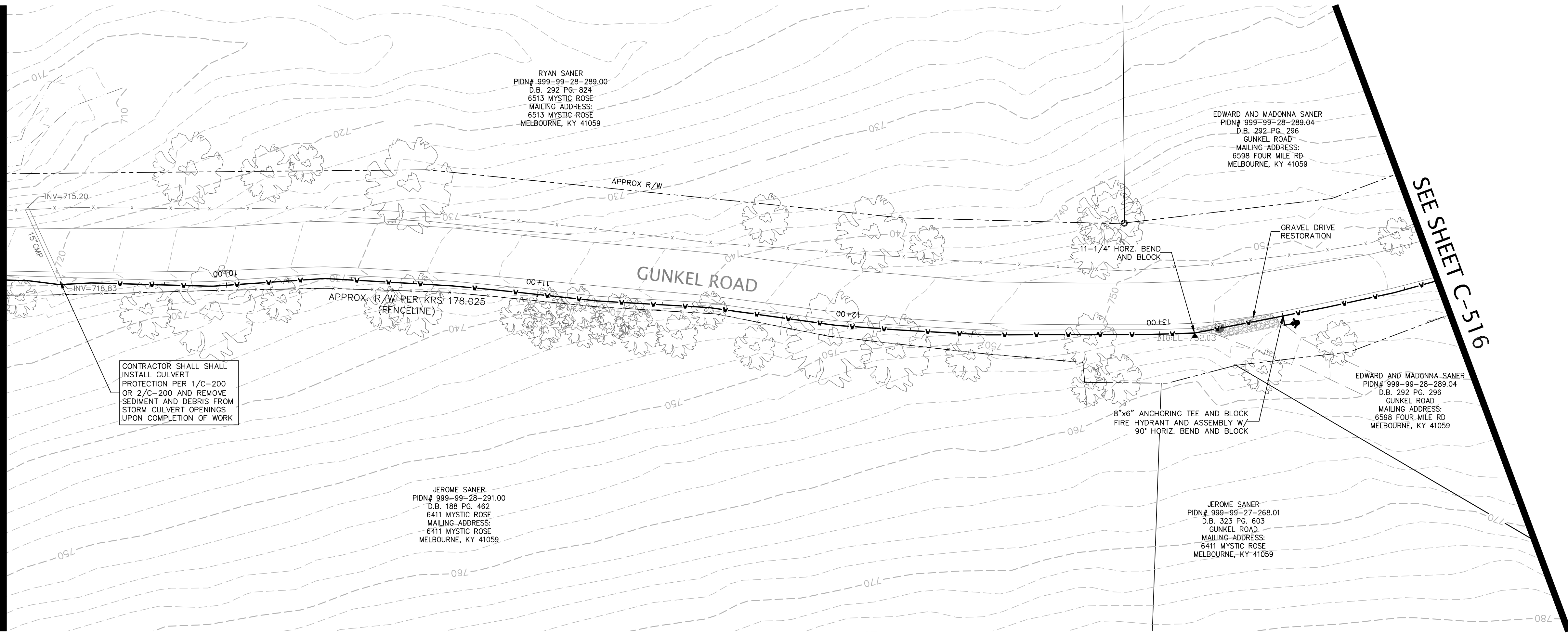
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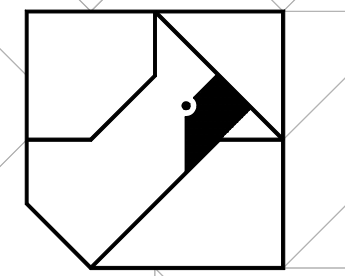
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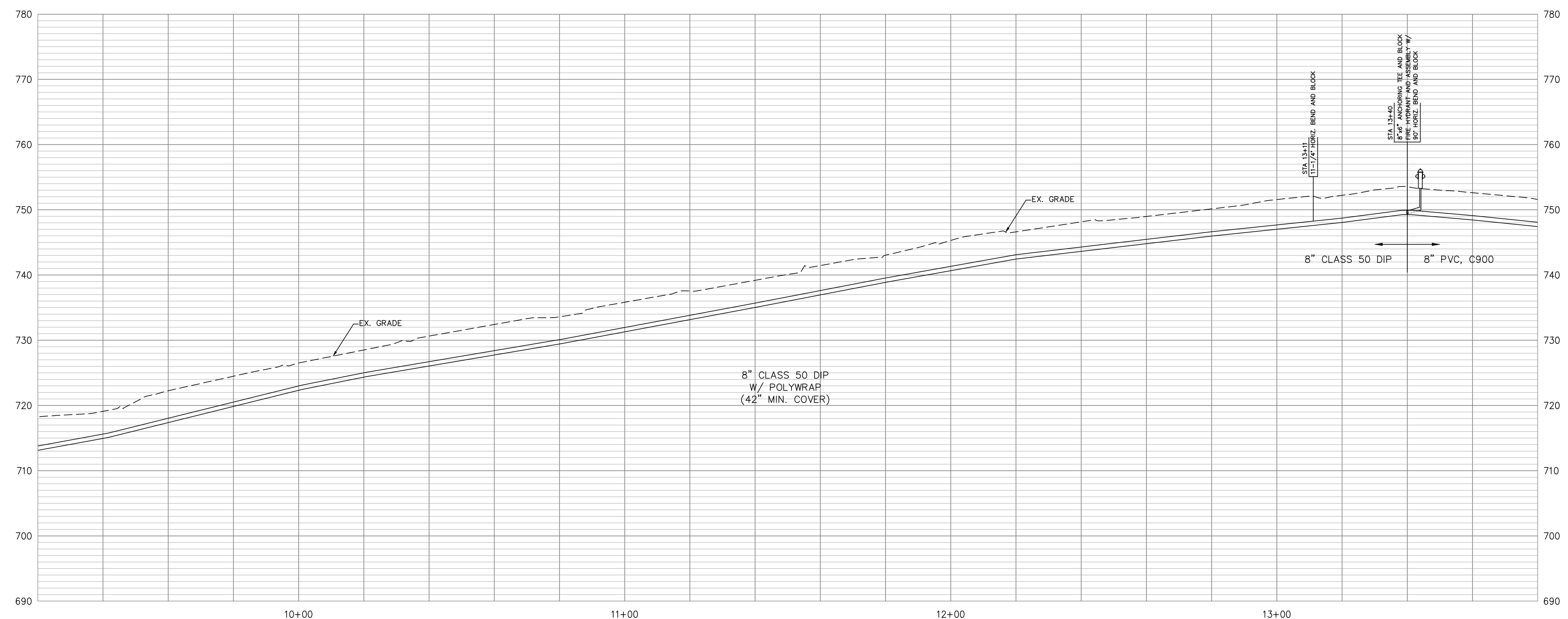


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SUB DISTRICT HB WATER MAIN EXTENSION**

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4. ALL WATER METERS SHALL BE PLACED WITHIN THE RIGHT-OF-WAY. THE FINAL METER LOCATION SHALL BE FIELD VERIFIED BY A NKWD REPRESENTATIVE.
5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING WATER MAIN AND ADJUST AS NEEDED TO AVOID POTENTIAL CONFLICTS AS DIRECTED BY THE ENGINEER.

GEOTECHNICAL GENERAL NOTES:

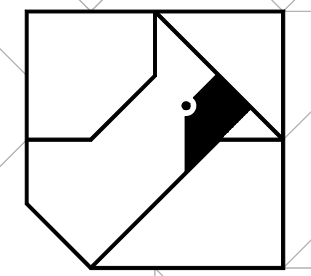
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DRAWN BY:	SEAL
CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-515**

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
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LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY: SEAL
KGH

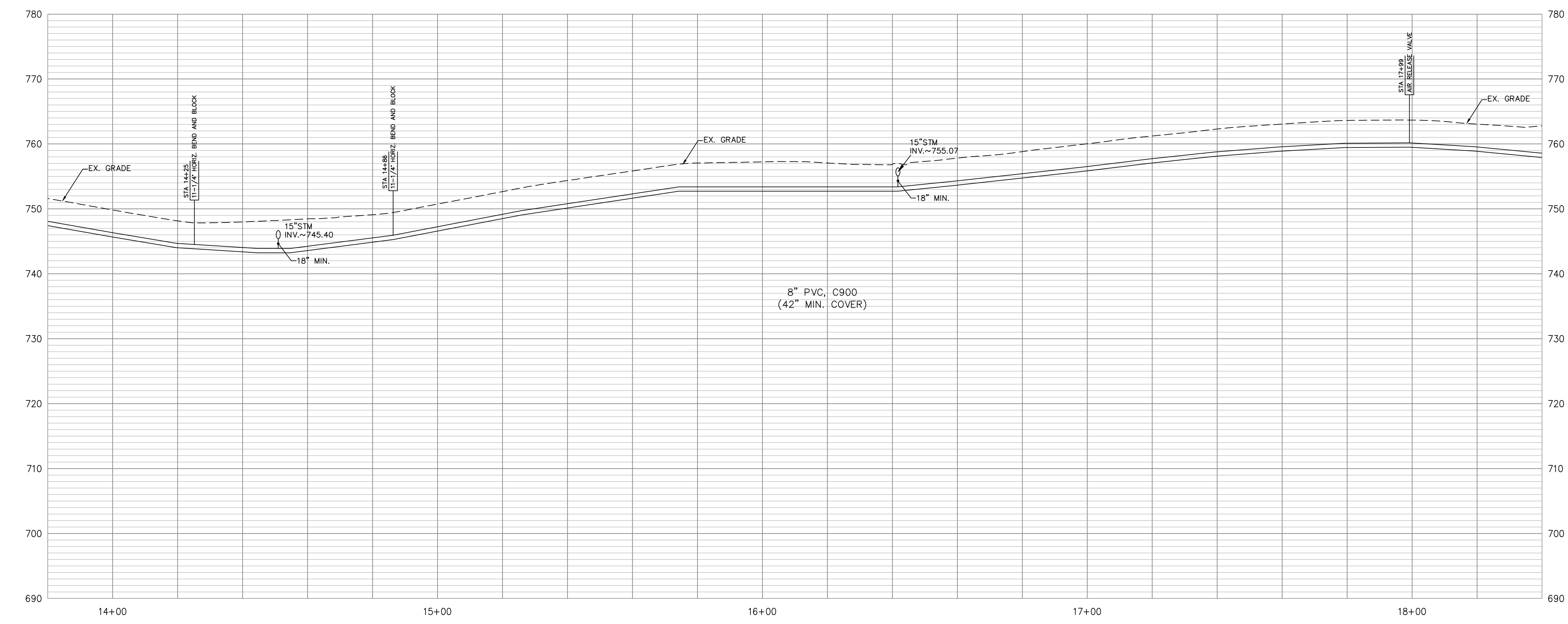
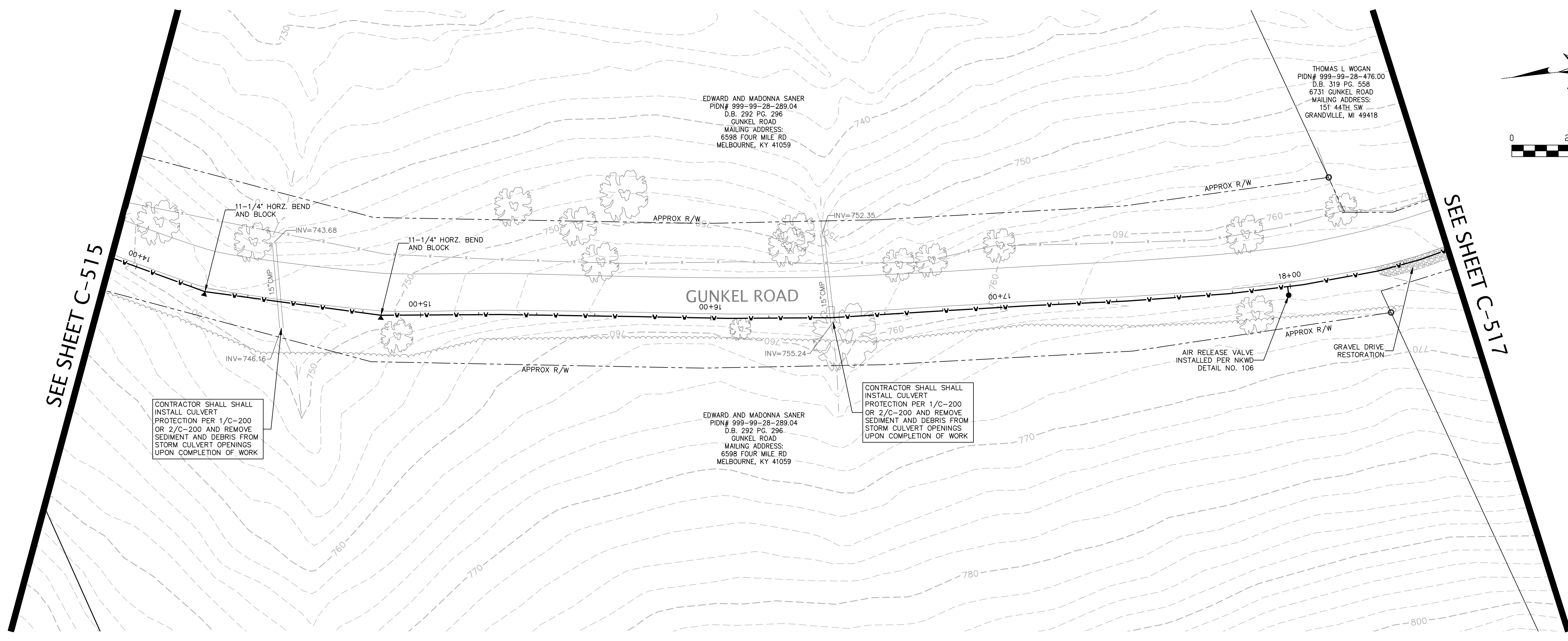
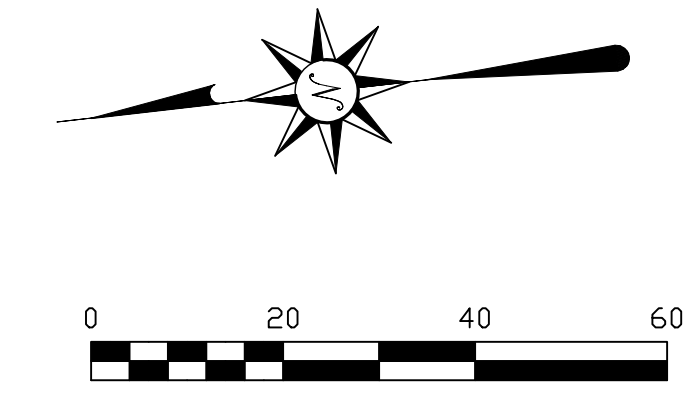
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PROJECT MANAGER: KGH

PROJECT NO.: 23-001
SCALE: AS NOTED
DATE: 01-11-23

PLAN & PROFILE

SHEET C-516

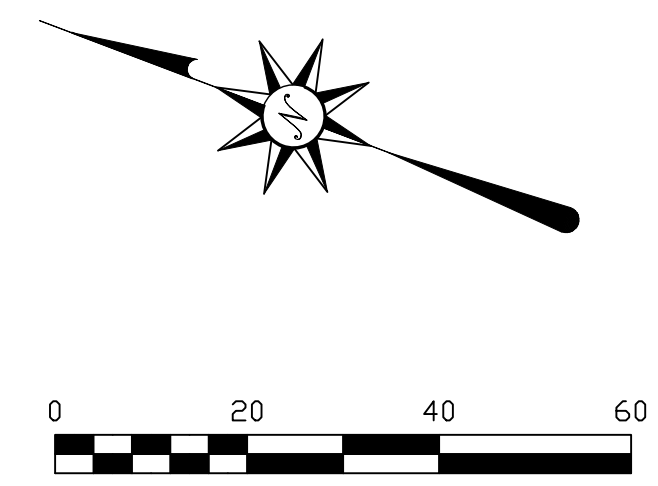
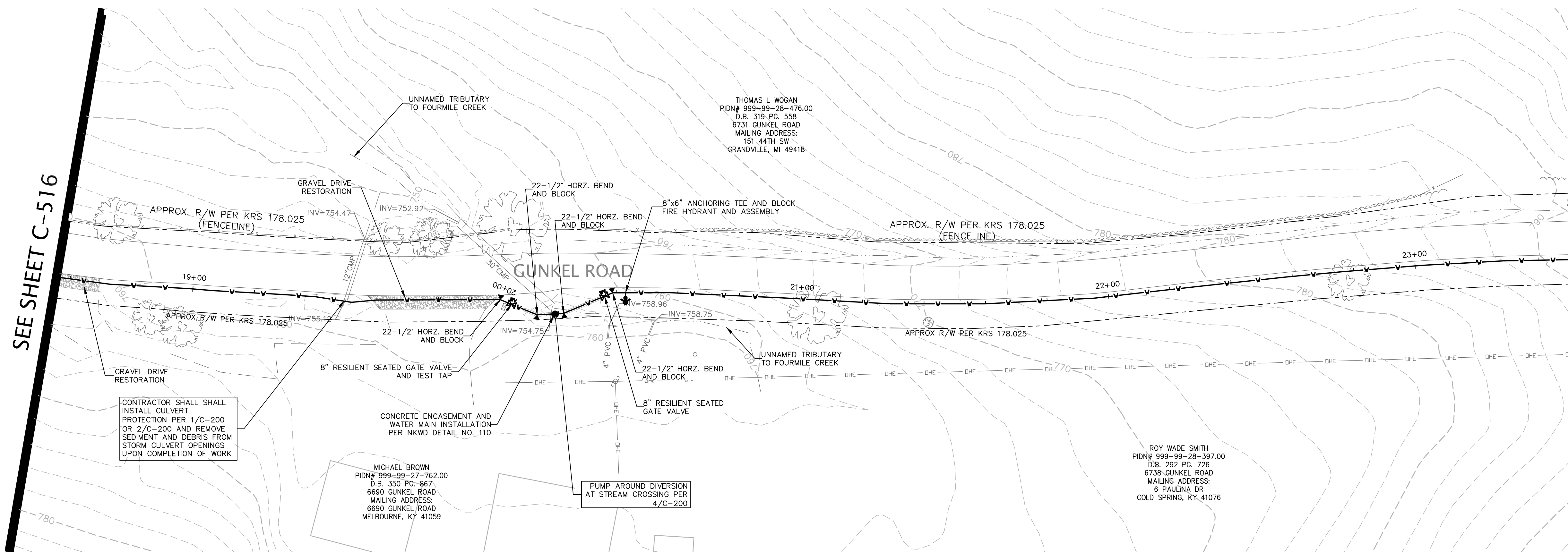


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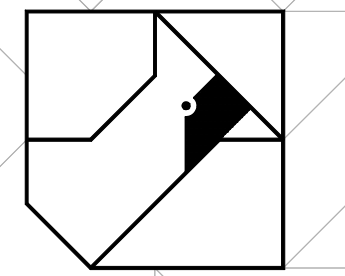
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SEE SHEET C-516

SEE SHEET C-518



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD

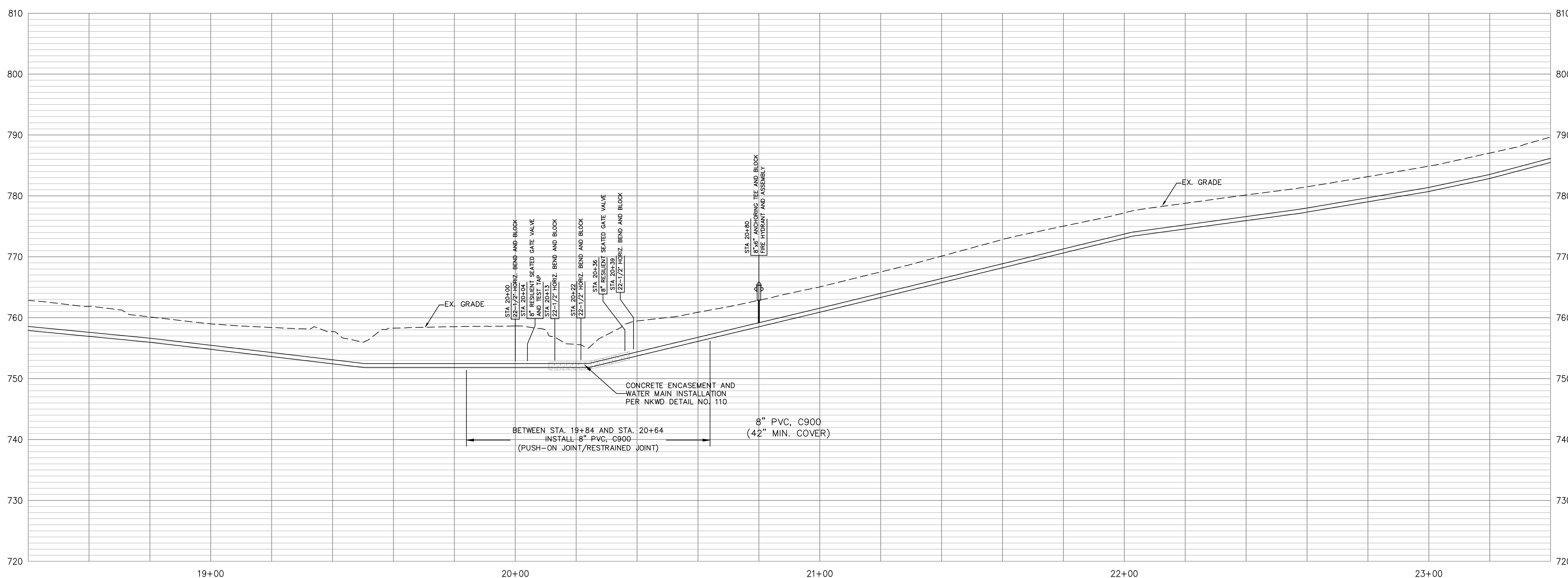


CARDINAL
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ONE MOCK ROAD
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PHONE: (859) 581-9600
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WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**



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CHECKED BY: KGH

PROJECT MANAGER: KGH

PROJECT NO. 23-001

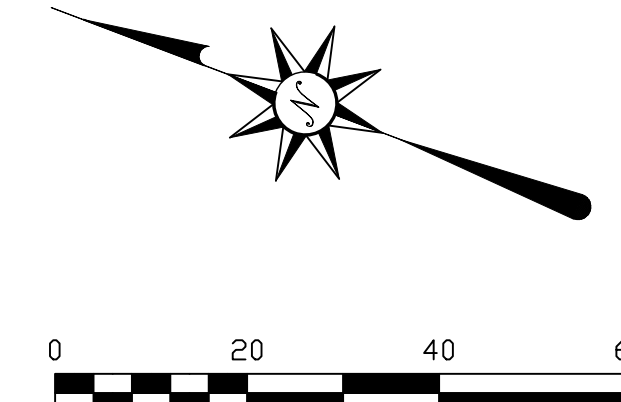
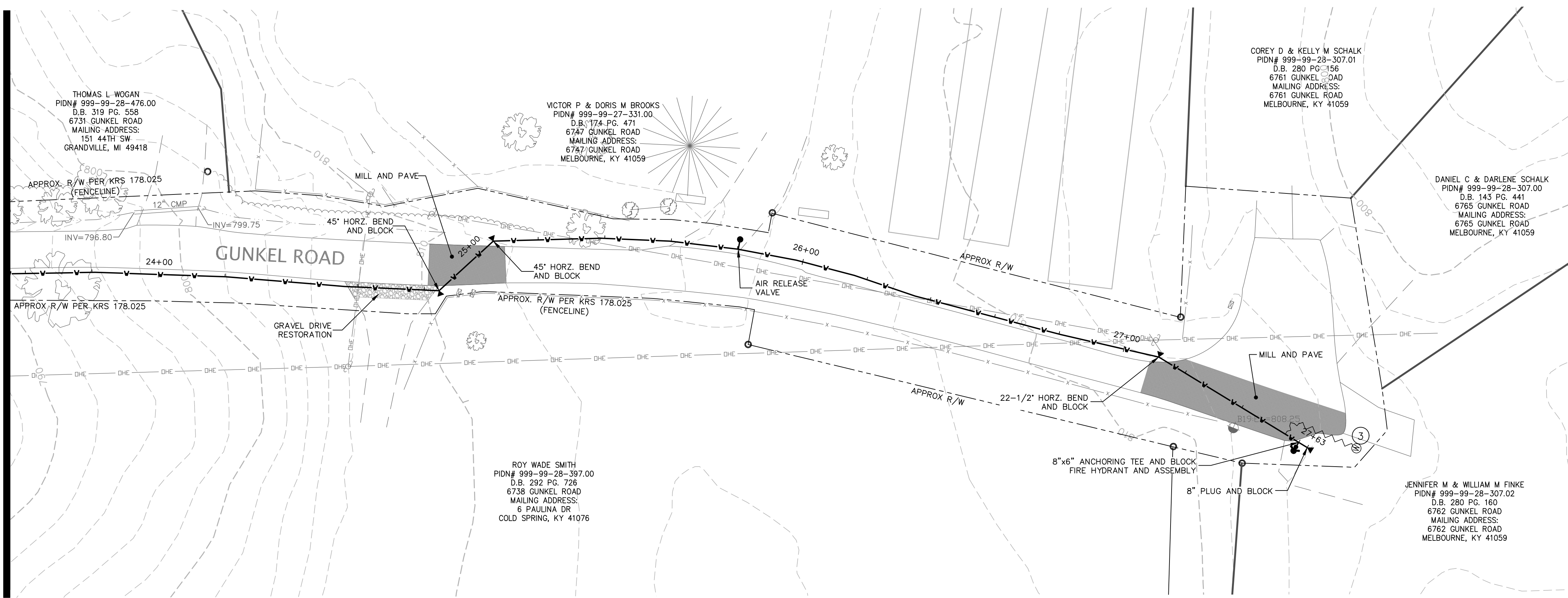
SCALE AS NOTED

DATE 01-11-23

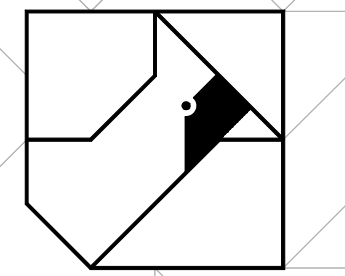
PLAN & PROFILE

SHEET **C-517**

SEE SHEET C-517



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
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PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

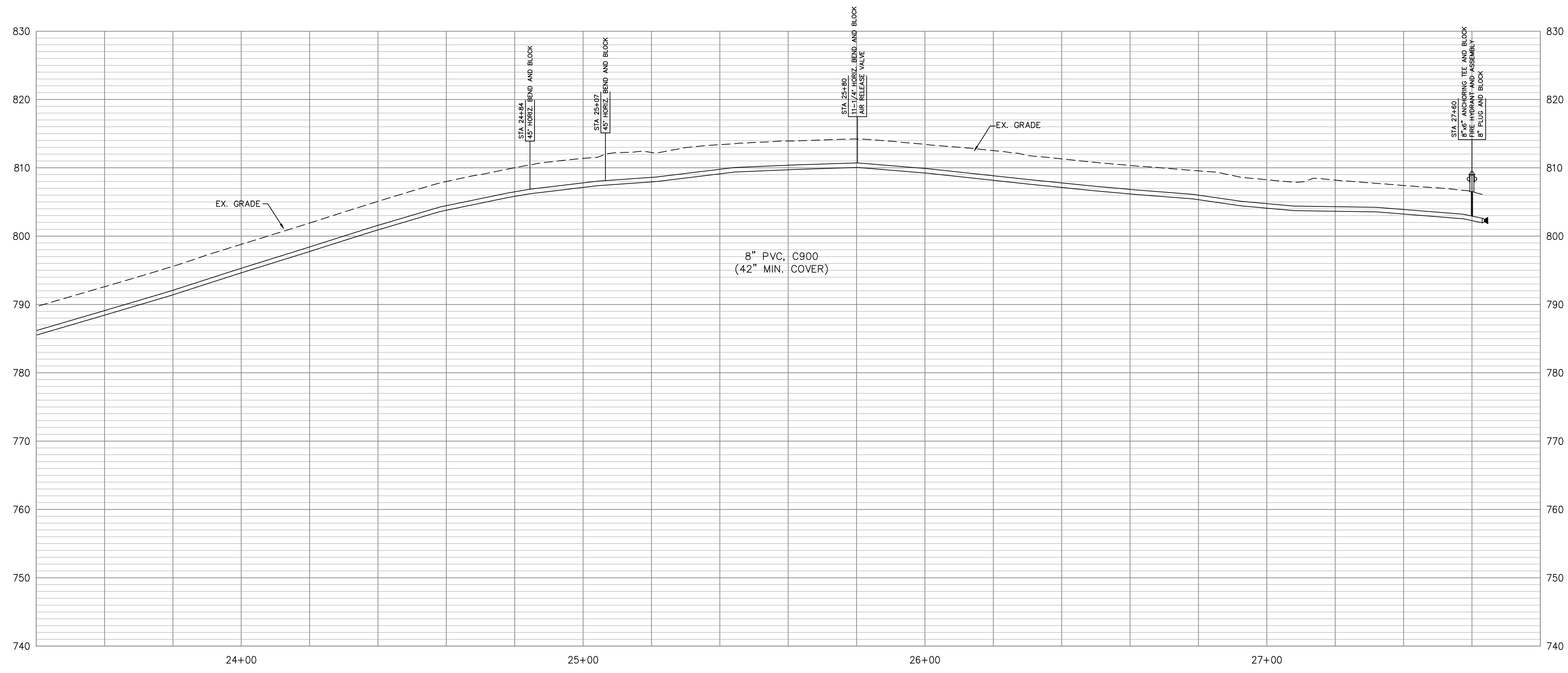
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

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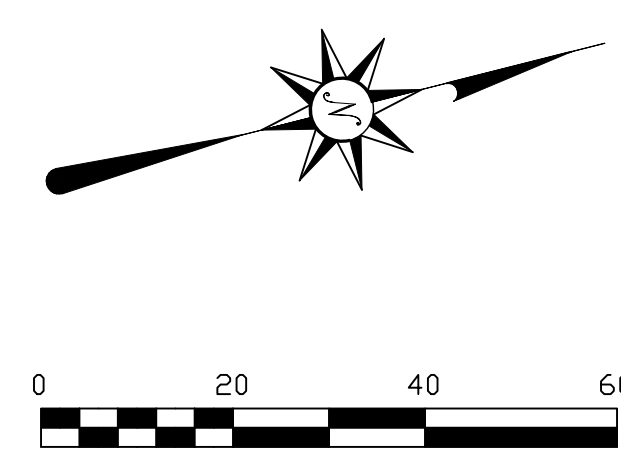
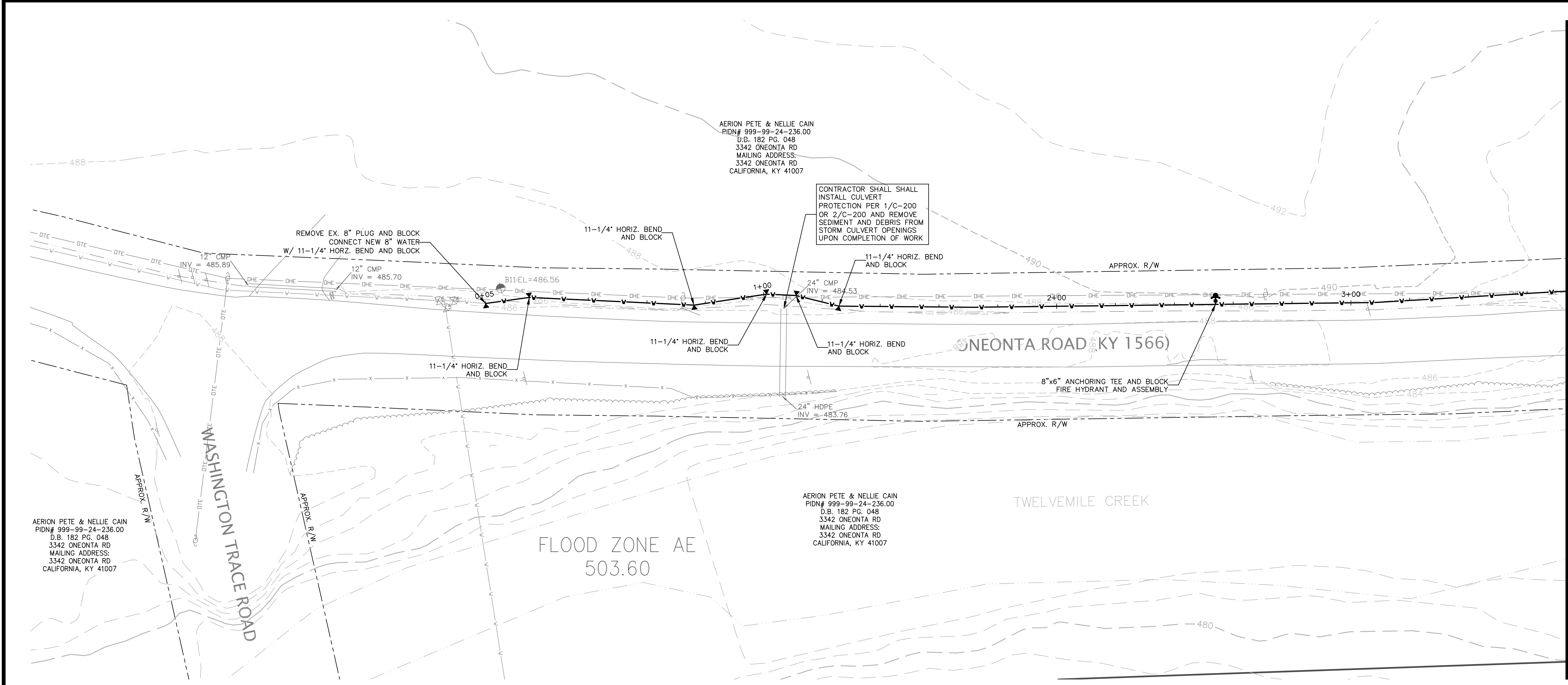


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KGH	
CHECKED BY:	
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PROJECT MANAGER:	
KGH	

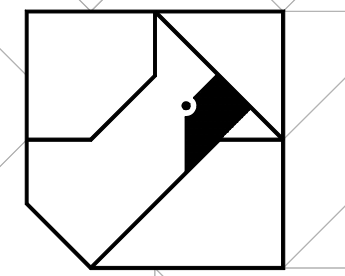
PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE

SHEET **C-518**



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
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 FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

SEE SHEET C-520

WATER MAIN CONSTRUCTION NOTES

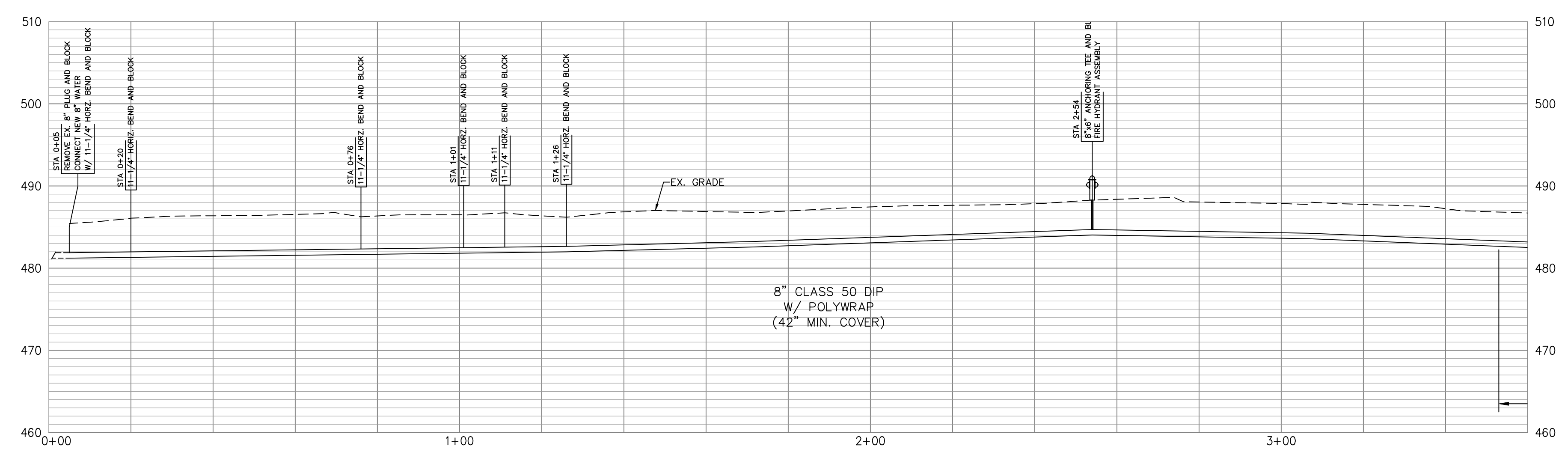
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KYTC CONSTRUCTION NOTES

1. ALL DITCH LINES ARE TO REMAIN OPEN AT ALL TIMES AND RESTORED TO ORIGINAL CONDITION.
2. SHAPE, SEED, AND STRAW ALL DISTURBED AREAS IMMEDIATELY AFTER COMPLETING THE WORK.
3. PROVIDE TRAFFIC CONTROL AS REQUIRED TO INSURE THE SAFETY OF THE TRAVELING PUBLIC IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
4. CONTRACTOR SHALL ESTABLISH POSITIVE DRAINAGE IN DITCH LINE AT THE END OF EACH WORKING DAY. DISTURBED SECTIONS OF DITCH SHALL BE RESTORED WITH EROSION CONTROL BLANKET PER KYTC STANDARD DRAWING RDI-041 (3/C-241). MATERIALS, EQUIPMENT, AND FILL DIRT SHALL NOT BE STOCKPILED IN DITCH.
5. SEE "KYTC PERMITS MANUAL" FOR ALL REQUIREMENTS AND SPECIFICATIONS.



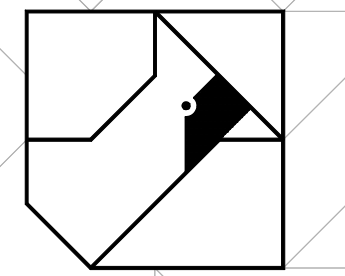
PROJECT: WATER MAIN PLAN
 SUB DISTRICT HB WATER MAIN EXTENSION
 CLIENT: NORTHERN KENTUCKY WATER DISTRICT
 2835 CRESCENT SPRINGS ROAD
 P.O. BOX 18640
 ERLANGER, KY 41018-0640

DRAWN BY: SEAL
 CHECKED BY: KGH
 PROJECT MANAGER: KGH

PROJECT NO. 23-001
 SCALE AS NOTED
 DATE 01-11-23

PLAN & PROFILE
 SHEET **C-519**

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
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ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
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KYTC CONSTRUCTION NOTES

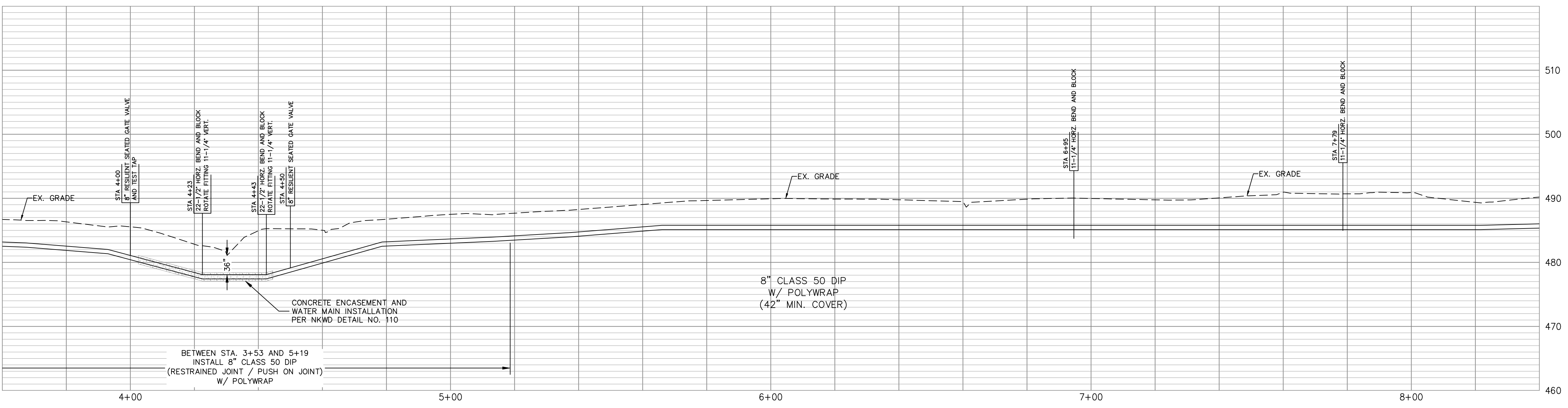
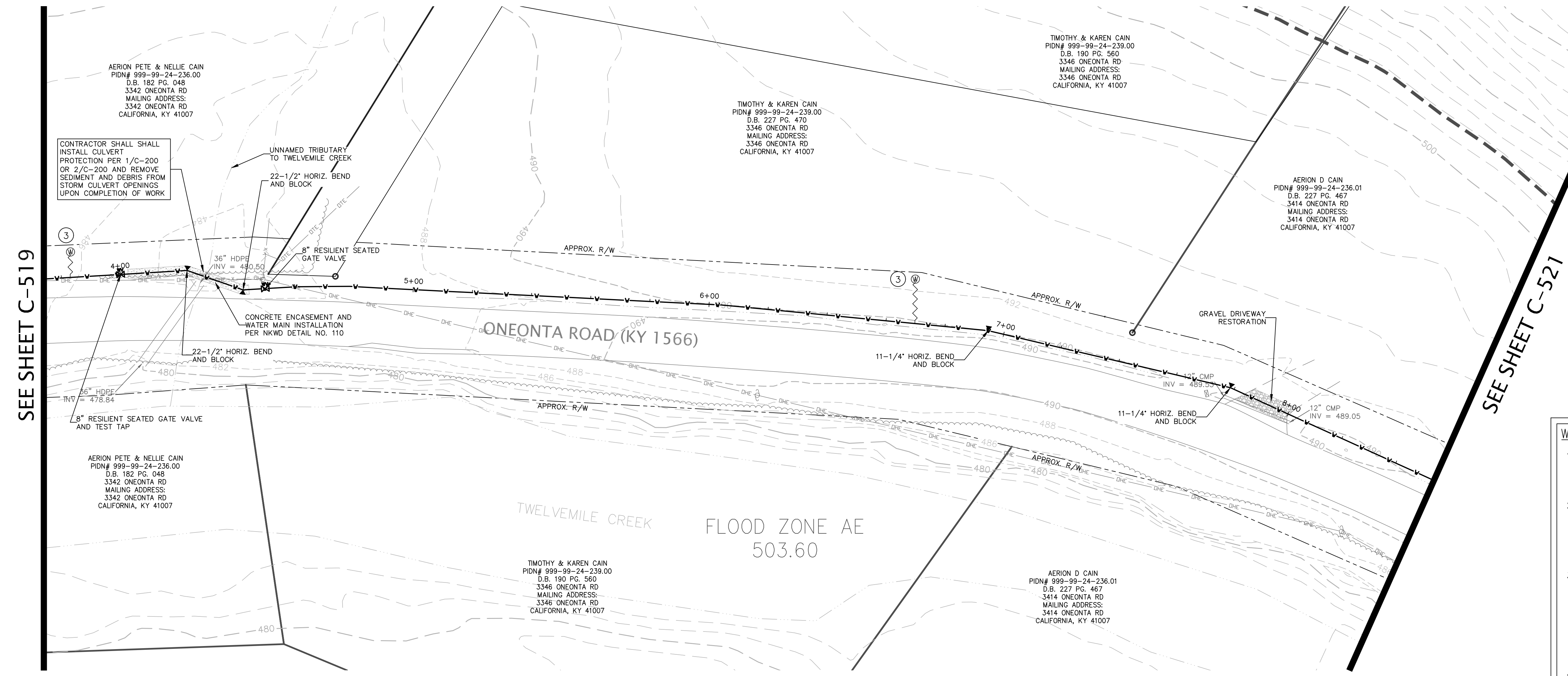
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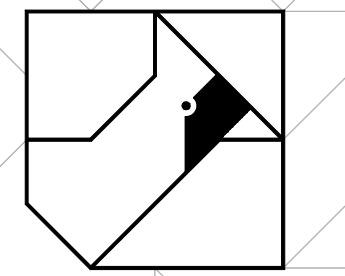
PROJECT NO. 23-001
SCALE AS NOTED
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PLAN & PROFILE

SHEET **C-520**



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
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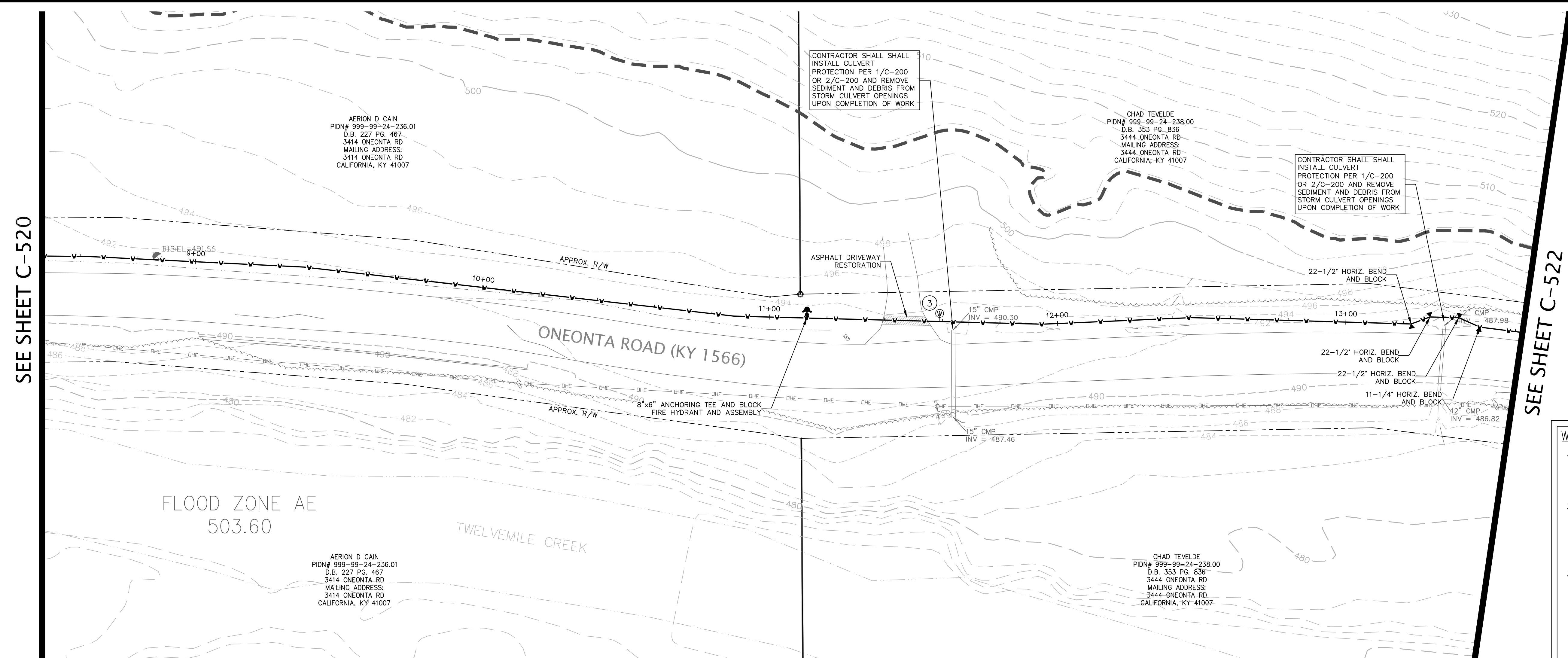
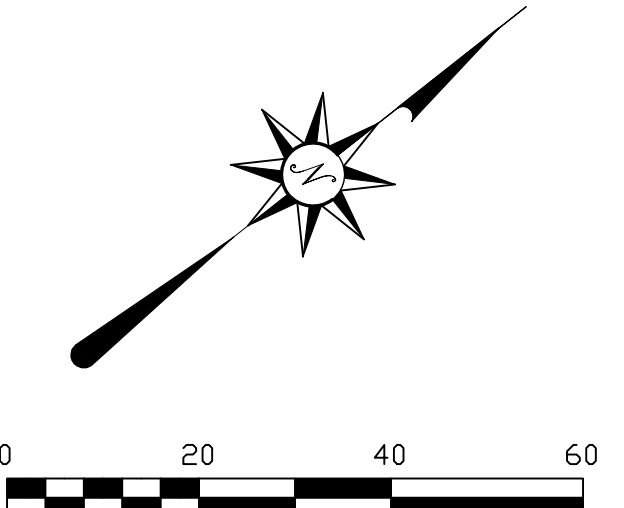
DRAWN BY: SEAL
KGH

CHECKED BY:
-

PROJECT MANAGER:
KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET C-521



SEE SHEET C-520

SEE SHEET C-522

WATER MAIN CONSTRUCTION NOTES

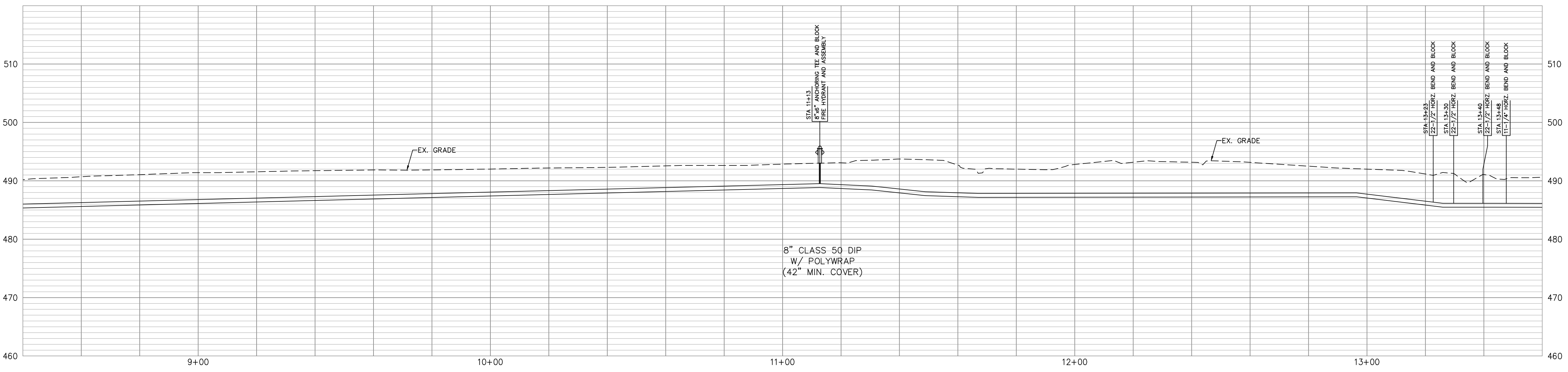
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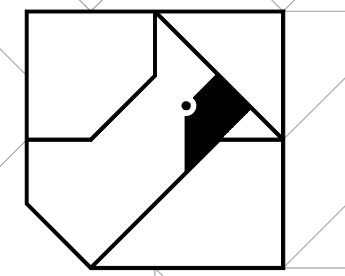
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REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

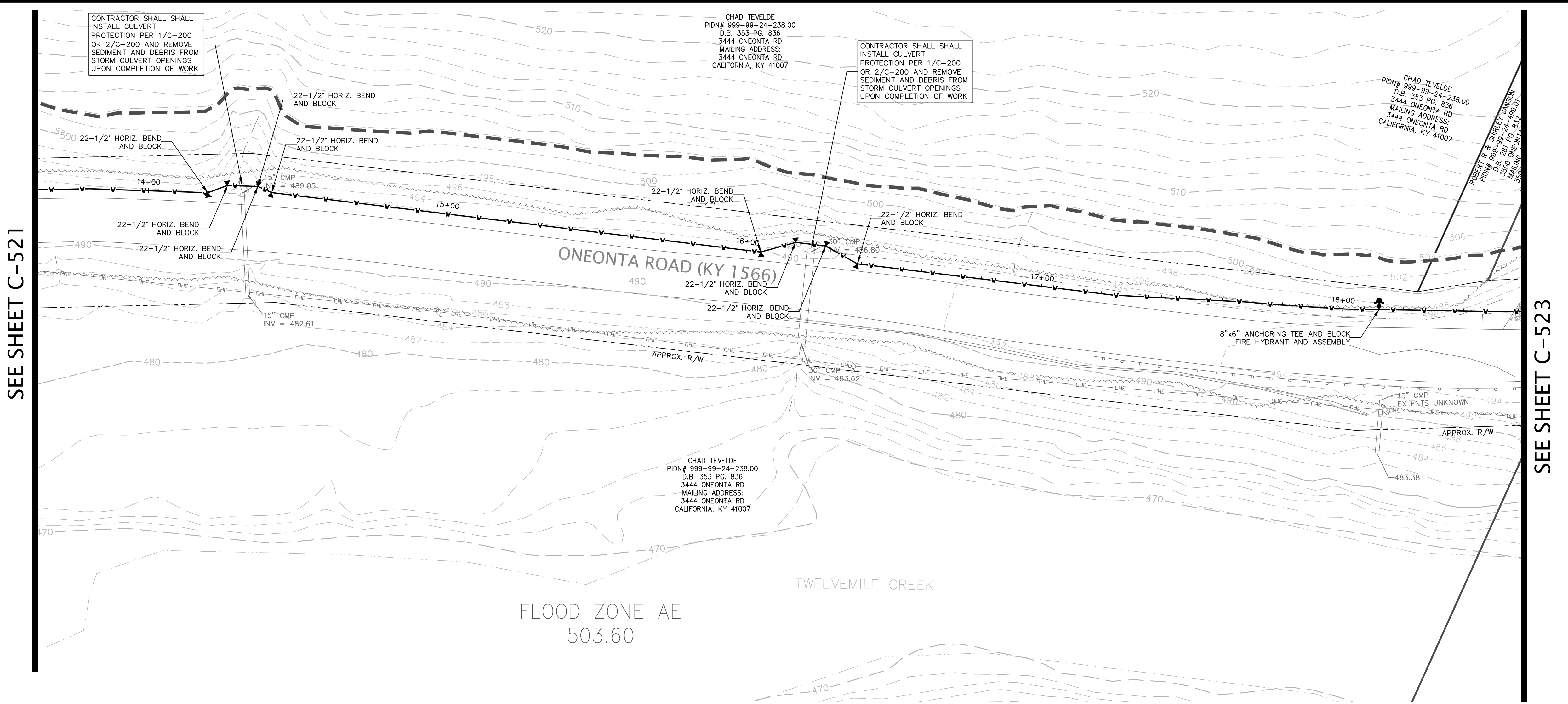
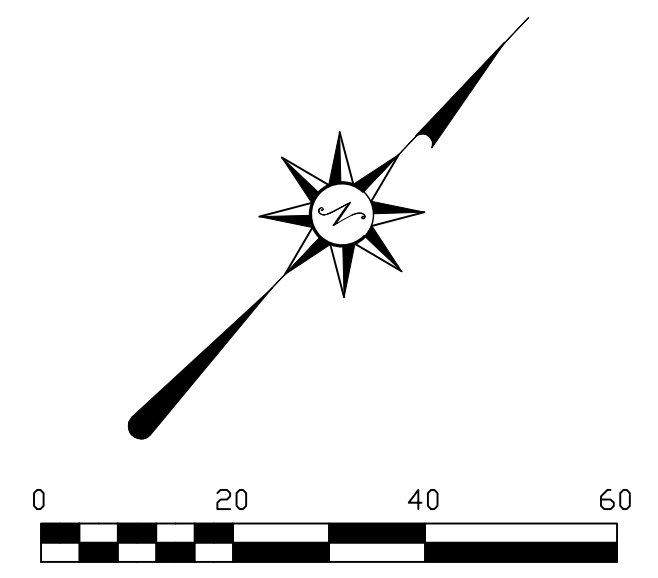
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KGH

CHECKED BY: -

PROJECT MANAGER: KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-522**



SEE SHEET C-521

SEE SHEET C-523

WATER MAIN CONSTRUCTION NOTES

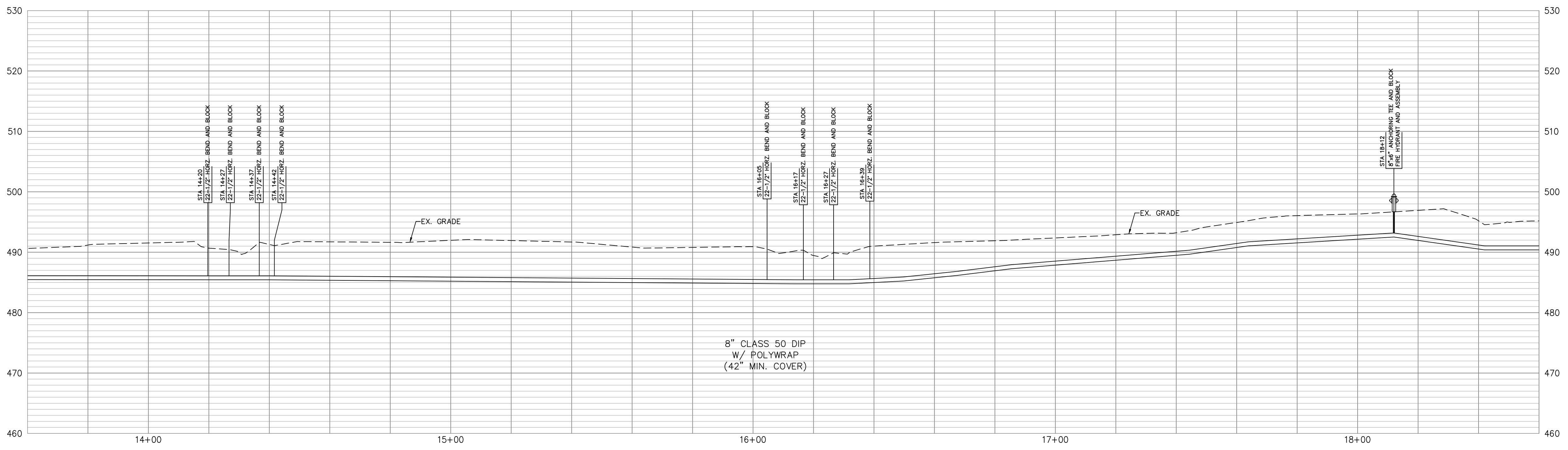
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CONTRACTOR SHALL SHALL INSTALL CULVERT PROTECTION PER 1/C-200 OR 2/C-200 AND REMOVE SEDIMENT AND DEBRIS FROM STORM CULVERT OPENINGS UPON COMPLETION OF WORK

CHAD TEVELDE
PID# 999-99-24-238.00
D.B. 353 PG. 836
3444 ONEONTA RD
MAILING ADDRESS:
3444 ONEONTA RD
CALIFORNIA, KY 41007

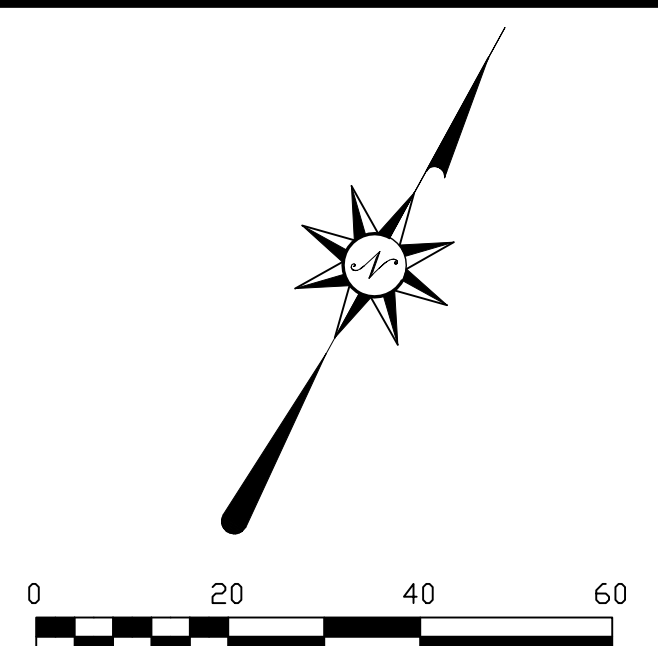
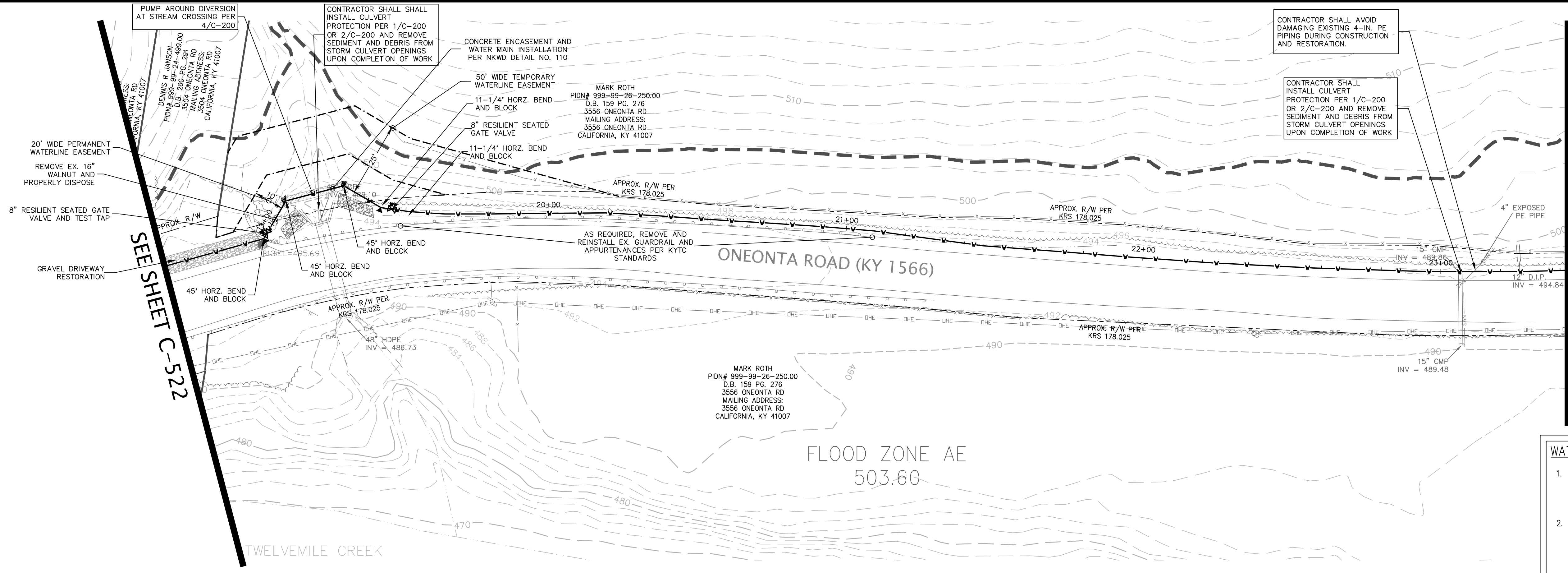
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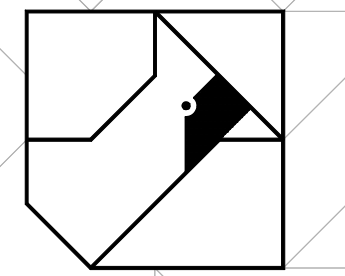
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CALIFORNIA, KY 41007

