MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

LEGEND (EXISTING SYMBOLS)

SYMBOLS	LINEWORK
FOUND IRON PIN	EASEMENT
LIGHT POLE	CURB
POWER POLE	INTERMEDIATE CONTOUR
TELEPHONE PEDESTAL	INDEX CONTOUR
TV PEDESTAL	SANITARY SEWER LINE
MANHOLE	GAS LINE
SANITARY SEWER CLEANOUT	WATER LINE (SPECIFY SIZE & TYPE)
GAS METER	UNDERGROUND TELEPHONE
GAS VALVE	UNDERGROUND ELECTRIC
STORM SEWER PIPE	OVERHEAD ELECTRIC
DOWN GUY	UNDERGROUND TELEVISION
WATER VALVE	OVERHEAD TELEVISION
FIRE HYDRANT ASSEMBLY	CHAIN LINK FENCE
AIR RELEASE VALVE	WOOD FENCE
FIRE DEPARTMENT CONNECTION	BARBED WIRE FENCE
WATER METER	FIBER OPTIC
SPRINKLER HEAD	RIGHT OF WAY
ELECTRIC PEDESTAL	ROAD CENTERLINE
GRATED INLET	
DROP INLET	
TREE	

LEGEND (CONSTRUCT)

SYMBOLS	LINEWORK
SET IRON PIN	EASEMENT
LIGHT POLE	CURB
POWER POLE	INTERMEDIATE CONTOUR
TELEPHONE PEDESTAL	INDEX CONTOUR
TV PEDESTAL	SANITARY SEWER LINE
MANHOLE	GAS LINE
SANITARY SEWER CLEANOUT	WATER LINE
GAS METER	UNDERGROUND TELEPHONE
GAS VALVE	UNDERGROUND ELECTRIC
STORM SEWER PIPE	OVERHEAD ELECTRIC
STRUCTURE NUMBER	FIBER OPTIC
WATER VALVE	UNDERGROUND TELEVISION
FIRE HYDRANT ASSEMBLY	OVERHEAD TELEVISION
AIR RELEASE VALVE	CHAIN LINK FENCE
FIRE DEPARTMENT CONNECTION	WOOD FENCE
WATER METER	BARBED WIRE FENCE
BACK FLOW PREVENTER	BUILDING SET BACK
REDUCER	RIGHT OF WAY
RECTANGULAR DROP INLET, GRATED INLET OR JUNCTION BOX (SPECIFY ON PLAN SHEET)	PROPERTY LINE
CIRCULAR DROP INLET, GRATED INLET OR JUNCTION BOX (SPECIFY ON PLAN SHEET)	ROAD CENTERLINE
GRATE COMBINATION INLET WITH JUNCTION STRUCTURE	



VICINITY MAP

NTS

UTILITY CONTACTS

ENGINEERING DEPARTMENT
CITY OF BENTONVILLE
3200 SW MUNICIPAL DR
BENTONVILLE, AR. 72712
PHONE: (479) 271-3168

STREET DEPARTMENT
CITY OF BENTONVILLE
3200 SW MUNICIPAL DR
BENTONVILLE, AR. 72712
PHONE: (479) 271-3130

WATER AND SEWER
ATTN: BEAU THOMPSON
CITY OF BENTONVILLE
3200 SW MUNICIPAL DR
BENTONVILLE, AR. 72712
PHONE: 479-271-3140

WASTEWATER RECOVERY
ATTN: CHRIS EARL
CITY OF BENTONVILLE
3200 SE MUNICIPAL DR
BENTONVILLE, AR. 72712
PHONE: 479-271-3140

CURRENT PLANNING
CITY OF BENTONVILLE
305 SW "A" ST
BENTONVILLE, AR. 72712
PHONE: (479) 271-3122

ELECTRIC
BENTONVILLE ELECTRIC
UTILITY DEPT. (BEUD)
3200 SE MUNICIPAL DR
BENTONVILLE, AR. 72712
PHONE: 479-271-3135, EXT. 2

SITE ENGINEER
CRAFTON TULL
901 N. 47TH ST, SUITE 400
ROGERS, AR. 72756
PHONE: 479-631-6224

FLOOD NOTE:
THIS PROPERTY IS IN FLOOD ZONE "A" OR "AE", AND IS INSIDE THE 100-YEAR FLOOD PLAIN AS SHOWN ON THE NATIONAL FLOOD INSURANCE PROGRAM'S FIRM PANEL NUMBER 05007C0260K, EFFECTIVE DATE 06/05/2012.

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www.craftontull.com

CERTIFICATE OF AUTHORIZATION:

CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

60% PLANS

MOBERLY LANE - WALTON BLVD TO S.E. 28TH
BENTONVILLE, ARKANSAS
BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 10/17/2022
CONTACT: S. BURNETT
QC by:
QC Date: MM/DD/YYYY

PRELIMINARY PLANS

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

NO FOR CONSTRUCTION · · · REVIEW SET · · · NO FOR CONSTRUCTION

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COVERSHEET

C-001

DRAWING: G:\21105500_MOBERLY\SOUNRAY\CIVIL\CAD\DWG\COVERSHEET.DWG
LAYOUT: COVERSHEET - LAST SAVED BY: [illegible] 10/17/2022 2:27:23 PM
XREF: [illegible] - LAST SAVED BY: [illegible] 10/17/2022 2:27:23 PM - VALID (ON HARD COPY ONLY)

SITE NOTES

1. THE DESIGN, INSPECTION, AND CERTIFICATION OF ANY RETAINING WALL SHOWN OR REFERENCED HEREIN, INCLUDING BUT NOT LIMITED TO, SEGMENTAL RETAINING WALLS, MASS GRAVITY WALLS, GABION WALLS, ETC., GREATER THAN FORTY-EIGHT INCHES IN HEIGHT, SHALL BE BY OTHERS. ANY RETAINING WALL DATA SHOWN OR REFERENCED HEREIN SHALL BE FOR COORDINATION OF THE WALL LOCATION AND ELEVATIONS ONLY.
2. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY/STATE/FEDERAL REGULATIONS AND CODES AND OSHA STANDARDS.
3. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS.
4. ALL CURB DIMENSIONS AND RADII ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
5. ALL PAVEMENT MARKINGS DIMENSIONS BACK OF CURB UNLESS OTHERWISE NOTED.
6. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
7. ALL CURB/SIDEWALK/HANDICAP RAMP DESIGNS SHALL CONFORM TO ADA STANDARDS OR LOCAL RESTRICTIVE CODES, WHICHEVER IS MORE RESTRICTIVE.
8. CONTRACTOR SHALL ENSURE ALL NECESSARY PERMITS ARE OBTAINED PRIOR TO CONSTRUCTION START.
9. CONTRACTOR SHALL MATCH NEW CURB AND GUTTER, CONCRETE, AND PAVEMENT TO EXISTING IN GRADE AND ALIGNMENT.
10. CONTRACTOR SHALL MAINTAIN ALL EXISTING PARKING, SIDEWALKS, DRIVES, ETC. CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL TO ENSURE EASY AND SAFE PEDESTRIAN AND VEHICULAR TRAFFIC TO AND FROM THE SITE.

UTILITY NOTES

1. THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF EXISTING UTILITIES WITHIN THE WORK ZONE.
2. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES' INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING FACILITIES. CONTRACTOR SHALL COORDINATE AND SCHEDULE TIE-INS/CONNECTIONS WITH ALL UTILITY COMPANIES.
3. ALL UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED, AND APPROVED PRIOR TO BACKFILLING.
4. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICE.
5. GENERAL CONTRACTOR IS TO COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION, ADJUSTMENT, OR RELOCATION OF EXISTING UTILITIES.
6. THRUST BLOCKING SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
7. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
8. MINIMUM HORIZONTAL SEPARATION BETWEEN THE OUTSIDE WALL OF THE WATERLINE AND THE OUTSIDE WALL OF THE SANITARY SEWER LINE OR SANITARY SEWER MANHOLE SHALL BE AT LEAST TEN FEET. WHERE WATERLINES CROSS SANITARY SEWERS THE WATERLINE SHALL BE PLACED ABOVE THE SEWER WITH A MINIMUM VERTICAL SEPARATION, OUTSIDE-TO-OUTSIDE, OF 18". IF IT IS NOT POSSIBLE TO CONFORM TO THESE DIMENSIONS OR DEFINED PLACEMENT, THE WATERLINE SHALL BE ENCASED IN WATERTIGHT PIPE WITH SEALED WATERTIGHT ENDS EXTENDING AT LEAST TEN FEET EITHER SIDE OF THE CROSSING.
9. THE CONTRACTOR SHALL INCLUDE IN THE BID PRICE ALL MATERIAL AND LABOR ASSOCIATED WITH THE TESTING OF THE WATER AND SEWER LINES REQUIRED BY THE LOCAL AND/OR STATE AGENCIES.
10. TOPS OF EXISTING MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH FINISHED PAVEMENT ELEVATIONS, AND MANHOLES IN UNPAVED AREAS TO BE 1" ABOVE FINISHED GROUND ELEVATIONS WITH WATER TIGHT LIDS.
11. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL REGULATIONS.
12. REFER TO BUILDING PLANS FOR SITE LIGHTING AND ELECTRICAL PLAN.
13. ALL MATERIALS, CONSTRUCTION, AND INSPECTION FOR WATER AND SANITARY SEWER LINES SHALL BE PER THE SPECIFICATIONS OF THE APPROPRIATE AGENCY.
14. THE CONTRACTOR SHALL COORDINATE WITH THE FIRE DEPARTMENT AND THE WATER COMPANY TO PLAN THE IMPROVEMENTS TO THE WATER MAINS AND TO ENSURE ADEQUATE FIRE PROTECTION IS CONSTANTLY AVAILABLE TO THE SITE THROUGHOUT THE PROJECT. CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING ANY REQUIRED WATER MAIN SHUT-OFFS WITH THE WATER COMPANY DURING CONSTRUCTION. ALL COSTS ASSOCIATED WITH WATERMAIN SHUT-OFFS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR; NO ADDITIONAL COMPENSATION WILL BE PROVIDED.
15. DAMAGE TO ALL EXISTING FACILITIES DESIGNATED TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
16. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, AND EXACT UTILITY ENTRANCE LOCATIONS.
17. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TAP AND TIE ON FEES REQUIRED AS WELL AS COSTS OF UNDERGROUND SERVICE CONNECTIONS TO THE BUILDING.
18. GENERAL CONTRACTOR SHALL PROVIDE ALL CONDUITS AS SHOWN ON THE PLANS, VERIFY LOCATION OF UTILITY TIE-INS, AND PROVIDE NYLON PULL CORDS INSIDE THE CONDUIT.
19. THE CONTRACTOR SHALL INCLUDE IN BID PRICE THE DAILY RECORD KEEPING OF THE RECORD CONDITION OF ALL OF THE UNDERGROUND UTILITIES, CONSTRUCTION STAKE-OUT, PREPARATION OF THE NECESSARY/REQUIRED WATER AND SEWER RECORD DRAWINGS TO BE SUBMITTED, AND ALL OTHER INFORMATION REQUIRED FOR OBTAINING PERMITS AND RELEASE OF BONDS.
20. ENERGIZED ELECTRICAL LINE SAFETY, WARNINGS, AND ADVANCED NOTICES: ALL OWNERS, GENERAL CONTRACTORS, AND SUBCONTRACTORS ASSOCIATED WITH THIS PROJECT SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH, COMPLYING WITH, AND THE ENFORCEMENT OF ARKANSAS CODES AR ST § 11-5-307 AND § AR ST 11-5-308 AND ANY OTHER CURRENT STATE CODES PERTAINING TO ADVANCE NOTICE REQUIREMENTS AND FOR SAFETY OF ALL PERSONNEL, INCLUDING THE GENERAL PUBLIC, PERTAINING TO ANY WORK, MOVEMENT, AND ACTIVITY IN CLOSE PROXIMITY TO ANY ENERGIZED ELECTRICAL LINE.

GRADING AND DRAINAGE NOTES

1. THE DESIGN, INSPECTION, AND CERTIFICATION OF ANY RETAINING WALL SHOWN OR REFERENCED HEREIN, INCLUDING BUT NOT LIMITED TO, SEGMENTAL RETAINING WALLS, MASS GRAVITY WALLS, GABION WALLS, ETC., GREATER THAN FORTY-EIGHT INCHES IN HEIGHT, SHALL BE BY OTHERS. ANY RETAINING WALL DATA SHOWN OR REFERENCED HEREIN SHALL BE FOR COORDINATION OF THE WALL LOCATION AND ELEVATIONS ONLY.
2. THE OWNER/CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING AND PROVIDING SEPARATE AND INDEPENDENT RETAINING WALL DESIGNS, INSPECTIONS, AND CERTIFICATIONS BY A REGISTERED PROFESSIONAL ENGINEER OTHER THAN CRAFTON TULL. THIS SHALL ALSO APPLY TO ANY ASSOCIATED AND NECESSARY PUBLIC SAFETY DEVICES INCLUDING, BUT NOT LIMITED TO, PEDESTRIAN SAFETY RAILS.
3. THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF EXISTING UTILITIES ON SITE OR IN RIGHT-OF-WAY. ALL UTILITIES MUST BE LOCATED PRIOR TO GRADING START.
4. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
5. ALL CUT OR FILL SLOPES SHALL BE A MAX 3:1 SLOPE OR FLATTER UNLESS OTHERWISE NOTED.
6. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
7. ALL STORM SEWER PIPE CONNECTIONS TO STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT. ALL STORM SEWER STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
8. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY WHEN IN PAVED AND TRAFFIC AREAS.
9. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH THE PAVEMENT AND SHALL HAVE TRAFFIC BEARING RINGS AND COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 1" ABOVE FINISH GRADE. LIDS SHALL BE LABELED PER JURISDICTIONAL SPECIFICATIONS.
10. SITE GRADING SHALL NOT PROCEED UNTIL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED. THE CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS AS OUTLINED IN THE GENERAL NPDES PERMIT AND THE SWPPP FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
11. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL TO FINAL GRADE. REFER TO THE LANDSCAPE PLAN.
12. TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY LAND SURVEYORS. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON PLANS, CONTACT ENGINEER IMMEDIATELY.
13. THE CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS THROUGHOUT ALL PHASES OF CONSTRUCTION.
14. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS.
15. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS.
16. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
17. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
18. CONTRACTOR SHALL MAINTAIN ALL EXISTING PARKING, SIDEWALKS, DRIVES, ETC. CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL TO ENSURE EASY AND SAFE PEDESTRIAN AND VEHICULAR TRAFFIC TO AND FROM THE SITE.
19. IF WET AREAS ARE ENCOUNTERED ON-SITE THE CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER FOR THE DESIGN AND REPLACEMENT OF A FRENCH DRAIN SYSTEM.
20. CRAFTON, TULL & ASSOCIATES, INC. (CTA) HAS NOT NECESSARILY ESTABLISHED MINIMUM FINISH FLOOR ELEVATIONS FOR EACH INDIVIDUAL BUILDING OR LOT IN THIS SUBDIVISION. WHEN A MINIMUM BUILDING FLOOR ELEVATION IS NOT ESTABLISHED AND NOTED, THE ULTIMATE RESPONSIBILITY FOR THE PROPER GRADING OF EACH INDIVIDUAL LOT OR PARCEL SHALL REST WITH THE LOT'S OWNER. TYPICALLY, THE MINIMUM FINISH FIRST FLOOR ELEVATIONS SHOULD BE AT LEAST TWELVE INCHES (12") ABOVE THE FINISHED TOP OF STREET CURB ELEVATION ASSOCIATED WITH EACH INDIVIDUAL LOT OR PARCEL OR AS REQUIRED BY LOCAL AND STATE CODES.

DEMOLITION NOTES

1. CONTRACTOR SHALL ABIDE BY ALL FEDERAL, STATE, AND LOCAL CODES FOR THE DEMOLITION AND DISPOSAL OF ALL MATERIALS.
2. CRAFTON, TULL AND ASSOCIATES, INC. SHALL NOT BE LIABLE FOR ANY DEMOLITION PROCEDURES, SCHEDULING, AND DISPOSAL OF ANY MATERIALS.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE SURE THAT ADJACENT PROPERTY IS NOT DAMAGED AND IS ACCESSIBLE AT ALL TIMES, AND THAT CONSTRUCTION DOES NOT CREATE ANY HARDSHIP TO LAND OWNERS ADJACENT TO THE CONSTRUCTION SITE.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSING IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE, STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
5. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE DISCONNECTION, REMOVAL AND RELOCATION OF ALL UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
6. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING EXISTING IRRIGATION SYSTEM IN THE AREAS OF SITE IMPROVEMENTS. THE CONTRACTOR SHALL CAP THE EXISTING IRRIGATION SYSTEM TO REMAIN SUCH THAT THE REMAINING SYSTEM SHALL CONTINUE TO FUNCTION PROPERLY.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE DISCONNECTION OF UTILITY SERVICES TO THE EXISTING BUILDINGS PRIOR TO DEMOLITION OF THE BUILDINGS.
8. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES.
9. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH WORK. UTILITIES DETERMINED TO BE ABANDONED AND LEFT IN PLACE SHALL BE GROUTED IF UNDER BUILDINGS.
10. ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.
11. CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC.
12. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO DEMOLITION.
13. CONTRACTOR MAY LIMIT SAW-CUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR.
14. CONTRACTOR SHALL MAINTAIN ALL EXISTING PARKING, SIDEWALKS, DRIVES, ETC. CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL TO ENSURE EASY AND SAFE PEDESTRIAN AND VEHICULAR TRAFFIC TO AND FROM THE SITE.
15. THE CONTRACTOR SHALL COORDINATE WATERMAIN WORK WITH THE FIRE DEPARTMENT AND THE CITY/COUNTY UTILITY DEPARTMENT TO PLAN WATERMAIN IMPROVEMENTS AND TO ENSURE ADEQUATE FIRE PROTECTION IS CONSTANTLY AVAILABLE TO THE SITE THROUGHOUT THIS SPECIFIC WORK AND THROUGH ALL PHASES OF CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING/PROVIDING ANY REQUIRED WATERMAIN SHUT-OFFS WITH THE CITY/COUNTY DURING CONSTRUCTION. ANY COSTS ASSOCIATED WITH WATERMAIN SHUT-OFFS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION WILL BE PROVIDED.
16. DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE. REPAIRS SHALL RESTORE DAMAGED ITEMS TO EQUAL OR BETTER THAN, EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING ALL EXISTING DAMAGE AND NOTIFYING CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION START.
17. ALL TRENCHES AND/OR EXCAVATED AREAS SHALL BE FILLED/TESTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT.
18. IF SEPTIC TANKS ARE FOUND PRESENT WITHIN THE LIMITS OF DISTURBANCE THEY SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL LAWS.
19. IF THE CONTRACTOR FINDS ANY UNDERGROUND TANKS ON SITE THEY SHALL CONTACT THE ENGINEER IMMEDIATELY.
20. ALL WELLS SHALL BE CAPPED AND CLOSED IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL LAW.

GENERAL NOTES

1. THE DESIGN, INSPECTION, AND CERTIFICATION OF ANY RETAINING WALL SHOWN OR REFERENCED HEREIN, INCLUDING BUT NOT LIMITED TO, SEGMENTAL RETAINING WALLS, MASS GRAVITY WALLS, GABION WALLS, ETC., GREATER THAN FORTY-EIGHT INCHES IN HEIGHT, SHALL BE BY OTHERS. ANY RETAINING WALL DATA SHOWN OR REFERENCED HEREIN SHALL BE ONLY FOR COORDINATION OF THE WALL LOCATION AND ELEVATIONS.
2. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS IS BASED ON A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE DRAWINGS. CRAFTON TULL ASSUMES NO RESPONSIBILITY REGARDING THE ACCURACY OF THE DEPICTED LOCATION(S) OF THE UNDERGROUND FACILITIES ON THESE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ANY OTHER FACILITIES NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL VERIFY LOCATION OF ALL FACILITIES BEFORE BEGINNING WORK.
3. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN OR NEAR THE CONSTRUCTION SITE.
4. THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICES, IS THE PROPERTY OF CRAFTON, TULL & ASSOCIATES, INC. AND IS NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CRAFTON, TULL & ASSOCIATES, INC.
5. CONTRACTOR SHALL NOT CAUSE ANY LONG-TERM INCONVENIENCE TO THE PUBLIC, ADJACENT PROPERTY OWNERS, PEDESTRIANS, ETC. DURING CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL PROVIDE ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
6. CONTRACTOR SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A DISCREPANCY OR INCONSISTENCY IS IDENTIFIED IN THE PLANS OR SPECIFICATIONS.
7. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, AND SPECIAL EXCAVATION MEASURES REQUIRED ON THE PROJECT WHICH ARE NECESSARY TO CONFORM TO OSHA, FEDERAL, STATE AND LOCAL REGULATIONS.
8. ENGINEER OF RECORD, CRAFTON TULL & ASSOCIATES, INC. (CTA) HAS BEEN RETAINED BY THE OWNER FOR CONSTRUCTION ADMINISTRATION AND OBSERVATION SERVICES FOR THE WORK INDICATED ON THESE DRAWINGS. CTA HEREBY NOTIFIES ALL PARTIES INVOLVED THAT CRAFTON, TULL & ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR THE INTERPRETATION, COORDINATION, OR ADMINISTRATION OF THESE DOCUMENTS AND/OR DEVIATIONS THEREOF. FURTHERMORE, CRAFTON, TULL & ASSOCIATES, INC. WILL NOT BE RESPONSIBLE FOR ANY EFFECTS THAT ANY CHANGES TO THESE DOCUMENTS MAY HAVE ON ANY RELATED TRADES, CONSTRUCTION SEQUENCES, OR OPERATION OF THE COMPLETED PROJECT EXCEPT AS SPECIFICALLY NOTED IN THE AGREEMENT BETWEEN CRAFTON, TULL & ASSOCIATES AND THE OWNER.
9. ENERGIZED ELECTRICAL LINE SAFETY, WARNINGS, AND ADVANCED NOTICES: ALL OWNERS, GENERAL CONTRACTORS, AND SUBCONTRACTORS ASSOCIATED WITH THIS PROJECT SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH, COMPLYING WITH, AND THE ENFORCEMENT OF ARKANSAS CODES AR ST § 11-5-307 AND § AR ST 11-5-308 AND ANY OTHER CURRENT STATE CODES PERTAINING TO ADVANCE NOTICE REQUIREMENTS AND FOR SAFETY OF ALL PERSONNEL, INCLUDING THE GENERAL PUBLIC, PERTAINING TO ANY WORK, MOVEMENT, AND ACTIVITY IN CLOSE PROXIMITY TO ANY ENERGIZED ELECTRICAL LINE.

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Rogers, Arkansas 72756

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CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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ISSUE DATE: 10/17/2022
CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

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NOTES

C-002

DRAWING: G:\21105500_MOBERLYSOUNFRASTRUCTURE\CIVIL\DWG\COVERSHEET.DWG
LAYOUT: NOTES , LAST SAVED: EI2591, 10/27/2022 7:27:52 AM
LAST PLOTTED BY: BILL BURNETT, 10/27/2022 5:19:22 PM ("PLOTTED BY:" VALID ON HARD COPY ONLY)

LEGEND

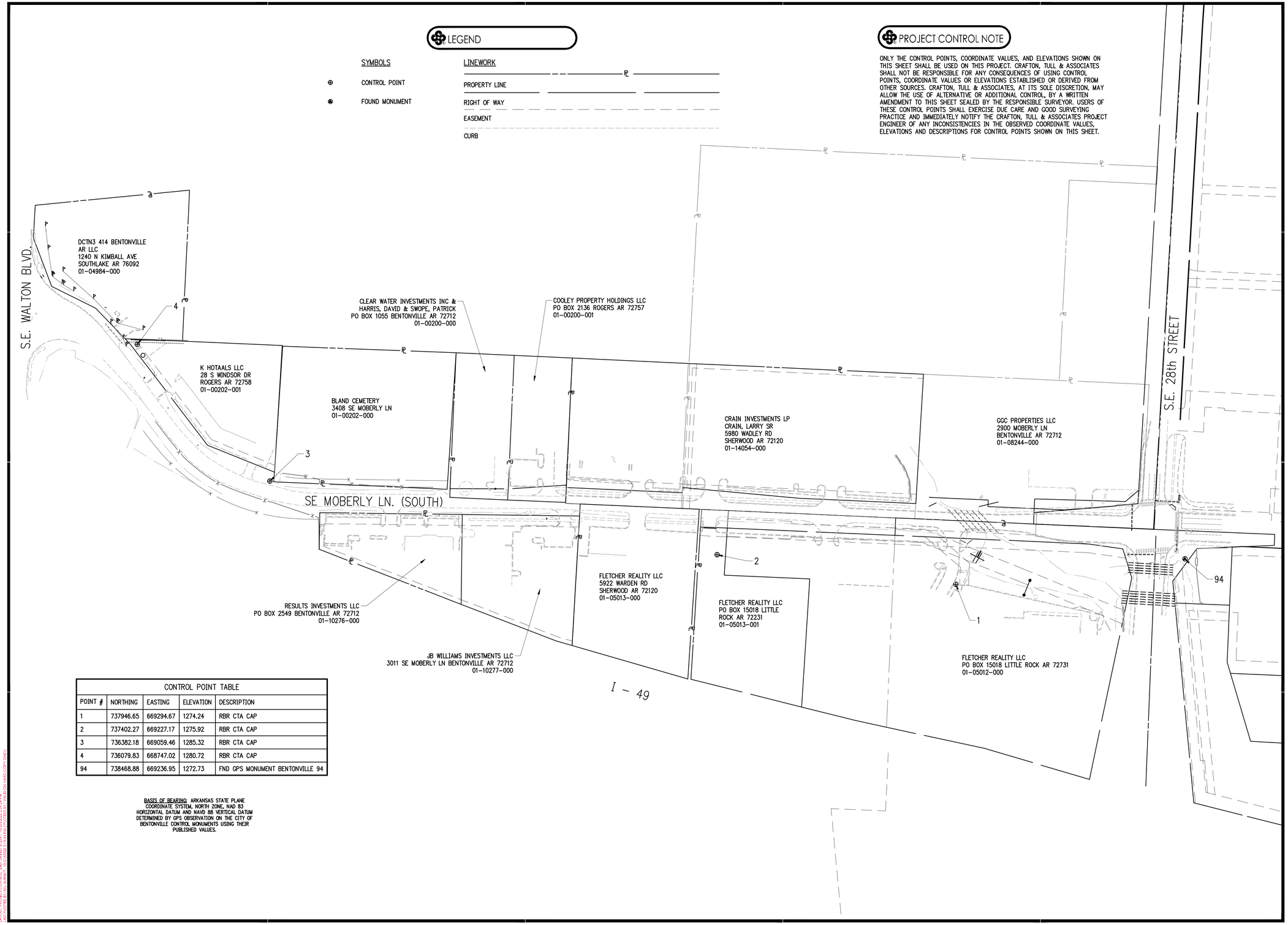
SYMBOLS	
⊕	CONTROL POINT
⊛	FOUND MONUMENT

LINEWORK

- PROPERTY LINE
- RIGHT OF WAY
- EASEMENT
- CURB

PROJECT CONTROL NOTE

ONLY THE CONTROL POINTS, COORDINATE VALUES, AND ELEVATIONS SHOWN ON THIS SHEET SHALL BE USED ON THIS PROJECT. CRAFTON, TULL & ASSOCIATES SHALL NOT BE RESPONSIBLE FOR ANY CONSEQUENCES OF USING CONTROL POINTS, COORDINATE VALUES OR ELEVATIONS ESTABLISHED OR DERIVED FROM OTHER SOURCES. CRAFTON, TULL & ASSOCIATES, AT ITS SOLE DISCRETION, MAY ALLOW THE USE OF ALTERNATIVE OR ADDITIONAL CONTROL, BY A WRITTEN AMENDMENT TO THIS SHEET SEALED BY THE RESPONSIBLE SURVEYOR. USERS OF THESE CONTROL POINTS SHALL EXERCISE DUE CARE AND GOOD SURVEYING PRACTICE AND IMMEDIATELY NOTIFY THE CRAFTON, TULL & ASSOCIATES PROJECT ENGINEER OF ANY INCONSISTENCIES IN THE OBSERVED COORDINATE VALUES, ELEVATIONS AND DESCRIPTIONS FOR CONTROL POINTS SHOWN ON THIS SHEET.



CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	737946.65	669294.67	1274.24	RBR CTA CAP
2	737402.27	669227.17	1275.92	RBR CTA CAP
3	736382.18	669059.46	1285.32	RBR CTA CAP
4	736079.83	668747.02	1280.72	RBR CTA CAP
94	738468.88	669236.95	1272.73	FND GPS MONUMENT BENTONVILLE 94

BASIS OF BEARING: ARKANSAS STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 83 HORIZONTAL DATUM AND NAVD 88 VERTICAL DATUM DETERMINED BY GPS OBSERVATION ON THE CITY OF BENTONVILLE CONTROL MONUMENTS USING THEIR PUBLISHED VALUES.

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GRAPHIC SCALE IN FEET
100' 0 100'

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BENTONVILLE, ARKANSAS

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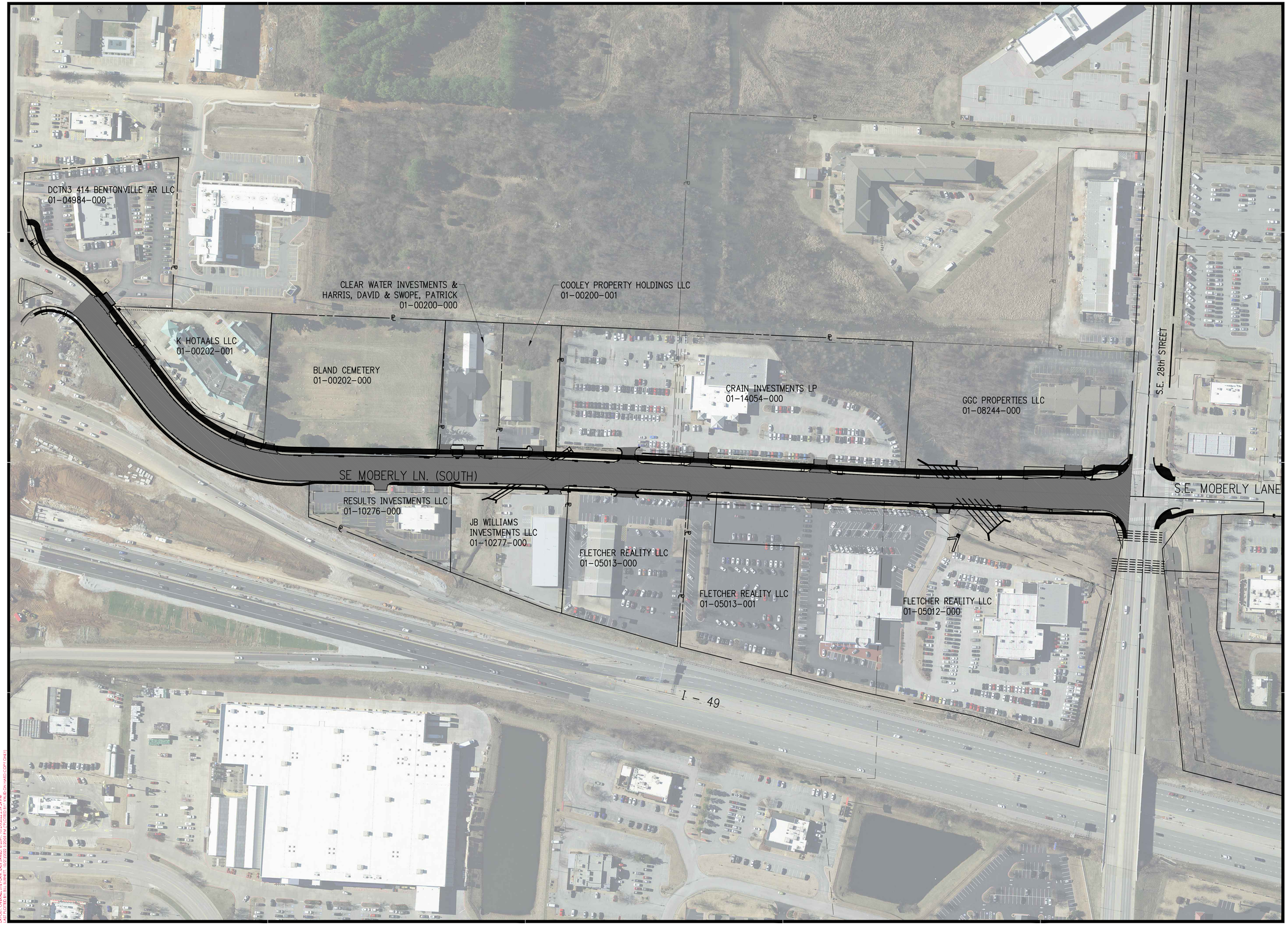
PROJECT CONTROL SHEET

C-101

DRAWING: G:\21105500_MOBERLY\DRAWINGS\CIVIL\CIVIL\PROJECT CONTROL SHEET.DWG
LAYOUT: PROJECT CONTROL | LAST SAVED BY: BBURNETT ON 10/17/2022 2:37:24 PM
PLOTTED: 10/17/2022 2:37:24 PM BY: BBURNETT (ON HARD COPY ONLY)



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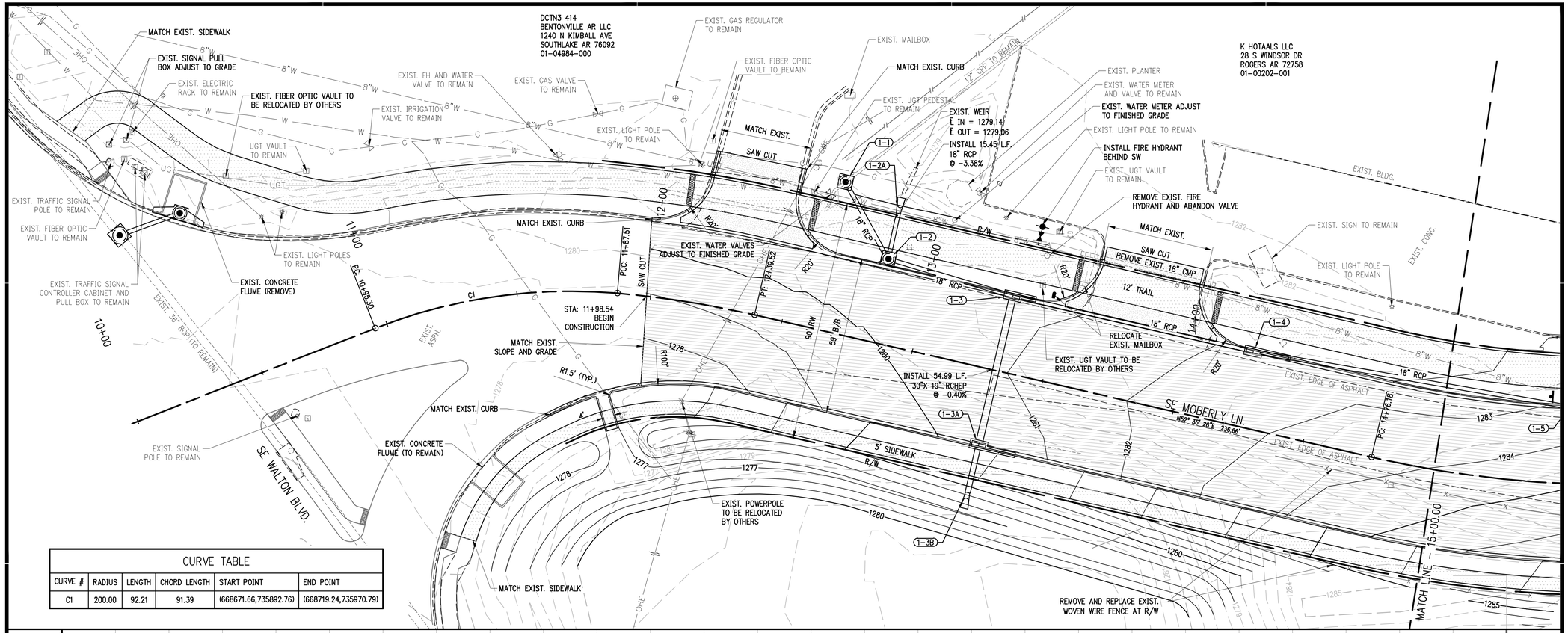
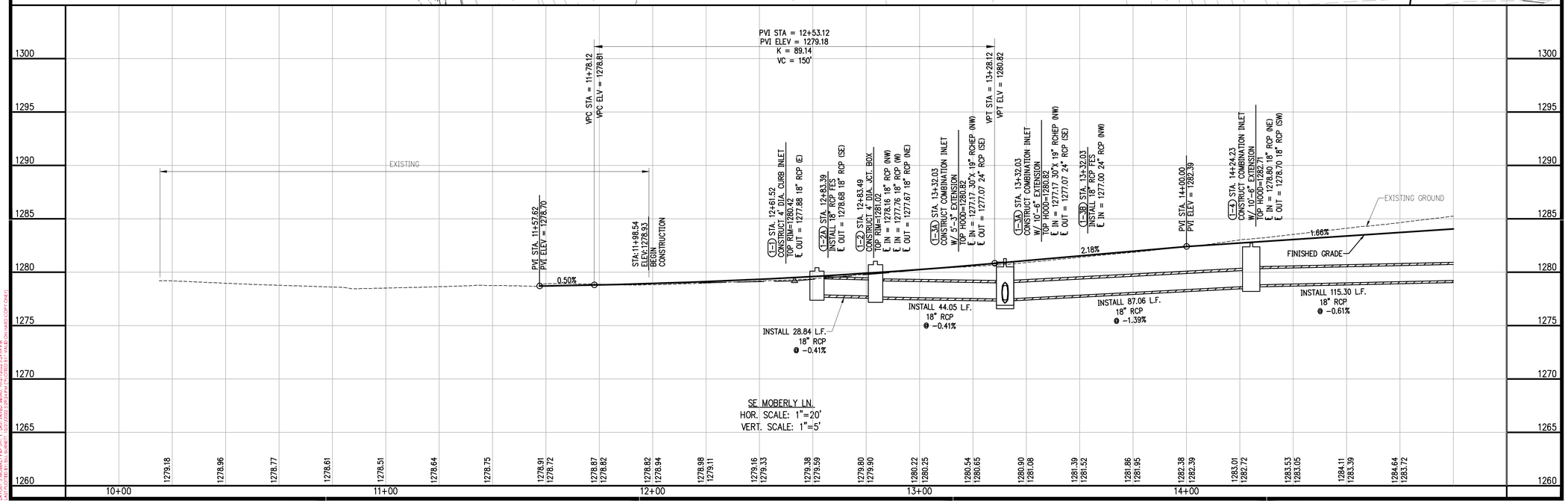
OVERALL SITE PLAN

C-102



CURVE TABLE					
CURVE #	RADIUS	LENGTH	CHORD LENGTH	START POINT	END POINT
C1	200.00	92.21	91.39	(668671.66,735892.76)	(668719.24,735970.79)



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GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

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SE MOBERLY LN. P&P

C-201

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LAYOUT: 1 MOBERLY P&P PLOT: 1 LAST SAVED: 2022-10-17 12:29:19 PM BY

CURVE TABLE					
CURVE #	RADIUS	LENGTH	CHORD LENGTH	START POINT	END POINT
C2	400.00	361.22	349.07	(668946.20,736148.94)	(669103.15,736460.73)

K HOTAALS LLC
28 S WINDSOR DR
ROGERS AR 72758
01-00202-001

BLAND CEMETERY
3408 SE MOBERLY LN
BENTONVILLE AR 72712
01-00202-000

RESULTS INVESTMENTS LLC
PO BOX 2549
BENTONVILLE AR 72712
01-10276-000

MATCH LINE - 15+00.00

MATCH LINE - 20+00.00

INSTALL CURB

SAW CUT

MATCH EXIST.

EXIST. LIGHT POLE TO REMAIN

EXIST. GAS METER TO REMAIN

EXIST. TH TO REMAIN

EXIST. WATER METER AND VALVE TO REMAIN

REMOVE AND REPLACE EXIST. WOVEN WIRE FENCE AT R/W

EXIST. WATER VALVE ADJUST TO FINISHED GRADE

EXIST. UGT VAULT TO BE RELOCATED BY OTHERS

EXIST. UGT PEDESTAL TO BE RELOCATED BY OTHERS

REMOVE EXIST. 18" RCP

REMOVE EXIST. 18" CMP

EXIST. WATER VALVE ADJUST TO FINISHED GRADE

REMOVE AND REPLACE EXIST. BARBED WIRE FENCE AT R/W

INSTALL CONCRETE RETAINING WALL

EXIST. 8" WATERLINE

EXIST. ASPH.

EXIST. BLDG.

EXIST. CONC.

EXIST. CURB

EXIST. EDGE OF ASPHALT

CEMETERY

SE MOBERLY LN.

12' TRAIL

5' SIDEWALK

18" RCP

8"W

R/W

21' B/B

84' R/W

69' B/B

90' R/W

R20'

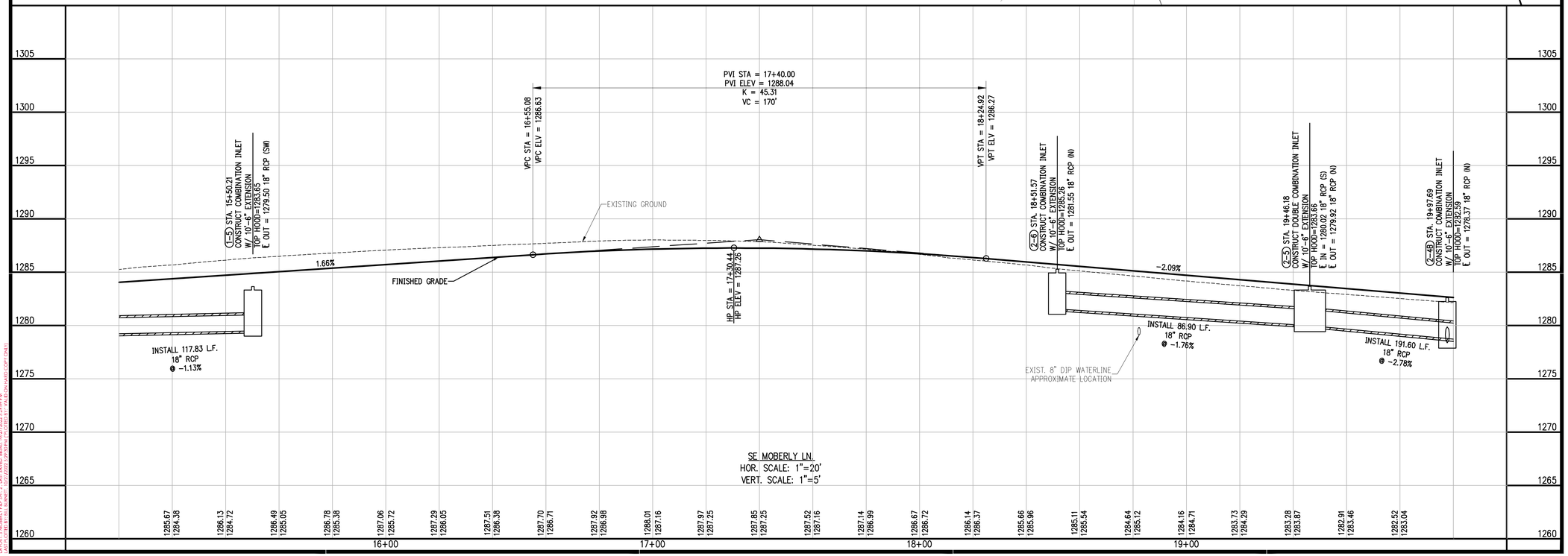
PC: 14+16.18

PI: 18+07.79

N69° 51' 01"E 473.40'

C2

(1-4) (1-5) (2-5) (2-6) (2-4B)



SE MOBERLY LN.
HOR. SCALE: 1"=20'
VERT. SCALE: 1"=5'

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GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

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QC Date: MM/DD/YYYY

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C-202

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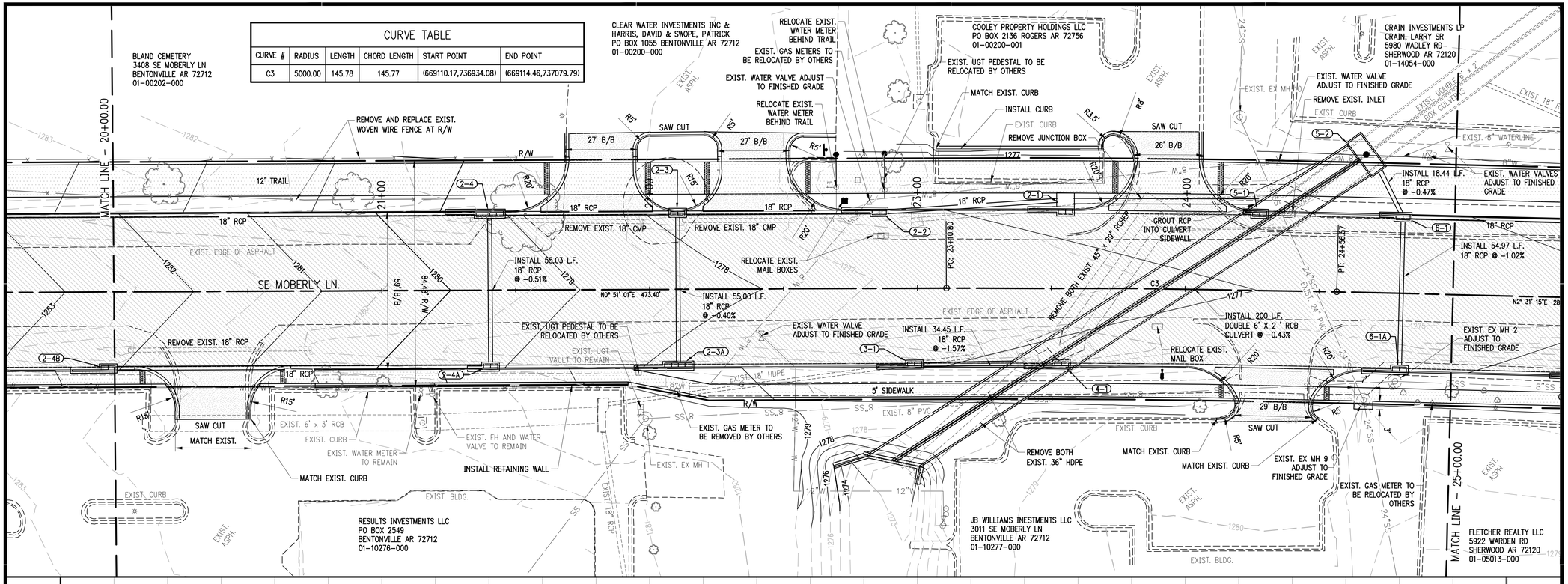
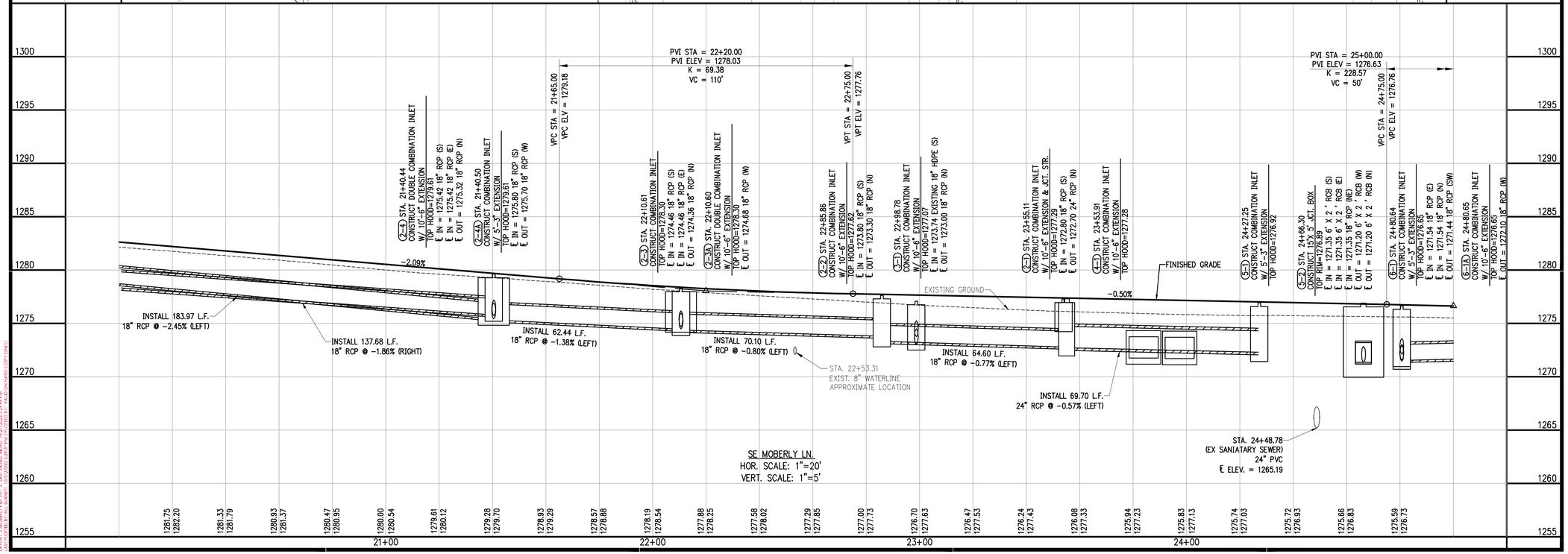
LAYOUT: MOBERLY P&P PART 2 LAST SAVED: 10/17/2022 2:29:29 PM BY: BBURNETT
PLOTTED: 10/17/2022 2:29:47 PM BY: BBURNETT (On HARD COPY ONLY)

CURVE TABLE					
CURVE #	RADIUS	LENGTH	CHORD LENGTH	START POINT	END POINT
C3	5000.00	145.78	145.77	(669110.17,736934.08)	(669114.46,737079.79)





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QC Date: MM/DD/YYYY

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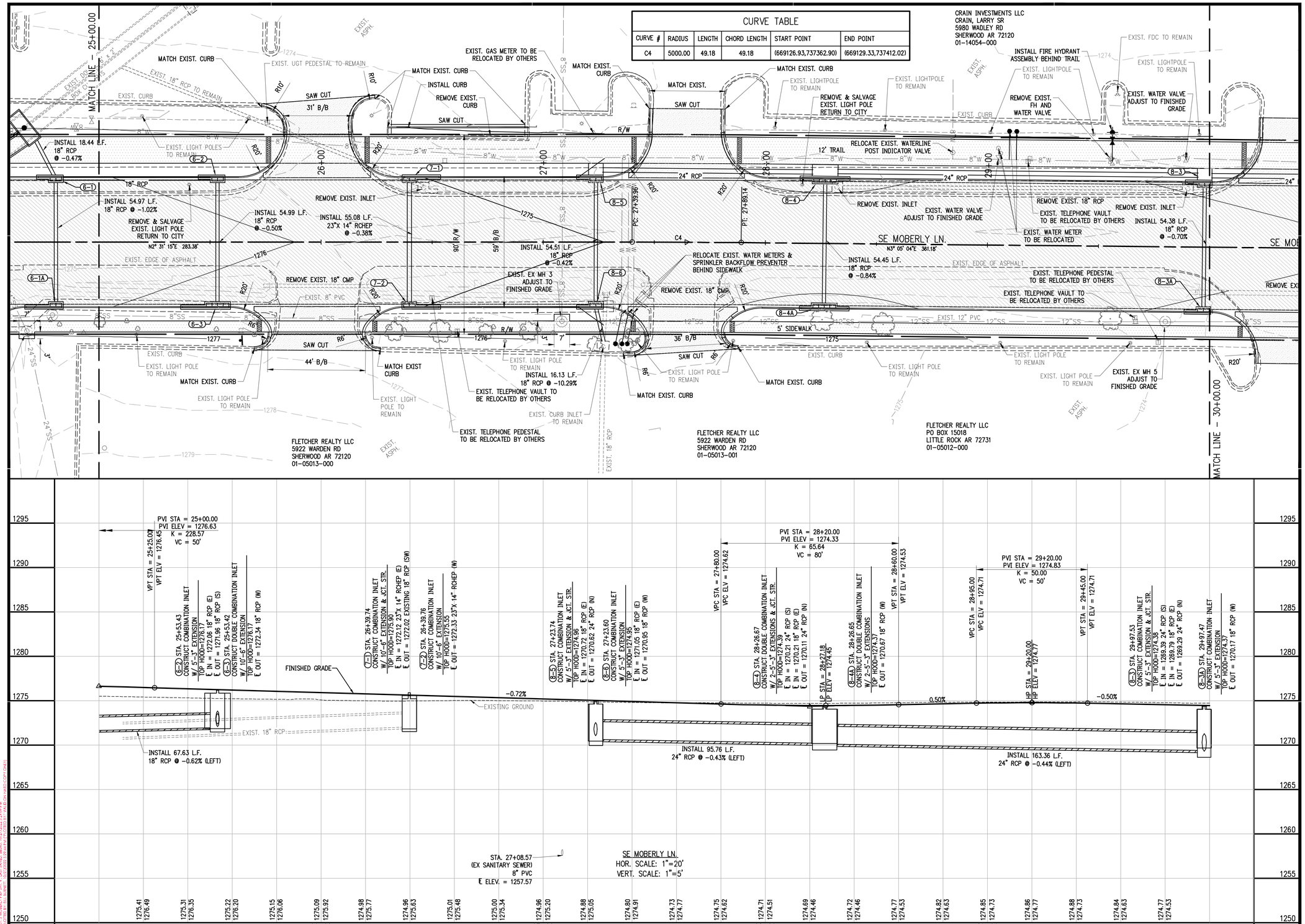
C-203

DRAWING: C:\21105500_MOBERLY\CIVIL\PRINTS\CT\BC\VD\WD\MOBERLY 1 P&P.DWG
LAYOUT: MOBERLY P&P PART 1 - LAST SAVED: JR 10/27/2022 2:39 PM BY JR
PLOTTED: 10/27/2022 2:39 PM BY JR ON (HARD COPY ONLY)



CURVE TABLE

CURVE #	RADIUS	LENGTH	CHORD LENGTH	START POINT	END POINT
C4	5000.00	49.18	49.18	(669126.93,737362.90)	(669129.33,737412.02)

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ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

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C-204

CURVE TABLE					
CURVE #	RADIUS	LENGTH	CHORD LENGTH	START POINT	END POINT
C5	5000.00	141.54	141.54	(669148.76,737772.68)	(669154.38,737914.10)

CRAIN INVESTMENTS LP
CRAIN, LARRY SR
SHERWOOD AR 72120
01-14054-000

FLETCHER REALTY LLC
PO BOX 15018
LITTLE ROCK AR 72731
01-05012-000

GGC PROPERTIES LLC
2900 MOBERLY LN
BENTONVILLE AR 72712
01-08244-000

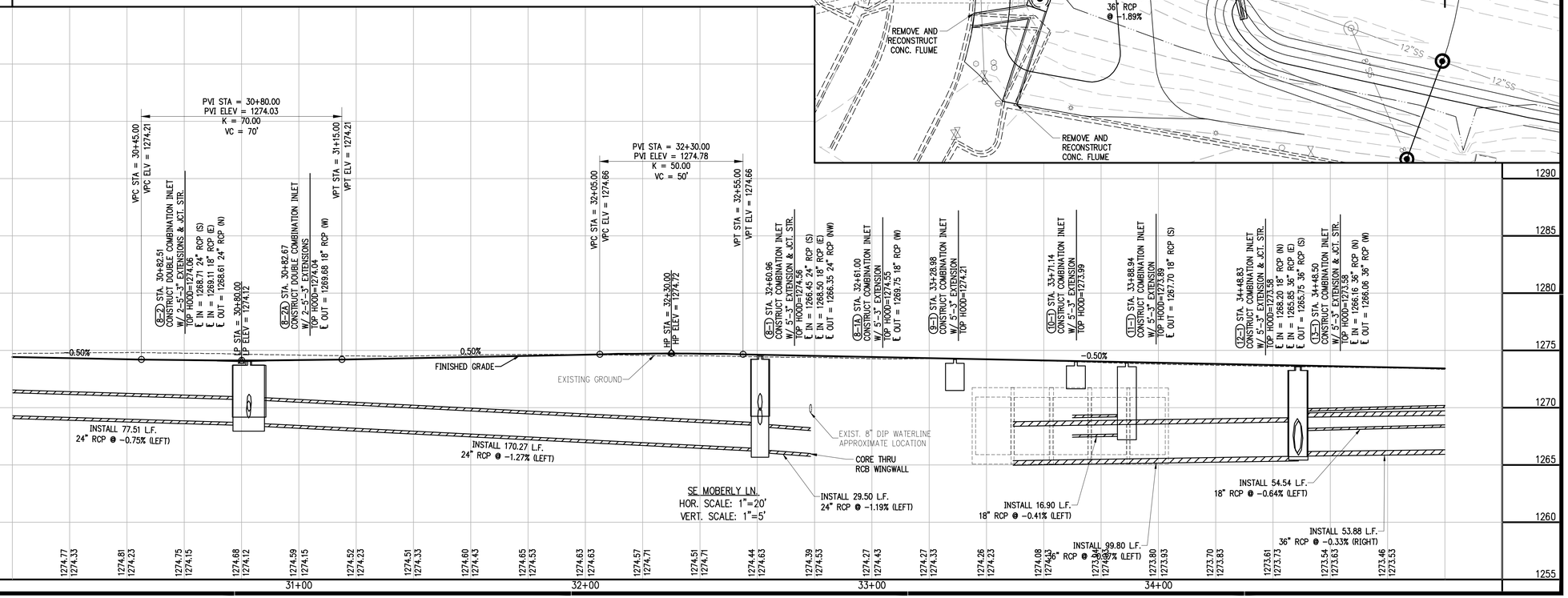
MATCH LINE - 30+00.00

MATCH EXIST. CURB
MATCH EXIST.
SAW CUT
REMOVE & SALVAGE EXIST. LIGHT POLE RETURN TO CITY
EXIST. LIGHTPOLE TO REMAIN
EXIST. CURB
EXIST. ASPH.
EXIST. FLOWLINE
CORE RCP DIRECTLY INTO RCB WINGWALL
DEMO EXIST. WEIR STRUCTURE
EXIST. WATER VALVE ADJUST TO FINISHED GRADE
GROUT 18" RCP INTO CULVERT SIDEWALL
INSTALL 59.75 L.F. 36" RCP @ -0.35%
REMOVE EXIST. CURB
EXIST. 5 BARREL CULVERT TO REMAIN
REMOVE EXIST. 18" RCP
REMOVE EXIST. 24" RCP
REMOVE EXIST. CMP
REMOVE EXIST. INLET
12' TRAIL
24" RCP
18" RCP
36" RCP
INSTALL 54.38 L.F. 18" RCP @ -0.70%
INSTALL 54.94 L.F. 18" RCP @ -1.04%
INSTALL 54.52 L.F. 18" RCP @ -2.29%
SE MOBERLY LN.
N3° 05' 04"E 361.18'
N1° 27' 45"E 484.69'
PC: 31+50.35
PI: 32+91.86
90' R/W
59' B/B
C5
EXIST. 8" WATERLINE
EXIST. EX MH 6 ADJUST TO FINISHED GRADE
EXIST. 12" PVC
5' SIDEWALK
EXIST. GAS METERS TO BE RELOCATED BY OTHERS
EXIST. LIGHT POLE TO REMAIN
EXIST. EX MH 5 ADJUST TO FINISHED GRADE
SAW CUT
MATCH EXIST.
MATCH EXIST. CURB
R20'
R25'
R30'
8-1
8-2
8-2A
8-3
8-3A
9-1
10-1
11-1
12-1
12-2
13-1
13-2
1268
1269
1270
1271
1272
1273
1274
1275
1276
1267
8"W
12"SS
6"W
6"SS
6"GAS
2"GAS
12"PVC

STRUCTURE - 146 STA. 33+56.77
CONSTRUCT 6' DIA. CURB INLET
TOP RIM=1275.00
℄ IN = 1268.56 EXISTING 36" RCP (S)
℄ OUT = 1268.46 36" RCP (NW)

EXIST. 36" RCP
REMOVE AND RECONSTRUCT CONC. FLUME
INSTALL 51.92 L.F. 36" RCP @ -1.89%

MATCH LINE - 35+00.00



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20' 0 20'

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BOND PROJECT MUNIS #21ST0003

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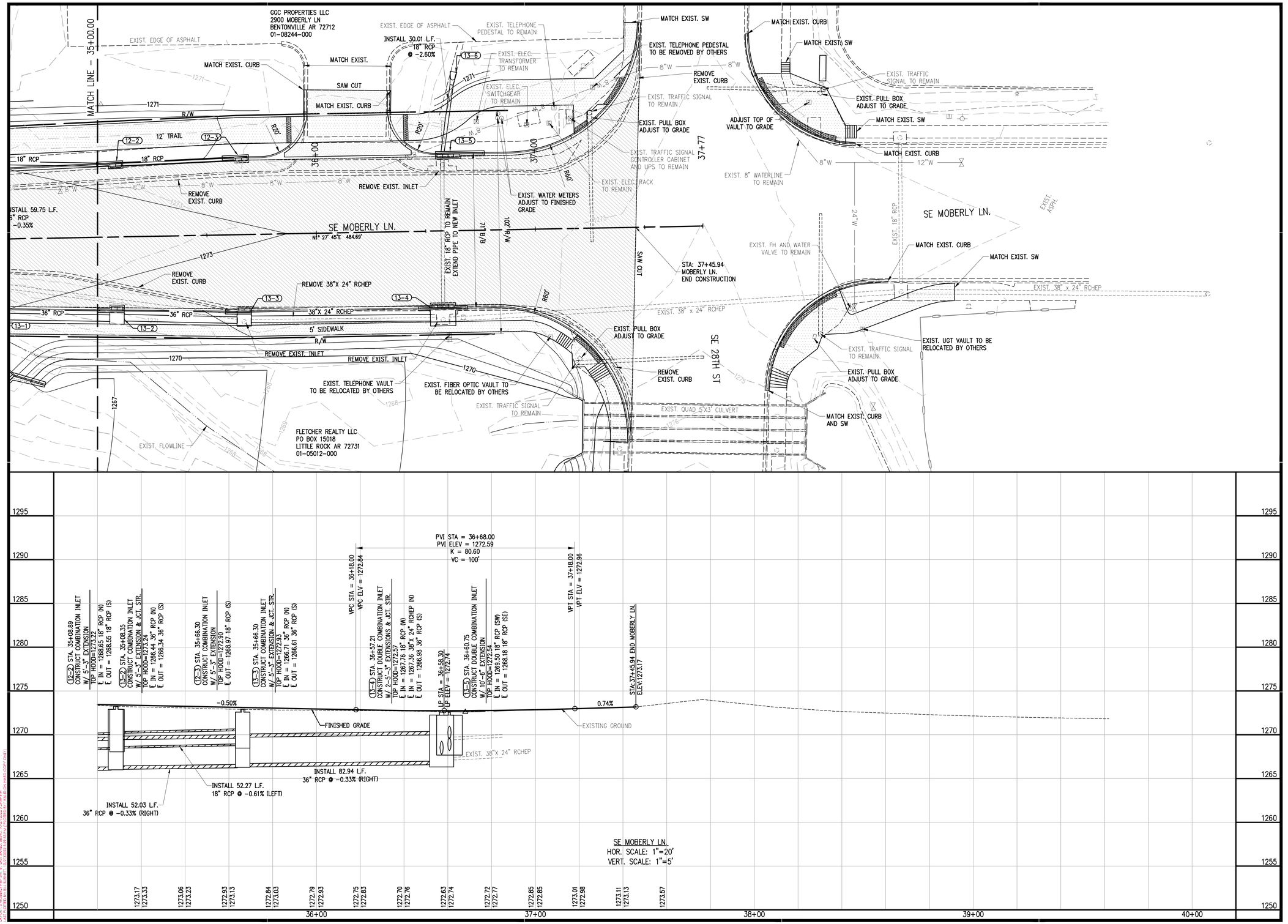
LAYOUT: MOBERLY P&P PART 3 LAST SAVED: 10/27/2022 2:29:49 PM
PLOTTED: 10/27/2022 2:29:49 PM BY: Jon HAID COPY ONLY



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479.636.4838 t 479.631.6224 f
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CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 10/17/2022
CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

PRELIMINARY PLANS

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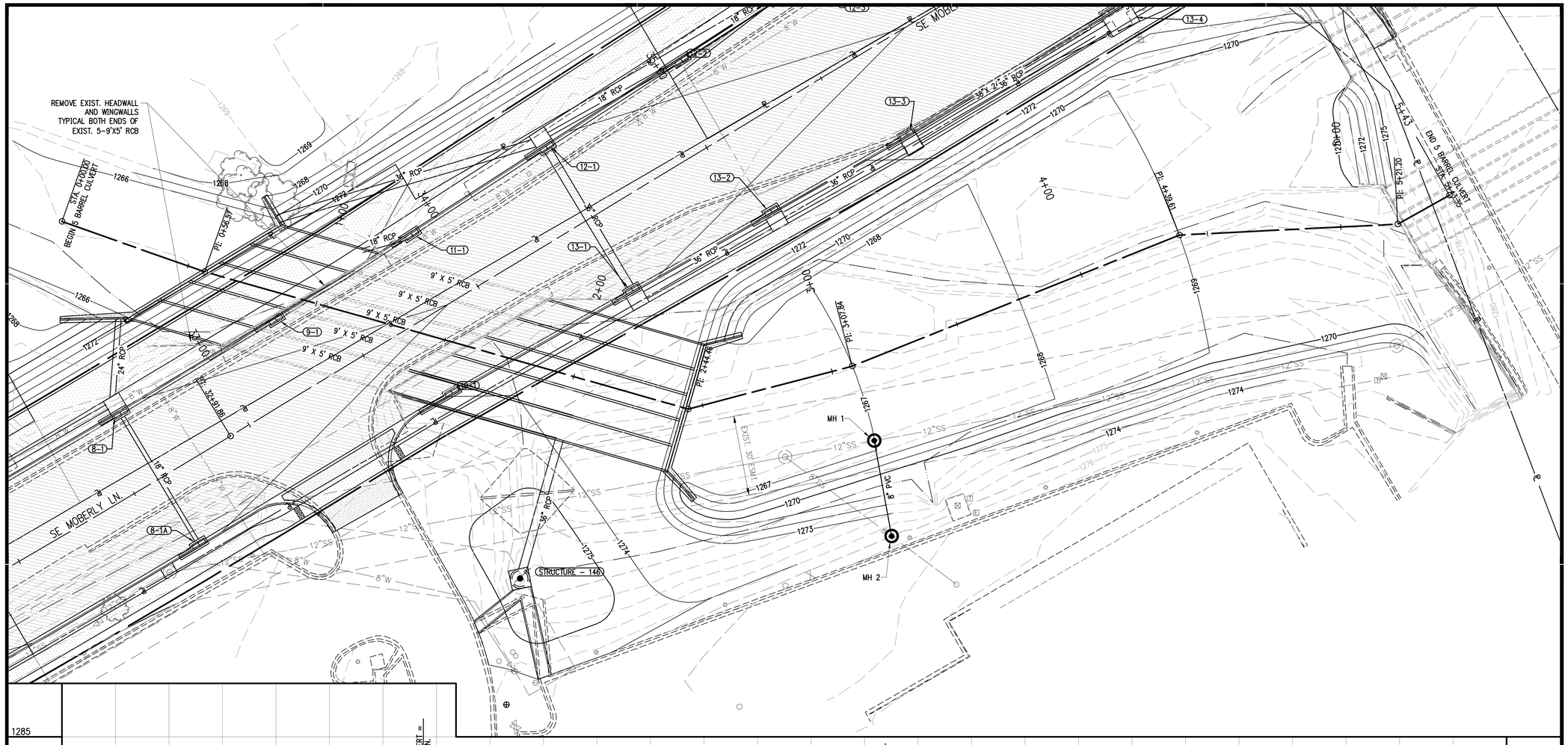
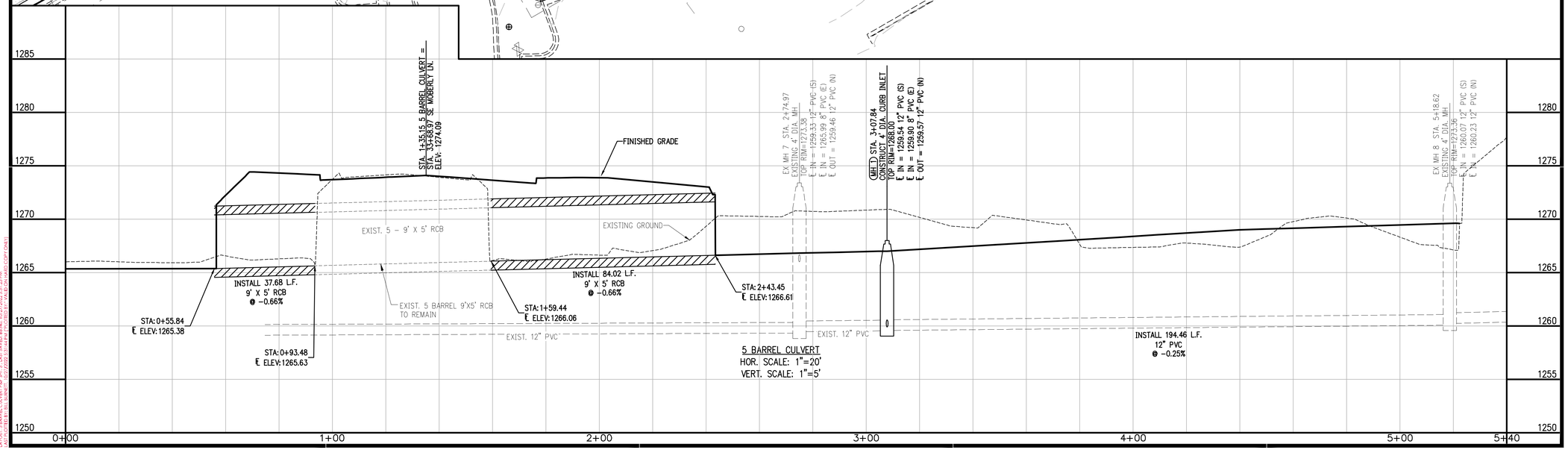
SE MOBERLY LN. P&P

C-206

DRAWING: C:\21105500_MOBERLY\01INFRASTRUCTURE\CIVIL\WORK\1 PLAN.DWG
LAYOUT: 1 MOBERLY P&P PH 1 - LAST SAVED: 10/27/2022 2:39 PM BY: BBURNETT
PLOTTED: 10/27/2022 2:39 PM BY: BBURNETT ON XHARD COPY ONLY





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BENTONVILLE, ARKANSAS

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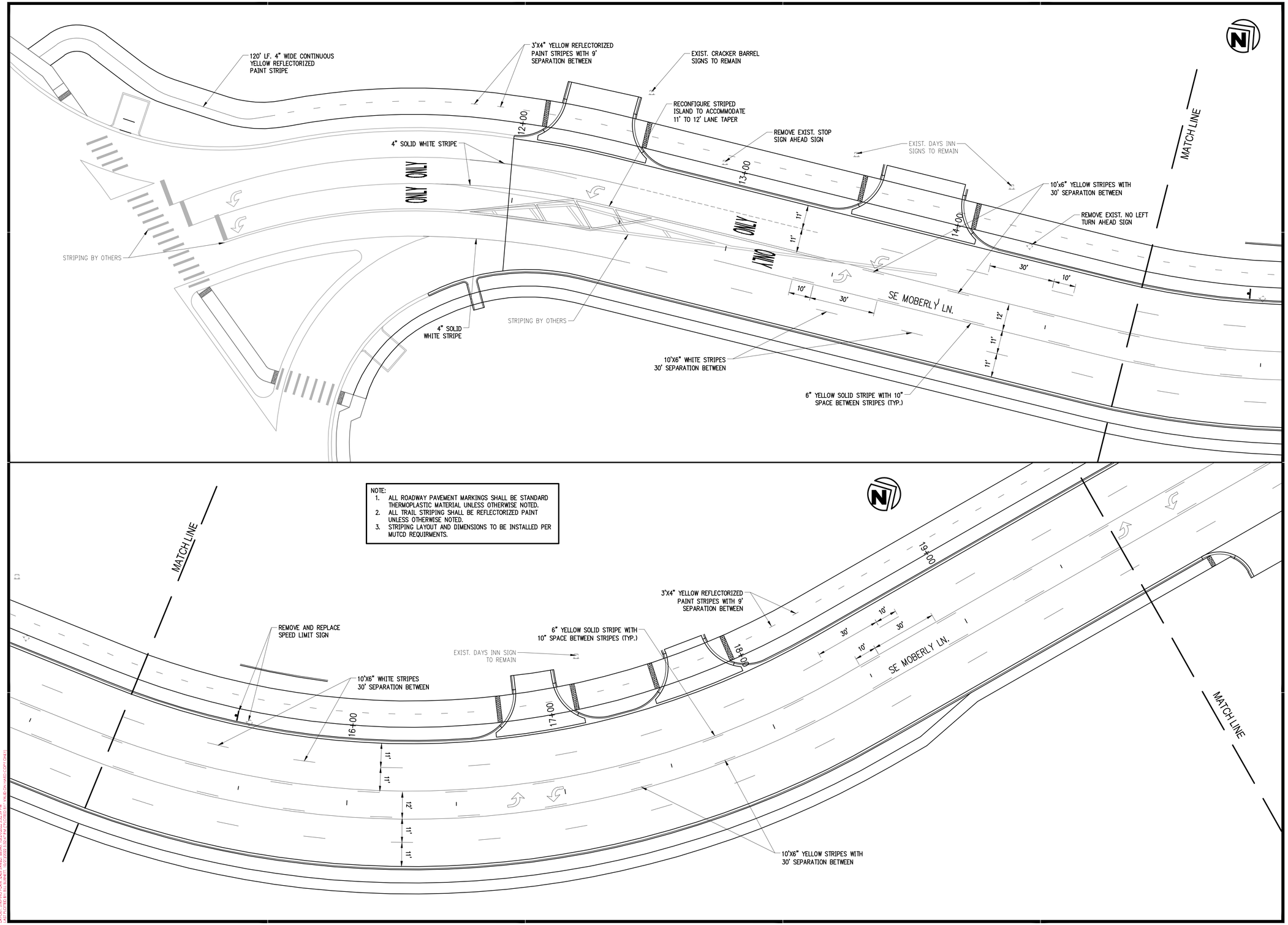
5 BARREL CULVERT P&P

C-207

DRAWING: C:\21105500_MOBERLY\PLANS\PLOT\SHEETS\C-207.DWG 10.5 BARREL CULVERT P&P.DWG
LAYOUT: 5 BARREL CULVERT P&P 10-17-2022 8:44:21 AM BY: BRETT BURNETT (10-17-2022 8:31:25 AM BY: CORY CHAIT)



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GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

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STRIPING PLAN

C-301

DRAWING G:\21105500_MOBERLY\CONSTRUCTION\STRIPING\MOBERLY STRIPING PLAN.DWG
LAYOUT: STRIPING PLAN 1 LAST SAVED BY: BBURNETT 10/17/2022 2:03:29 PM
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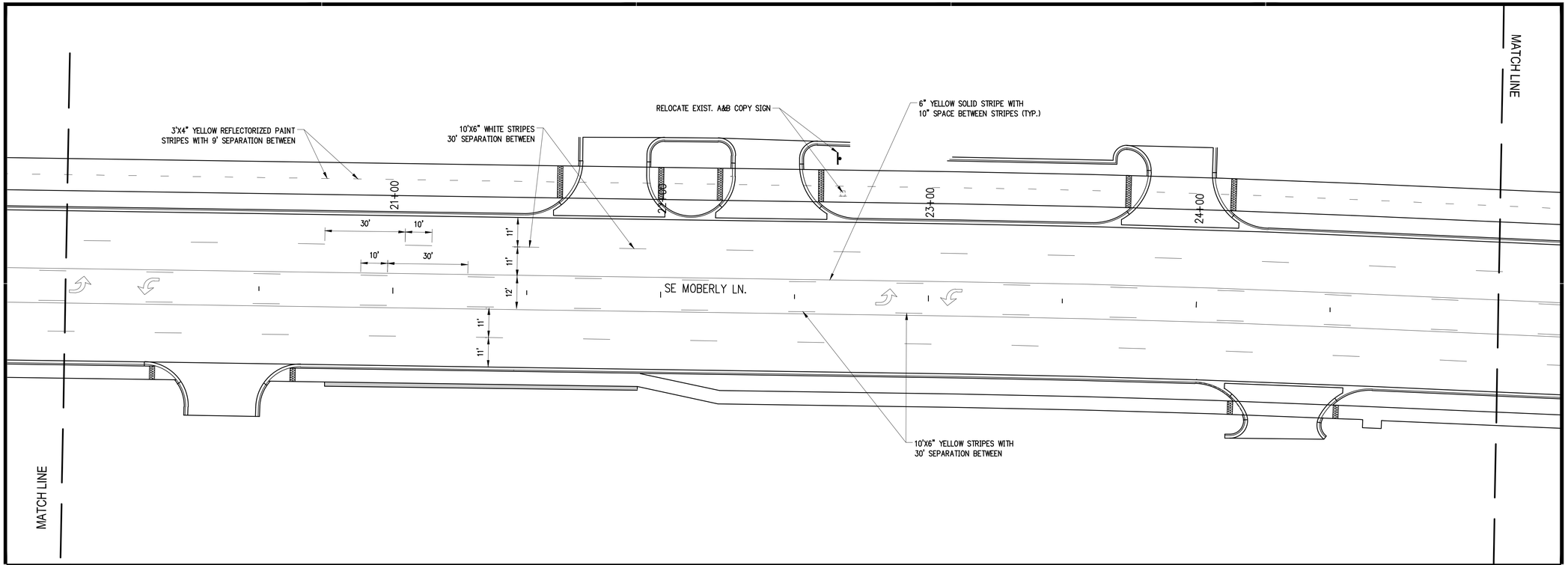
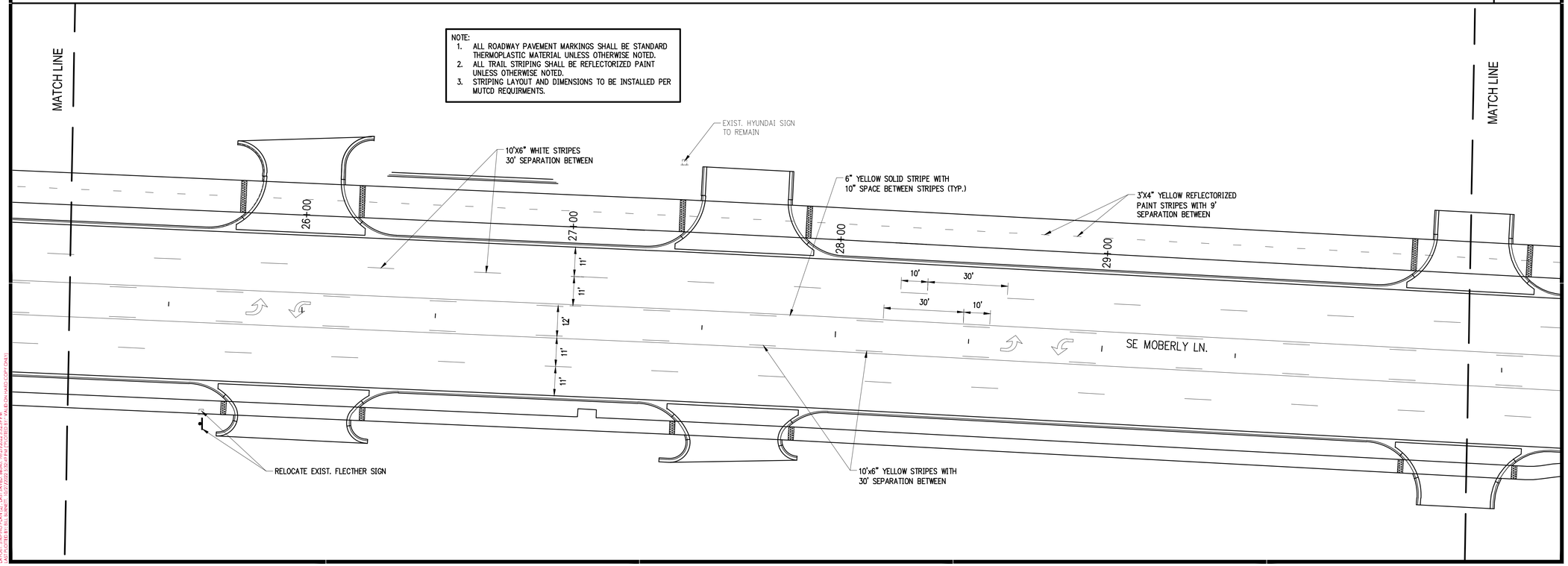


NOTE:
1. ALL ROADWAY PAVEMENT MARKINGS SHALL BE STANDARD THERMOPLASTIC MATERIAL UNLESS OTHERWISE NOTED.
2. ALL TRAIL STRIPING SHALL BE REFLECTORIZED PAINT UNLESS OTHERWISE NOTED.
3. STRIPING LAYOUT AND DIMENSIONS TO BE INSTALLED PER MUTCD REQUIRMENTS.



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ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
20' 0 20'

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BENTONVILLE, ARKANSAS

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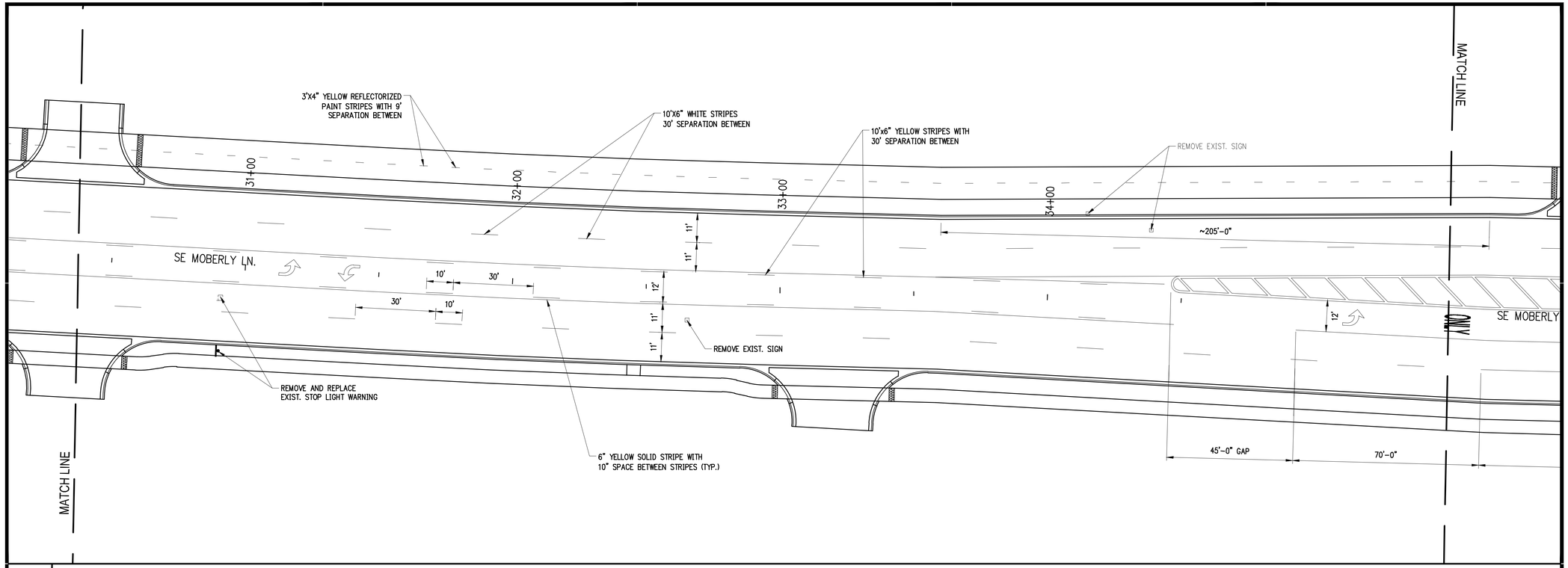
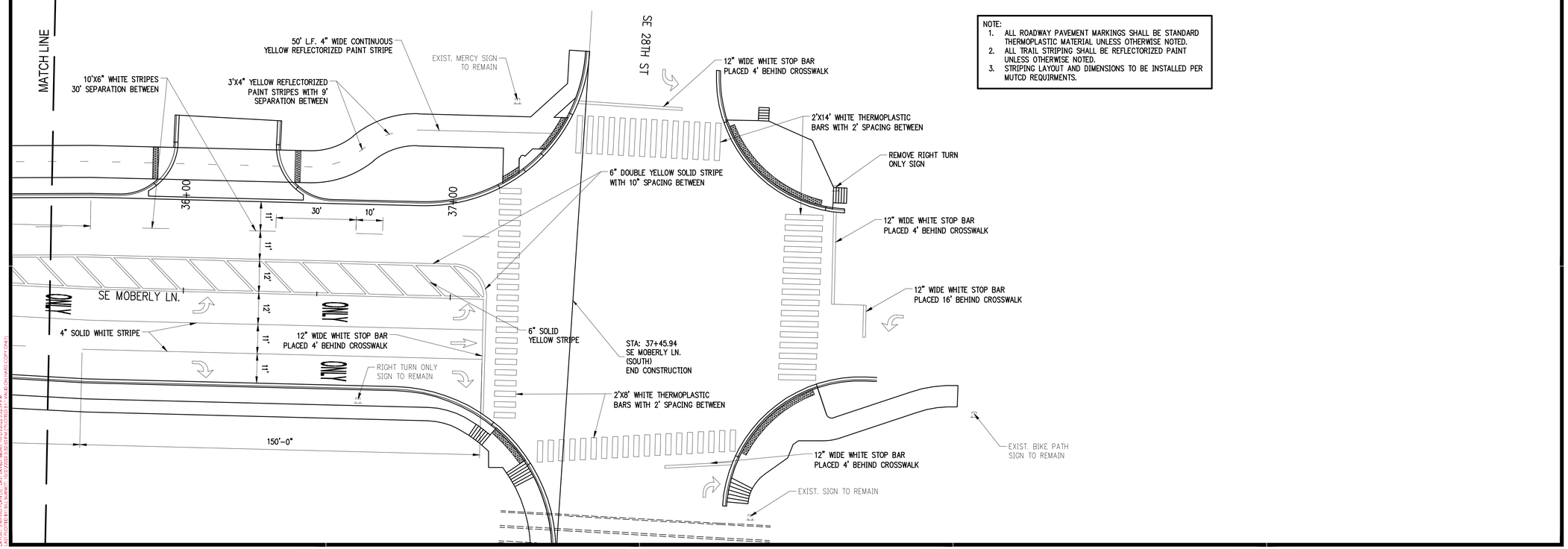
STRIPING PLAN

C-302

DRAWING: G:\21105500_MOBERLY\DESIGN\STRUCTURES\CIVIL\DWG\STRIPING PLAN.DWG
LAYOUT: STRIPING PLAN (22) PLOT: 10/17/2022 3:52:22 PM BY: BURNETT
XREF: (NONE) IMAGE: (NONE) PLOTTED BY: BURNETT, BRIAN (BLOCKHEAD COPY.CTB)





NOTE:
1. ALL ROADWAY PAVEMENT MARKINGS SHALL BE STANDARD THERMOPLASTIC MATERIAL UNLESS OTHERWISE NOTED.
2. ALL TRAIL STRIPING SHALL BE REFLECTORIZED PAINT UNLESS OTHERWISE NOTED.
3. STRIPING LAYOUT AND DIMENSIONS TO BE INSTALLED PER MUTCD REQUIRMENTS.