FLOOD ZONE AE
503.60

8" CLASS 50 DIP
W/ POLYWRAP
(42" MIN. COVER)



REVISIONS	DATE	#	ITEM
	01-12-24	1	REV PER NKWD
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
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WEBSITE: <http://www.cardinalengineering.net>

WATER MAIN CONSTRUCTION NOTES

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GEOTECHNICAL GENERAL NOTES:

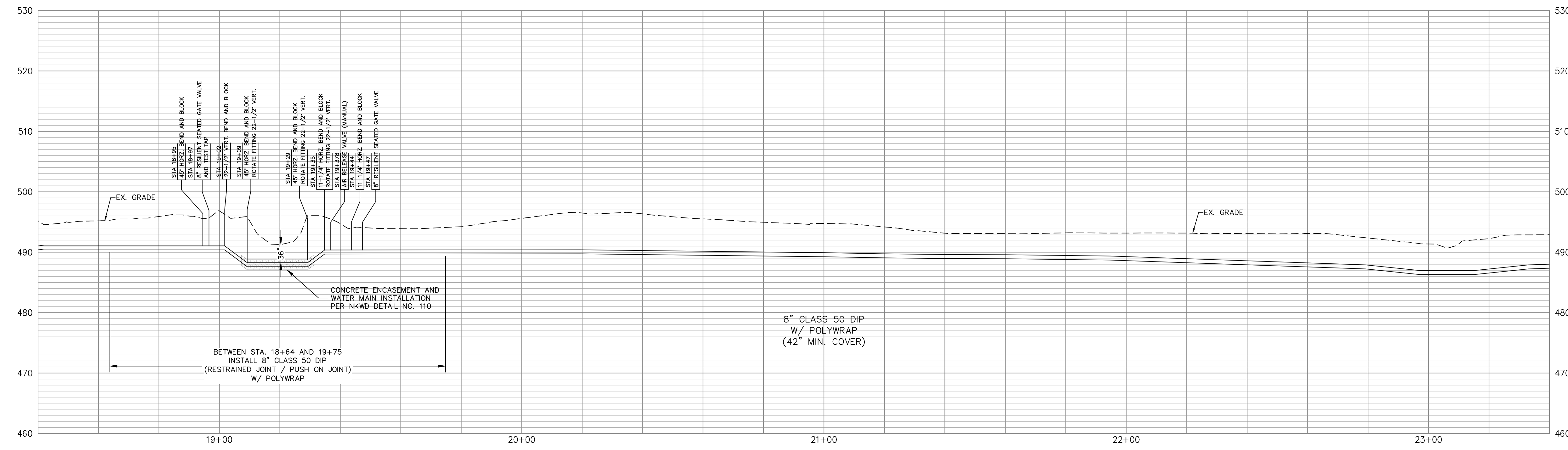
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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640



SEE SHEET C-522

SEE SHEET C-524

PROJECT NO. 23-001

SCALE AS NOTED

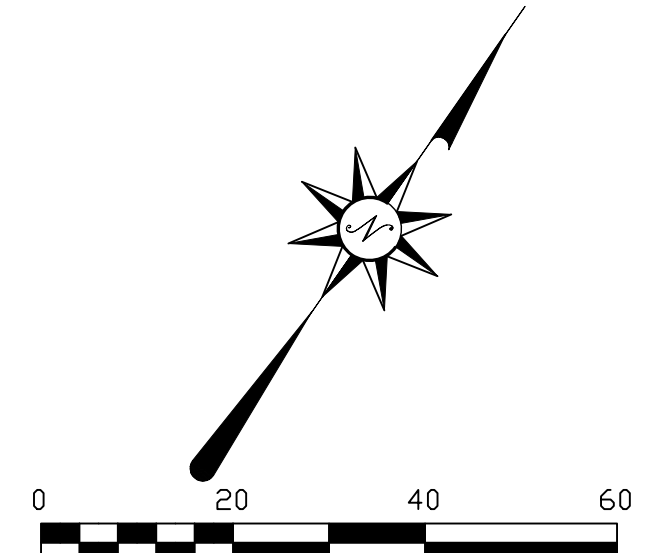
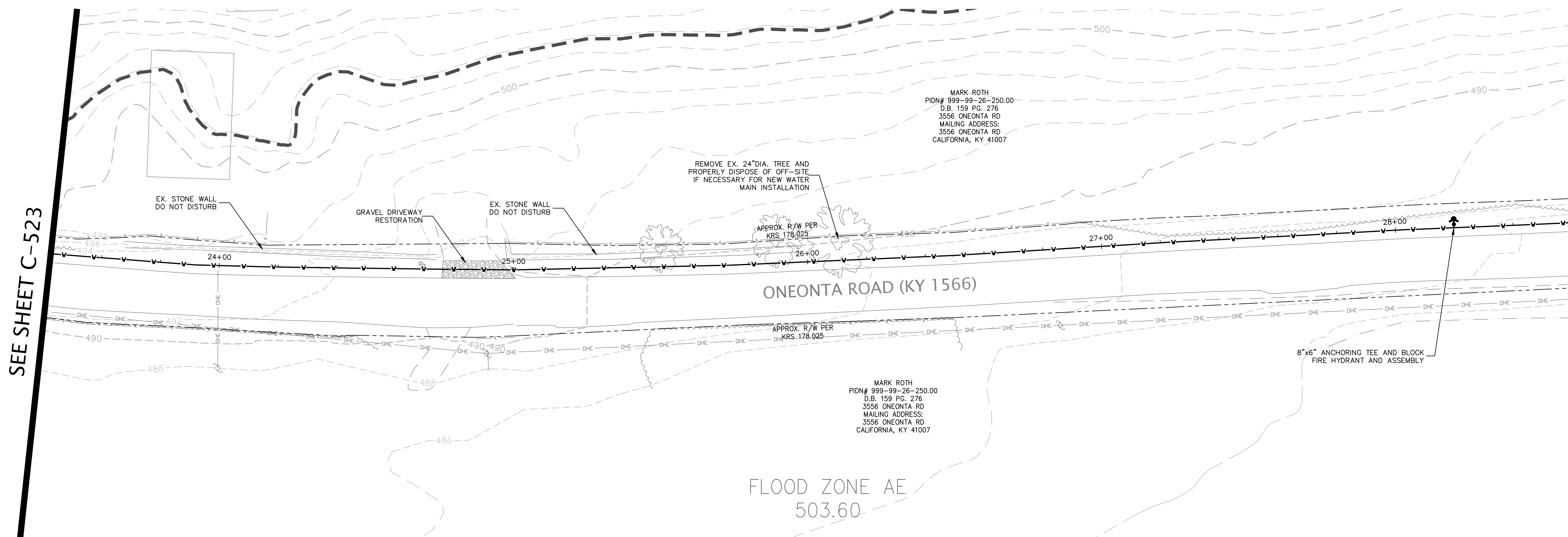
DATE 01-11-23

PLAN & PROFILE

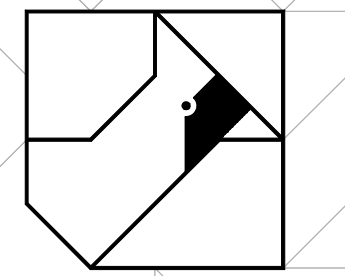
SHEET C-523

SEE SHEET C-523

SEE SHEET C-525



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

WATER MAIN CONSTRUCTION NOTES

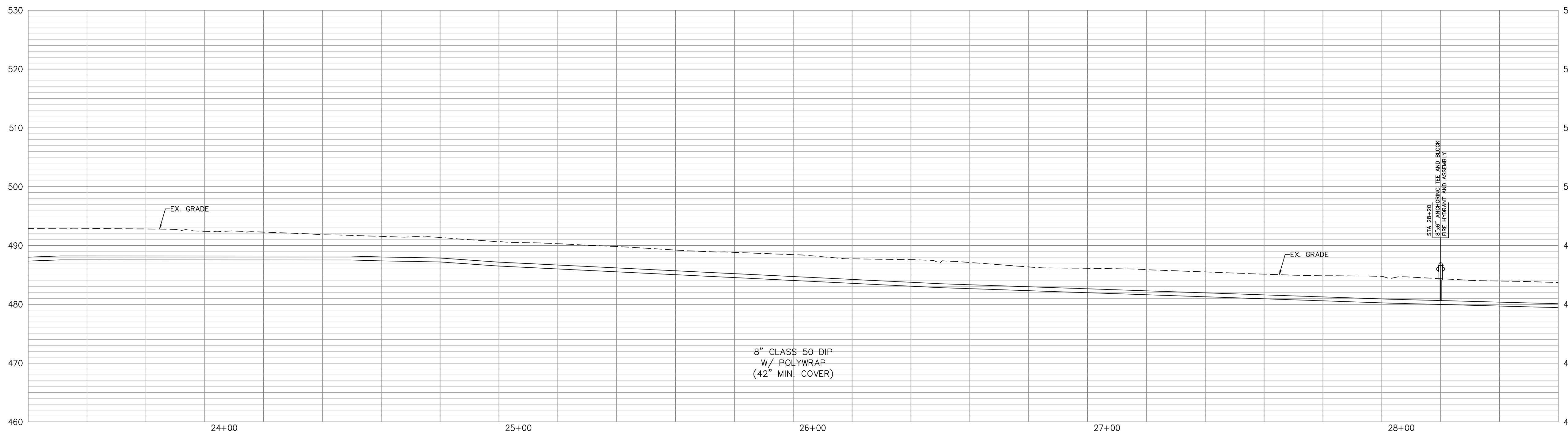
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PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

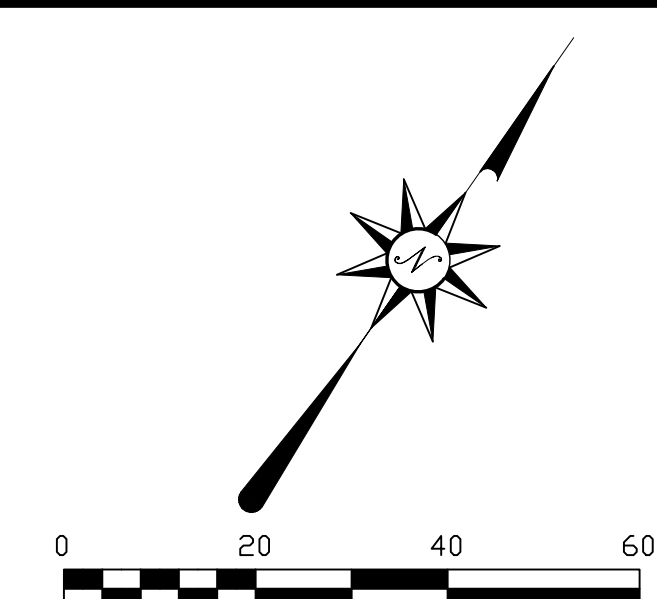
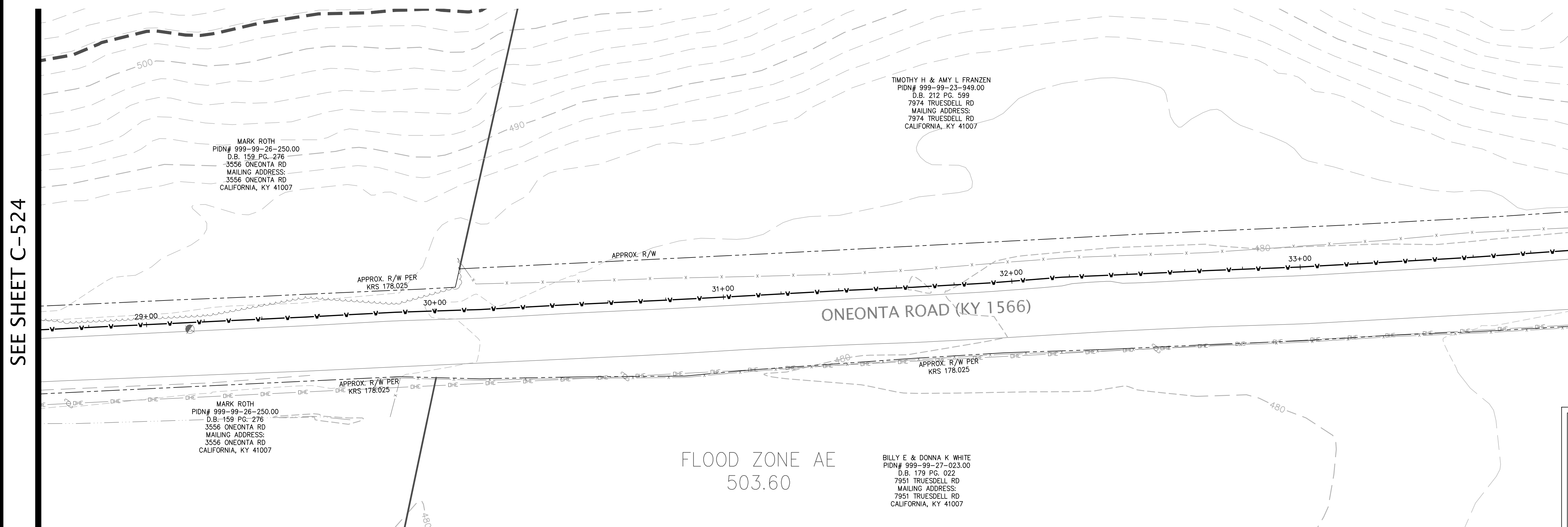
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KGH	
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-	
PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

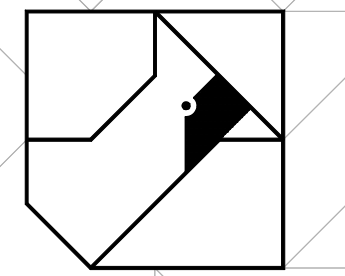
PLAN & PROFILE
SHEET **C-524**

SEE SHEET C-524

SEE SHEET C-526



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

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WATER MAIN CONSTRUCTION NOTES

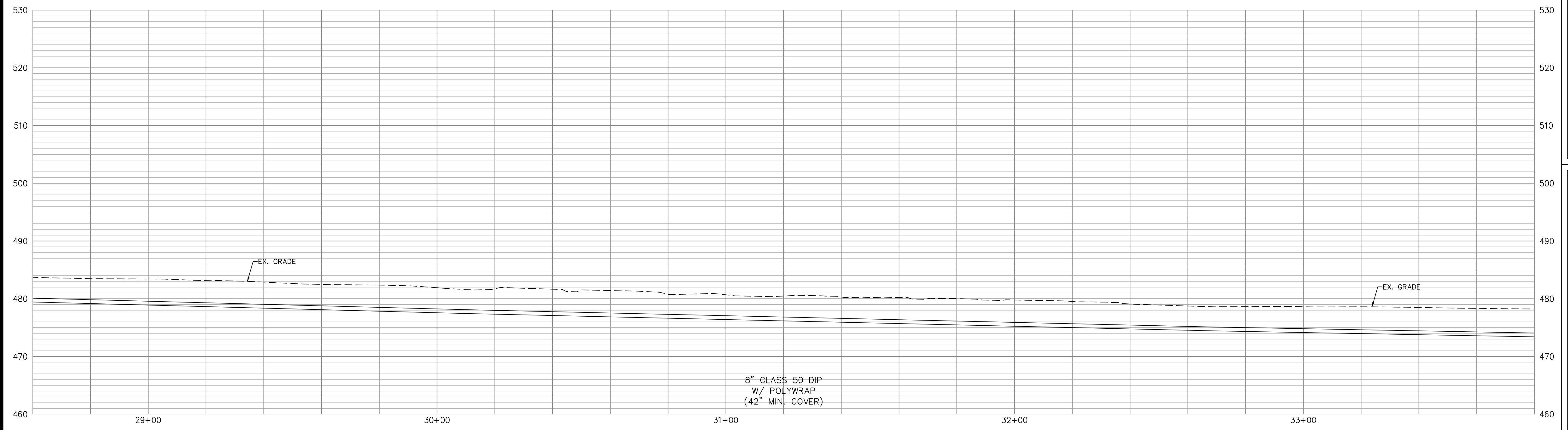
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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

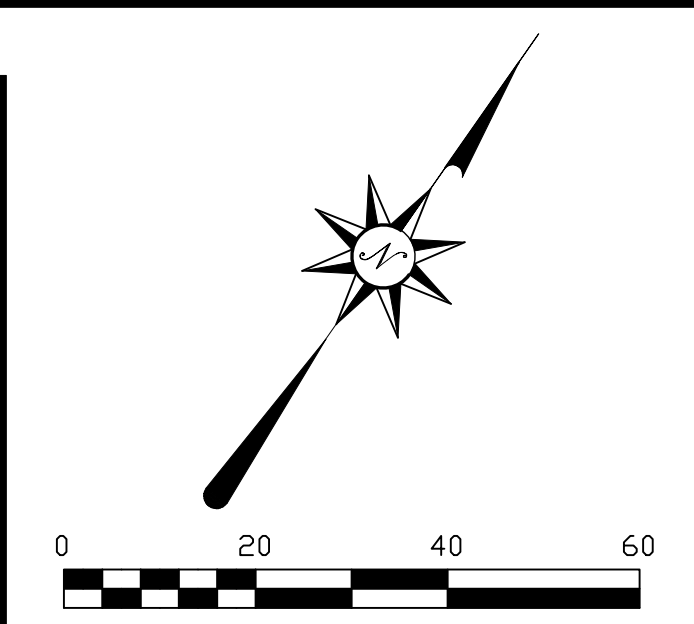
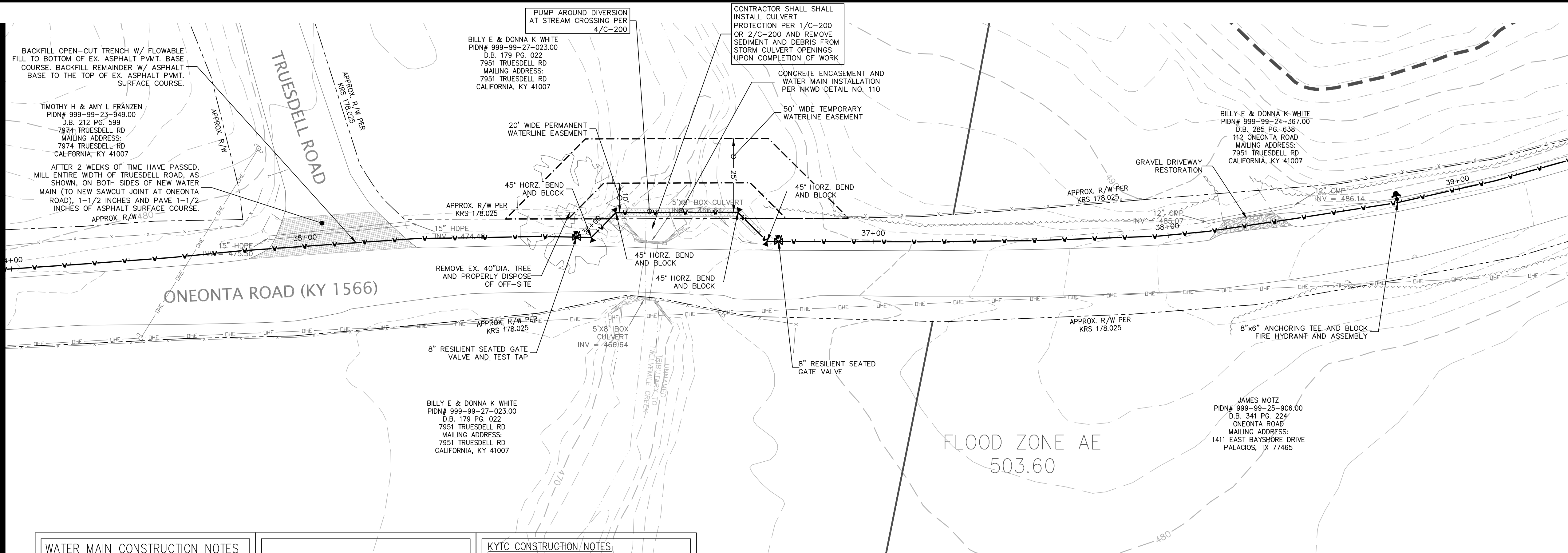
DRAWN BY:	SEAL
KGH	
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PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
SCALE AS NOTED
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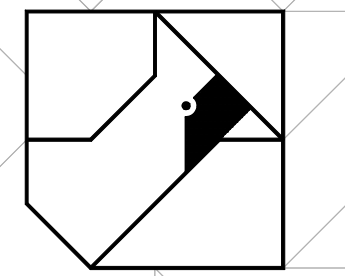
PLAN & PROFILE
SHEET **C-525**

SEE SHEET C-525

SEE SHEET C-527



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOCK ROAD
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WATER MAIN CONSTRUCTION NOTES

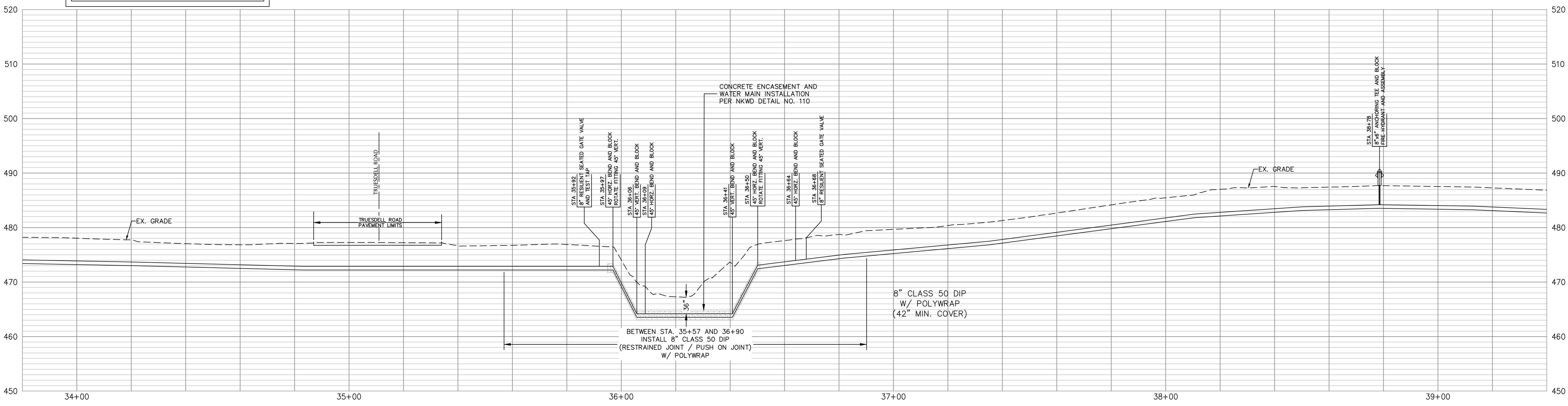
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SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
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DRAWN BY: SEAL
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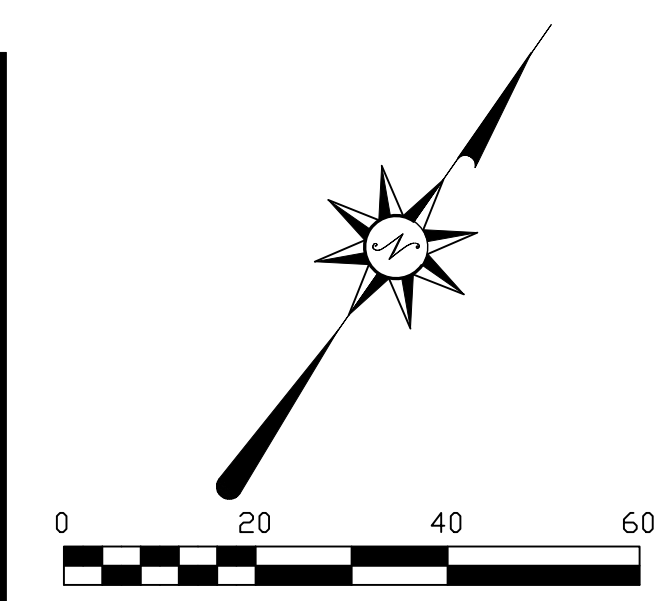
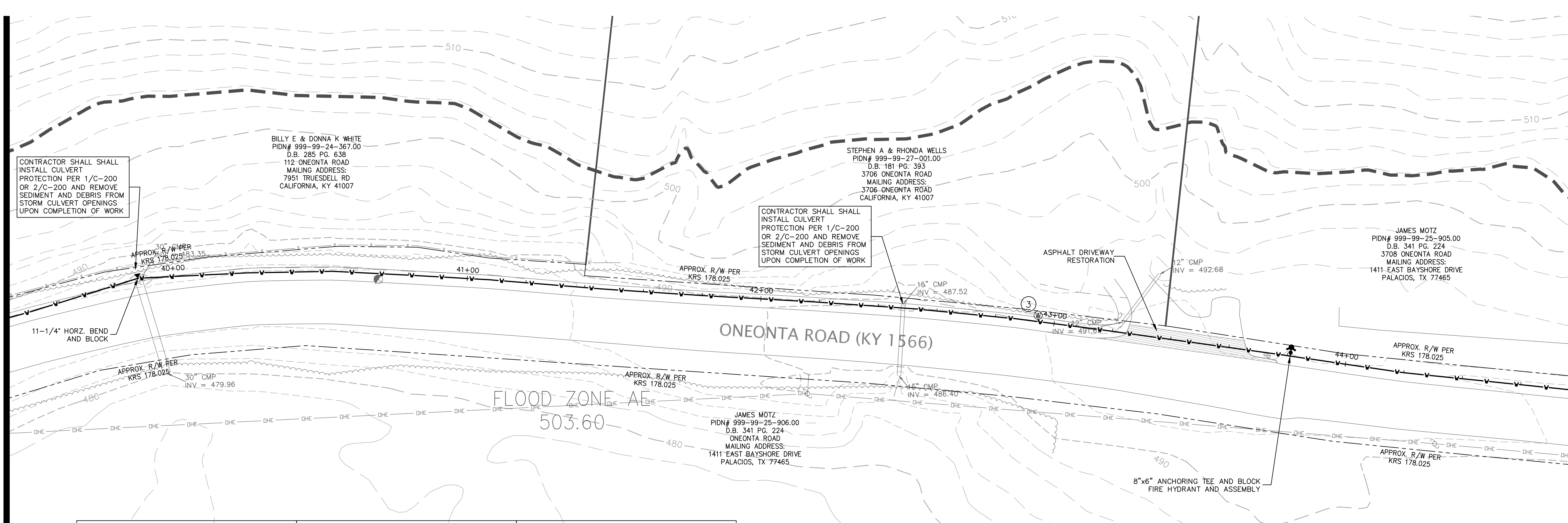
PROJECT MANAGER: KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

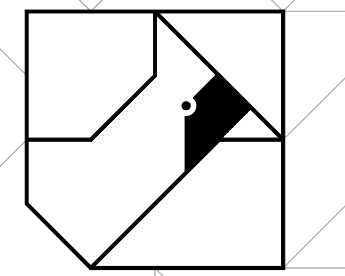
PLAN & PROFILE
SHEET **C-526**

SEE SHEET C-526

SEE SHEET C-528



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

WATER MAIN CONSTRUCTION NOTES

1. THE COST FOR TESTING THE WATER MAIN, TEMPORARY FLUSHING DEVICES, TEMPORARY PLUGS AND BLOCKS BE INCIDENTAL TO THE PROJECT.
2. THE COST OF CLEARING, TREE REMOVAL, AND THE REMOVAL/REPLACEMENT OF MAILBOXES, STREET SIGNS, LANDSCAPING, HARDSCAPING, CULVERT PIPES, GUARDRAIL, AND FENCES IS INCIDENTAL TO THE COST OF INSTALLING THE WATER MAIN.
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5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING WATER MAIN AND ADJUST AS NEEDED TO AVOID POTENTIAL CONFLICTS AS DIRECTED BY THE ENGINEER.

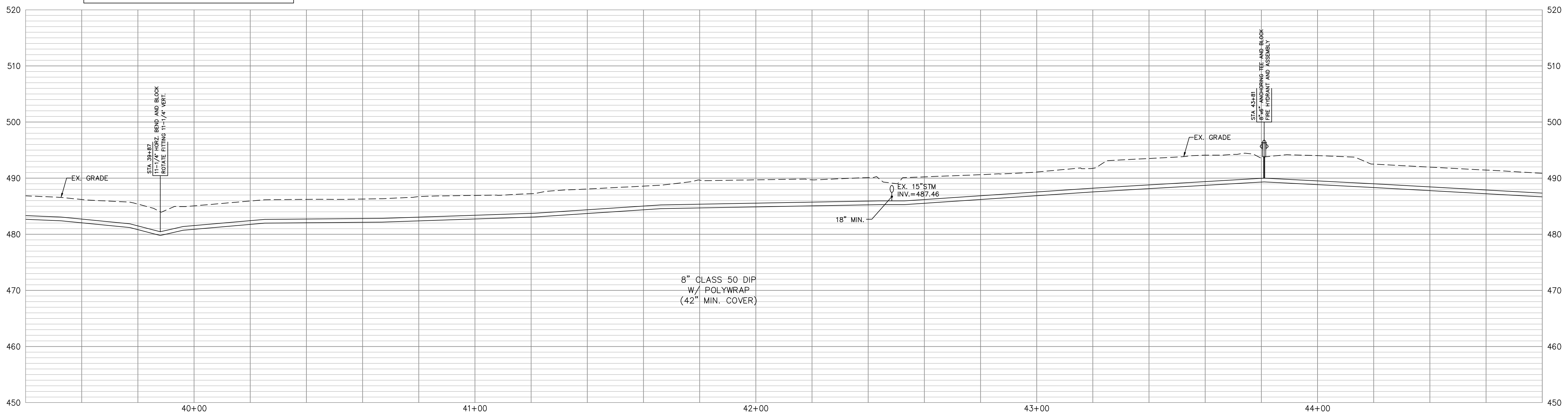
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5. SEE "KYTC PERMITS MANUAL" FOR ALL REQUIREMENTS AND SPECIFICATIONS.

FLOOD-ZONE AF
503.60



PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

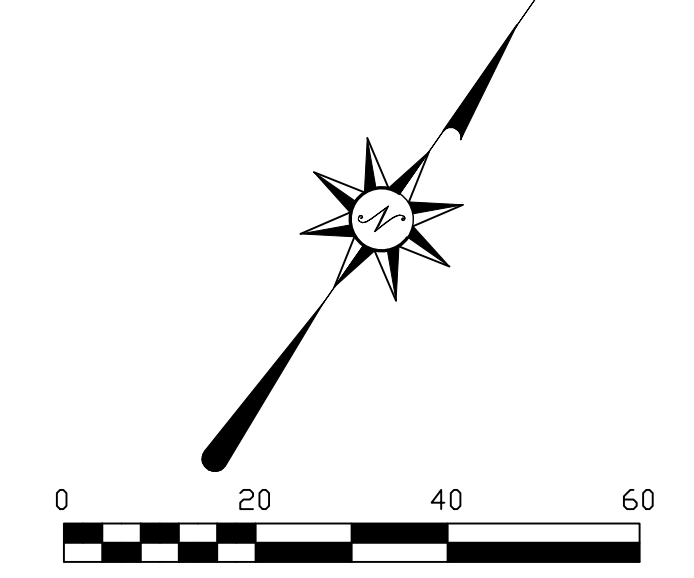
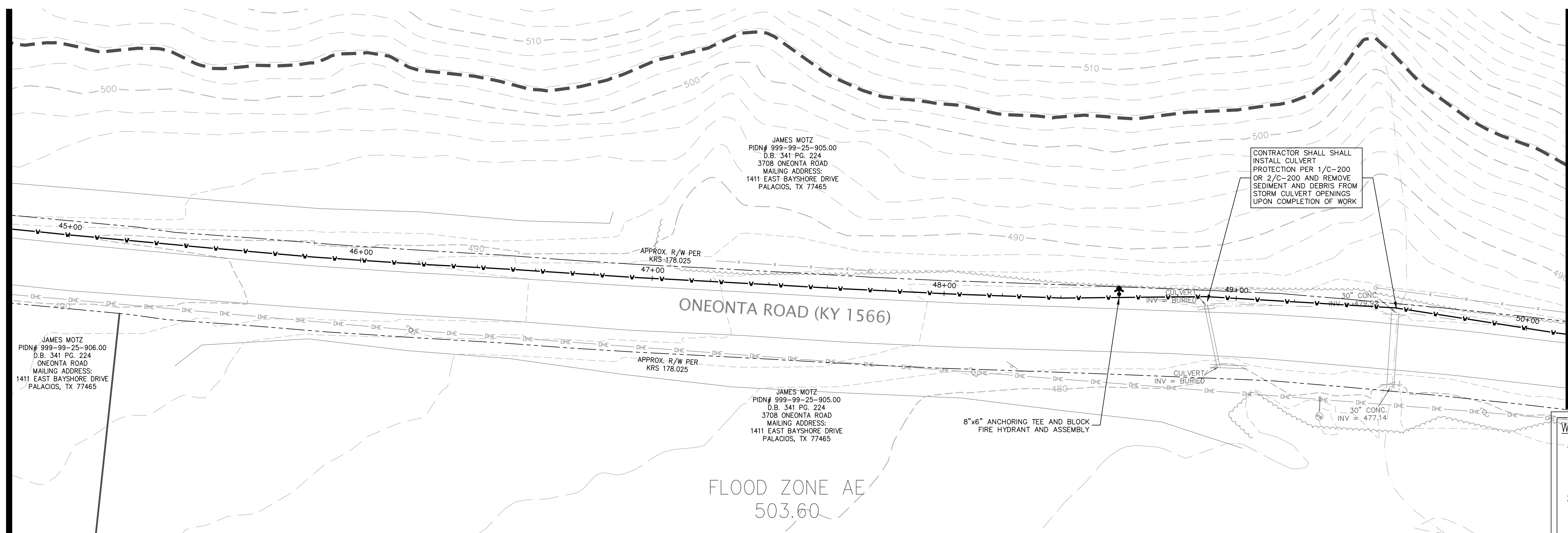
CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY: SEAL
KGH
CHECKED BY:
PROJECT MANAGER: KGH

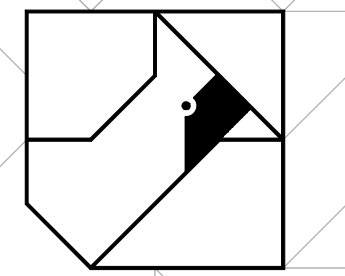
PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-527**

SEE SHEET C-527



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

WATER MAIN CONSTRUCTION NOTES

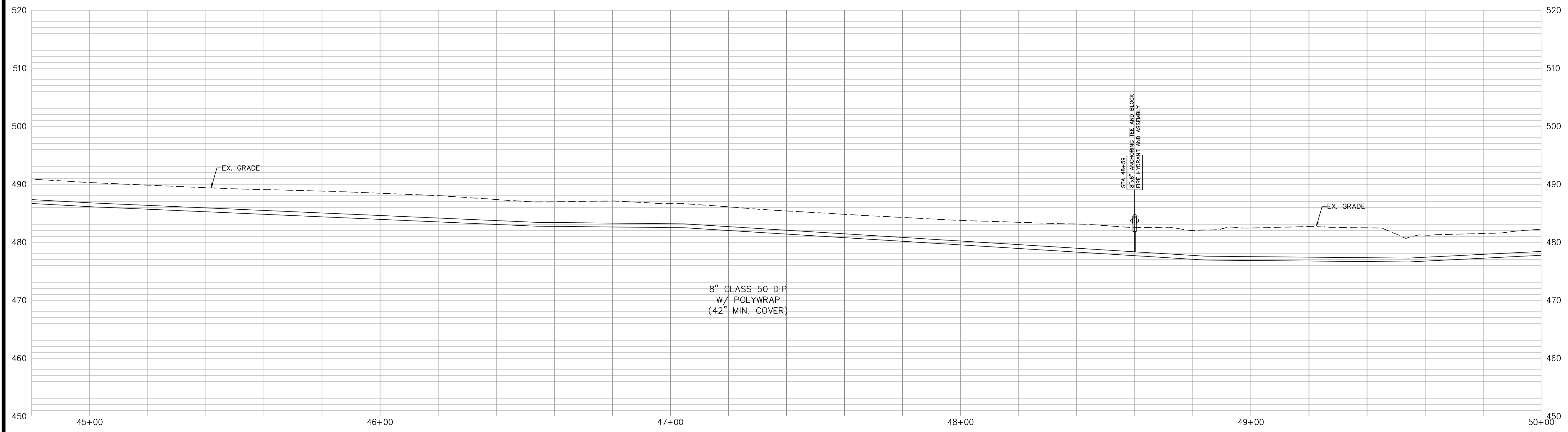
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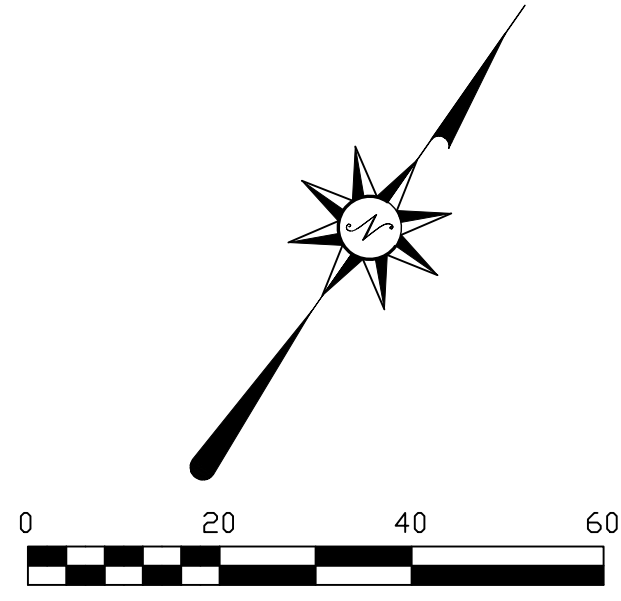
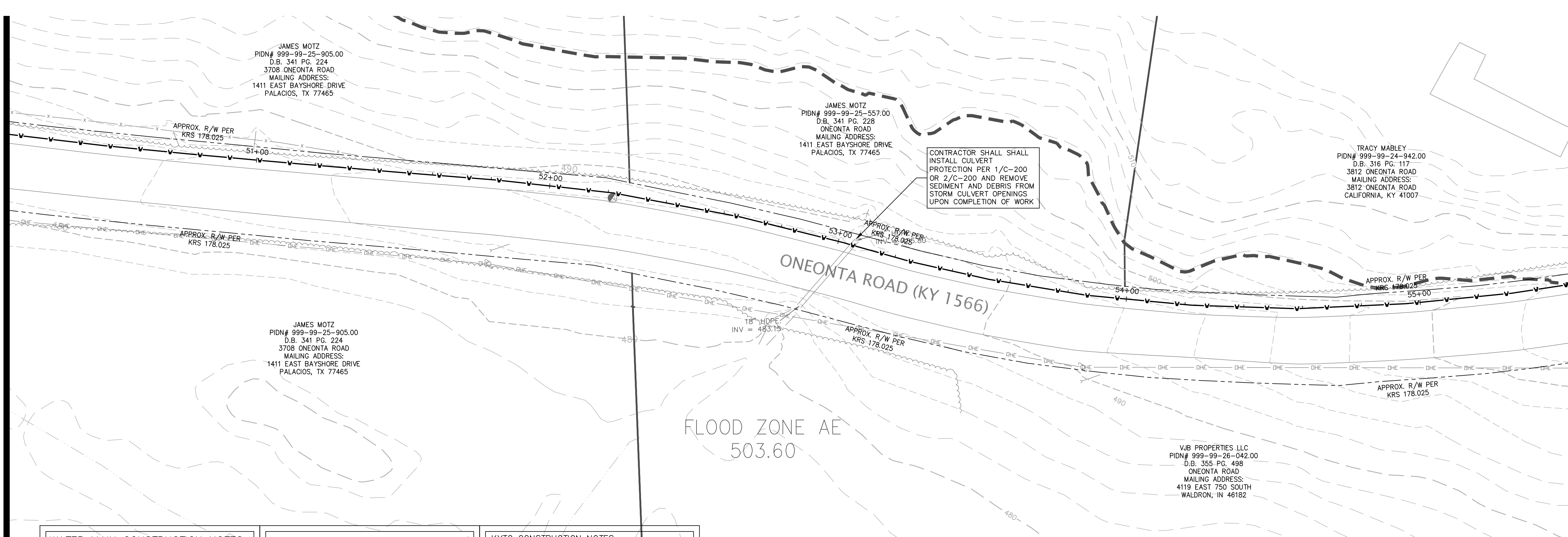
DRAWN BY:	SEAL
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PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

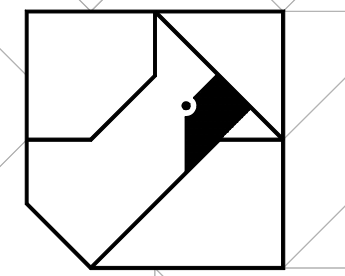
PLAN & PROFILE
SHEET **C-528**

SEE SHEET C-528

SEE SHEET C-530



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
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ONE MOOCK ROAD
WILDER, KENTUCKY 41071
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WATER MAIN CONSTRUCTION NOTES

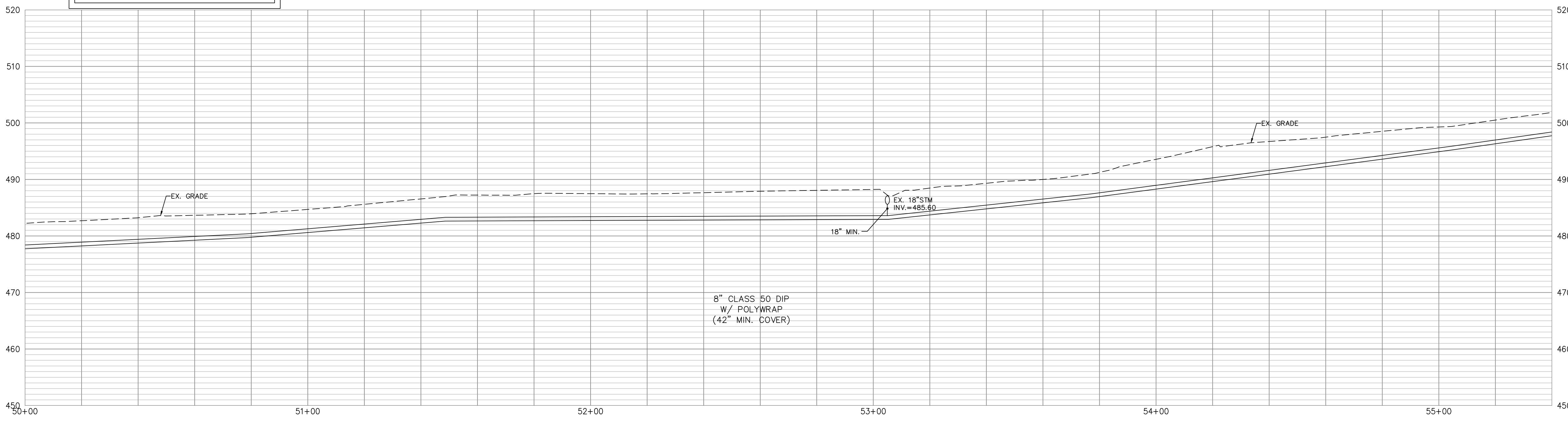
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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY: SEAL
KGH

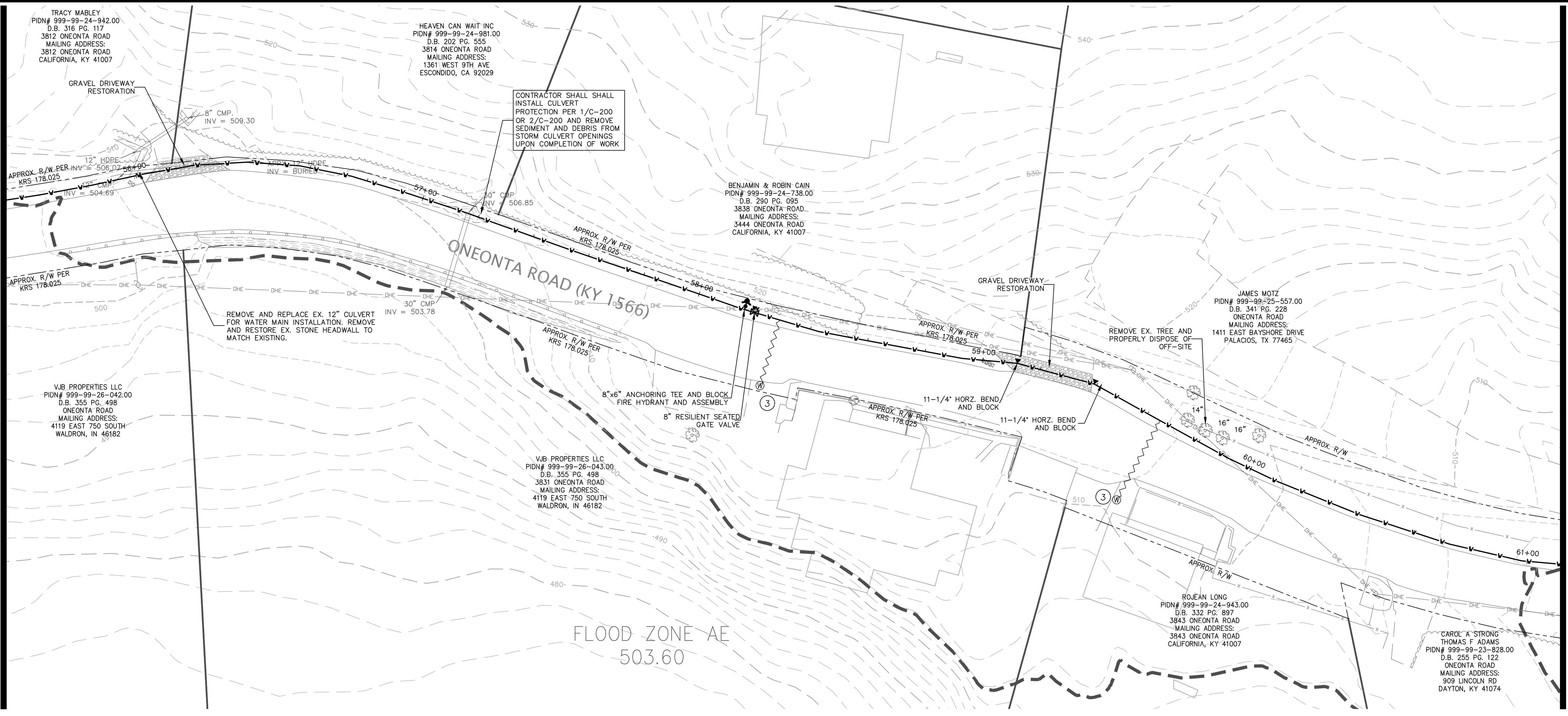
CHECKED BY:
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PROJECT MANAGER:
KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET C-529

SEE SHEET C-529



WATER MAIN CONSTRUCTION NOTES

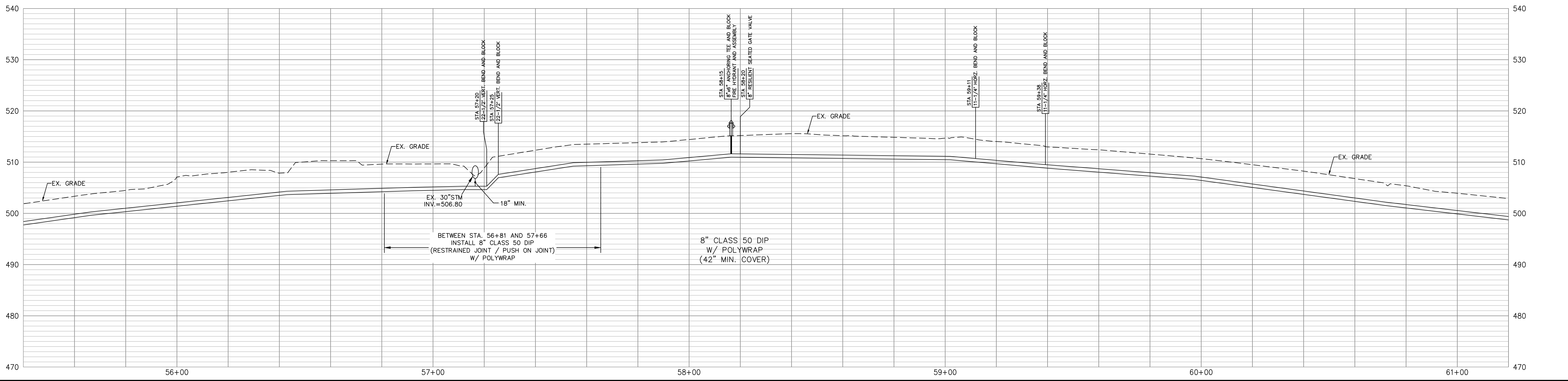
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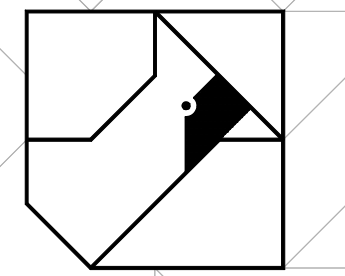
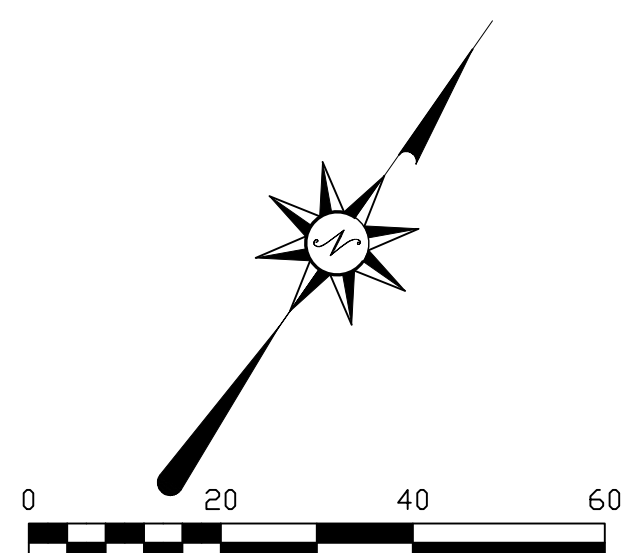
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REVISIONS	DATE	#	ITEM
05-01-24	2	REV PER NKWD	
07-29-24	3	REV PER NKWD	



CARDINAL
ENGINEERING
LAND SURVEYING
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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

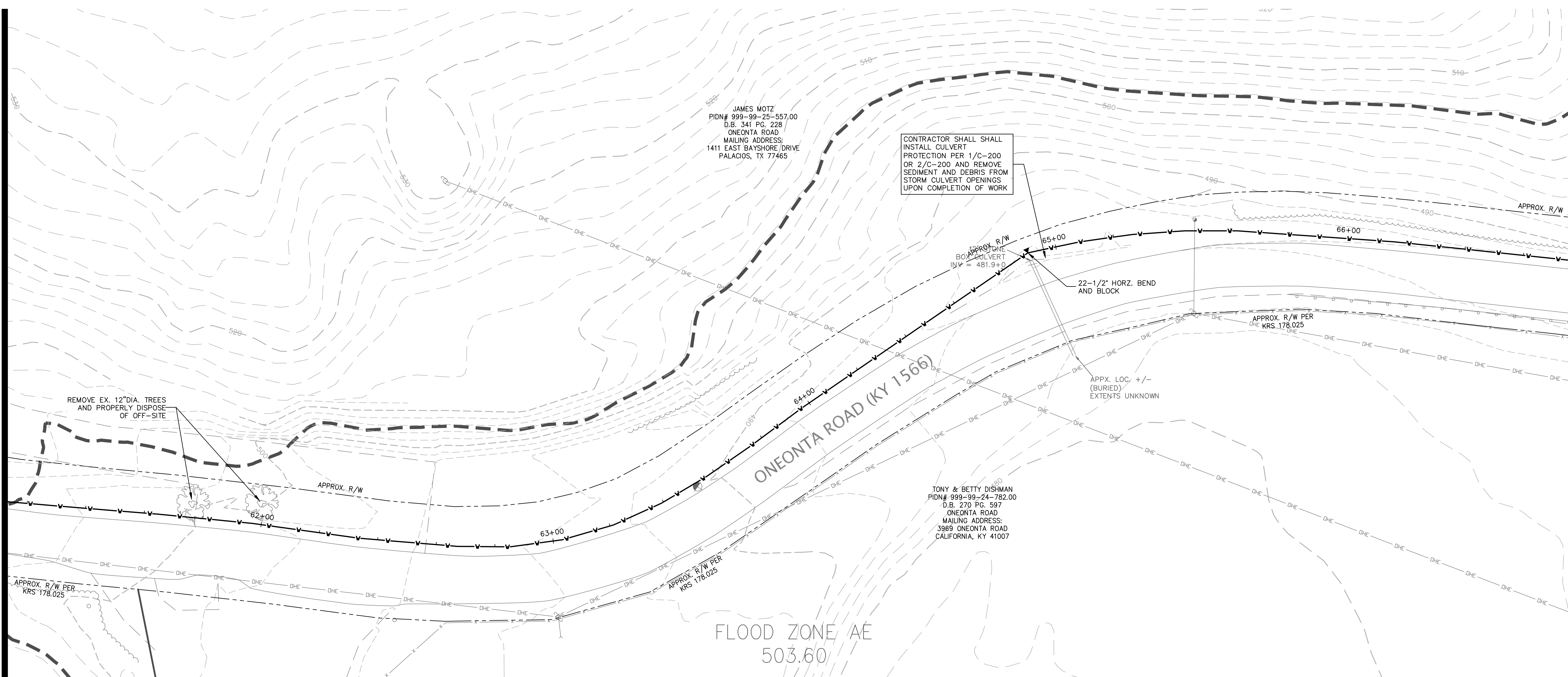
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY:	SEAL
KGH	
CHECKED BY:	
-	
PROJECT MANAGER:	
KGH	

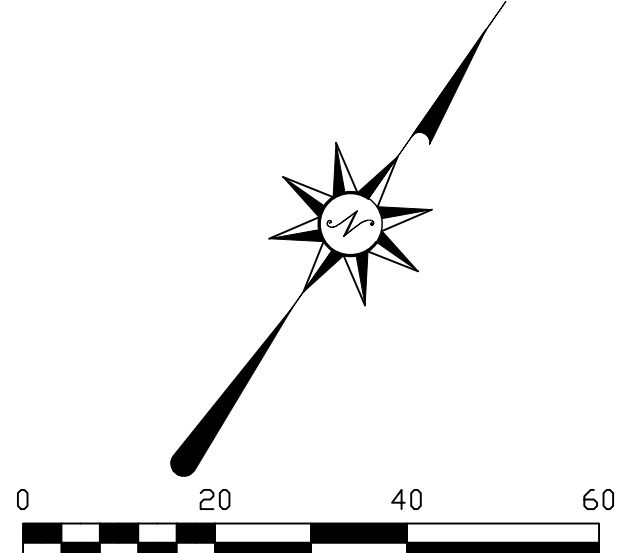
PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-530**

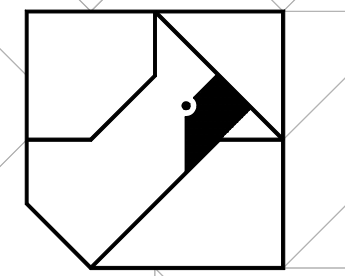
SEE SHEET C-530



SEE SHEET C-532



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



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WATER MAIN CONSTRUCTION NOTES

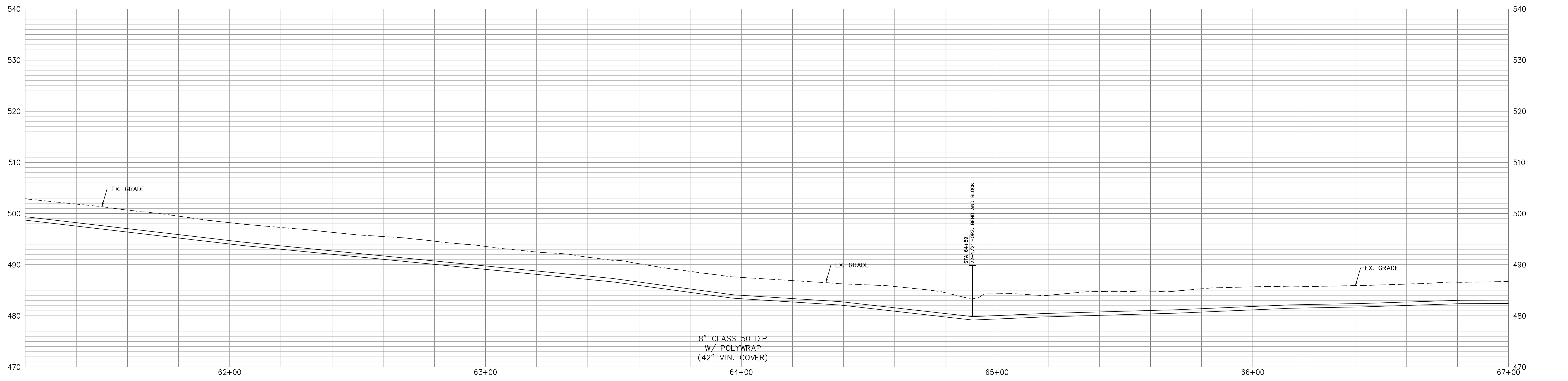
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8" CLASS 50 DIP
W/ POLYWRAP
(42" MIN. COVER)

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
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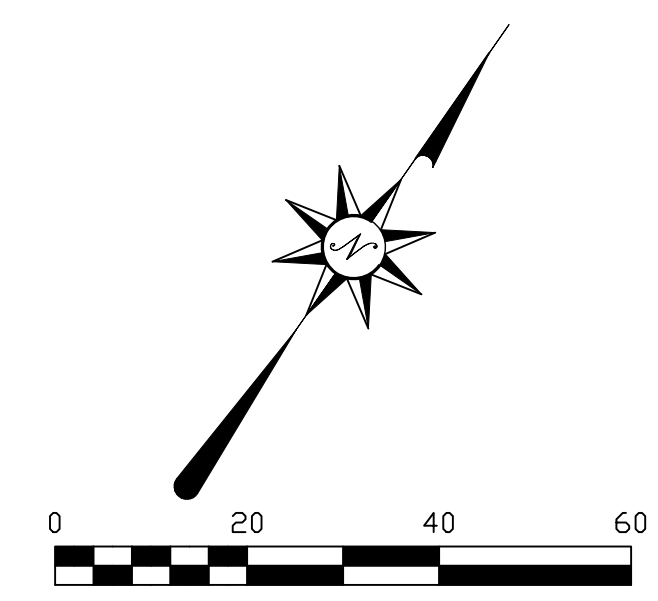
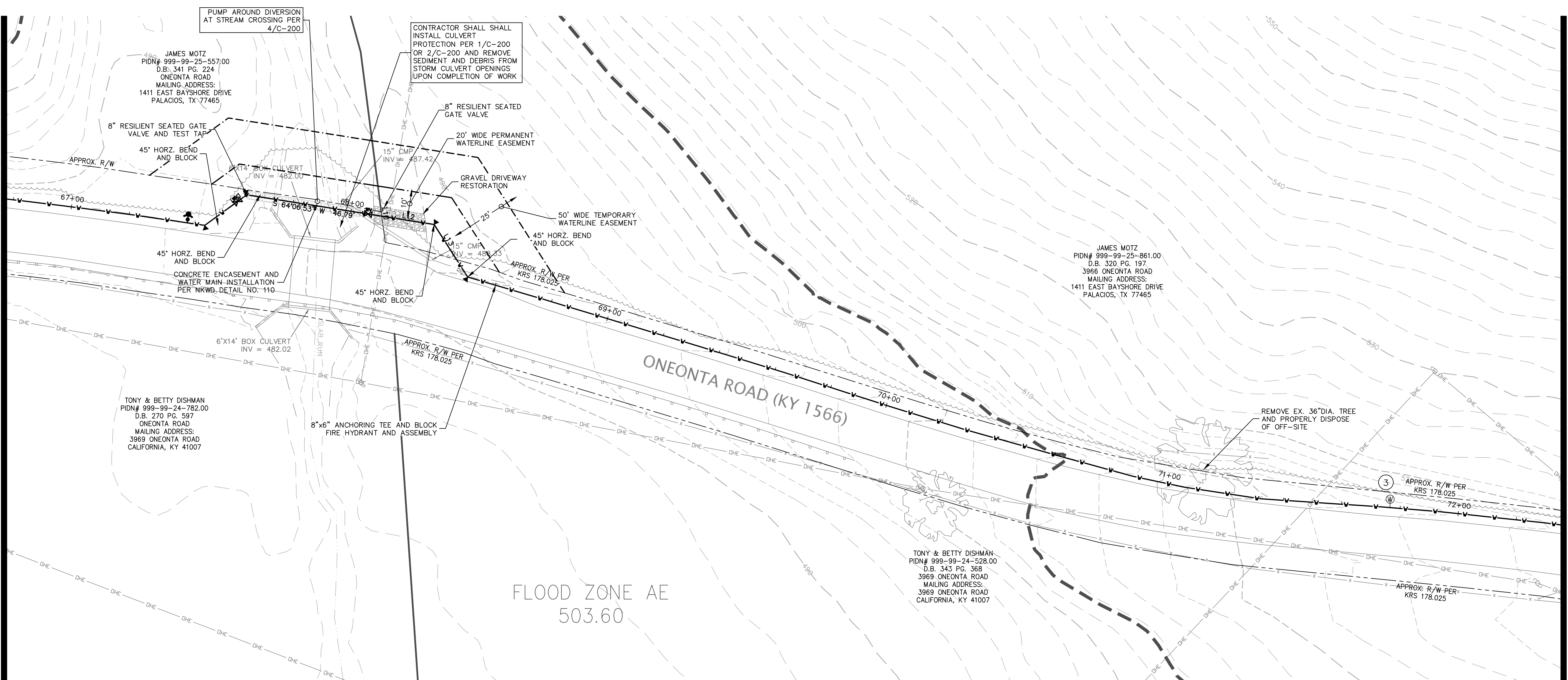
DRAWN BY:	SEAL
KGH	
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PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE

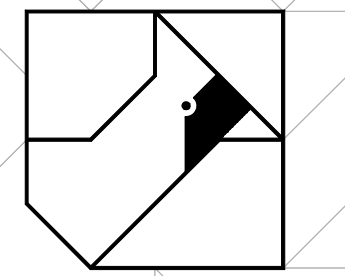
SHEET **C-531**

SEE SHEET C-531



SEE SHEET C-533

REVISIONS		
DATE	#	ITEM
05-01-24	2	REV PER NKWD
07-29-24	3	REV PER NKWD



CARDINAL
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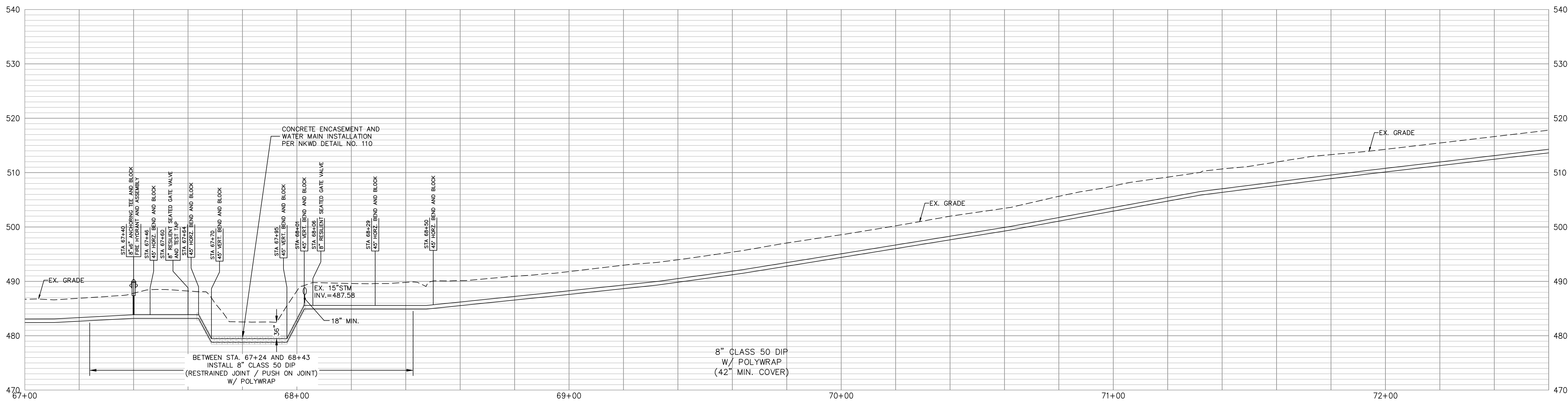
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4. CONTRACTOR SHALL ESTABLISH POSITIVE DRAINAGE IN DITCH LINE AT THE END OF EACH WORKING DAY. DISTURBED SECTIONS OF DITCH SHALL BE RESTORED WITH EROSION CONTROL BLANKET PER KYTC STANDARD DRAWING RDI-041 (3/C-241). MATERIALS, EQUIPMENT, AND FILL DIRT SHALL NOT BE STOCKPILED IN DITCH.
5. SEE "KYTC PERMITS MANUAL" FOR ALL REQUIREMENTS AND SPECIFICATIONS.