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ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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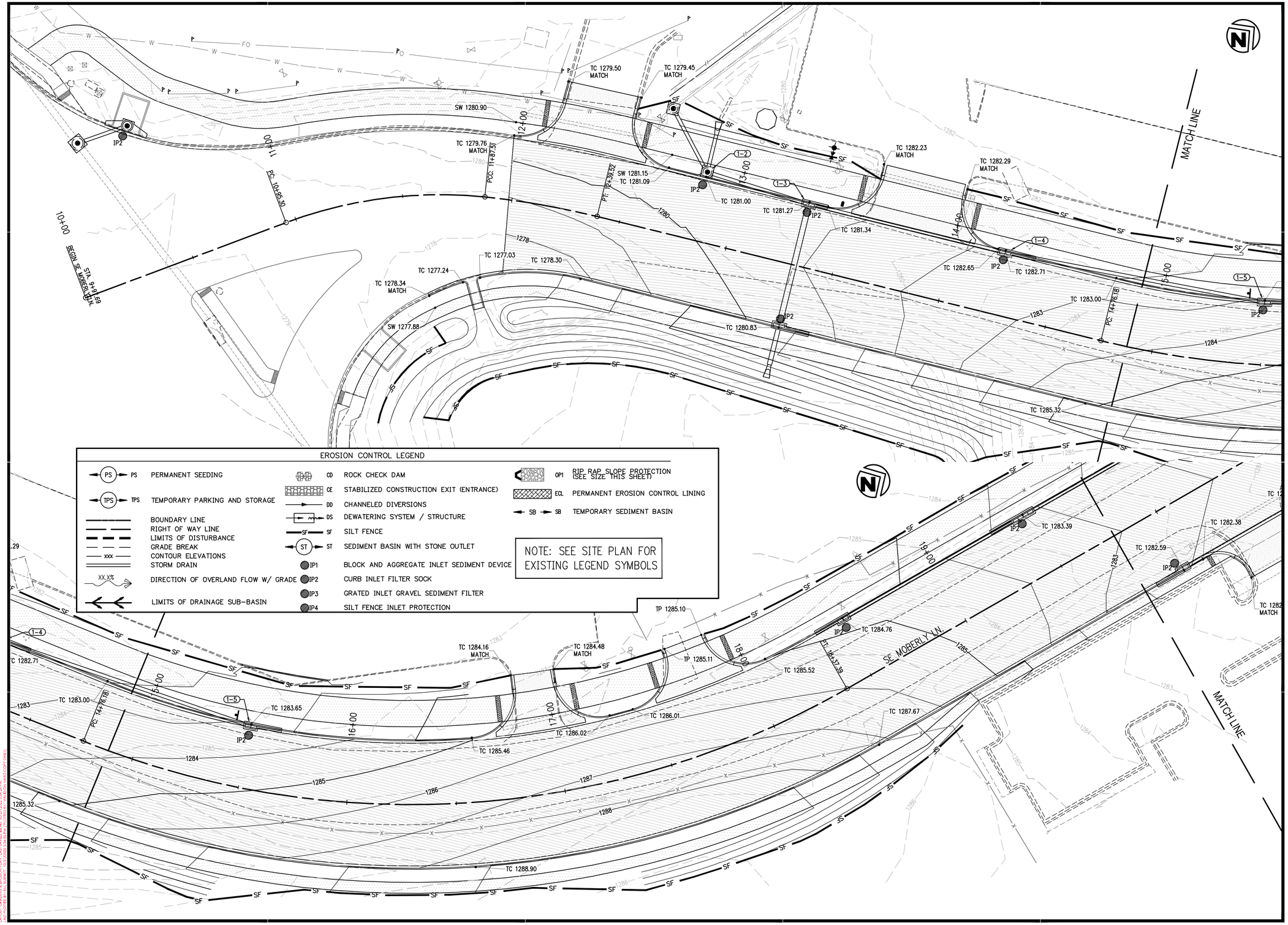
STRIPING PLAN

C-303

DRAWING: G:\21105500_MOBERLY\FOUNDATION\CIVIL\CAD\DWG\STRIPING PLAN.DWG
LAYOUT: STRIPING PLAN (PRELIM) PLOTTED: 10/17/2022 12:52:31 PM BY: PAUL.DUNLAP.ES (LAST COPY ONLY)



EROSION CONTROL LEGEND

PS PS	PERMANENT SEEDING	CD	ROCK CHECK DAM
TPS TPS	TEMPORARY PARKING AND STORAGE	CE	STABILIZED CONSTRUCTION EXIT (ENTRANCE)
	BOUNDARY LINE	DD	CHANNELED DIVERSIONS
	RIGHT OF WAY LINE	DS	DEWATERING SYSTEM / STRUCTURE
	LIMITS OF DISTURBANCE	SF	SILT FENCE
	GRADE BREAK	ST	SEDIMENT BASIN WITH STONE OUTLET
xxx	CONTOUR ELEVATIONS	IP1	BLOCK AND AGGREGATE INLET SEDIMENT DEVICE
	STORM DRAIN	IP2	CURB INLET FILTER SOCK
XX.X%	DIRECTION OF OVERLAND FLOW W/ GRADE	IP3	GRATED INLET GRAVEL SEDIMENT FILTER
	LIMITS OF DRAINAGE SUB-BASIN	IP4	SILT FENCE INLET PROTECTION
OP1	RIP RAP SLOPE PROTECTION (SEE SIZE THIS SHEET)		
ECL	PERMANENT EROSION CONTROL LINING		
SB SB	TEMPORARY SEDIMENT BASIN		

NOTE: SEE SITE PLAN FOR EXISTING LEGEND SYMBOLS

GRAPHIC SCALE IN FEET
20' 0 20'

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MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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QC Date: MM/DD/YYYY

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GRADING & EROSION PLAN

C-304

DRAWING: G:\21105500_MOBERLY\GIS\ARCGIS\PRO\PROJECTS\MOBERLY\GRADING & EROSION CONTROL.DWG
LAYOUT: GRADING & EROSION CONTROL (LAST SAVED BY: BURNETT, JUSTIN ON 10/27/2022 8:43:24 PM)
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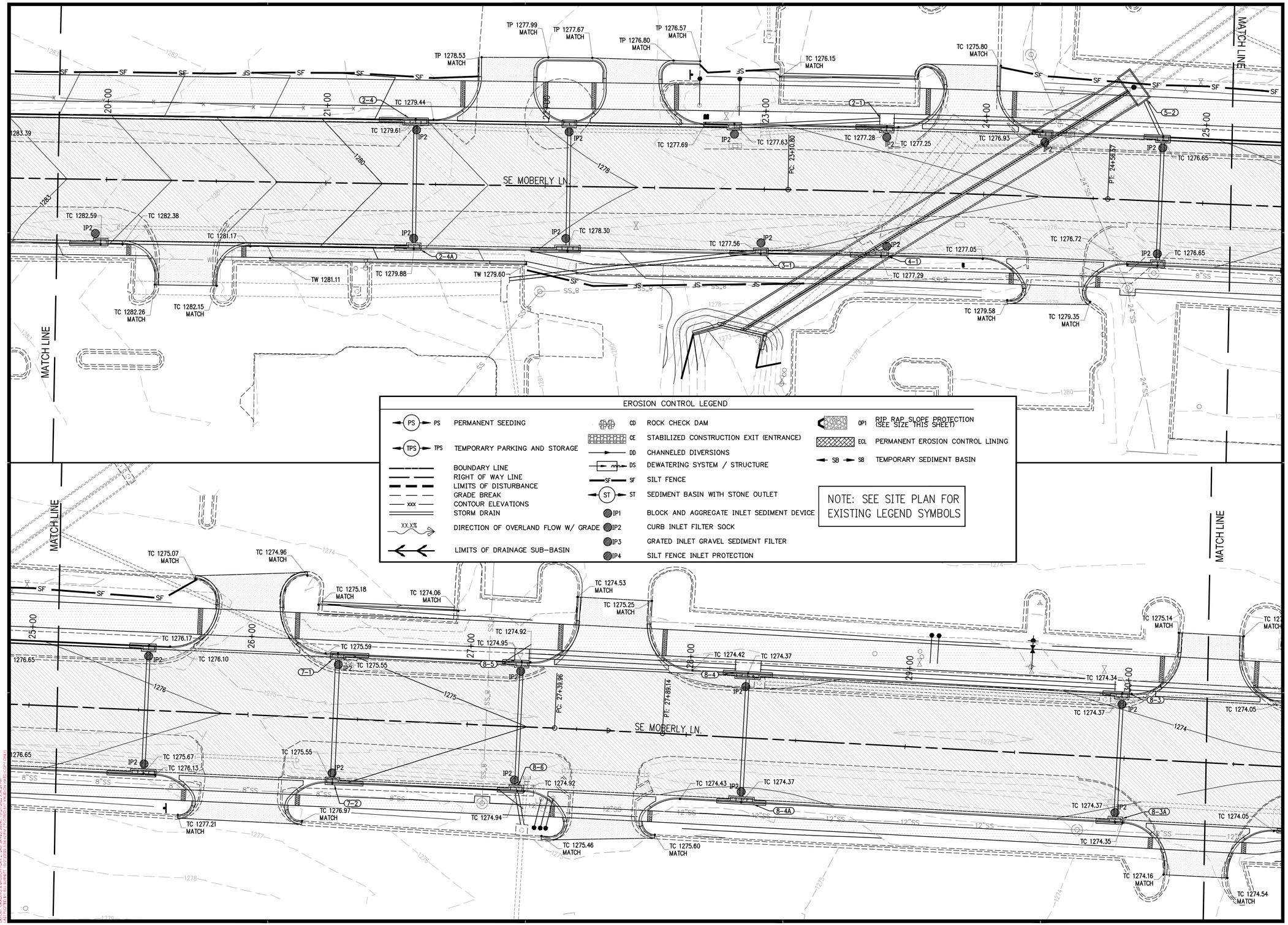

EROSION CONTROL LEGEND

PS	PERMANENT SEEDING	CD	ROCK CHECK DAM	OP1	RIP RAP SLOPE PROTECTION (SEE SIZE THIS SHEET)
TPS	TEMPORARY PARKING AND STORAGE	CE	STABILIZED CONSTRUCTION EXIT (ENTRANCE)	EQL	PERMANENT EROSION CONTROL LINING
	BOUNDARY LINE	DD	CHANNELED DIVERSIONS	SB	TEMPORARY SEDIMENT BASIN
	RIGHT OF WAY LINE	DS	DEWATERING SYSTEM / STRUCTURE		
	LIMITS OF DISTURBANCE	SF	SILT FENCE		
	GRADE BREAK	ST	SEDIMENT BASIN WITH STONE OUTLET		
xxx	CONTOUR ELEVATIONS	IP1	BLOCK AND AGGREGATE INLET SEDIMENT DEVICE		
	STORM DRAIN	IP2	CURB INLET FILTER SOCK		
XX.X%	DIRECTION OF OVERLAND FLOW W/ GRADE	IP3	GRATED INLET GRAVEL SEDIMENT FILTER		
	LIMITS OF DRAINAGE SUB-BASIN	IP4	SILT FENCE INLET PROTECTION		

NOTE: SEE SITE PLAN FOR EXISTING LEGEND SYMBOLS

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No. 109
ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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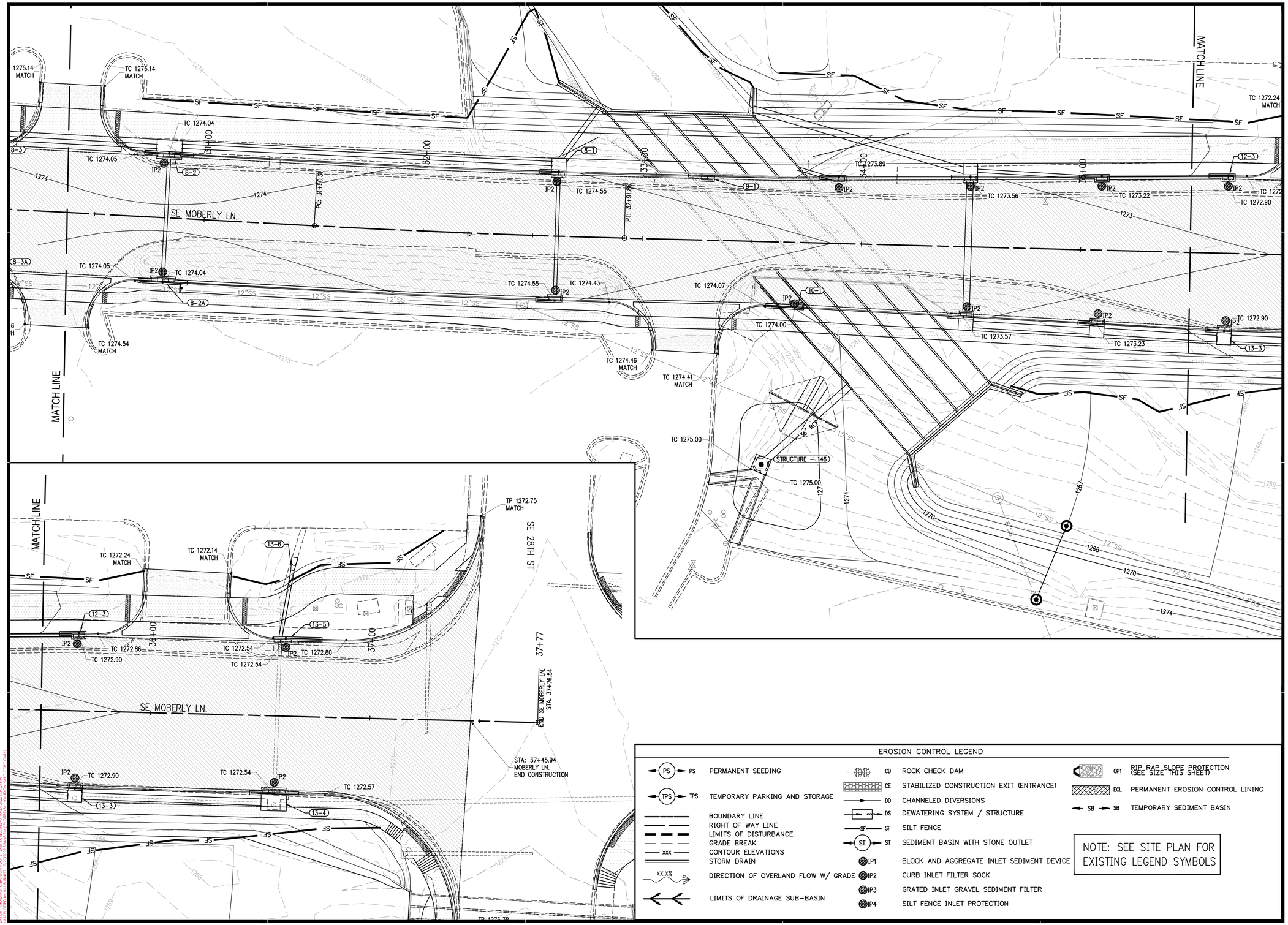
GRADING & EROSION PLAN

C-305

DRAWING: C:\21105500_MOBERLY\INFRASTRUCTURE\CIVIL\WORD\GRADING & EROSION CONTROL.DWG
LAYOUT: GRADING & EROSION CONTROL | 10/27/2022 8:57:54 AM | CDT | COPY



EROSION CONTROL LEGEND

PS	PERMANENT SEEDING	CD	ROCK CHECK DAM	OP1	RIP RAP SLOPE PROTECTION (SEE SIZE THIS SHEET)
TPS	TEMPORARY PARKING AND STORAGE	CE	STABILIZED CONSTRUCTION EXIT (ENTRANCE)	ECL	PERMANENT EROSION CONTROL LINING
	BOUNDARY LINE	DD	CHANNELED DIVERSIONS	SB	TEMPORARY SEDIMENT BASIN
	RIGHT OF WAY LINE	DS	DEWATERING SYSTEM / STRUCTURE		
	LIMITS OF DISTURBANCE	SF	SILT FENCE		
	GRADE BREAK	ST	SEDIMENT BASIN WITH STONE OUTLET		
xxx	CONTOUR ELEVATIONS	IP1	BLOCK AND AGGREGATE INLET SEDIMENT DEVICE		
	STORM DRAIN	IP2	CURB INLET FILTER SOCK		
XX.X%	DIRECTION OF OVERLAND FLOW W/ GRADE	IP3	GRATED INLET GRAVEL SEDIMENT FILTER		
	LIMITS OF DRAINAGE SUB-BASIN	IP4	SILT FENCE INLET PROTECTION		

NOTE: SEE SITE PLAN FOR EXISTING LEGEND SYMBOLS

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No. 109
ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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QC Date: MM/DD/YYYY

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GRADING & EROSION PLAN

C-306

DRAWING: G:\21105500_MOBERLY ROAD\INFRASTRUCTURE\CIVIL\DWG\GRADING & EROSION CONTROL.DWG
LAYOUT: GRADING & EROSION PLAN | USER: BRUCE | 10/27/2022 2:43:24 PM
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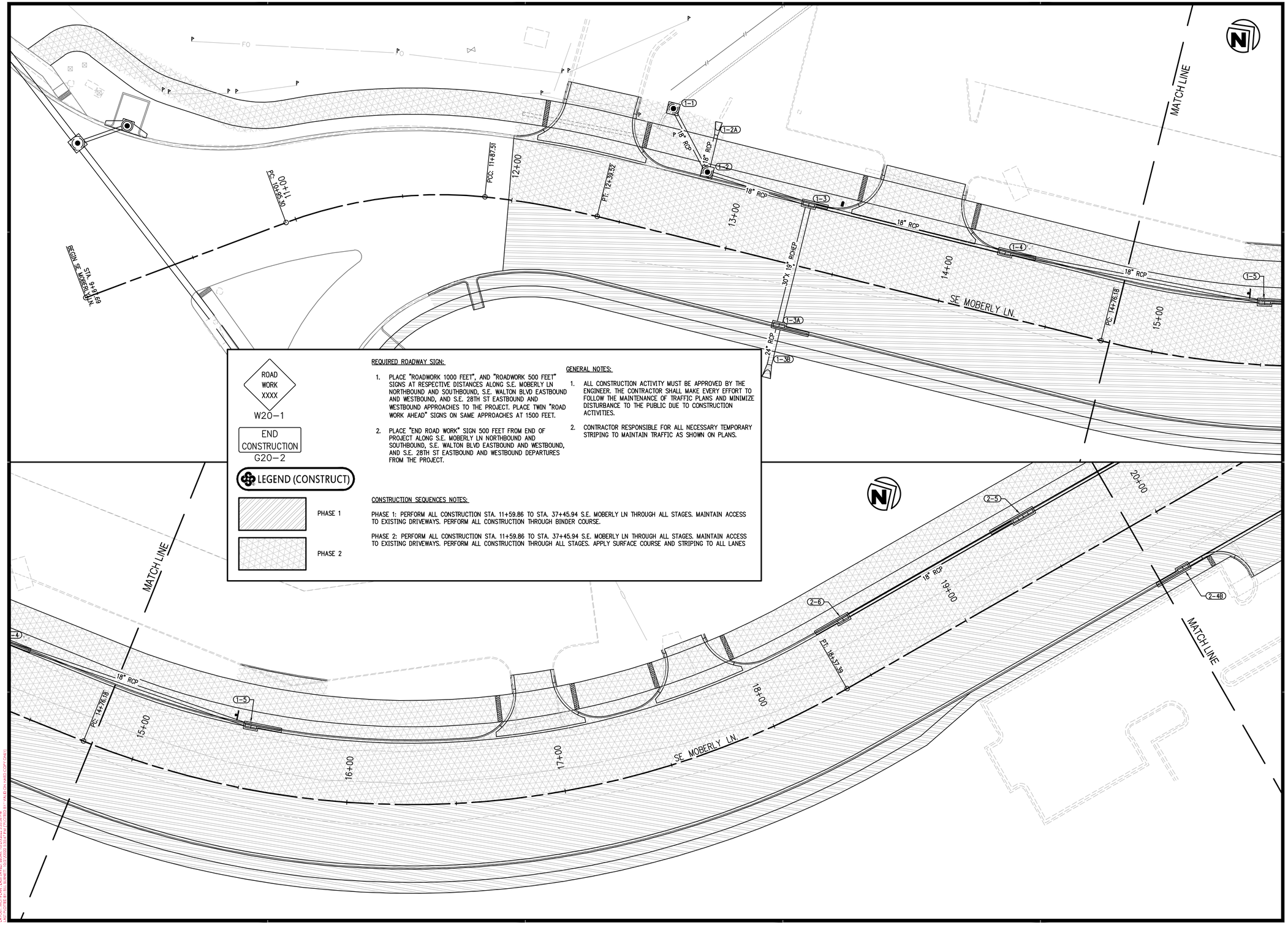

ROAD WORK XXXX

W20-1

END CONSTRUCTION

G20-2

LEGEND (CONSTRUCT)

PHASE 1

PHASE 2

REQUIRED ROADWAY SIGN:

1. PLACE "ROADWORK 1000 FEET", AND "ROADWORK 500 FEET" SIGNS AT RESPECTIVE DISTANCES ALONG S.E. MOBERLY LN NORTHBOUND AND SOUTHBOUND, S.E. WALTON BLVD EASTBOUND AND WESTBOUND, AND S.E. 28TH ST EASTBOUND AND WESTBOUND APPROACHES TO THE PROJECT. PLACE TWIN "ROAD WORK AHEAD" SIGNS ON SAME APPROACHES AT 1500 FEET.
2. PLACE "END ROAD WORK" SIGN 500 FEET FROM END OF PROJECT ALONG S.E. MOBERLY LN NORTHBOUND AND SOUTHBOUND, S.E. WALTON BLVD EASTBOUND AND WESTBOUND, AND S.E. 28TH ST EASTBOUND AND WESTBOUND DEPARTURES FROM THE PROJECT.

GENERAL NOTES:

1. ALL CONSTRUCTION ACTIVITY MUST BE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO FOLLOW THE MAINTENANCE OF TRAFFIC PLANS AND MINIMIZE DISTURBANCE TO THE PUBLIC DUE TO CONSTRUCTION ACTIVITIES.
2. CONTRACTOR RESPONSIBLE FOR ALL NECESSARY TEMPORARY STRIPING TO MAINTAIN TRAFFIC AS SHOWN ON PLANS.

CONSTRUCTION SEQUENCES NOTES:

PHASE 1: PERFORM ALL CONSTRUCTION STA. 11+59.86 TO STA. 37+45.94 S.E. MOBERLY LN THROUGH ALL STAGES. MAINTAIN ACCESS TO EXISTING DRIVEWAYS. PERFORM ALL CONSTRUCTION THROUGH BINDER COURSE.

PHASE 2: PERFORM ALL CONSTRUCTION STA. 11+59.86 TO STA. 37+45.94 S.E. MOBERLY LN THROUGH ALL STAGES. MAINTAIN ACCESS TO EXISTING DRIVEWAYS. PERFORM ALL CONSTRUCTION THROUGH ALL STAGES. APPLY SURFACE COURSE AND STRIPING TO ALL LANES

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GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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QC Date: MM/DD/YYYY

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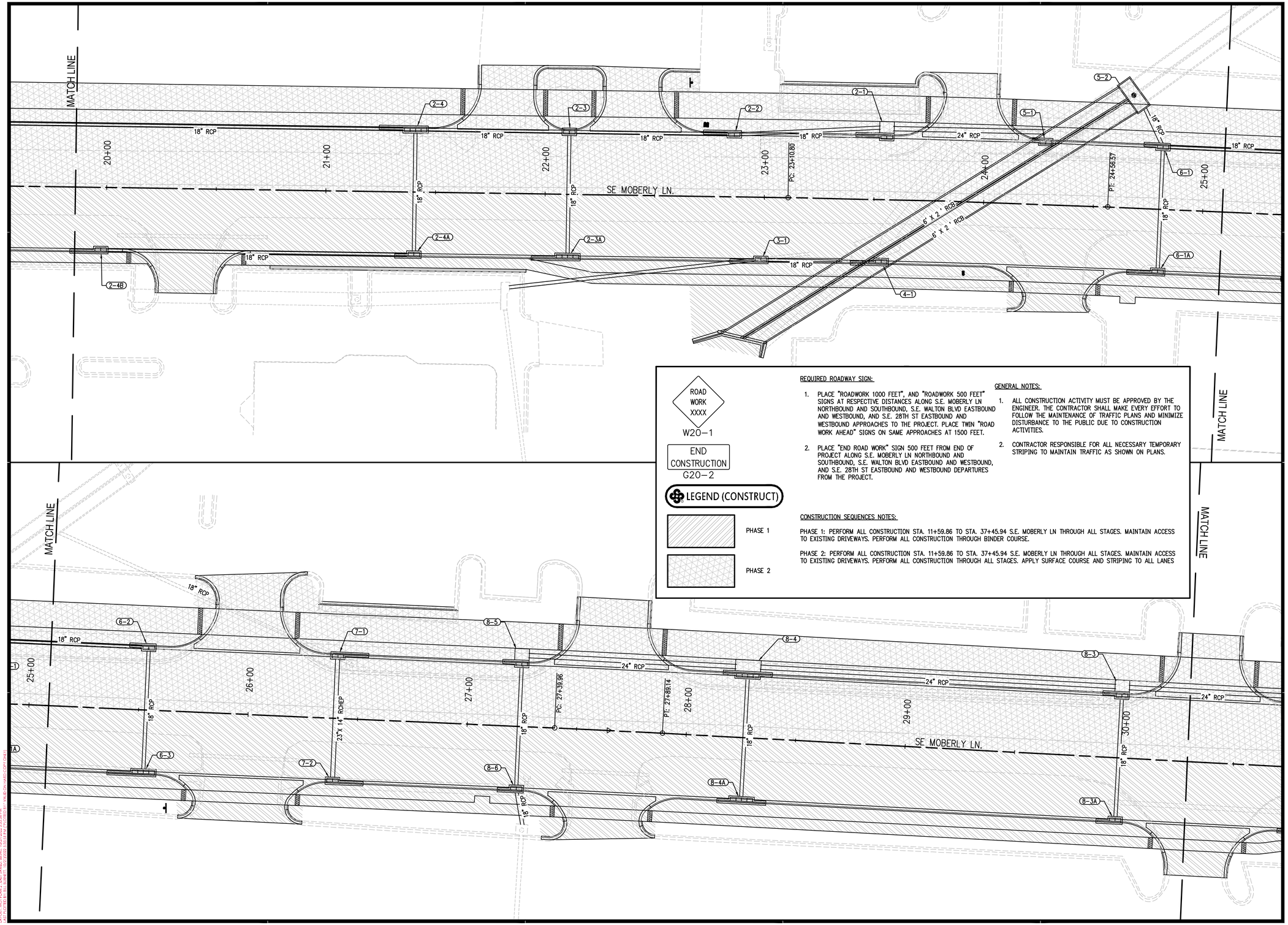
MOT PLAN

C-307

DRAWING: G:\21105500_MOBERLY\INFRASTRUCTURE\CIVIL\DWG\MOT PLAN.DWG
LAYOUT: LAYOUT PLAN | LAST PLOTTED: 10/20/2022 3:53:36 PM | PLOTTED BY: TYLER DAHLHAUS (CRAFTON, TULL & ASSOCIATES, INC.)



ROAD WORK XXXX
W20-1

END CONSTRUCTION
G20-2

LEGEND (CONSTRUCT)

PHASE 1

PHASE 2

REQUIRED ROADWAY SIGN:

1. PLACE "ROADWORK 1000 FEET", AND "ROADWORK 500 FEET" SIGNS AT RESPECTIVE DISTANCES ALONG S.E. MOBERLY LN NORTHBOUND AND SOUTHBOUND, S.E. WALTON BLVD EASTBOUND AND WESTBOUND, AND S.E. 28TH ST EASTBOUND AND WESTBOUND APPROACHES TO THE PROJECT. PLACE TWIN "ROAD WORK AHEAD" SIGNS ON SAME APPROACHES AT 1500 FEET.
2. PLACE "END ROAD WORK" SIGN 500 FEET FROM END OF PROJECT ALONG S.E. MOBERLY LN NORTHBOUND AND SOUTHBOUND, S.E. WALTON BLVD EASTBOUND AND WESTBOUND, AND S.E. 28TH ST EASTBOUND AND WESTBOUND DEPARTURES FROM THE PROJECT.

GENERAL NOTES:

1. ALL CONSTRUCTION ACTIVITY MUST BE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO FOLLOW THE MAINTENANCE OF TRAFFIC PLANS AND MINIMIZE DISTURBANCE TO THE PUBLIC DUE TO CONSTRUCTION ACTIVITIES.
2. CONTRACTOR RESPONSIBLE FOR ALL NECESSARY TEMPORARY STRIPING TO MAINTAIN TRAFFIC AS SHOWN ON PLANS.

CONSTRUCTION SEQUENCES NOTES:

PHASE 1: PERFORM ALL CONSTRUCTION STA. 11+59.86 TO STA. 37+45.94 S.E. MOBERLY LN THROUGH ALL STAGES. MAINTAIN ACCESS TO EXISTING DRIVEWAYS. PERFORM ALL CONSTRUCTION THROUGH BINDER COURSE.

PHASE 2: PERFORM ALL CONSTRUCTION STA. 11+59.86 TO STA. 37+45.94 S.E. MOBERLY LN THROUGH ALL STAGES. MAINTAIN ACCESS TO EXISTING DRIVEWAYS. PERFORM ALL CONSTRUCTION THROUGH ALL STAGES. APPLY SURFACE COURSE AND STRIPING TO ALL LANES

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CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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ISSUE DATE: 10/17/2022
CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

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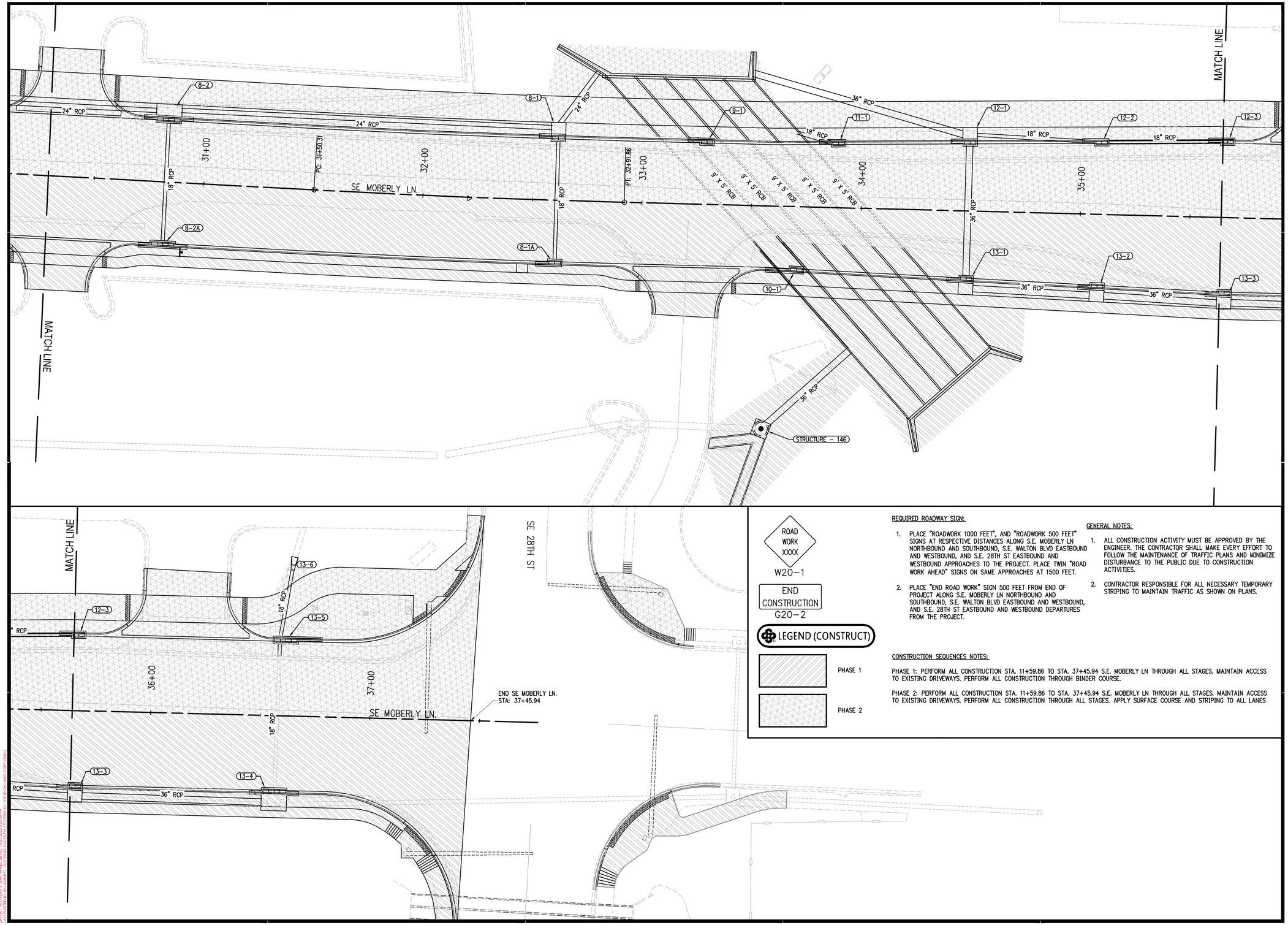
MOT PLAN

C-308



ROAD WORK XXXX

W20-1

END CONSTRUCTION

G20-2

LEGEND (CONSTRUCT)

PHASE 1

PHASE 2

REQUIRED ROADWAY SIGN:

1. PLACE "ROADWORK 1000 FEET", AND "ROADWORK 500 FEET" SIGNS AT RESPECTIVE DISTANCES ALONG S.E. MOBERLY LN NORTHBOUND AND SOUTHBOUND, S.E. WALTON BLVD EASTBOUND AND WESTBOUND, AND S.E. 28TH ST EASTBOUND AND WESTBOUND APPROACHES TO THE PROJECT. PLACE TWIN "ROAD WORK AHEAD" SIGNS ON SAME APPROACHES AT 1500 FEET.
2. PLACE "END ROAD WORK" SIGN 500 FEET FROM END OF PROJECT ALONG S.E. MOBERLY LN NORTHBOUND AND SOUTHBOUND, S.E. WALTON BLVD EASTBOUND AND WESTBOUND, AND S.E. 28TH ST EASTBOUND AND WESTBOUND DEPARTURES FROM THE PROJECT.

GENERAL NOTES:

1. ALL CONSTRUCTION ACTIVITY MUST BE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO FOLLOW THE MAINTENANCE OF TRAFFIC PLANS AND MINIMIZE DISTURBANCE TO THE PUBLIC DUE TO CONSTRUCTION ACTIVITIES.
2. CONTRACTOR RESPONSIBLE FOR ALL NECESSARY TEMPORARY STRIPING TO MAINTAIN TRAFFIC AS SHOWN ON PLANS.

CONSTRUCTION SEQUENCES NOTES:

PHASE 1: PERFORM ALL CONSTRUCTION STA. 11+59.86 TO STA. 37+45.94 S.E. MOBERLY LN THROUGH ALL STAGES. MAINTAIN ACCESS TO EXISTING DRIVEWAYS. PERFORM ALL CONSTRUCTION THROUGH BINDER COURSE.

PHASE 2: PERFORM ALL CONSTRUCTION STA. 11+59.86 TO STA. 37+45.94 S.E. MOBERLY LN THROUGH ALL STAGES. MAINTAIN ACCESS TO EXISTING DRIVEWAYS. PERFORM ALL CONSTRUCTION THROUGH ALL STAGES. APPLY SURFACE COURSE AND STRIPING TO ALL LANES

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GRAPHIC SCALE IN FEET
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MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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MOT PLAN

C-309

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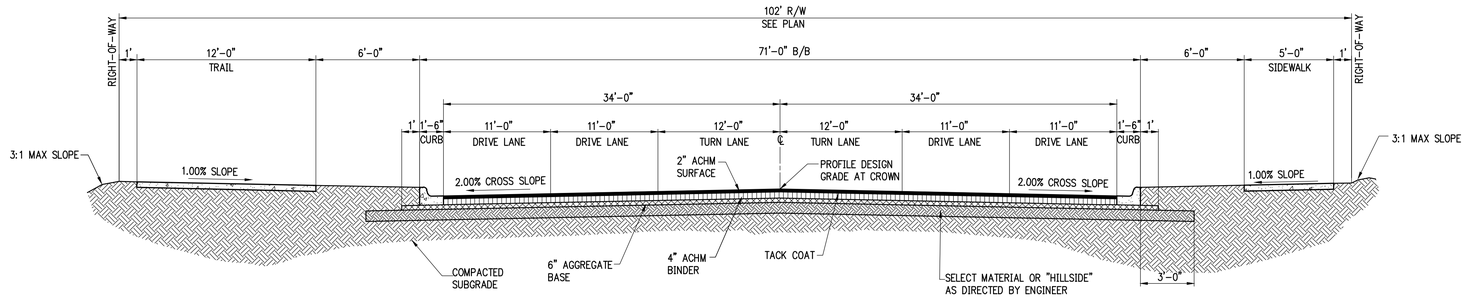
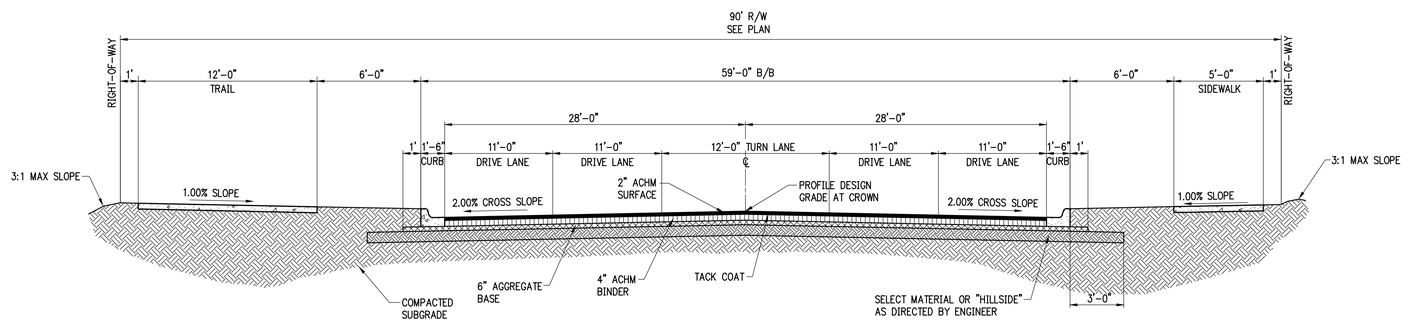


TYPICAL 6-LANE ASPHALT STREET SECTION

NTS STA. 35+64.50 – 37+13.50



TYPICAL 5-LANE ASPHALT STREET SECTION

NTS STA. 13+00.00 – STA. 32+85.78

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GRAPHIC SCALE IN FEET
20' 0 20'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

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QC by:
QC Date: MM/DD/YYYY

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TYPICAL SECTIONS

C-501

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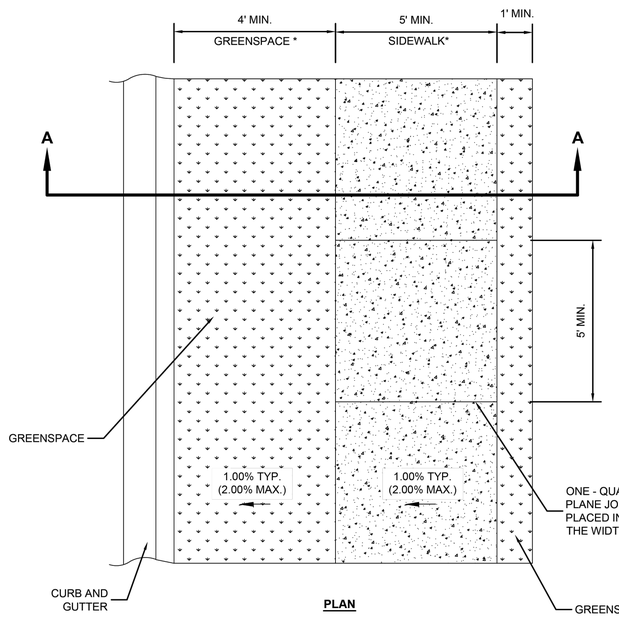
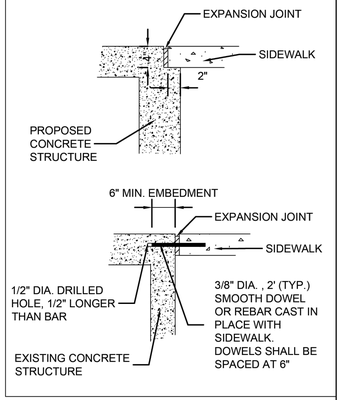
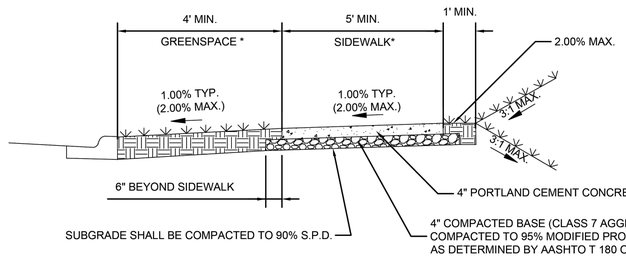


PLAN

CONNECTION TO CONCRETE STRUCTURES





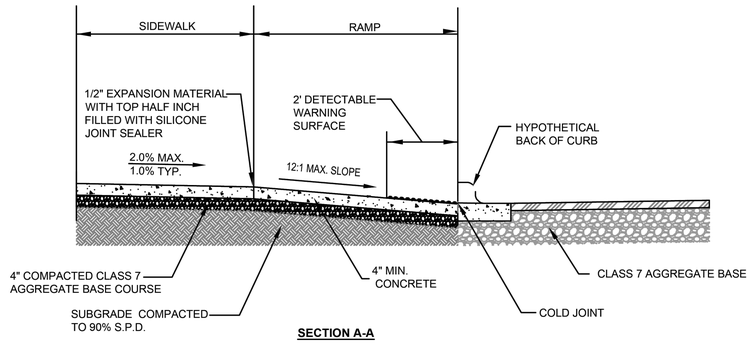
SECTION A-A

* SEE MASTER STREET PLAN TYPICAL SECTIONS FOR WIDTHS REQUIRED FOR EACH ROADWAY CLASSIFICATION.

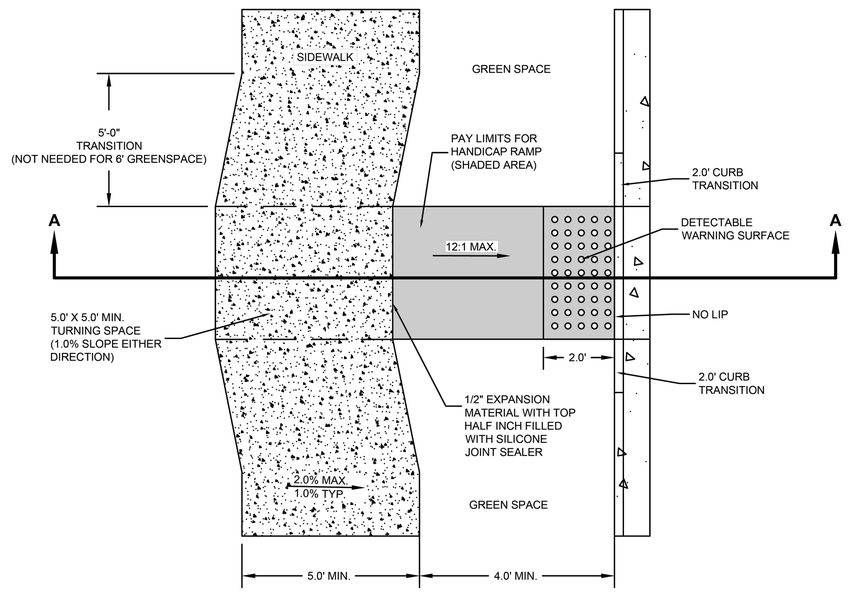
SIDEWALK CONSTRUCTION NOTES:

1. CONTRACTION (WEAKENED PLAN) JOINTS SHALL HAVE TOOLED OR SAW-CUT TRANSVERSE JOINTS WITH JOINT SPACING MATCHING SIDEWALK WIDTH. THE CONTRACTION JOINTS SHALL BE CONSTRUCTED TO 1/4 DEPTH OF THE SIDEWALK THICKNESS AND SHALL BE 1/8" TO 3/8" WIDE. EXPANSION JOINTS SHALL BE INSTALLED PERPENDICULAR TO THE SIDEWALK AT INTERVALS EQUAL TO FIVE (5) TIMES THE SIDEWALK WIDTH. EXPANSION JOINTS SHALL BE A MINIMUM OF 1/2" WIDTH AND EXTEND THE FULL DEPTH OF THE CONCRETE.
2. EXPANSION JOINT MATERIAL SHALL MEET AASHTO M213 FOR AN ASPHALTIC FIBER EXPANSION JOINT MATERIAL AND BE INSTALLED WITH A ZIP STRIP WHICH IS REMOVED AFTER THE CONCRETE HAS CURED AND SEALED WITH A MASTIC SEALER. EXPANSION JOINT MATERIAL SHALL BE LEFT 1/2" LOWER THAN GRADE OR TRIMMED 1/2" LOWER, AND FILLED WITH SELF-LEVELING SEALANT TO FINISHED GRADE.
3. ALL SIDEWALKS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
4. CONCRETE FOR SIDEWALK SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT.
5. ALL CONTRACTION JOINTS AND COLD JOINTS SHALL BE FILLED TO FINISHED GRADE WITH SELF-LEVELING SEALANT SUCH AS SONNEBORN SL-1 OR EQUIVALENT MEETING THE REQUIREMENTS OF ASTM C 920, TYPE S.
6. CLOSED CELL BACKER ROD SHALL BE USED IN DEEP JOINTS, AS NEEDED, ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
7. WHEN PLACING SIDEWALK AGAINST AN EXISTING CONCRETE STRUCTURE WHERE IT IS DESIRABLE THAT THE SIDEWALK REMAIN FLUSH, THE SIDEWALK SHALL BE DOWELED INTO THE STRUCTURE.

THE CITY OF BENTONVILLE	CITY OF BENTONVILLE ARKANSAS	DESCRIPTION: **SIDEWALK WITH GREENSPACE**	DATE: FEBRUARY, 2021
	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	TITLE: ***SIDEWALK DETAILS***	SHEET: **SW-1**



SECTION A-A



PLAN

NOTES:

1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

THE CITY OF BENTONVILLE	CITY OF BENTONVILLE ARKANSAS	DESCRIPTION: **SIDEWALK RAMP WITH 2' CURB TRANSITION**	DATE: FEBRUARY, 2021
	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	TITLE: ***SIDEWALK RAMP DETAIL***	SHEET: **SR-1**

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MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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BENTONVILLE STANDARD DETAILS

C-502

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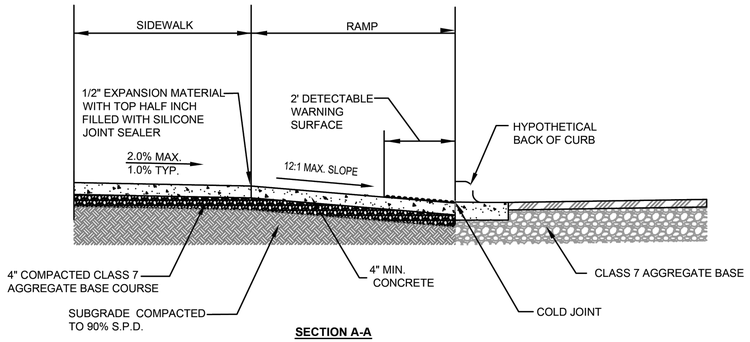
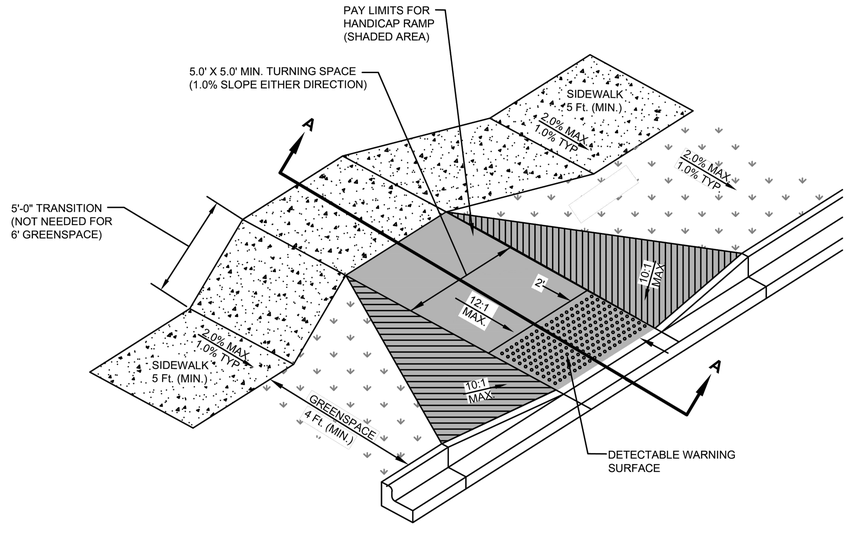


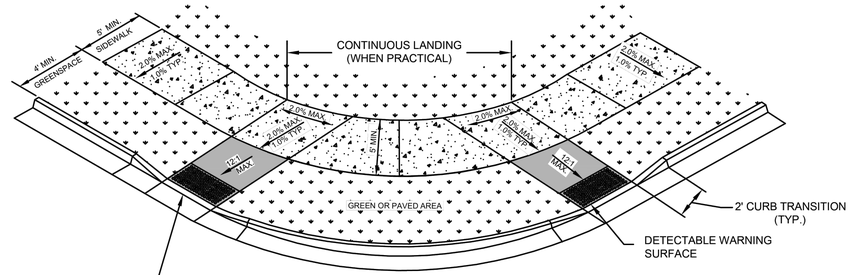
SECTION A-A



PLAN

NOTES:
1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

THE CITY OF BENTONVILLE ARKANSAS	CITY OF BENTONVILLE ARKANSAS	DESCRIPTION: **SIDEWALK RAMP WITH FLARED WINGS**	DATE: MARCH, 2021
	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	TITLE: ***SIDEWALK RAMP DETAIL***	SHEET: **SR-2**



NOTES:
1. CONCRETE FOR SIDEWALK RAMPS SHALL CONFORM TO ARDOT CLASS "S", 3500 PSI, 6.5 BAG MIX WITH 4-7% AIR ENTRAINMENT. ALL SIDEWALK RAMPS SHALL RECEIVE A BROOM FINISH AND ALL EDGES SHALL HAVE A 1/2" RADIUS EDGE. CONCRETE CURING COMPOUND SHALL BE SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL.
2. DETECTABLE WARNING SURFACES SHALL BE PLACED AT ALL LOCATIONS WHERE RAMPS CROSS A STREET OR A SIGNALIZED COMMERCIAL DRIVEWAY FOR THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS LOCATED AT THE BACK OF CURB AND PERPENDICULAR TO THE EDGE OF THE SIDEWALK RAMP. AT CURB RADII WHERE THE DISTANCE FROM THE PERPENDICULAR DETECTABLE WARNING SURFACE TO THE BACK OF CURB EXCEEDS 5-FT., THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB.
3. ALL SIDEWALK RAMPS REQUIRE A CITY INSPECTION PRIOR TO CONCRETE PLACEMENT.