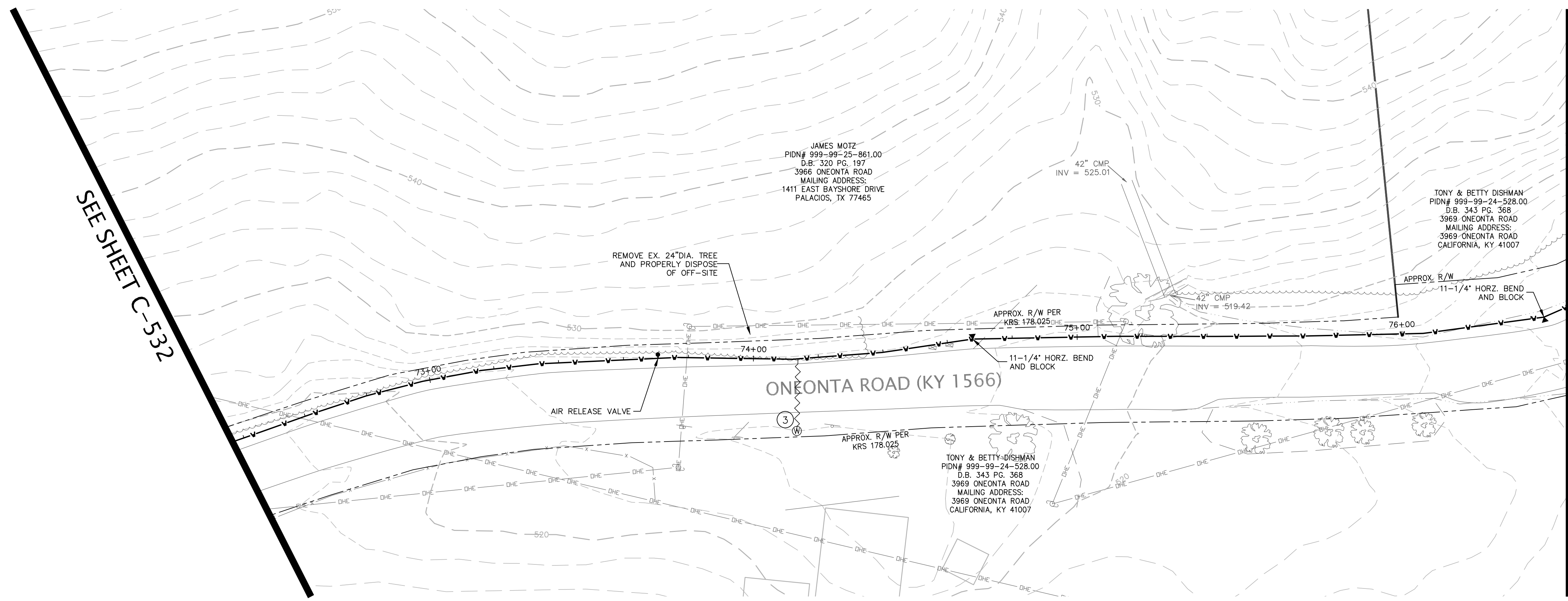
PROJECT: **WATER MAIN PLAN**
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: **NORTHERN KENTUCKY WATER DISTRICT**
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640



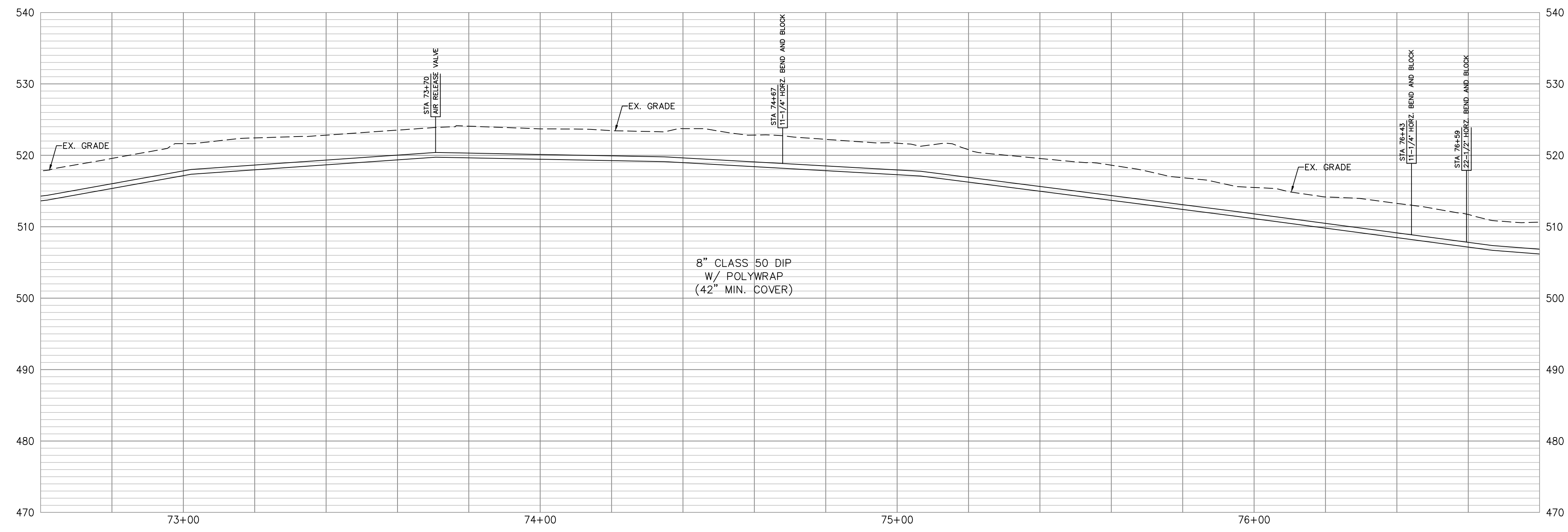
DRAWN BY:	SEAL
KGH	
CHECKED BY:	
PROJECT MANAGER:	KGH
PROJECT NO. 23-001	
SCALE AS NOTED	
DATE 01-11-23	

PLAN & PROFILE
 SHEET **C-532**



SEE SHEET C-532

SEE SHEET C-534



WATER MAIN CONSTRUCTION NOTES

1. THE COST FOR TESTING THE WATER MAIN, TEMPORARY FLUSHING DEVICES, TEMPORARY PLUGS AND BLOCKS BE INCIDENTAL TO THE PROJECT.
2. THE COST OF CLEARING, TREE REMOVAL, AND THE REMOVAL/REPLACEMENT OF MAILBOXES, STREET SIGNS, LANDSCAPING, HARDSCAPING, CULVERT PIPES, GUARDRAIL, AND FENCES IS INCIDENTAL TO THE COST OF INSTALLING THE WATER MAIN.
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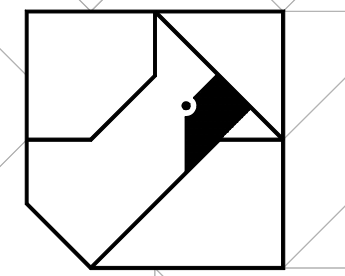
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REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY: SEAL
KGH

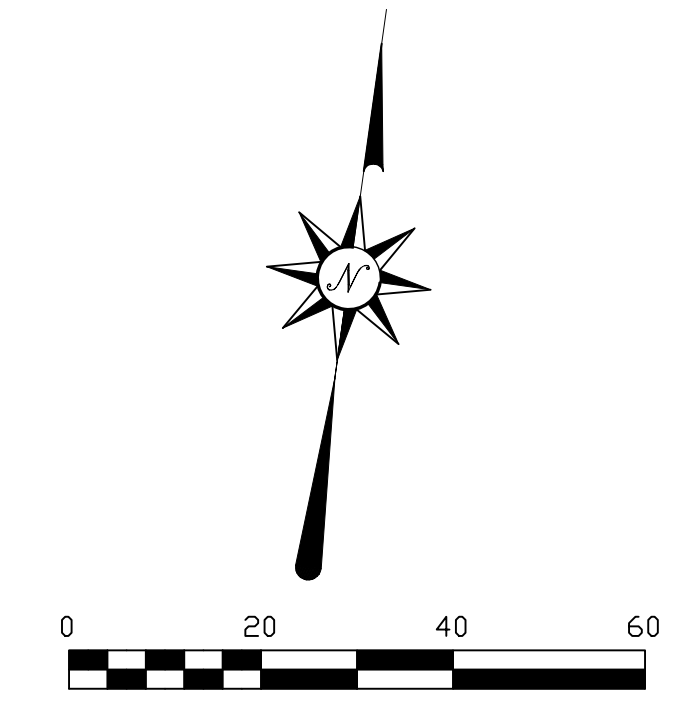
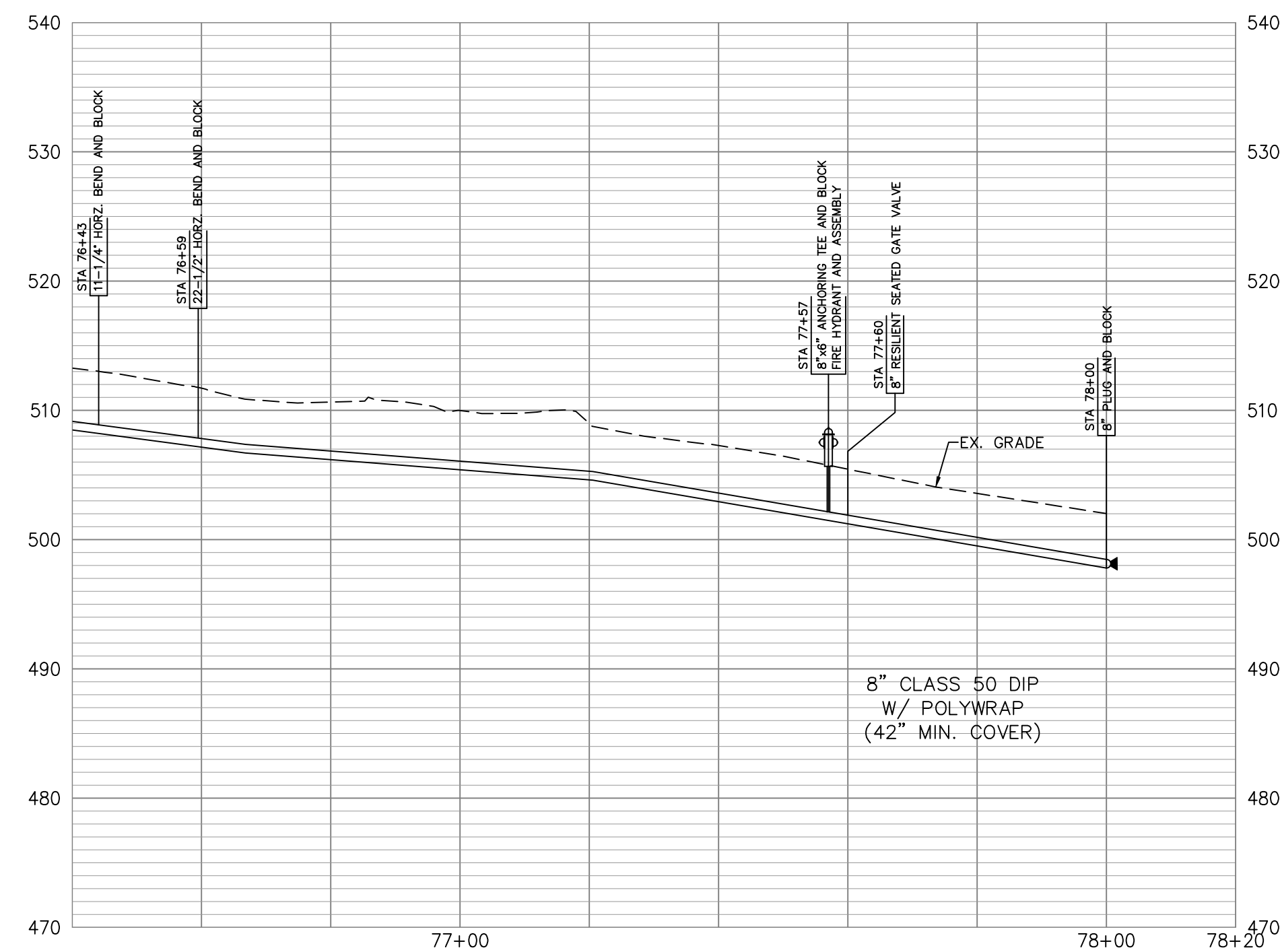
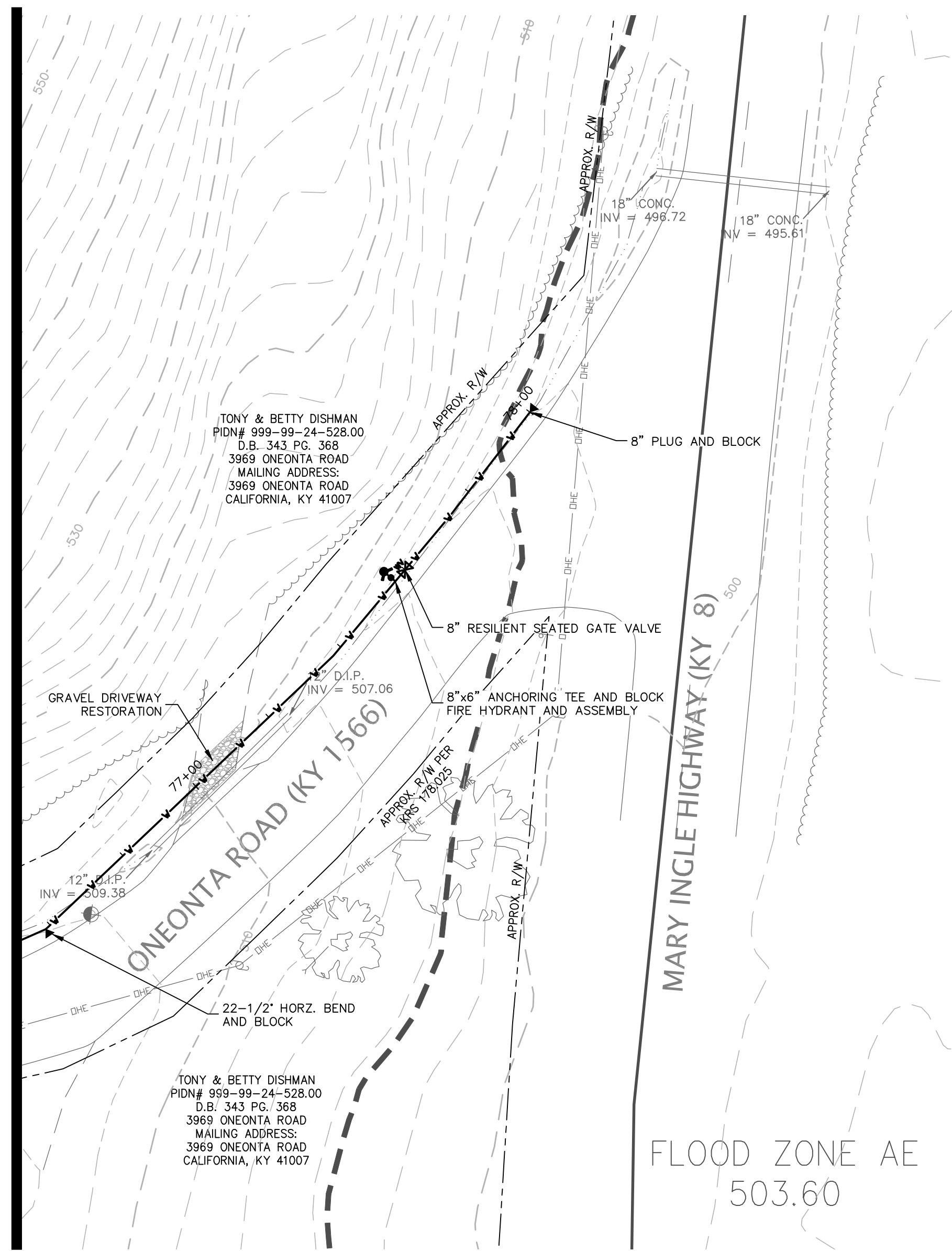
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PROJECT MANAGER: KGH

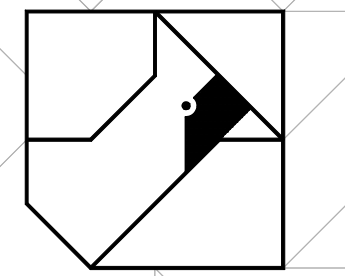
PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-533**

SEE SHEET C-533



REVISIONS	DATE	#	ITEM
05-01-24	2	REV PER	NKWD



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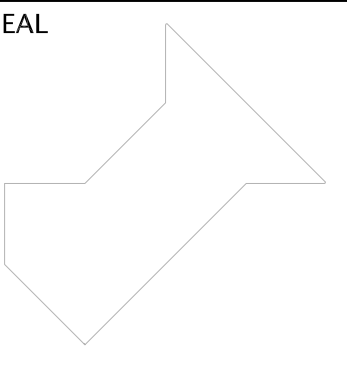
PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY:
KGH

CHECKED BY:
-

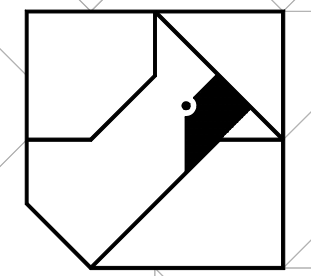
PROJECT MANAGER:
KGH



PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-534**

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

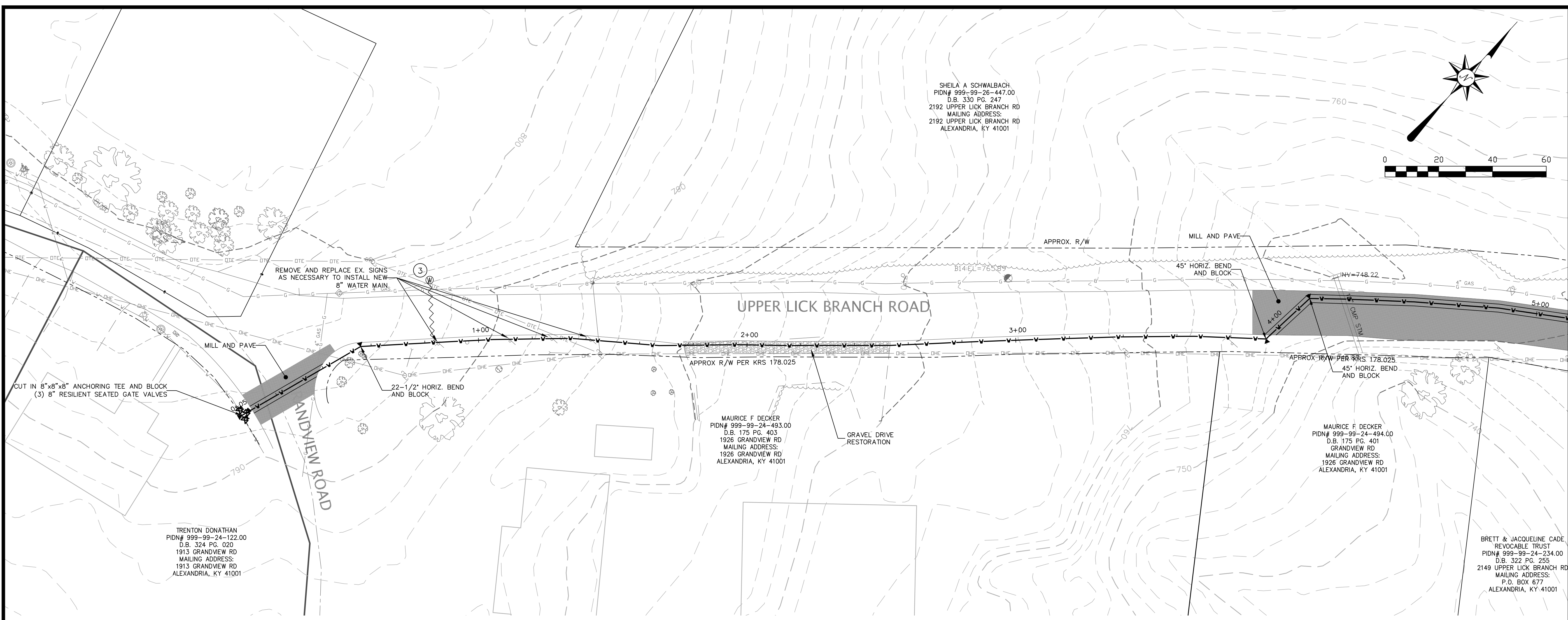
CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY:	SEAL
CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-535**

SEE SHEET C-536

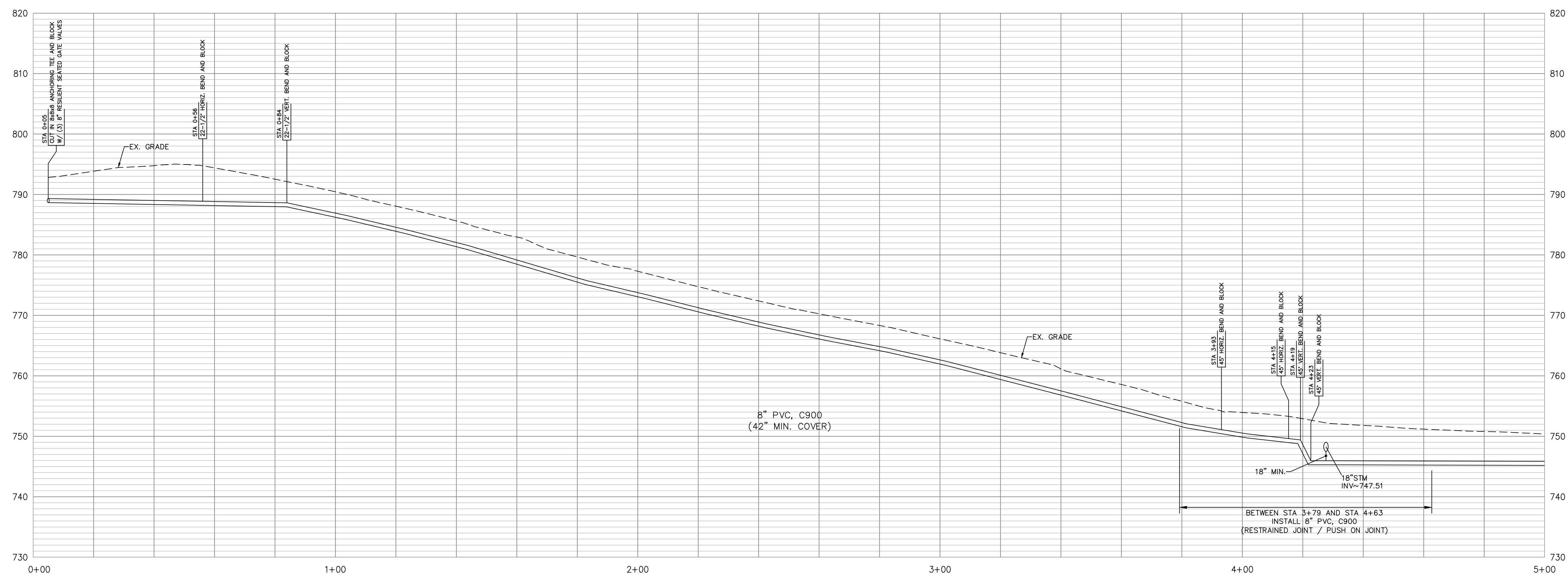


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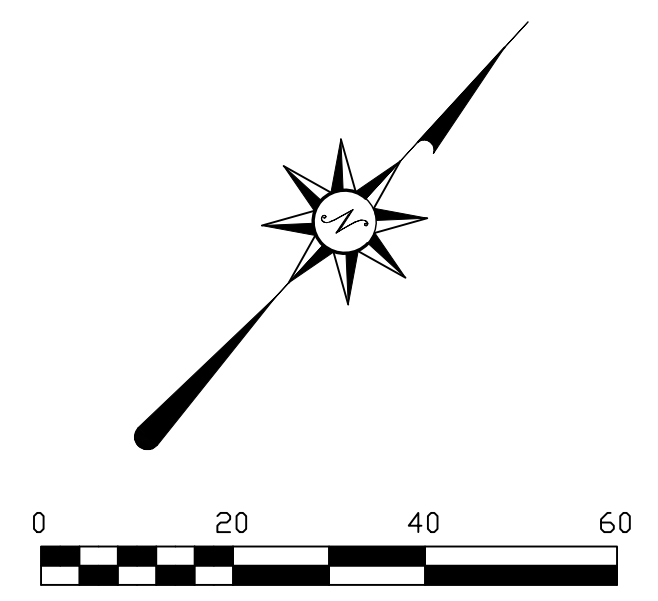


SEE SHEET C-535

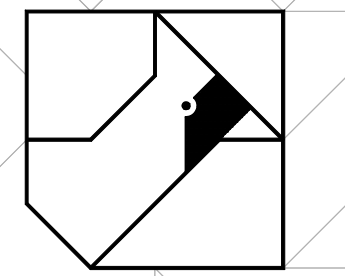


SHEILA A SCHWALBACH
PIDN# 999-99-26-447.00
D.B. 330 PG. 247
2192 UPPER LICK BRANCH RD
MAILING ADDRESS:
2192 UPPER LICK BRANCH RD
ALEXANDRIA, KY 41001

BRETT & JACQUELINE CADE
"REVOCABLE TRUST"
PIDN# 999-99-24-234.00
D.B. 322 PG. 255
2149 UPPER LICK BRANCH RD
MAILING ADDRESS:
P.O. BOX 677
ALEXANDRIA, KY 41001



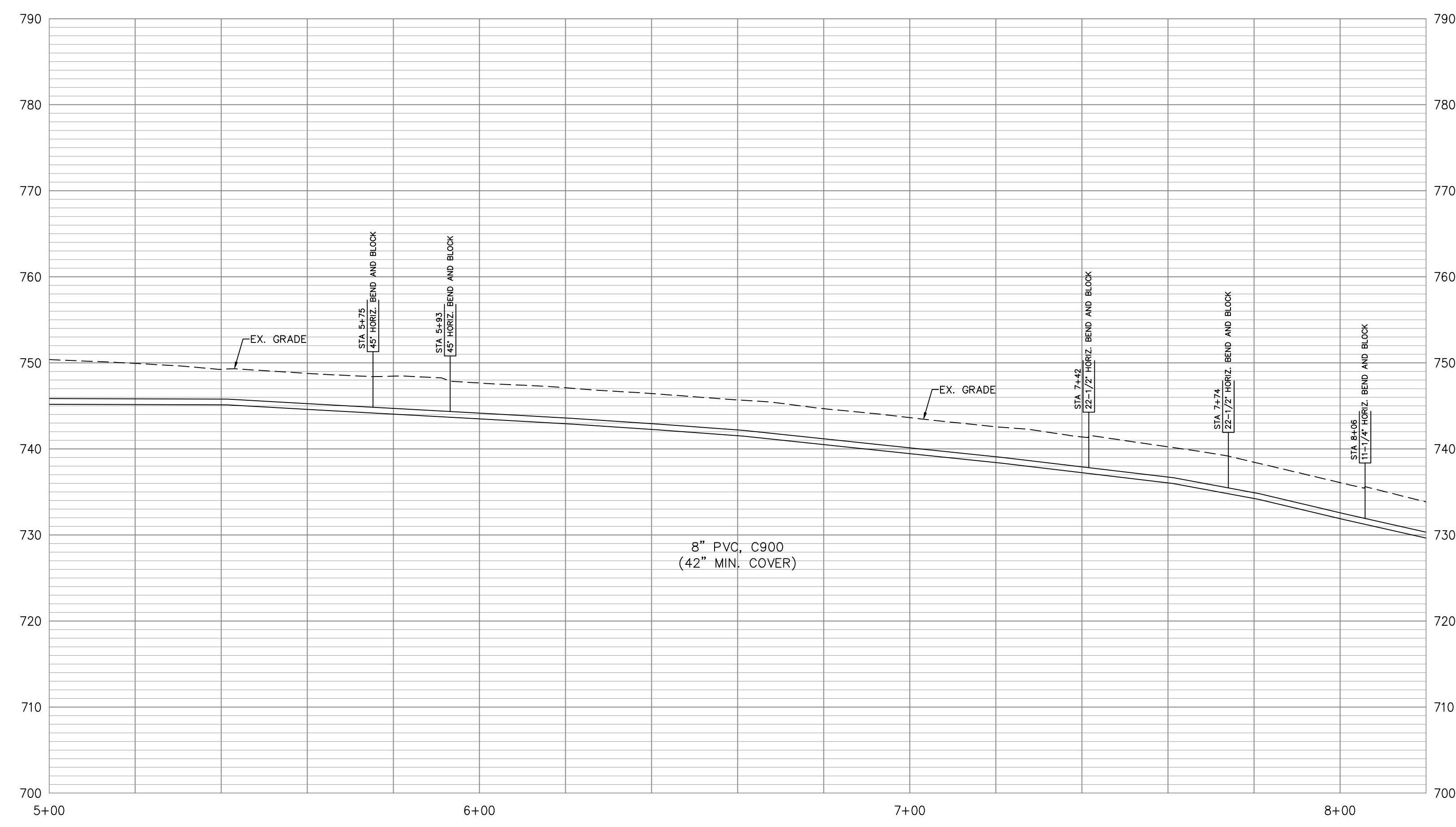
REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
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ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

SEE SHEET C-537



WATER MAIN CONSTRUCTION NOTES

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PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

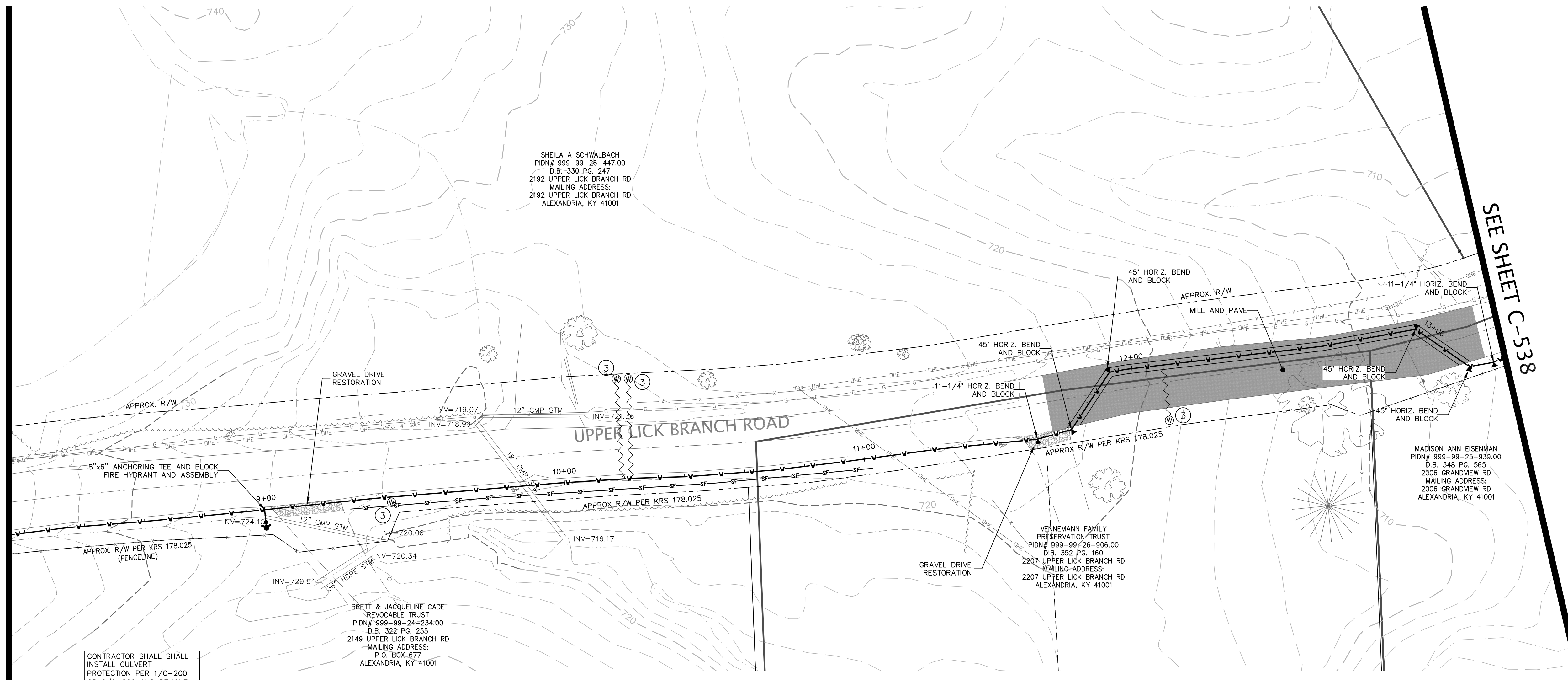
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

DRAWN BY:	SEAL
KGH	
CHECKED BY:	
-	
PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-536**

SEE SHEET C-536



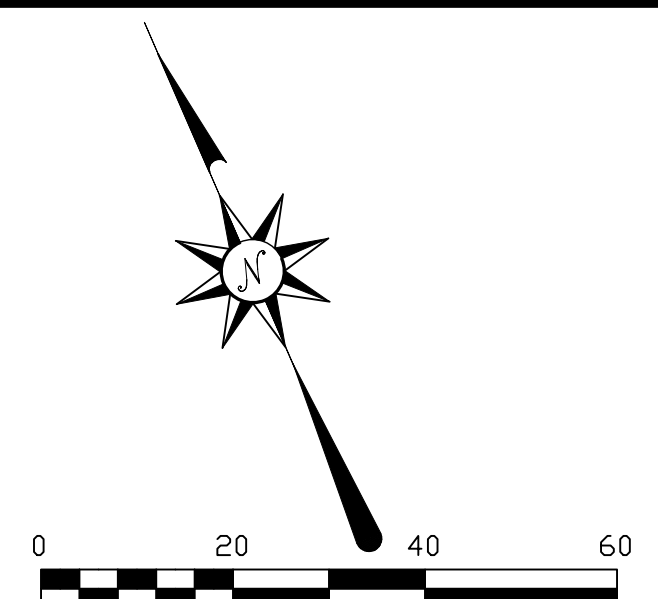
CONTRACTOR SHALL SHALL
INSTALL CULVERT
PROTECTION PER 1/C-200
OR 2/C-200 AND REMOVE
SEDIMENT AND DEBRIS FROM
STORM CULVERT OPENINGS
UPON COMPLETION OF WORK

SHEILA A SCHWALBACH
PID# 999-99-26-447.00
D.B. 330 PG. 247
2192 UPPER LICK BRANCH RD
MAILING ADDRESS:
2192 UPPER LICK BRANCH RD
ALEXANDRIA, KY 41001

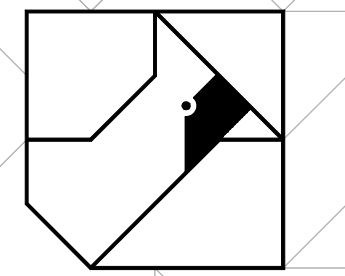
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MAILING ADDRESS:
P.O. BOX 677
ALEXANDRIA, KY 41001

VENNEMANN FAMILY
PRESERVATION TRUST
PID# 999-99-26-906.00
D.B. 352 PG. 160
2207 UPPER LICK BRANCH RD
MAILING ADDRESS:
2207 UPPER LICK BRANCH RD
ALEXANDRIA, KY 41001

MADISON ANN EISENMAN
PID# 999-99-25-839.00
D.B. 348 PG. 565
2006 GRANDVIEW RD
MAILING ADDRESS:
2006 GRANDVIEW RD
ALEXANDRIA, KY 41001



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
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WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

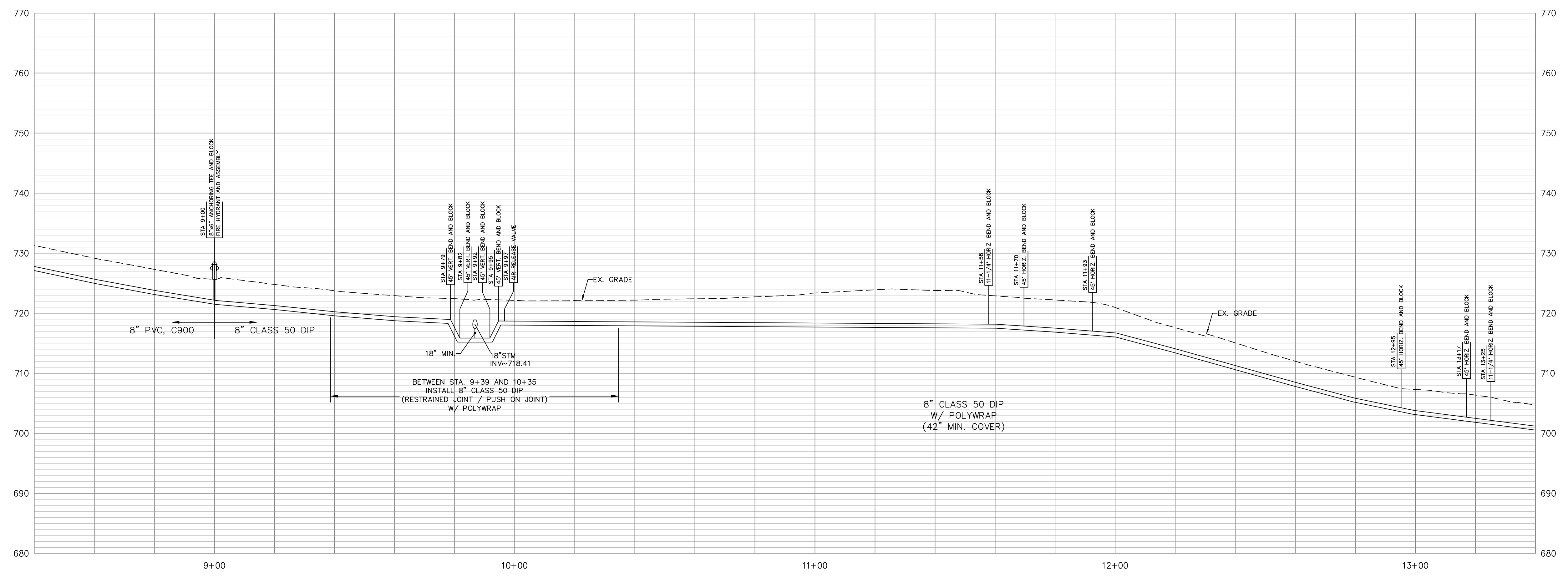
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

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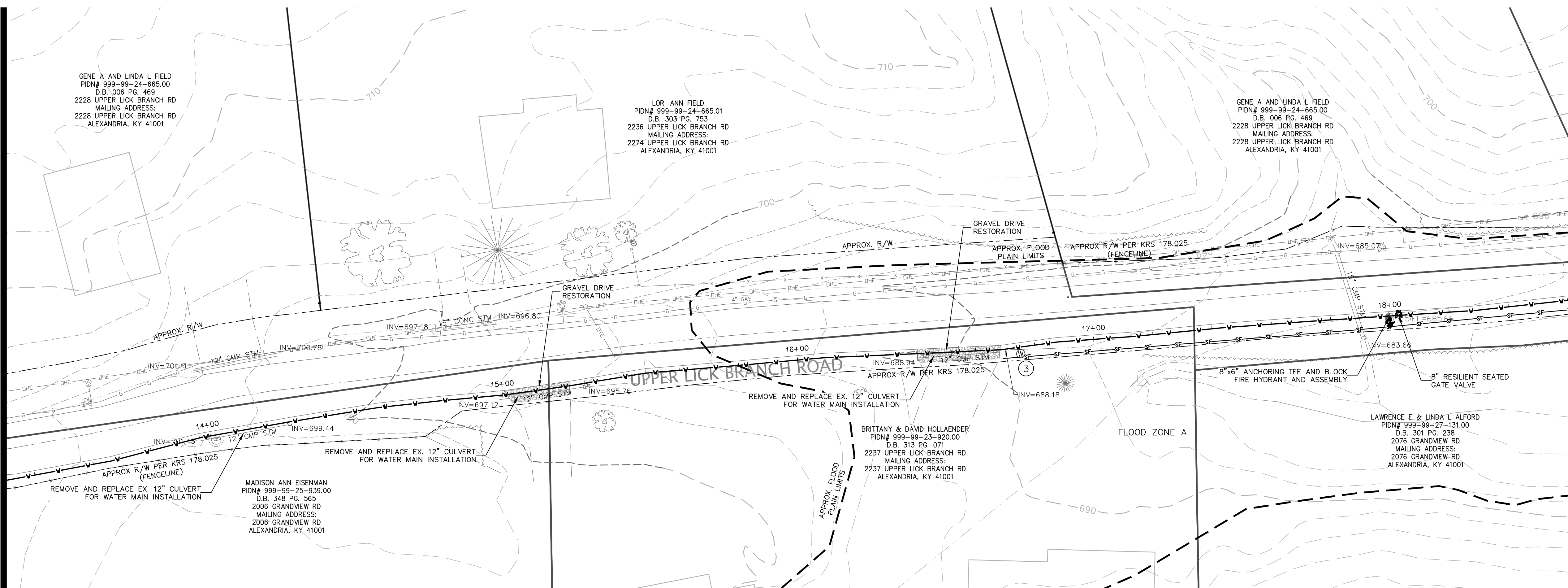


DRAWN BY:	SEAL
CHECKED BY:	
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

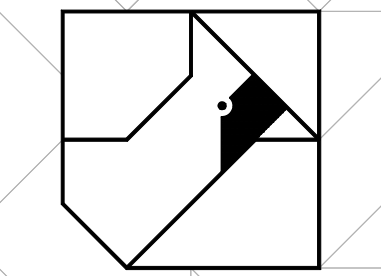
PLAN & PROFILE
SHEET **C-537**

SEE SHEET C-537



SEE SHEET C-539

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
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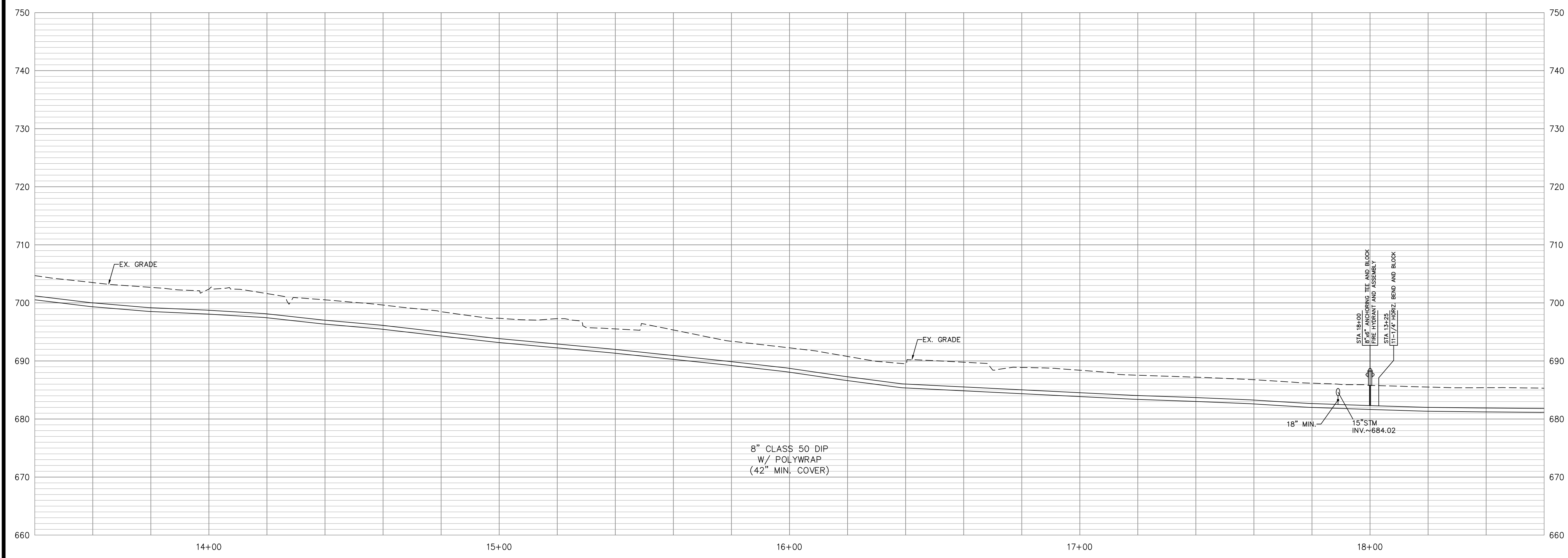


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PROJECT: WATER MAIN PLAN
 SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
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 - CONTRACTOR SHALL REVIEW GEOTECHNICAL REPORT PREPARED BY CONSULTING SERVICES INCORPORATED (CSI), DATED JULY 21, 2023, PROJECT NO. CN230010, PRIOR TO BIDDING THE PROJECT.

DRAWN BY:	SEAL
KGH	
CHECKED BY:	
-	
PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
 SCALE AS NOTED
 DATE 01-11-23

PLAN & PROFILE
 SHEET **C-538**

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

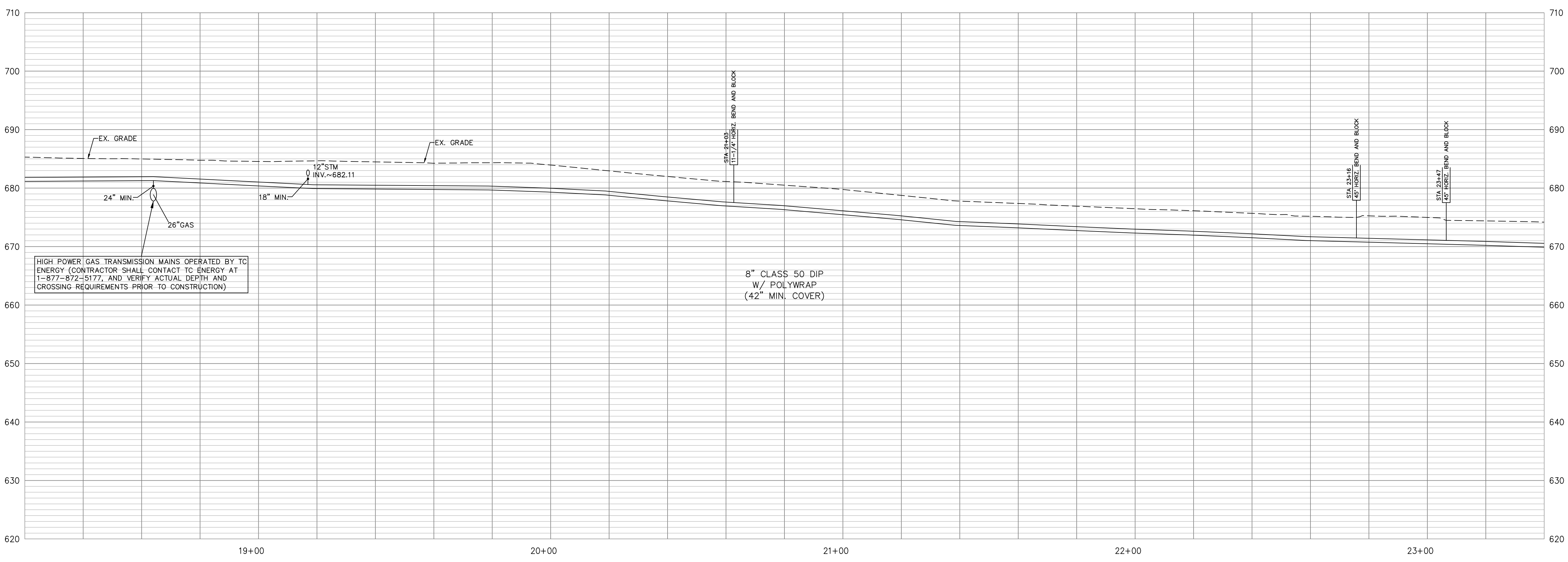
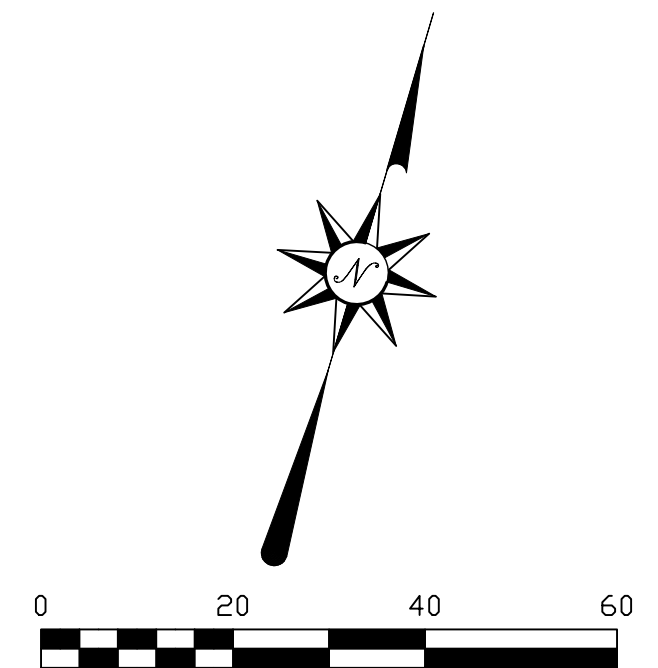
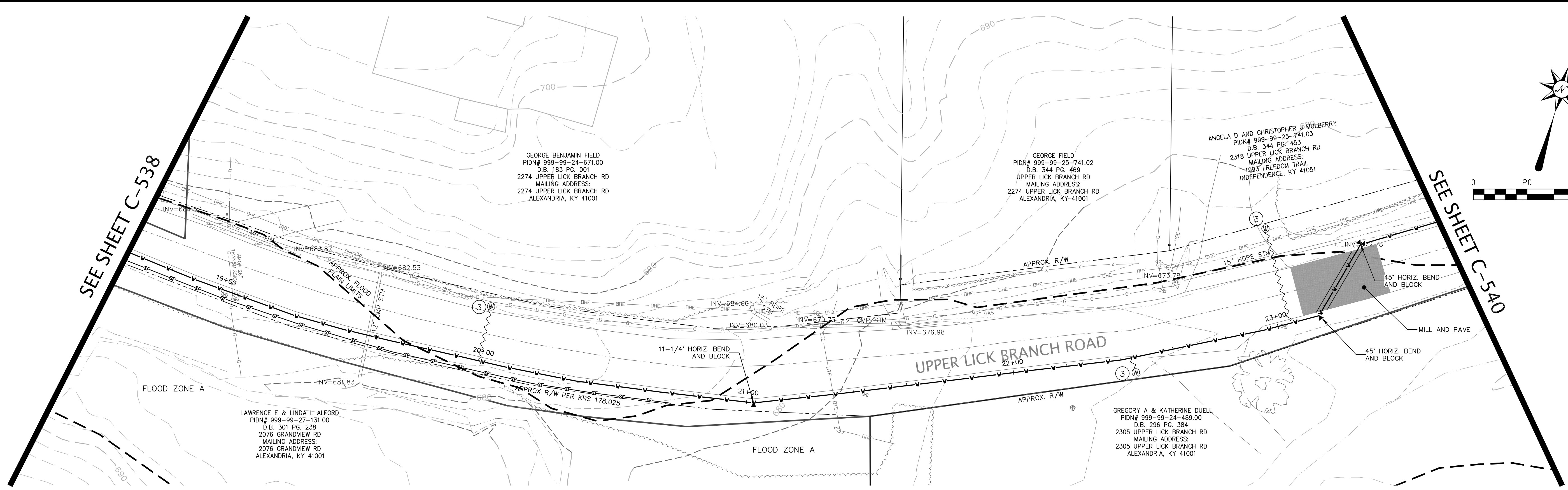
DRAWN BY: SEAL
KGH

CHECKED BY:
-

PROJECT MANAGER:
KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET C-539



- WATER MAIN CONSTRUCTION NOTES:**
1. THE COST FOR TESTING THE WATER MAIN, TEMPORARY FLUSHING DEVICES, TEMPORARY PLUGS AND BLOCKS BE INCIDENTAL TO THE PROJECT.
 2. THE COST OF CLEARING, TREE REMOVAL, AND THE REMOVAL/REPLACEMENT OF MAILBOXES, STREET SIGNS, LANDSCAPING, HARDSCAPING, CULVERT PIPES, GUARDRAIL, AND FENCES IS INCIDENTAL TO THE COST OF INSTALLING THE WATER MAIN.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING ALL SANITARY SEWER LATERALS PRIOR TO STARTING WORK AND MAINTAINING SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL PRACTICE CARE DURING TRENCH EXCAVATION AND SHALL BE RESPONSIBLE FOR REPLACING ANY SEWER LATERALS THAT ARE DAMAGED DURING CONSTRUCTION AT THEIR EXPENSE.
 4. ALL WATER METERS SHALL BE PLACED WITHIN THE RIGHT-OF-WAY. THE FINAL METER LOCATION SHALL BE FIELD VERIFIED BY A NKWD REPRESENTATIVE.
 5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING WATER MAIN AND ADJUST AS NEEDED TO AVOID POTENTIAL CONFLICTS AS DIRECTED BY THE ENGINEER.