THE CITY OF BENTONVILLE ARKANSAS	CITY OF BENTONVILLE ARKANSAS	DESCRIPTION: **SIDEWALK RAMP LOCATIONS AT RADIUS**	DATE: MARCH, 2021
	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	TITLE: ***SIDEWALK RAMP DETAIL***	SHEET: **SR-4**

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BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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QC Date: MM/DD/YYYY

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BENTONVILLE STANDARD DETAILS

C-503

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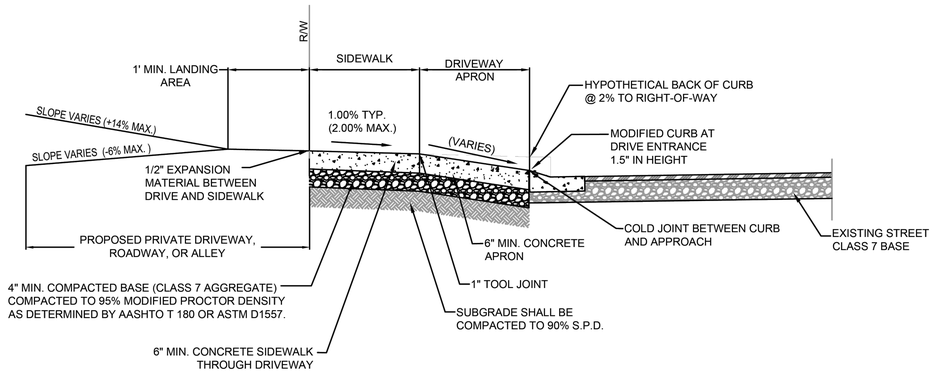
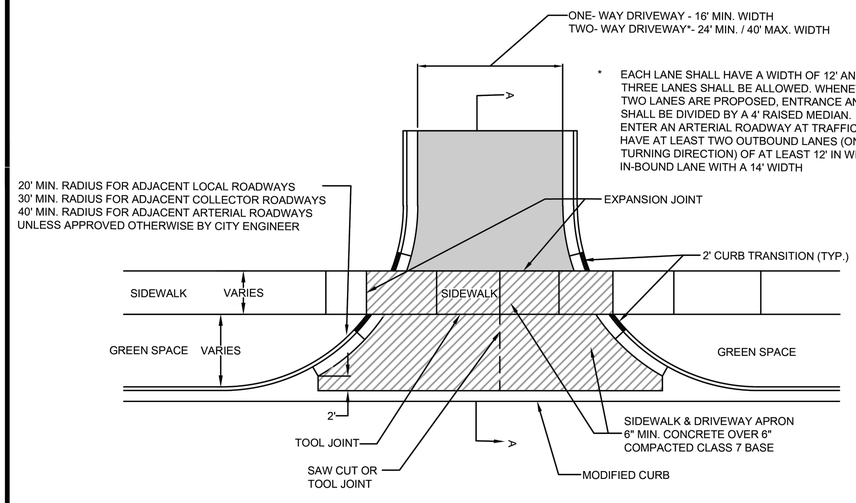


SECTION A-A



* EACH LANE SHALL HAVE A WIDTH OF 12' AND A MAXIMUM OF THREE LANES SHALL BE ALLOWED. WHENEVER MORE THAN TWO LANES ARE PROPOSED, ENTRANCE AND EXIT LANES SHALL BE DIVIDED BY A 4' RAISED MEDIAN. DRIVEWAYS THAT ENTER AN ARTERIAL ROADWAY AT TRAFFIC SIGNALS MUST HAVE AT LEAST TWO OUTBOUND LANES (ONE FOR EACH TURNING DIRECTION) OF AT LEAST 12' IN WIDTH, AND ONE IN-BOUND LANE WITH A 14' WIDTH

PLAN VIEW

NOTES:

1. FULL DEPTH EXPANSION JOINTS (SIX INCHES) SHALL BE PROVIDED AT THE BACK OF THE SIDEWALK THROUGH THE DRIVEWAY AND AT THE EDGE OF DRIVEWAY AS SHOWN ABOVE. EXPANSION MATERIAL SHALL BE ASPHALT IMPREGNATED FIBERBOARD OR APPROVED EQUAL. (NO WOOD)
2. CONCRETE TO BE SAW CUT OR PLACE A TOOL JOINT AT THE CENTER OF DRIVE AND SEALED. IF POSSIBLE CONTRACTOR SHALL TRY TO ALIGN THE JOINT AT THE CENTER OF THE DRIVE WITH THE A JOINT IN THE ADJACENT SIDEWALK. JOINTS SHALL BE PLACED SO THAT NO SLAB DIMENSION IS GREATER THAN 15'.
3. CONCRETE FOR DRIVEWAYS SHALL BE CLASS "S" PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH SECTION 802 OR 501, ARDOT STANDARD SPECIFICATIONS WITH A 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI AND 4% TO 7% AIR ENTRAINED.
4. ALL SIDEWALKS REQUIRE A CONCRETE CURING COMPOUND, SUCH AS SEALTIGHT 1600-WHITE MANUFACTURED BY W.R. MEADOWS, OR AN APPROVED EQUAL
5. ALL DRIVEWAY APRONS SHALL BE CONSTRUCTED WITH A BROOM FINISH. TEXTURED, STAMPED, OR EXPOSED AGGREGATE CONCRETE IS NOT ALLOWED WITHIN STREET RIGHT OF WAY.
6. ALL CURB CUTS FOR DRIVEWAY APPROACHES REQUIRE AN INSPECTION PRIOR TO AND AFTER CONCRETE PLACEMENT.
7. CONCRETE DRIVEWAYS SHALL BE A MINIMUM OF 6 INCHES OF CONCRETE OVER 4 INCHES OF COMPACTED CLASS 7 AGGREGATE BASE COURSE OVER PREPARED SUBGRADE. COMMERCIAL ASPHALT DRIVEWAYS BEYOND THE CONCRETE APRON SHALL BE A MINIMUM OF 3 INCHES OF ASPHALT SURFACE COURSE OVER 6 INCHES OF COMPACTED CLASS 7 AGGREGATE BASE COURSE OVER PREPARED SUBGRADE.
8. DRIVEWAY APRON AND MODIFIED CURB SHALL BE PLACED MONOLITHICALLY.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: **STANDARD COMMERCIAL DRIVEWAY WITH GREEN SPACE**	DATE: MARCH, 2021
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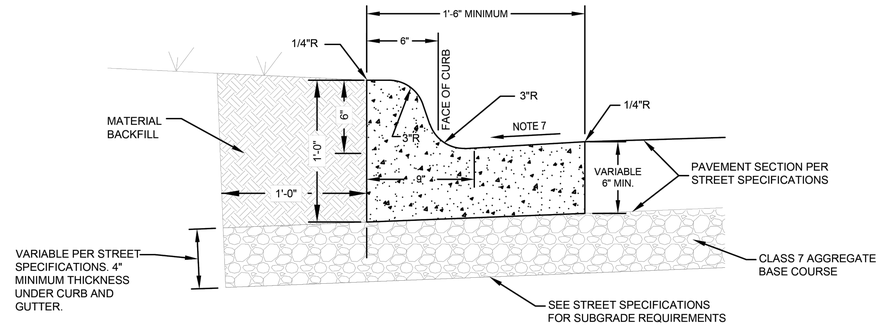

CURB & GUTTER NOTES:

1. CONCRETE SHALL BE CLASS "S" PORTLAND CEMENT CONCRETE IN ACCORDANCE WITH SECTION 802 OR 501, ARDOT STANDARD SPECIFICATIONS WITH A 28-DAY COMPRESSIVE STRENGTH OF 3,500 p.s.i. ADMIXTURES SHALL NOT BE USED UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER. MAXIMUM SLUMP SHALL NOT EXCEED 4". CONCRETE MAY NOT BE POURED IF A FALLING AIR TEMPERATURE FALLS BELOW 40°F NOR RESUMED UNTIL AN ASCENDING AIR TEMPERATURE RISES ABOVE 35°F WITHOUT SPECIFIC AUTHORITY FROM THE CITY REPRESENTATIVE.
2. ½" WIDE EXPANSION JOINTS SHALL BE REQUIRED AT 75 FT. INTERVALS AND AT ALL STATIONARY STRUCTURES AND ENDS OF CURB RETURNS. EXPANSION JOINTS SHALL BE MADE WITH 1/2 " ASPHALT IMPREGNATED FIBERBOARD CONFORMING TO AASHTO M-213 . ACCEPTABLE MATERIAL MAY BE FOUND ON THE CURRENT ARDOT "QUALIFIED PRODUCTS LIST". EXPANSION JOINT MATERIAL SHALL BE LEFT 1/2" LOWER THAN GRADE OR TRIMMED 1/2" LOWER THAN GRADE.
3. EXPANSION JOINT MATERIAL SHALL BE FULL DEPTH OF THE CURB AND PERPENDICULAR TO THE CURB LINE.
4. FINISH SHALL BE MEDIUM BROOM FINISH.
5. CURING COMPOUND SHALL BE A WHITE PIGMENTED MEMBRANE-FORMING LIQUID CONFORMING TO THE REQUIREMENTS OF ASTM DESIGNATION C309, TYPE 2.
6. CONTRACTION JOINTS SHALL BE 1/8" TO 3/8" X 1 1/2" AT 15 FT. INTERVALS. ALL CONTRACTION JOINTS AND COLD JOINTS SHALL BE FILLED WITH JOINT SEALANT TO FINISHED GRADE. JOINT SEALING COMPOUND FOR CONTRACTION JOINTS SHALL BE SONNEBORN "SONOLASTIC SLI" OR APPROVED EQUAL. CLOSED CELL BACKER ROD SHALL BE USED IN DEEP JOINTS, AS NEEDED, ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
7. GUTTER SHALL MATCH THE CROSS SLOPE OF THE ROAD WITHIN ± 0.5%. GUTTER DRAINING THE OPPOSITE DIRECTION AS THE ROAD WILL NOT BE ACCEPTED.
8. CONTRACTOR SHALL GIVE THE CITY AT LEAST TWENTY-FOUR (24) HOURS ADVANCE NOTICE BEFORE PLACING CONCRETE, AND THE SUBGRADE SHALL BE CHECKED AND APPROVED BY THE CITY REPRESENTATIVE BEFORE ANY CONCRETE IS PLACED.
9. AFTER CURBS HAVE SET SUFFICIENTLY, THEY SHALL BE BACKFILLED WITH APPROVED MATERIAL AND GRADED SO THAT NO PONDING WILL OCCUR. AREAS ON WHICH SIDEWALK OR DRIVEWAYS ARE TO BE CONSTRUCTED SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS MEASURED BY AASHTO T99 OR ASTM D698 (STANDARD PROCTOR).
10. FOR CONCRETE STREETS, IF THE CURB AND GUTTER IS CAST SEPARATELY, 1/2 " DIAMETER DOWEL RODS 30" LONG SHALL BE PROVIDED A MINIMUM OF EVERY 30" ON-CENTER.

CITY OF BENTONVILLE ARKANSAS	TRANSPORTATION DIVISION 3200 SW MUNICIPAL DRIVE PHONE: (479) 271-6840	DESCRIPTION: **TYPE "A" CURB & GUTTER**	DATE: FEBRUARY, 2021
		TITLE: ***CURB & GUTTER DETAILS***	SHEET: **CG-1**

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CERTIFICATE OF AUTHORIZATION:

CERTIFICATE OF AUTHORIZATION — CRAFTON, TULL & ASSOCIATES, INC. No. 109 — ARKANSAS ENGINEER

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 2110500
ISSUE DATE: 04/18/2022
CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

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BENTONVILLE STANDARD DETAILS

C-504

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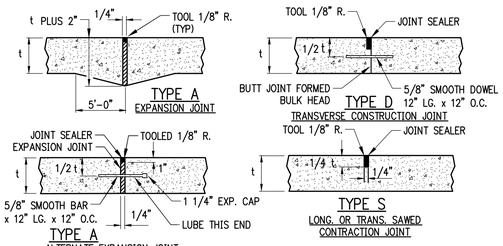
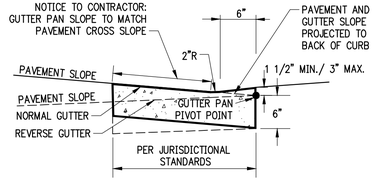


NOTES:

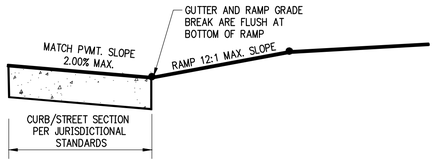
1. ALL JOINTS SPACING NOT TO EXCEED 15'–0" INTERVALS.
2. SAWED JOINTS SHALL BE CUT AS SOON AS POSSIBLE AFTER FINISH WORK IS COMPLETE & CONCRETE HAS CURED TO ACCEPT TYPE OF SAW EQUIPMENT.
3. ASSURE SAW JOINTS ARE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE JOINT SEALANT.
4. SPECIFIED JOINT SEALANT APPLIED IN ACCORDANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS SEALANT TOOLED 1/8" BELOW PAVEMENT SURFACE.
5. DRILLING BY HAND OR PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.
6. COMPLETELY FILL HOLE WITH EPOXY GROUT AND INSERT DOWEL WITH EXPANSION CAPS.
7. DOWELS SHALL BE ALIGNED PERPENDICULAR TO THE JOINT.

CONCRETE PAVEMENT JOINTING DETAIL

NTS AUG. 25, 2020



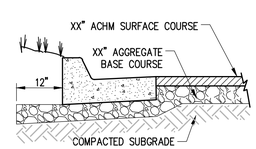
TYPICAL MOUNTABLE CURB SECTION AT DRIVEWAYS



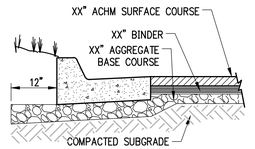
STREET GUTTER AT RAMP TYP. SECTION

TYPICAL CURB AND GUTTER SECTIONS

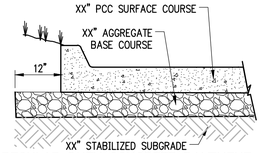
NTS AUG. 13, 2020



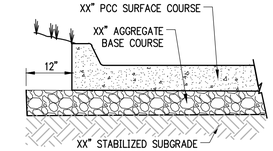
REGULAR DUTY ASPHALT PAVEMENT



HEAVY DUTY ASPHALT PAVEMENT



REGULAR DUTY CONCRETE PAVEMENT



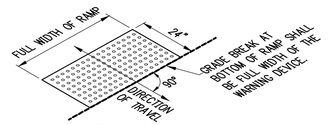
HEAVY DUTY CONCRETE PAVEMENT

NOTES:

1. THE SUBGRADE UNDER PAVEMENTS SHALL BE PREPARED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
2. AFTER PROOF ROLLING WITH A LOADED TANDEM AXLE DUMP TRUCK AND PREPARING DEEP SUBGRADE DEFICIENCIES, THE ENTIRE SUBGRADE SHOULD BE SCARIFIED TO A DEPTH OF 8" AND UNIFORMLY COMPACTED TO AT LEAST 95% OF MODIFIED PROCTOR.
3. AGGREGATE BASE COURSE MIXTURES SHALL CONFORM WITH THE GRADATION, COMPACTION AND OTHER REQUIREMENTS SHOWN IN THE CONTRACT SPECIFICATIONS OR WITH THE LOCAL STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
4. ASPHALTIC SURFACE AND BINDER COURSES SHALL CONFORM WITH THE GRADATION, COMPACTION AND OTHER REQUIREMENTS SHOWN IN THE CONTRACT SPECIFICATIONS OR WITH THE LOCAL STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
5. PORTLAND CEMENT CONCRETE PAVEMENT SHALL CONFORM WITH THE REQUIREMENTS SHOWN IN THE CONTRACT SPECIFICATIONS OR WITH THE LOCAL STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
6. THE CONTRACTOR SHALL APPLY A TACK COAT TO THE FACE OF THE CONCRETE GUTTER WHERE THE GUTTER CONTACTS ASPHALT.

PAVEMENT SECTIONS

NTS AUG. 25, 2020



WARNING DEVICE ALIGNMENT

1. DETECTABLE WARNING SURFACES SHALL CONSIST OF TRUNCATED DOMES ALIGNED IN A SQUARE OR RADIAL GRID PATTERN AND SHALL COMPLY WITH ADA 705 GUIDELINES.
2. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT GUTTER, STREET OR HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.

DETECTABLE WARNING DEVICE

NTS AUG. 25, 2020

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MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 04/18/2022
CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

PRELIMINARY PLANS

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SITE DETAILS

C-505

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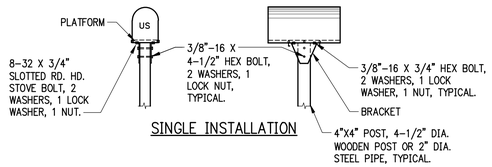

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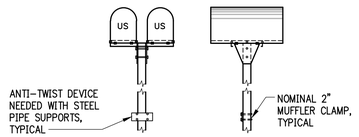

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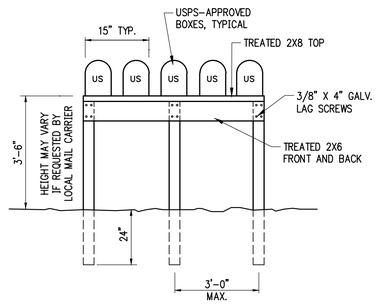
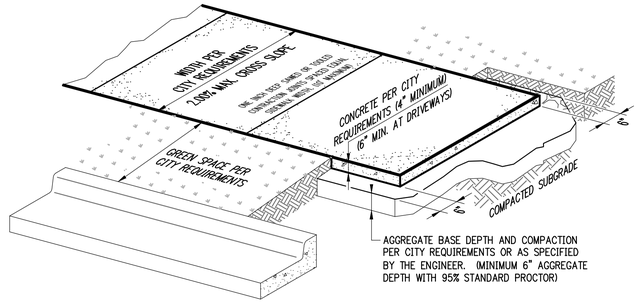


TYP. MAILBOX RELOCATION DETAIL
NTS

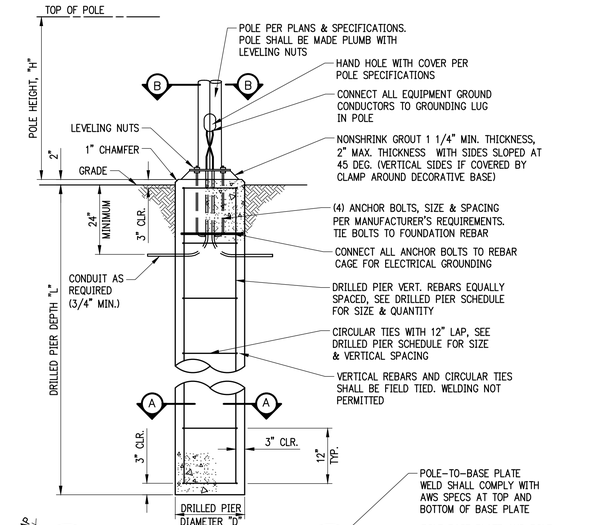
NOTES:
1. PROVIDE 1/2" EXPANSION JOINT BETWEEN SIDEWALK AND ALL STATIONARY OBJECTS.
2. CONCRETE MIXTURE TO BE PER CITY REQUIREMENTS OR AS SPECIFIED BY THE ENGINEER.
3. PROVIDE 1/2" TOOLED RADIUS ON ALL EXPOSED EDGES.
4. CONCRETE TO BE MINIMUM 4000 PSI, 4–7% AE, OR AS REQUIRED BY CITY.
5. CONTRACTION/EXPANSION JOINTS PER CITY REQUIREMENTS OR AS SPECIFIED BY THE ENGINEER. MINIMUM: 5'/25' FOR 5' WIDE SIDEWALK, 6'/24' FOR 6' WIDE SIDEWALK. EXPANSION JOINTS SHALL BE 1/2" X FULL DEPTH.



PUBLIC CONCRETE SIDEWALK WITHIN RIGHT–OF–WAY
NTS

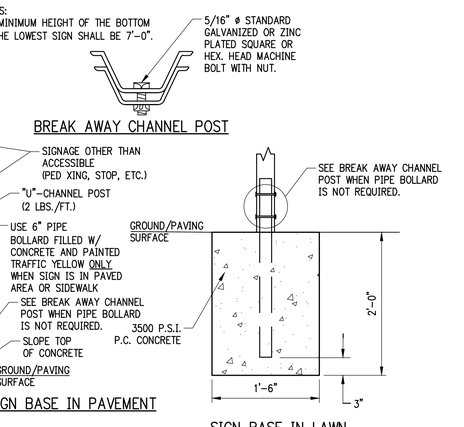
REVISED 05/10/11

DRILLED PIER SCHEDULE				
POLE HEIGHT "H"	DRILLED PIER DIAMETER "D"	DRILLED PIER DEPTH "L"	DRILLED PIER VERT. REBAR	CIRCULAR TIES
UP TO 9'–0"	18"	2'–8"	(6)–#5	#3 @ 12" OC VERT
12'–0"	18"	3'–0"	(6)–#5	#3 @ 12" OC VERT
20'–0"	24"	8'–0"	(8)–#5	#3 @ 12" OC VERT
30'–0"	24"	8'–3"	(8)–#5	#3 @ 12" OC VERT
40'–0"	30"	9'–0"	(8)–#7	#3 @ 12" OC VERT



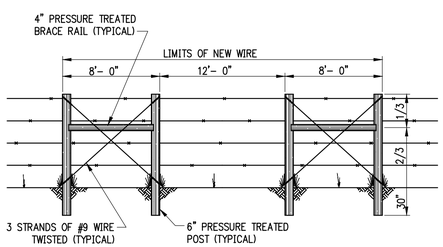
NOTES:
1. 3500 PSI MIN. 28 DAY COMPRESSIVE STRENGTH CONC. WITH GRADE 60 RE–BARS.
2. FOUNDATION EXCAVATION SHALL BE BY AUGER IN UNDISTURBED OR PROPERLY COMPACTED FILL PER SPECIFICATIONS. SIZE OF AUGER SHALL MATCH DIAMETER OF PIER.
3. IF GROUNDWATER IS PRESENT IN AUGER HOLE, REMOVE BEFORE POURING CONCRETE.
4. DESIGN CRITERIA:
   – IN PLACE SOIL IS ASSUMED TO BE CLASS 5 OF IBC 2006, TABLE 1804.2 WITH INCREASED ALLOWABLE LATERAL BEARING OF 200 PSF/FT PER SECTION 1804.3.1.
   – BASIC WIND SPEED (3 SECOND GUST) = 90 MPH
   – EXPOSURE CATEGORY C
   – IMPORTANCE FACTOR = 1.0

ROUND LIGHT FOUNDATION – AT GRADE
NTS



SIGN POST INSTALLATION
NTS

NOTES:
1. H–BRACE UNITS SHALL BE INSTALLED PRIOR TO CUTTING EXISTING FENCE
2. HEIGHT OF POST TO MATCH EXISTING POSTS.
3. NEW WIRE SHALL BE THE SAME TYPE AS EXISTING FENCE.



BARBED WIRE FENCE CROSSING REPAIR
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BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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SITE DETAILS

C-506

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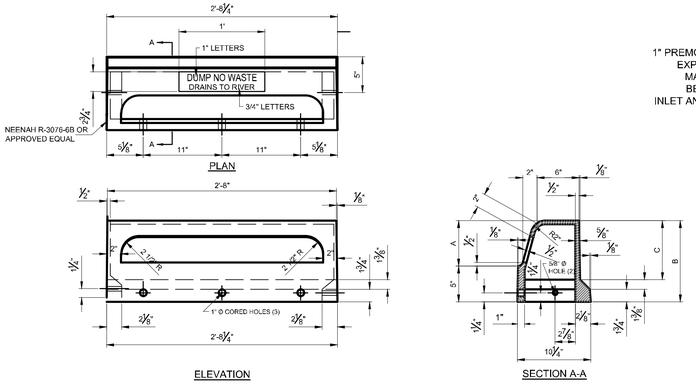
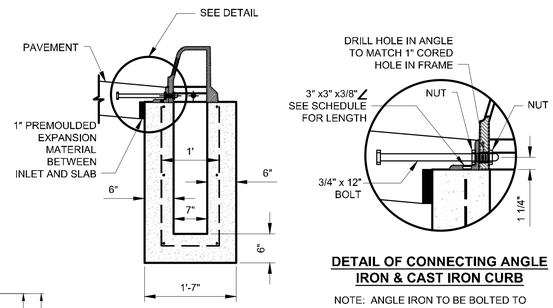
COMBINATION INLET DETAIL

NTS

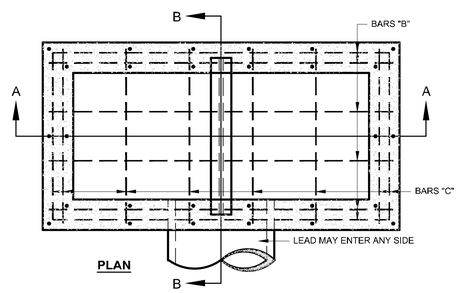


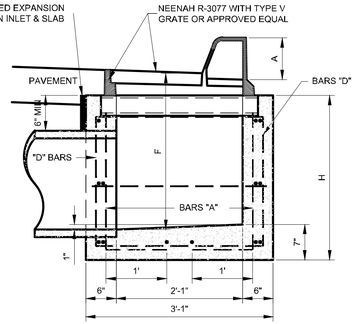
#2 CAST IRON STORM SEWER CURB INLET HOOD



DETAIL OF CONNECTING ANGLE IRON & CAST IRON CURB

NOTE: ANGLE IRON TO BE BOLTED TO CURB WITH 3 (3/4" x 12") MACHINE BOLTS IN EACH CURB SECTION.

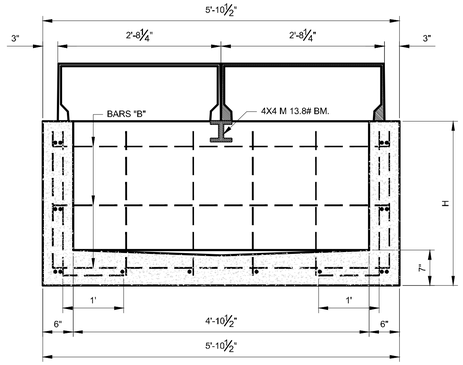




SECTION B-B

#2 CAST IRON STORM SEWER INLET FRAME WITH CURB INLET

VARIABLE DIMENSION FOR ALL CURB CASTINGS			
	A	B	C
6" CURB FACE	7"	11 3/8"	8 1/4"
8" CURB FACE	9"	13 3/8"	10 1/4"



SECTION A-A

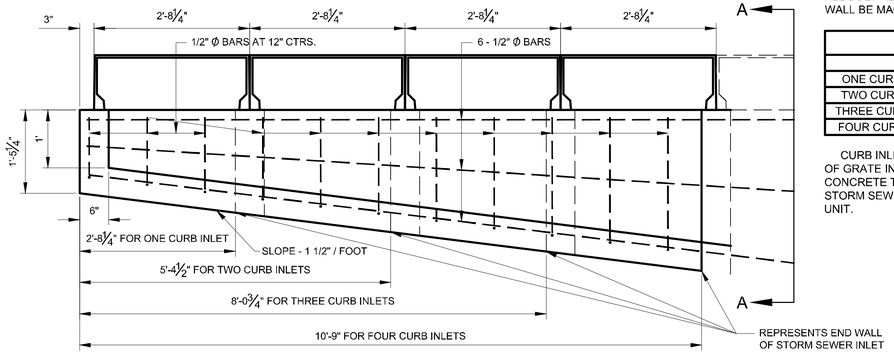
BAR LIST & QUANTITIES FOR DOUBLE GRATE & CURB INLET					
SIZE OF LEAD	H MINIMUM	F MINIMUM	CLASS A CONC. C.Y.	REINF. STL. LBS.	
18"	2' - 8 1/2"	2.57 FT.	1.02	137	
24"	3' - 3"	3.11 FT.	1.18	147	
30"	3' - 9 1/2"	3.66 FT.	1.34	180	

LEAD	PER ADDITIONAL FOOT OF DEPTH				BARS A (MIN.)	
	CONC. C.Y.		CONC. C.Y.		SIZE	#
18"	0.295		* 19.0		1/2" ϕ x (H+8")	14
18"					1/2" ϕ x (H+8")	14
18"					1/2" ϕ x (H+8")	14
LEAD	BARS B		BARS C		BARS D (MIN.)	
	SIZE	#	SIZE	#	SIZE	#
18"	1/2" ϕ x 5' - 6"	14	1/2" ϕ x 2' - 9"	16	1/2" ϕ x (H+4")	14
18"	1/2" ϕ x 5' - 6"	14	1/2" ϕ x 2' - 9"	16	1/2" ϕ x (H+4")	14
18"	1/2" ϕ x 5' - 6"	18	1/2" ϕ x 2' - 9"	20	1/2" ϕ x (H+4")	14

* HORIZONTAL BARS ARE APPROXIMATELY 12" CENTERS. WHEN ADDITIONAL BARS ARE REQUIRED DUE TO INCREASE OF DEPTH OF INLET 22.5 LBS OF REINFORCING STEEL IS TO BE ADDED FOR EACH SET OF BARS.

NOTE:
ALL COST OF 4 X 4 M 13.8 #BM SUPPORTS FOR GRATE FRAME TO BE INCLUDED IN THE PRICE OF BID FOR INLET FRAMES AND GRATES.

QUANTITIES OF ANGLE IRON FOR CURB INLETS		
INLET #	# PIECES	LENGTH OF 3" x 3" ∠
2 - 0		
2 - 1	1	5' - 1 5/8"
2 - 2	1	10' - 6 1/8"
2 - 3	1	15' - 10 5/8"
2 - 4	2	10' - 6 1/8"



ELEVATION

#4 CAST IRON STORM SEWER INLET FRAME WITH CURB INLET

INLET NOTES:

1. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS APPROVED BY ENGINEER AND ACCEPTABLE BY THE GOVERNING JURISDICTION.
2. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE O.D. BY 1–1/2".
3. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES.
4. ALL REINFORCING BARS SHALL HAVE 1–1/2" MINIMUM COVER
5. FOR STRUCTURES OVER 5 FEET IN HEIGHT, PROVIDE NEENAH R–1980–E OR EQUAL CAST IRON MANHOLE STEPS @ 16" O.C. IF REQUIRED BY OWNER OR JURISDICTION.
6. FOR GENERIC GRATED INLET, USE SIMILAR TO EAST JORDAN 1020M1 GRATE WITH APPROPRIATE RING UNLESS OTHERWISE SPECIFIED BY ENGINEER OR REQUIRED BY JURISDICTION.
7. IN LIEU OF SIDEWALK NOTCH, CONTRACTOR MAY INSTALL 12" LONG #4 SMOOTH DOWEL BARS WITH EXP. CAPS @ 12" O.C. BETWEEN INLET TOP AND ADJACENT SIDEWALK.
8. PROVIDE 6" MINIMUM CLEARANCE BETWEEN PIPE O.D. AND INLET SIDES, TOP, EXTENSIONS, DEPRESSIONS, AND OPENINGS.
9. CONCRETE TO BE CLASS B, 3500#, WITH 4%–7% A.E.
10. TOP OF INLET AND SURFACE OF LID MUST BE FLUSH WITH SIDEWALK. MAXIMUM VERTICAL CHANGE SHALL NOT EXCEED 1/4 INCH.

GENERAL NOTES:

CASTING SHALL CONFORM TO THE A.S.T.M. SPECIFICATIONS FOR GRAY-IRON CASTINGS, SERIAL DESIGNATION A-48-29.

NO WORDING OR MARKING OF ANY KIND OTHER THAN THOSE SHOWN ON THE PLANS WILL BE PERMITTED ON THESE CASTINGS.

ALL BOLT REQUIREMENTS FOR THESE STRUCTURES WALL BE MACHINE BOLTS.

QUANTITIES FOR CURB INLETS		
	CLASS A CONC.	STEEL
ONE CURB INLET	0.20	26
TWO CURB INLET	0.43	44
THREE CURB INLET	0.69	62
FOUR CURB INLET	0.95	80

CURB INLETS SHALL BE PLACED ON UPSTREAM SIDE OF GRATE INLETS UNLESS OTHERWISE SPECIFIED. CONCRETE TROUGH FOR CURB INLETS AND CONCRETE STORM SEWER INLETS SHALL BE CONSTRUCTED AS ONE UNIT.

CONCRETE CHARACTERISTICS	CLASS A	CLASS B
MIN. COMPRESSION STRENGTH (PSI AT 28 DAYS)	3000	3500
MIN. CEMENT CONTENT (BAGS PER CUBIC YARD)	5.5	6.0
MAX. NET WATER / 94LB. BAG (GALLONS)	6.5	5.5
SLUMP RANGE (INCHES)	1–4*	1–4*
AIR CONTENT RANGE (%)	4–7	4–7
MAX. FLY ASH CONTENT (%)	20	20

* MAX. SLUMP SHALL BE 2" WHEN SLIP FORM PAVEMENT METHODS ARE USED.

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CERTIFICATE OF AUTHORIZATION:

CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 10/17/2022
CONTACT: S. BURNETT
QC by:
QC Date: MM/DD/YYYY

PRELIMINARY PLANS

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DRAINAGE DETAILS

C-507

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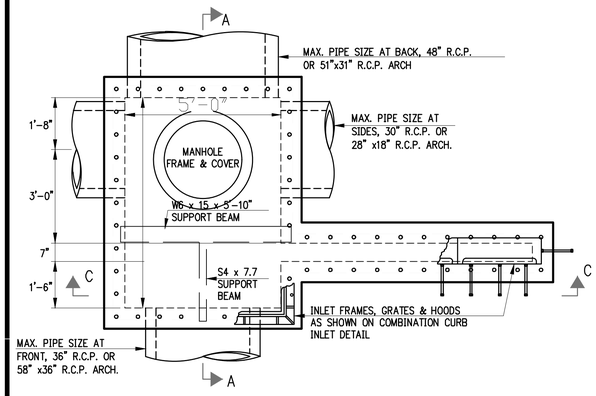
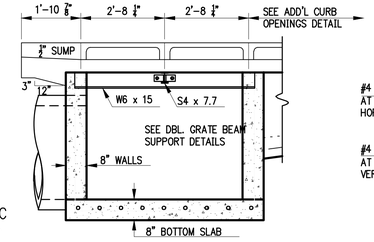
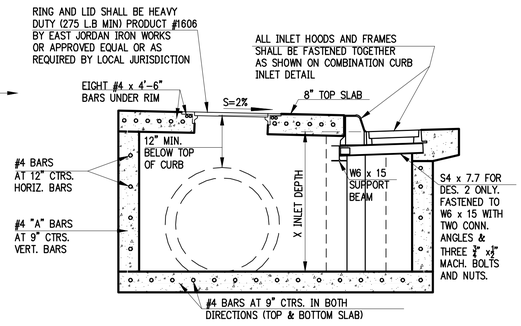


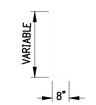
PLAN – COMBINATION CURB INLET W/ JCT. BOX



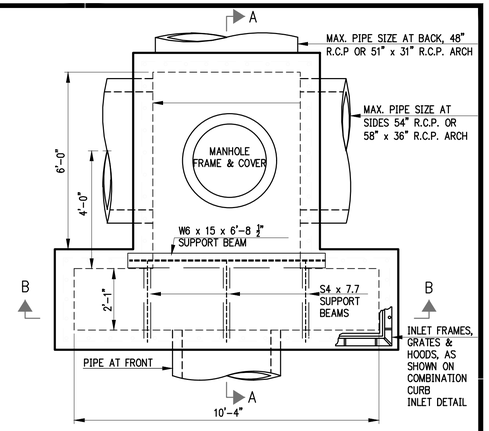
SECTION C–C



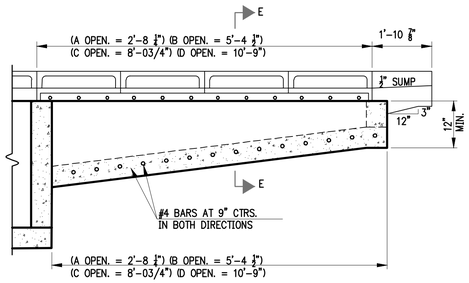
SECTION A–A



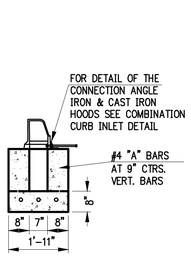
#4 "A" BAR (VERTICAL BARS)



DOUBLE COMBINATION CURB INLET W/ JCT. BOX



ADDITIONAL CURB OPENINGS DETAIL



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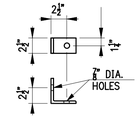
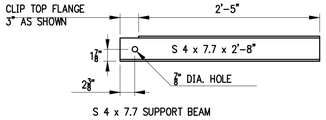
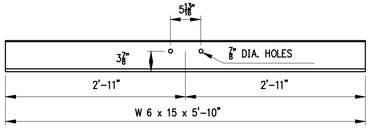


L 4 x 4 x 3/8 x 2 1/2" CONNECTION ANGLE



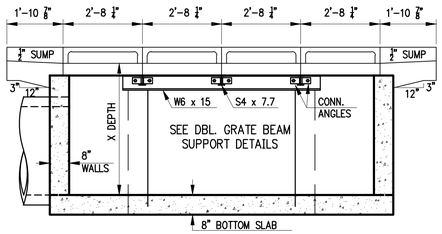
S 4 x 7.7 SUPPORT BEAM



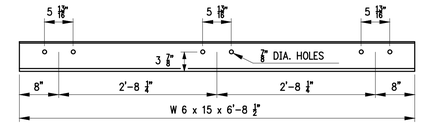
W 6 x 15 SUPPORT BEAM FOR DES. 2 DOUBLE GRATE

DOUBLE GRATE SUPPORT BEAM DETAILS

NOTES: S 4 x 7.7 SUPPORT BEAM(S) SHALL BE CONNECTED TO DOUBLE GRATE SUPPORT BEAMS USING CONNECTION ANGLES & 3/4" x 2" MACHINE BOLTS & NUTS AS REQUIRED.



SECTION B–B



W 6 x 15 SUPPORT BEAM FOR DES. 3 DOUBLE GRATE

COMBINATION INLET WITH JUNCTION BOX

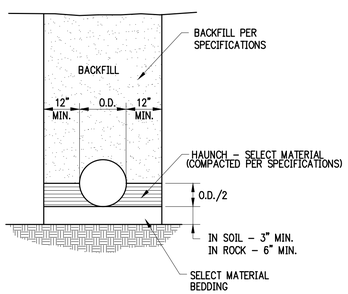
NTS NOTE: THIS DETAIL IS GENERIC, NOT JURISDICTION OR SITE–SPECIFIC. USE JURISDICTION–SPECIFIC DETAILS WHEN AND WHERE REQUIRED.

NOTES:

1. UNDER PAVEMENT, BACKFILL ENTIRE EXCAVATION WITH "ENTER TYPE HERE" AGGREGATE BASE MATERIAL COMPACTED IN 8" LIFTS TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.

CONSTRUCTION SEQUENCE

1. PLACE SELECT BEDDING MATERIAL TO GRADE.
2. COMPACT SELECT BEDDING BELOW THE PIPE.
3. INSTALL PIPE TO GRADE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SPECIFICATIONS.



CONCRETE PIPE INSTALLATION

NTS

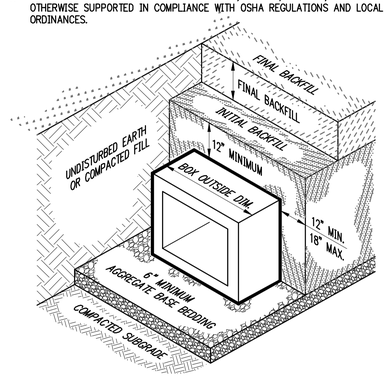
CONCRETE CHARACTERISTICS	CLASS A	CLASS B
MIN. COMPRESSION STRENGTH (PSI AT 28 DAYS)	3000	3500
MIN. CEMENT CONTENT (BAGS PER CUBIC YARD)	5.5	6.0
MAX. NET WATER / 94LB. BAG (GALLONS)	6.5	5.5
SLUMP RANGE (INCHES)	1–4*	1–4*
AIR CONTENT RANGE (%)	4–7	4–7
MAX. FLY ASH CONTENT (%)	20	20

* MAX. SLUMP SHALL BE 2" WHEN SLIP FORM PAVEMENT METHODS ARE USED.

REVISED 04/18/15

NOTES:

1. INITIAL BACKFILL IN NON–PAVEMENT AREAS SHALL BE COMPACTED TO 85% STANDARD PROCTOR.
2. INITIAL BACKFILL IN PAVEMENT AREAS SHALL TO 95% MODIFIED PROCTOR.
3. IN PAVEMENT AREAS, FINAL BACKFILL SHALL BE PER TYPICAL PAVEMENT SECTION.
4. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321–LATEST EDITION.
5. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 6" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
6. FILL, SALVAGED FROM EXCAVATION, SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
7. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES.



CONCRETE BOX CULVERT INSTALLATION & BACKFILL

NTS

REVISED 05/10/11

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ARKANSAS ENGINEER

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 10/17/2022
CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

PRELIMINARY PLANS

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DRAINAGE DETAILS

C-508

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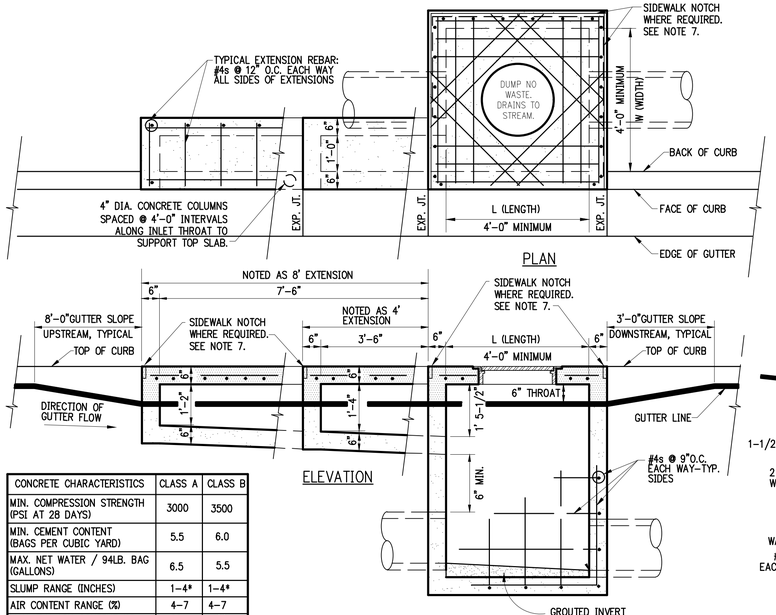
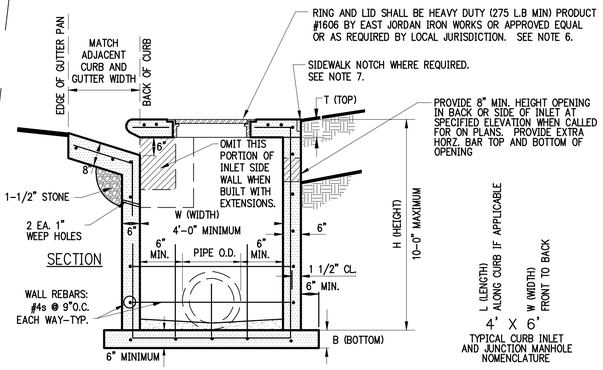


CONCRETE CHARACTERISTICS	CLASS A	CLASS B
MIN. COMPRESSION STRENGTH (PSI AT 28 DAYS)	3000	3500
MIN. CEMENT CONTENT (BAGS PER CUBIC YARD)	5.5	6.0
MAX. NET WATER / 94LB. BAG (GALLONS)	6.5	5.5
SLUMP RANGE (INCHES)	1–4*	1–4*
AIR CONTENT RANGE (%)	4–7	4–7
MAX. FLY ASH CONTENT (%)	20	20

* MAX. SLUMP SHALL BE 2" WHEN SLIP FORM PAVEMENT METHODS ARE USED.