- GEOTECHNICAL GENERAL NOTES:**
1. FOR ALL EARTHWORK OPERATIONS, POSITIVE SURFACE DRAINAGE IS PRUDENT TO KEEP WATER FROM PONDING ON THE SURFACE AND TO ASSIST IN MAINTAINING SURFACE STABILITY;
 2. THE SURFACE SHOULD BE SEALED PRIOR TO EXPECTED WET WEATHER. THIS CAN USUALLY BE ACCOMPLISHED WITH RUBBER-TIRED CONSTRUCTION EQUIPMENT OR A STEEL-DRUM ROLLER;
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HIGH POWER GAS TRANSMISSION MAINS OPERATED BY TC ENERGY (CONTRACTOR SHALL CONTACT TC ENERGY AT 1-877-872-5177, AND VERIFY ACTUAL DEPTH AND CROSSING REQUIREMENTS PRIOR TO CONSTRUCTION)

8" CLASS 50 DIP W/ POLYWRAP (42" MIN. COVER)

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY: SEAL
KGH

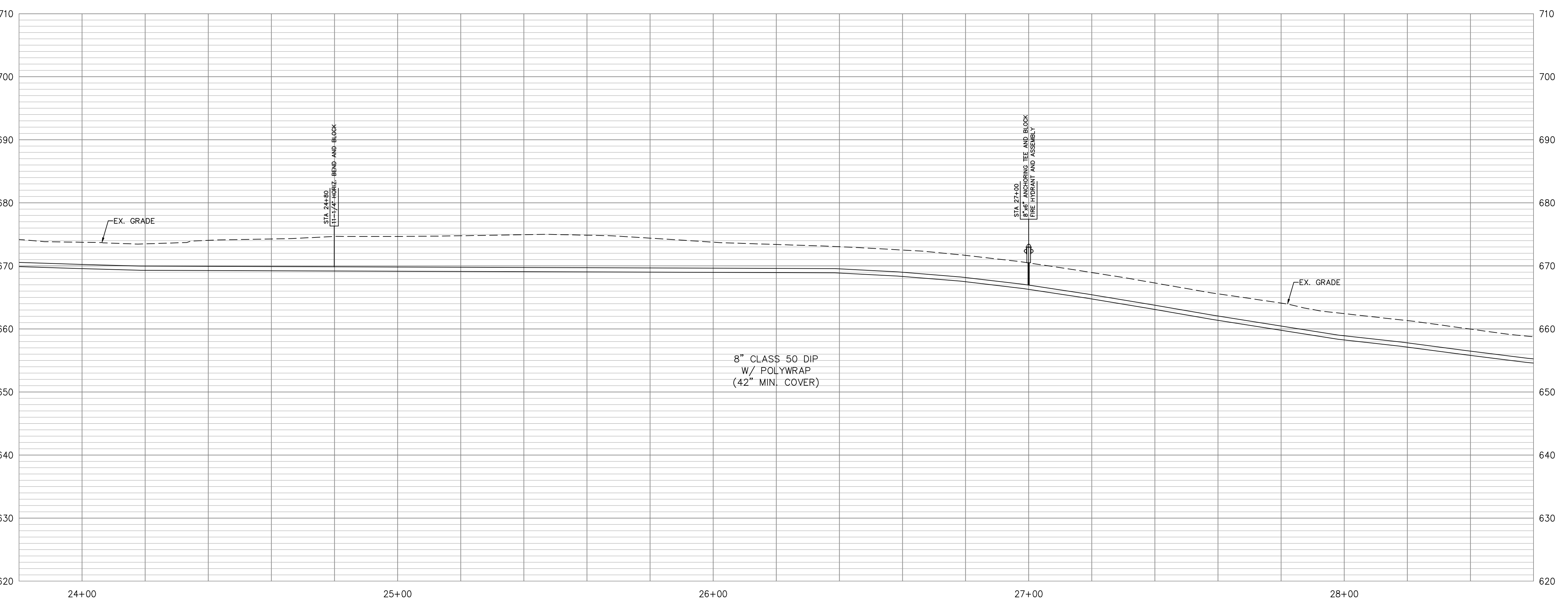
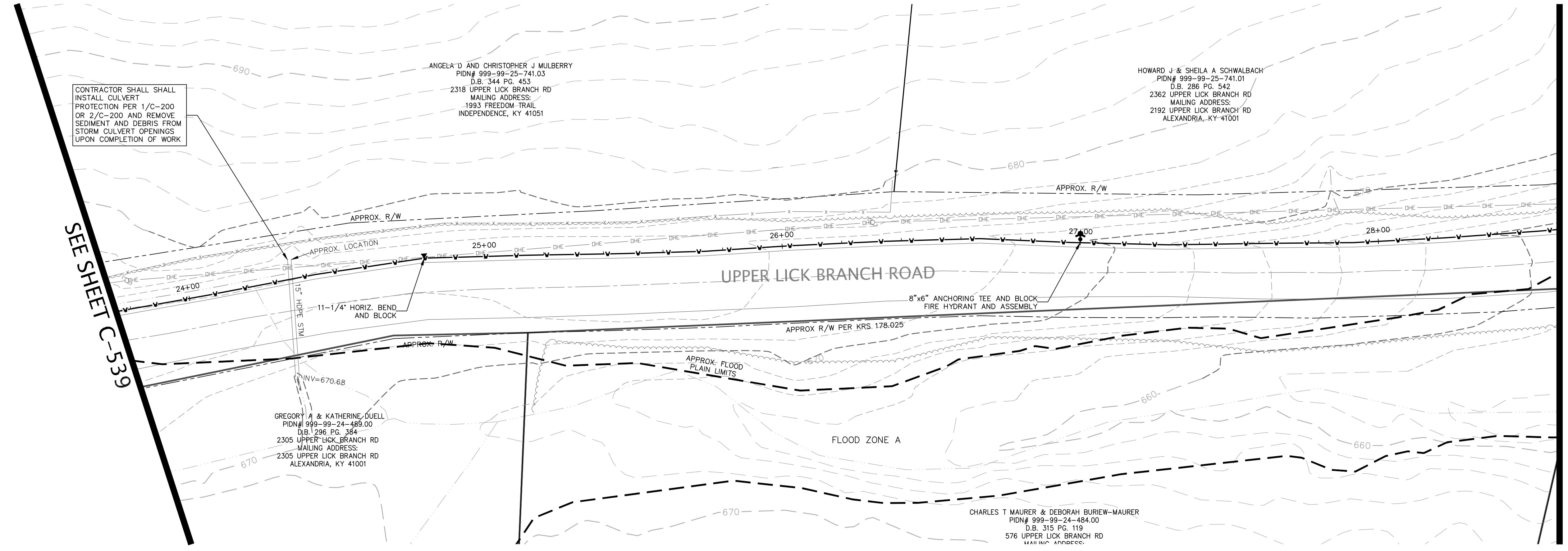
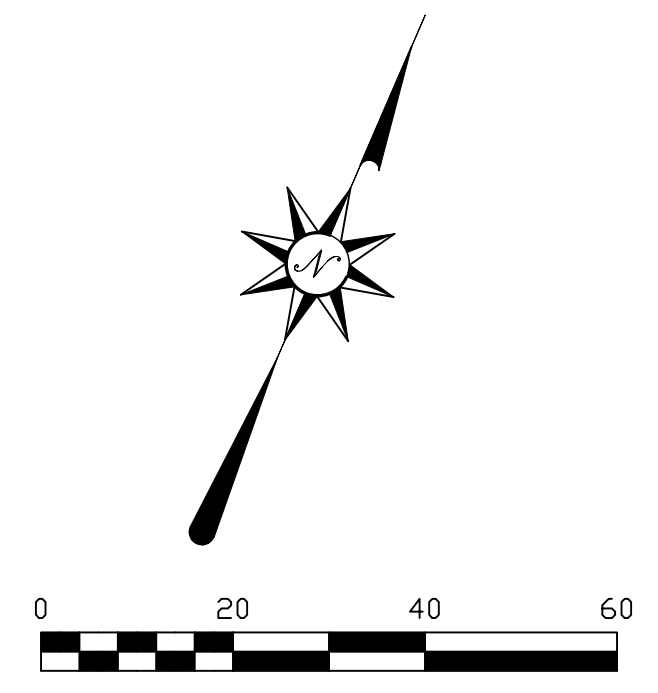
CHECKED BY: -

PROJECT MANAGER: KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE

SHEET C-540



- WATER MAIN CONSTRUCTION NOTES**
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CONTRACTOR SHALL INSTALL CULVERT PROTECTION PER 1/C-200 OR 2/C-200 AND REMOVE SEDIMENT AND DEBRIS FROM STORM CULVERT OPENINGS UPON COMPLETION OF WORK

ANGELA D AND CHRISTOPHER J MULBERRY
PID# 999-99-25-741.03
D.B. 344 PG. 453
2318 UPPER LICK BRANCH RD
MAILING ADDRESS:
1993 FREEDOM TRAIL
INDEPENDENCE, KY 41051

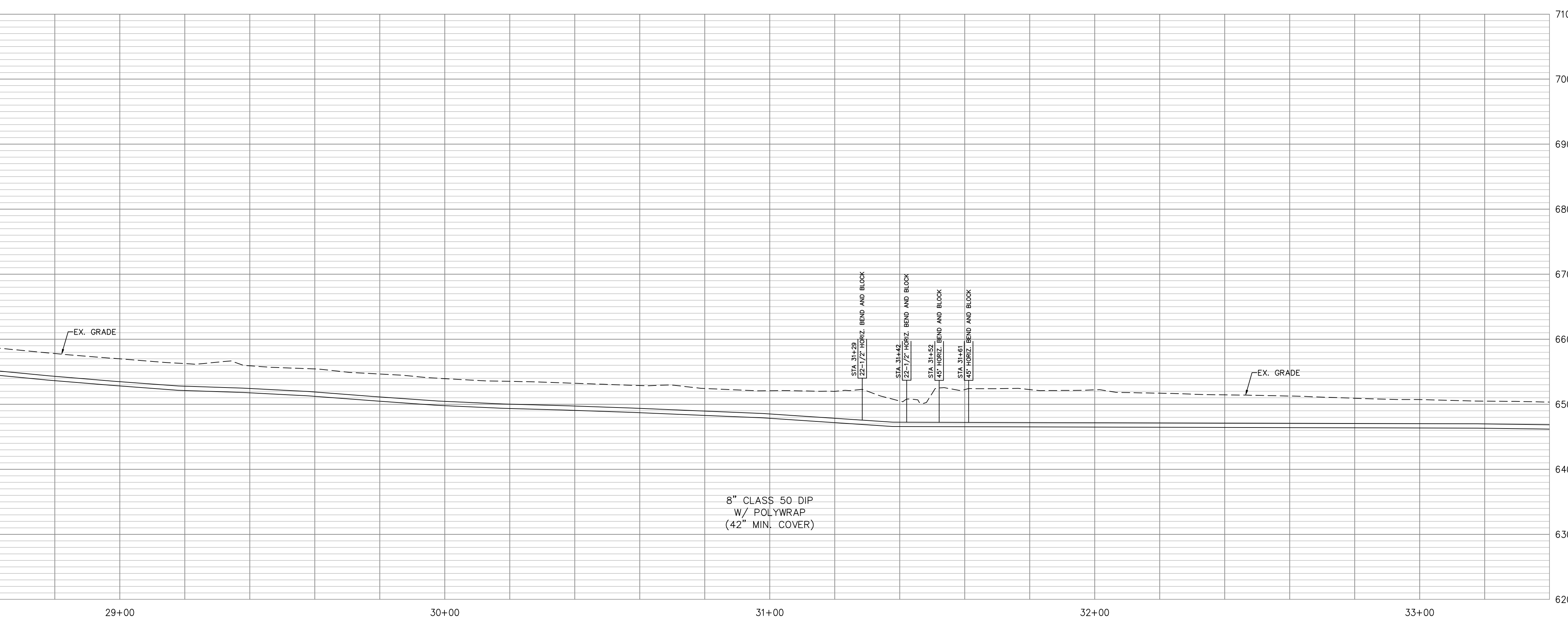
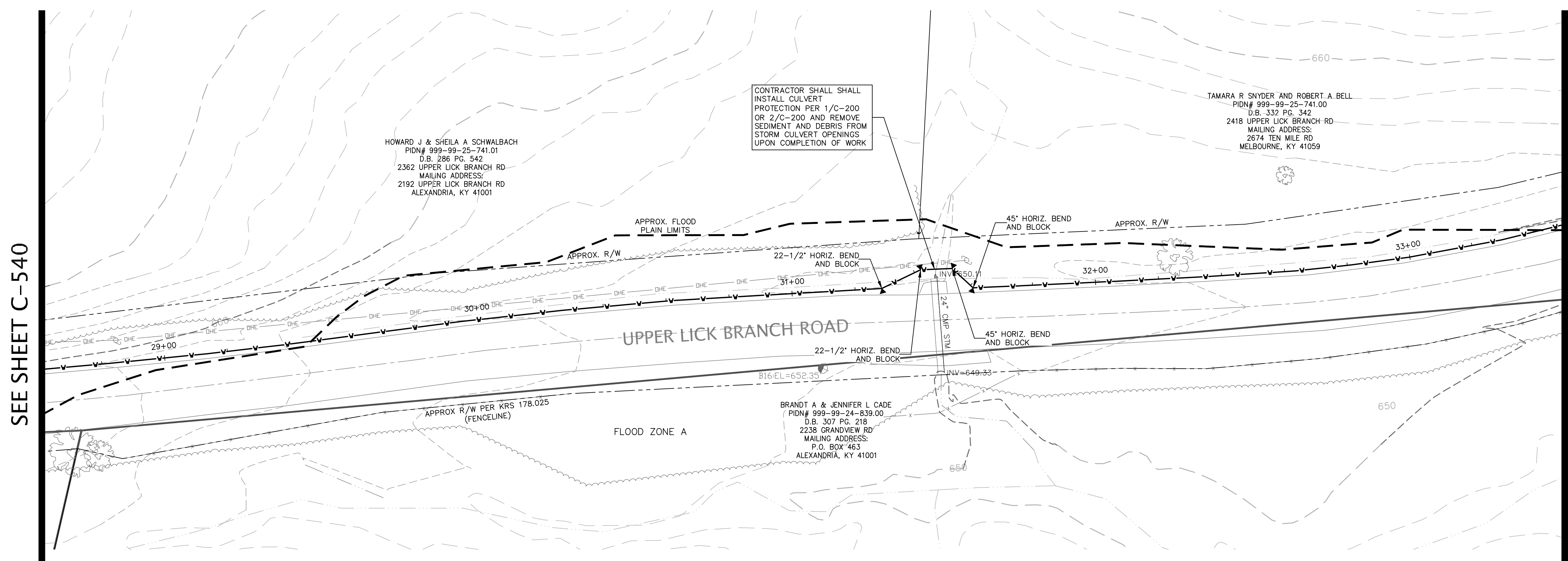
HOWARD J & SHEILA A SCHWALBACH
PID# 999-99-25-741.01
D.B. 286 PG. 542
2362 UPPER LICK BRANCH RD
MAILING ADDRESS:
2192 UPPER LICK BRANCH RD
ALEXANDRIA, KY 41001

GREGORY A & KATHERINE DUELL
PID# 999-99-24-489.00
D.B. 1296 PG. 384
2305 UPPER LICK BRANCH RD
MAILING ADDRESS:
2305 UPPER LICK BRANCH RD
ALEXANDRIA, KY 41001

CHARLES T MAURER & DEBORAH BURIEW-MAURER
PID# 999-99-24-484.00
D.B. 315 PG. 118
576 UPPER LICK BRANCH RD
MAILING ADDRESS:

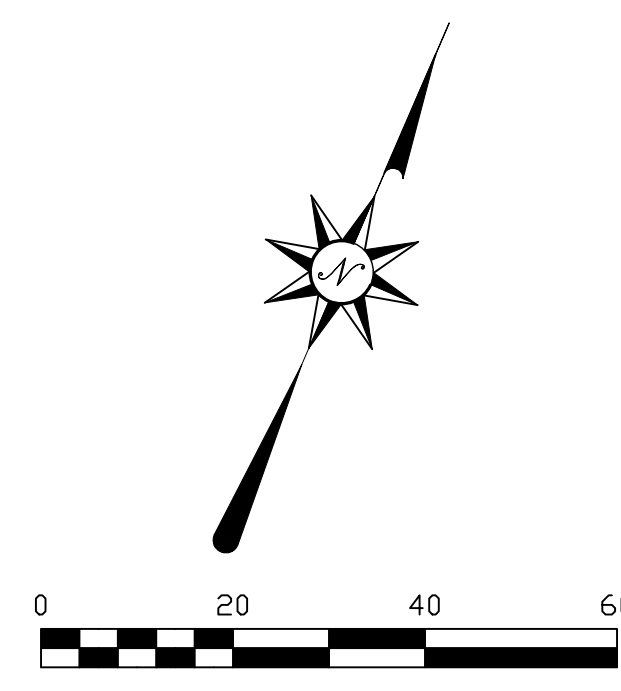
SEE SHEET C-539

SEE SHEET C-541



SEE SHEET C-540

SEE SHEET C-542



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD

CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

WATER MAIN CONSTRUCTION NOTES

1. THE COST FOR TESTING THE WATER MAIN, TEMPORARY FLUSHING DEVICES, TEMPORARY PLUGS AND BLOCKS BE INCIDENTAL TO THE PROJECT.
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GEOTECHNICAL GENERAL NOTES:

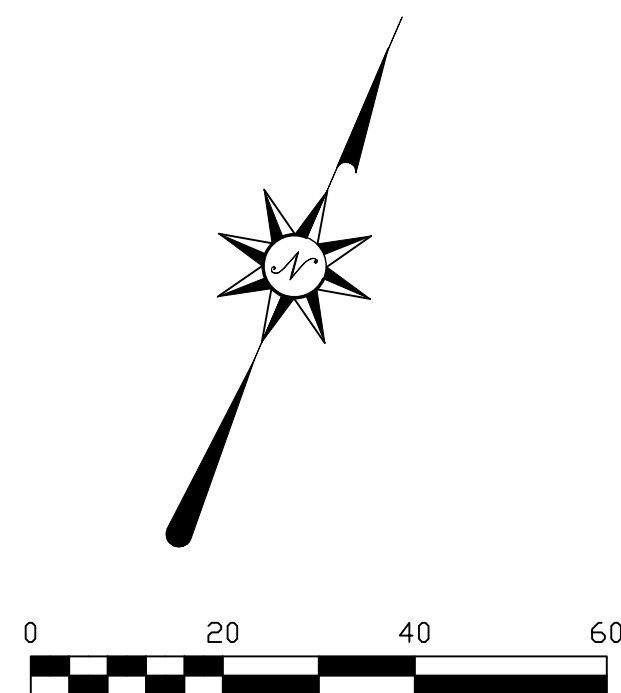
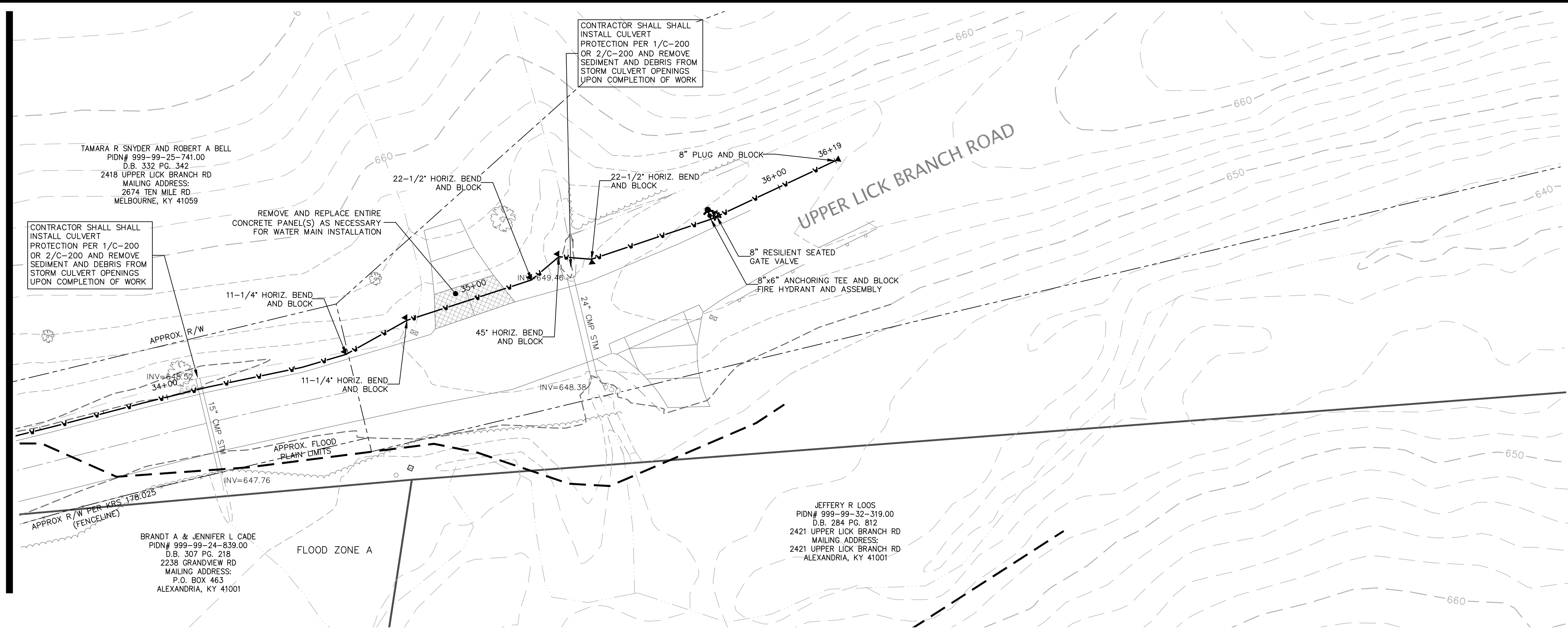
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PROJECT MANAGER:	
KGH	

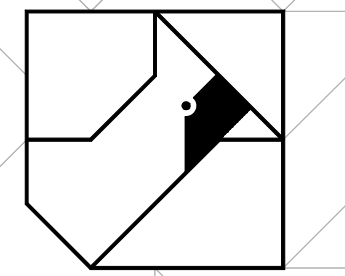
PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-541**

SEE SHEET C-541



REVISIONS		
DATE	#	ITEM
05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

WATER MAIN CONSTRUCTION NOTES

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GEOTECHNICAL GENERAL NOTES:

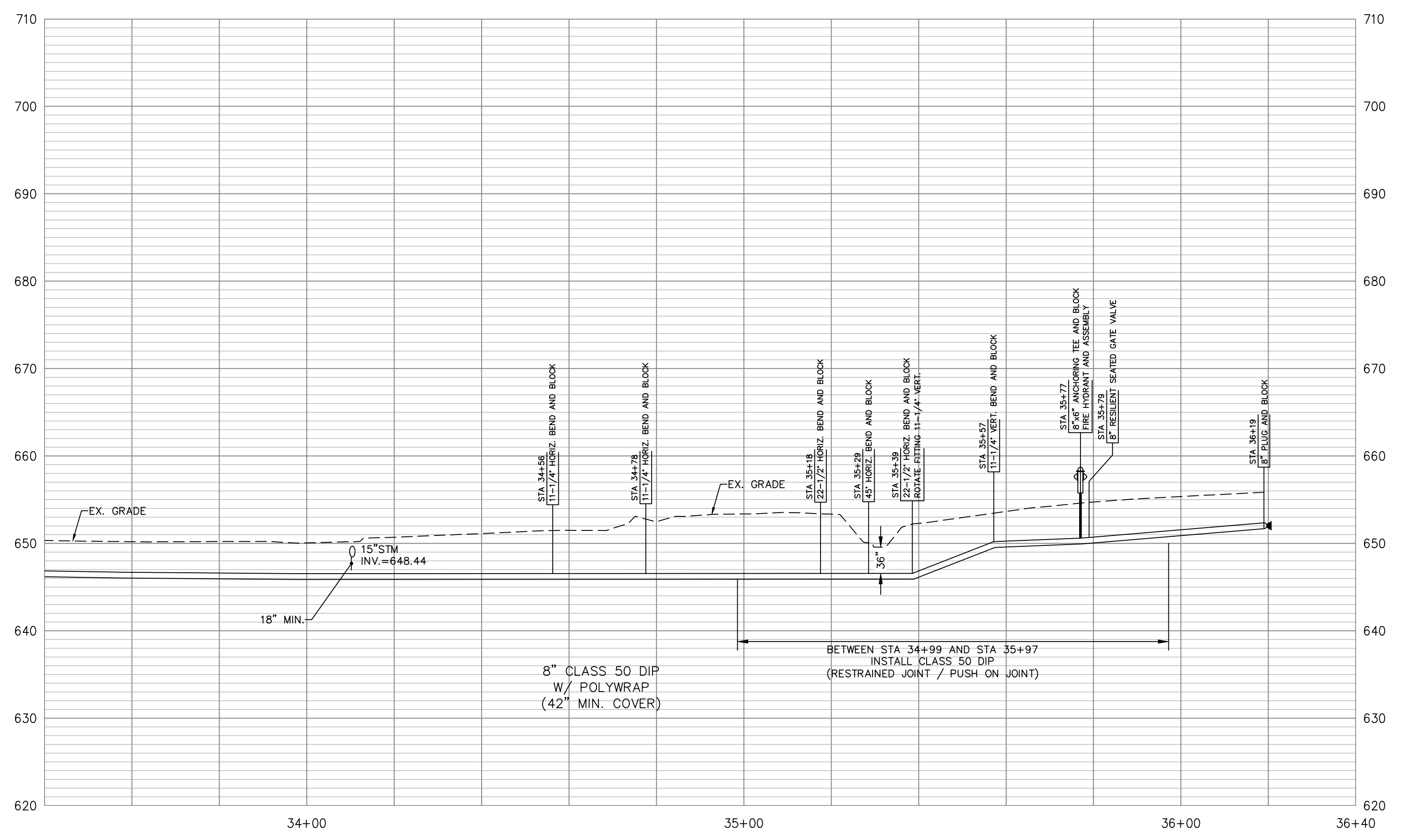
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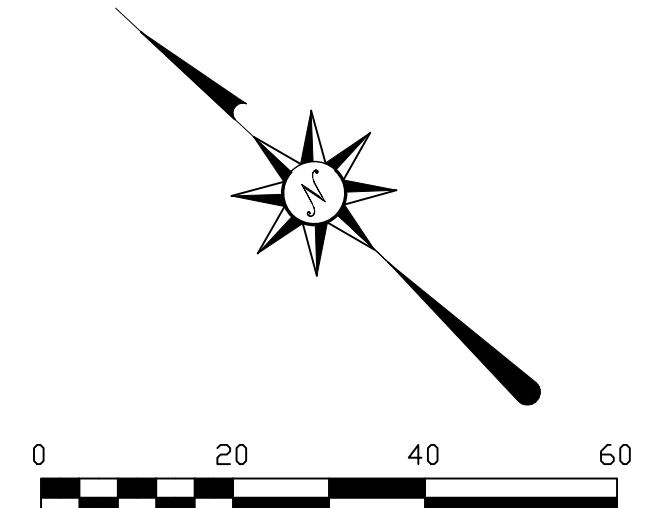
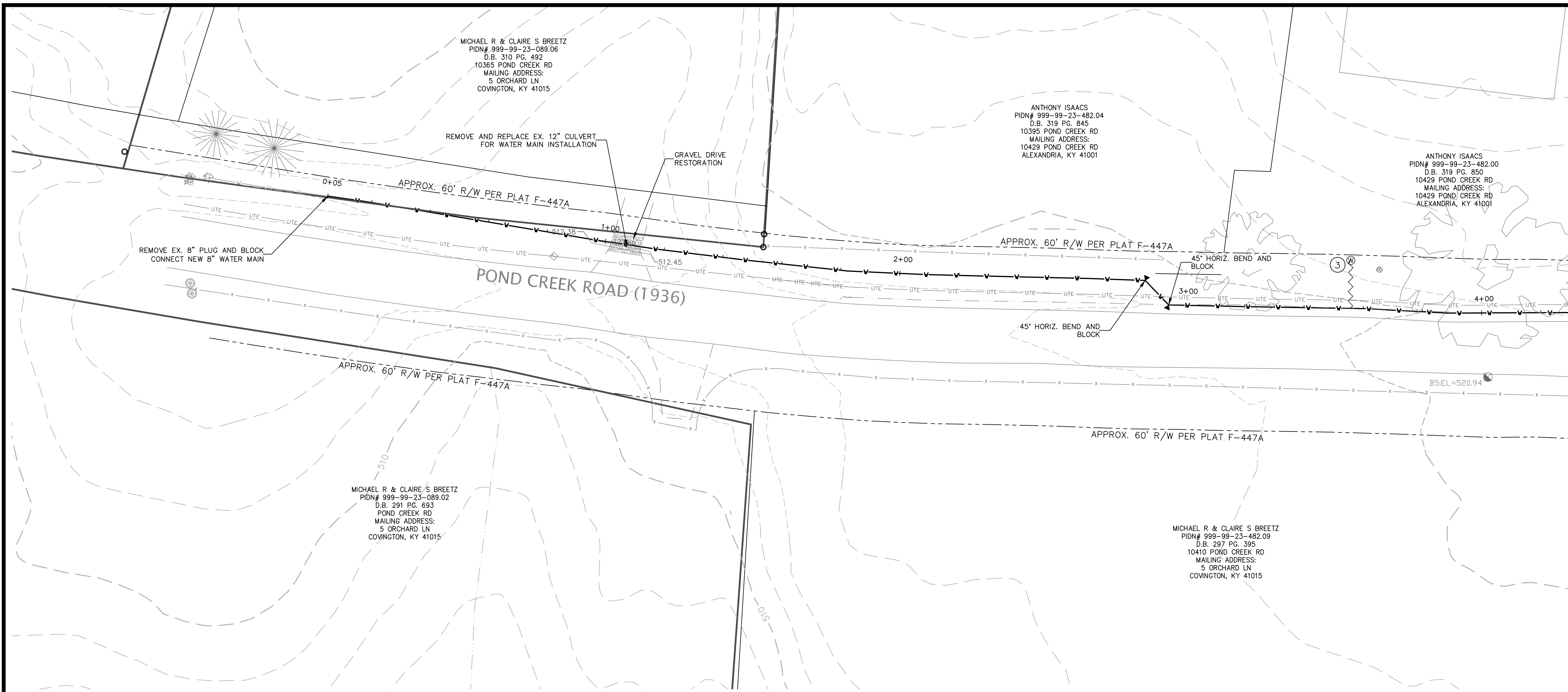
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CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

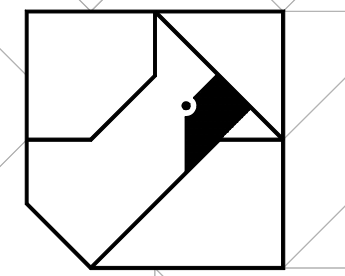
PLAN & PROFILE

SHEET **C-542**





REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

SEE SHEET C-544

WATER MAIN CONSTRUCTION NOTES

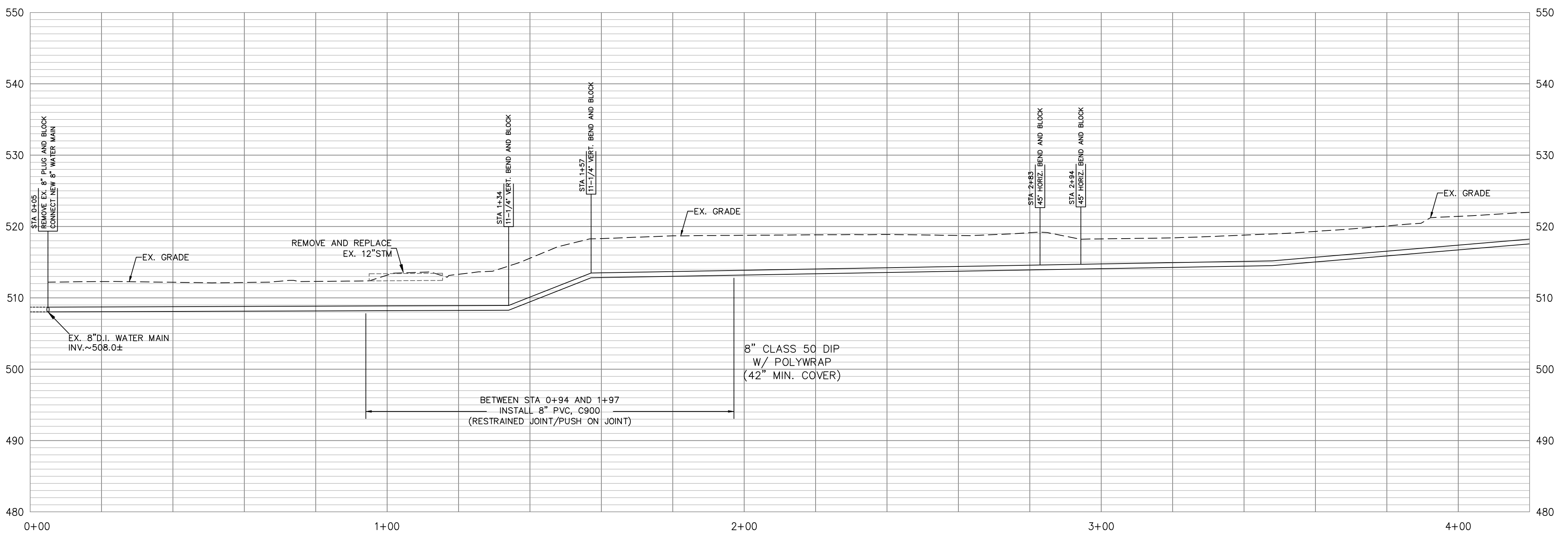
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KYTC CONSTRUCTION NOTES

1. ALL DITCH LINES ARE TO REMAIN OPEN AT ALL TIMES AND RESTORED TO ORIGINAL CONDITION.
2. SHAPE, SEED, AND STRAW ALL DISTURBED AREAS IMMEDIATELY AFTER COMPLETING THE WORK.
3. PROVIDE TRAFFIC CONTROL AS REQUIRED TO INSURE THE SAFETY OF THE TRAVELING PUBLIC IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
4. CONTRACTOR SHALL ESTABLISH POSITIVE DRAINAGE IN DITCH LINE AT THE END OF EACH WORKING DAY. DISTURBED SECTIONS OF DITCH SHALL BE RESTORED WITH EROSION CONTROL BLANKET PER KYTC STANDARD DRAWING RD-041 (3/C-241). MATERIALS, EQUIPMENT, AND FILL DIRT SHALL NOT BE STOCKPILED IN DITCH.
5. SEE "KYTC PERMITS MANUAL" FOR ALL REQUIREMENTS AND SPECIFICATIONS.



PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY:	SEAL
KGH	
CHECKED BY:	-
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-543**

CONTRACTOR SHALL INSTALL CULVERT PROTECTION PER 1/C-200 OR 2/C-200 AND REMOVE SEDIMENT AND DEBRIS FROM STORM CULVERT OPENINGS UPON COMPLETION OF WORK

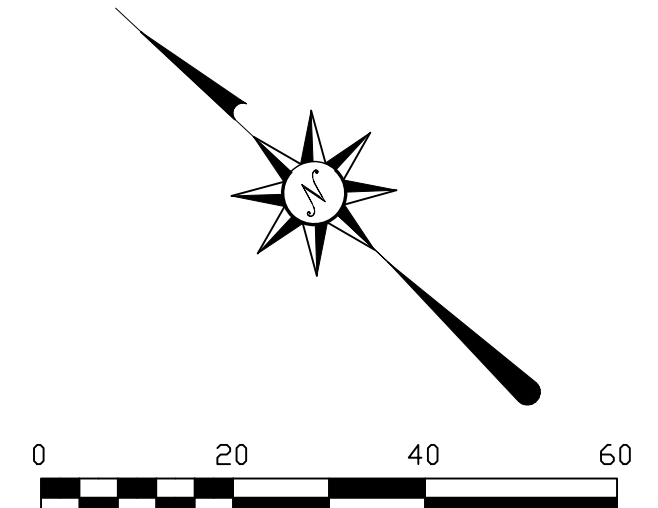
ANTHONY ISAACS
PID# 999-99-23-482.00
D.B. 319 PG. 850
10429 POND CREEK RD
MAILING ADDRESS:
10429 POND CREEK RD
ALEXANDRIA, KY 41001

PAMELA SUSAN & GREGORY SEIBERT
PID# 999-99-23-482.05
D.B. 307 PG. 613
10451 POND CREEK RD
MAILING ADDRESS:
10451 POND CREEK RD
ALEXANDRIA, KY 41001

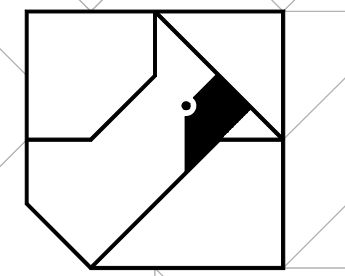
CONTRACTOR SHALL INSTALL INLET PROTECTION PER 5/C-200 AND REMOVE SEDIMENT AND DEBRIS FROM STORM INLET OPENINGS UPON COMPLETION OF WORK

MICHAEL R & CLAIRE S BREETZ
PID# 999-99-23-482.09
D.B. 297 PG. 395
10410 POND CREEK RD
MAILING ADDRESS:
5 ORCHARD LN
COVINGTON, KY 41015

MICHAEL R & CLAIRE S BREETZ
PID# 999-99-23-482.08
D.B. 297 PG. 395
10458 POND CREEK RD
MAILING ADDRESS:
5 ORCHARD LN
COVINGTON, KY 41015



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

WATER MAIN CONSTRUCTION NOTES

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PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

DRAWN BY: SEAL
KGH

CHECKED BY: -
KGH

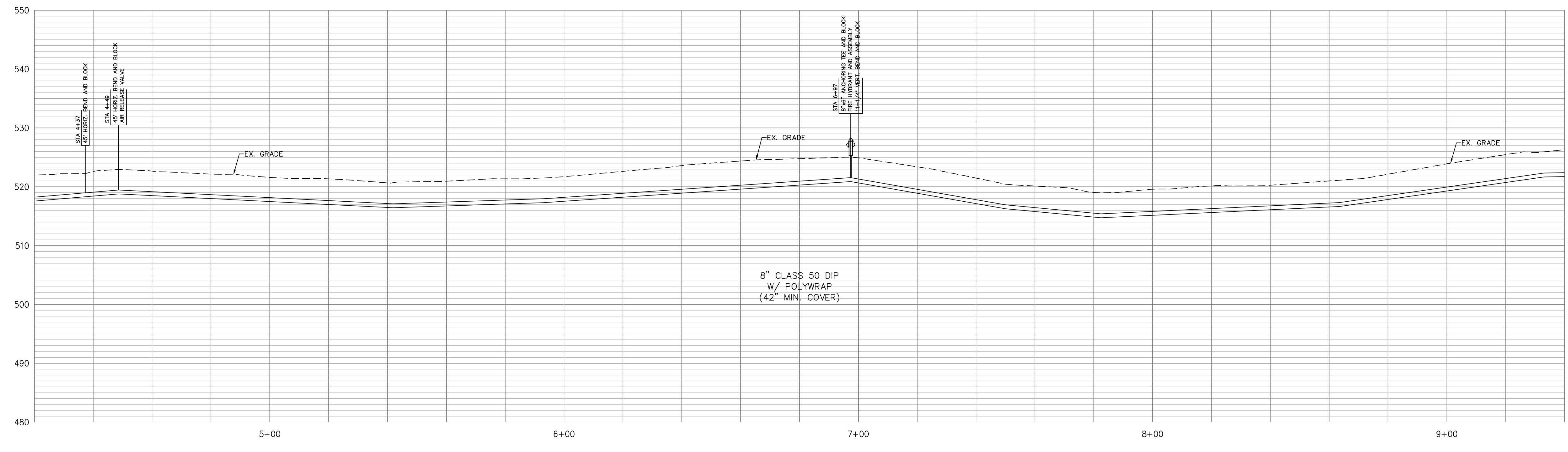
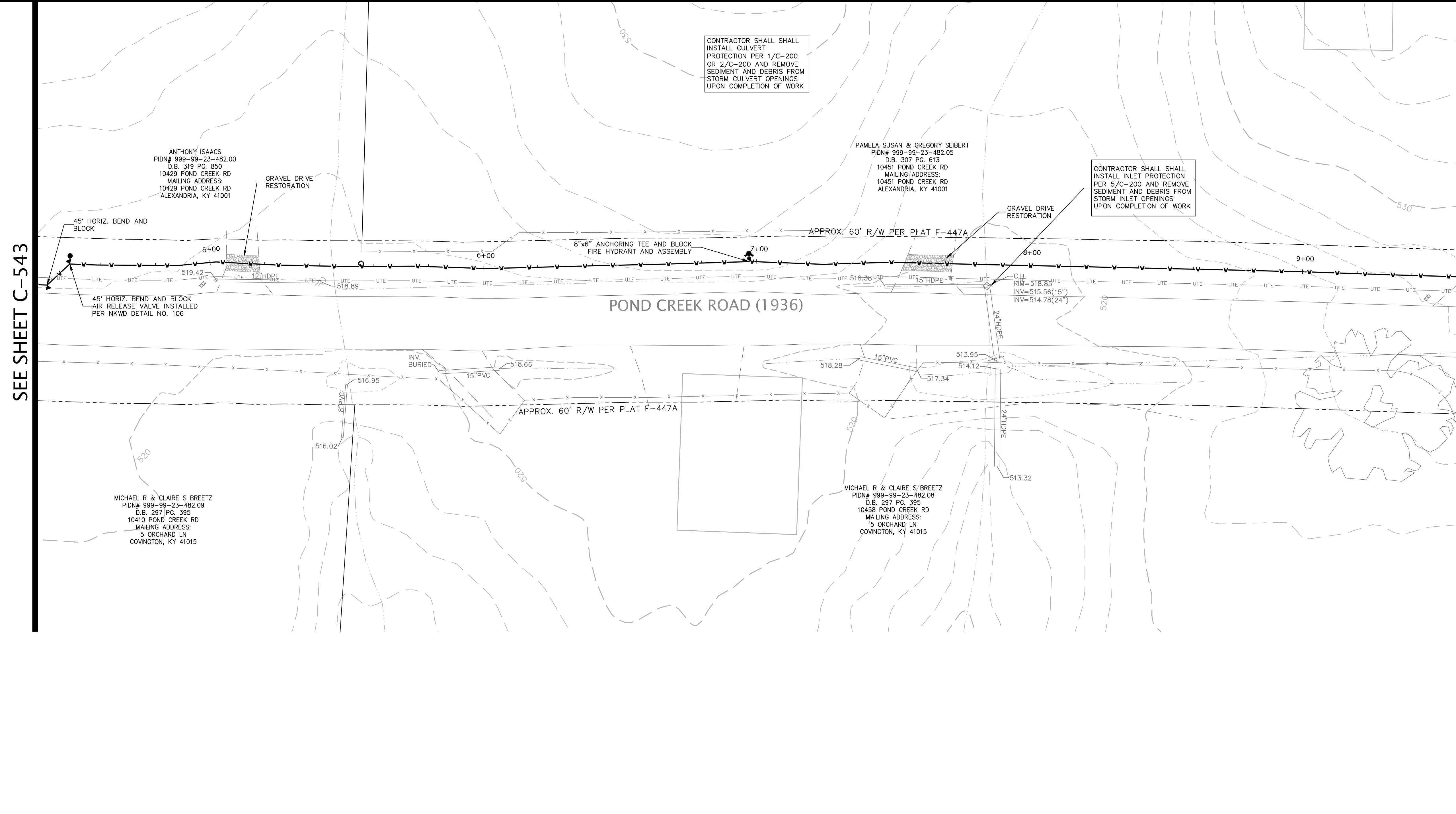
PROJECT MANAGER: KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

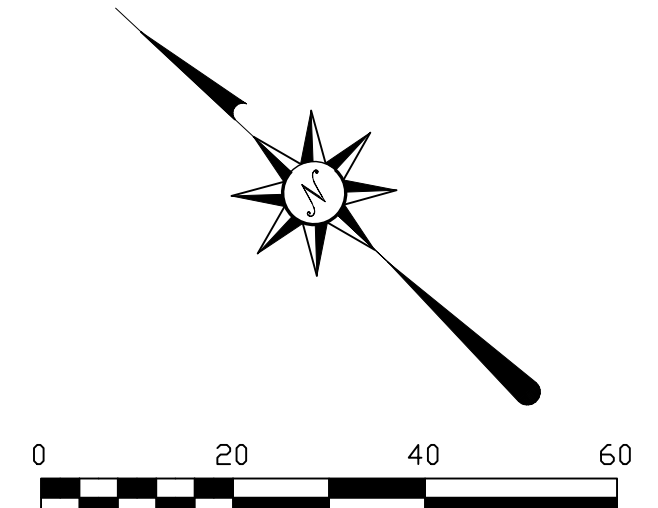
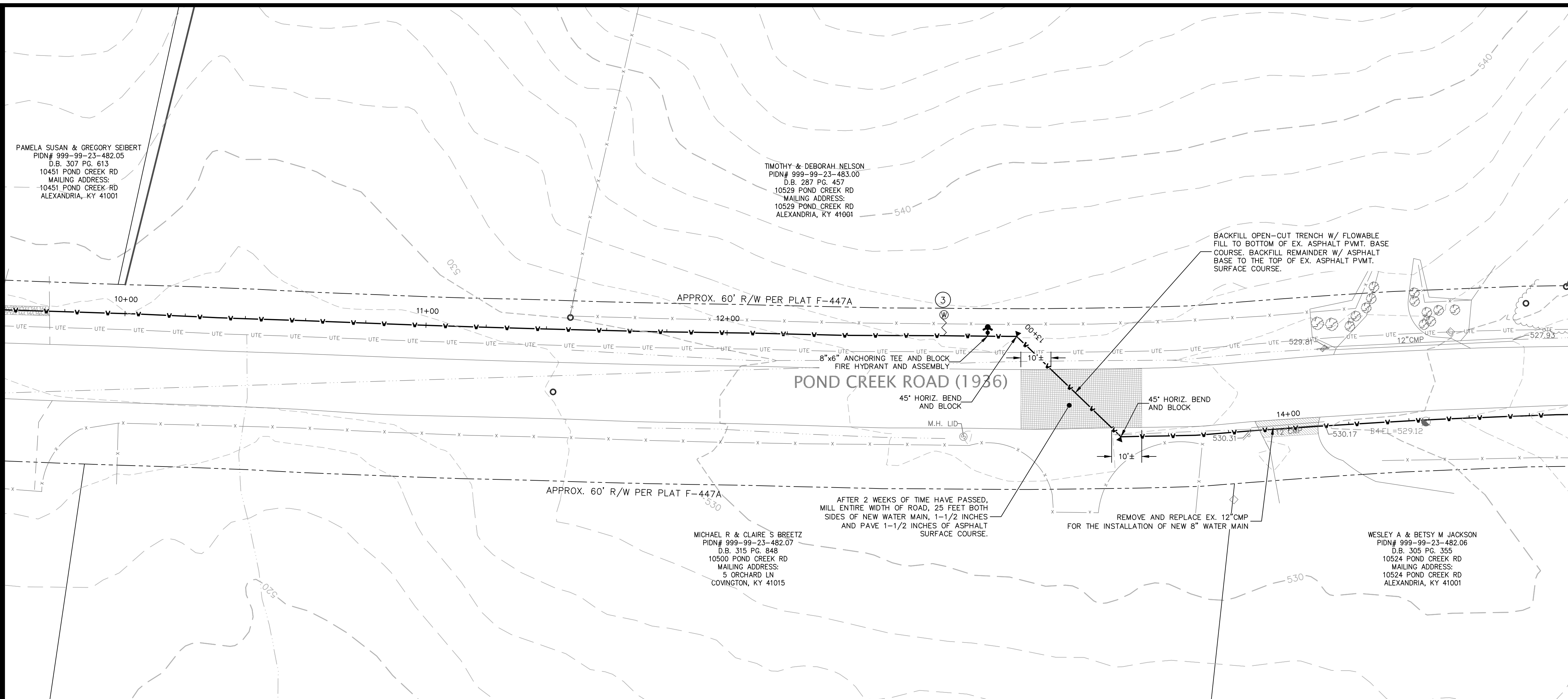
PLAN & PROFILE
SHEET **C-544**

SEE SHEET C-543

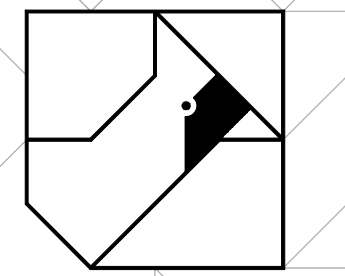
SEE SHEET C-545



SEE SHEET C-544



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

WATER MAIN CONSTRUCTION NOTES

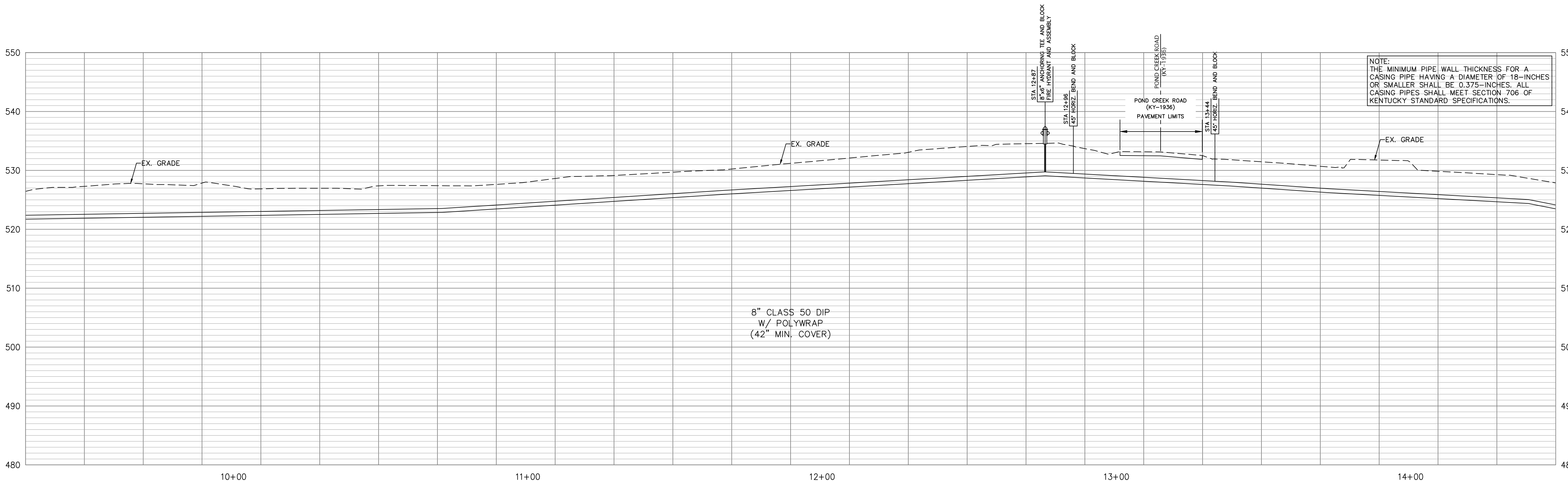
1. THE COST FOR TESTING THE WATER MAIN, TEMPORARY FLUSHING DEVICES, TEMPORARY PLUGS AND BLOCKS BE INCIDENTAL TO THE PROJECT.
2. THE COST OF CLEARING, TREE REMOVAL, AND THE REMOVAL/REPLACEMENT OF MAILBOXES, STREET SIGNS, LANDSCAPING, HARDSCAPING, CULVERT PIPES, GUARDRAIL, AND FENCES IS INCIDENTAL TO THE COST OF INSTALLING THE WATER MAIN.
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4. CONTRACTOR SHALL REVIEW GEOTECHNICAL REPORT PREPARED BY CONSULTING SERVICES INCORPORATED (CSI), DATED JUNE 28, 2023, PROJECT NO. CN230010, PRIOR TO BIDDING THE PROJECT.

KYTC CONSTRUCTION NOTES

1. ALL DITCH LINES ARE TO REMAIN OPEN AT ALL TIMES AND RESTORED TO ORIGINAL CONDITION.
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3. PROVIDE TRAFFIC CONTROL AS REQUIRED TO INSURE THE SAFETY OF THE TRAVELING PUBLIC IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
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5. SEE "KYTC PERMITS MANUAL" FOR ALL REQUIREMENTS AND SPECIFICATIONS.

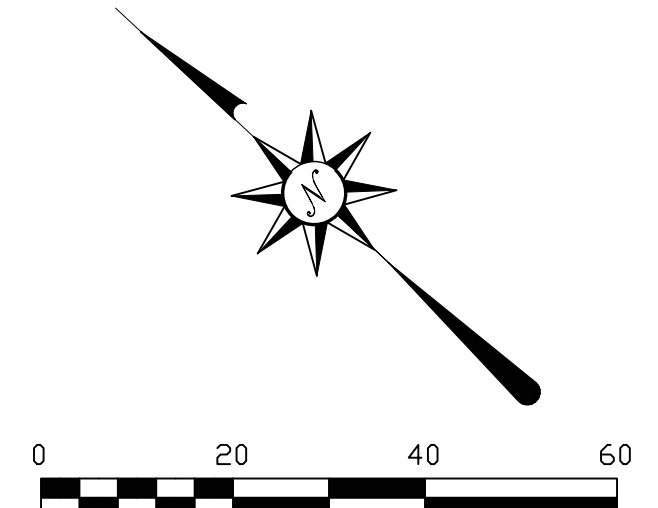
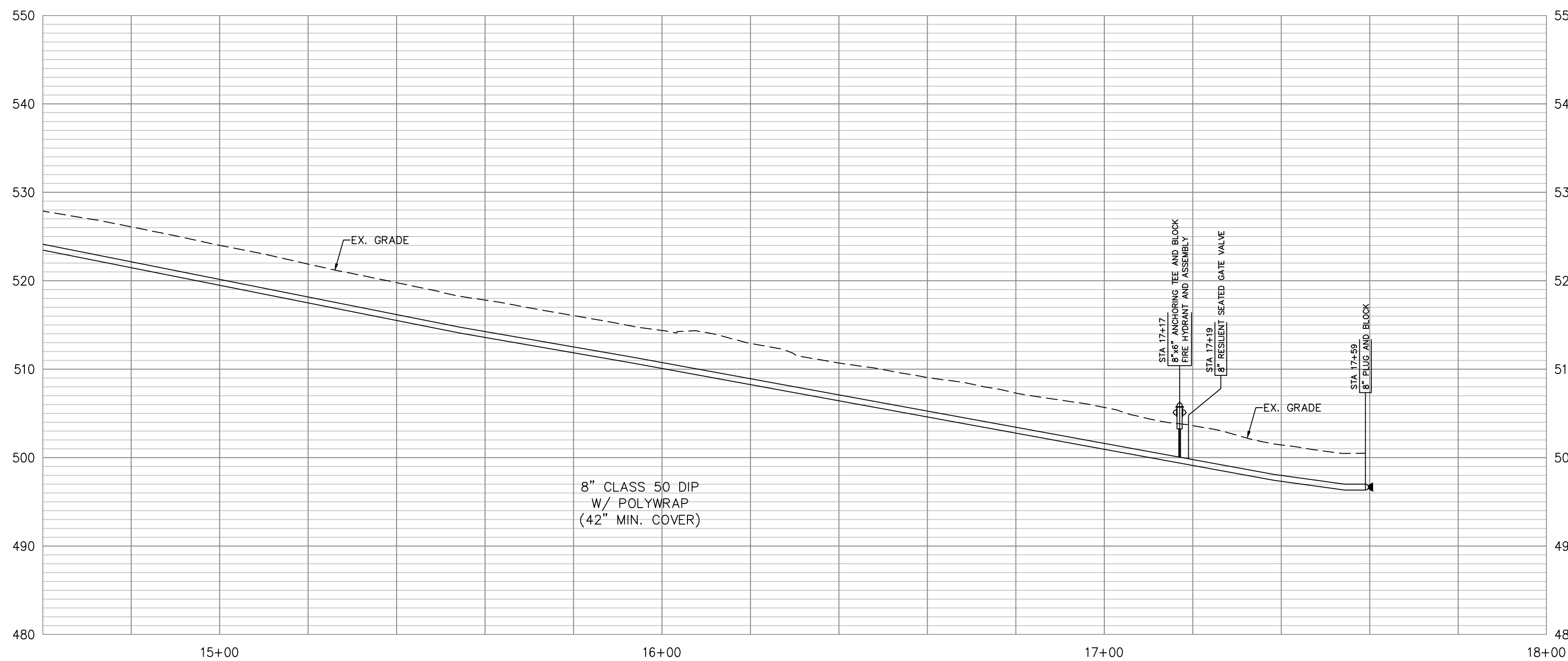
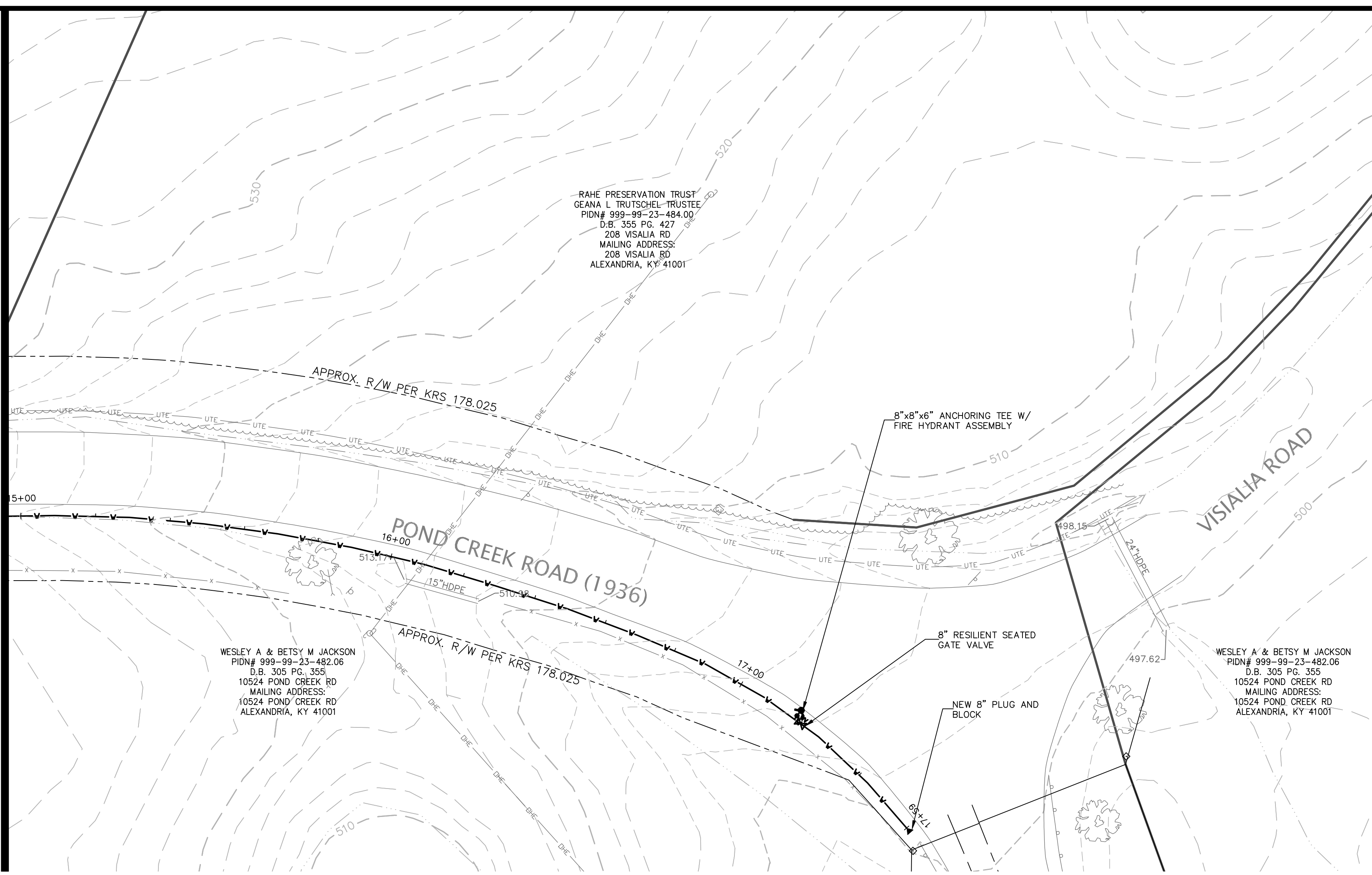


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CHECKED BY:	KGH
PROJECT MANAGER:	KGH

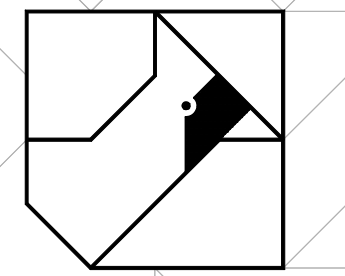
PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-545**

SEE SHEET C-545



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
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ONE MOOCK ROAD
WILDER, KENTUCKY 41071
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WATER MAIN CONSTRUCTION NOTES

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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

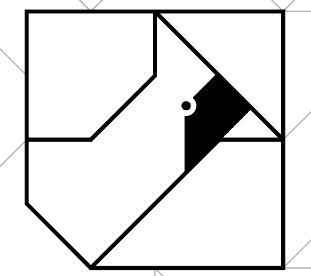
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY:	SEAL
KGH	
CHECKED BY:	
-	
PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

PLAN & PROFILE
SHEET **C-546**

REVISIONS	DATE	#	ITEM
05-01-24	2		REV PER NKWD



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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

PROJECT:

CLIENT:

DRAWN BY:

SEAL

CHECKED BY:

-

PROJECT MANAGER:

KGH

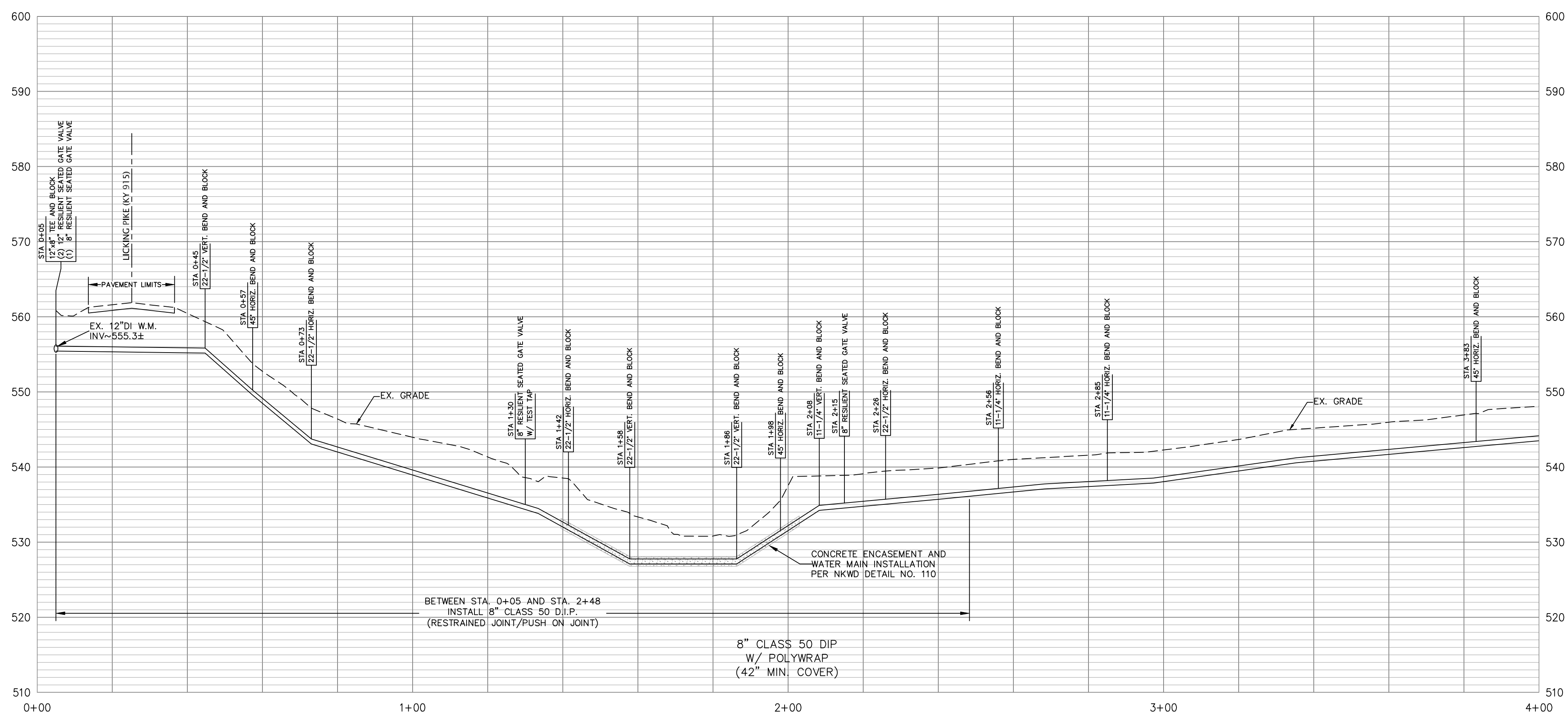
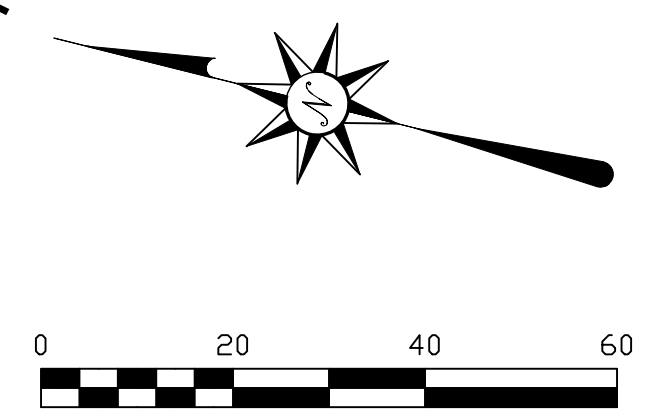
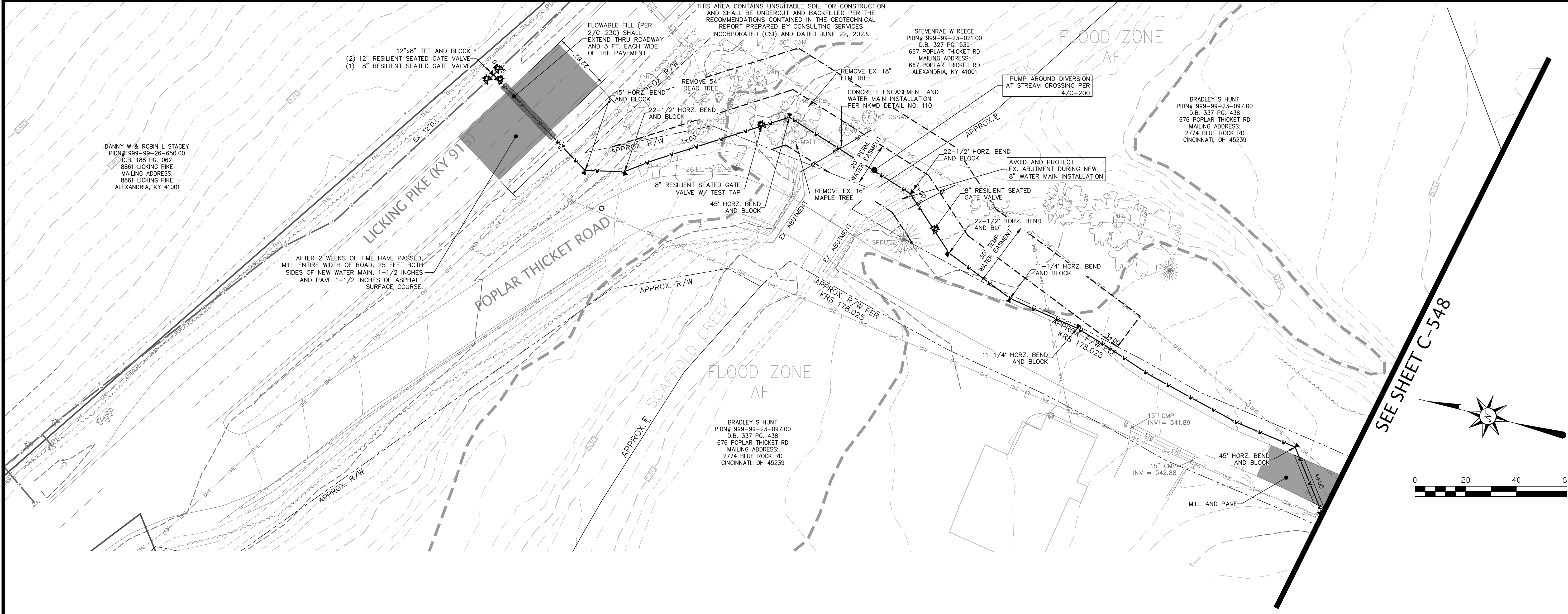
PROJECT NO. 23-001

SCALE AS NOTED

DATE 01-11-23

PLAN & PROFILE

SHEET **C-547**



- KYTC CONSTRUCTION NOTES**
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WATER MAIN CONSTRUCTION NOTES

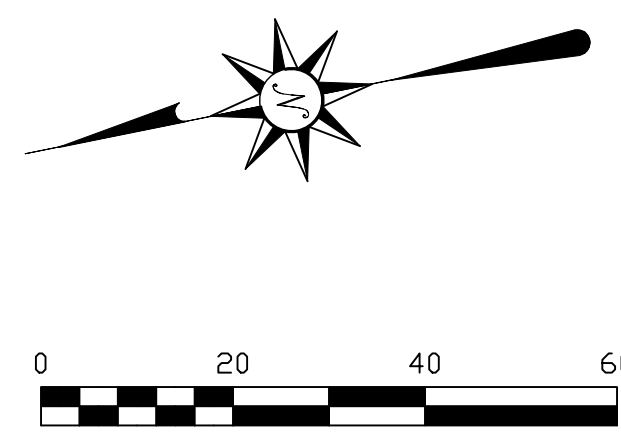
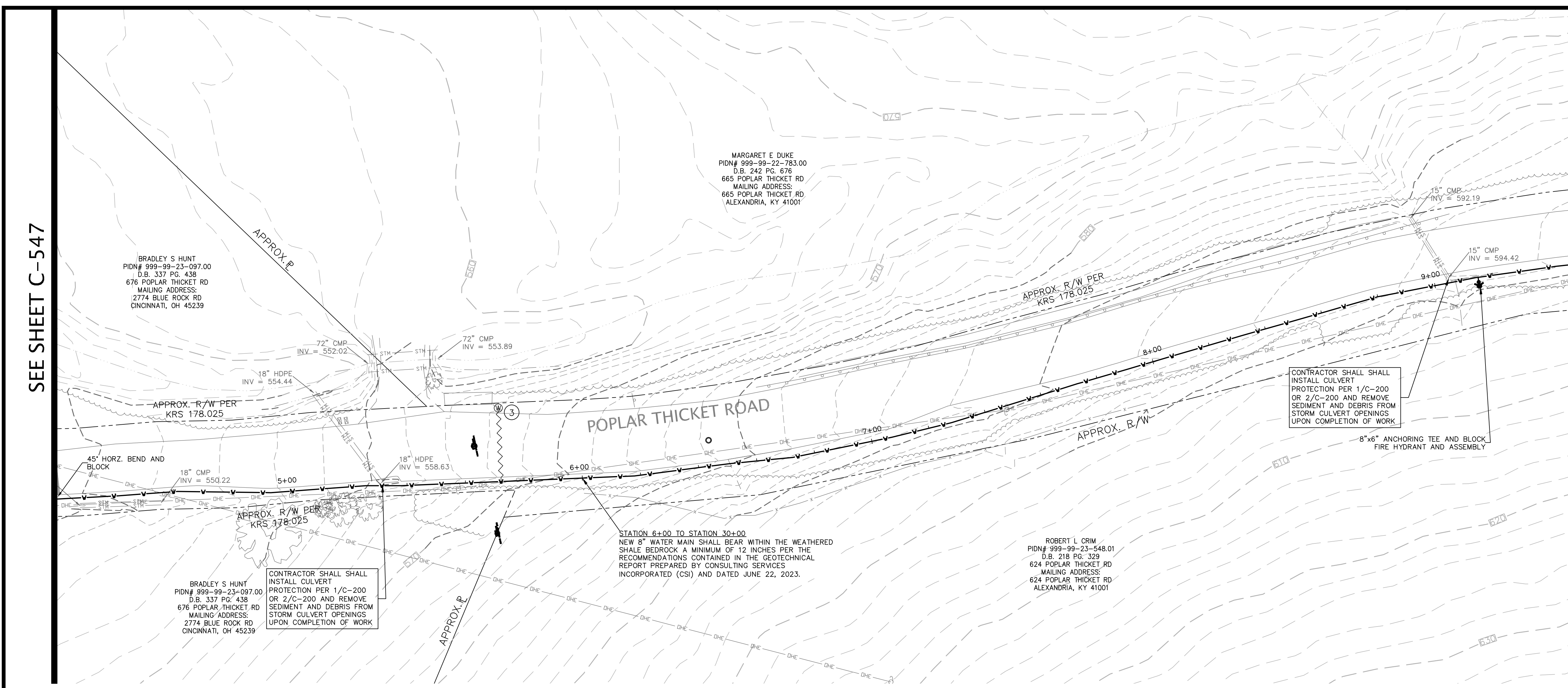
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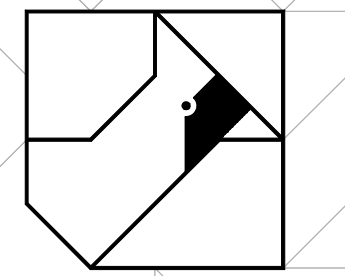
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SEE SHEET C-547

SEE SHEET C-549



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
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LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
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WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

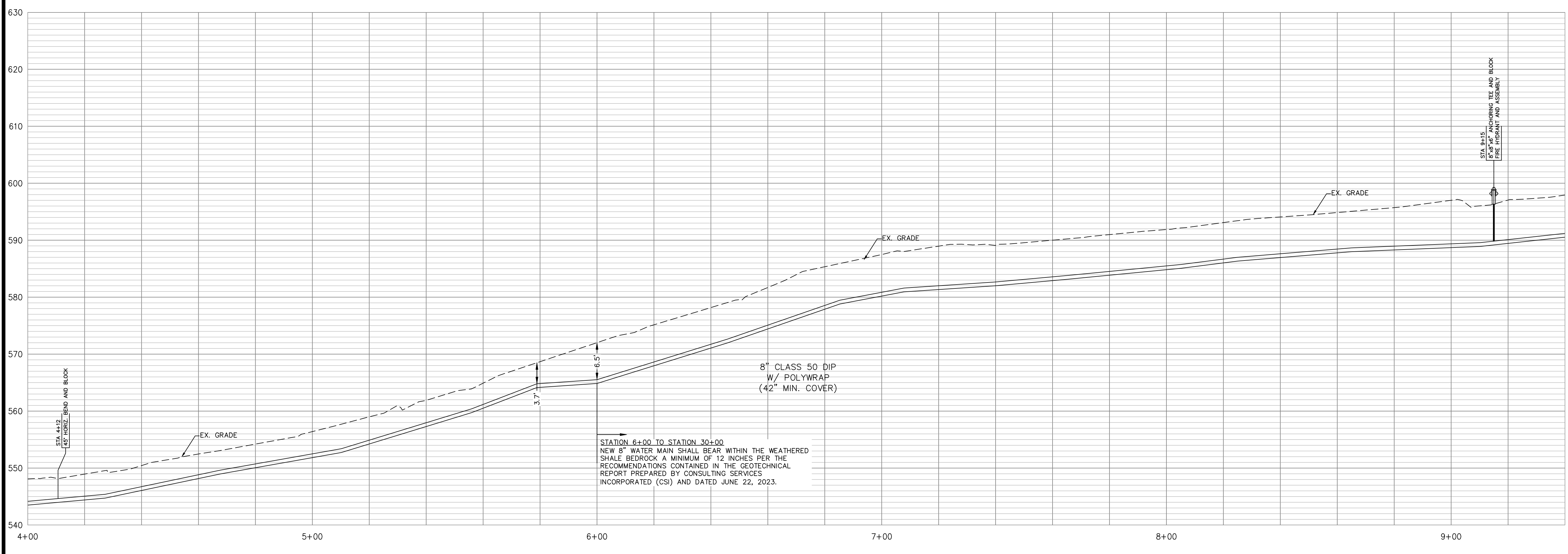
CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

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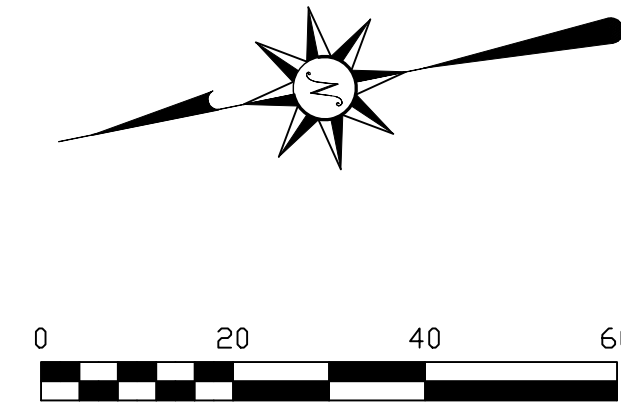
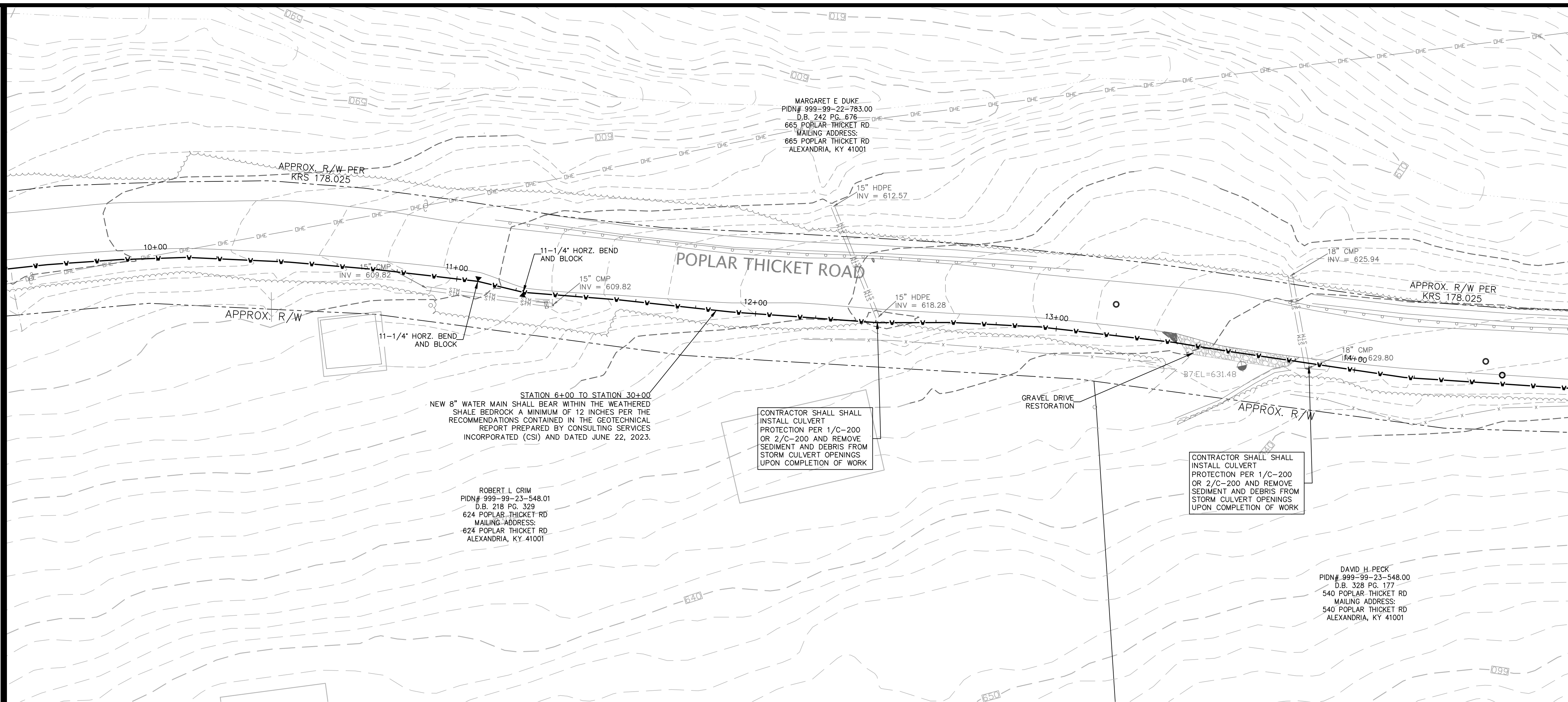
DRAWN BY:	SEAL
CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

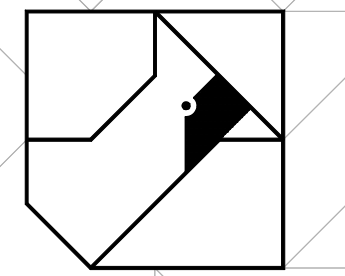
PLAN & PROFILE
SHEET **C-548**

SEE SHEET C-548

SEE SHEET C-550



REVISIONS	DATE	#	ITEM
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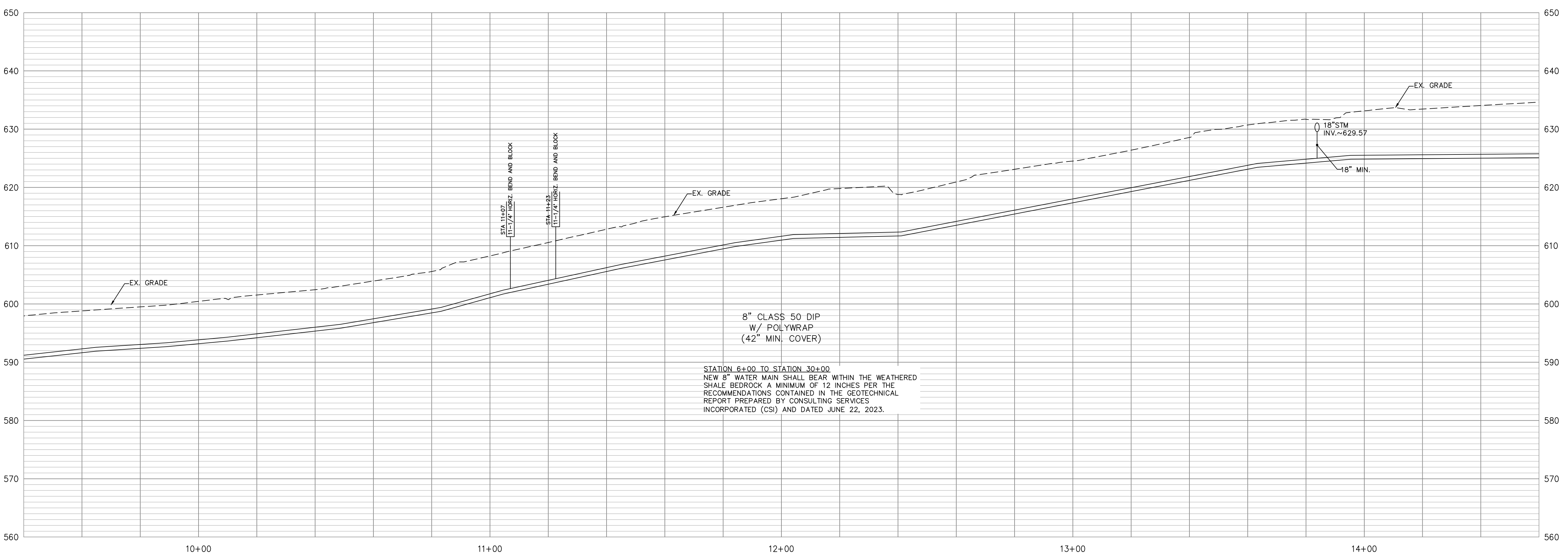


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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640



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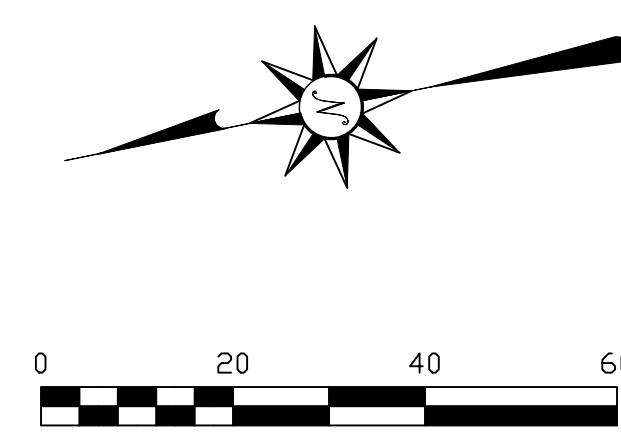
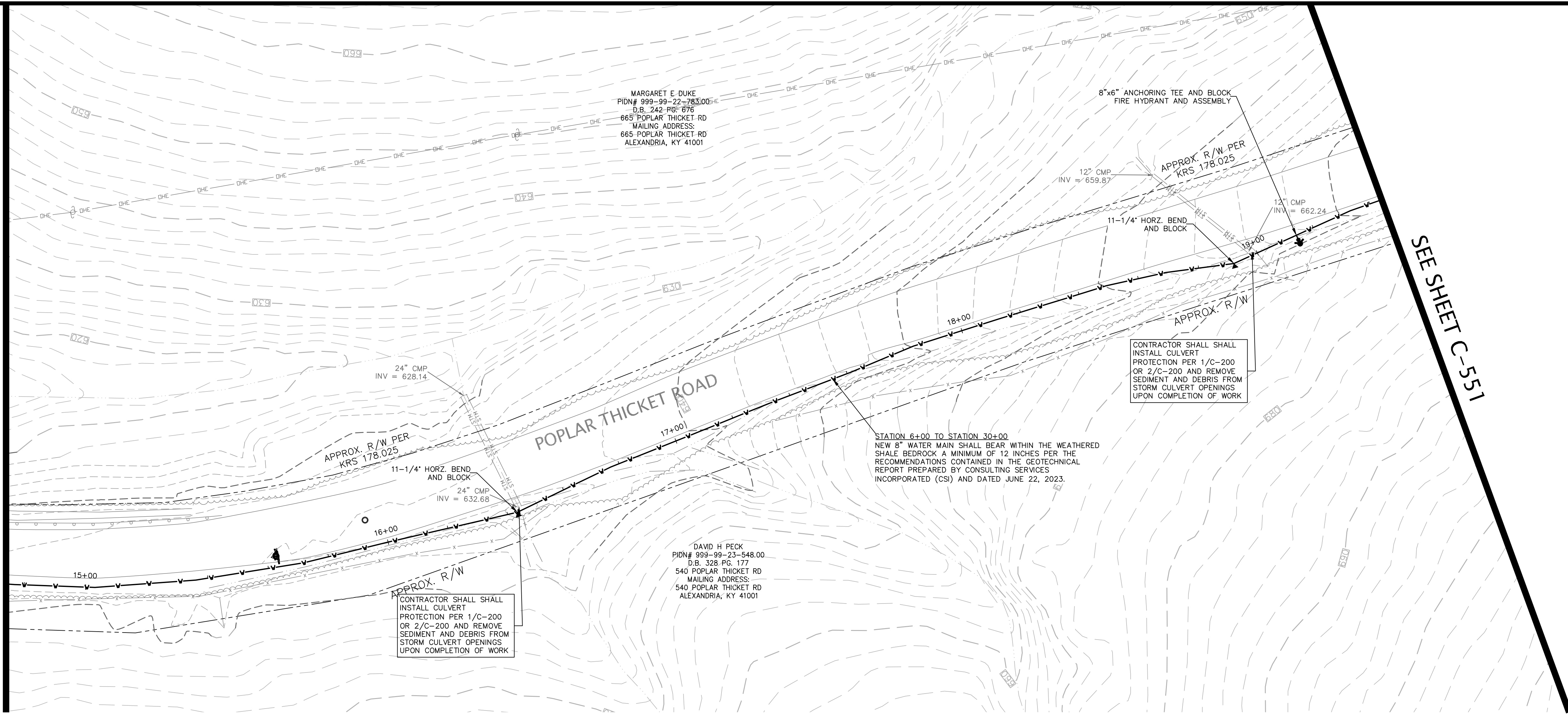
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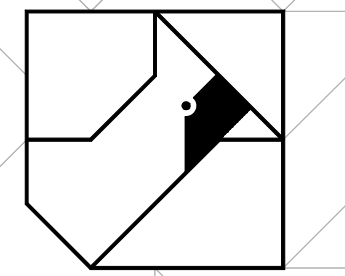
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PLAN & PROFILE
SHEET **C-549**

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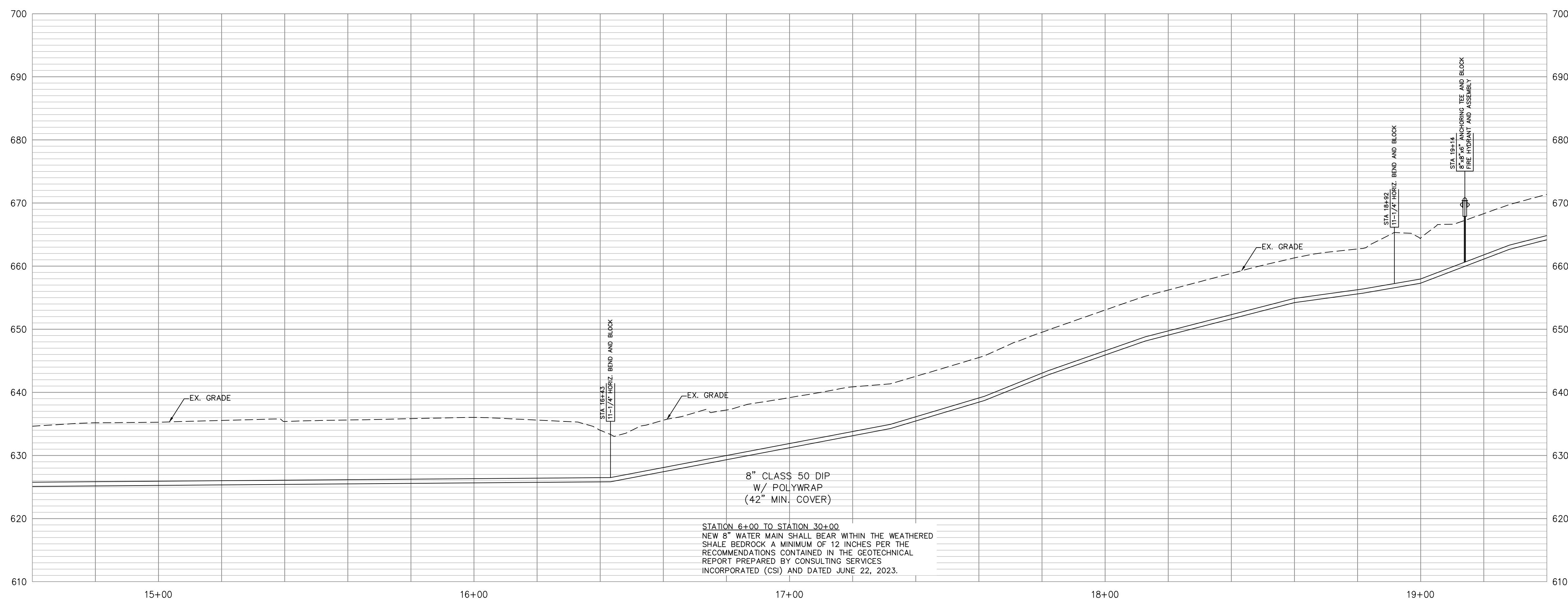


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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640



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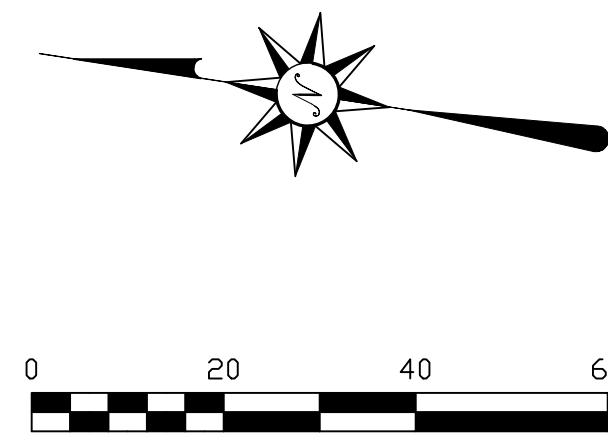
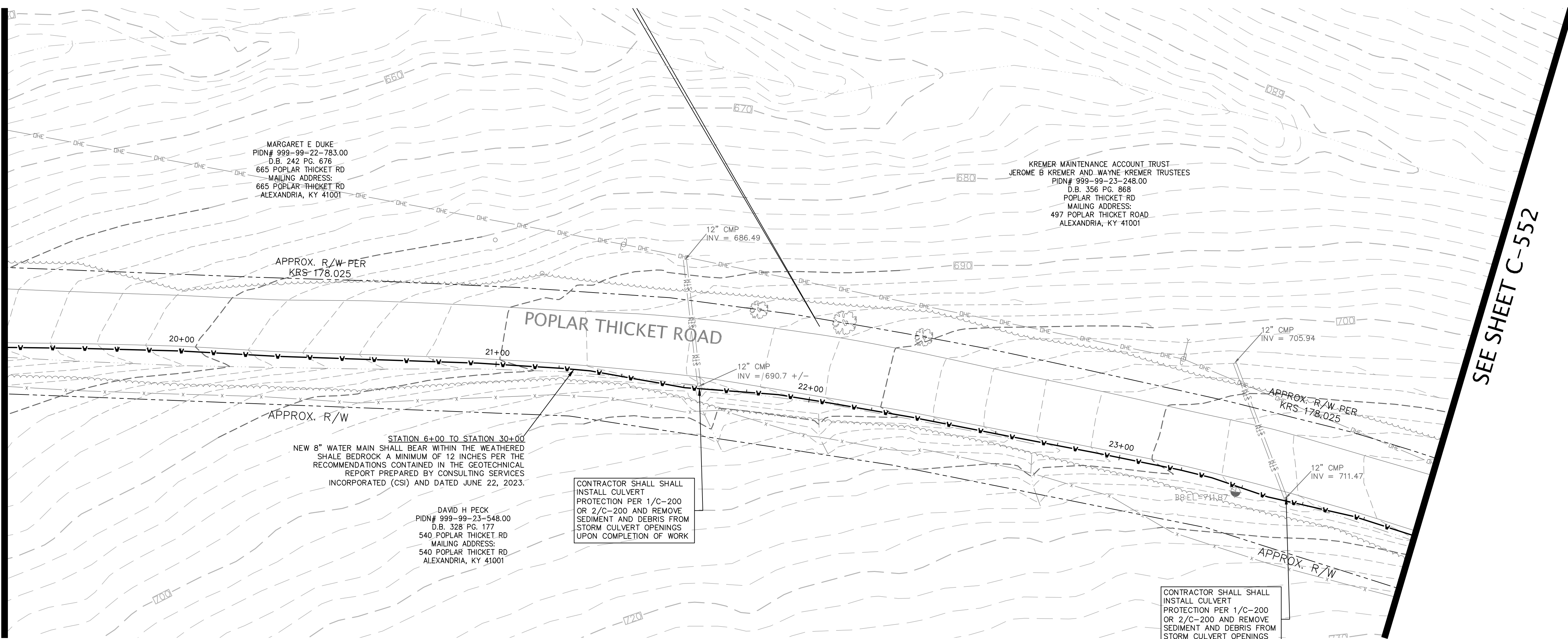
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DRAWN BY:	SEAL
CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 01-11-23

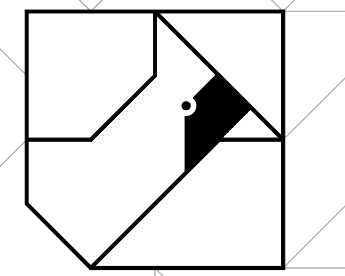
PLAN & PROFILE
SHEET **C-550**

SEE SHEET C-550



SEE SHEET C-552

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD

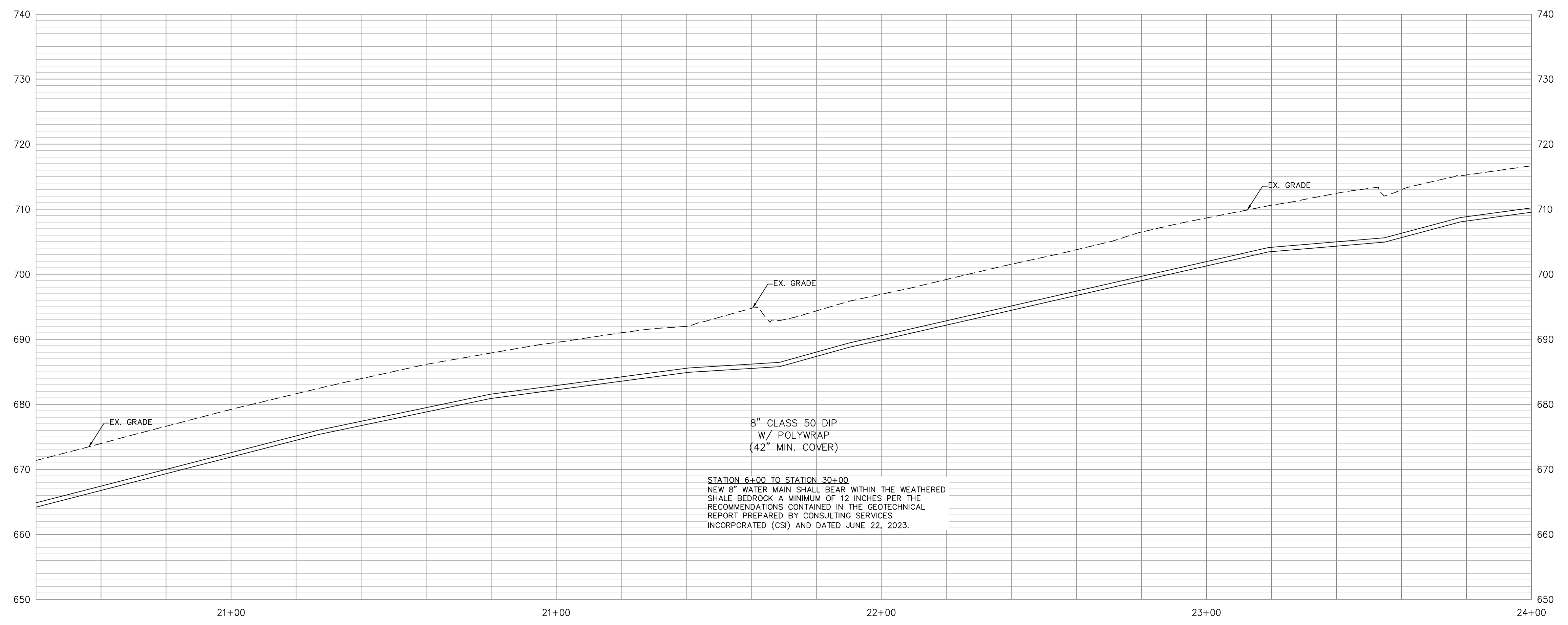


CARDINAL
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LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640



- WATER MAIN CONSTRUCTION NOTES**
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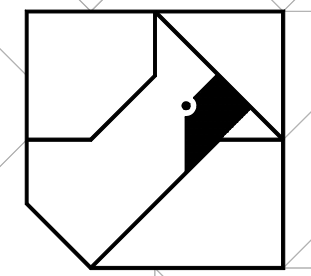
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PLAN & PROFILE
SHEET **C-551**

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

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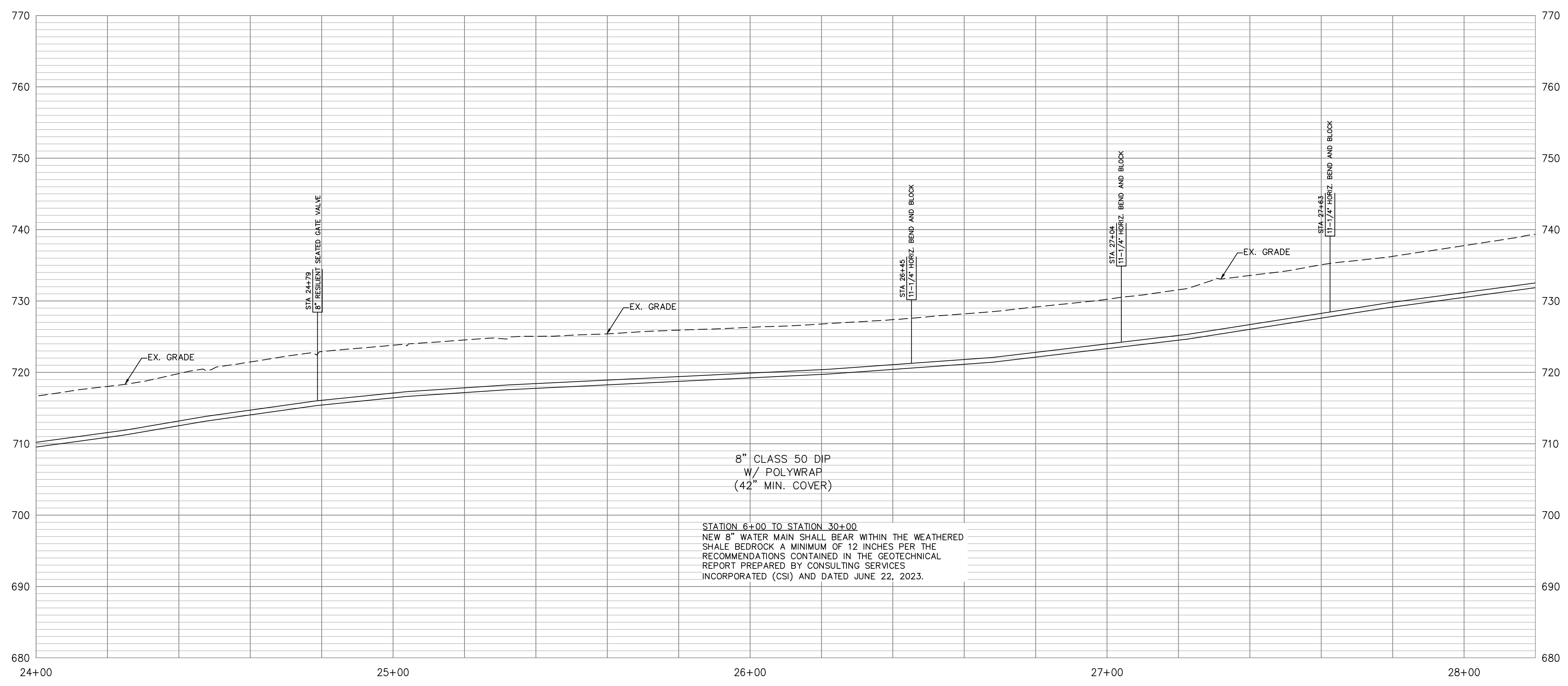
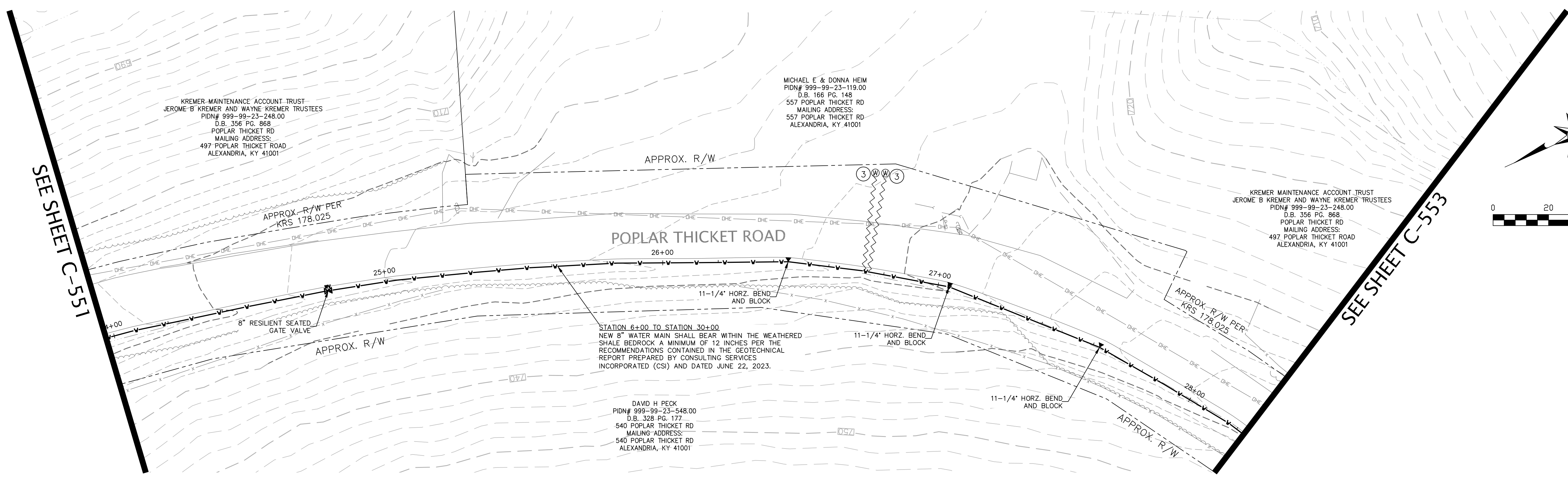
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-	
PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
SCALE AS NOTED
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PLAN & PROFILE
SHEET **C-552**



8" CLASS 50 DIP
W/ POLYWRAF
(42" MIN. COVER)

STATION 6+00 TO STATION 30+00
NEW 8" WATER MAIN SHALL BEAR WITHIN THE WEATHERED SHALE BEDROCK A MINIMUM OF 12 INCHES PER THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT PREPARED BY CONSULTING SERVICES INCORPORATED (CSI) AND DATED JUNE 22, 2023.

KREMER MAINTENANCE ACCOUNT TRUST
JEROME B KREMER AND WAYNE KREMER TRUSTEES
PIDN# 999-99-23-248.00
D.B. 356 PG. 868
POPLAR THICKET RD
MAILING ADDRESS:
497 POPLAR THICKET ROAD
ALEXANDRIA, KY 41001

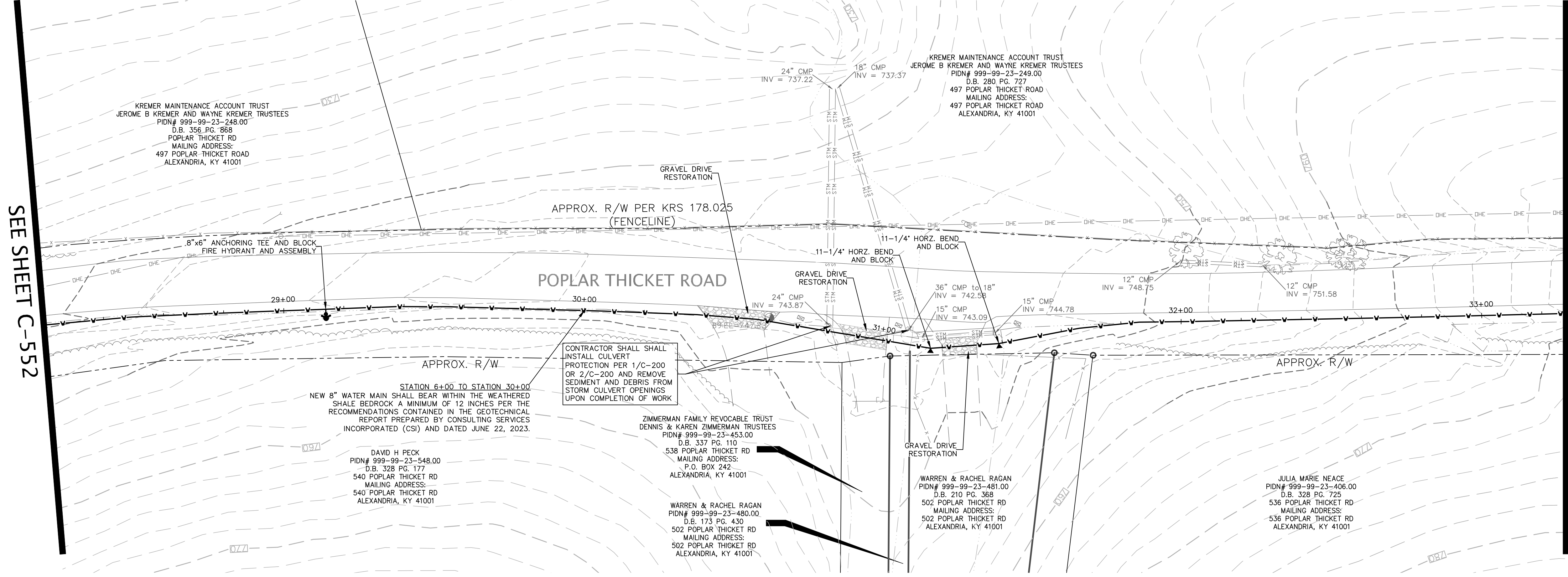
MICHAEL E & DONNA HEIM
PIDN# 999-99-23-119.00
D.B. 166 PG. 148
557 POPLAR THICKET RD
MAILING ADDRESS:
557 POPLAR THICKET RD
ALEXANDRIA, KY 41001

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D.B. 356 PG. 868
POPLAR THICKET RD
MAILING ADDRESS:
497 POPLAR THICKET ROAD
ALEXANDRIA, KY 41001

DAVID H PECK
PIDN# 999-99-23-548.00
D.B. 328 PG. 177
540 POPLAR THICKET RD
MAILING ADDRESS:
540 POPLAR THICKET RD
ALEXANDRIA, KY 41001

SEE SHEET C-551

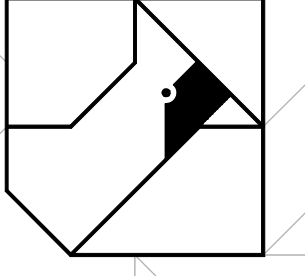
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REVISIONS	DATE	#	ITEM
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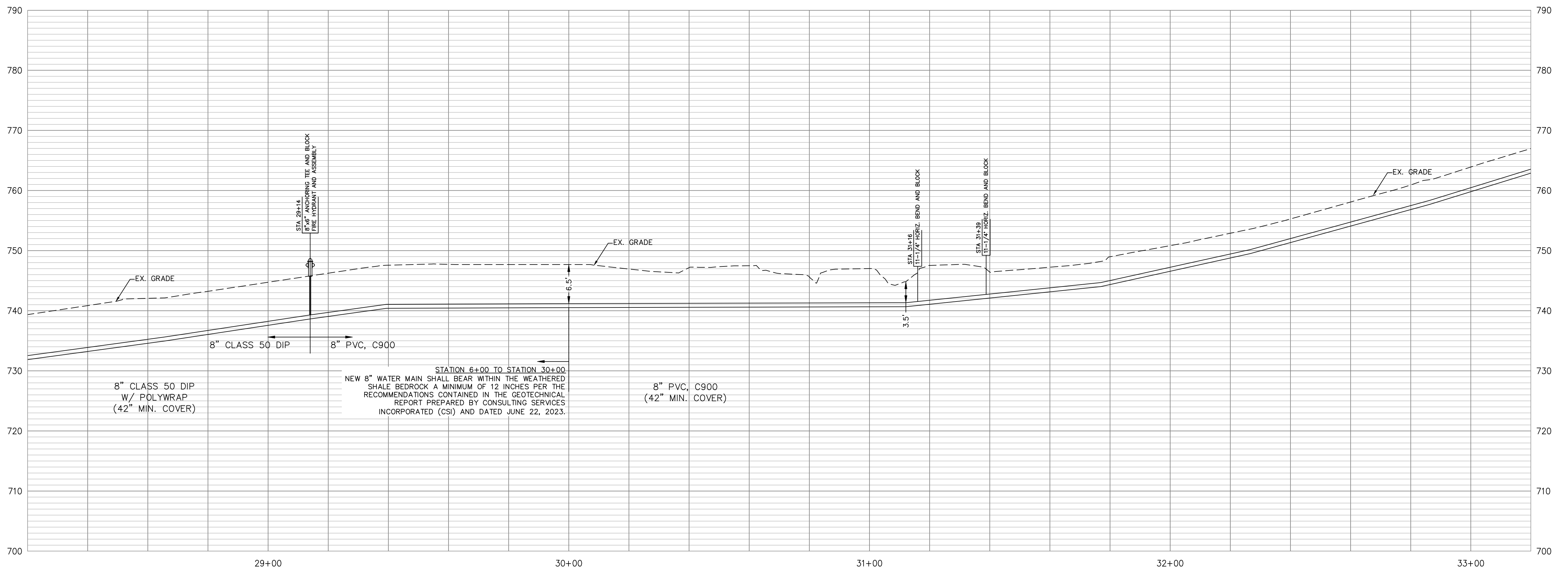


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PROJECT:
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SUB DISTRICT HB WATER MAIN EXTENSION**

CLIENT:
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2835 CRESCENT SPRINGS ROAD
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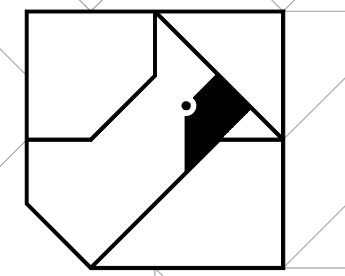
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-	
PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
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PLAN & PROFILE
SHEET **C-553**

REVISIONS	DATE	#	ITEM
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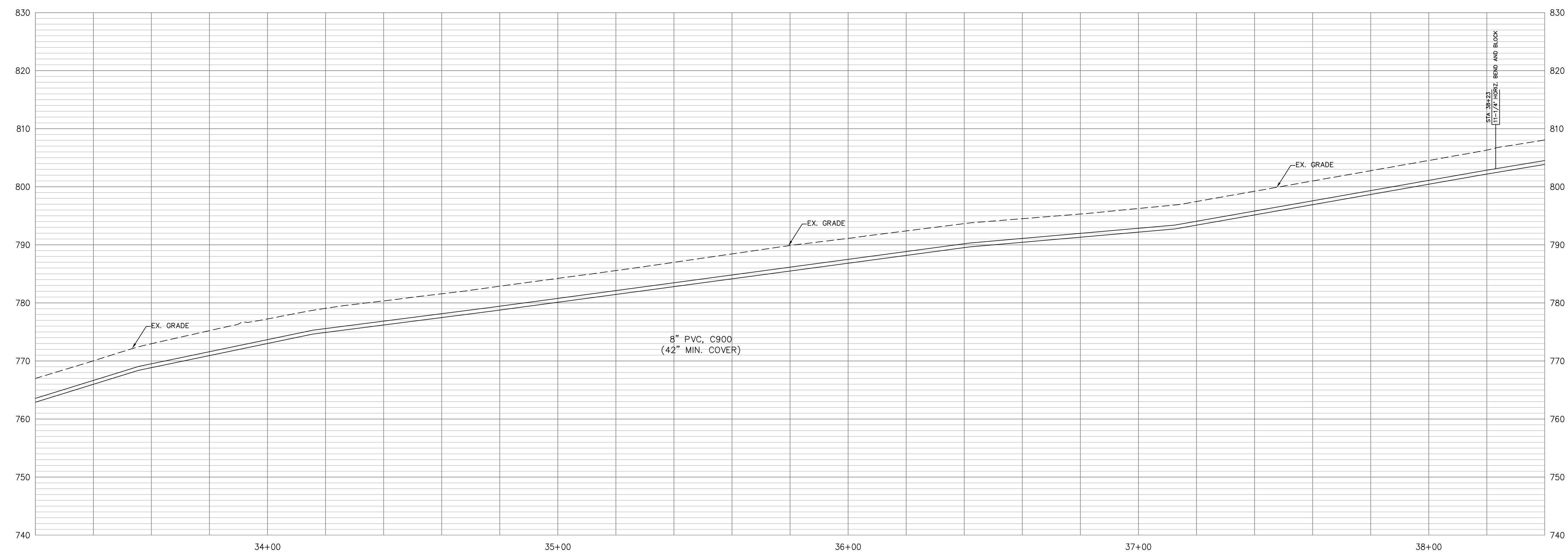
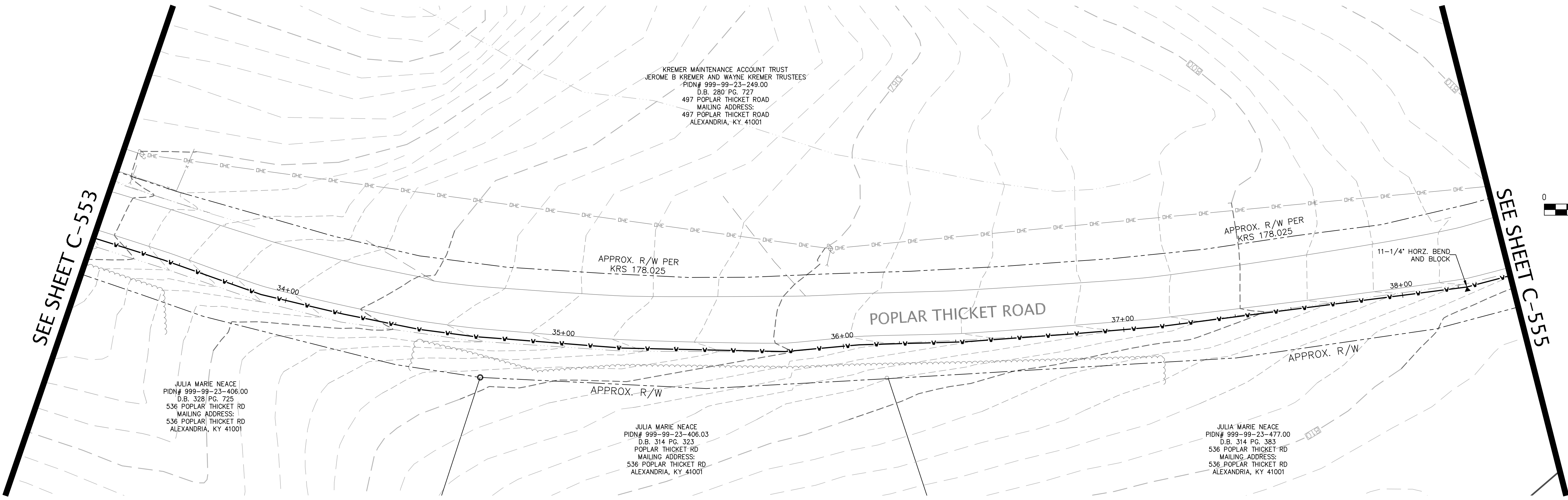
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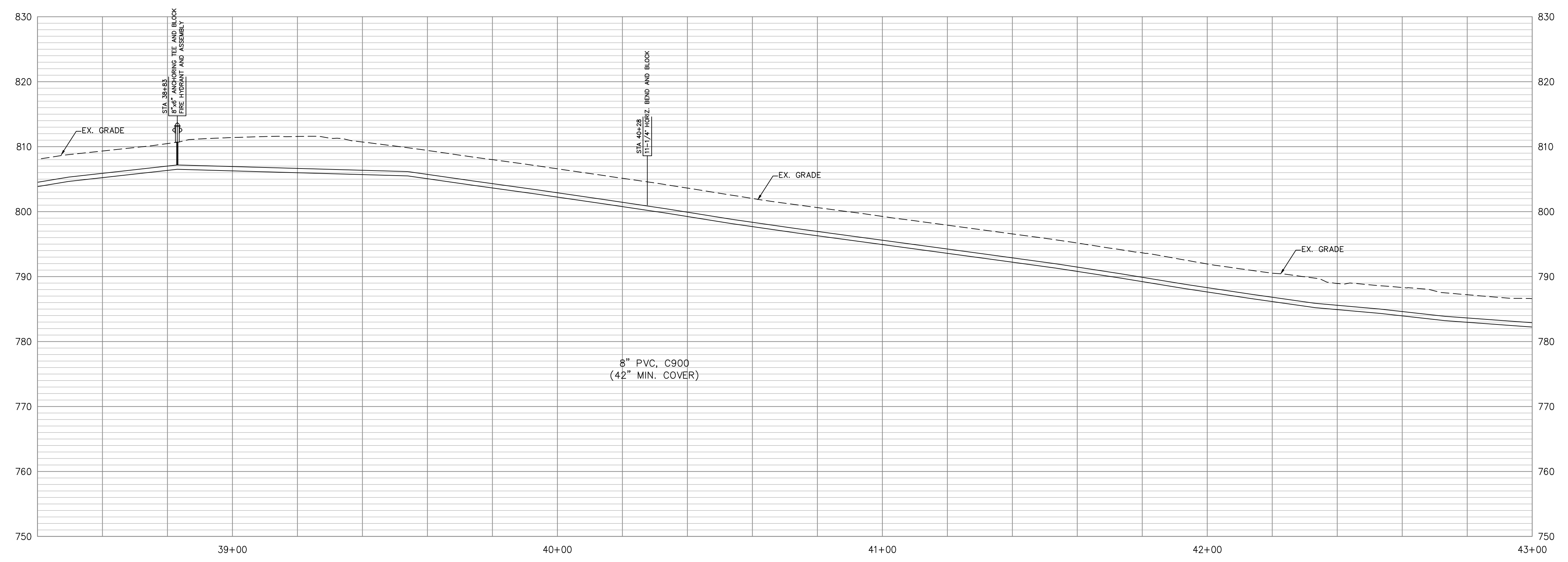
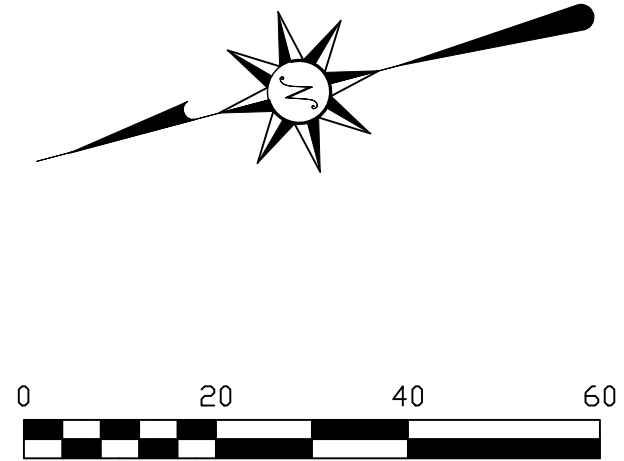
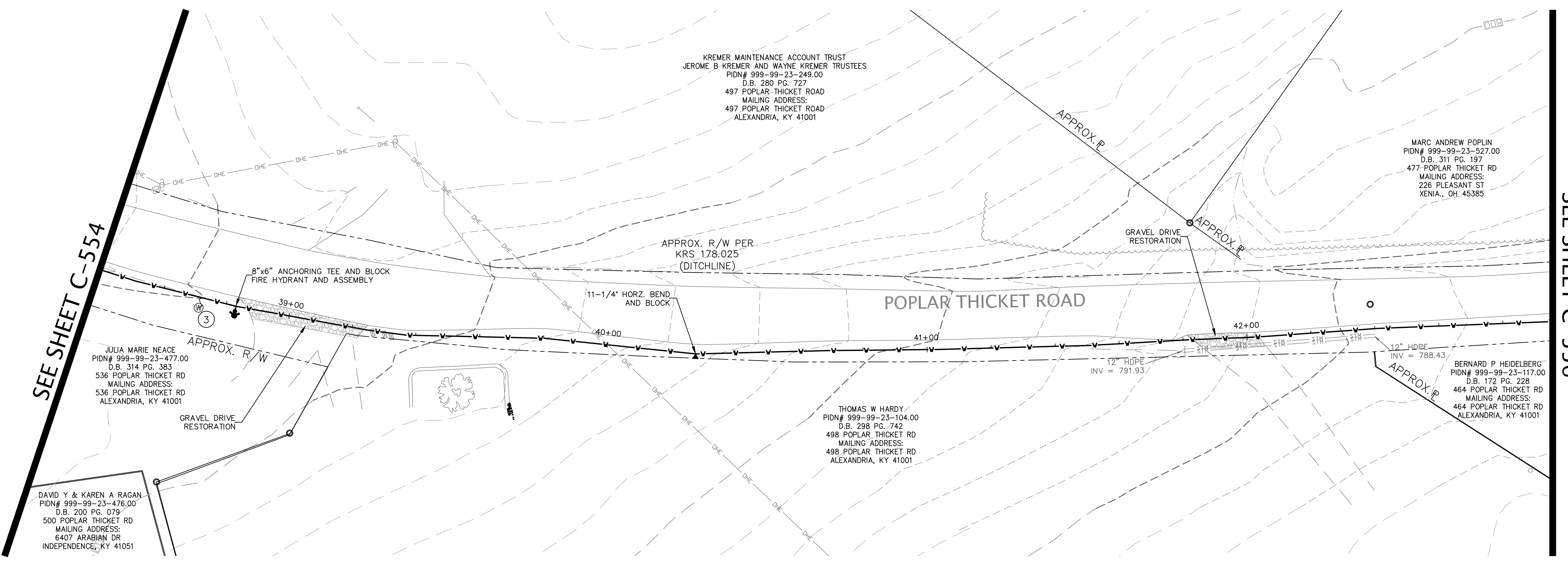
PROJECT:
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CLIENT:
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2835 CRESCENT SPRINGS ROAD
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PLAN & PROFILE
SHEET C-555