INLET NOTES:

1. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS APPROVED BY ENGINEER AND ACCEPTABLE BY THE GOVERNING JURISDICTION.
2. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE O.D. BY 1–1/2".
3. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES.
4. ALL REINFORCING BARS SHALL HAVE 1–1/2" MINIMUM COVER
5. FOR STRUCTURES OVER 5 FEET IN HEIGHT, PROVIDE NEENAH R–1980–E OR EQUAL CAST IRON MANHOLE STEPS @ 16" O.C. IF REQUIRED BY OWNER OR JURISDICTION.
6. FOR GENERIC GRATED INLET, USE SIMILAR TO EAST JORDAN 1020M1 GRATE WITH APPROPRIATE RING UNLESS OTHERWISE SPECIFIED BY ENGINEER OR REQUIRED BY JURISDICTION.
7. IN LIEU OF SIDEWALK NOTCH, CONTRACTOR MAY INSTALL 12" LONG #4 SMOOTH DOWEL BARS WITH EXP. CAPS @ 12" O.C. BETWEEN INLET TOP AND ADJACENT SIDEWALK.
8. PROVIDE 6" MINIMUM CLEARANCE BETWEEN PIPE O.D. AND INLET SIDES, TOP, EXTENSIONS, DEPRESSIONS, AND OPENINGS.
9. CONCRETE TO BE CLASS B, 3500#, WITH 4%–7% A.E.



NON–TRAFFIC RECTANGULAR CURB INLET AND JUNCTION BOX DIMENSIONS AND REINFORCING SCHEDULE								
A (WALL) WALL THICKNESS	H (HEIGHT) TOP OF BOX TO ℄	L (LENGTH) ALONG CURB INSIDE BOX	W (WIDTH) INSIDE BOX	T (TOP) SLAB THICKNESS	B (BOTTOM) SLAB THICKNESS	TOP SLAB STEEL	BOTTOM SLAB STEEL	ADDITIONAL DIAGONAL BARS AT RING AND LID
6 INCHES (10' MAX. DEPTH)	10'–0" MAXIMUM – SEE PLAN SHEETS	4'	4'	6"	6"	#4s @ 6" BOTH WAYS	#4s @ 6" BOTH WAYS	EIGHT #4s X MAXIMUM LENGTH POSSIBLE @ 6" O.C.
		4'	5'	6"	6"	#4s @ 6" BOTH WAYS	#4s @ 6" BOTH WAYS	
		4'	6'	6"	6"	#4s @ 6" BOTH WAYS	#4s @ 6" BOTH WAYS	
		4'	7'	8"	8"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		4'	8'	8"	8"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		4'	10'	8"	8"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		5'	5'	6"	6"	#4s @ 6" BOTH WAYS	#4s @ 6" BOTH WAYS	
		6'	4'	6"	6"	#4s @ 6" BOTH WAYS	#4s @ 6" BOTH WAYS	
		6'	6'	6"	6"	#4s @ 6" BOTH WAYS	#4s @ 6" BOTH WAYS	
		7'	4'	8"	8"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		7'	7'	8"	8"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		8'	4'	8"	8"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		9'	4'	8"	8"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		9'	5'	8"	8"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		8'	8'	9"	9"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		10'	6'	9"	9"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		16'	6'	9"	9"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	
		16'	8'	9"	9"	#5s @ 8" BOTH WAYS	#5s @ 8" BOTH WAYS	

TYPICAL NON–TRAFFIC RECTANGULAR CURB INLET (TYPICAL NON–TRAFFIC RECTANGULAR JUNCTION BOX & GRATED INLET SIMILAR)

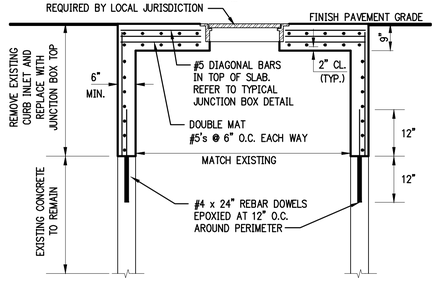
NTS

NOTE: THIS DETAIL IS GENERIC, NOT JURISDICTION OR SITE–SPECIFIC. USE JURISDICTION–SPECIFIC DETAILS WHEN AND WHERE REQUIRED.
THIS NON–TRAFFIC DETAIL IS INTENDED FOR SIDEWALK LOADING ONLY WITH UNIFORMLY DISTRIBUTED LIVE LOAD OF 100 PSF OF CONCENTRATED LIVE LOAD OF 3000 POUNDS.

REVISED 04/16/15

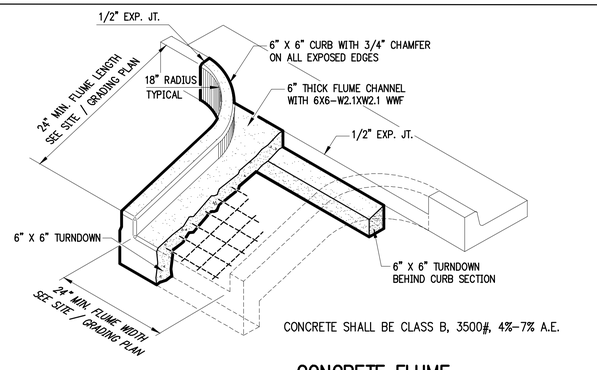
NON-TRAFFIC ONLY

TRAFFIC AREAS:
CONCRETE SHALL BE CLASS B, 3500#, 4%–7% A.E.
MANHOLE RING & LID SHALL BE HEAVY DUTY 275 LB MIN. PRODUCT #1606 BY EAST JORDAN IRON WORKS OR EQUAL. PROVIDE CUSTOM LOGO & LETTERING ON COVER AS REQUIRED BY LOCAL JURISDICTION



JUNCTION BOX TOP MODIFICATION FOR TRAFFIC AREAS

NTS

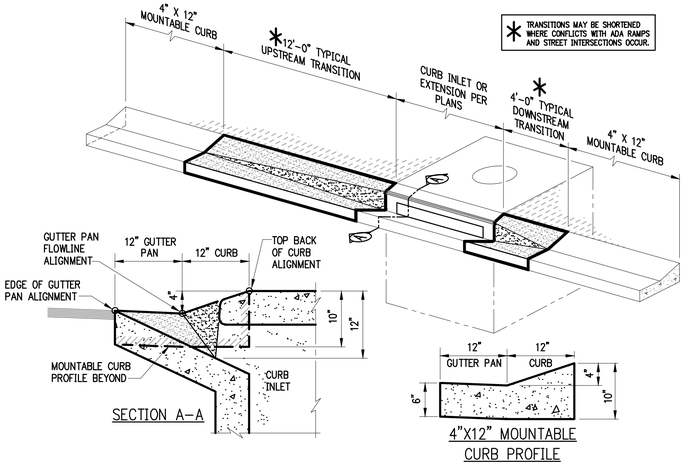


CONCRETE SHALL BE CLASS B, 3500#, 4%–7% A.E.

CONCRETE FLUME

NTS

REVISED 04/16/15

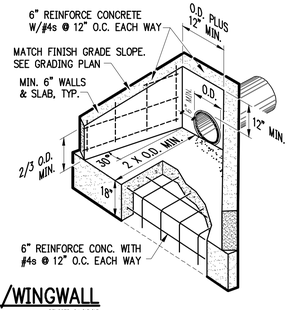


4"X12" MOUNTABLE CURB TRANSITION at CURB INLETS & EXTENSIONS

NTS

NON-TRAFFIC ONLY

1. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES UNLESS ADJACENT TO SIDEWALKS OR OTHER CONCRETE SURFACES.
2. BASE AND INLET WALLS TO BE POURED MONOLITHICALLY.
3. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION APPROVED BY THE ENGINEER.
4. ALL #4 & #5 REINFORCING BARS TO BE GRADE 60 AND HAVE 1–1/2" MINIMUM COVER. >#5, 2" COVER.
5. CONCRETE SHALL BE CLASS B, 3500#, 4%–7% A.E.
6. CONTRACTOR SHALL PROVIDE APPROVED PEDESTRIAN SAFETY RAILS AND VEHICULAR GUARD RAILS WHERE NECESSARY OR REQUIRED BY LOCAL, STATE AND FEDERAL CODES.

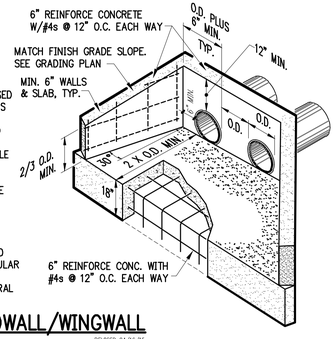


SINGLE PIPE HEADWALL/WINGWALL

NTS

REVISED 04/13/15

1. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES UNLESS ADJACENT TO SIDEWALKS OR OTHER CONCRETE SURFACES.
2. BASE AND INLET WALLS TO BE POURED MONOLITHICALLY.
3. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION APPROVED BY THE ENGINEER.
4. ALL #4 & #5 REINFORCING BARS TO BE GRADE 60 AND HAVE 1–1/2" MINIMUM COVER. >#5, 2" COVER.
5. CONCRETE SHALL BE CLASS B, 3500#, 4%–7% A.E.
6. CONTRACTOR SHALL PROVIDE APPROVED PEDESTRIAN SAFETY RAILS AND VEHICULAR GUARD RAILS WHERE NECESSARY OR REQUIRED BY LOCAL, STATE AND FEDERAL CODES.



MULTI–PIPE HEADWALL/WINGWALL

NTS

REVISED 04/16/15

DRAWING: G:\21165500_MOBERLY\TO\SUBMITTAL\PLAT\WALTON\DRAINAGE DETAILS.DWG
LAYOUT: DRAINAGE DETAILS 2 PLOT DATE: 10/17/2022 1:19:15 PM PLOTTED BY: ALLEN CHAMBERS (COPY ONLY)

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CERTIFICATE OF AUTHORIZATION:

CERTIFICATE OF AUTHORIZATION — CRAFTON, TULL & ASSOCIATES, INC. No. 109 — ARKANSAS ENGINEER

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 10/17/2022
CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

PRELIMINARY PLANS

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

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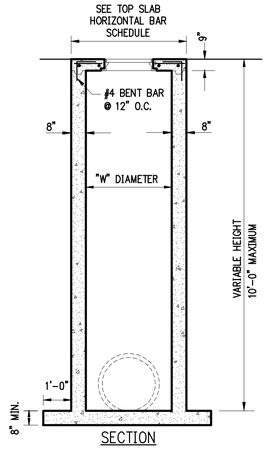
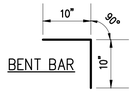
DRAINAGE DETAILS

C-509

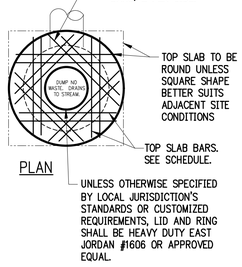
TOP SLAB HORIZONTAL REINFORCEMENT SCHEDULE		
TOP SLAB THICKNESS	"W" INSIDE DIAMETER OF INLET BARREL	TOP SLAB BARS, VEHICLE LOADS
VEHICLE LOADS, 9"	6'-0" MAXIMUM	#5s @ 6" O.C. EACH WAY; DOUBLE MAT



SECTION



BENT BAR



PLAN

"W" BARREL DIAMETER TO BE DETERMINED BY CONSIDERING DEPTH OF BURY, PIPE SIZES AND PIPE ARRANGEMENT REQUIREMENTS.	"W" INLET INSIDE DIAMETER SCHEDULE	
	DIAMETER OF LARGEST PIPE ENTERING INLET	"W" MINIMUM INLET DIAMETER
	12" TO 27"	4'-0" DIA.
	30" TO 42"	5'-0" DIA.
	48" TO 54"	6'-0" DIA.
	PIPES ARE LIMITED TO 60 DEGREES. IF GREATER, USE NEXT LARGER-DIAMETER INLET BARREL.	

NOTES:
1. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES UNLESS ADJACENT TO SIDEWALKS OR OTHER CONCRETE SURFACES.
2. BASE AND INLET WALLS TO BE POURED MONOLITHICALLY.
3. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION APPROVED BY THE ENGINEER.
4. ALL #4 & #5 REINFORCING BARS TO BE GRADE 60 AND HAVE 1-1/2" MINIMUM COVER. >#5, 2" COVER.
5. PROVIDE DOUBLE MAT FOR SQUARE-TOP SLAB.
6. TOP SLAB, CLASS B, 3500#, 4%-7% A.E

TRAFFIC-RATED

TYPICAL TRAFFIC-RATED CIRCULAR-BARREL JUNCTION BOX

NTS

NOTE: THIS DETAIL IS GENERIC, NOT JURISDICTION OR SITE-SPECIFIC. USE JURISDICTION-SPECIFIC DETAILS WHEN AND WHERE REQUIRED.

REVISED 04/16/15

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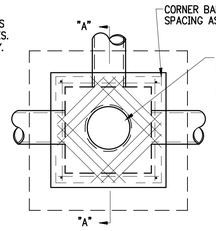
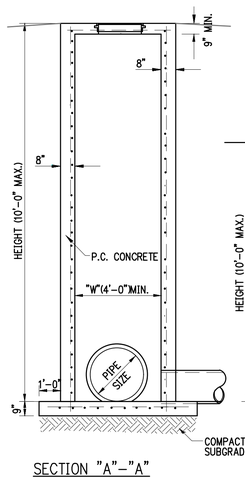
7. PIPES SHALL NOT CONNECT AT OR WITHIN 6" OF ANY CORNER EDGE.

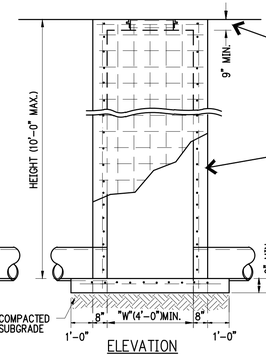


PLAN

TABLE OF "W" DIMENSIONS			
PIPE SIZE	SKEW OF CROSS DRAIN		
SINGLE	STRAIGHT	30°	45°
24"	4'-0"	4'-0"	4'-10"
30"	4'-0"	4'-7"	5'-8"
36"	4'-0"	5'-3"	6'-5"
42"	5'-3"	5'-11"	7'-3"
48"	5'-10"	6'-7"	8'-0"
60"	7'-0"	7'-10"	9'-8"
DOUBLE	FOR "A" SECTION ONLY		
24"	7'-0"	7'-10"	9'-5"
30"	8'-2"	9'-2"	11'-0"
36"	9'-4"	10'-6"	12'-6"
42"	10'-6"	11'-10"	14'-2"
48"	11'-8"	13'-2"	15'-10"



SECTION "A"-"A"



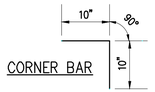
ELEVATION

TABLE OF TOP & BOTTOM DIMENSIONS			
WIDTH ("W")	BOTTOM	WALL	TOP
BETWEEN 4' & 7'	6" + PIPE THICKNESS	8"	9"
GREATER THAN 7'	6" + PIPE THICKNESS	8"	
4'	6" + PIPE THICKNESS	8"	
BETWEEN 4' & 7'	6" + PIPE THICKNESS	10"	

REINFORCEMENT SCHEDULE, TOP		
VEHICLE LOADS	STEEL	SPECIAL PATTERN
	DOUBLE MAT #5 @ 6" E.W.	DIAGONAL @ COVER

REINFORCEMENT SCHEDULE, WALLS		
WIDTH ("W")	HOR.	VERT.
4'	#4 @ 9"	#4 @ 10"
BETWEEN 4' & 7'	#6 @ 9"	#4 @ 10"
GREATER THAN 7'	#5 @ 4 1/2"	#4 @ 10"

REINFORCEMENT SCHEDULE, BASE	
9" MIN.	#4 @ 6" E.W.



CORNER BAR

TRAFFIC-RATED

TYPICAL TRAFFIC-RATED RECTANGULAR BARREL JUNCTION BOX

NTS

REVISED 04/16/15

CONCRETE CHARACTERISTICS	CLASS A	CLASS B
MIN. COMPRESSION STRENGTH (PSI AT 28 DAYS)	3000	3500
MIN. CEMENT CONTENT (BAGS PER CUBIC YARD)	5.5	6.0
MAX. NET WATER / 94LB. BAG (GALLONS)	6.5	5.5
SLUMP RANGE (INCHES)	1-4*	1-4*
AIR CONTENT RANGE (%)	4-7	4-7
MAX. FLY ASH CONTENT (%)	20	20

* MAX. SLUMP SHALL BE 2" WHEN SLIP FORM PAVEMENT METHODS ARE USED.

"D" TOP SLAB THICKNESS	"D" TOP SLAB HORIZONTAL REINFORCEMENT SCHEDULE	
	"W" INSIDE DIAMETER OF INLET BARREL	"D" TOP SLAB BARS, NON-VEHICLE
NON-VEHICLE LOADS, 6"	4'-0"	#4s @ 8" O.C. EACH WAY SEE NOTE 5
	5'-0"	#4s @ 7" O.C. EACH WAY SEE NOTE 5
	6'-0"	#5s @ 6" O.C. EACH WAY SEE NOTE 5

"W" BARREL DIAMETER TO BE DETERMINED BY CONSIDERING DEPTH OF BURY, PIPE SIZES AND PIPE ARRANGEMENT REQUIREMENTS.	"W" INLET INSIDE DIAMETER SCHEDULE	
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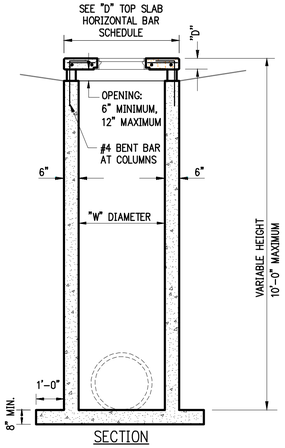
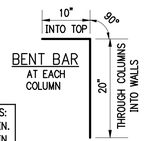
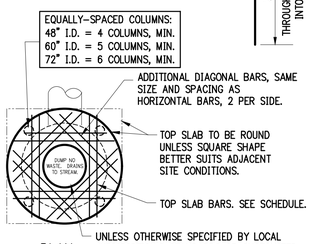


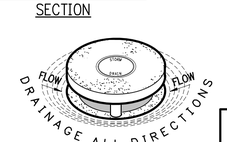
SECTION



BENT BAR
AT EACH COLUMN



PLAN



1. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES UNLESS ADJACENT TO SIDEWALKS OR OTHER CONCRETE SURFACES.
2. BASE AND INLET WALLS TO BE POURED MONOLITHICALLY.
3. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION APPROVED BY THE ENGINEER.
4. ALL #4 & #5 REINFORCING BARS TO BE GRADE 60 AND HAVE 1-1/2" MINIMUM COVER. >#5, 2" COVER.
5. TOP SLAB, CLASS B, 3500#, 4%-7% A.E

NON-TRAFFIC ONLY

TYPICAL NON-TRAFFIC CIRCULAR-BARREL AREA INLET

NTS

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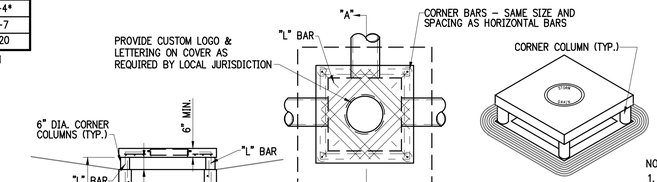
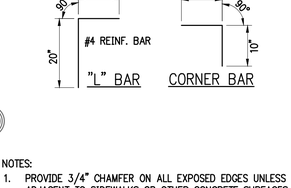
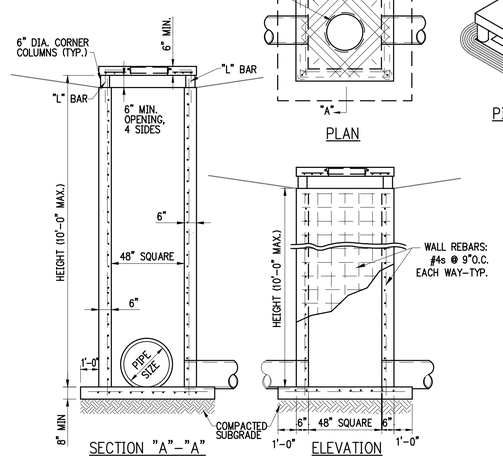
REVISED 04/16/15



PLAN

PICTORIAL VIEW





SECTION "A"-"A"

ELEVATION

NOTES:
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5. TOP SLAB, CLASS B, 3500#, 4%-7% A.E
6. PIPES SHALL NOT CONNECT AT OR WITHIN 6" OF ANY CORNER EDGE.

NON-TRAFFIC RECTANGULAR AREA INLET REINFORCEMENT SCHEDULE							
L (LENGTH) INSIDE BOX	W (WIDTH) INSIDE BOX	H (HEIGHT) TOP OF BOX TO ℄	T (TOP) SLAB THICKNESS	A (WALL) THICKNESS	TOP SLAB STEEL	RING AND LID DIAGONAL BARS	BOTTOM SLAB STEEL
4'	4'	10' MAX.	6"	6"	#4s @ 6" BOTH WAYS	8-#4s @ 6" X 5' LONG	#4s @ 6" BOTH WAYS

NON-TRAFFIC ONLY

TYPICAL 4'X4' NON-TRAFFIC RECTANGULAR BARREL AREA INLET

NTS

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REVISED 04/16/15

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CERTIFICATE OF AUTHORIZATION:

CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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DRAINAGE DETAILS

C-510

DRAWING: G:\21105500_MOBERLY\PDW\PRINTSET\CIVIL\DRAINAGE DETAILS.DWG
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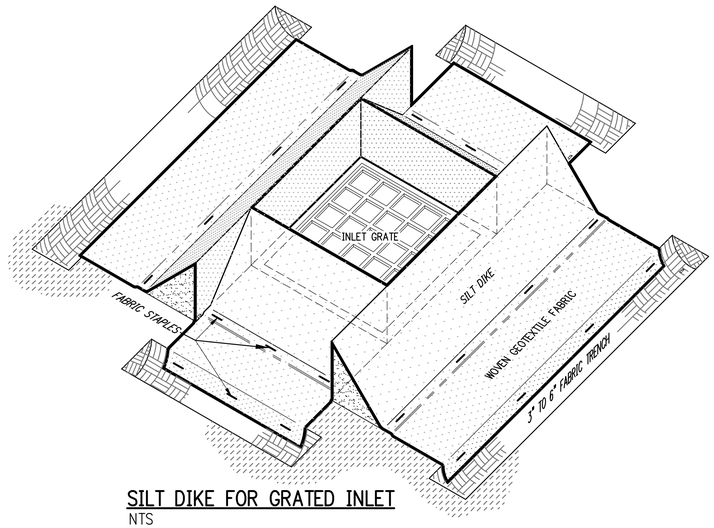
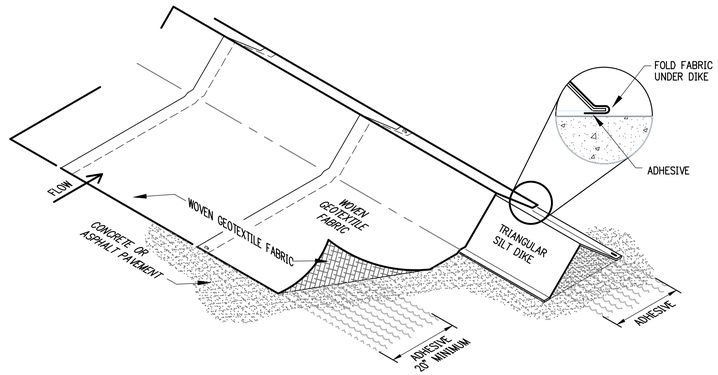


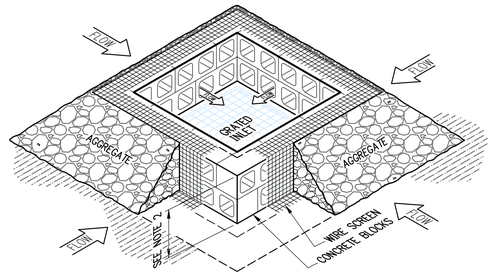
SILT DIKE FOR GRATED INLET
NTS



ADHESIVES: CONCRETE PAVEMENT – USE LIQUID NAIL OR APPROVED EQUAL.
ASPHALT PAVEMENT – USE EMULSIFIED ASPHALT.

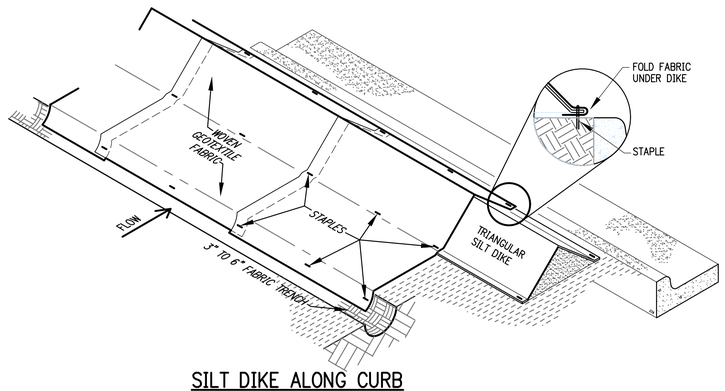
ADHESIVE SHALL BE PLACED AT FABRIC LAPS AND 20" MINIMUM ALONG EDGES.

SILT DIKE (FOR CONTINUOUS BARRIER)
NTS

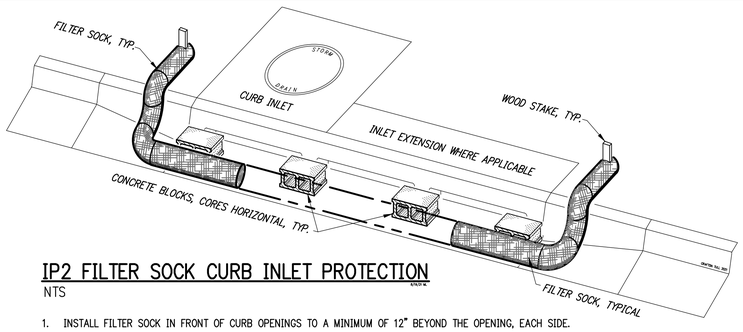


1. PLACE/STACK CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF INLET ON THEIR SIDES WITH ENDS OF ADJACENT BLOCKS ABUTTING.
2. HEIGHT OF BARRIER VARIES. USE STACKS OF 4-INCH, 8-INCH, OR 12-INCH TO ACHIEVE 12" MINIMUM AND 14" MAXIMUM HEIGHT.
3. PLACE HARDWARE CLOTH/WIRE MASH WITH 1/2" MAXIMUM OPENINGS ON VERTICAL FACE OF CONCRETE BLOCKS.
4. THE AGGREGATE SHALL BE NON-ERODIBLE MATERIAL.

IP1 BLOCK AND AGGREGATE INLET SEDIMENT DEVICE
NTS

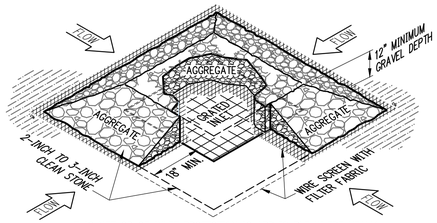


SILT DIKE ALONG CURB
NTS



IP2 FILTER SOCK CURB INLET PROTECTION
NTS

1. INSTALL FILTER SOCK IN FRONT OF CURB OPENINGS TO A MINIMUM OF 12" BEYOND THE OPENING, EACH SIDE.
2. ANCHOR THE FILTER SOCK BEHIND THE CURB WITH WOODEN STACKS 12" MINIMUM INTO SOIL.
3. USE 8" DIAMETER FILTER SOCK FOR STANDARD CURB INLET. SLIGHTLY COMPACT TO CURB HEIGHT DURING CURB INSTALLATION.
4. MAINTAIN FREE OF DEBRIS AND SEDIMENT TO ENSURE PROPER FLOW AND FUNCTION. OVERFLOW OF FILTER IS ACCEPTABLE DURING SEVERE STORM EVENTS.
5. FILTER SOCK SHALL BE POSITIONED TO PROVIDE A PERMEABLE BARRIER TO THE DRAIN AND COLLECT SEDIMENT OUTSIDE THE SOCK.
6. CONCRETE BLOCKS SHALL BE PLACED WITH CORES HORIZONTAL AT EACH END AND EVERY FOUR FEET MAXIMUM WITHIN.

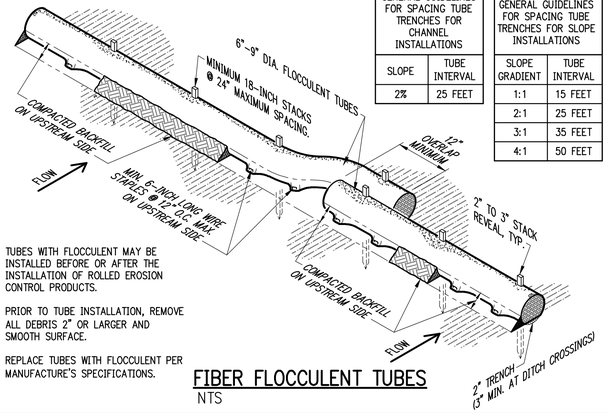


THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

IP3 GRATED INLET GRAVEL SEDIMENT FILTER
NTS

GENERAL GUIDELINES FOR SPACING TUBE TRENCHES FOR CHANNEL INSTALLATIONS	
SLOPE	TUBE INTERVAL
2%	25 FEET

GENERAL GUIDELINES FOR SPACING TUBE TRENCHES FOR SLOPE INSTALLATIONS	
SLOPE GRADIENT	TUBE INTERVAL
1:1	15 FEET
2:1	25 FEET
3:1	35 FEET
4:1	50 FEET

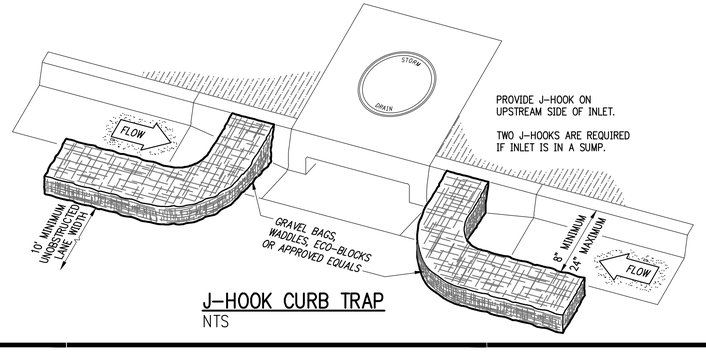


TUBES WITH FLOCCULENT MAY BE INSTALLED BEFORE OR AFTER THE INSTALLATION OF ROLLED EROSION CONTROL PRODUCTS.

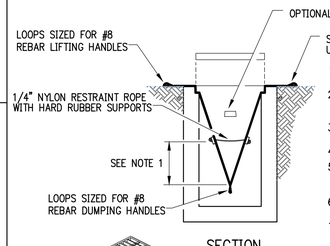
PRIOR TO TUBE INSTALLATION, REMOVE ALL DEBRIS 2" OR LARGER AND SMOOTH SURFACE.

REPLACE TUBES WITH FLOCCULENT PER MANUFACTURE'S SPECIFICATIONS.

FIBER FLOCCULENT TUBES
NTS



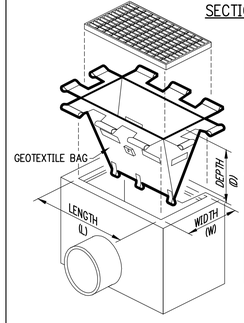
J-HOOK CURB TRAP
NTS



SECURE LIFTING LOOPS TO OR UNDER SURROUNDING SURFACE.

SECTION

1. EMPTY FILTER SACK WHEN BRIGHTLY COLORED EXPANSION RESTRAINT IS COVERED BY SILT.
2. GEOTEXTILE WILL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. AN OIL ADSORBENT PAD OR PILLOW CAN BE PURCHASED WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK WILL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK WILL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK WILL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.
8. DO NOT USE ON ROADWAYS WHERE PONDING MAY CAUSE A TRAFFIC HAZARD.



LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC $^{-1}$

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC $^{-1}$

GRATED INLET FILTER SACKS
NTS

901 N. 47th St., Suite 400
Rogers, Arkansas 72756
Crafton Tull
architecture | engineering | surveying
479.636.4838 t 479.631.6224 f
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CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
10' 0 10'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 04/18/2022
CONTACT: B. BURNETT
QC By:
QC Date: MM/DD/YYYY

PRELIMINARY PLANS

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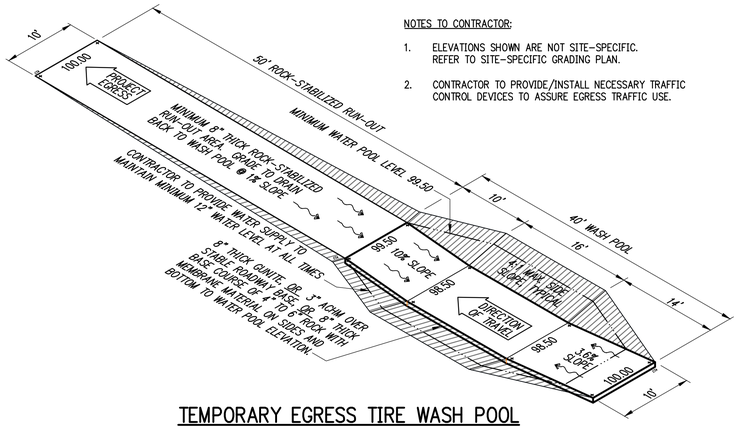
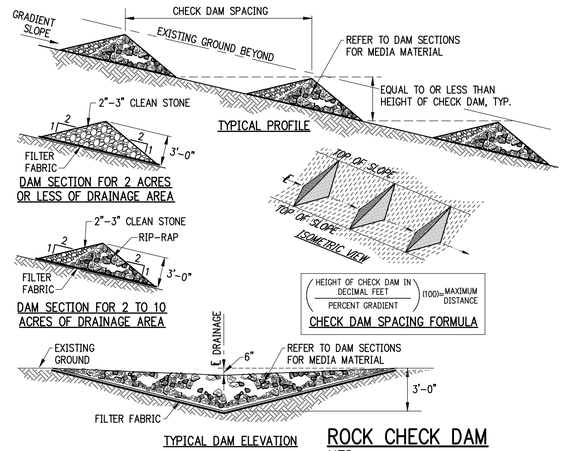
EROSION CONTROL DETAILS

C-511

DRAWING: G:\21105500_MOBERLY\DOUBLEFASTRUCTURES\CIVIL\DWG\PLANSET\EROSION CONTROL DETAILS.DWG
LAST EDITED BY: BRANDON BURNETT (2022-04-18 08:47:00 -05:00)
LAST PLOTTED BY: CHASE BRAY (2022-04-18 08:47:00 -05:00) PLOTTED BY: CHASE BRAY (BRAND COPY.PRINT)

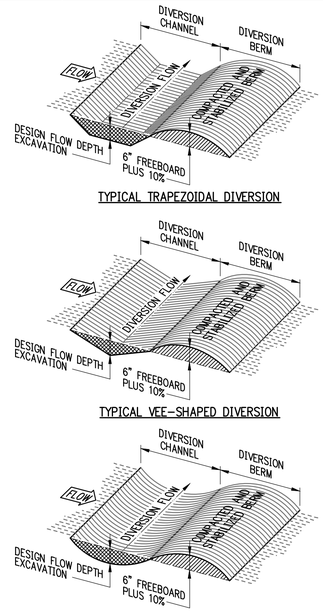


TEMPORARY EGRESS TIRE WASH POOL
NTS



TYPICAL DAM ELEVATION

ROCK CHECK DAM
NTS



TYPICAL TRAPEZOIDAL DIVERSION

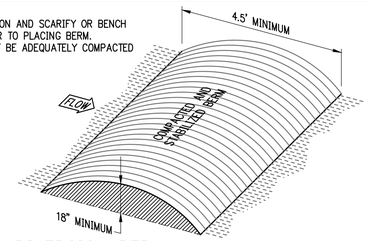
TYPICAL VEE-SHAPED DIVERSION

TYPICAL PARABOLIC DIVERSION

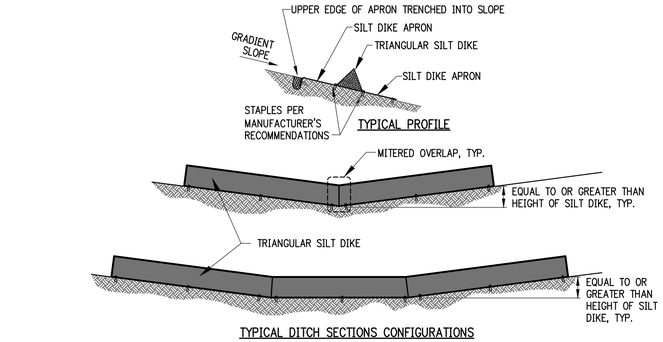
NOTES:
1. REMOVE ANY VEGETATION AND SCARIFY OR BENCH ADJACENT SOILS PRIOR TO PLACING BERM.
2. BERM MATERIALS MUST BE ADEQUATELY COMPACTED AND STABILIZED.

CHANNELED DIVERSIONS
NTS

NOTES:
1. REMOVE ANY VEGETATION AND SCARIFY OR BENCH ADJACENT SOILS PRIOR TO PLACING BERM.
2. BERM MATERIALS MUST BE ADEQUATELY COMPACTED AND STABILIZED.

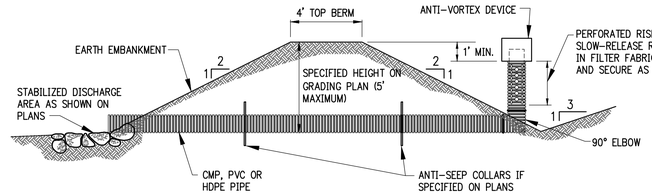


TEMPORARY DIVERSION BERM
NTS

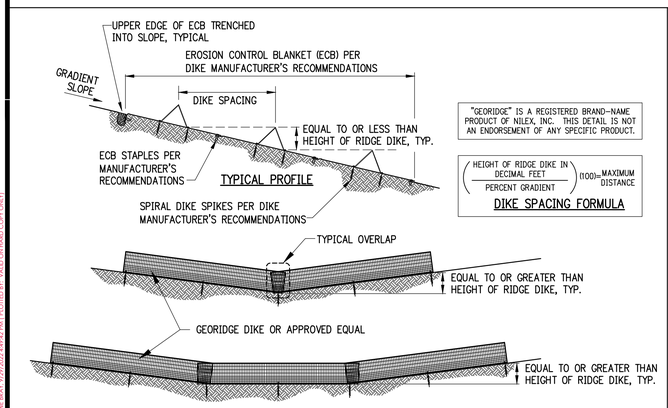


TYPICAL DITCH SECTIONS CONFIGURATIONS

SILT DIKE CHECK DAM
NTS

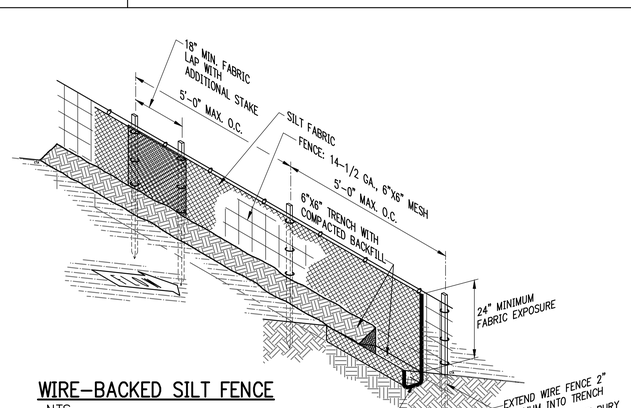


SEDIMENT BASIN WITH PIPE OUTLET
NTS

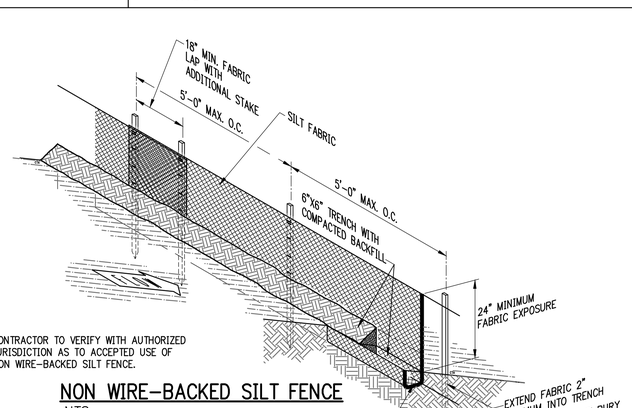


TYPICAL DITCH SECTIONS CONFIGURATIONS

PERMEABLE HDPE DITCH CHECK
NTS



WIRE-BACKED SILT FENCE
NTS



NOTE:
1. CONTRACTOR TO VERIFY WITH AUTHORIZED JURISDICTION AS TO ACCEPTED USE OF NON WIRE-BACKED SILT FENCE.