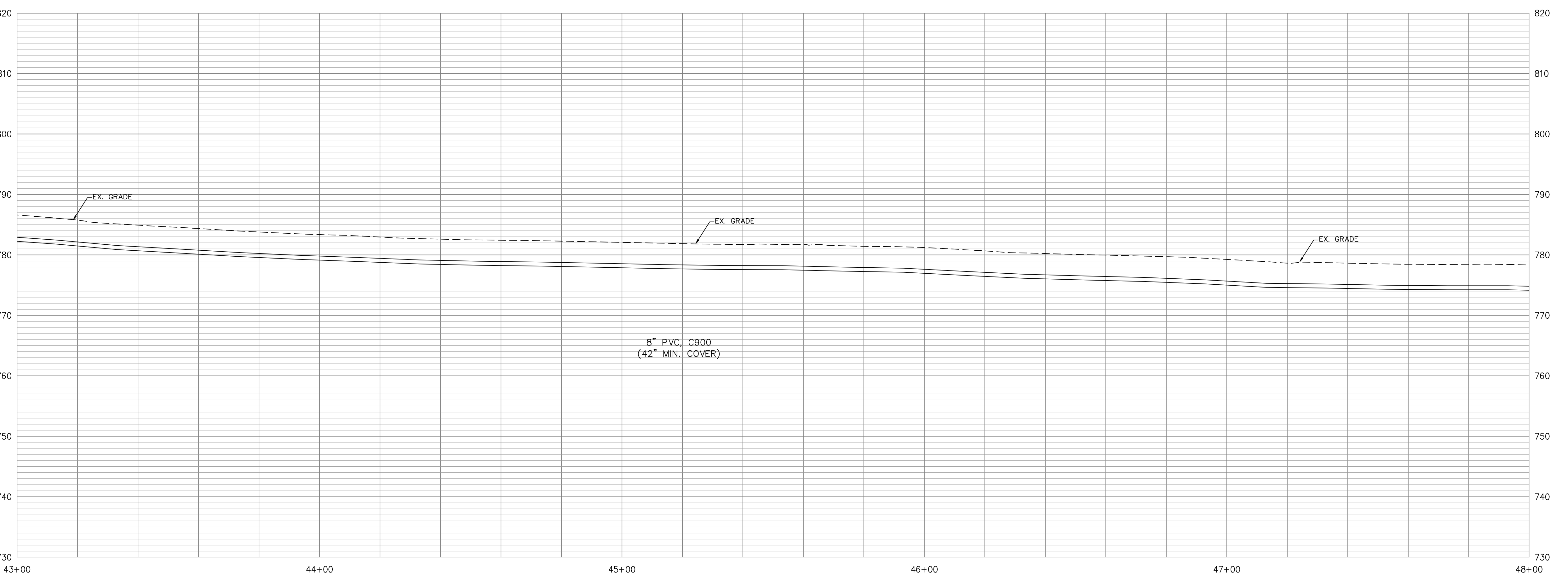
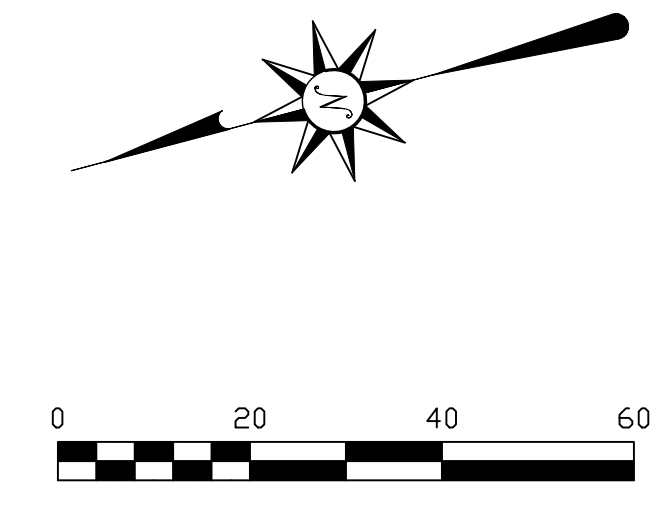
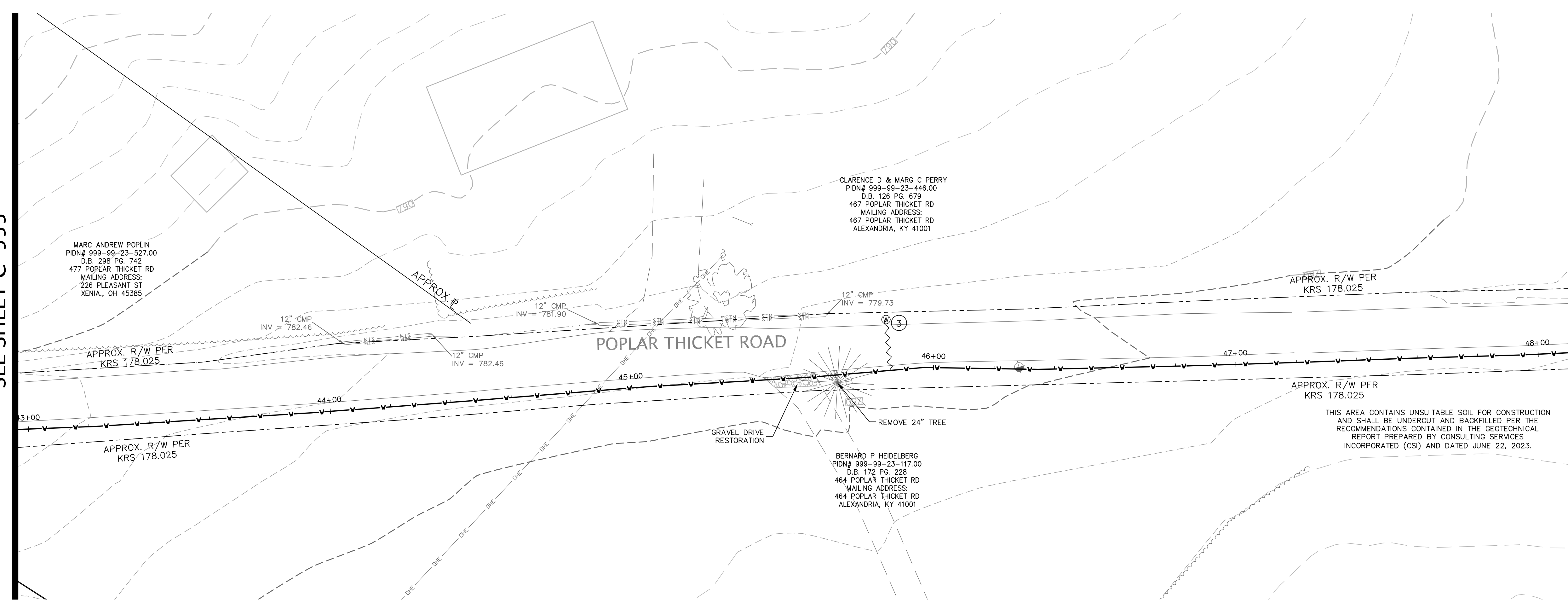


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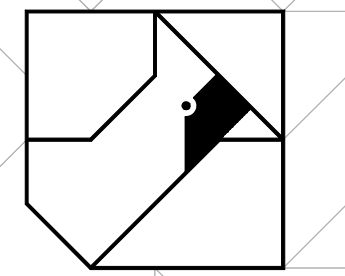
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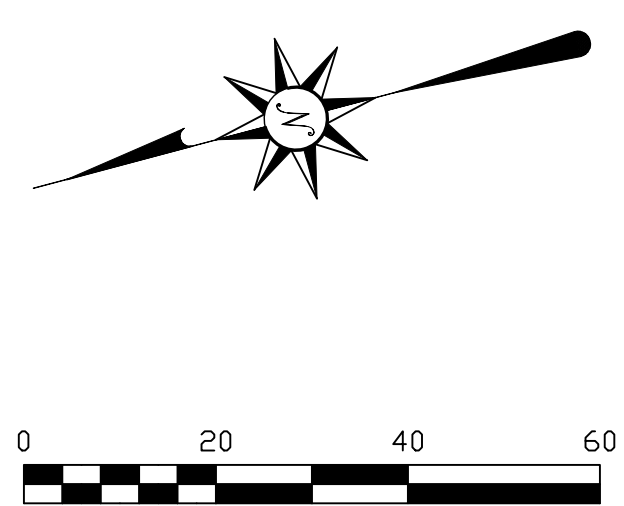
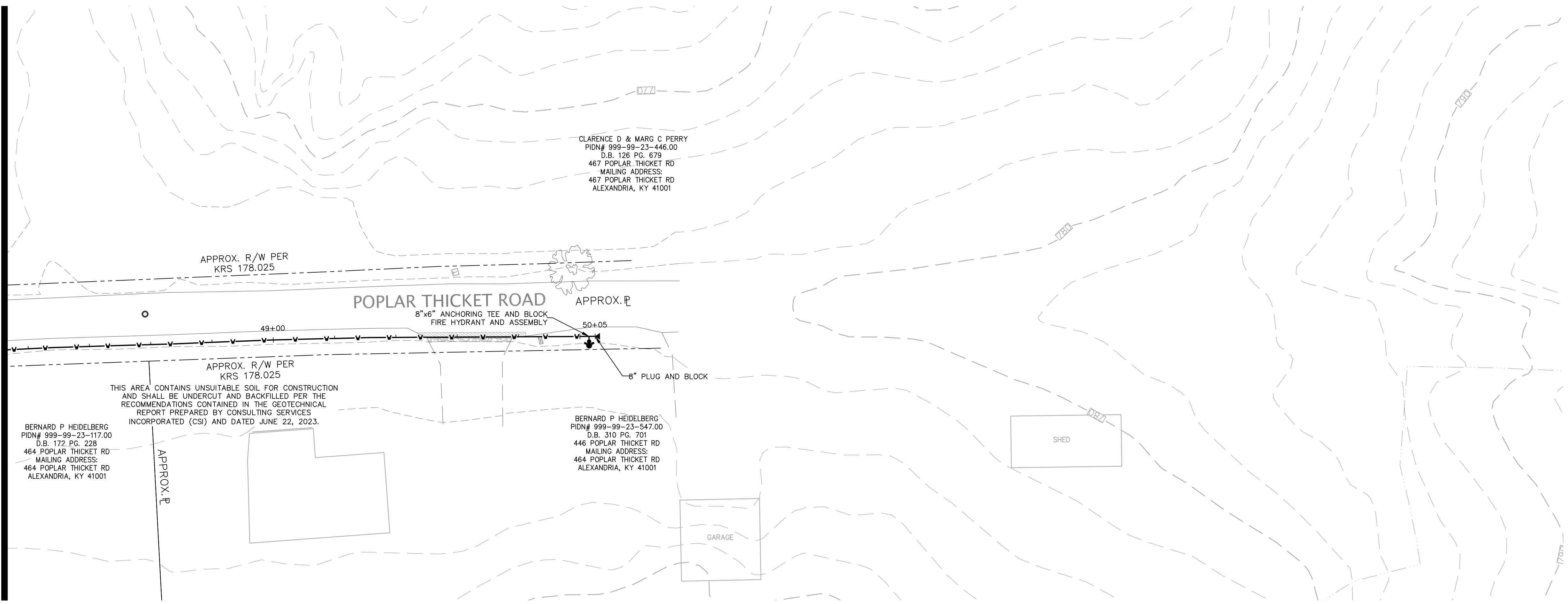
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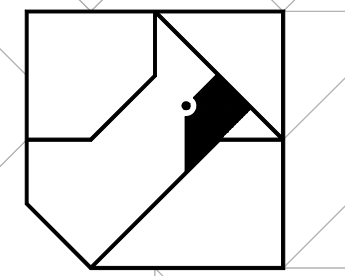
PLAN & PROFILE

SHEET **C-556**

SEE SHEET C-556



REVISIONS	DATE	#	ITEM
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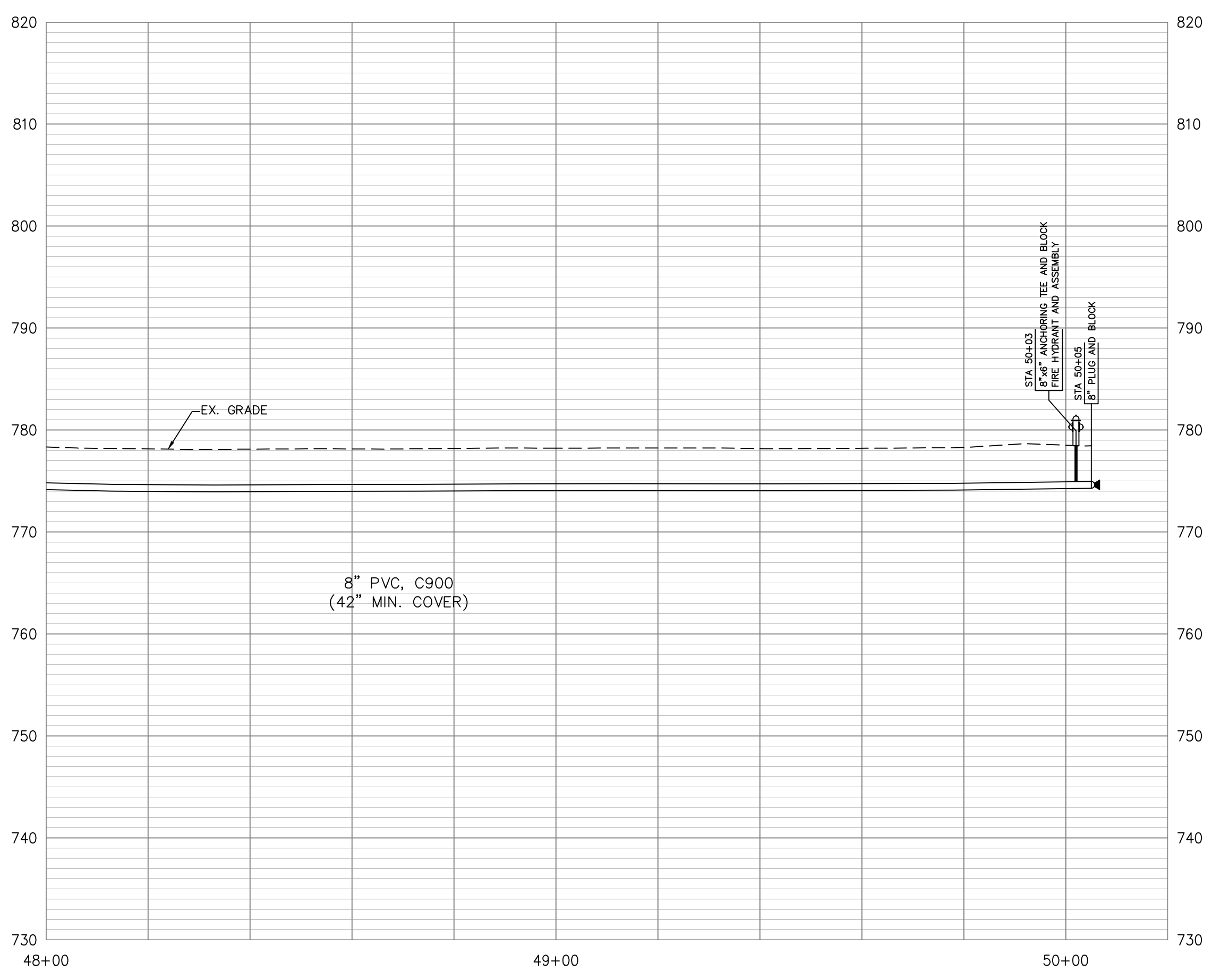


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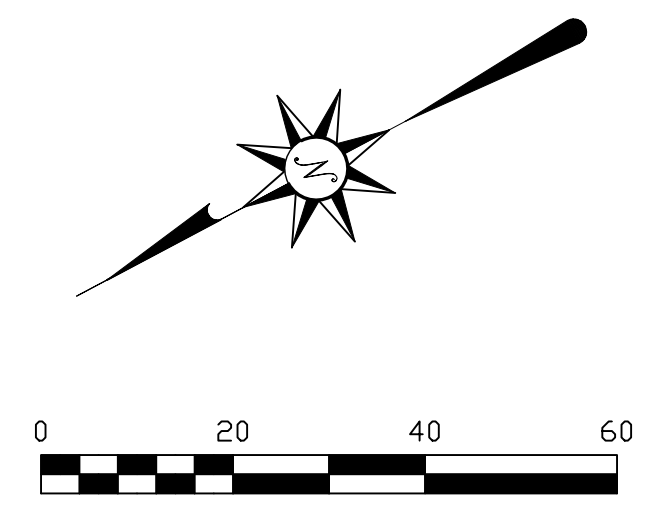
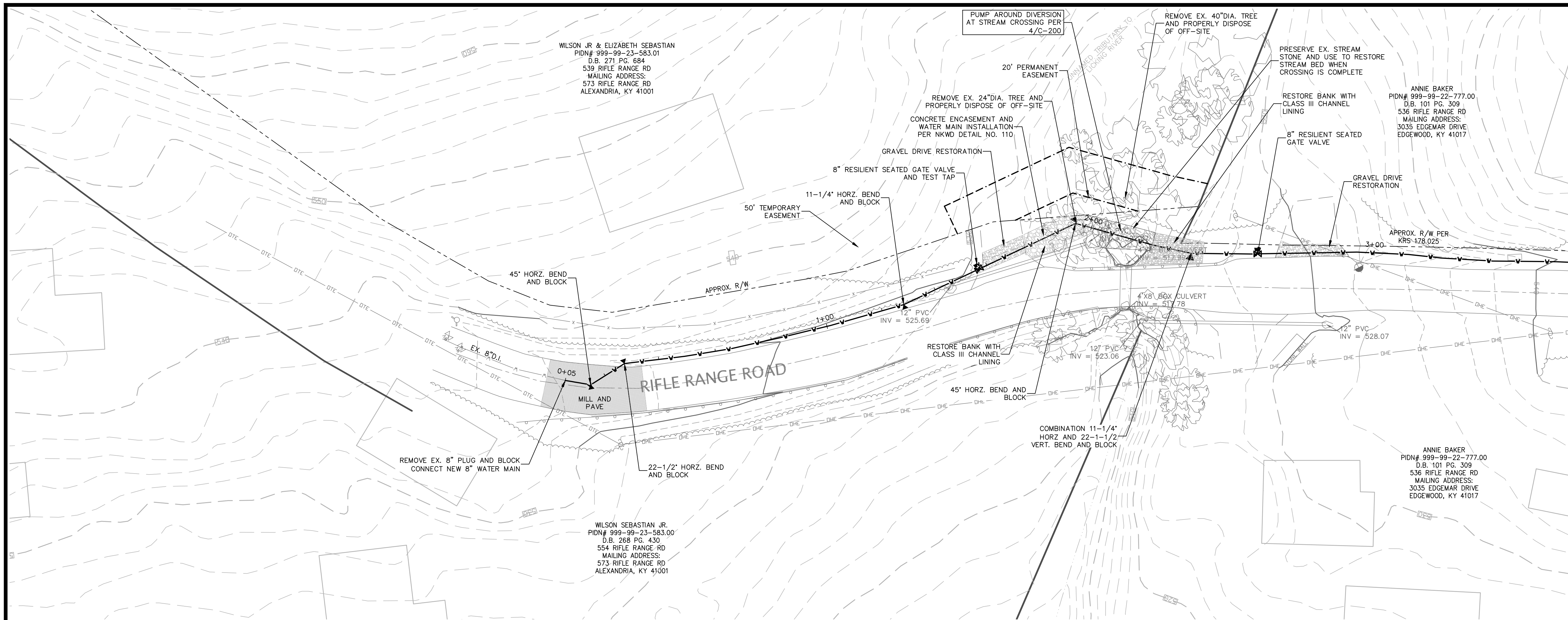
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 2. THE COST OF CLEARING, TREE REMOVAL, AND THE REMOVAL/REPLACEMENT OF MAILBOXES, STREET SIGNS, LANDSCAPING, HARDSCAPING, CULVERT PIPES, GUARDRAIL, AND FENCES IS INCIDENTAL TO THE COST OF INSTALLING THE WATER MAIN.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING ALL SANITARY SEWER LATERALS PRIOR TO STARTING WORK AND MAINTAINING SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL PRACTICE CARE DURING TRENCH EXCAVATION AND SHALL BE RESPONSIBLE FOR REPLACING ANY SEWER LATERALS THAT ARE DAMAGED DURING CONSTRUCTION AT THEIR EXPENSE.
 4. ALL WATER METERS SHALL BE PLACED WITHIN THE RIGHT-OF-WAY. THE FINAL METER LOCATION SHALL BE FIELD VERIFIED BY A NKWD REPRESENTATIVE.
 5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING WATER MAIN AND ADJUST AS NEEDED TO AVOID POTENTIAL CONFLICTS AS DIRECTED BY THE ENGINEER.

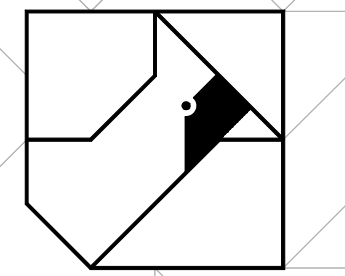
- GEOTECHNICAL GENERAL NOTES:**
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DRAWN BY:	SEAL
CHECKED BY:	KGH
PROJECT MANAGER:	KGH
PROJECT NO. 23-001	
SCALE	AS NOTED
DATE	01-11-23
PLAN & PROFILE	
SHEET	C-557



SEE SHEET C-559

REVISIONS	DATE	#	ITEM
	01-11-24	1	REV PER NKWD
	05-01-24	2	REV PER NKWD

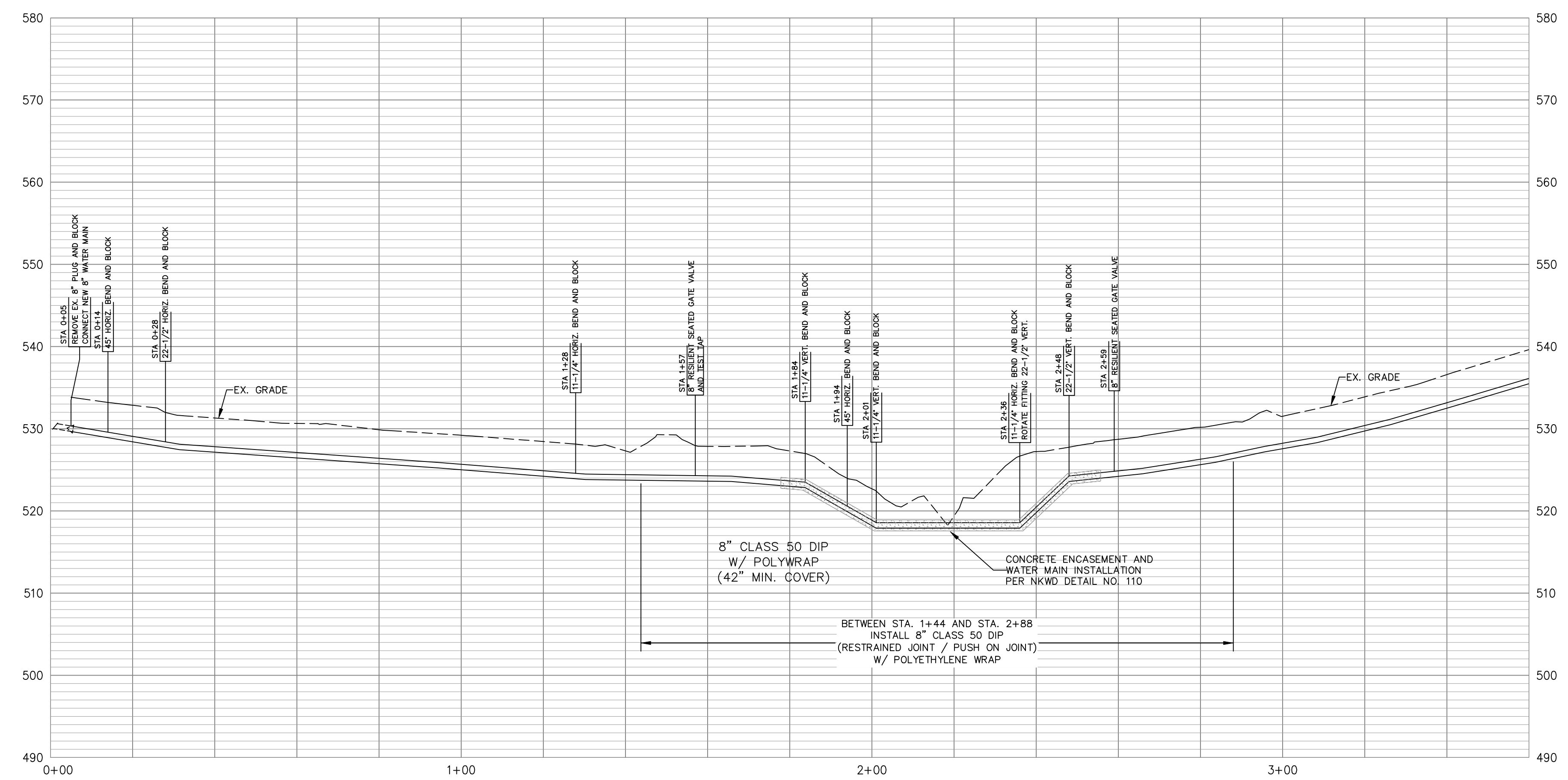


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WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640



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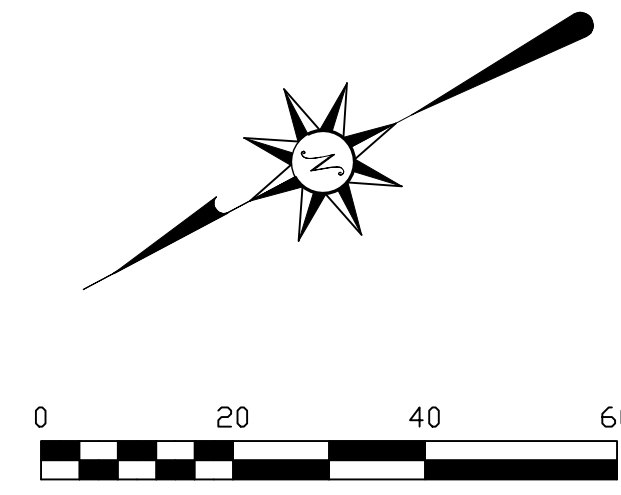
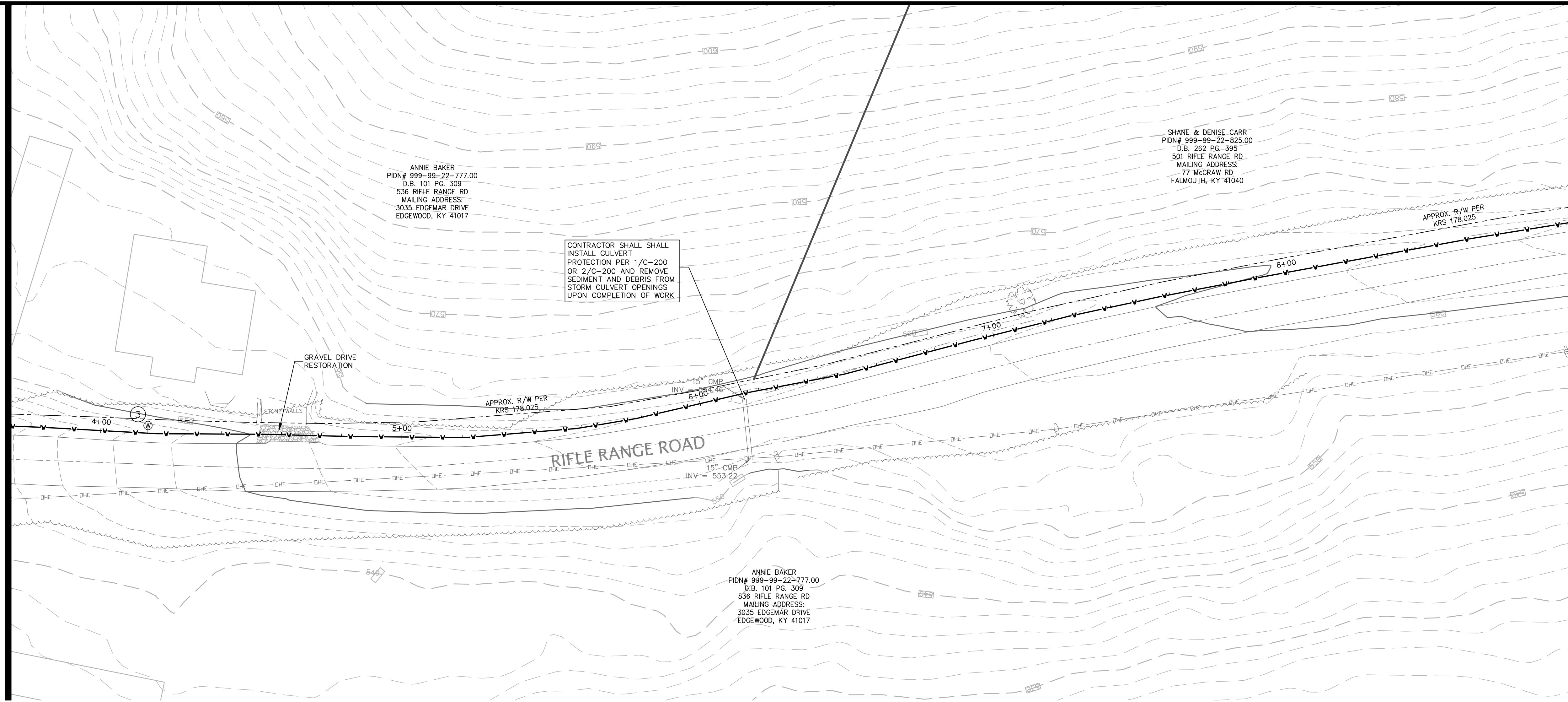
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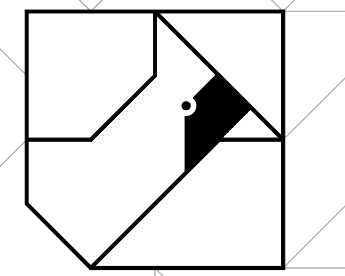
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KGH	
CHECKED BY:	
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PROJECT MANAGER:	
KGH	
PROJECT NO.	23-001
SCALE	AS NOTED
DATE	08-21-23
PLAN & PROFILE	
SHEET	C-558

SEE SHEET C-558

SEE SHEET C-560



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

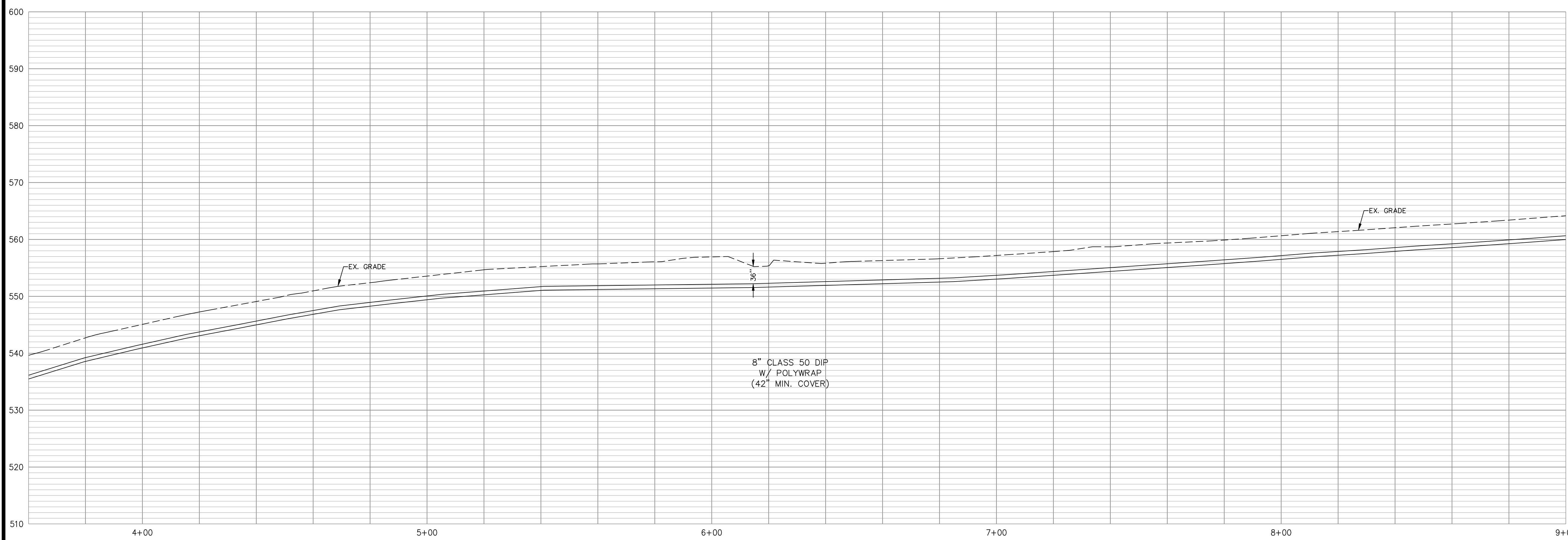
CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

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KGH	
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PROJECT MANAGER:	
KGH	

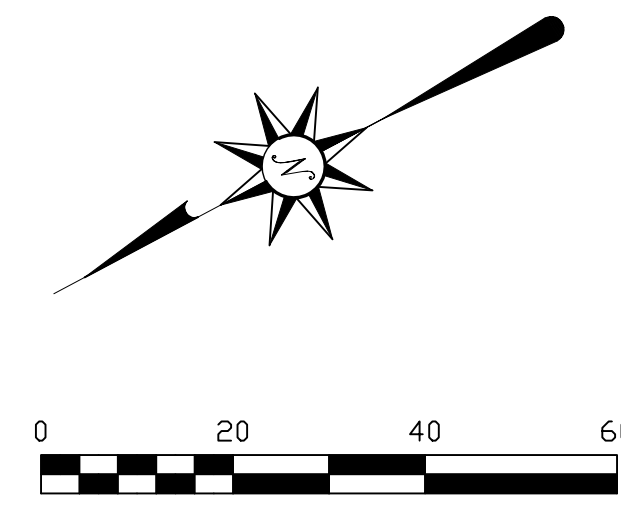
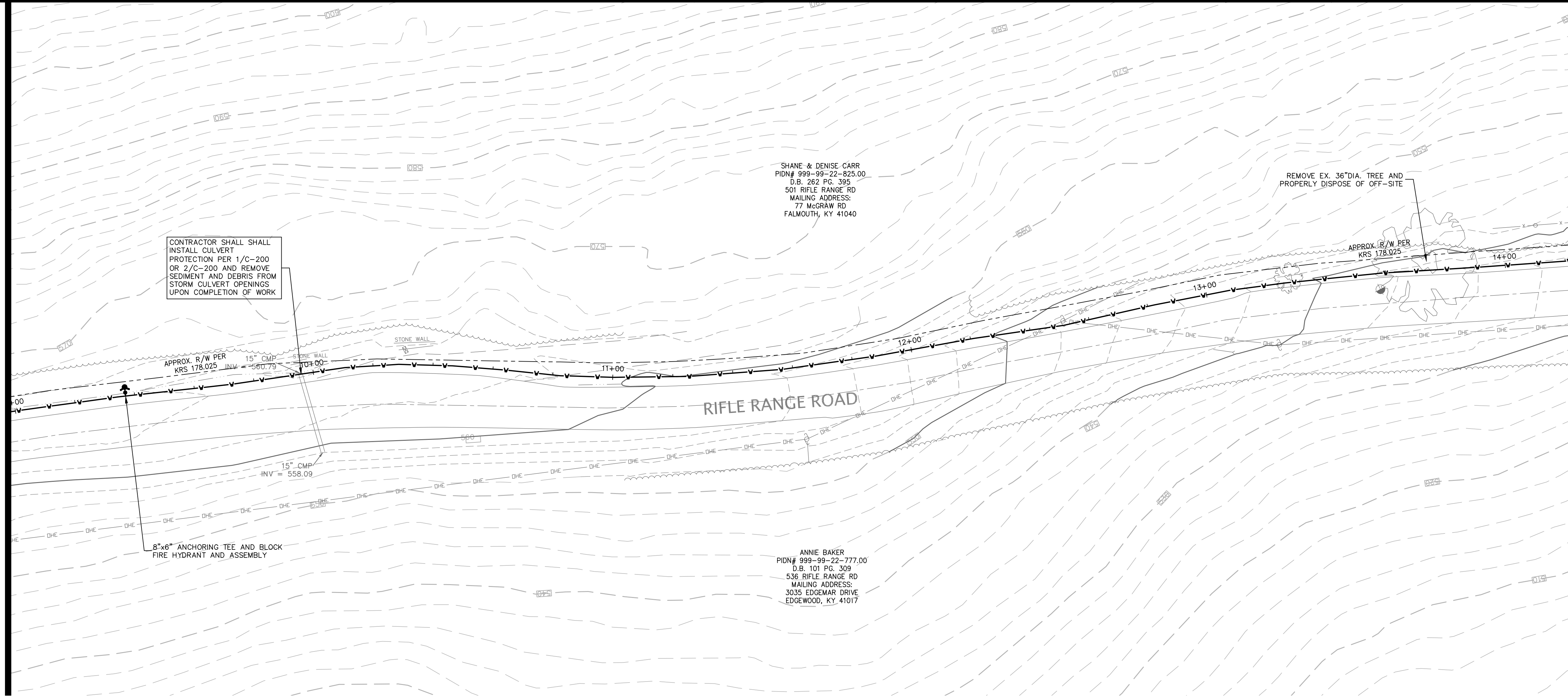
PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

PLAN & PROFILE

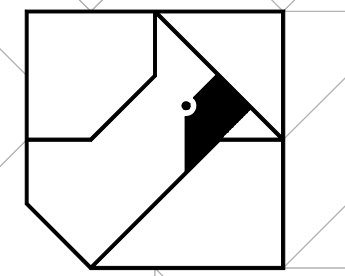
SHEET **C-559**

SEE SHEET C-559

SEE SHEET C-561



REVISIONS	DATE	#	ITEM
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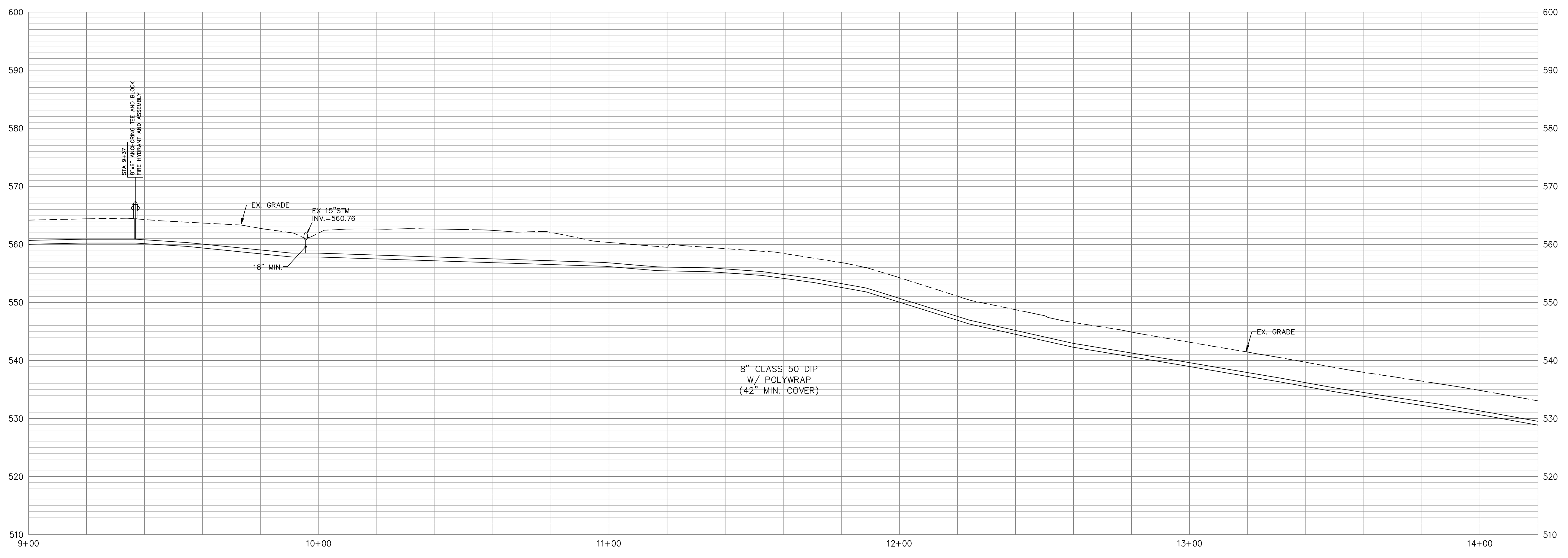


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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640



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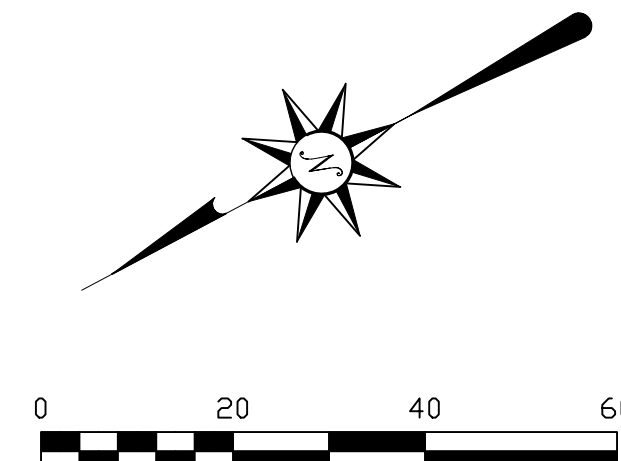
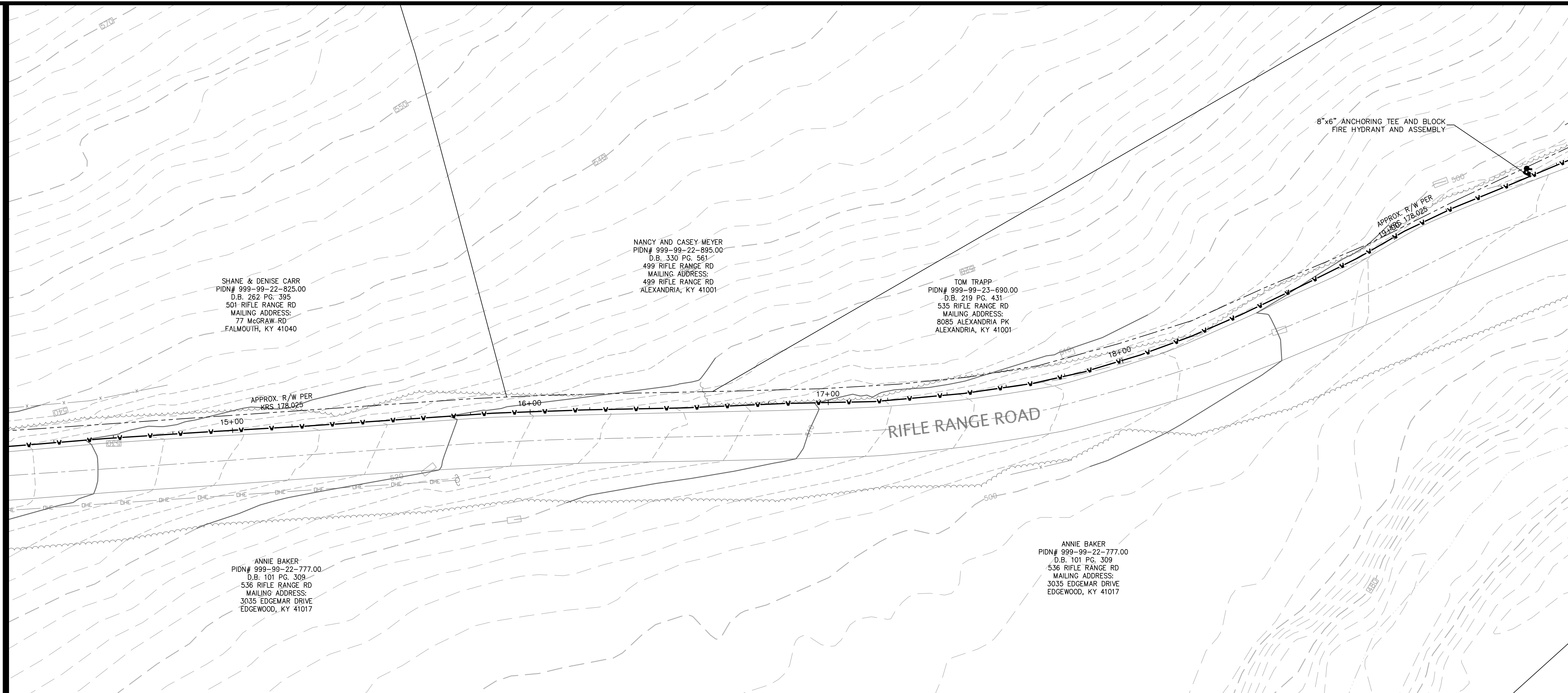
DRAWN BY:	SEAL
KGH	
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PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

PLAN & PROFILE

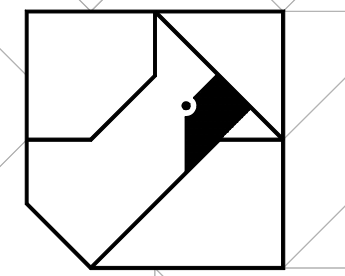
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C-560

SEE SHEET C-560



SEE SHEET C-562

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



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PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

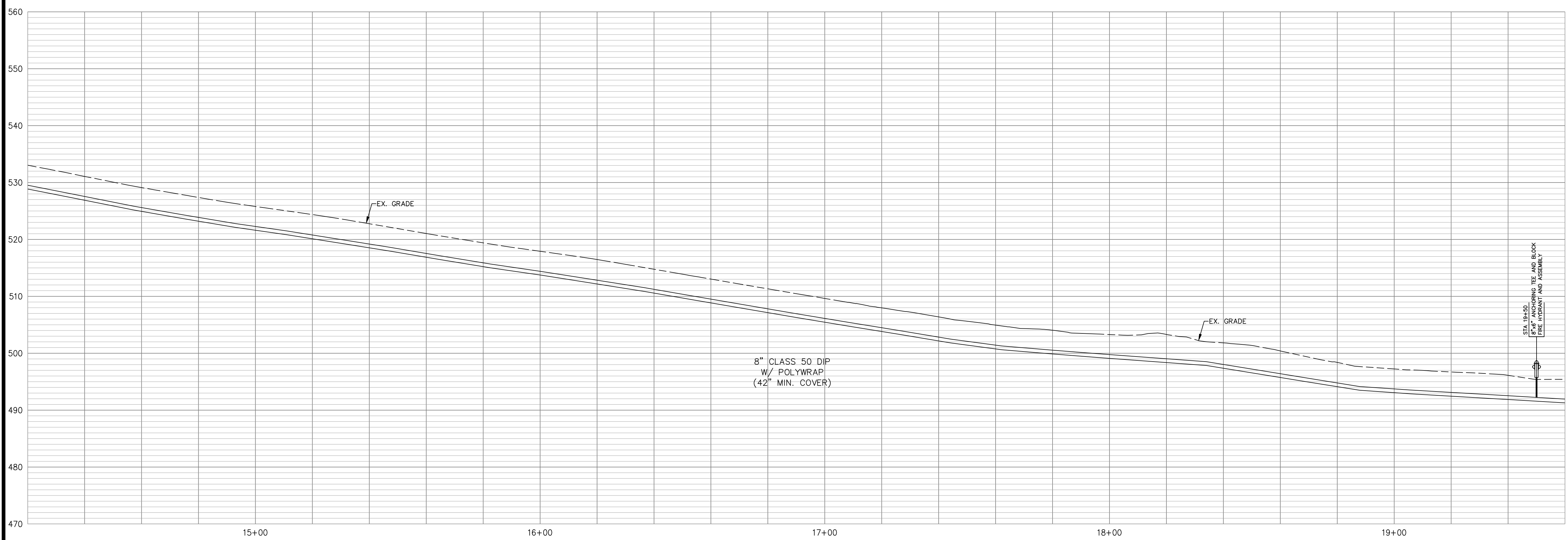
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

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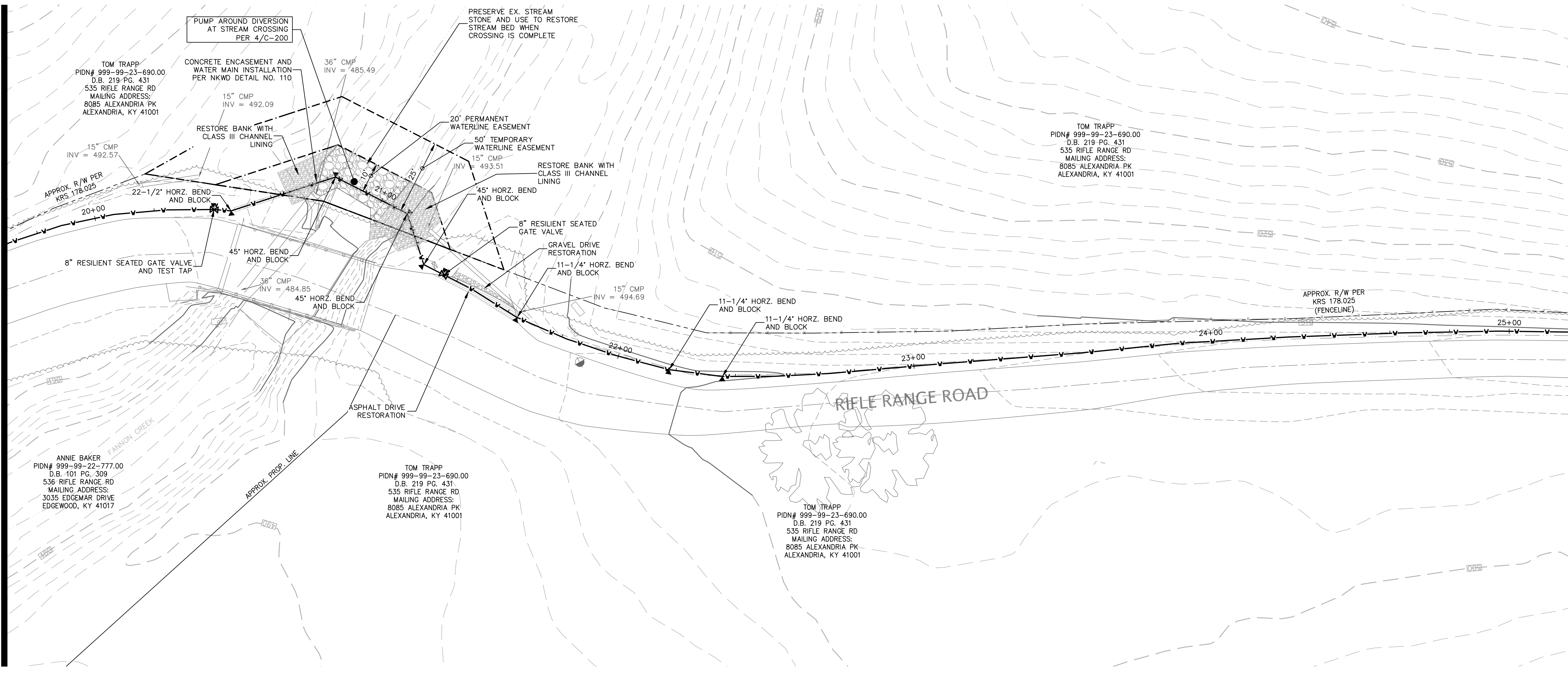
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CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

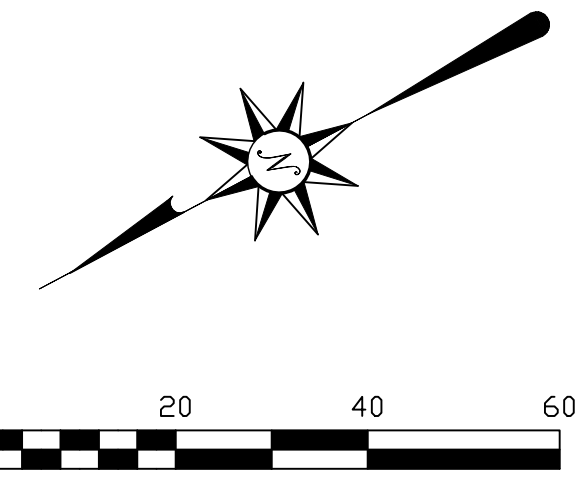
PLAN & PROFILE

SHEET **C-561**

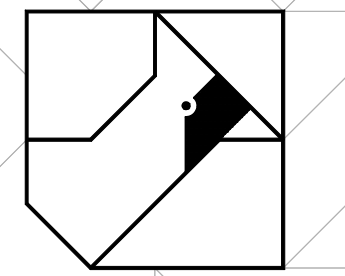
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REVISIONS		
DATE	#	ITEM
01-12-24	1	REV PER NKWD
05-01-24	2	REV PER NKWD



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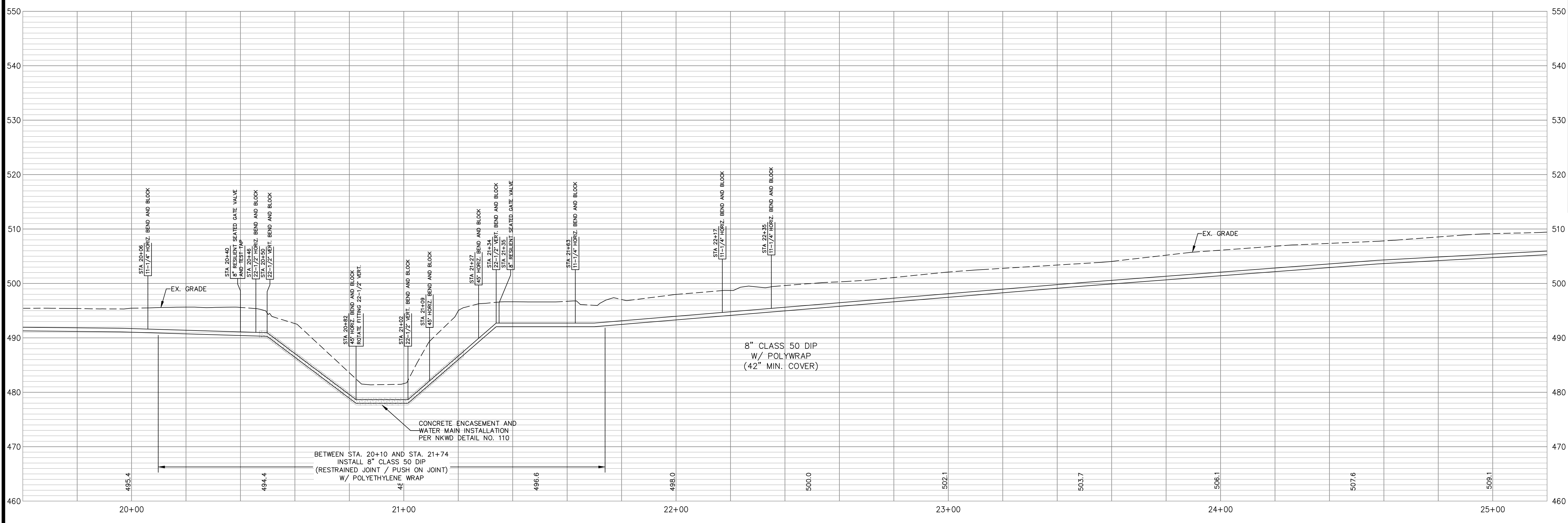
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WATER MAIN CONSTRUCTION NOTES

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PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

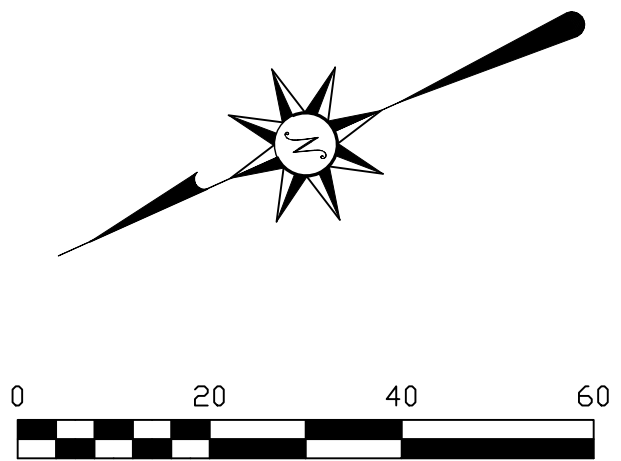
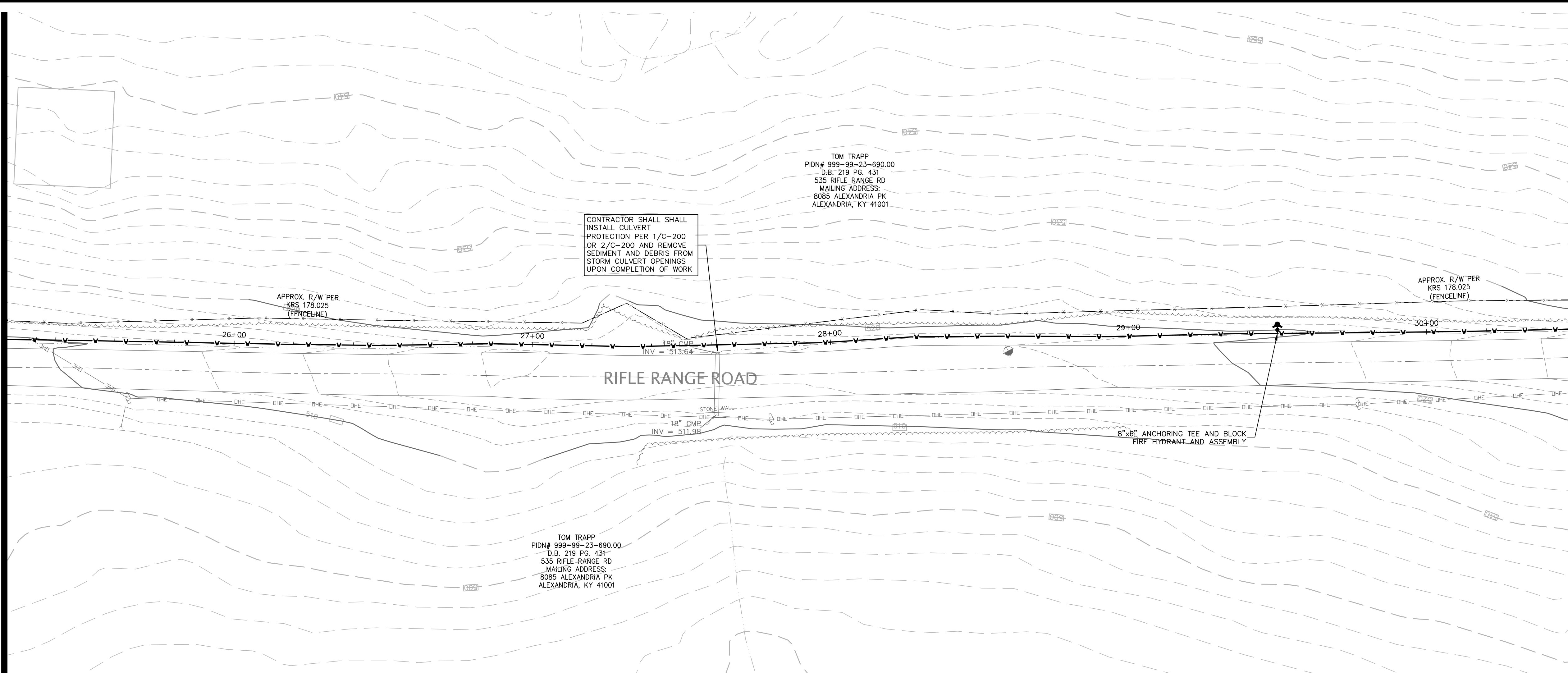
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KGH
CHECKED BY:
PROJECT MANAGER: KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

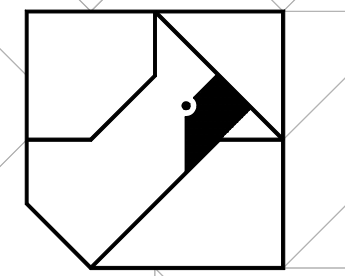
PLAN & PROFILE
SHEET **C-562**

SEE SHEET C-562

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REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



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PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

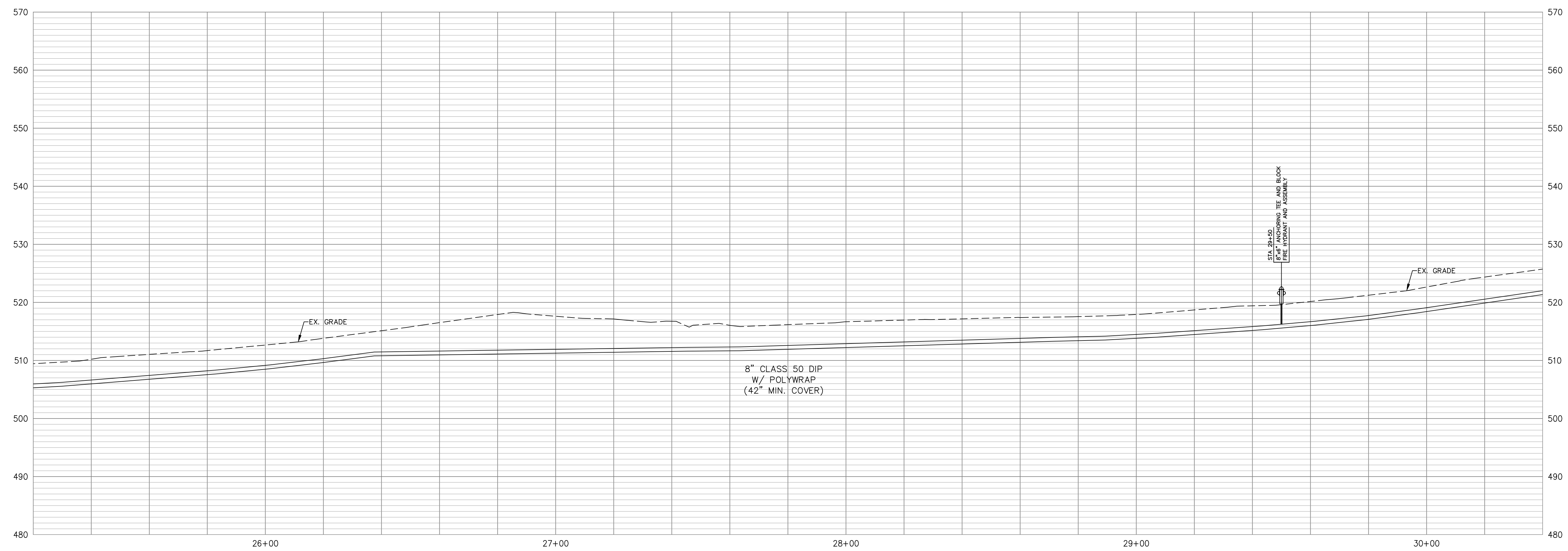
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
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CHECKED BY:	KGH
PROJECT MANAGER:	KGH

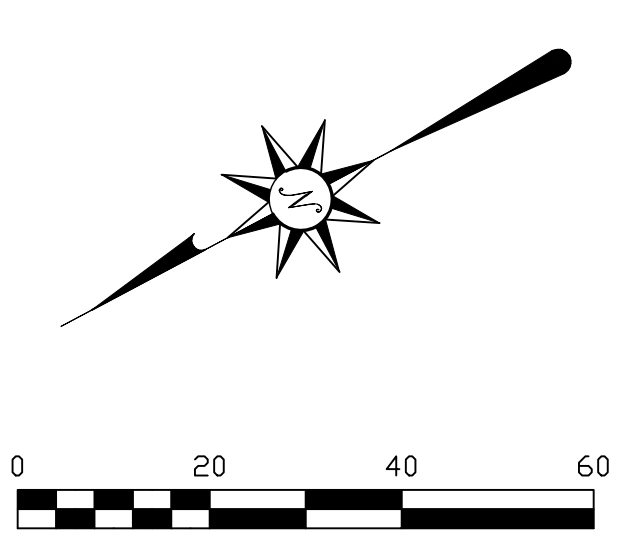
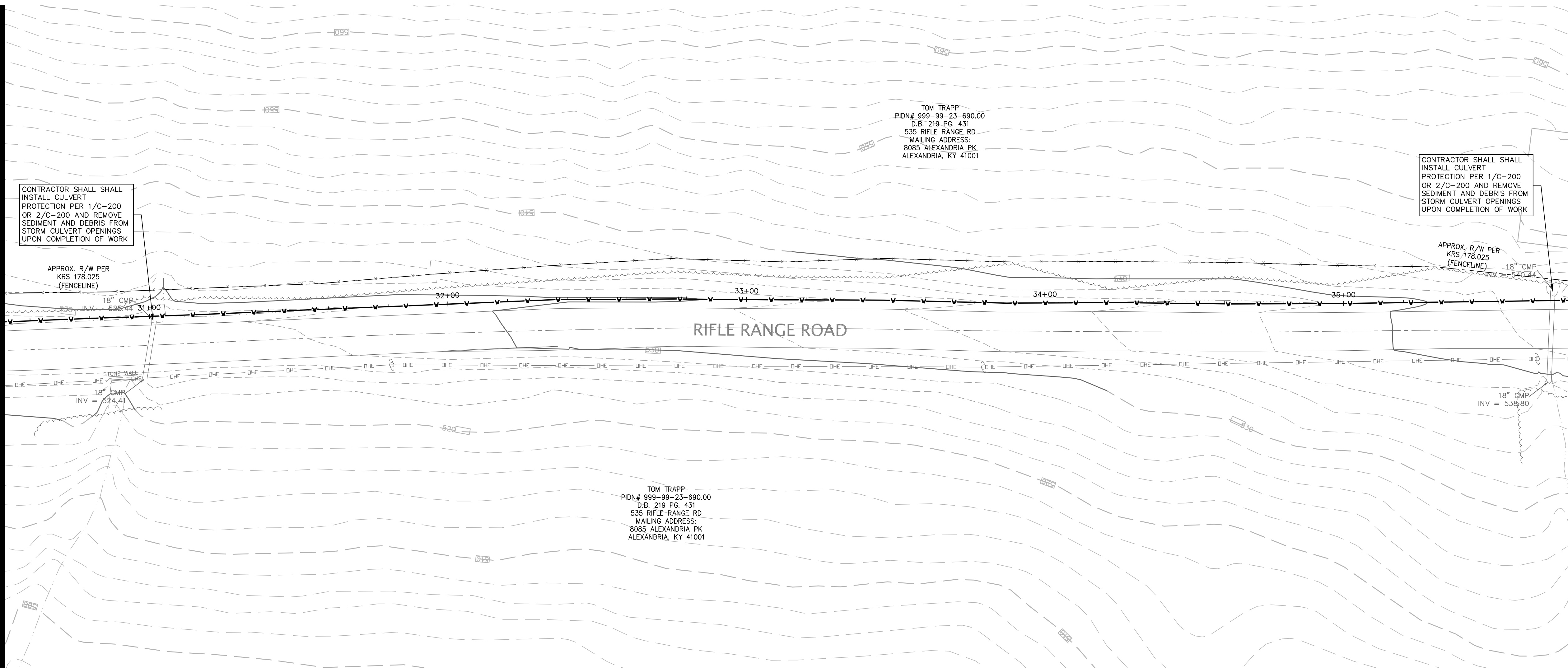
PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

PLAN & PROFILE

SHEET **C-563**

SEE SHEET C-563

SEE SHEET C-565



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD

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PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

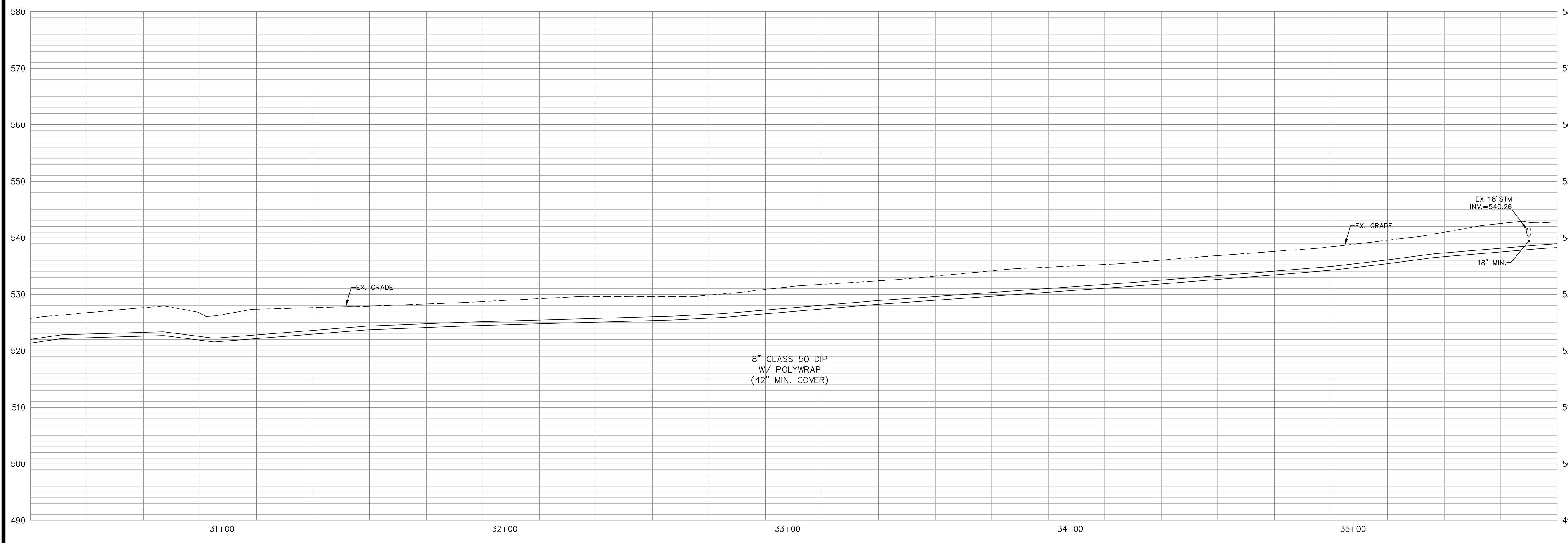
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
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WATER MAIN CONSTRUCTION NOTES:

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2. THE COST OF CLEARING, TREE REMOVAL, AND THE REMOVAL/REPLACEMENT OF MAILBOXES, STREET SIGNS, LANDSCAPING, HARDSCAPING, CULVERT PIPES, GUARDRAIL, AND FENCES IS INCIDENTAL TO THE COST OF INSTALLING THE WATER MAIN.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING ALL SANITARY SEWER LATERALS PRIOR TO STARTING WORK AND MAINTAINING SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL PRACTICE CARE DURING TRENCH EXCAVATION AND SHALL BE RESPONSIBLE FOR REPLACING ANY SEWER LATERALS THAT ARE DAMAGED DURING CONSTRUCTION AT THEIR EXPENSE.
4. ALL WATER METERS SHALL BE PLACED WITHIN THE RIGHT-OF-WAY. THE FINAL METER LOCATION SHALL BE FIELD VERIFIED BY A NKWD REPRESENTATIVE.
5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING WATER MAIN AND ADJUST AS NEEDED TO AVOID POTENTIAL CONFLICTS AS DIRECTED BY THE ENGINEER.

GEOTECHNICAL GENERAL NOTES:

1. FOR ALL EARTHWORK OPERATIONS, POSITIVE SURFACE DRAINAGE IS PRUDENT TO KEEP WATER FROM PONDING ON THE SURFACE AND TO ASSIST IN MAINTAINING SURFACE STABILITY.
2. THE SURFACE SHOULD BE SEALED PRIOR TO EXPECTED WET WEATHER. THIS CAN USUALLY BE ACCOMPLISHED WITH RUBBER-TIRED CONSTRUCTION EQUIPMENT OR A STEEL-DRUM ROLLER.
3. IF ANY SOIL PLACEMENT PROBLEMS OCCUR, CSI SHOULD BE RETAINED TO PROVIDE ADDITIONAL RECOMMENDATIONS, AS NEEDED.
4. CONTRACTOR SHALL REVIEW GEOTECHNICAL REPORT PREPARED BY CONSULTING SERVICES INCORPORATED (CSI), DATED AUGUST 18, 2023, PROJECT NO. 0N230010, PRIOR TO BIDDING THE PROJECT.



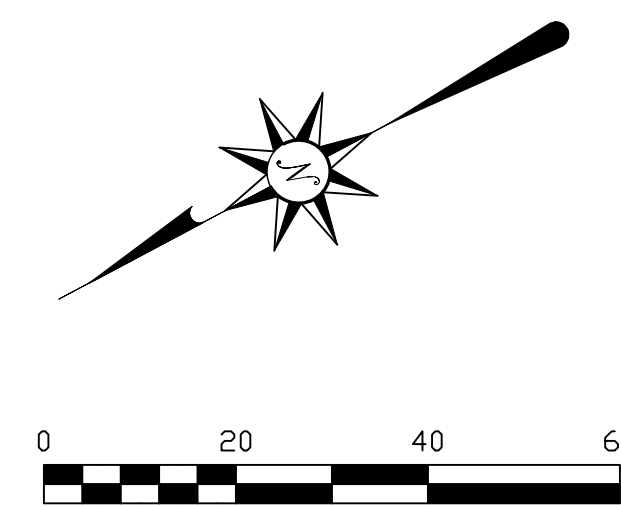
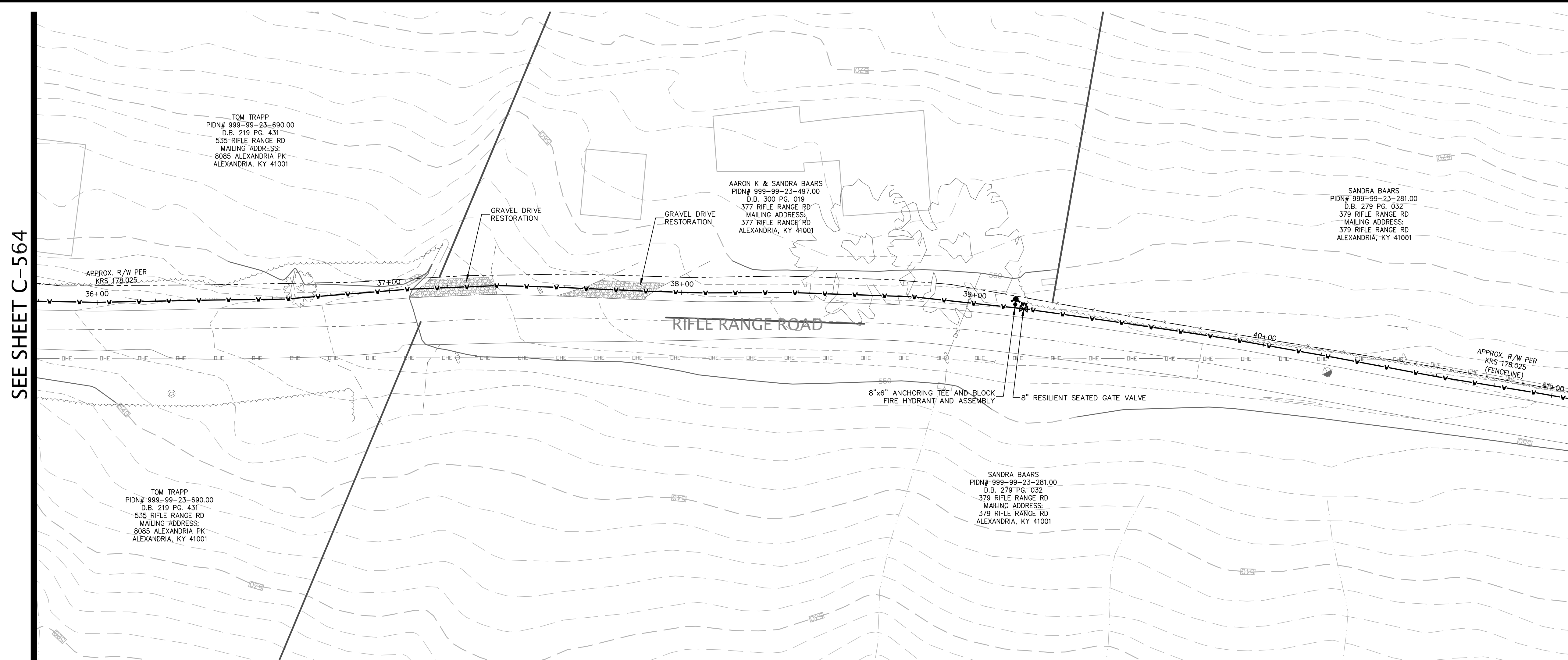
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KGH	
CHECKED BY:	
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PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

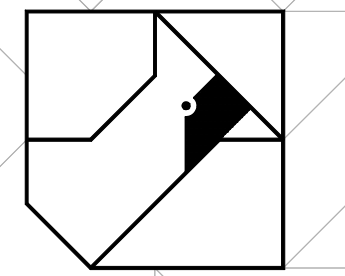
PLAN & PROFILE
SHEET **C-564**

SEE SHEET C-564

SEE SHEET C-566



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

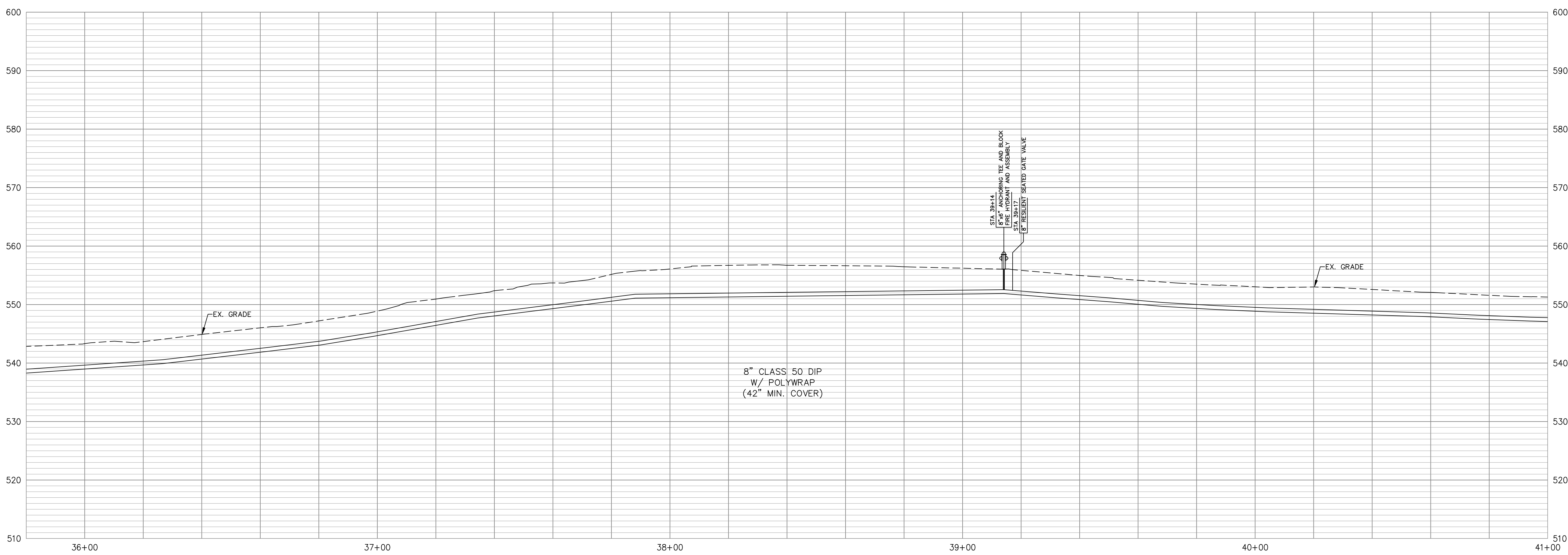
CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

WATER MAIN CONSTRUCTION NOTES:

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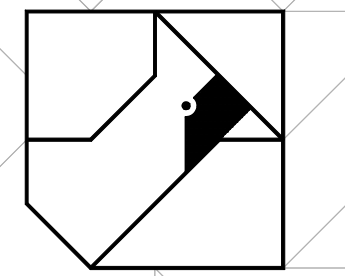


DRAWN BY:	SEAL
CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

PLAN & PROFILE
SHEET **C-565**

REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

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GEOTECHNICAL GENERAL NOTES:

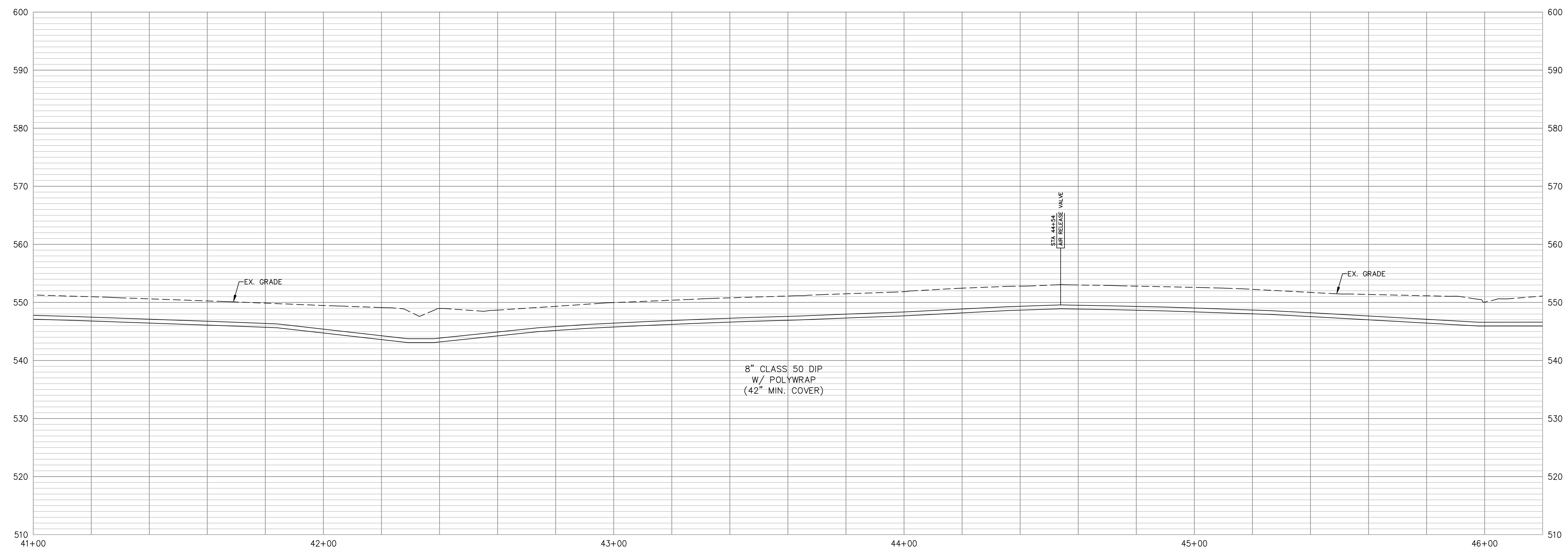
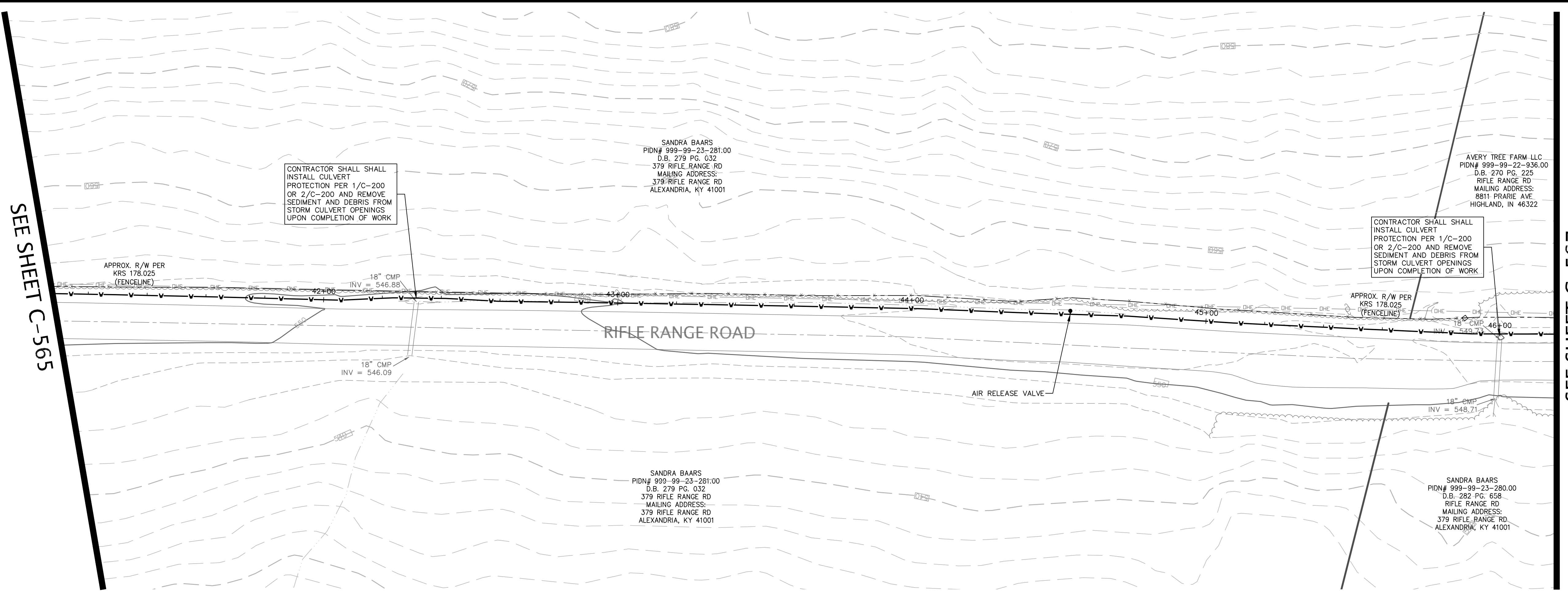
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DRAWN BY:	SEAL
KGH	
CHECKED BY:	
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PROJECT MANAGER:	
KGH	

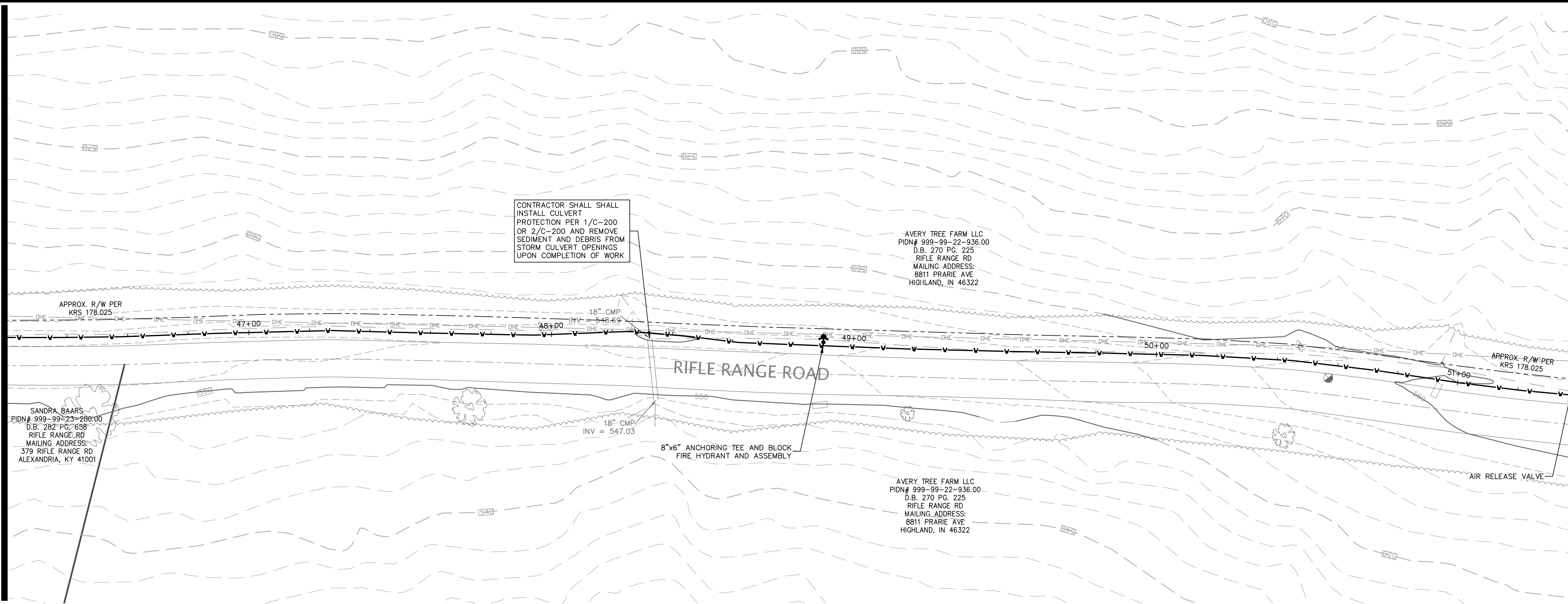
PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

PLAN & PROFILE

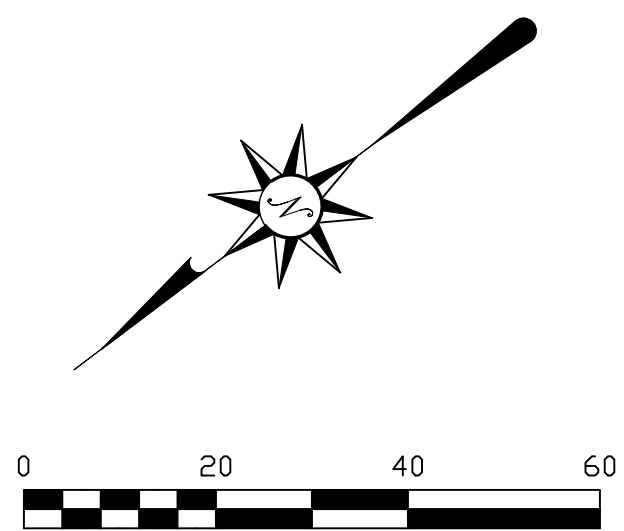
SHEET **C-566**



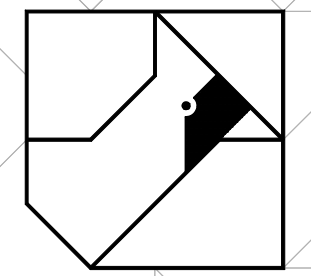
SEE SHEET C-566



SEE SHEET C-568



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

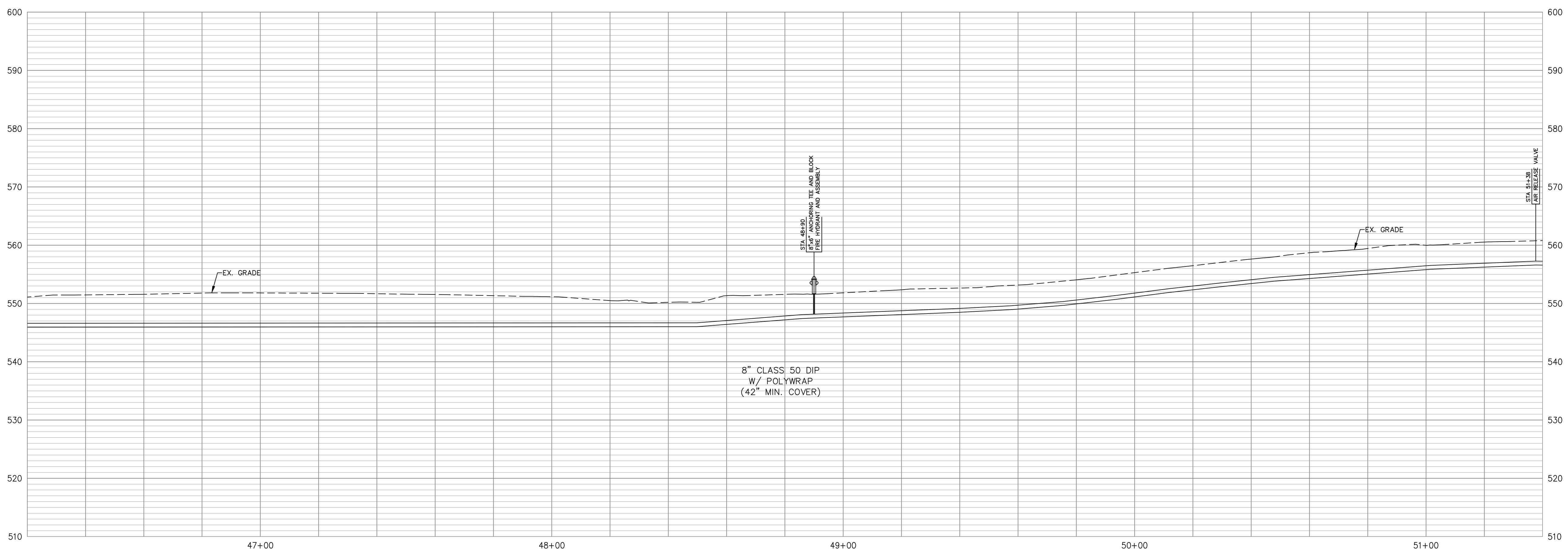
CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

WATER MAIN CONSTRUCTION NOTES:

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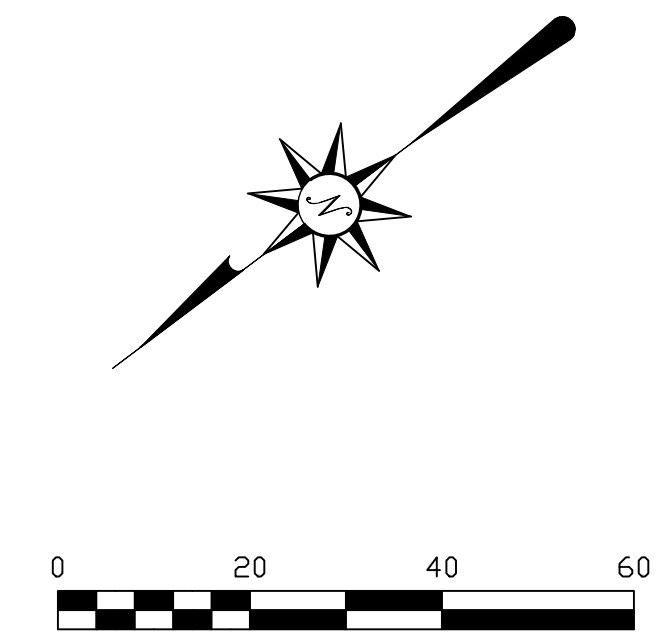
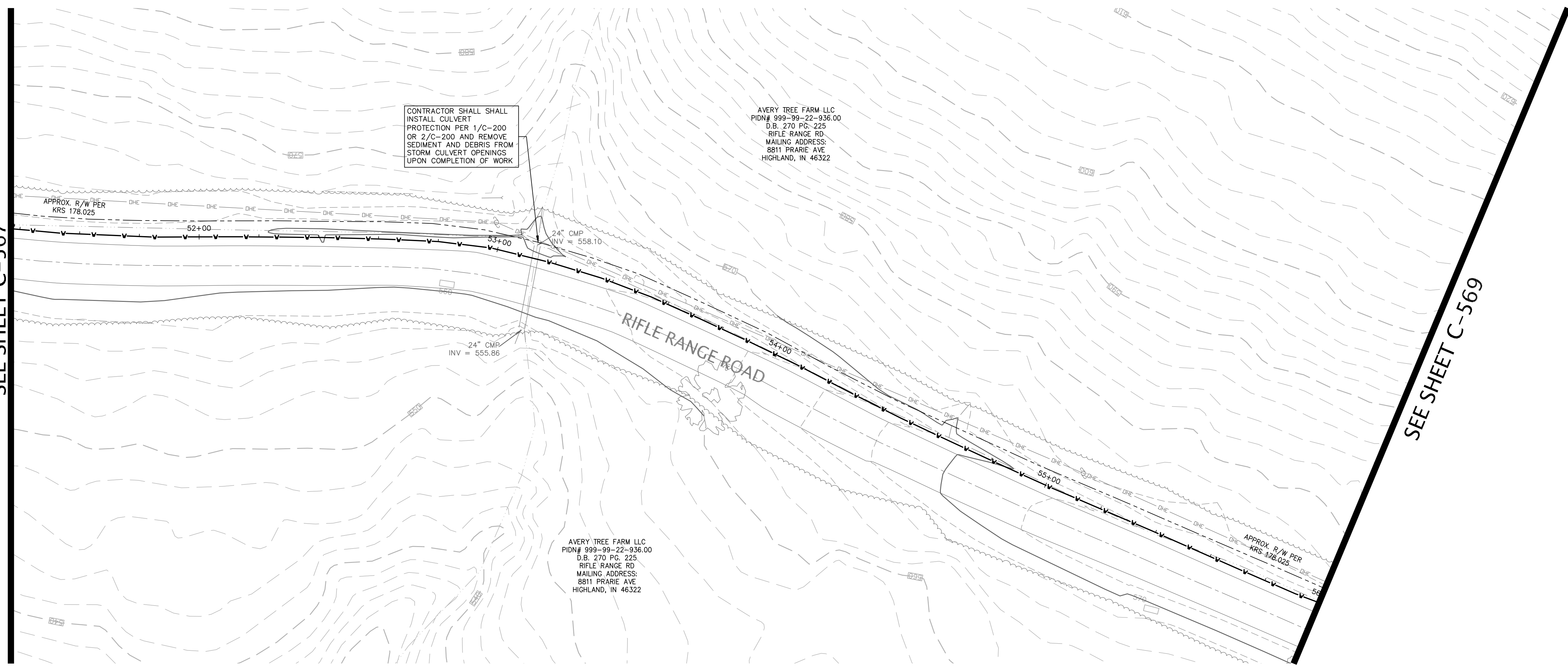
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CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

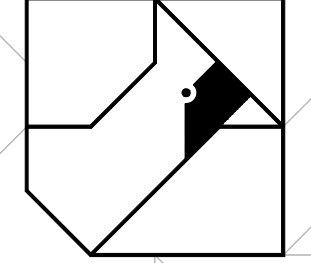
PLAN & PROFILE

SHEET **C-567**

SEE SHEET C-567



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
 ENGINEERING
 LAND SURVEYING
 ONE MOCK ROAD
 WILDER, KENTUCKY 41071
 PHONE: (859) 581-9600
 FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

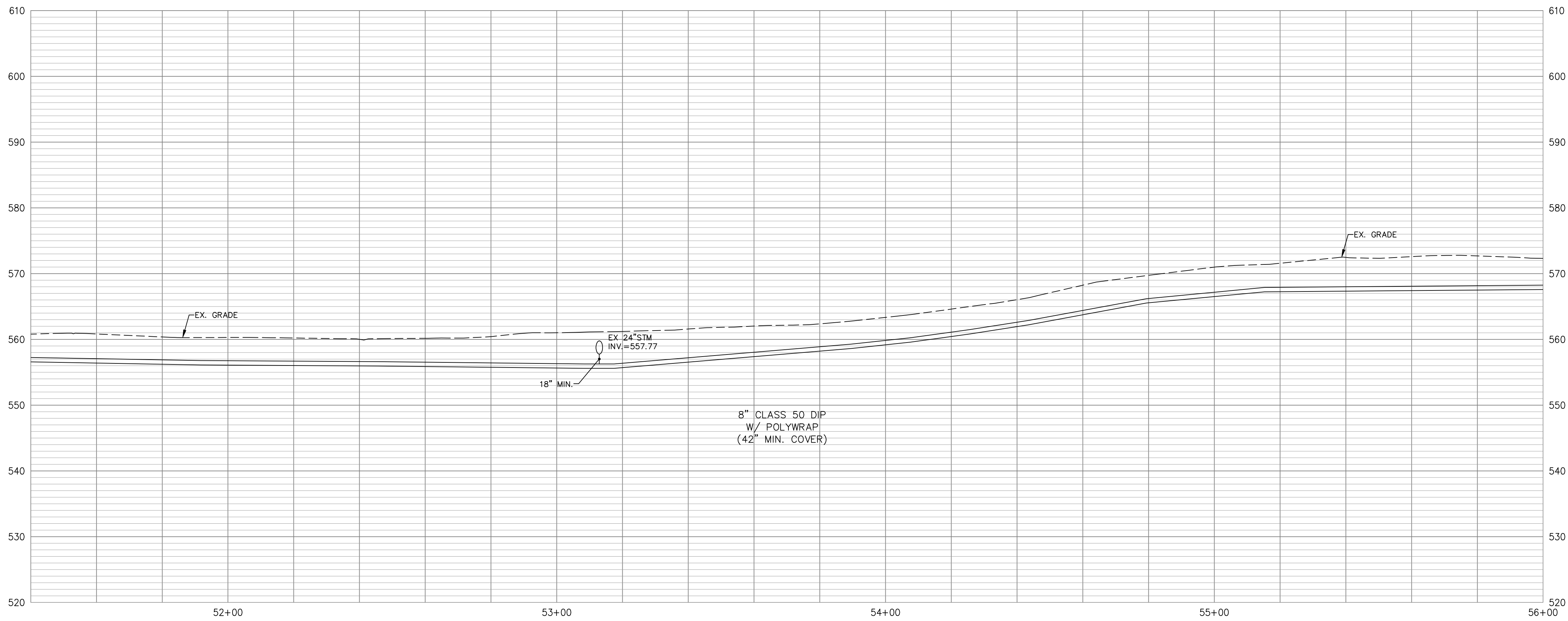
CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

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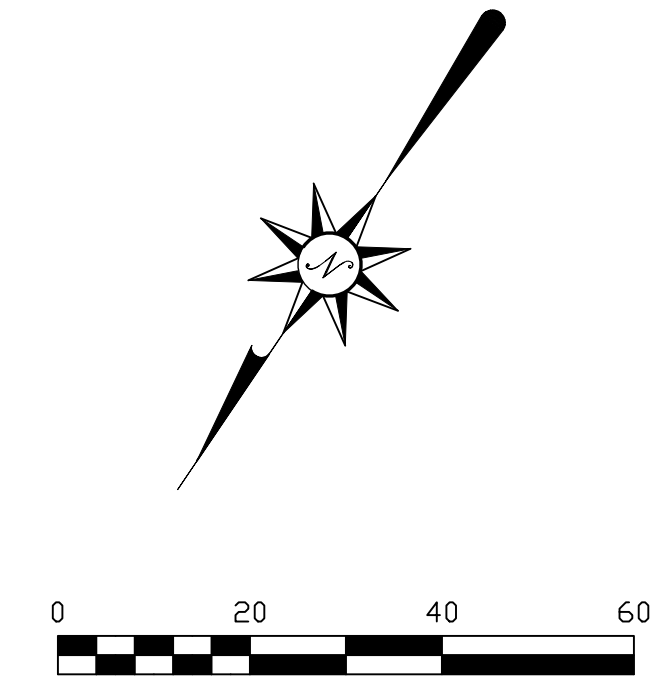
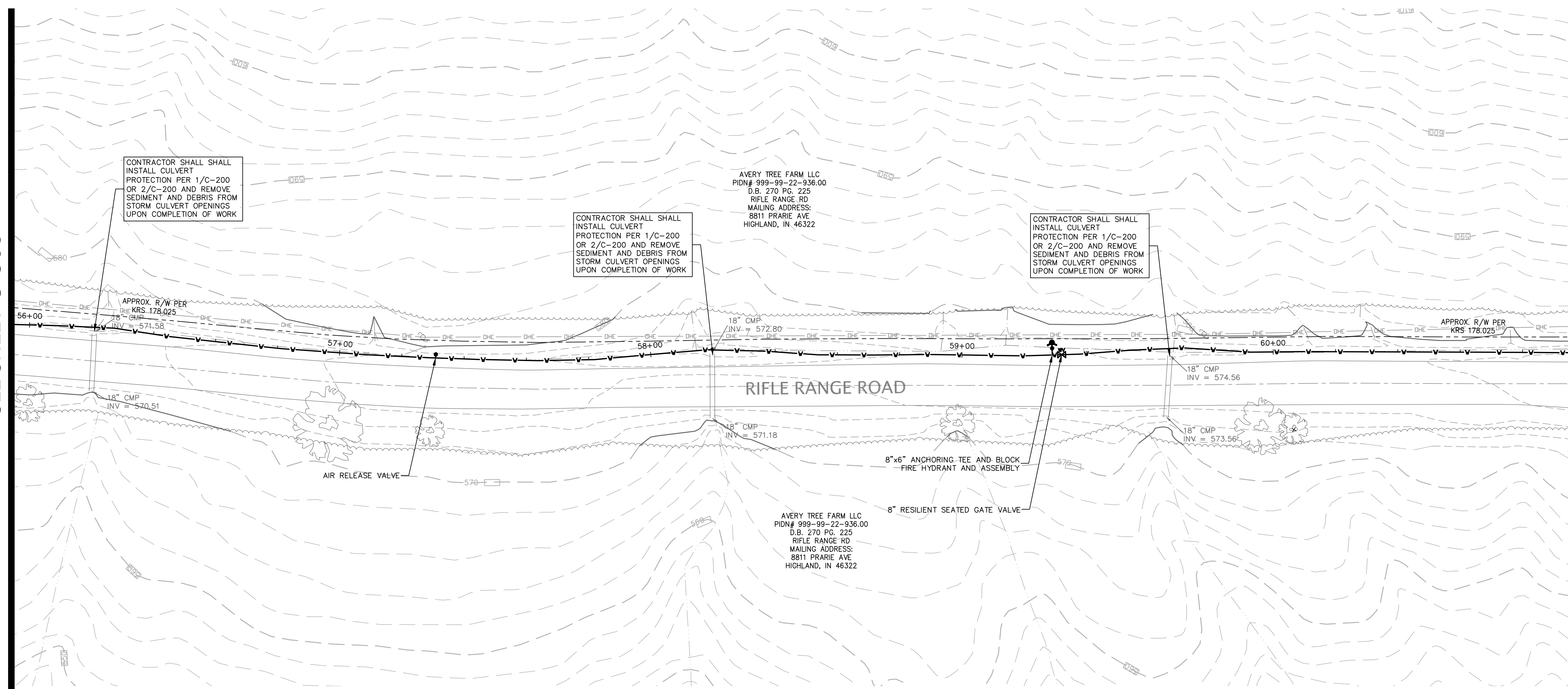
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KGH	
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PROJECT MANAGER:	
KGH	

PROJECT NO. 23-001
 SCALE AS NOTED
 DATE 08-21-23

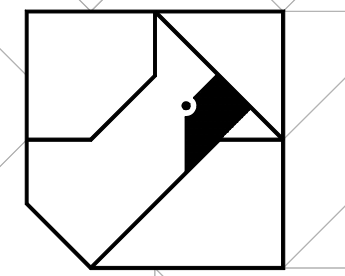
PLAN & PROFILE
 SHEET **C-568**

SEE SHEET C-568

SEE SHEET C-570



REVISIONS	DATE	#	ITEM
05-01-24	2	REV PER	NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

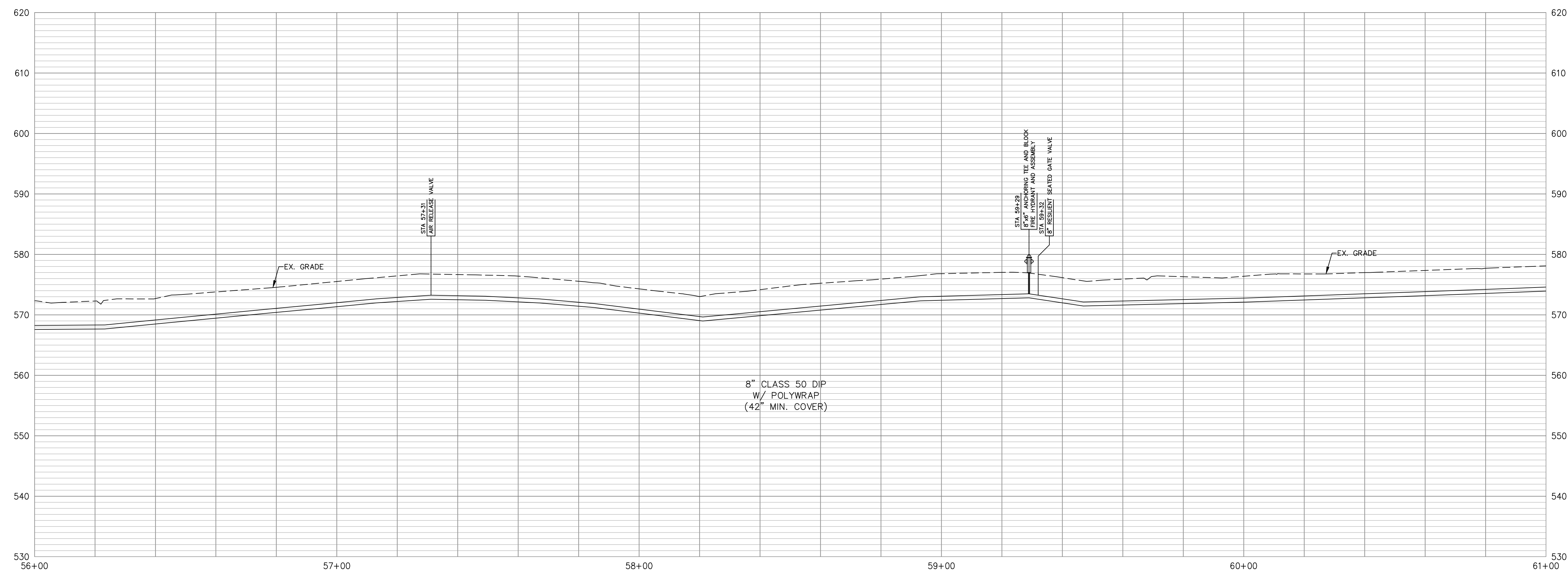
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

WATER MAIN CONSTRUCTION NOTES:

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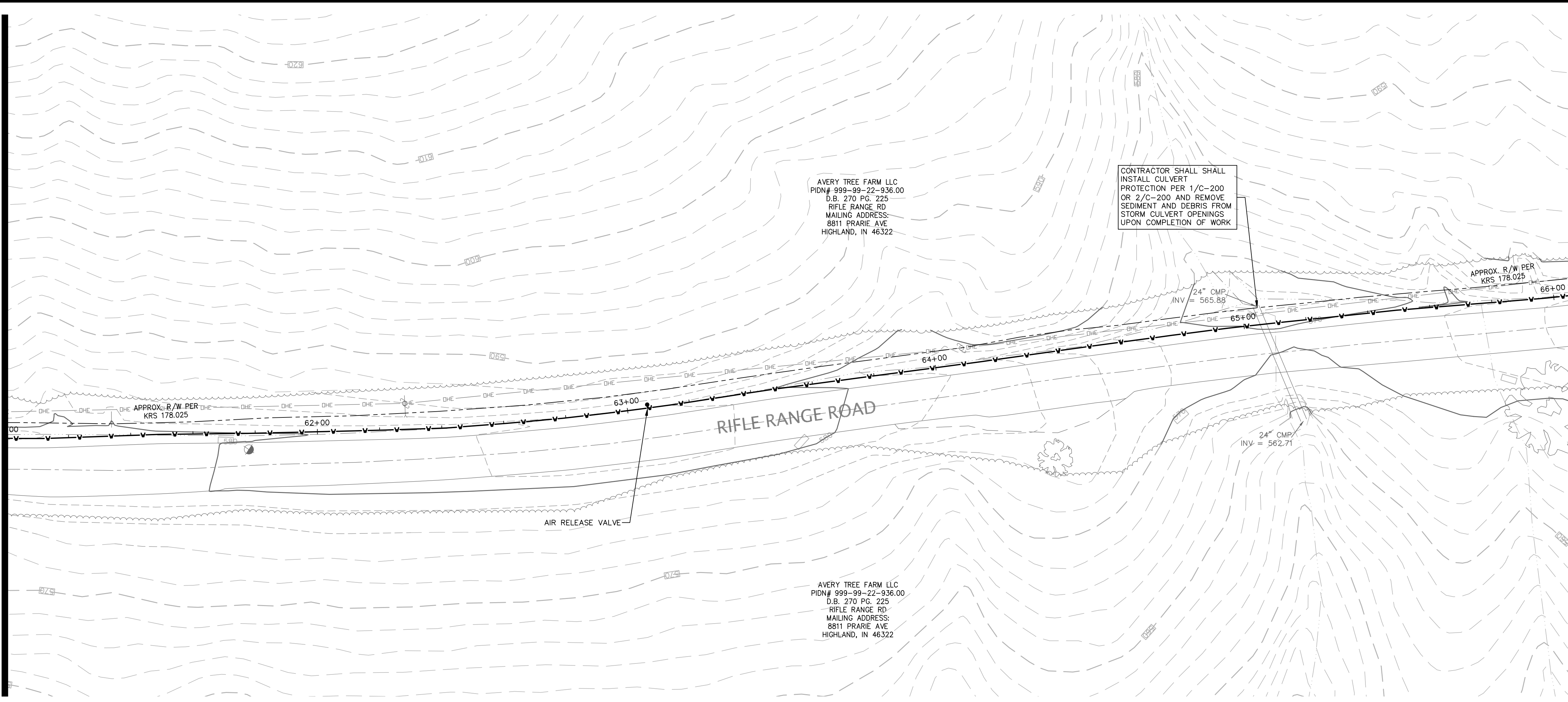
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CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

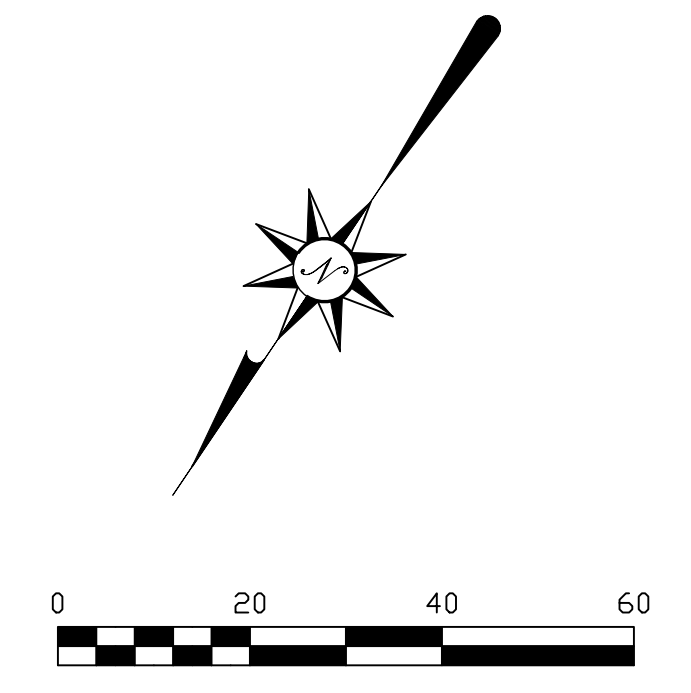
PLAN & PROFILE

SHEET **C-569**

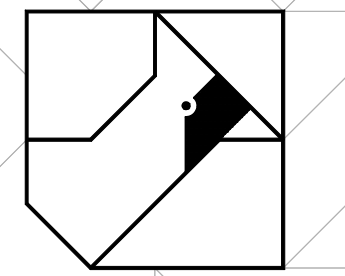
SEE SHEET C-569



SEE SHEET C-571



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
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WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

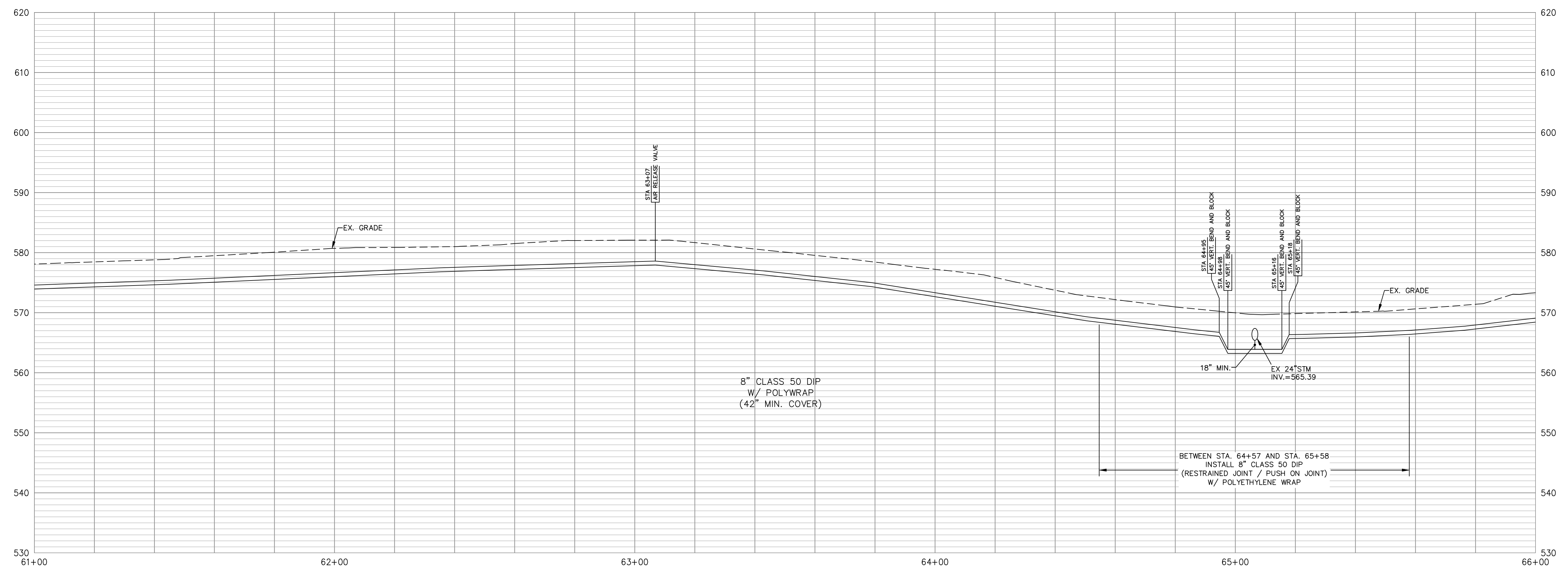
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

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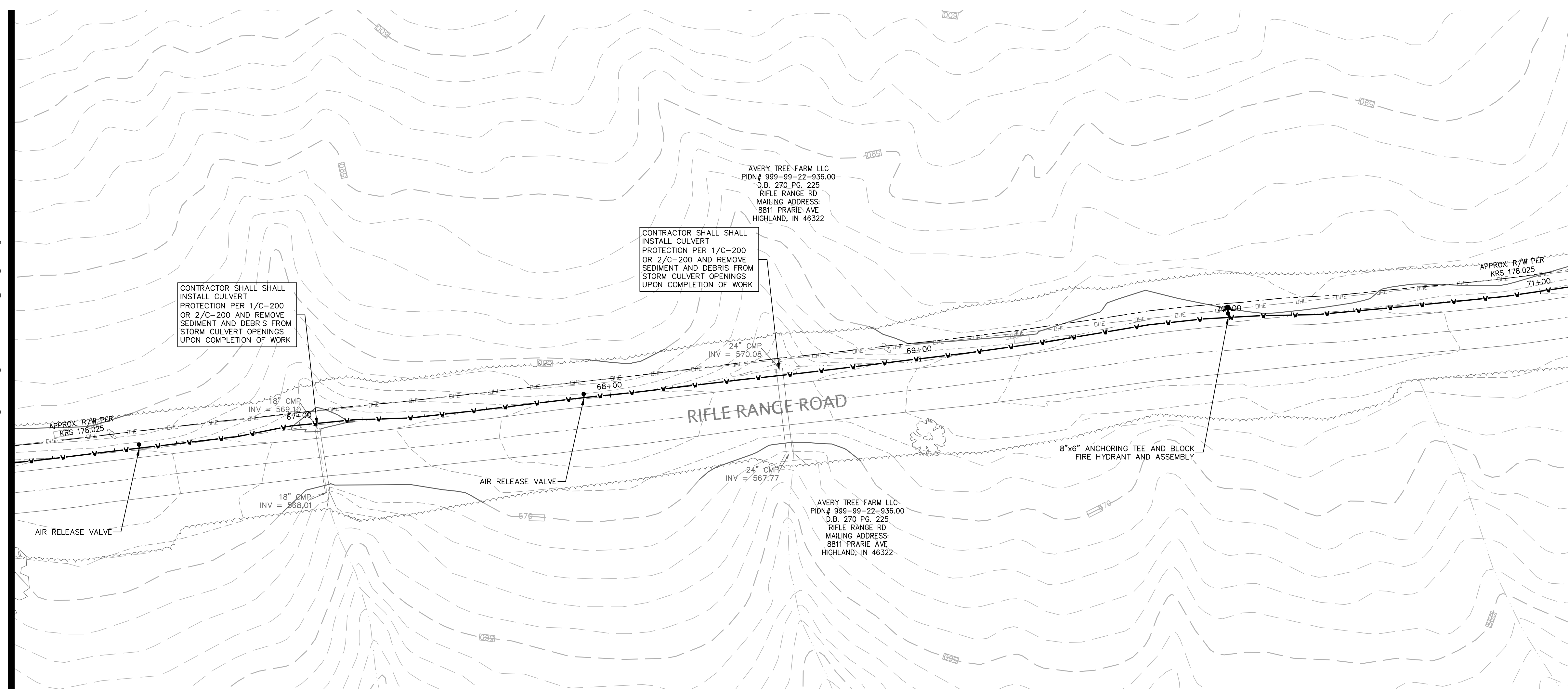
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CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

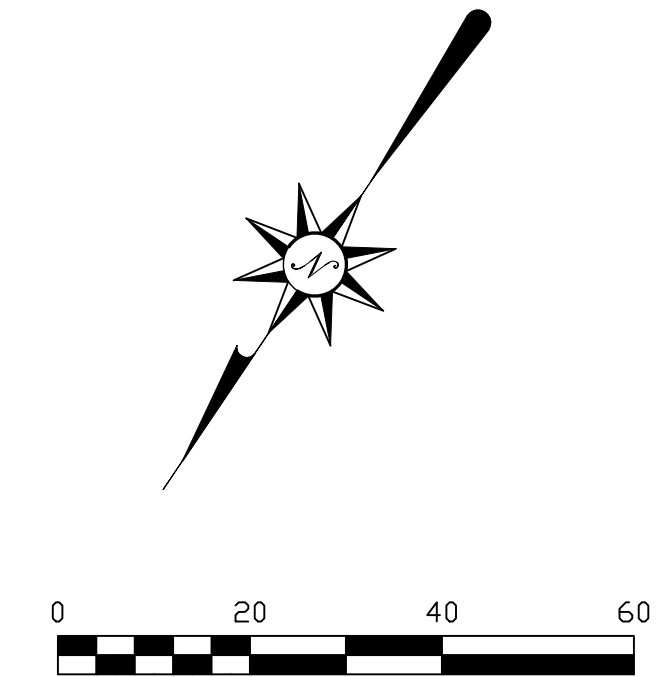
PLAN & PROFILE

SHEET **C-570**

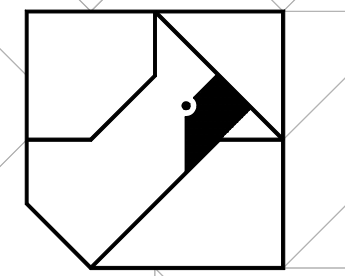
SEE SHEET C-570



SEE SHEET C-572



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
**WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION**

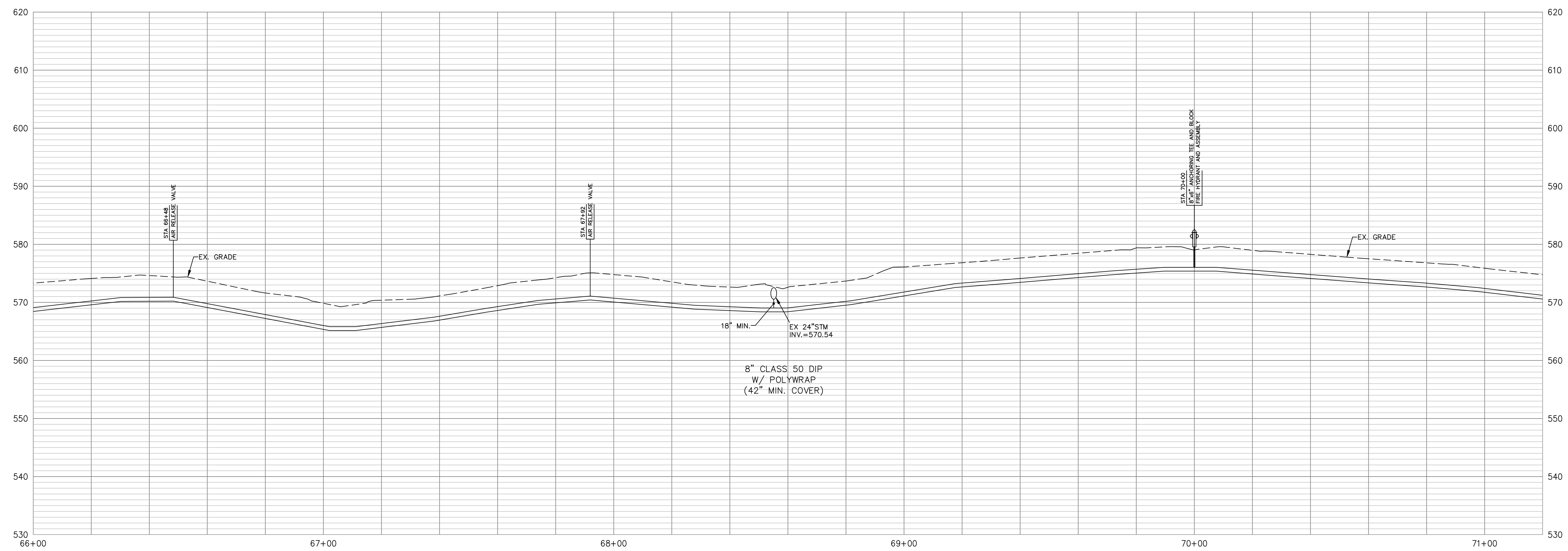
CLIENT:
**NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640**

WATER MAIN CONSTRUCTION NOTES:

1. THE COST FOR TESTING THE WATER MAIN, TEMPORARY FLUSHING DEVICES, TEMPORARY PLUGS AND BLOCKS BE INCIDENTAL TO THE PROJECT.
2. THE COST OF CLEARING, TREE REMOVAL, AND THE REMOVAL/REPLACEMENT OF MAILBOXES, STREET SIGNS, LANDSCAPING, HARDSCAPING, CULVERT PIPES, GUARDRAIL, AND FENCES IS INCIDENTAL TO THE COST OF INSTALLING THE WATER MAIN.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING ALL SANITARY SEWER LATERALS PRIOR TO STARTING WORK AND MAINTAINING SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL PRACTICE CARE DURING TRENCH EXCAVATION AND SHALL BE RESPONSIBLE FOR REPLACING ANY SEWER LATERALS THAT ARE DAMAGED DURING CONSTRUCTION AT THEIR EXPENSE.
4. ALL WATER METERS SHALL BE PLACED WITHIN THE RIGHT-OF-WAY. THE FINAL METER LOCATION SHALL BE FIELD VERIFIED BY A NKWD REPRESENTATIVE.
5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING WATER MAIN AND ADJUST AS NEEDED TO AVOID POTENTIAL CONFLICTS AS DIRECTED BY THE ENGINEER.