NON WIRE-BACKED SILT FENCE
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EROSION CONTROL DETAILS

C-512

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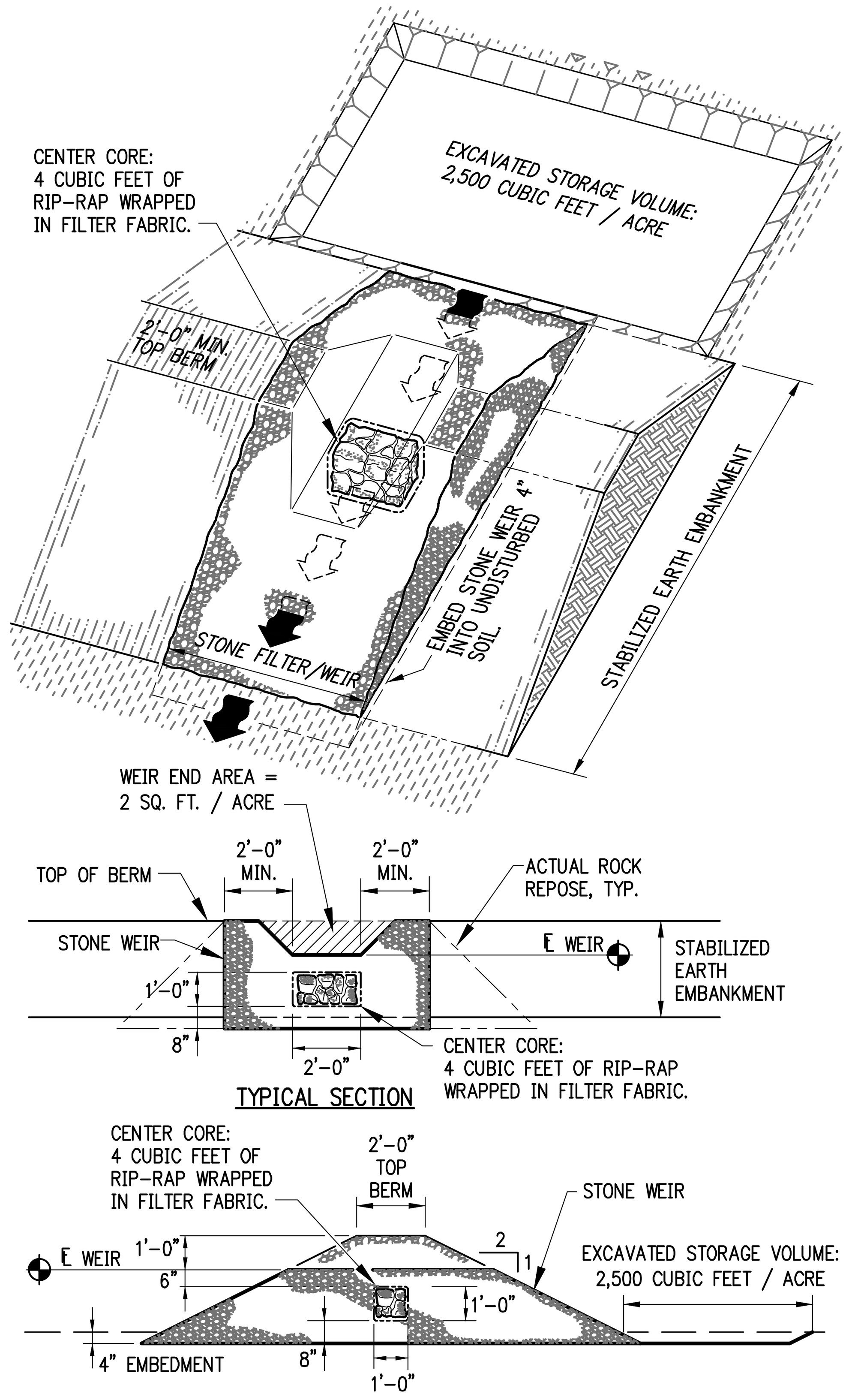
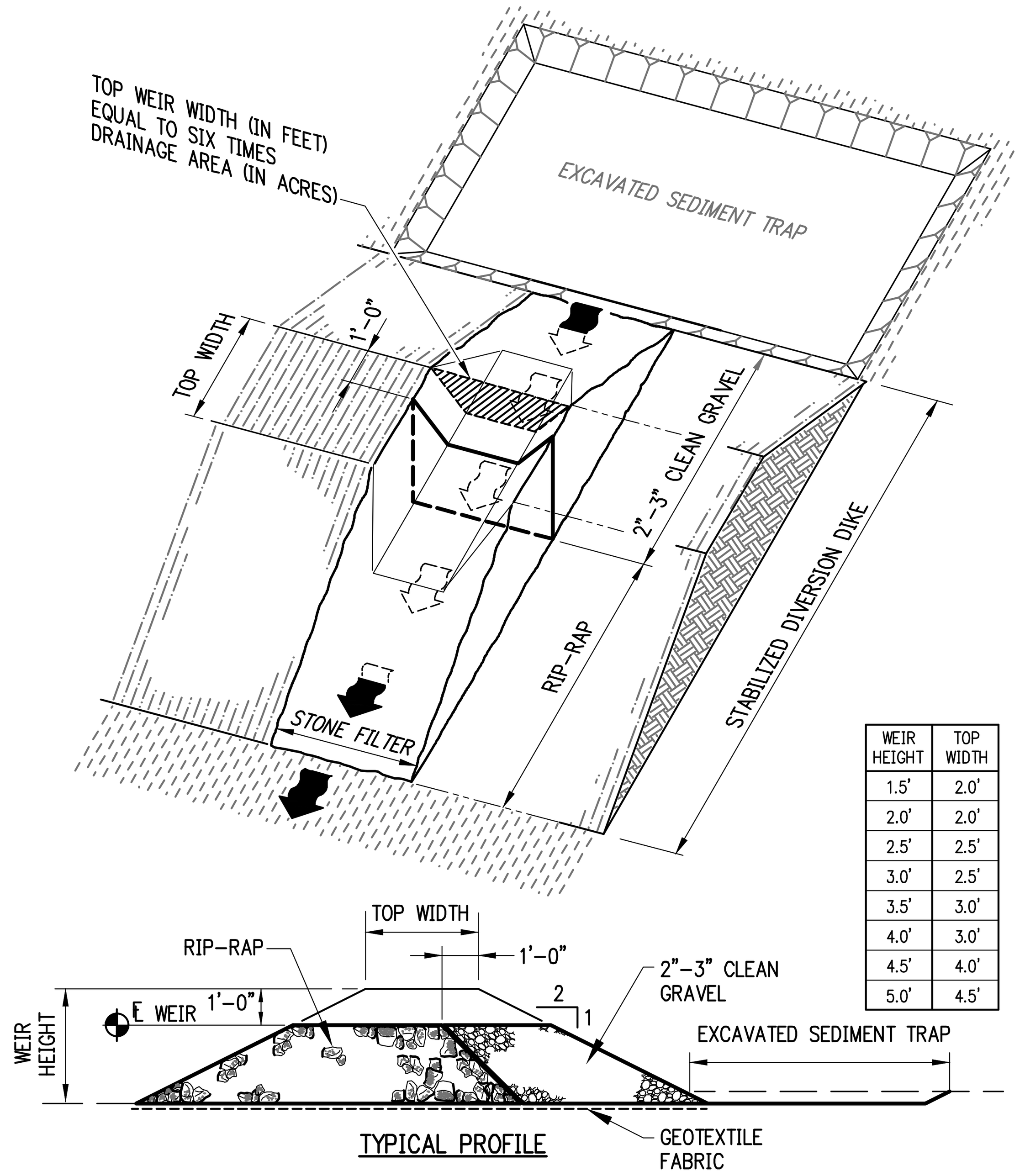
PLOTTED BY: SHANE RAY 4/20/2022 3:49:43 PM (THURSDAY) - PLOT ON HAND COPY ONLY



SEDIMENT BASIN WITH STONE OUTLET

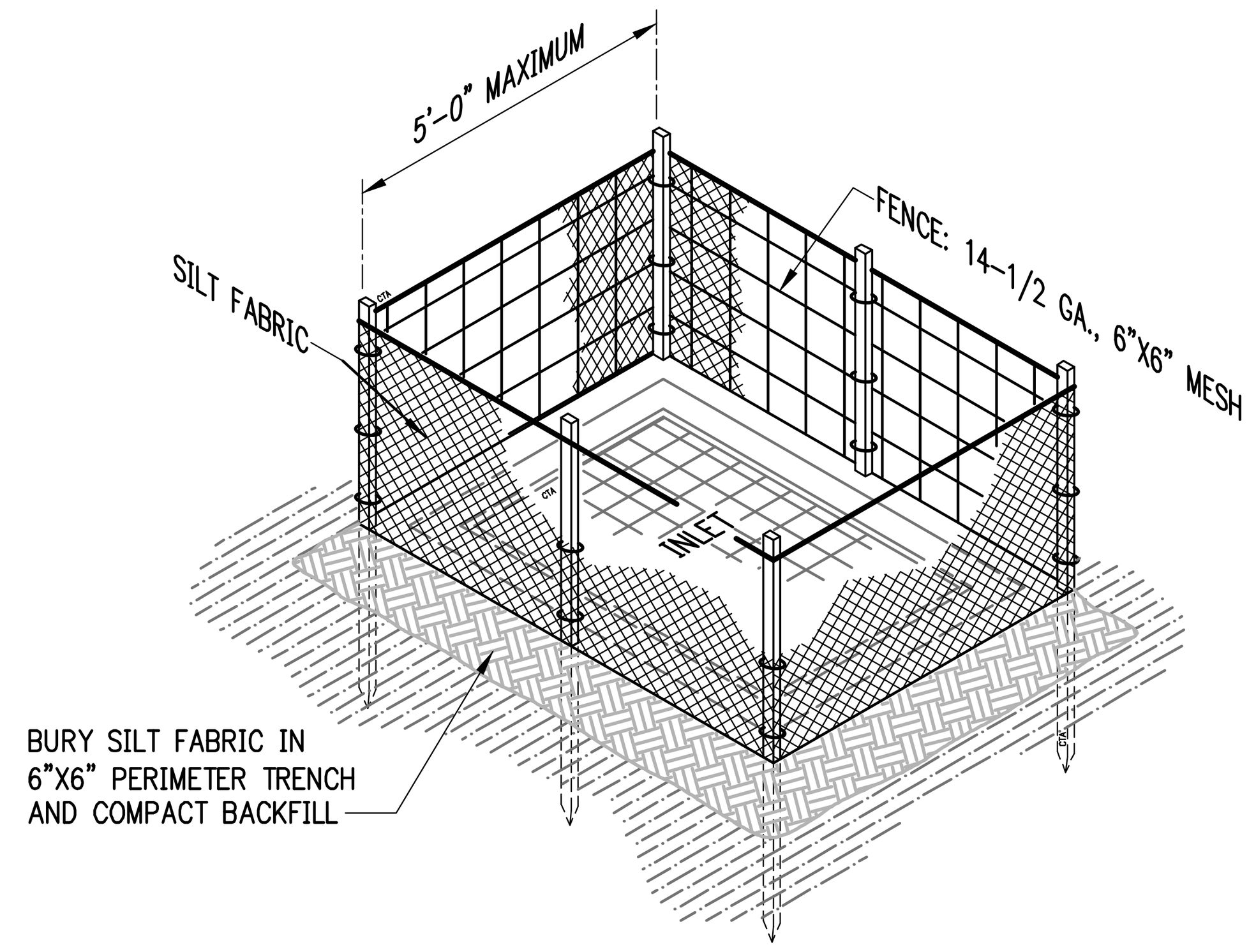
FOR DRAINAGE AREAS GREATER THAN TEN ACRES



WEIR HEIGHT	TOP WIDTH
1.5'	2.0'
2.0'	2.0'
2.5'	2.5'
3.0'	2.5'
3.5'	3.0'
4.0'	3.0'
4.5'	4.0'
5.0'	4.5'

SEDIMENT BASIN WITH STONE OUTLET

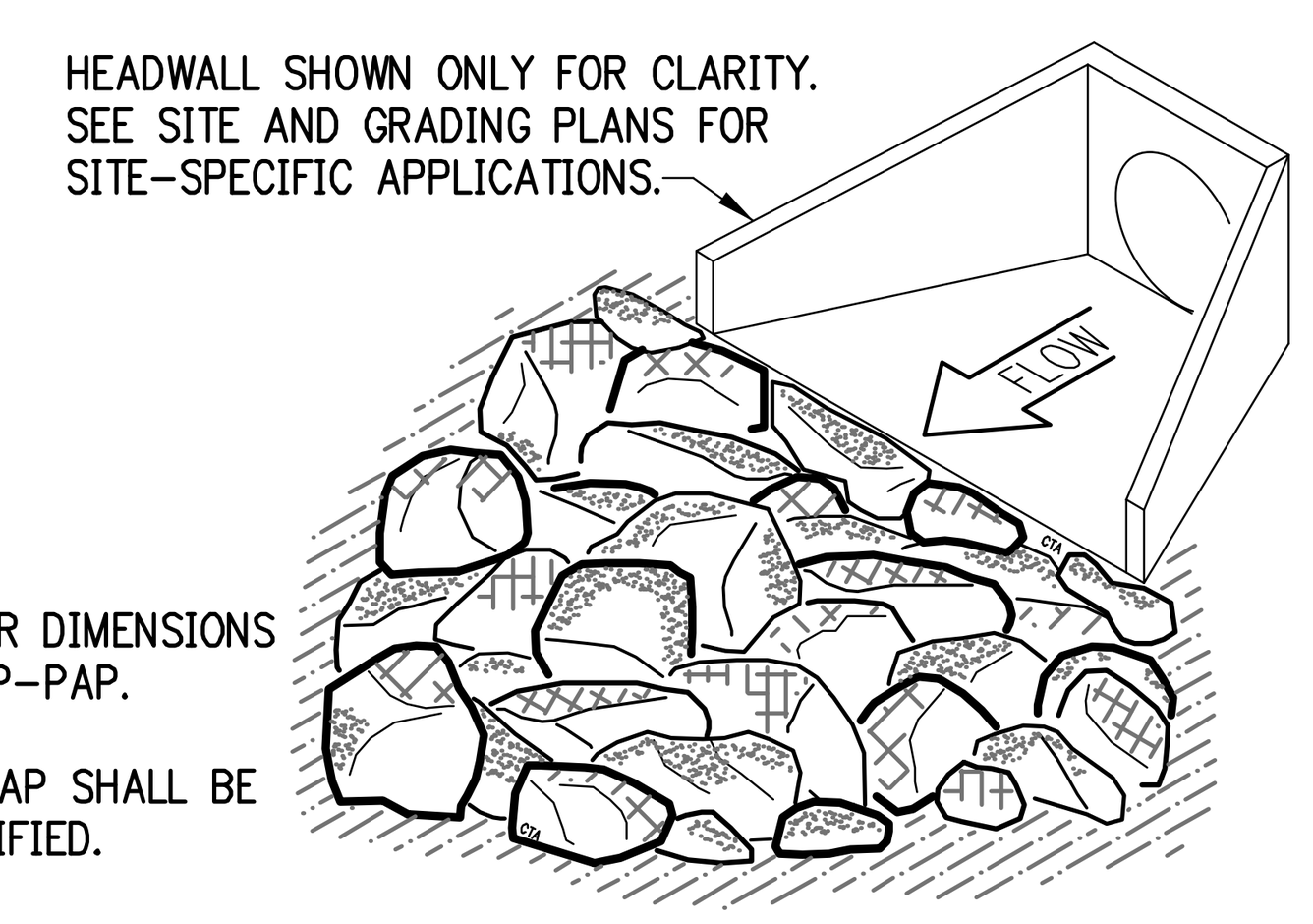
FOR DRAINAGE AREAS LESS THAN TEN ACRES



SILT FABRIC SHALL BE SECURITY FASTENED TO WIRE FENCING.

IP4 SILT FENCE INLET PROTECTION

NTS



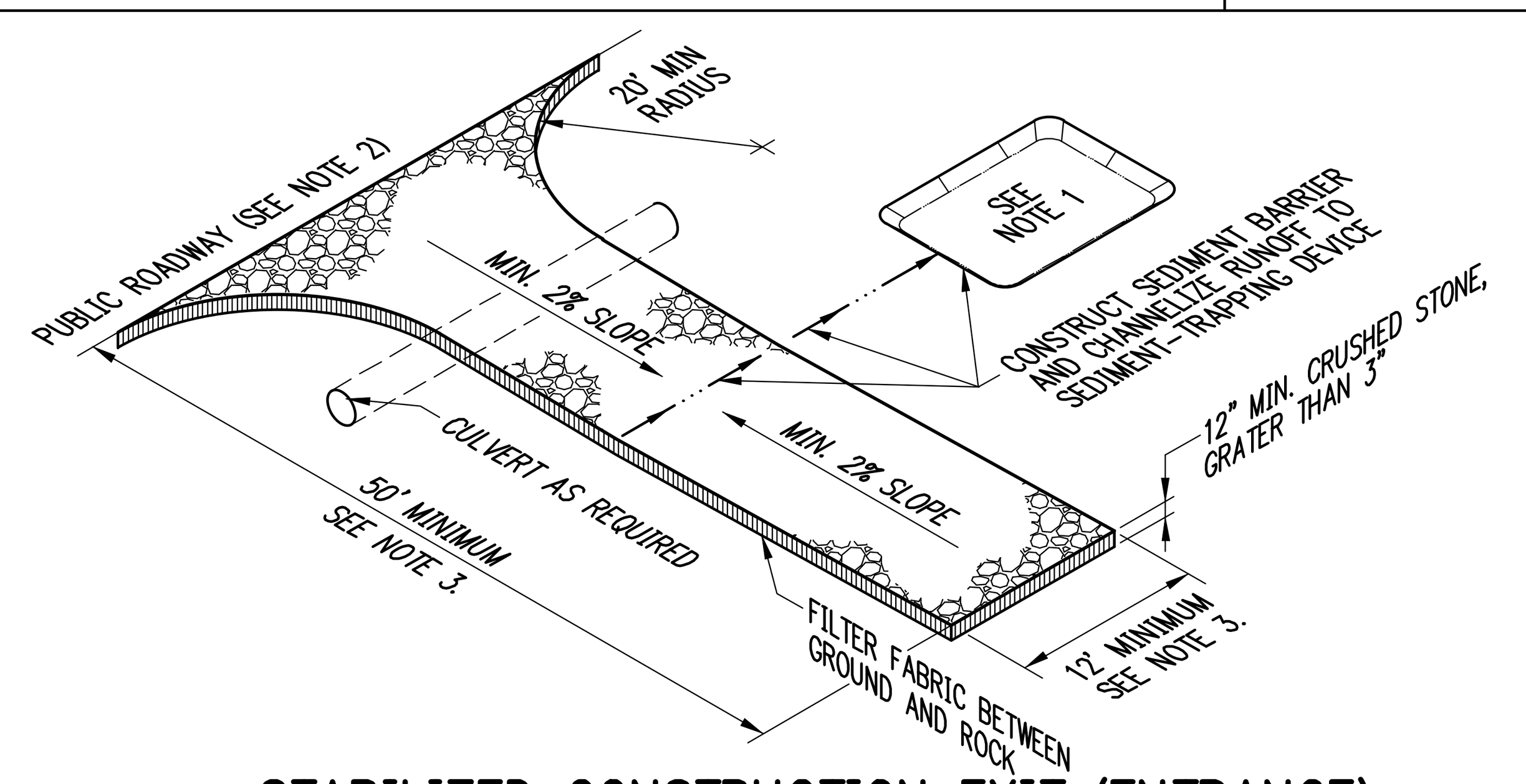
SEE SITE PLAN FOR DIMENSIONS AND LIMITS OF RIP-PAP.

PERMANENT RIP-RAP SHALL BE GROUTED AS SPECIFIED.

STONES SHALL CONSIST OF FIELD STONE OR ROUGH, UNHEWN QUARRY STONE AS NEARLY UNIFORM IN SIZE AS PRACTICAL. STONES SHALL BE DENSE, RESISTANT TO THE ACTION OF WIND AND WATER, AND SUITABLE IN ALL ASPECTS FOR THE INTENDED USE. ALL STONES SHALL WEIGH BETWEEN 50-150 POUNDS EACH AND AT LEAST 60% OF THE STONES SHALL WEIGH MORE THAN 100 POUNDS EACH.

RIP-RAP SLOPE PROTECTION

NTS



1. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCE/EXIT IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES EXIT ONTO THE PUBLIC ROADS. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF SITE.

2. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

3. LENGTH AND WIDTH TO SUIT SITE, CONSTRUCTION TRAFFIC AND EFFECTIVENESS.

STABILIZED CONSTRUCTION EXIT (ENTRANCE)

NTS

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LAYOUT: EROSION CONTROL SHT 3, LAST SAVED: SB5225, 9/29/2022 4:48:31 PM
LAST PLOTTED BY: SAMMIE BRAY, 9/29/2022 4:49:45 PM ("PLOTTED BY:" VALID ON HARD COPY ONLY)

PHASE I

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES/EXITS.
2. PREPARE TEMPORARY PARKING AND STORAGE AREAS. UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING: TRAILER, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASH-OUT, MASON'S AREA, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., DENOTE THEM ON THE SITE MAPS IMMEDIATELY AND NOTE ANY CHANGES IN THE LOCATIONS AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS.
3. CONSTRUCT THE SILT FENCES ON THE SITE.
4. CONSTRUCT THE SEDIMENTATION AND SEDIMENT TRAP BASINS.
5. HALT ALL ACTIVITIES AND CONTACT THE CIVIL ENGINEER CONSULTANT TO PERFORM INSPECTION OF BMPs. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT STORM WATER PRE-CONSTRUCTION MEETING WITH ENGINEER AND ALL GROUND-DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.
6. CLEAR AND GRUB THE SITE.
7. START CONSTRUCTION OF THE BUILDING PAD AND STRUCTURES.
8. BEGIN GRADING THE SITE.

PHASE II

1. TEMPORARILY SEED DENUDED AREAS.
2. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.
3. INSTALL RIP-RAP AROUND OUT STRUCTURES.
4. INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.
5. PREPARE SITE FOR PAVING.
6. PAVE SITE.
7. INSTALL INLET PROTECTION DEVICES.
8. COMPLETE GRADING AND INSTALL PERMANENT SEEDING AND PLANTING.
9. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IF SITE IS STABILIZED.

GENERAL EROSION NOTES:

A. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING (SITE MAP), THE STANDARD DETAILS, THE PLAN NARRATIVE, ATTACHMENTS INCLUDED IN THE SPECIFICATIONS SECTION 312800 (EROSION AND SEDIMENTATION CONTROL), PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.

B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND THE STATE OF XXXXXXXXXXX NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.

C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

D. BEST MANAGEMENT PRACTICES (BMP) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AND APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER.

E. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON THE SITE AT ALL TIMES.

F. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.

G. GENERAL CONTRACTOR SHALL DENOTE THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, AND AREA FOR PORTABLE FACILITIES, OFFICE TRAILERS AND TOILET FACILITIES.

H. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE AND EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

I. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN UP FUEL OR CHEMICAL SPILLS AND LEAKS.

J. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM-BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

K. RUBBISH, TRASH, GARBAGE, LITTER OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM BEING BLOWN OR WASHED OFF-SITE.

L. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN AND SWPPP SHALL BE INITIATED AS SOON AS POSSIBLE.

M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS SHALL BE TEMPORARY SEEDED.

N. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.

O. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCE/EXIT IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES EXIT ONTO THE PUBLIC ROADS. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF-SITE.

P. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

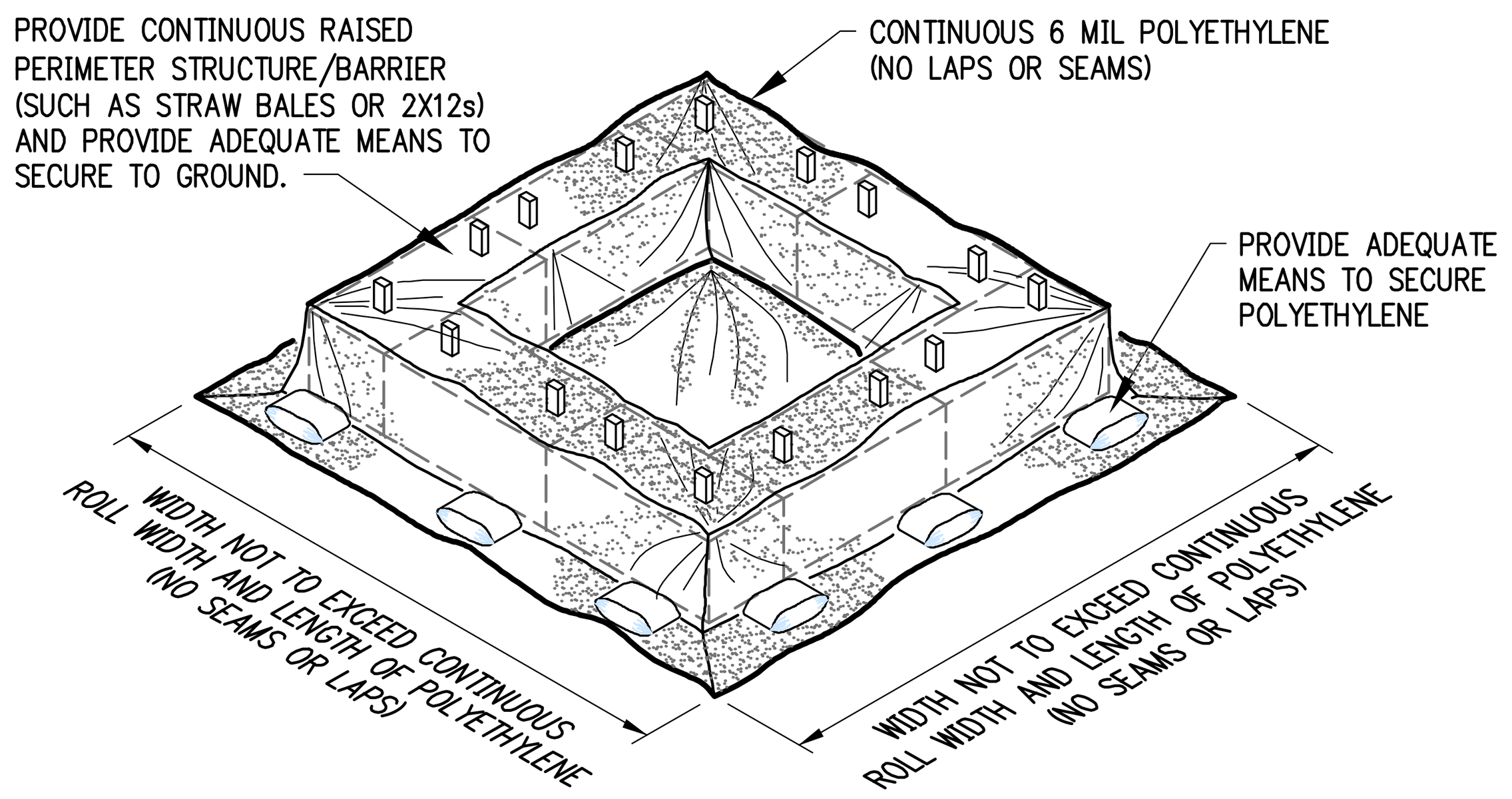
Q. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

R. ON-SITE AND OFF-SITE STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH THE GENERAL PERMIT.

S. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

T. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO PREVENT EROSION.

U. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.



CONCRETE WASH-OUT BASIN

NTS

SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
ROUGH GRADE / SEDIMENT CONTROL																		
TEMPORARY CONTROL MEASURES																		
STRIP & STOCKPILE TOPSOIL																		
STORM FACILITIES																		
TEMPORARY CONSTRUCTION ROADS																		
FOUNDATION / BUILDING CONSTRUCTION																		
SITE CONSTRUCTION																		
PERMANENT CONTROL STRUCTURES																		
FINISH GRADING																		
LANDSCAPING/SEED/FINAL STABILIZATION																		

ACREAGE SUMMARY	
IMPERVIOUS AREA	ENTER ACREAGE
SEEDED AREA	ENTER ACREAGE
TOTAL DISTURBED	ENTER ACREAGE

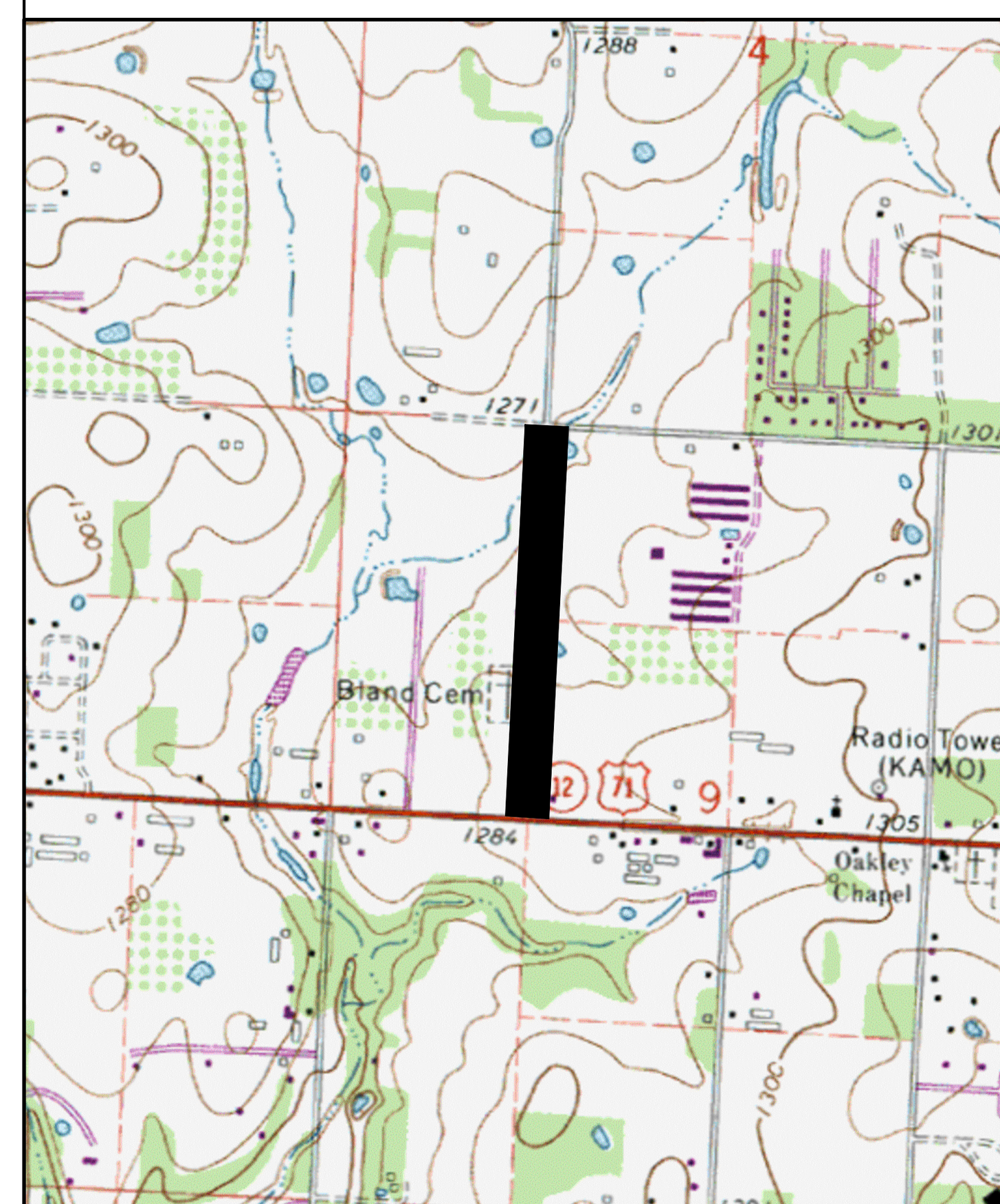
DEVELOPER/OWNER:
ENTER DEVELOPER INFORMATION

SITE OPERATOR/GENERAL CONTRACTOR:

SUPERINTENDENT:

T.B.M.

ENTER BENCHMARK INFORMATION



USGS QUADRANGLE MAP

NTS



VICINITY MAP

NTS

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CERTIFICATE OF AUTHORIZATION — CRAFTON, TULL & ASSOCIATES, INC. No. 109 — ARKANSAS ENGINEER

GRAPHIC SCALE IN FEET
10' 0 10'

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

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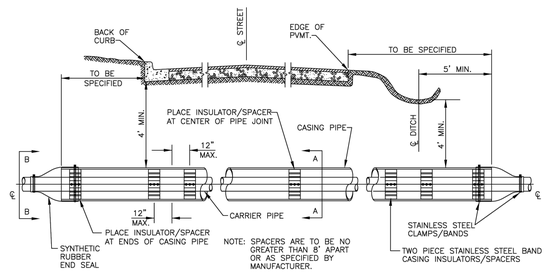
EROSION CONTROL DETAILS

C-513

ENCASEMENT DETAIL



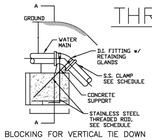
CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	16"	16"	16"	18"	20"	24"	30"	30"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

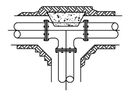
*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

GENERAL WATER/SEWER DETAIL: GWS01

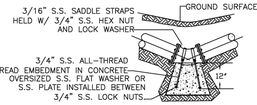
THRUST BLOCKING



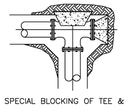
BLOCKING FOR VERTICAL TIE DOWN



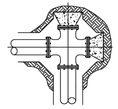
BLOCKING FOR TEE



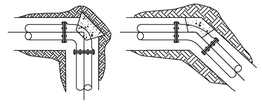
TYPICAL BLOCKING FOR VERTICAL BENDS



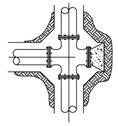
SPECIAL BLOCKING OF TEE & PLUG (WHEN DIRECTED BY WATER DEPT.)



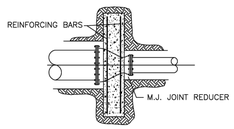
TYPICAL SECTION OF CROSS & 2 PLUG BLOCKING (WHEN DIRECTED BY WATER DEPT.)



TYPICAL BLOCKING FOR HORIZONTAL BENDS



TYPICAL SECTION OF CROSS & PLUG BLOCKING (WHEN DIRECTED BY WATER DEPT.)



THRUST SUPPORT FOR REDUCER (SIZE TO BE DETERMINED BY WATER DEPT.)

NOTES
1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED SOIL USING 4,000 PSI CONCRETE.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A THRUST BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. WEIGHT CALCULATIONS TO BE BASED ON REACTION BACKING TABLE (SEE GWS03).
4. WHEN BLOCKING AGAINST FITTINGS, FITTINGS SHALL BE COVERED WITH POLYETHYLENE WRAP TO PREVENT BONDING OF CONCRETE.
5. WHERE SHEAR BECOMES A PROBLEM PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTIONS.
7. CLEARANCE ON PIPES BELONGING TO OIL/GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES AND THE DEPARTMENT.
8. 12" OF ALL THREAD EMBEDED IN CONCRETE
9. MIN. 5/8" ALL THREAD FOR SECTIONS 10FT OR UNDER

GENERAL WATER/SEWER DETAIL: GWS02

REACTION BACKING TABLE

BLOCKING SCHEDULE					
PIPE SIZE		BENDS 45°	22 1/2°	11 1/4°	ROD DIA.
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	3/4 IN.
	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	
	C (FT.)	5.00'	4.00'	3.00'	
	MIN. CLAMP (2 EA.)	3/8 IN. x 2 IN.			
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	3/4 IN.
	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	
	C (FT.)	6.00'	5.00'	4.00'	
	MIN. CLAMP (2 EA.)	1/2 IN. x 2 IN.			
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	1 IN.
	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	
	C (FT.)	8.00'	6.50'	5.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	1 1/4 IN.
	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	
	C (FT.)	9.50'	7.50'	6.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			

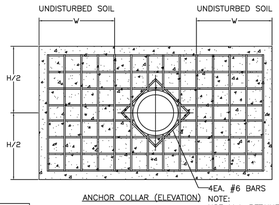
VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 250 PSI, 50 PSI SURGE AND THE WEIGHT OF CONCRETE IS 150 POUNDS PER CU. FT.

NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
3. WRAP ALL FITTINGS WITH POLY WRAP.
4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

GENERAL WATER/SEWER DETAIL: GWS03

ANCHOR COLLAR SPECIFICATIONS

ANCHOR COLLAR SCHEDULE						
PIPE SIZE	DIMENSIONS W	H	T	M	REINFORCING BARS "A" BARS	"B" BARS
6"	1.5'	2.0'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
8"	1.5'	2.5'	1.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
12"	2.0'	4.0'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
16"	3.0'	4.5'	1.5'	M.J. RETAINER GLAND	#6@6"	#6@6"
20"	3.0'	5.0'	2.0'	M.J. RETAINER GLAND	#6@6"	#6@6"
24"	3.5'	5.5'	2.0'	M.J. RETAINER GLAND	#7@6"	#6@10"
30"	6.5'	6.0'	2.5'	4"	#8@6"	#7@10"
36"	7.0'	7.0'	2.5'	4"	#8@6"	#7@10"



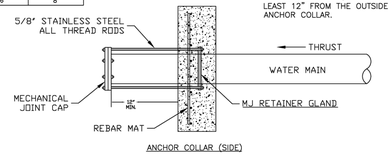
ANCHOR COLLAR (ELEVATION)

ROD REQUIREMENTS	
MAIN SIZE	NO. OF RODS
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTE:
USE M.J. RETAINER GLANDS FOR PIPE 24" AND SMALLER.

NOTE:
PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE 4000 PSI CONCRETE COLLAR IS POURED.

NOTE:
ON DEAD END LINE, PIPE MUST EXTEND AT LEAST 12" FROM THE OUTSIDE EDGE OF ANCHOR COLLAR.

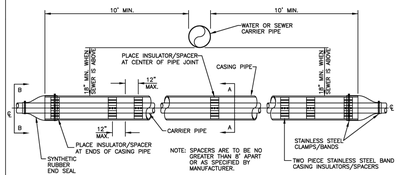


ANCHOR COLLAR (SIDE)

NOTE:
ALL-THREAD STEEL RODS SHALL BE 5/8" STAINLESS STEEL WITH STAINLESS STEEL HARDWARE.

GENERAL WATER/SEWER DETAIL: GWS04

ENCASEMENT CROSSING DETAIL



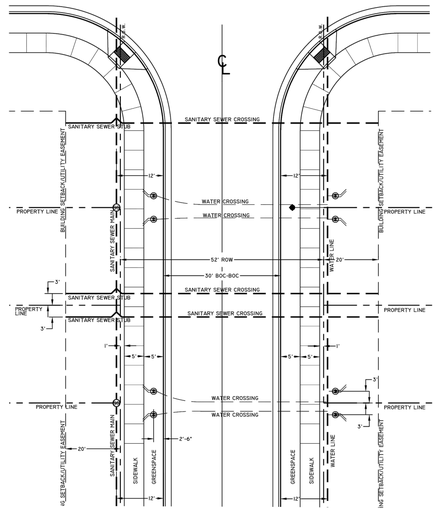
CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	16"	16"	16"	18"	20"	24"	30"	30"	36"
CASING/WALL THICKNESS	.219	.219	.219	.250	.281	.344	.406	.406	.500

NOTE: DUCTILE IRON, OR PVC PIPE REQUIRED FOR WATER, OR SEWER.

*ALL BELLS SHALL BE RESTRAINED BY APPROVED METHOD.

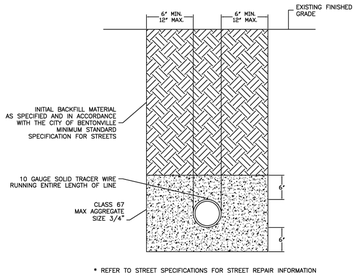
GENERAL WATER/SEWER DETAIL: GWS05

SUBDIVISION UTILITY PLACEMENT



GENERAL WATER/SEWER DETAIL: GWS06

TYPICAL BEDDING DETAIL



* REFER TO STREET SPECIFICATIONS FOR STREET REPAIR INFORMATION

GENERAL WATER/SEWER DETAIL: GWS07

THE CITY OF WASTEWATER WATER BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

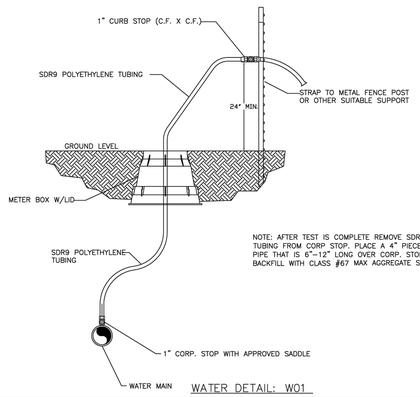
WATER/SEWER DETAILS

811 Know what's **below.** **Call** before you dig.

REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

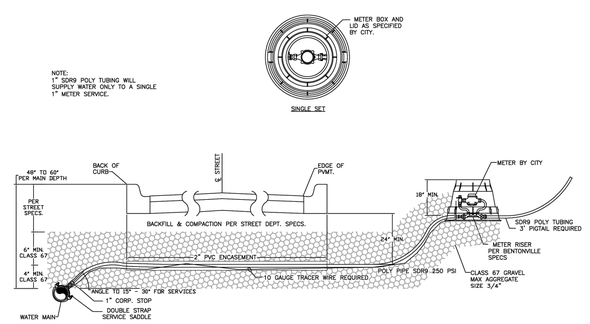
DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	1

TEMPORARY 1" BLOW OFF ASSEMBLY SAMPLE POINTS



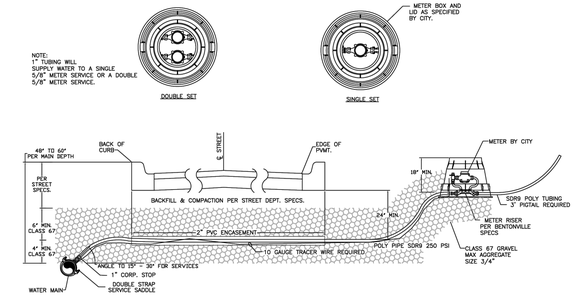
WATER DETAIL: W01

WATER SERVICE DETAIL 1"



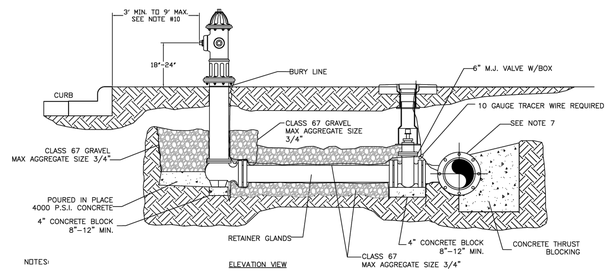
WATER DETAIL: W02

WATER SERVICE DETAIL 5/8"



WATER DETAIL: W03

FIRE HYDRANT DETAIL W/ RETAINER GLANDS



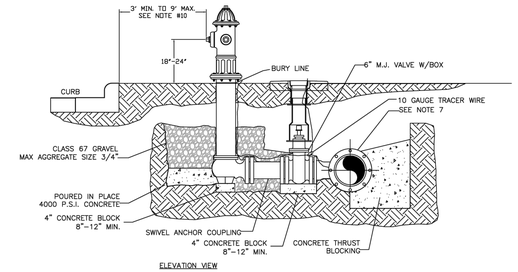
ELEVATION VIEW

NOTES:

1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS)
8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRAINING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W04

FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING



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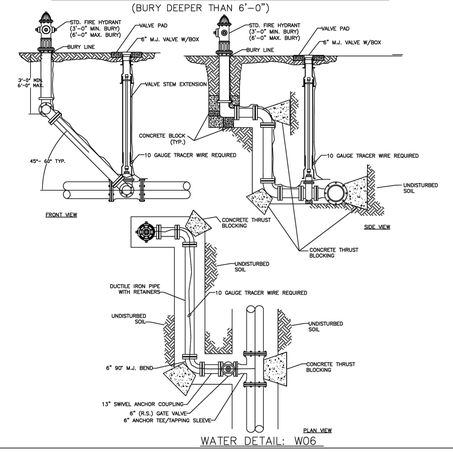
WATER DETAIL: W05

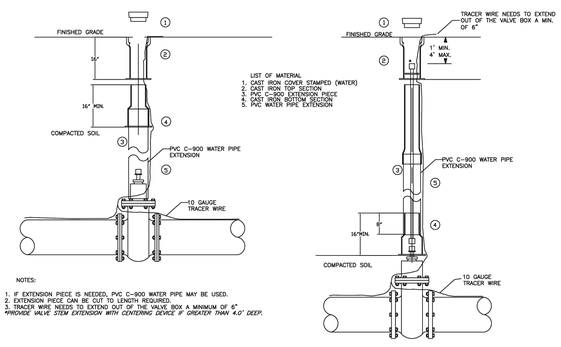
DEEP BURY FIRE HYDRANTS

(BURY DEEPER THAN 6'-0")



WATER DETAIL: W06

VALVE BOX VALVE STEM & TRACER WIRE INSTALLATION

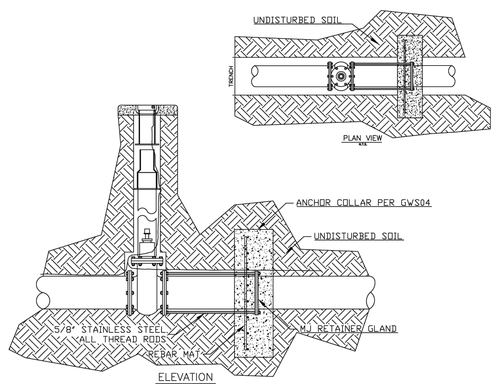


NOTES:

1. IF EXTENSION PIECE IS NEEDED, PVC C-900 WATER PIPE MAY BE USED.
2. EXTENSION PIECE CAN BE CUT TO LENGTH REQUIRED.
3. TRACER WIRE NEEDS TO EXTEND OUT OF THE VALVE BOX A MINIMUM OF 6".
*PROVIDE VALVE STEM EXTENSION WITH CENTERING DEVICE IF GREATER THAN 4.0' DEEP.

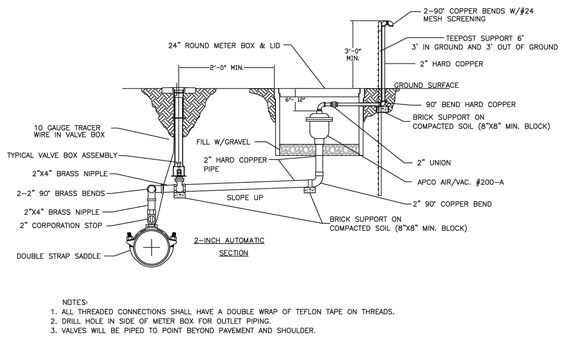
WATER DETAIL: W07

RESTRAINED GATE VALVE



WATER DETAIL: W08

2" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:

1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W09

THE CITY OF WASTEWATER WATER BENTONVILLE

3200 SW MUNICIPAL DR.
Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

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REVISIONS:

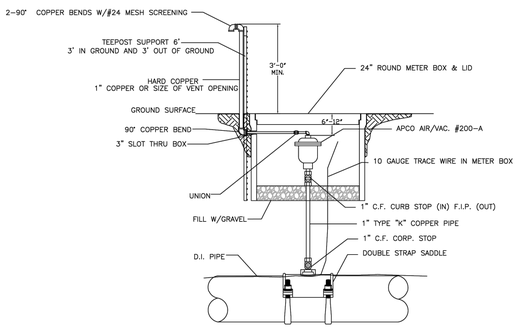
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY:	JI	DATE:	03/16/2021
APPROVED BY:	PN	DATE:	03/16/2021
SHEET NUMBER:	1	OF	2

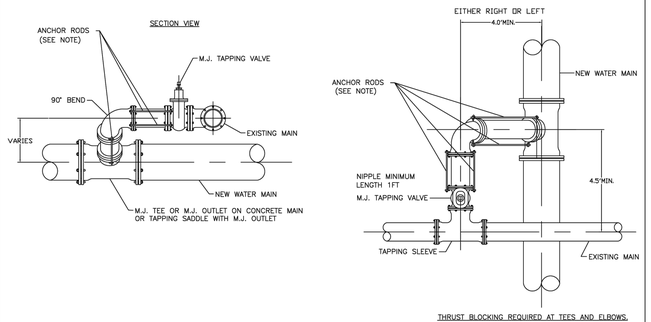
1" COMBINATION AIR/VACUUM VALVE DETAIL



NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W10

SWING CONNECTION – NEW MAIN TO EXISTING MAIN



THRUST BLOCKING REQUIRED AT TEES AND ELBOWS.

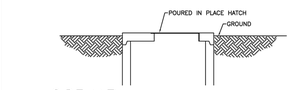
PIPE SIZE	6"	8"	12"
RODS PER NIPPLE	2	2	4

NOTES:
1. CONTRACTOR SHALL LOCATE EXISTING MAIN IN ADVANCE OF LAYING NEW LINE IN ORDER TO ASSURE ADEQUATE LENGTH TO ADJUST DEPTH OF NEW MAIN.
2. DIMENSIONS SHOWN ARE RECOMENDED MINIMUMS TO PROVIDE ADEQUATE ROOM FOR TIGHTENING BOLTS ON JOINTS. (OTHER DIMENSIONS MAY BE USED.)
3. PROVIDE STAINLESS STEEL "ALL THREAD(MIN 5/8")" TIE RODS WITH EYE BOLTS FOR ANCHORING ALL JOINTS.
4. RODS SHALL BE FIELD CUT TO FIT & SHALL BE PROTECTED WITH POLYWRAP.
5. ROTATE TEE UP & ELBOW DOWN AS REQUIRED TO MATCH.
6. USE TYPICAL CONCRETE BLOCKING REQUIRED.