GEOTECHNICAL GENERAL NOTES:

1. FOR ALL EARTHWORK OPERATIONS, POSITIVE SURFACE DRAINAGE IS PRUDENT TO KEEP WATER FROM PONDING ON THE SURFACE AND TO ASSIST IN MAINTAINING SURFACE STABILITY.
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3. IF ANY SOIL PLACEMENT PROBLEMS OCCUR, CSI SHOULD BE RETAINED TO PROVIDE ADDITIONAL RECOMMENDATIONS, AS NEEDED.
4. CONTRACTOR SHALL REVIEW GEOTECHNICAL REPORT PREPARED BY CONSULTING SERVICES INCORPORATED (CSI), DATED AUGUST 18, 2023, PROJECT NO. 0N230010, PRIOR TO BIDDING THE PROJECT.

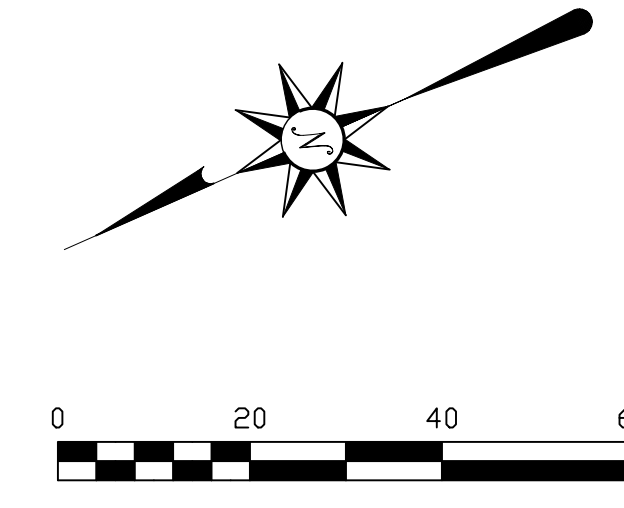
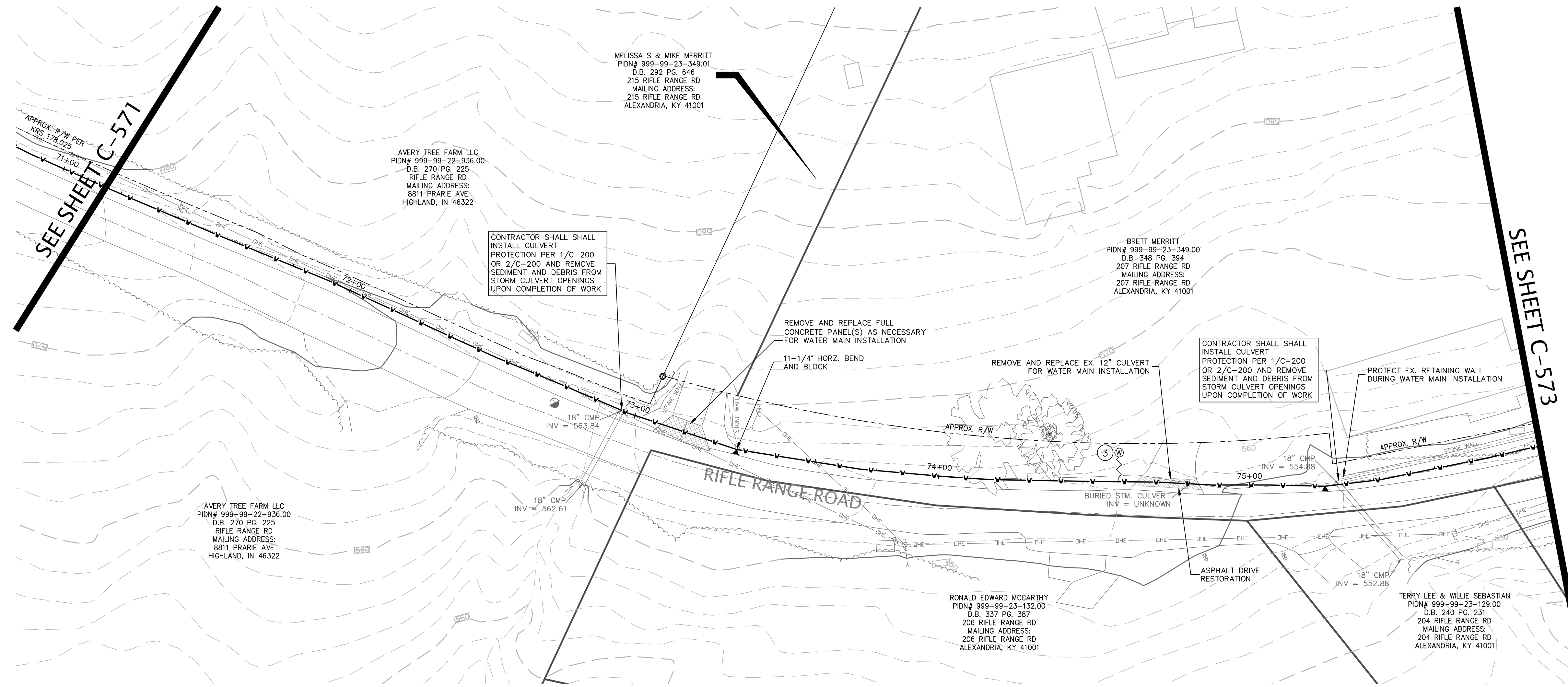


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PROJECT MANAGER:	
KGH	

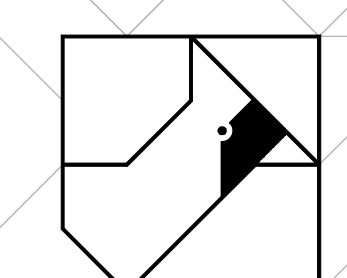
PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

PLAN & PROFILE

SHEET **C-571**



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9636

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

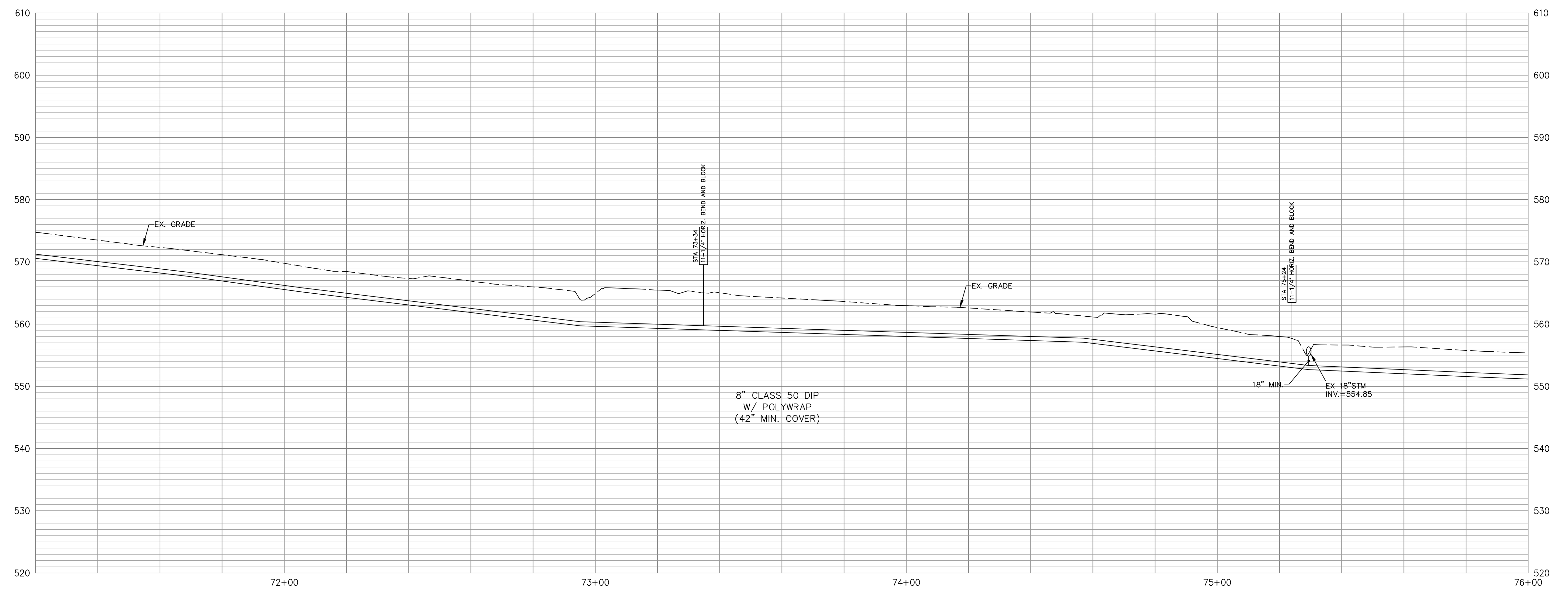
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
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CHECKED BY: KGH

PROJECT MANAGER: KGH

PROJECT NO. 23-001

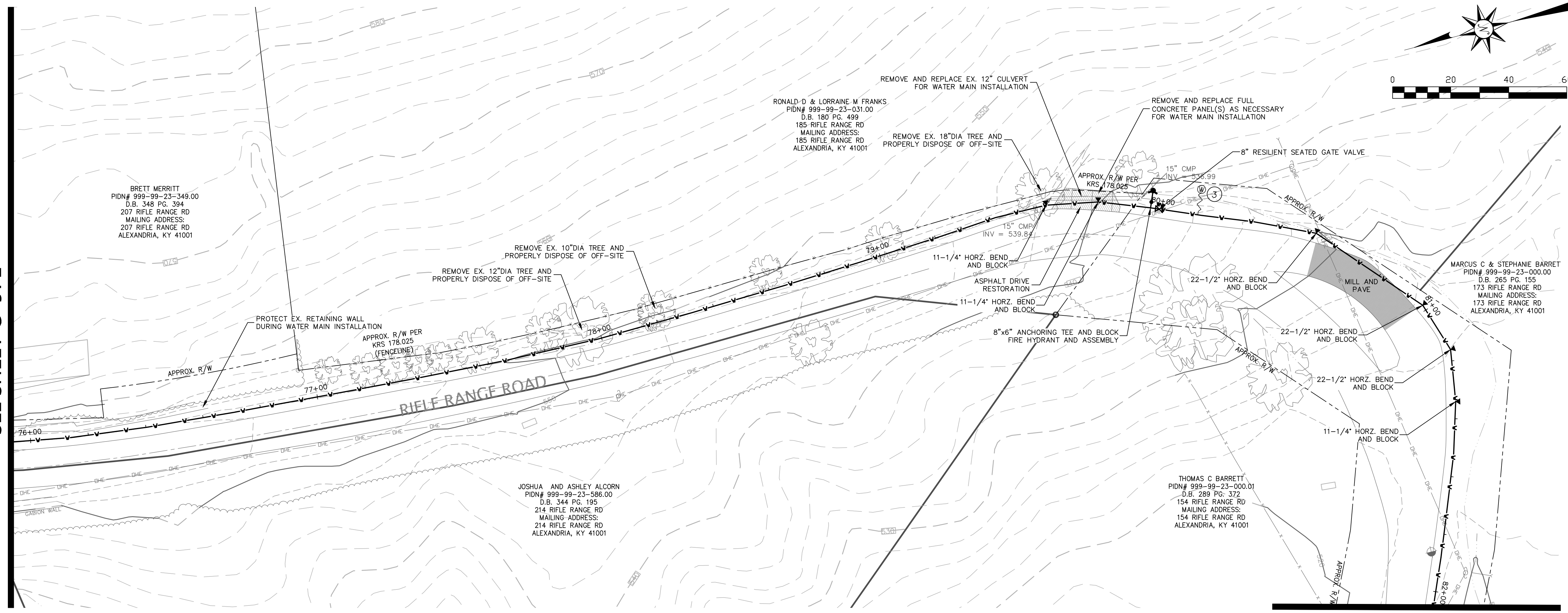
SCALE AS NOTED

DATE 08-21-23

PLAN & PROFILE

SHEET C-572

SEE SHEET C-572



SEE SHEET C-574

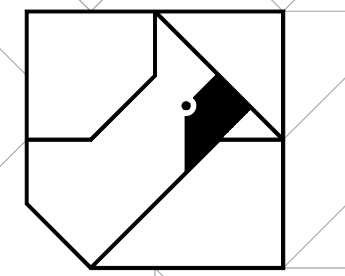
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REVISIONS		
DATE	#	ITEM
05-01-24	2	REV PER NKWD
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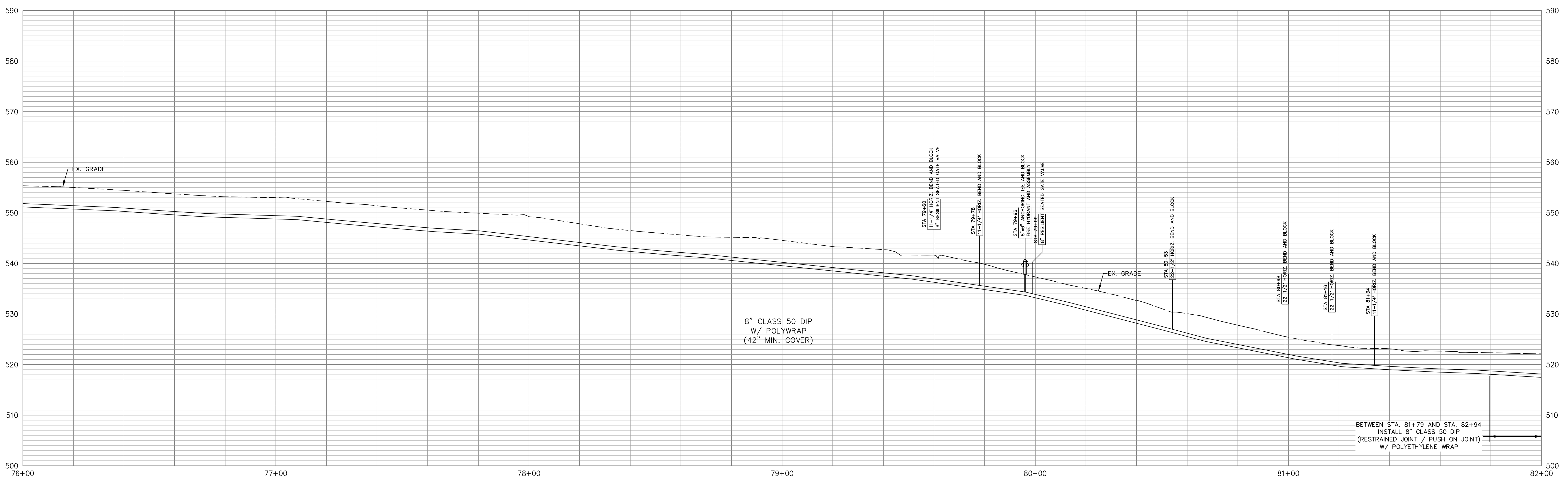


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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

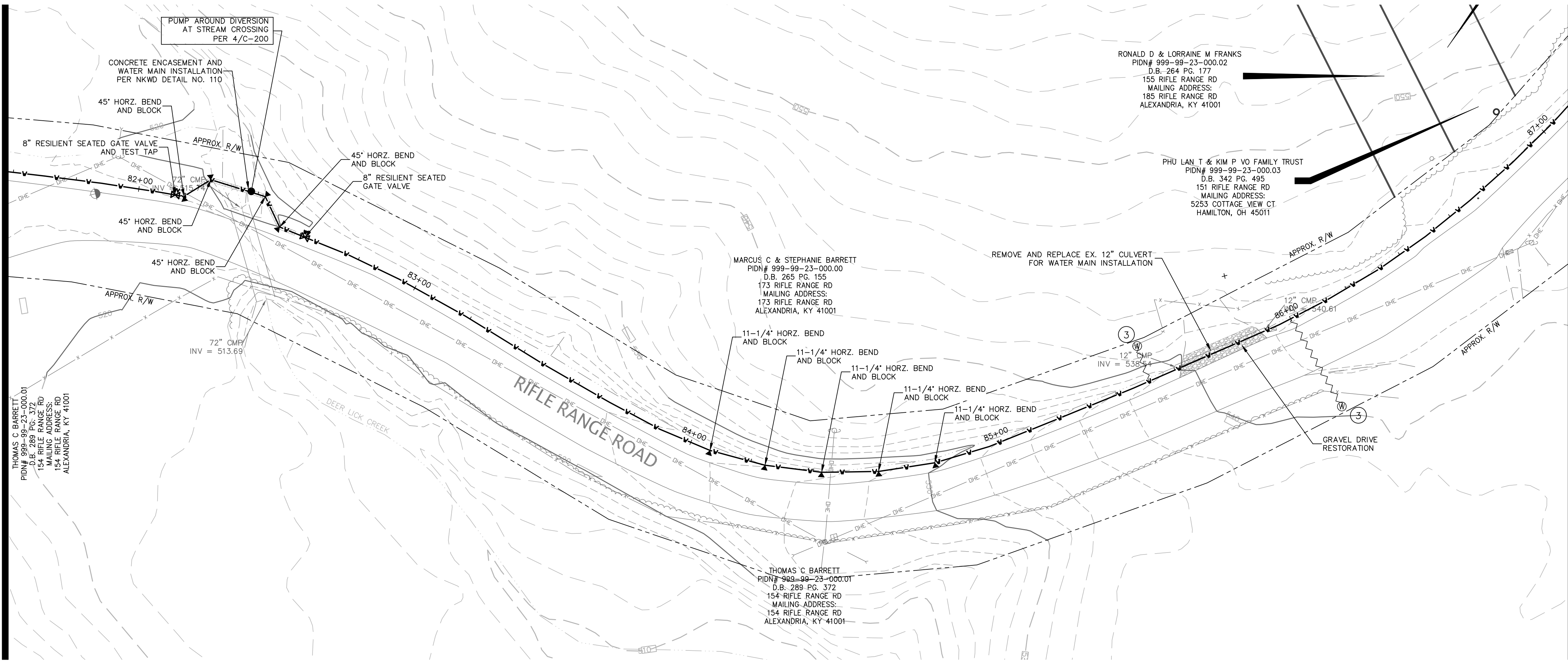


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PROJECT MANAGER:	KGH

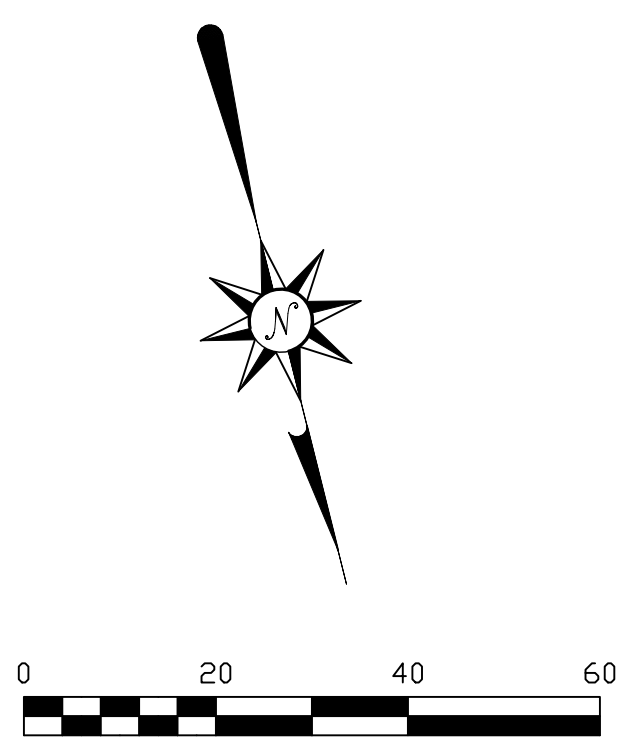
PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

PLAN & PROFILE
SHEET **C-573**

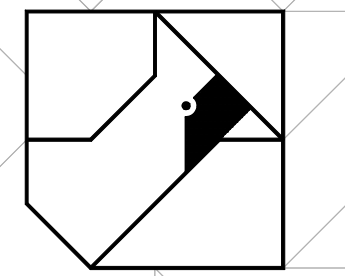
SEE SHEET C-573



SEE SHEET C-575



REVISIONS	DATE	#	ITEM
05-01-24	2		REV PER NKWD
07-29-24	3		REV PER NKWD



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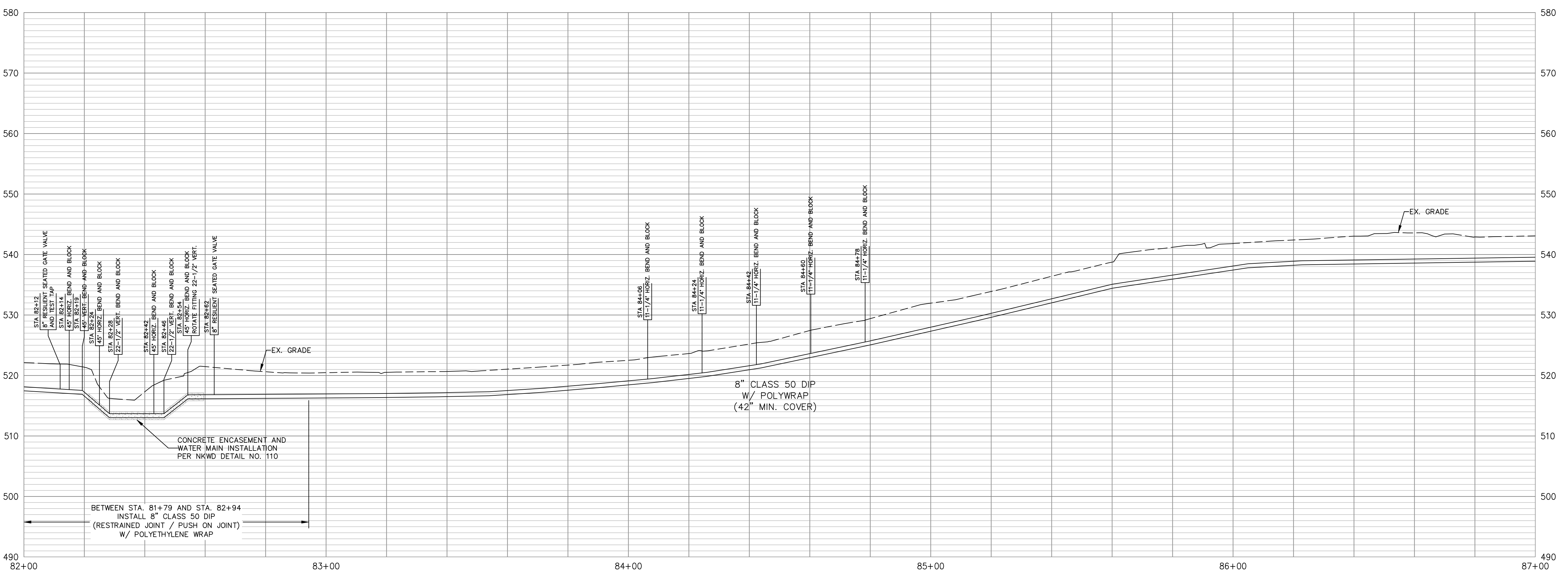
CLIENT:
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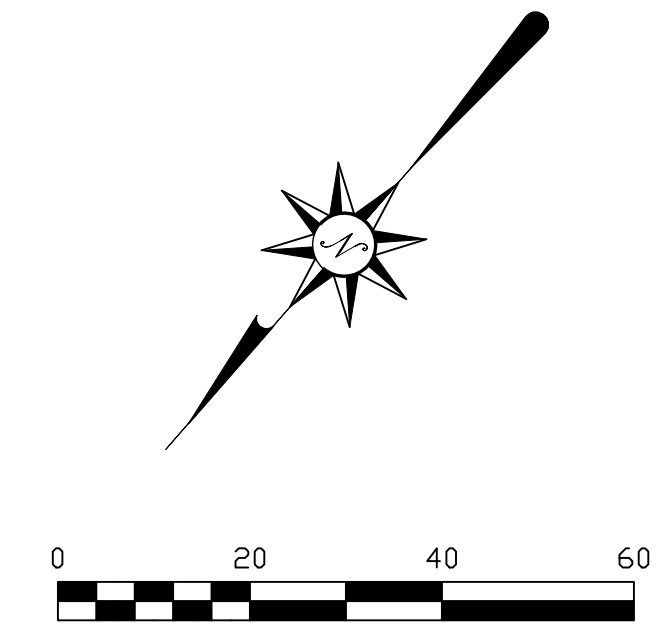
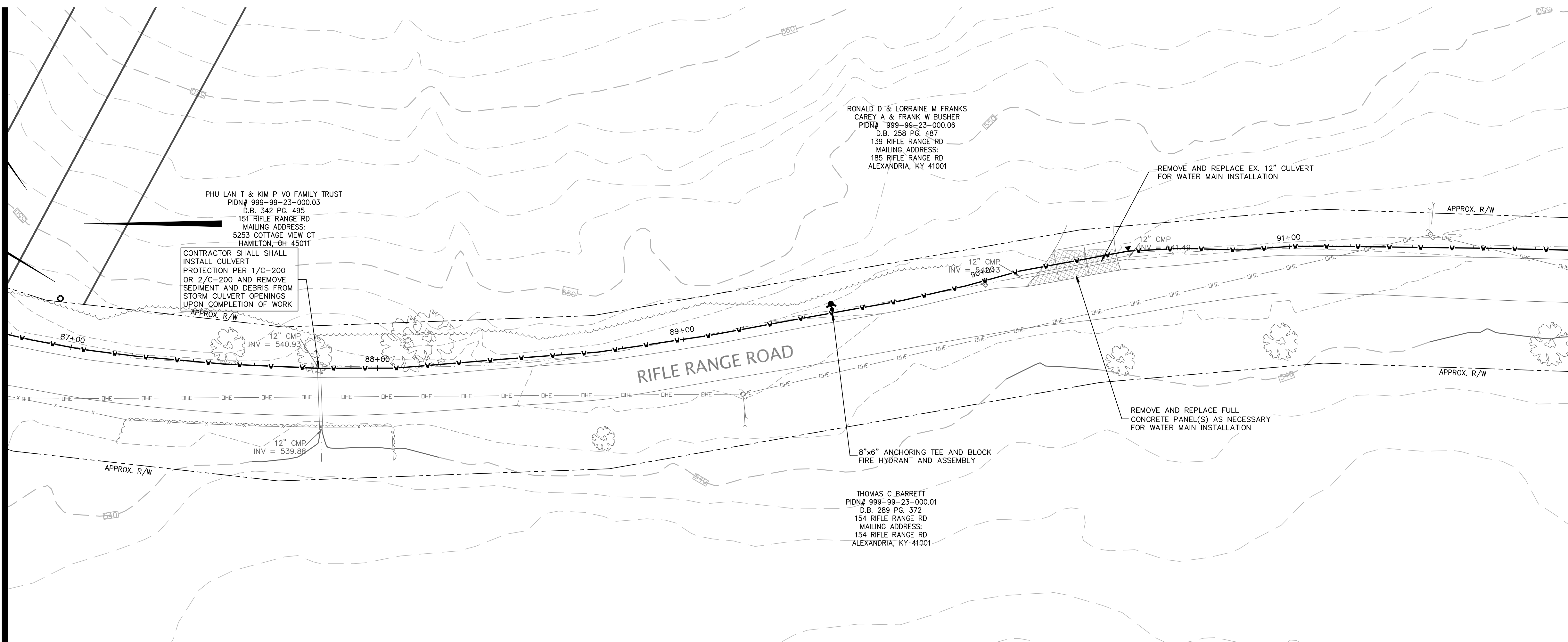
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 CHECKED BY: KGH
 PROJECT MANAGER: KGH

PROJECT NO. 23-001
 SCALE AS NOTED
 DATE 08-21-23

PLAN & PROFILE
 SHEET **C-574**

SEE SHEET C-574

SEE SHEET C-576



REVISIONS	DATE	#	ITEM
05-01-24	2	REV PER	NKWD

CARDINAL
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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

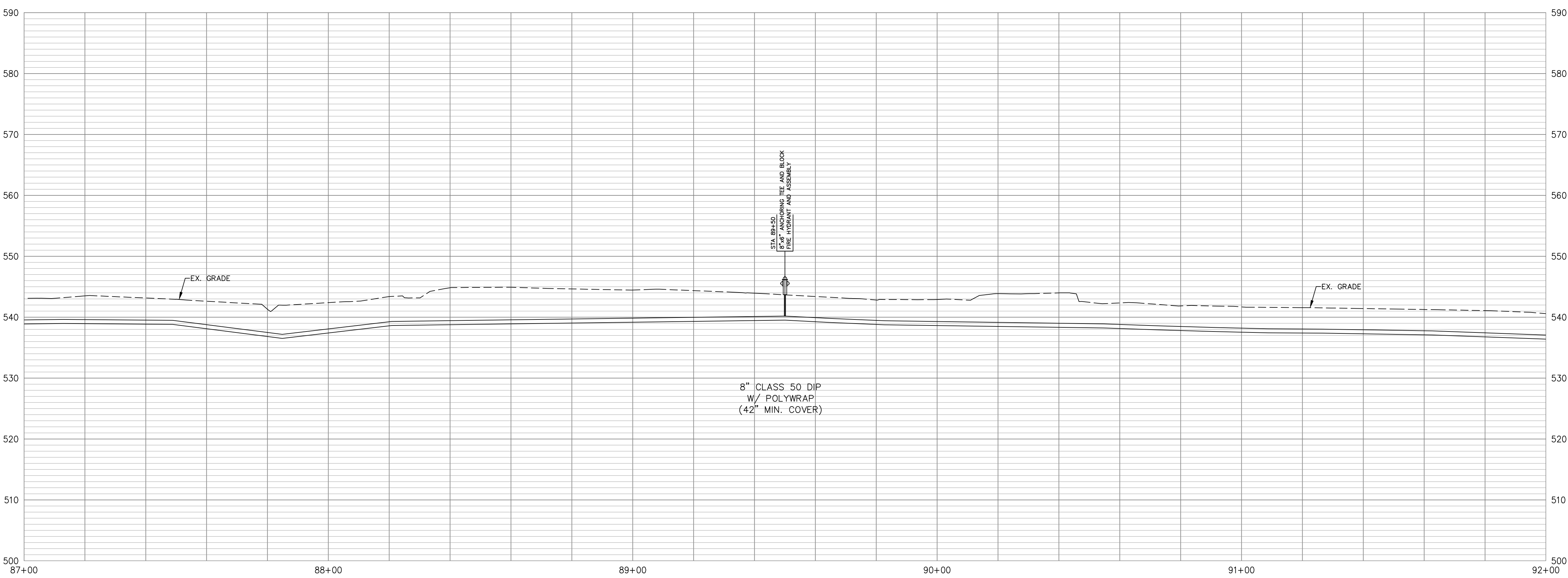
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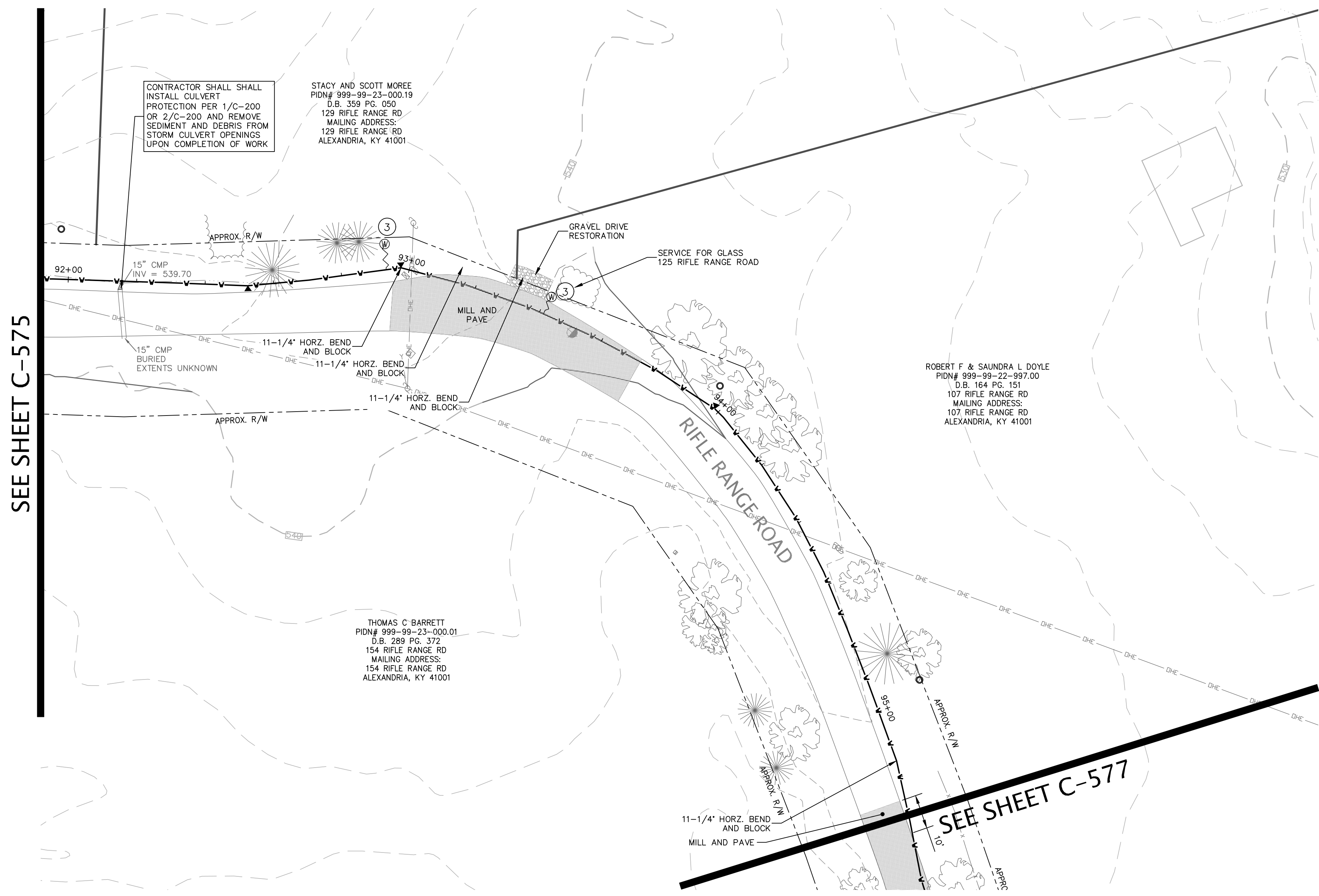
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PROJECT MANAGER:	
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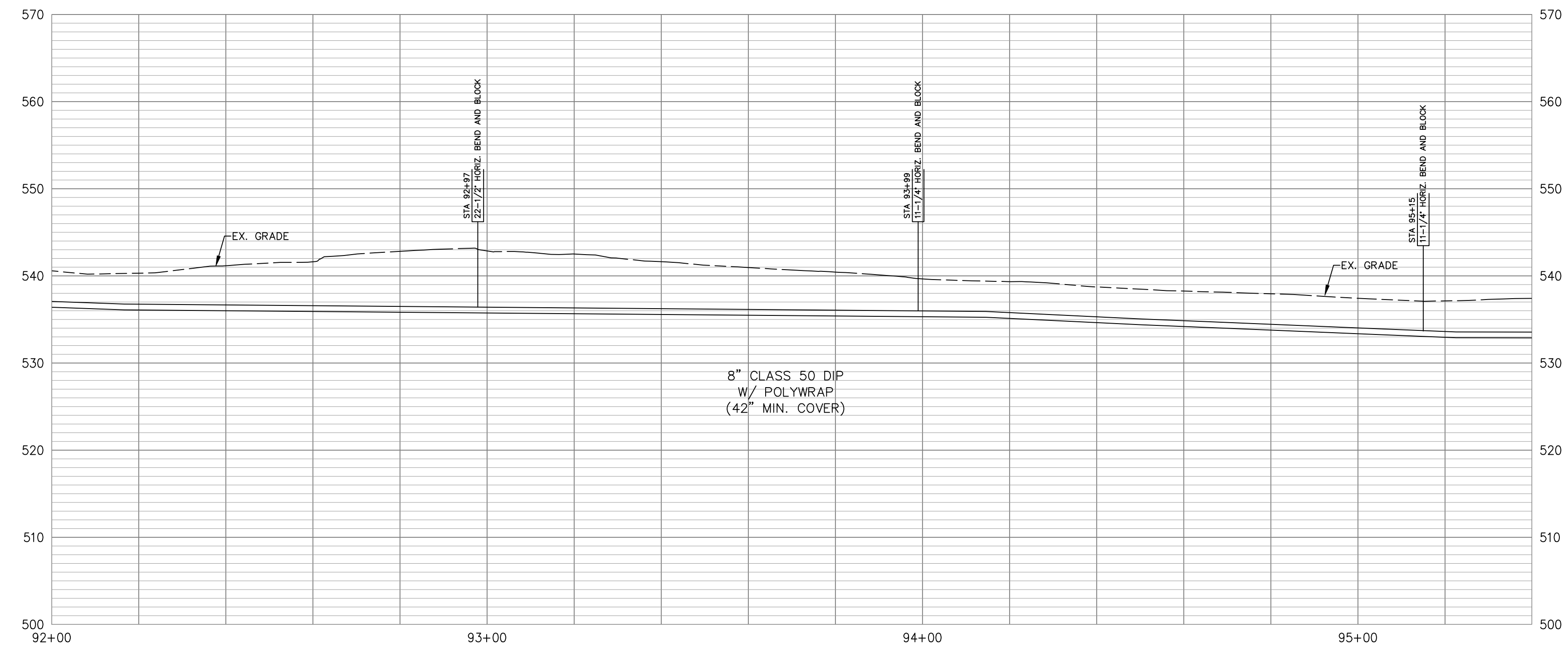
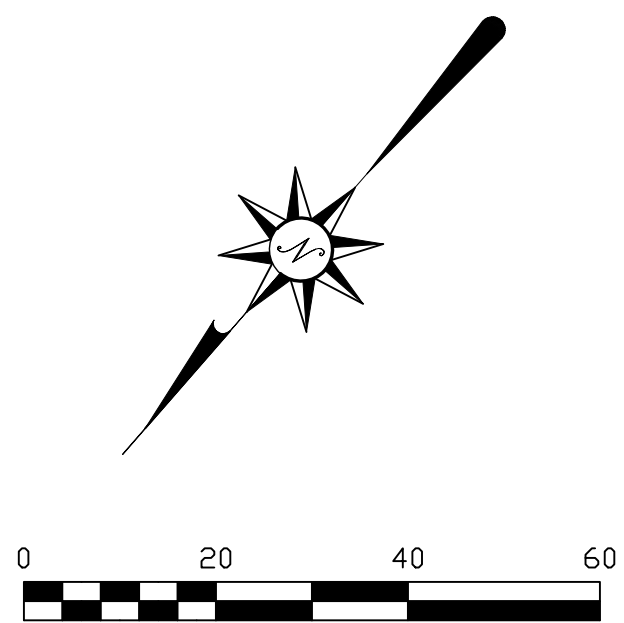
PROJECT NO. 23-001
 SCALE AS NOTED
 DATE 08-21-23

PLAN & PROFILE
 SHEET **C-575**

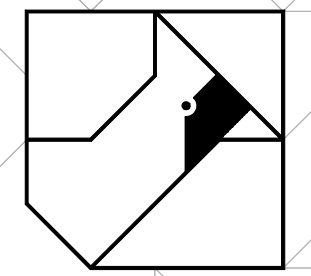


SEE SHEET C-575

SEE SHEET C-577



REVISIONS	DATE	#	ITEM
	05-01-24	2	REV PER NKWD
	07-29-24	3	REV PER NKWD



CARDINAL
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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
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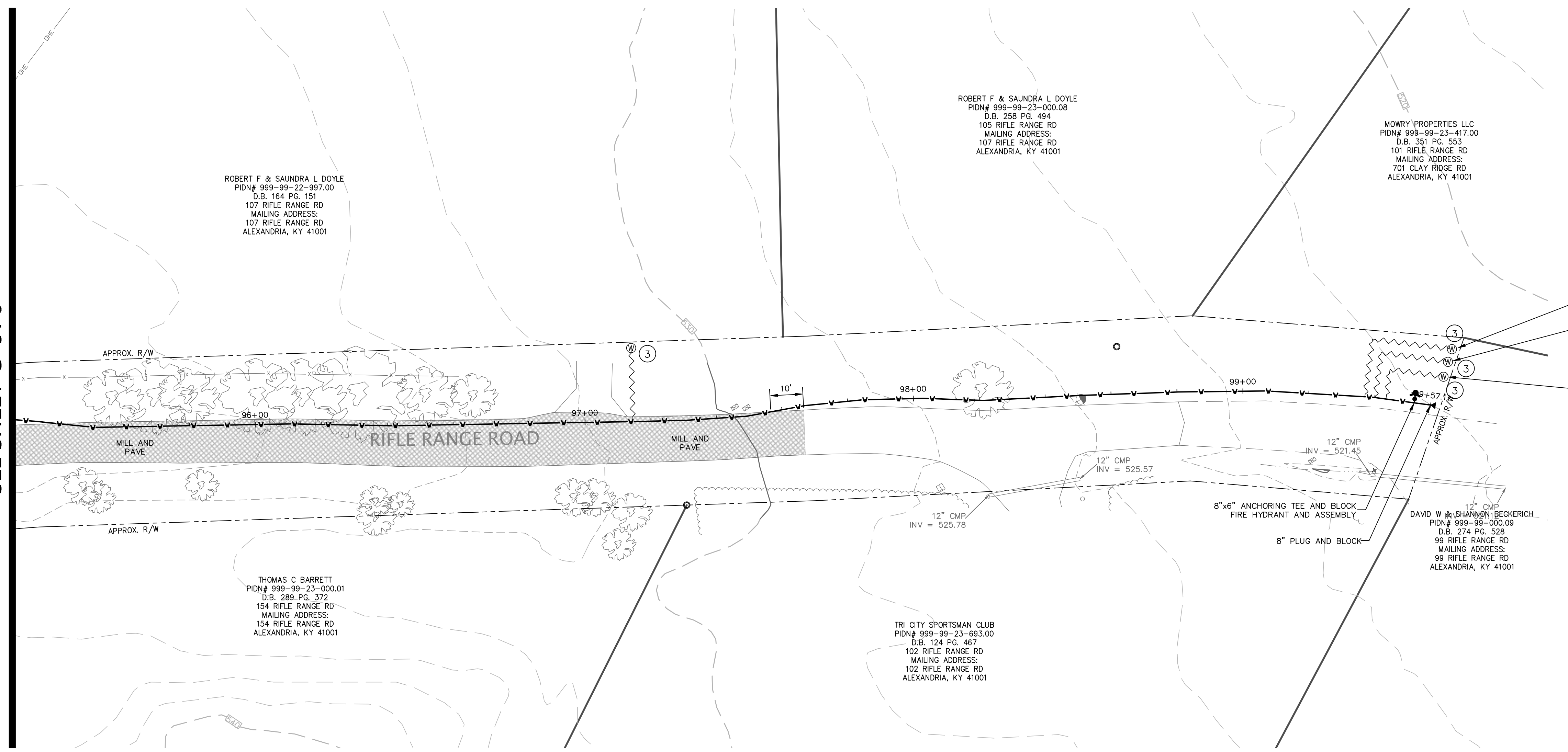
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PROJECT MANAGER:	KGH

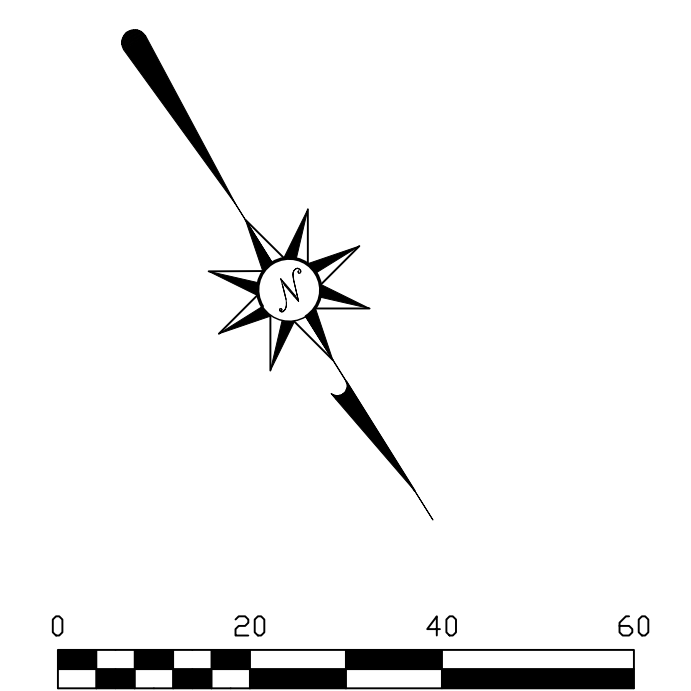
PROJECT NO. 23-001
SCALE AS NOTED
DATE 08-21-23

PLAN & PROFILE
SHEET **C-576**

SEE SHEET C-576



SERVICE FOR SCOTT AND LISA SMITH (#43 FOGGY BOTTOM)
 SERVICE FOR PAMELA FISHER (#31A FOGGY BOTTOM)
 SERVICE FOR PAMELA FISHER (#31B FOGGY BOTTOM)



ROBERT F & SAUNDRA L DOYLE
 PIDN# 999-99-22-997.00
 D.B. 164 PG. 151
 107 RIFLE RANGE RD
 MAILING ADDRESS:
 107 RIFLE RANGE RD
 ALEXANDRIA, KY 41001

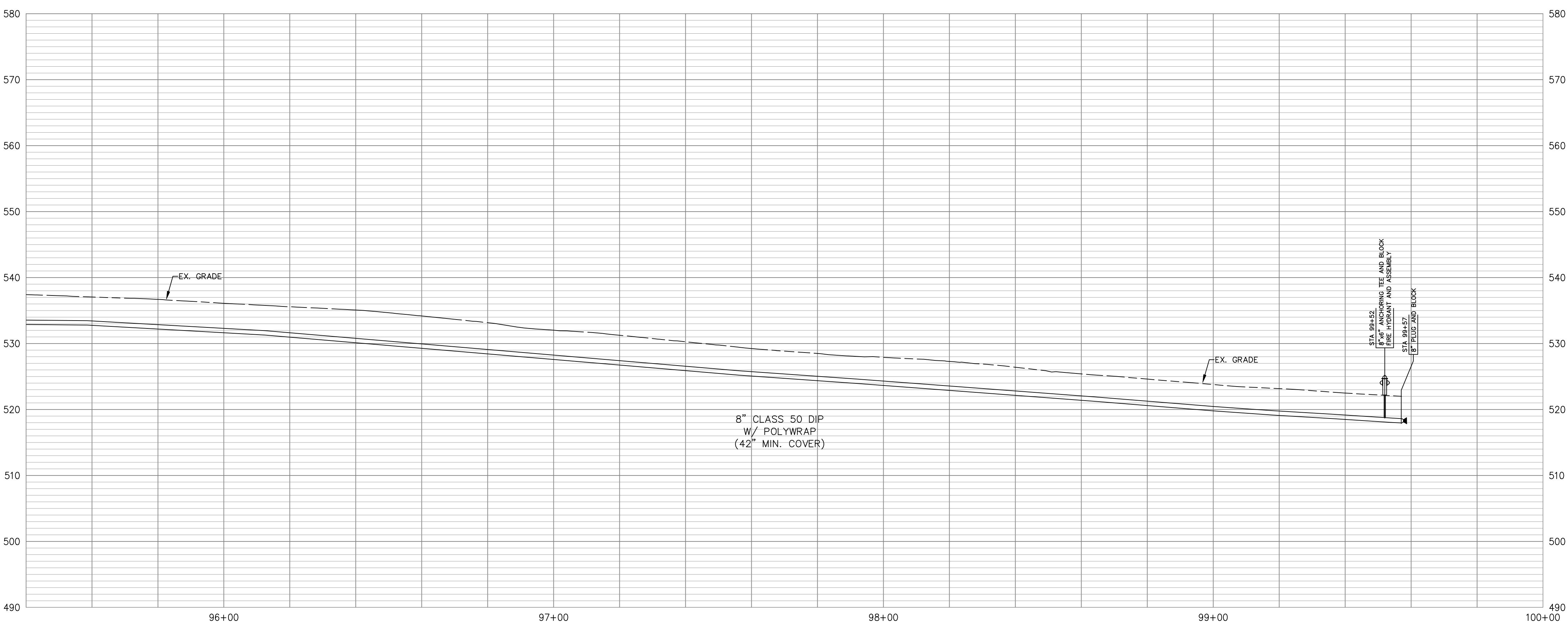
ROBERT F & SAUNDRA L DOYLE
 PIDN# 999-99-23-000.08
 D.B. 259 PG. 494
 105 RIFLE RANGE RD
 MAILING ADDRESS:
 107 RIFLE RANGE RD
 ALEXANDRIA, KY 41001

MOWRY PROPERTIES LLC
 PIDN# 999-99-23-417.00
 D.B. 351 PG. 553
 101 RIFLE RANGE RD
 MAILING ADDRESS:
 701 CLAY RIDGE RD
 ALEXANDRIA, KY 41001

THOMAS C BARRETT
 PIDN# 999-99-23-000.01
 D.B. 289 PG. 372
 154 RIFLE RANGE RD
 MAILING ADDRESS:
 154 RIFLE RANGE RD
 ALEXANDRIA, KY 41001

TRI CITY SPORTSMAN CLUB
 PIDN# 999-99-23-693.00
 D.B. 124 PG. 467
 102 RIFLE RANGE RD
 MAILING ADDRESS:
 102 RIFLE RANGE RD
 ALEXANDRIA, KY 41001

DAVID W & SHARAWN BECKERICH
 PIDN# 999-99-000.09
 D.B. 274 PG. 528
 99 RIFLE RANGE RD
 MAILING ADDRESS:
 99 RIFLE RANGE RD
 ALEXANDRIA, KY 41001



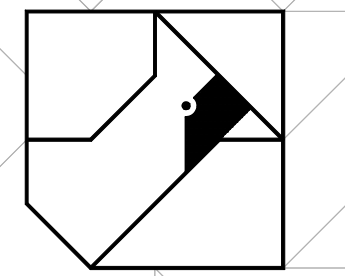
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PROJECT:
WATER MAIN PLAN
SUB DISTRICT HB WATER MAIN EXTENSION

CLIENT:
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 2835 CRESCENT SPRINGS ROAD
 P.O. BOX 18640
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DRAWN BY: SEAL
 KGH

CHECKED BY:
 -

PROJECT MANAGER:
 KGH

PROJECT NO. 23-001
 SCALE AS NOTED
 DATE 08-21-23

PLAN & PROFILE

SHEET **C-577**

ADDENDUM NO. 2
Sub-District HB Water Main Extension Project
Campbell County, Kentucky
NORTHERN KENTUCKY WATER DISTRICT

Cardinal Engineering

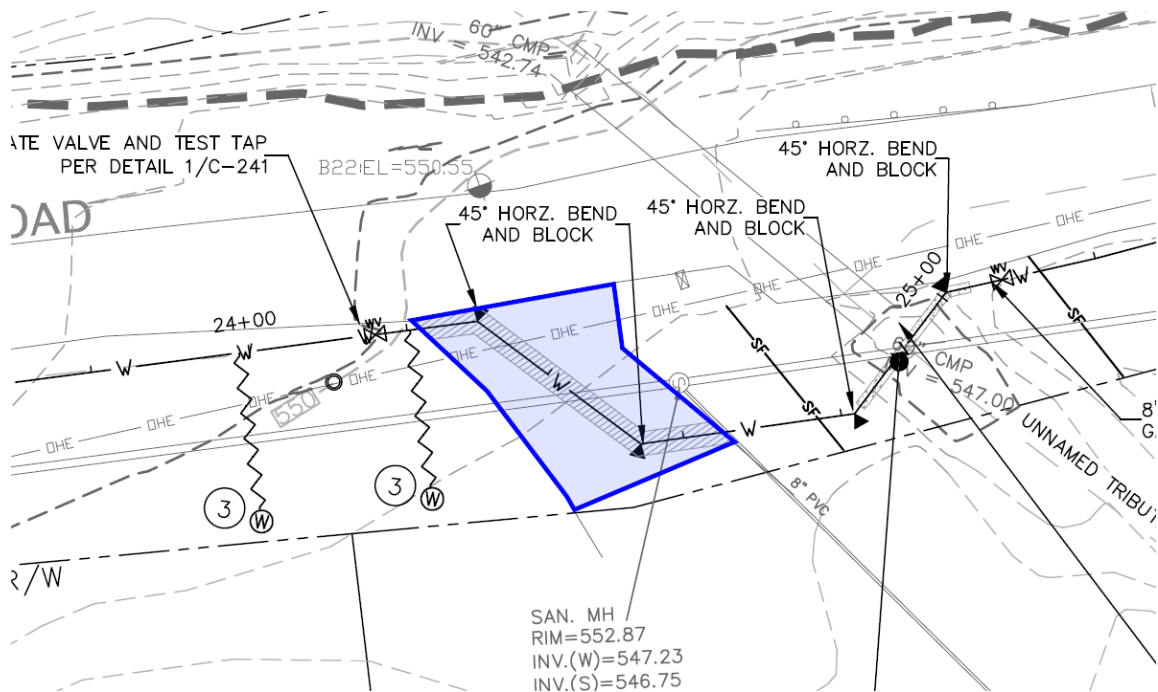
August 30, 2024

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents. All addendums will be issued through the Owner's QUESTCDN electronic bidding site. You must download the bid documents to be a plan holder and receive any addenda. It is the sole responsibility of the Bidder to review all addendums twenty-four (24) hours prior to bid.

I. CHANGES TO PLANS

Sheet C-508

Asphaltic Concrete Driveway restoration area at #3588 Blangey Rd. is revised to encompass the area in blue in the exhibit below. The quantity of Asphaltic Concrete Driveway restoration is correct in the bid quantities. This revision is to the plans only.



Sheet C-517

Between Sta. 20+04 & Sta. 20+36 (between valves in the concrete encasement area) the water main material shall be 8" Class 50 Ductile Iron Restrained Joint Pipe. The quantity of pipe listed in the bid quantities is correct. This revision is to the plans only.

Sheet C-543

Between Sta. 0+94 and 1+97, the pipe material shall be 8" Class 50 Ductile Iron Restrained Joint Pipe. The quantity of pipe listed in the bid quantities is correct. This revision is to the plans only.

Sheet C-573

Sta. 79+60 in the profile, remove this gate valve. The quantity of valves in the bid quantities is correct. This revision is to the plans only.

II. Q & A / Info (Clarifications on QUESTCDN)

The drawings issued in addendum #1 do not include sheet C-240.

Date - 08/26/2024 07:08 AM

Sheet C-230 (PDF page 4) should be Sheet C-240. It was just mislabeled.

**ADDENDUM NO. 3
Sub-District HB Water Main Extension Project
Campbell County, Kentucky
NORTHERN KENTUCKY WATER DISTRICT**

Cardinal Engineering

August 30, 2024

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I. CHANGES TO SPECIFICATIONS

**Section 01025 MEASUREMENT AND PAYMENT –
DESCRIPTION OF BID ITEMS – 11. MISCELLANEOUS**

Add the following bid item description:

11.18 UNDERCUTTING. Subgrade undercutting shall be performed where poor subgrade soil is encountered, as determined by the Geotechnical Engineer. The contractor shall excavate the unsuitable soils to a depth as directed by the Geotechnical Engineer and then replace with suitable fill material. Undercutting item does not include the first 4'-8" of trench. Paid CUBIC YARD (CY).

II. CHANGES TO THE BID FORM

The following items will be added to the QUESTCDN bid form:

Section A – Blangey Road

Line Item = A23
Item Description = 11.18 UNDERCUTTING
UofM = CY
Quantity = 2,792

Section B – Enzweiler Road

Line Item = B16
Item Description = 11.18 UNDERCUTTING
UofM = CY
Quantity = 67

Section F – Poplar Thicket

Line Item = F19
Item Description = 11.18 UNDERCUTTING
UofM = CY
Quantity = 651

Section H – Rifle Range

Line Item = H20
Item Description = 11.18 UNDERCUTTING
UofM = CY
Quantity = 1474