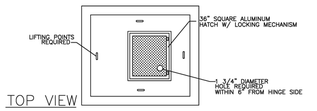
WATER DETAIL: W11

METER VAULT DETAIL FOR 4" – 8" METERS (TYPICAL)

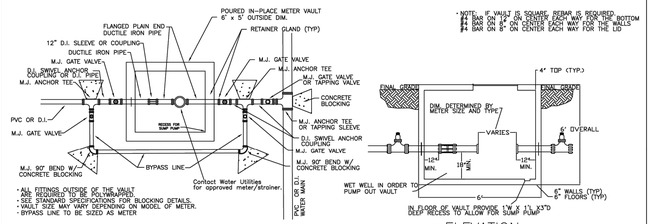
(DIMENSIONS MAY VARY FOR METER SIZES)



SIDE VIEW



TOP VIEW



- ALL FITTINGS OUTSIDE OF THE VAULT
- ALL PIPE TO BE WRAPPED POLYWRAP
- SEE STANDARD SPECIFICATIONS FOR BLOCKING DETAILS.
- VAULT SIZE MAY VARY DEPENDING ON MODEL OF METER.
- BYPASS LINE TO BE SIZED AS METER

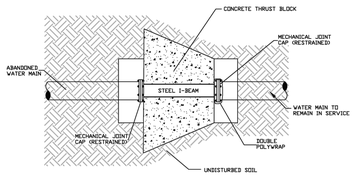
PLAN VIEW
N.T.S.

ELEVATION
N.T.S.

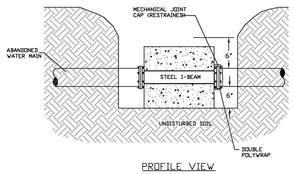
- NOTE: IF VAULT IS SQUARE, REBAR IS REQUIRED
#4 BAR ON 12" ON CENTER EACH WAY FOR THE BOTTOM
#4 BAR ON 8" ON CENTER EACH WAY FOR THE WALLS
#4 BAR ON 8" ON CENTER EACH WAY FOR THE LID

WATER DETAIL: W12

CUT/CAP DETAIL



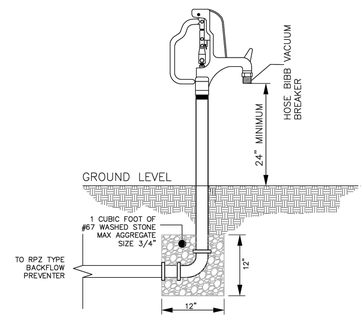
PLAN VIEW



PROFILE VIEW

WATER DETAIL: W13

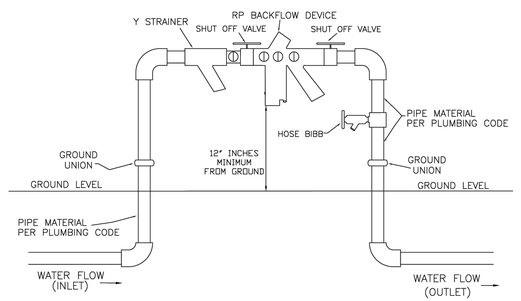
FROST FREE HOSE BIBB WITH VACUUM BREAKER



ELEVATION
N.T.S.

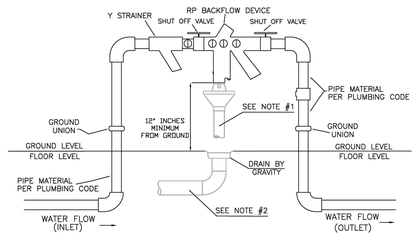
WATER DETAIL: W14

REDUCED PRESSURE (RP) IRRIGATION ONLY



WATER DETAIL: W15

REDUCED PRESSURE (RP) IRRIGATION ONLY



INDOOR APPLICATION ONLY NOTES:

1. AN AIR GAP DRAIN IS REQUIRED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.
2. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

WATER DETAIL: W16

THE CITY OF WASTEWATER WATER BENTONVILLE

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Bentonville, AR 72712
Ph: (479) 271-3140
www.bentonvillear.com

WATER DETAILS

811 Know what's **below.** **Call** before you dig.

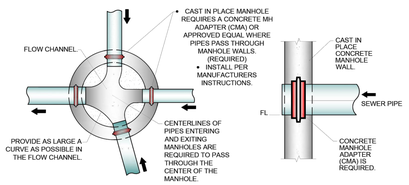
REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

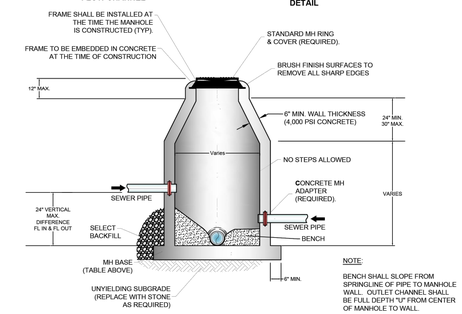
Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI	DATE: 03/16/2021
APPROVED BY: PN	DATE: 03/16/2021
SHEET NUMBER: 2	OF 2

SANITARY SEWER
CAST IN PLACE MANHOLE



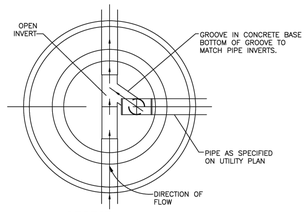


Inside Diameter of Manhole	Minimum Wall Thickness	Base Thickness	Minimum Ring & Cover Size
4' DIA	6"	8"	24" (< or Equal to 24" Pipes)
5' DIA	8"	10"	
6' DIA	8"	12"	36" (> 24" Pipes)

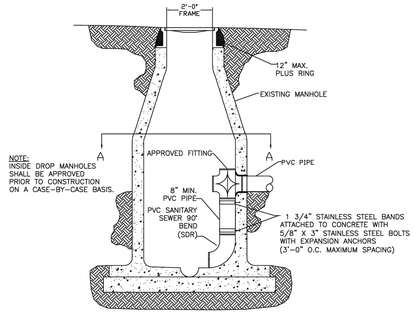
MANHOLE INFORMATION TABLE

SANITARY SEWER DETAIL: SS01

SANITARY SEWER
INTERIOR DROP MANHOLE

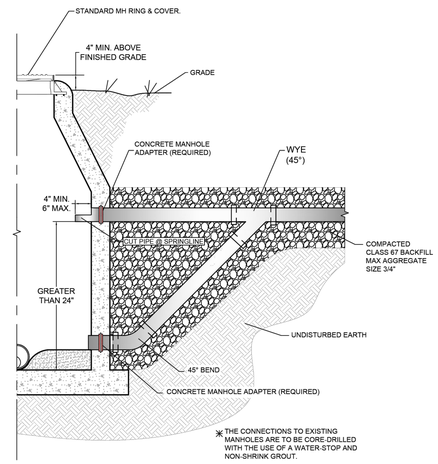


SECTION A-A



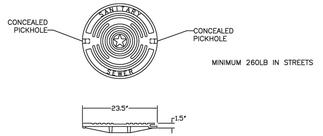
SANITARY SEWER DETAIL: SS02

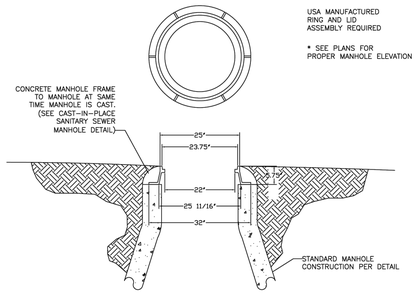
SANITARY SEWER
EXTERIOR DROP MANHOLE



SANITARY SEWER DETAIL: SS03

HEAVY DUTY MANHOLE
LID & FRAME





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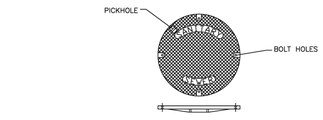
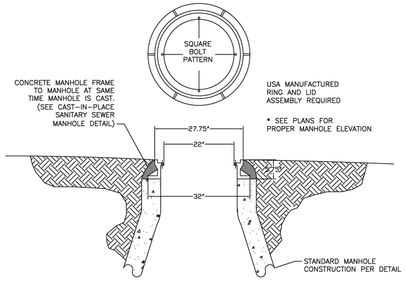
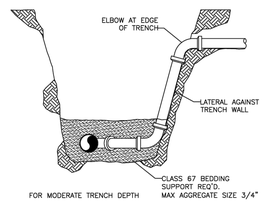
WATER TIGHT BOLTED MANHOLE
LID & FRAME

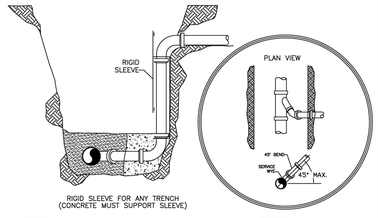


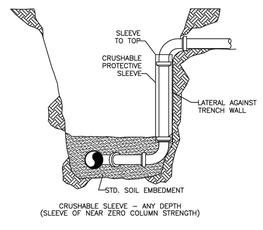


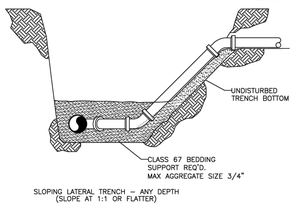
SANITARY SEWER DETAIL: SS05

SANITARY SEWER
SERVICE WYE









SANITARY SEWER DETAIL: SS06

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SAN.SEWER DETAILS

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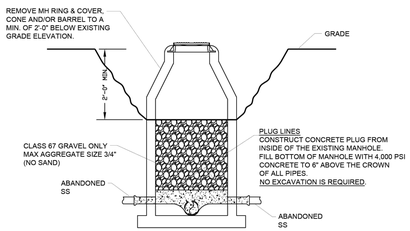
REVISIONS:
Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

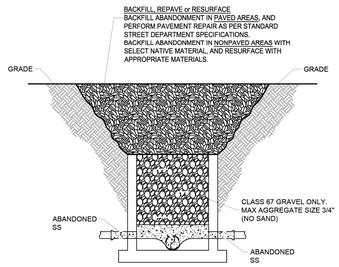
Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI	DATE: 03/16/2021
APPROVED BY: PN	DATE: 03/16/2021
SHEET NUMBER: 1	OF 2

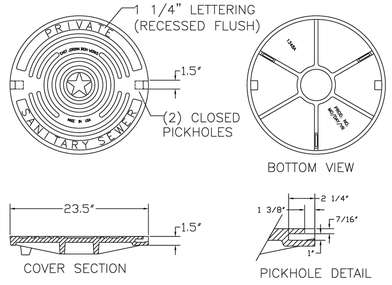
SANITARY SEWER MANHOLE ABANDONMENT





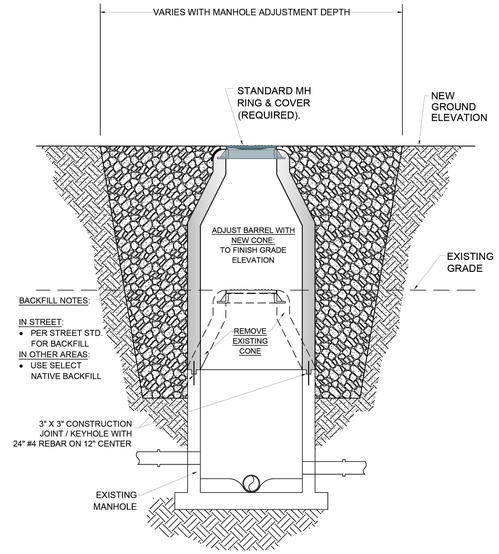
SANITARY SEWER DETAILS: SS07

PRIVATE MANHOLE RING AND LID



SANITARY SEWER DETAILS: SS08

TYPICAL MANHOLE ADJUST TO GRADE



SANITARY SEWER DETAILS: SS09

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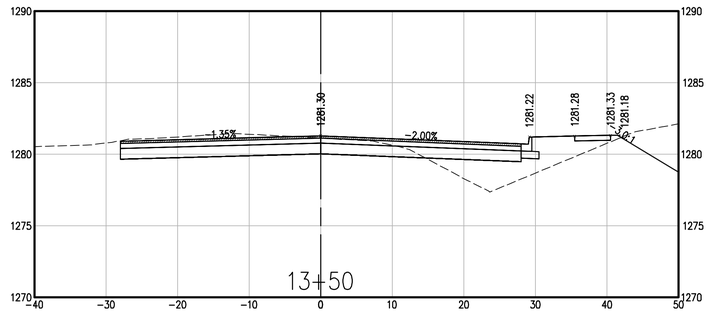
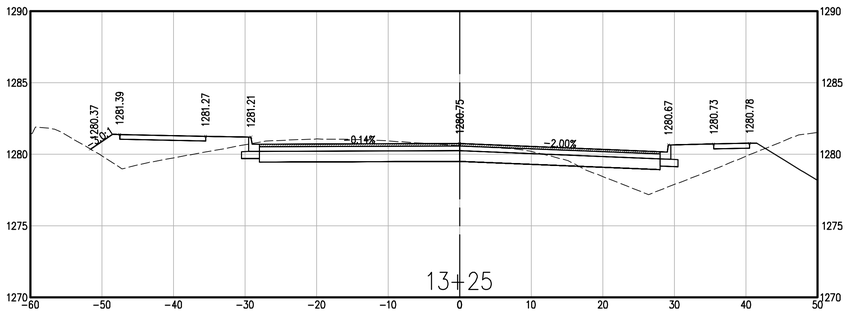
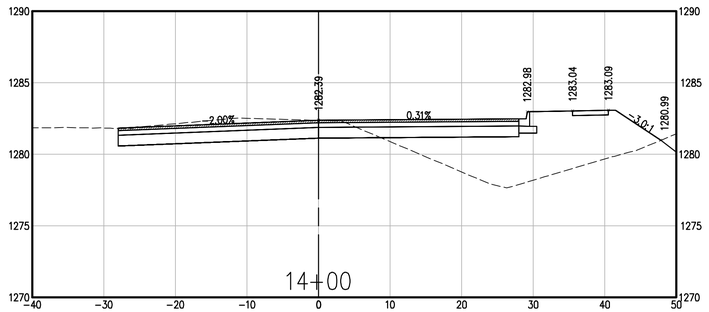
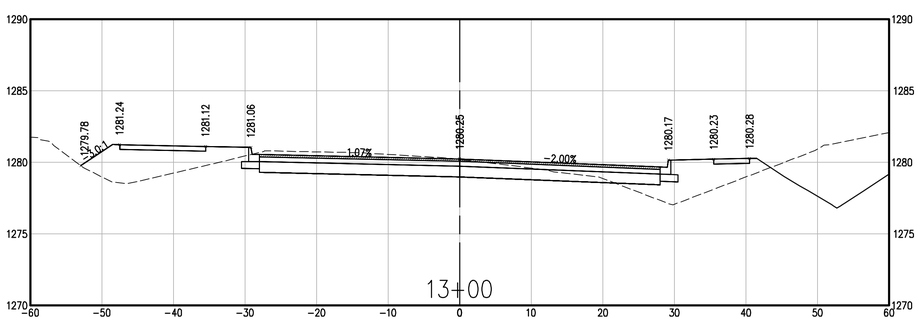
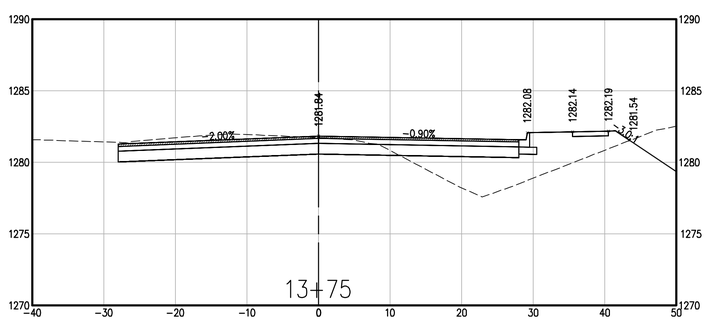
SHEET NUMBER: 2	OF 2











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MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-801

DRAWING: C-21105500_MOBERLY SOUTH\PREPARATION\CIVIL\CAD\DWG\CROSS SECTIONS.DWG
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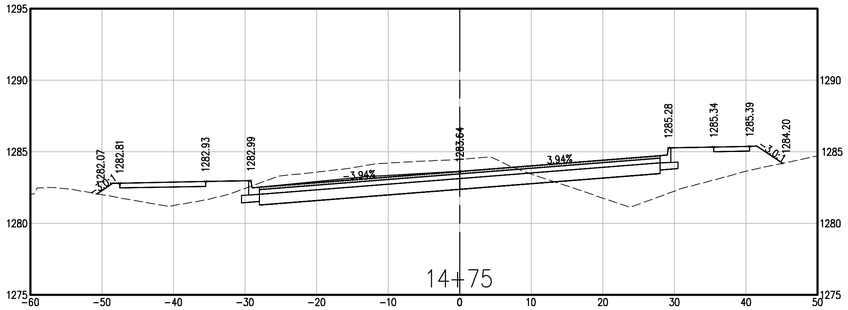

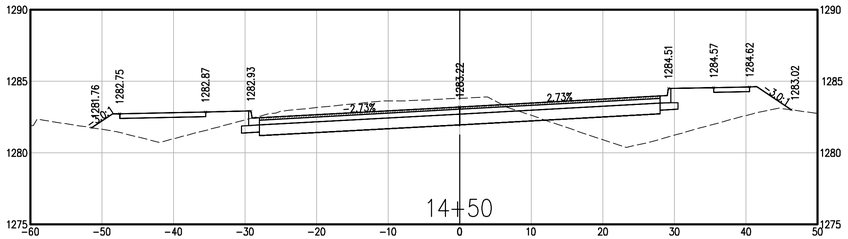

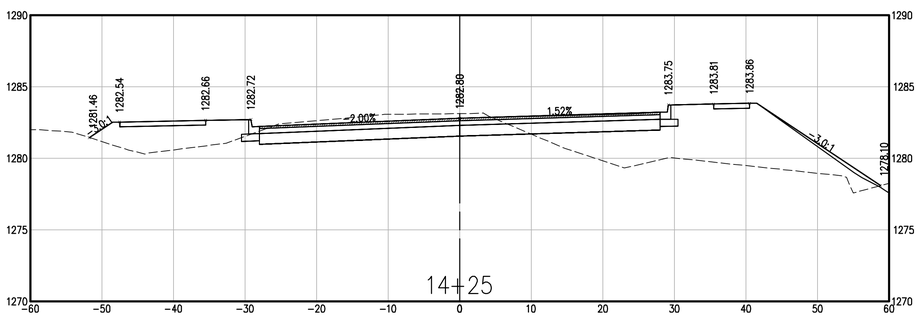

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MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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QC Date: MM/DD/YYYY

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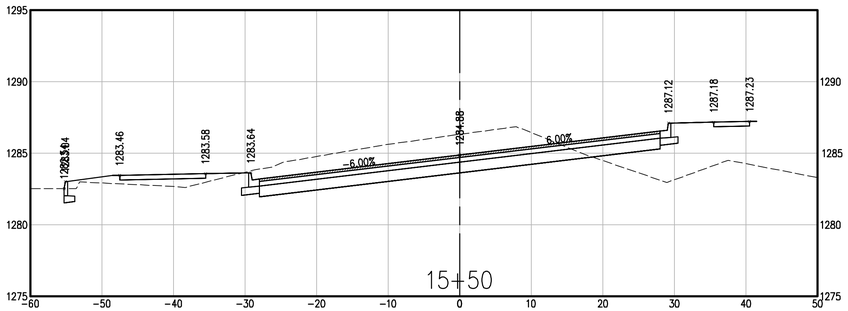

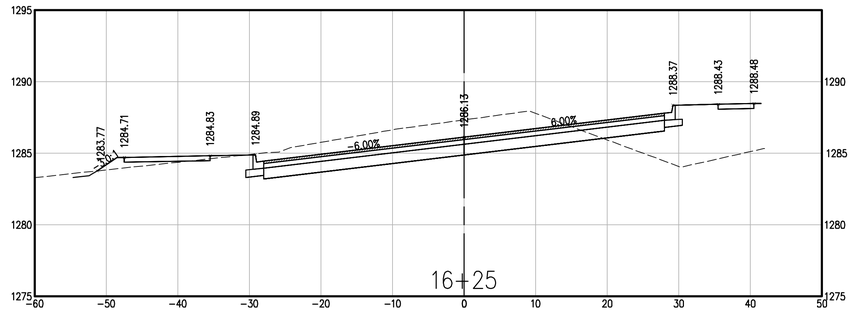

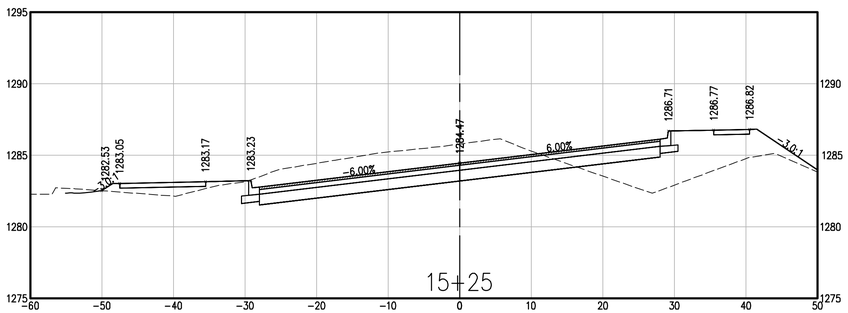

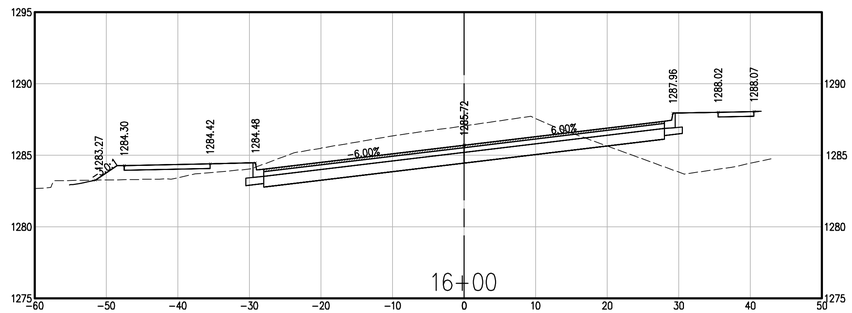

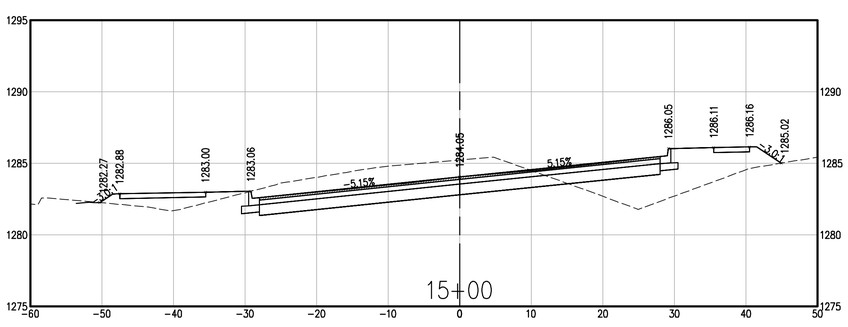

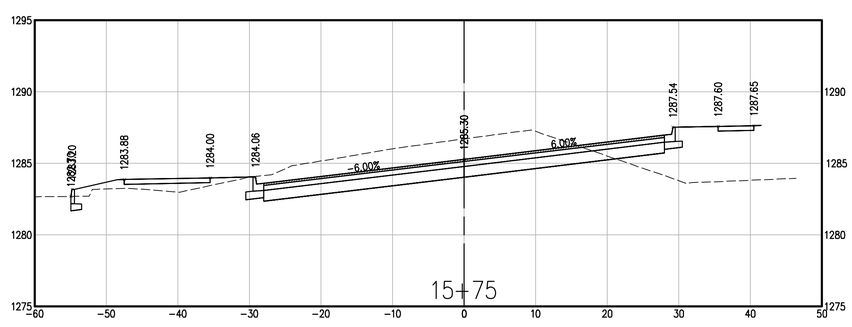

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BENTONVILLE, ARKANSAS

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Key Plan

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ISSUE DATE: 10/17/2022
CONTACT: B. BURNETT
QC by:
QC Date: MM/DD/YYYY

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C-803

DRAWING: C-12 ED320_MOBERLY FOR PREPARATION\CAD\DWG\CROSS SECTIONS.DWG
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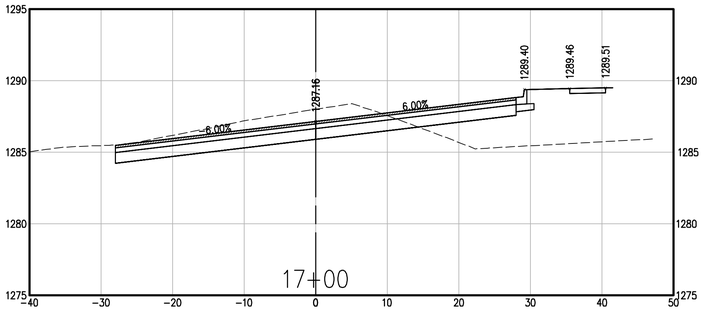

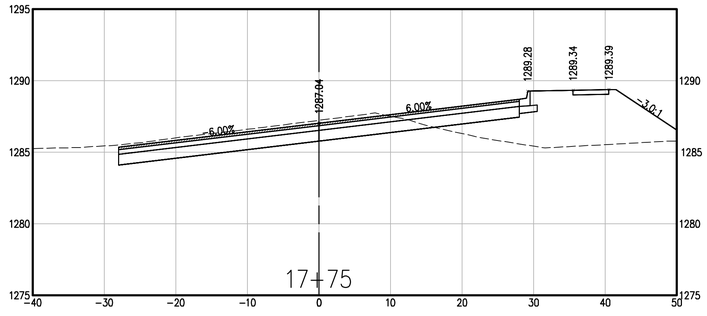

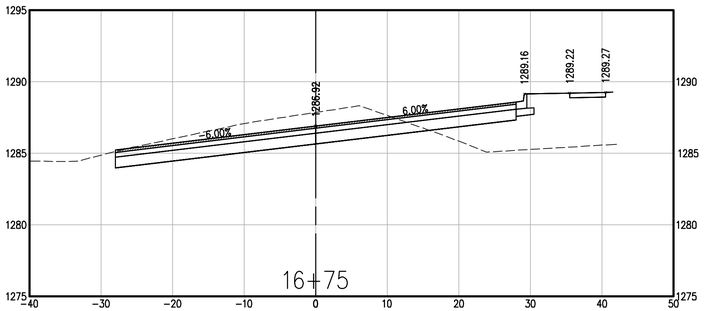

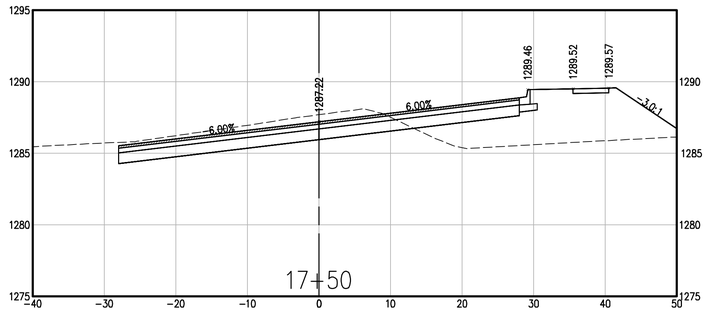

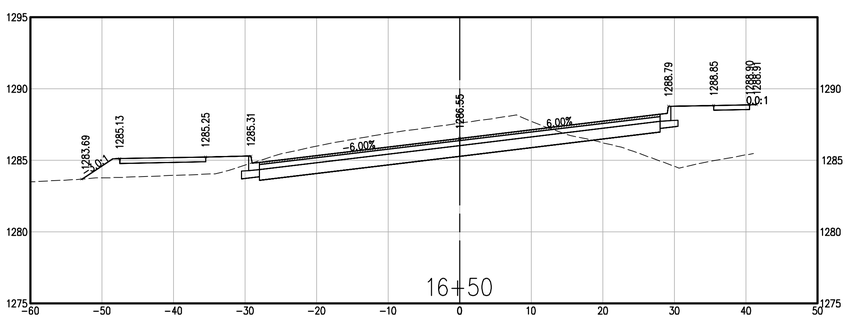

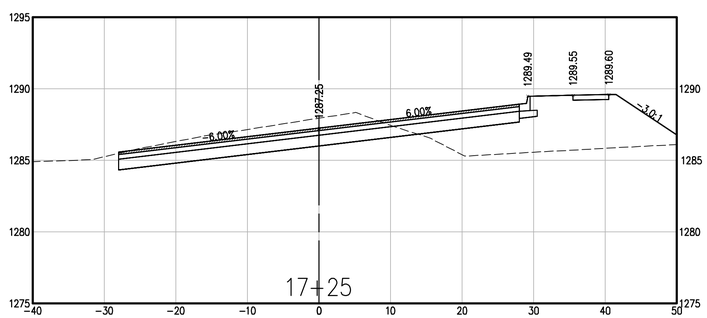

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-804

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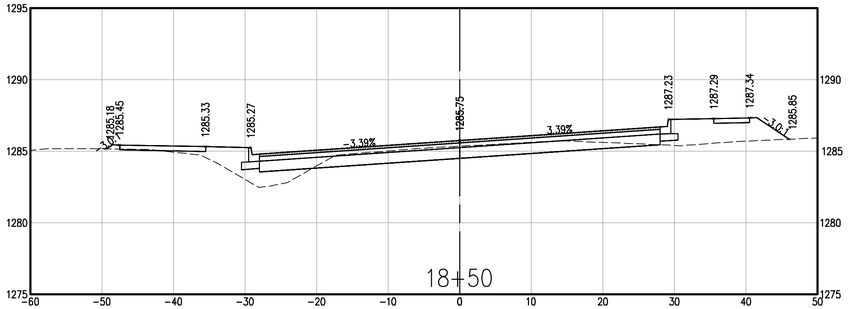

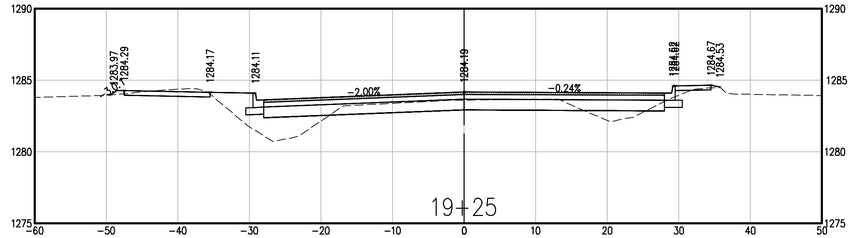

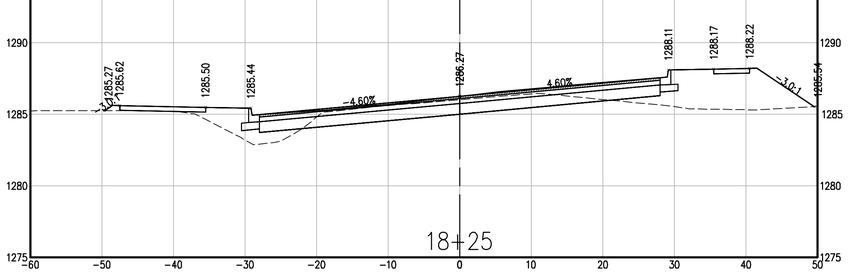

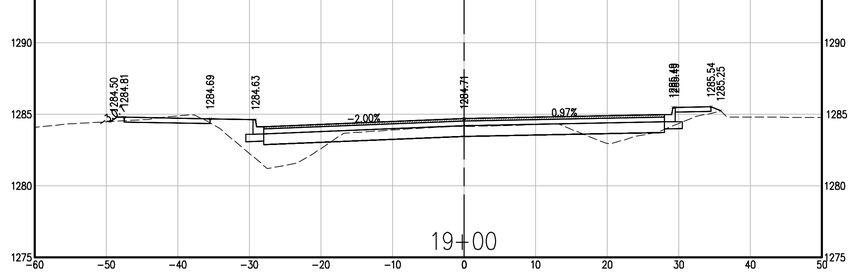

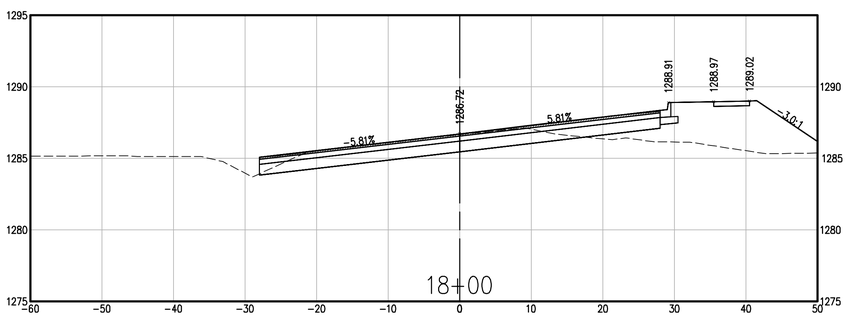

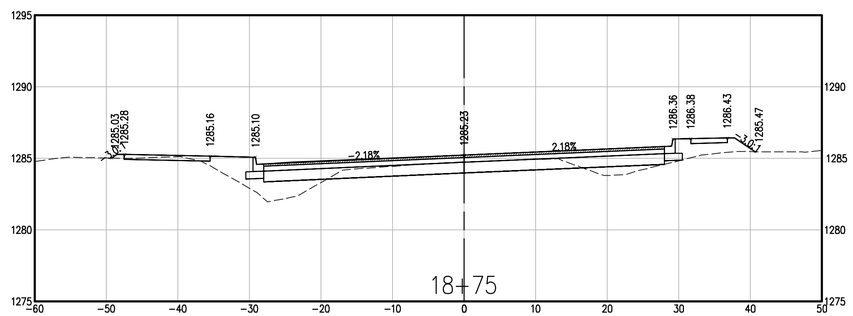

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MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 10/17/2022
CONTACT: B. BURNETT
QC By:
QC Date: MM/DD/YYYY

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-805

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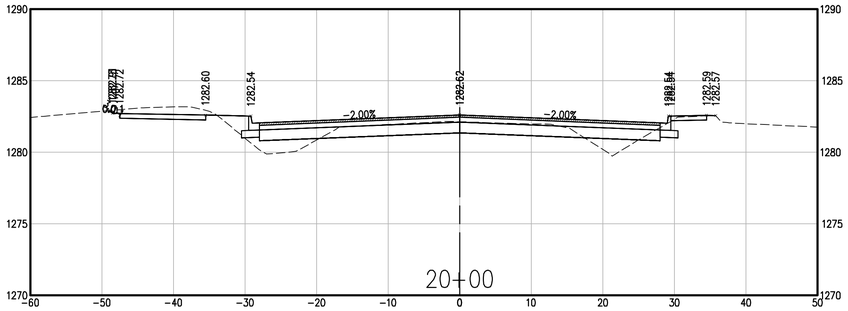

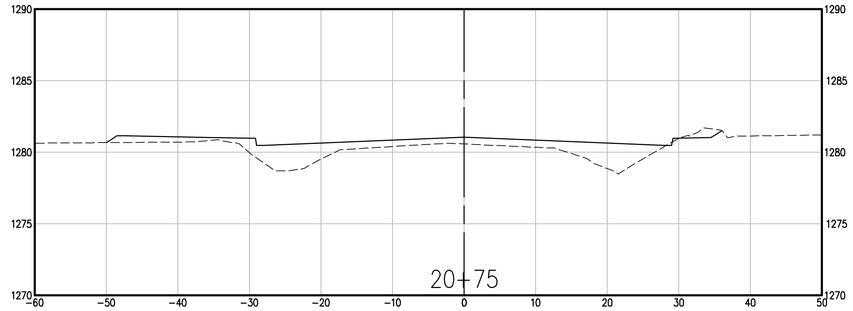

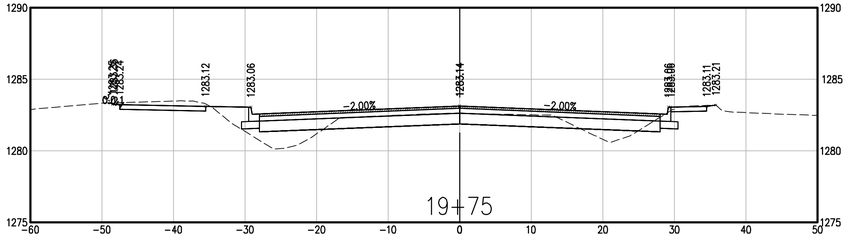

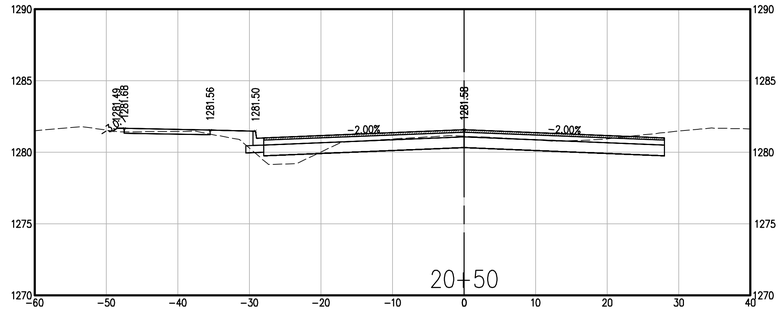

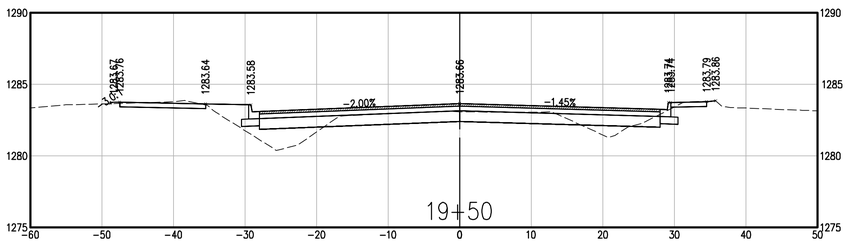

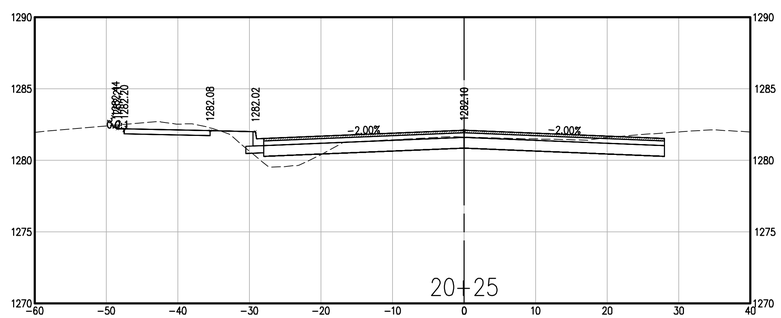

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Key Plan

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PROJECT NO: 21105500
ISSUE DATE: 10/17/2022
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QC BY:
QC Date: MM/DD/YYYY

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-806

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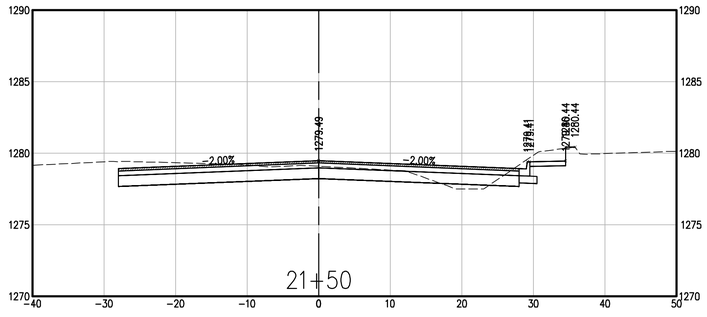

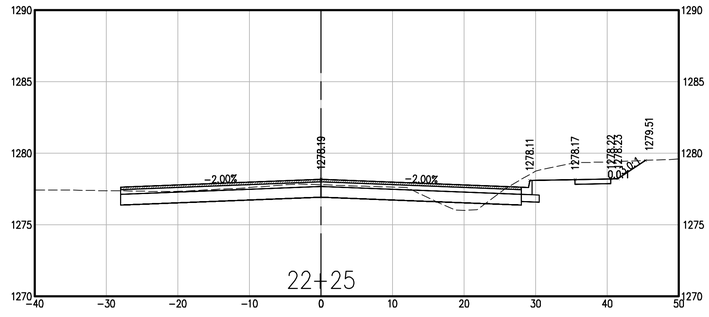

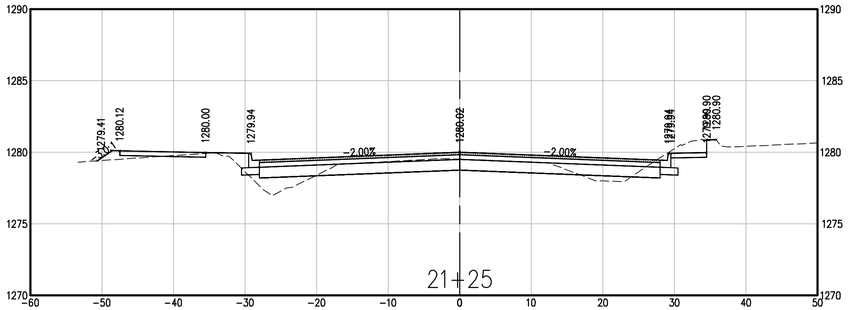

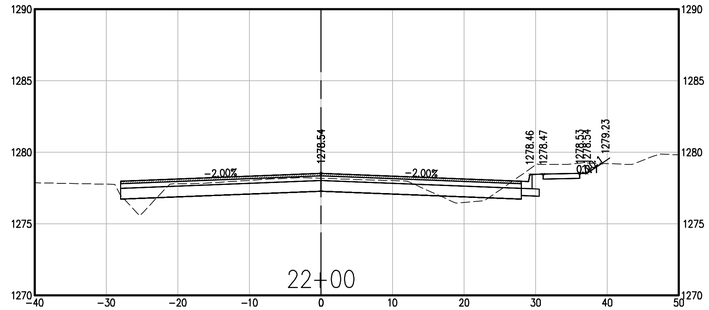

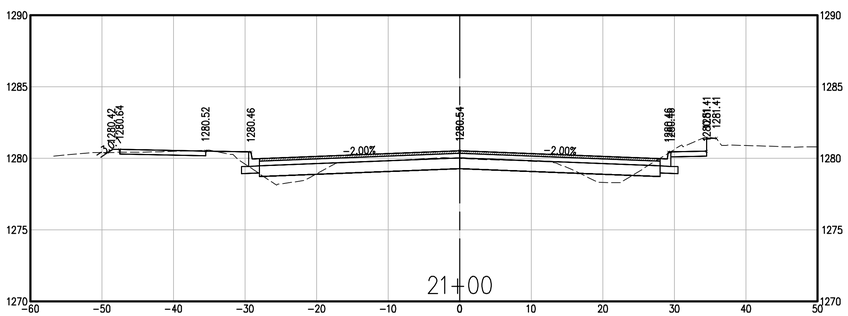

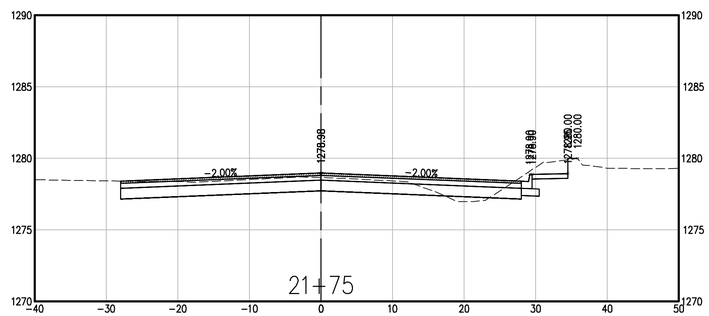

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-807

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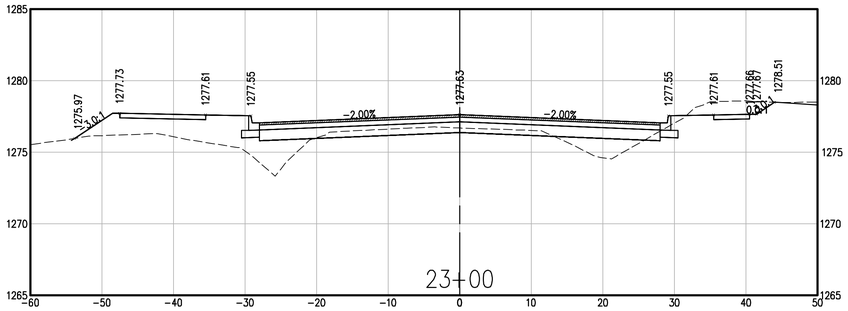

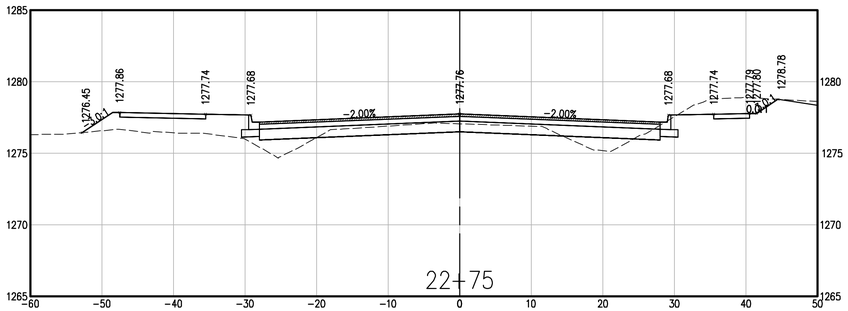

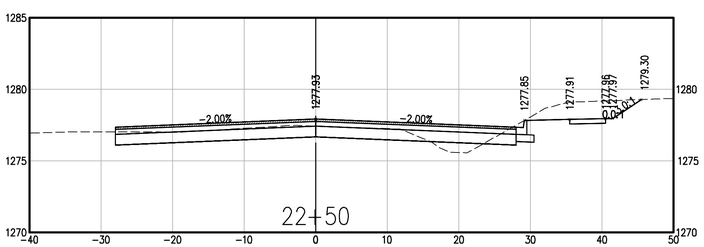

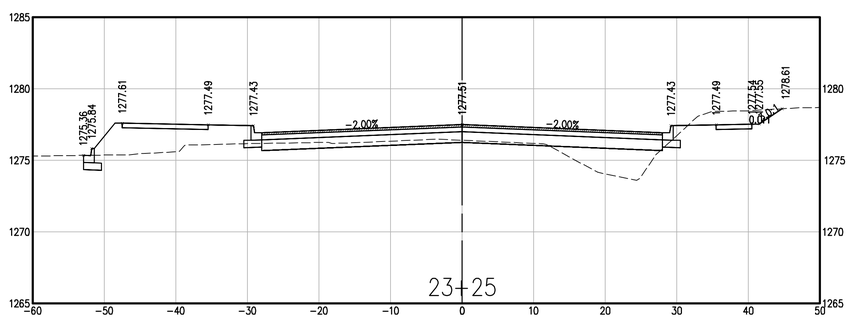

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BOND PROJECT MUNIS #21ST0003

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-808

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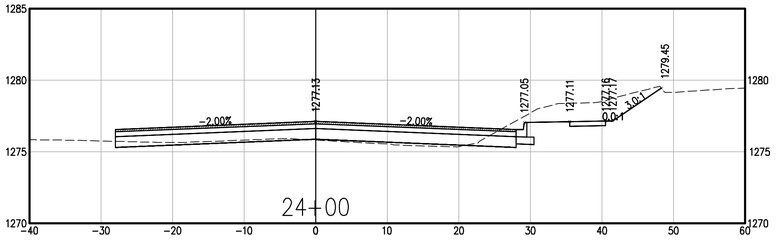

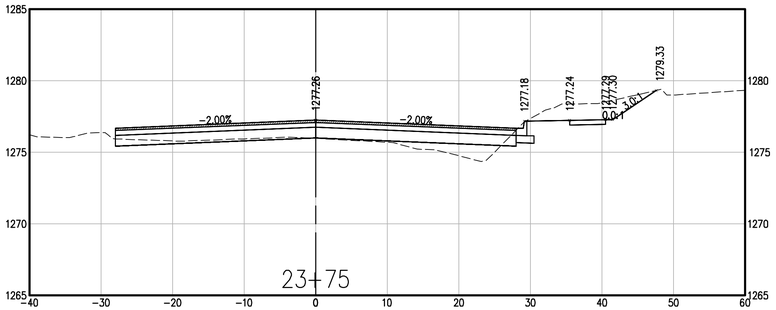

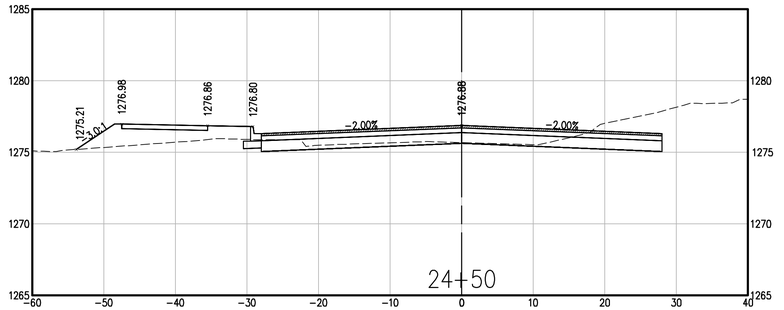

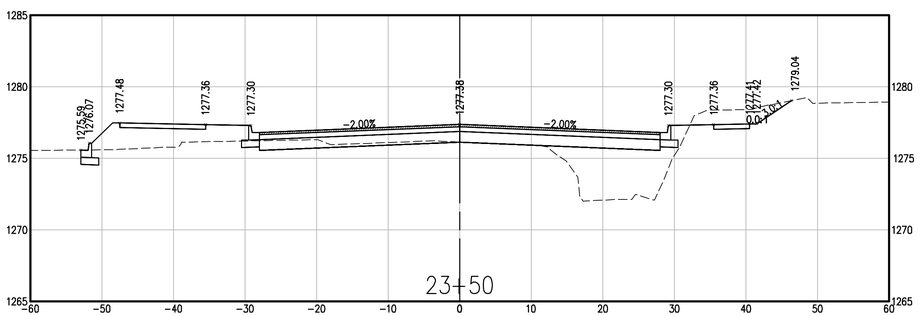

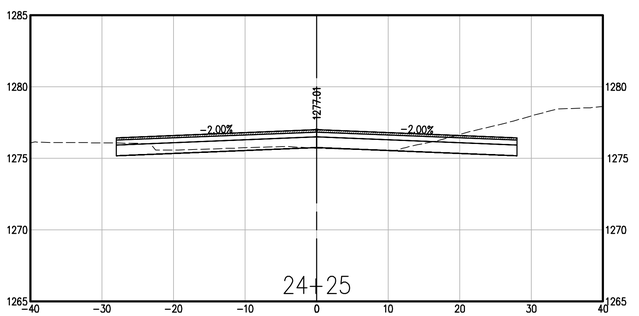

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-809

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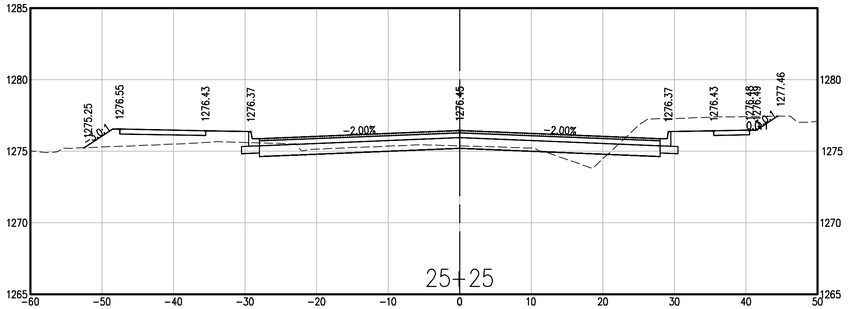

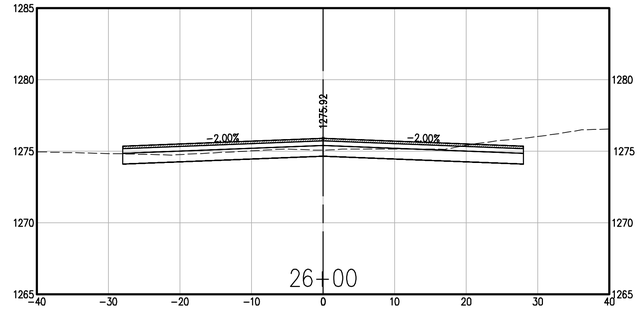

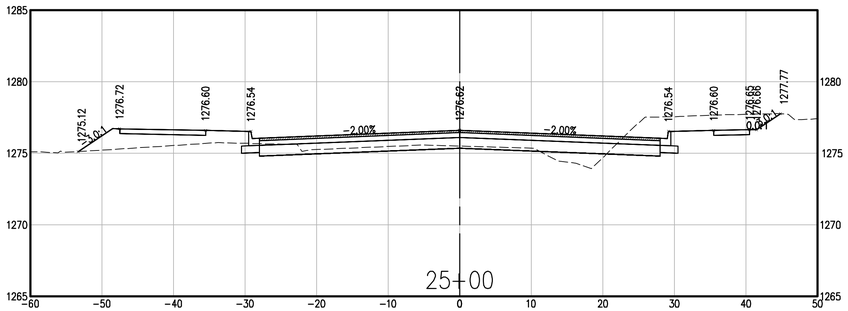

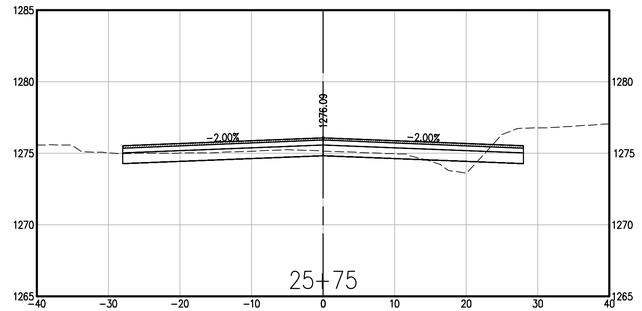

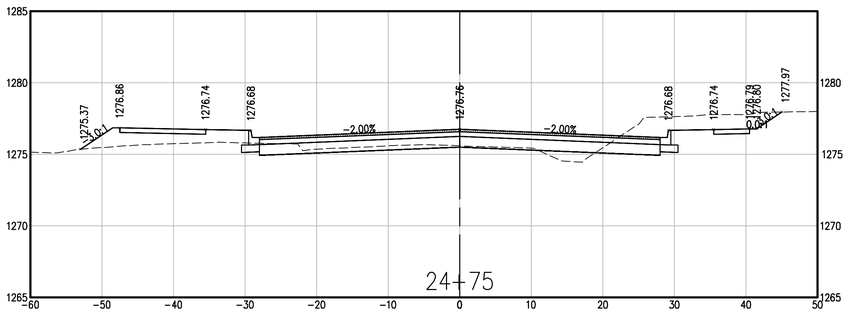

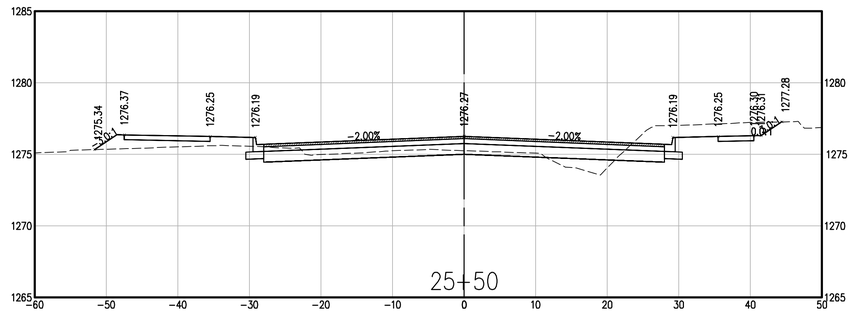

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-810

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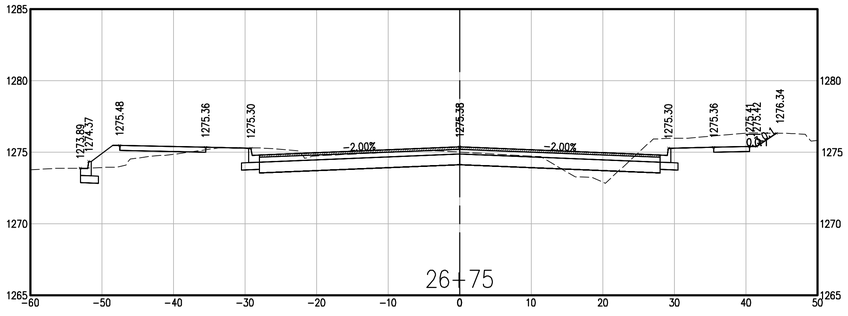

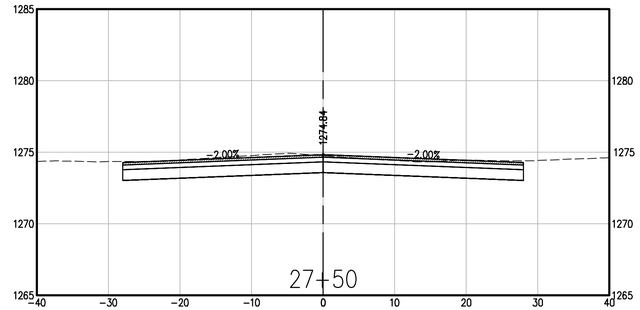

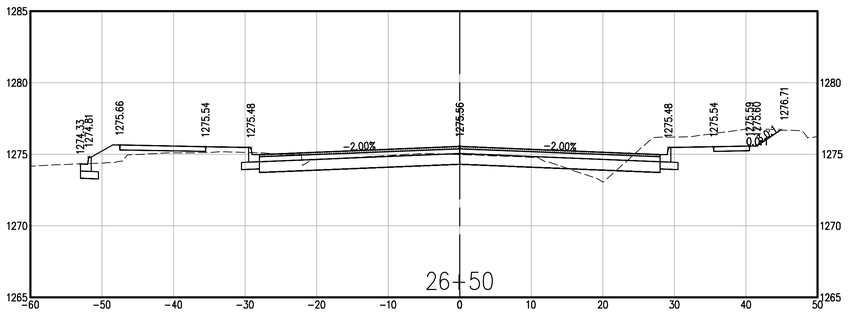

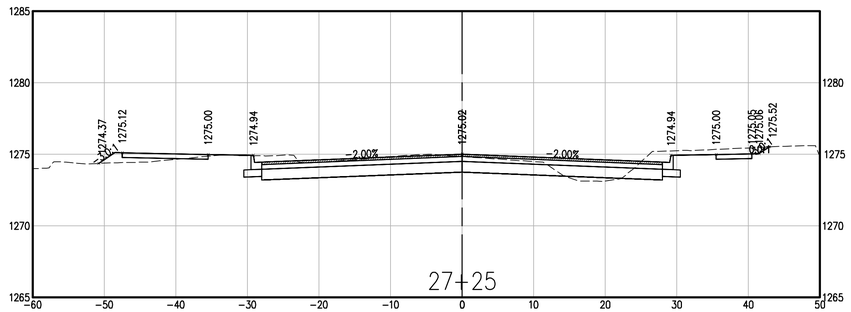

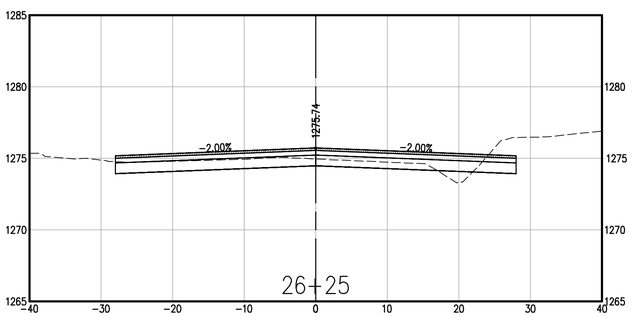

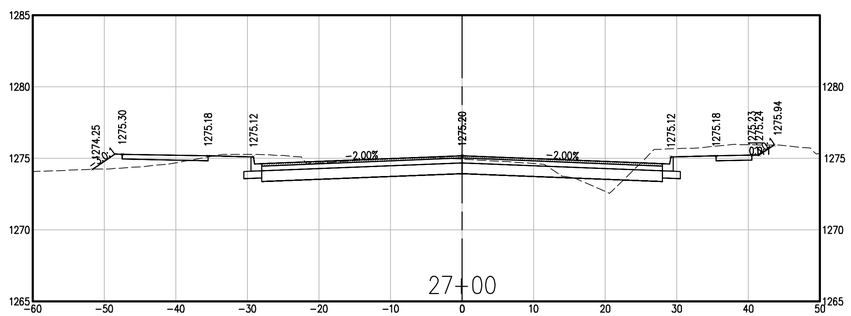

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BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

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C-811

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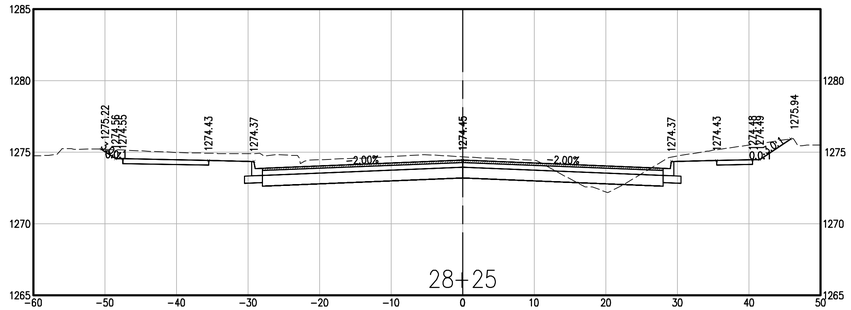

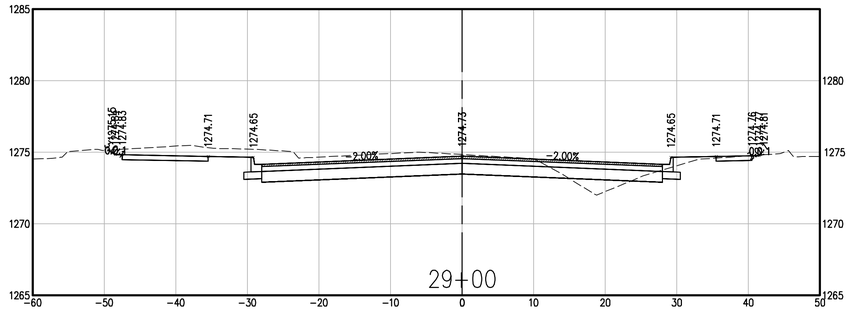

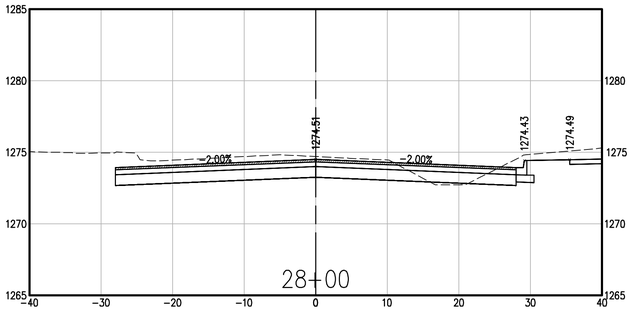

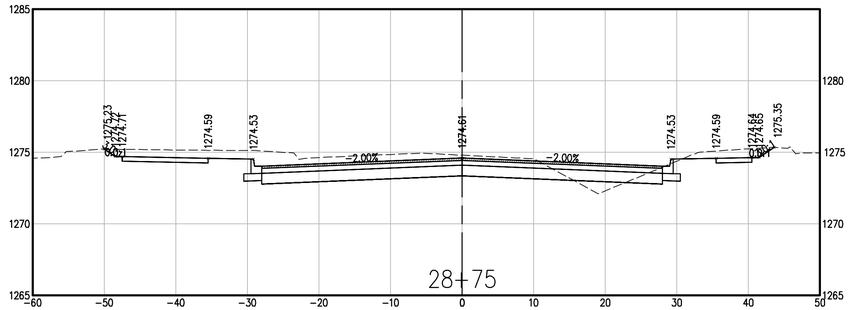

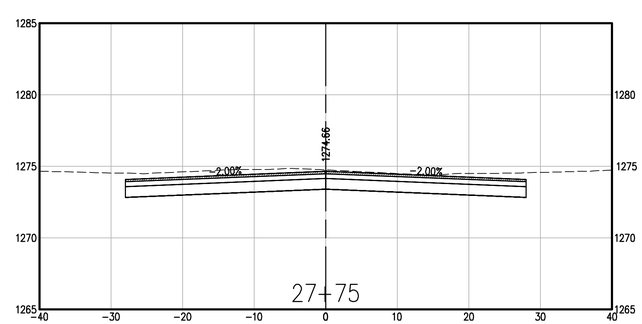

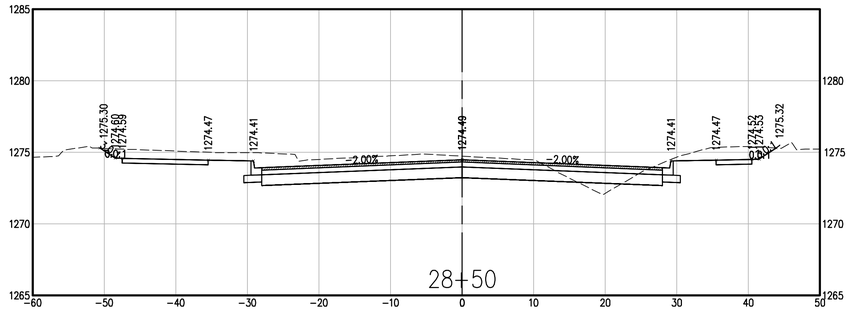

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C-812

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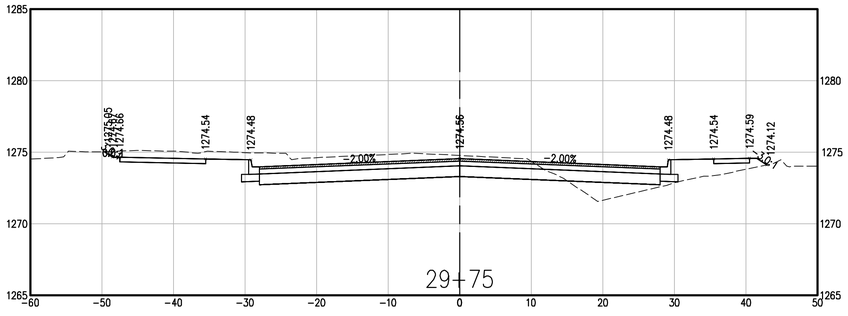

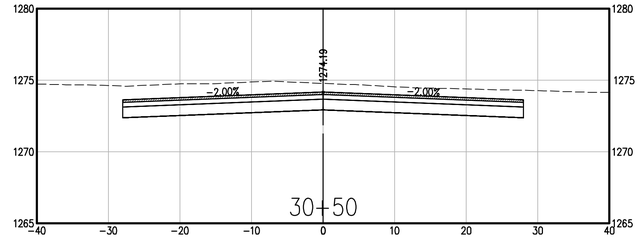

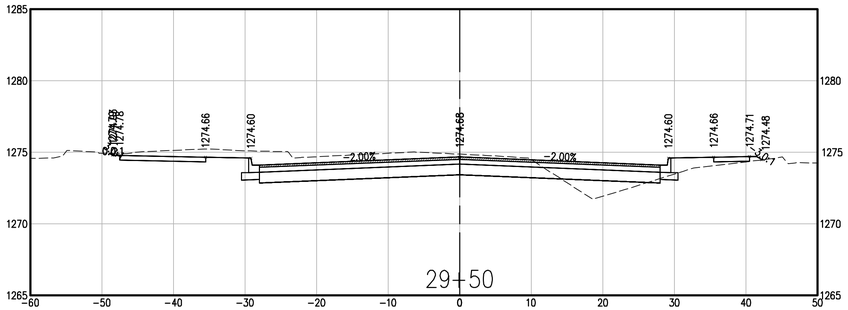

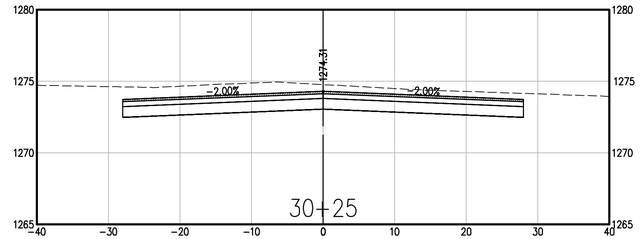

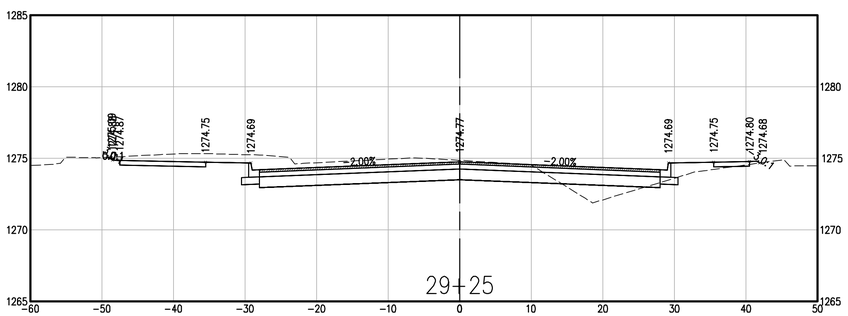

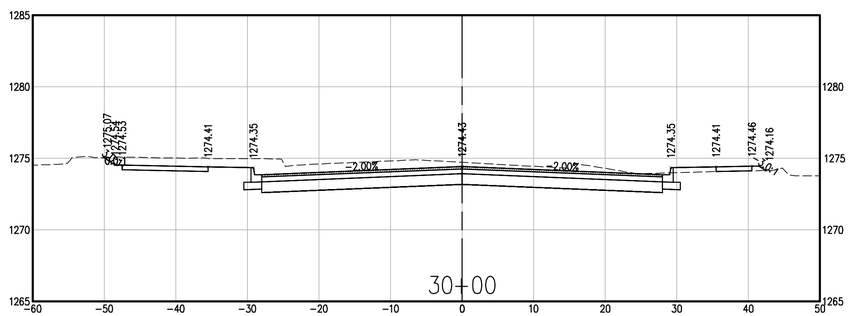

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C-813

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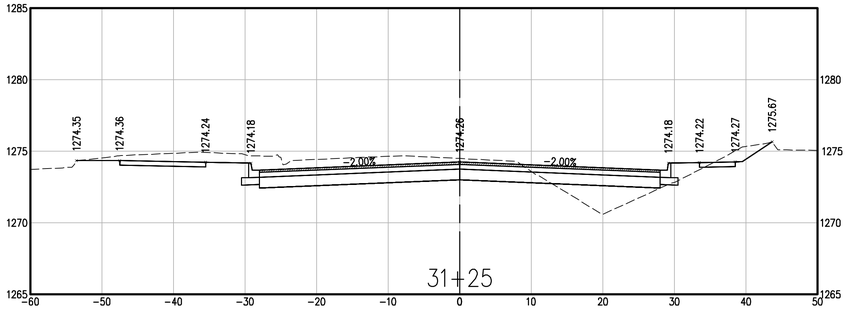

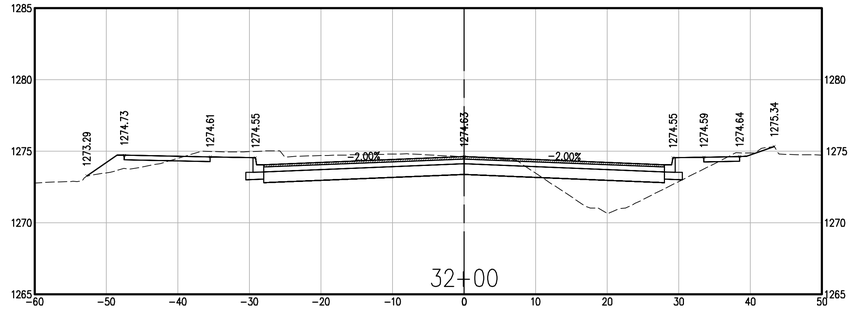

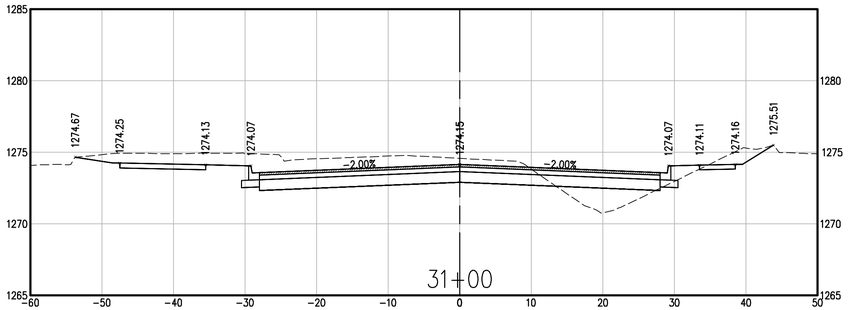

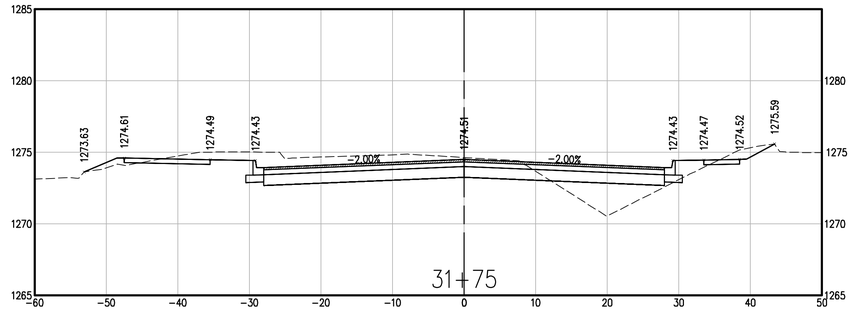

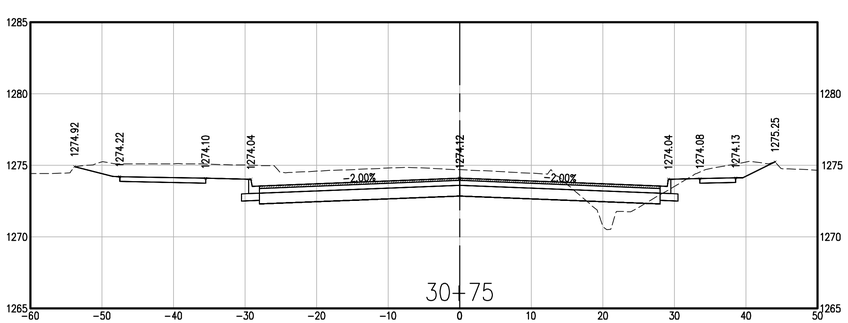

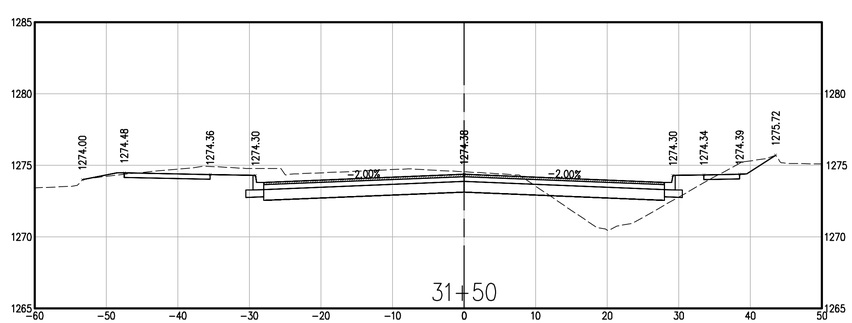

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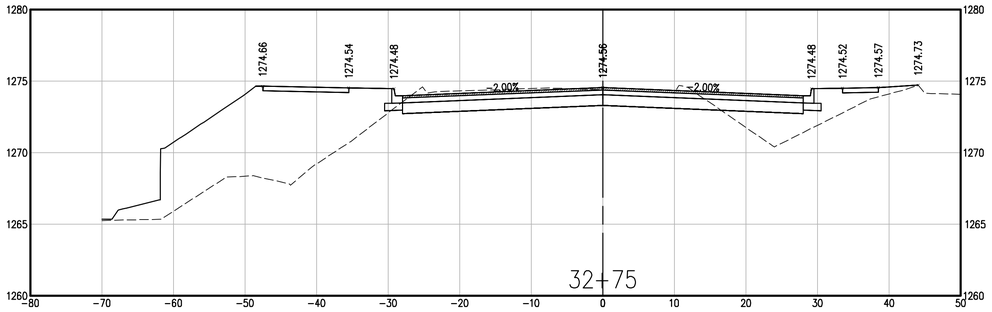

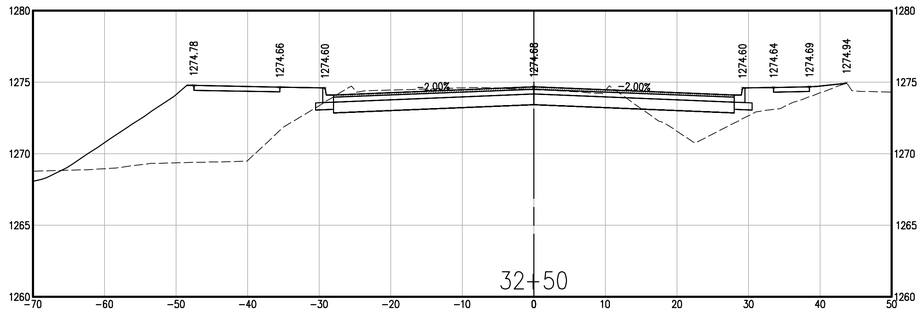

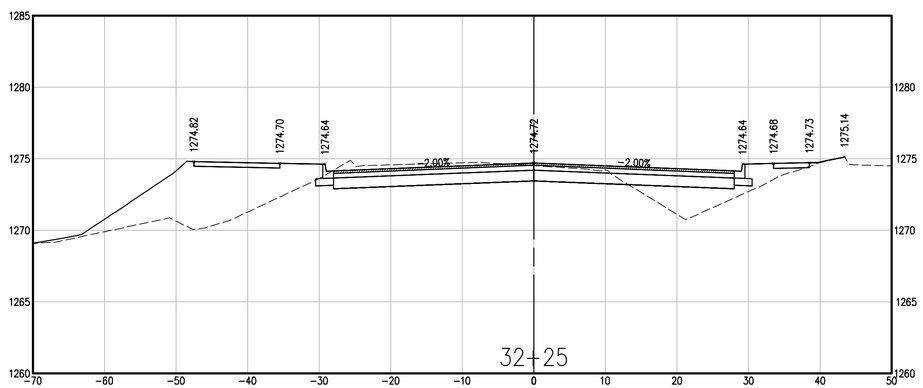

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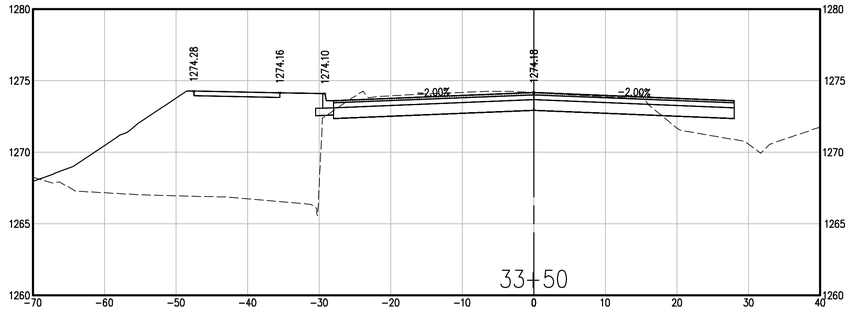

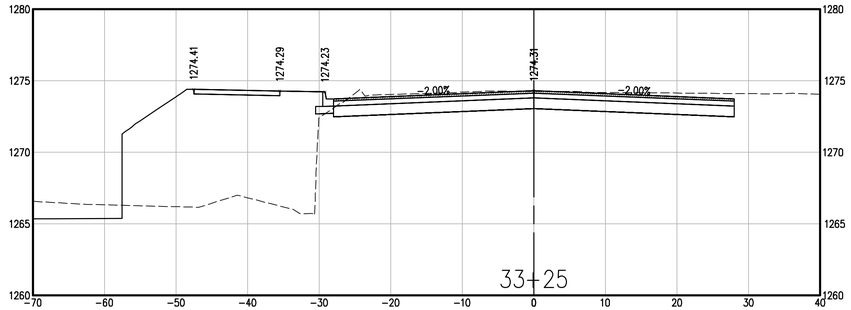

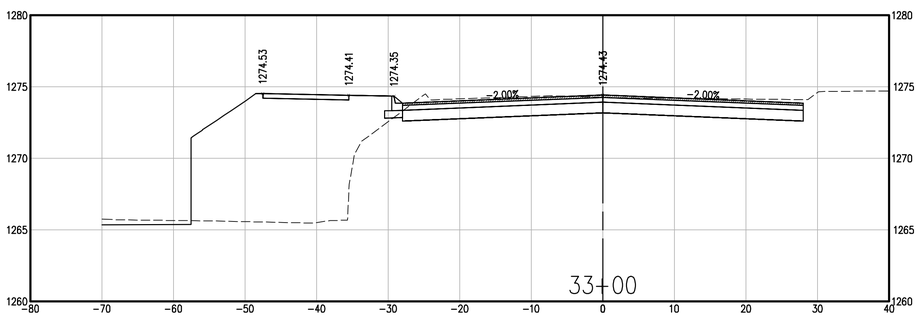

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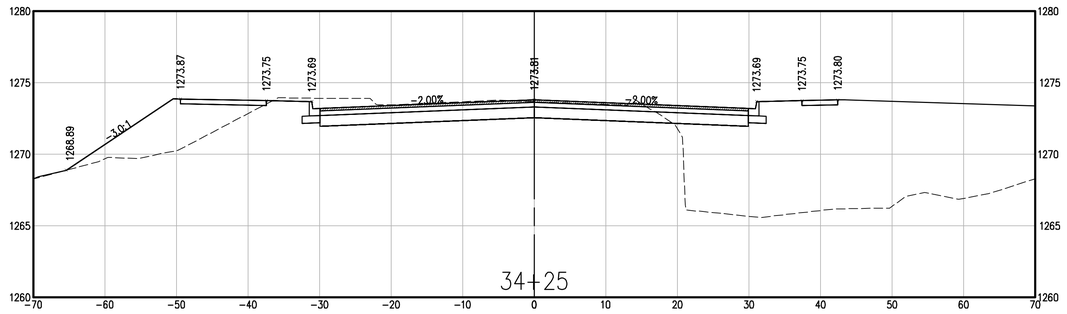

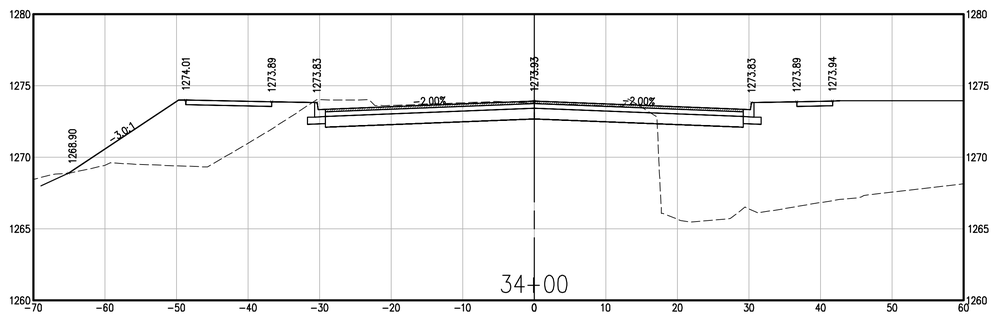

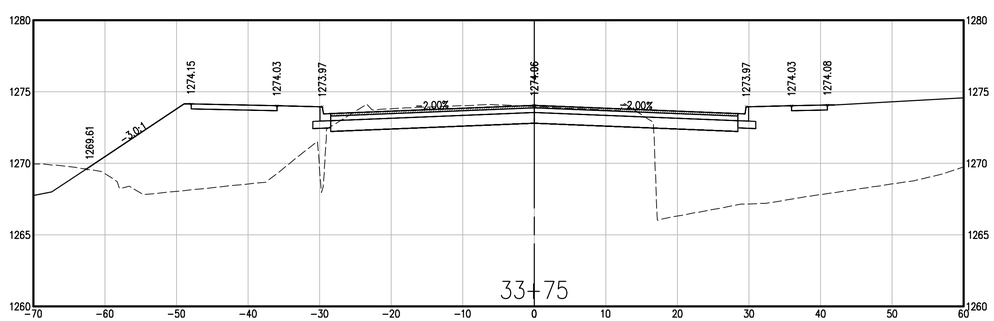

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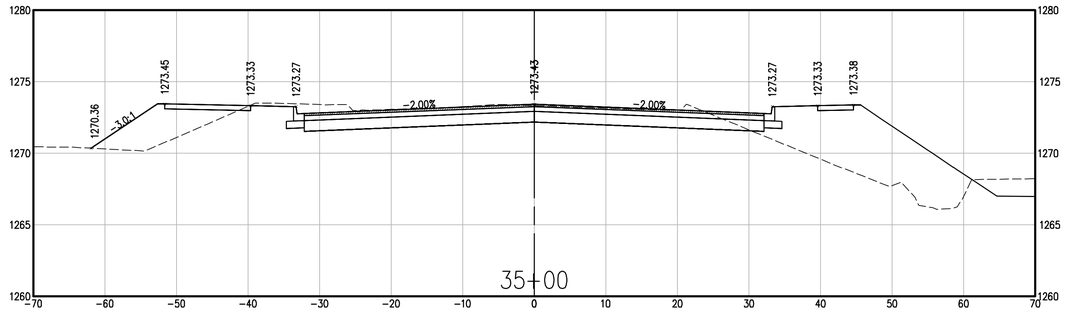

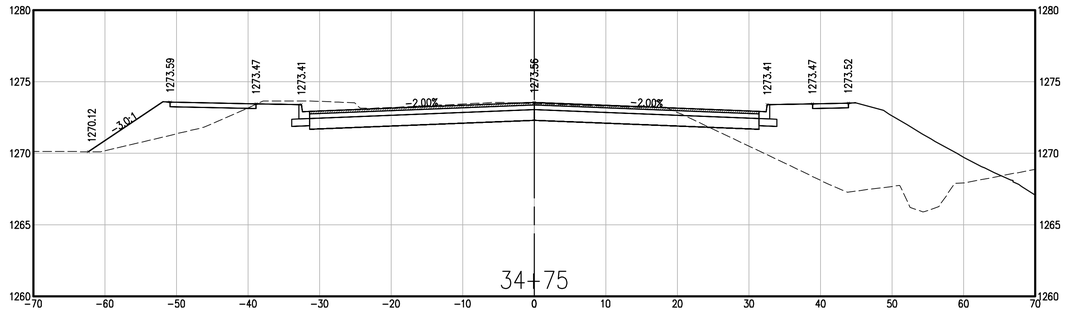

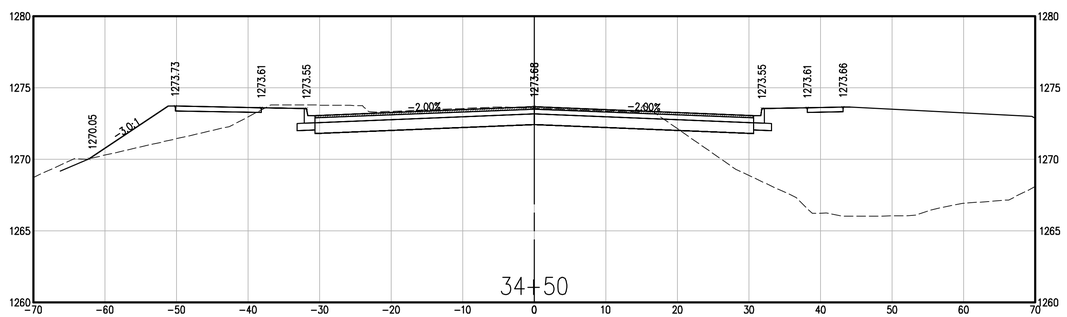

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MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

BOND PROJECT MUNIS #21ST0003

Key Plan

No.	Description	Date

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PROJECT NO: 21105500
ISSUE DATE: 10/17/2022
CONTACT: B. BURNETT
QC By:
QC Date: MM/DD/YYYY

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SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-818

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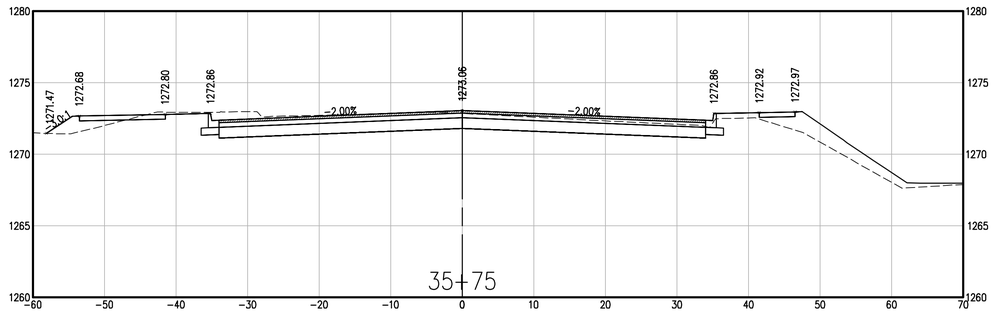

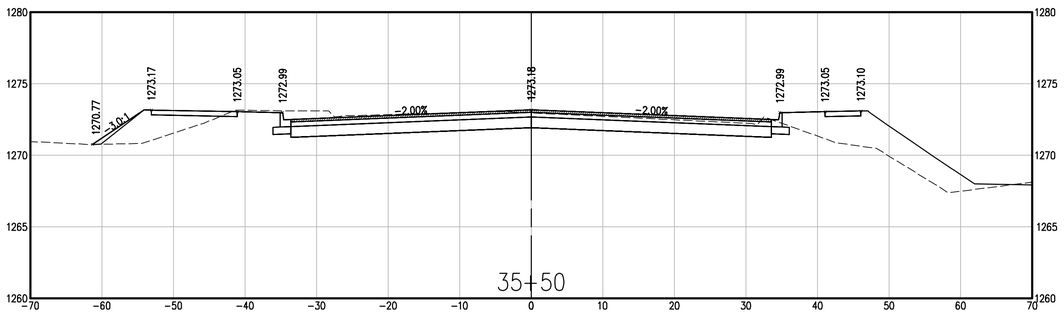

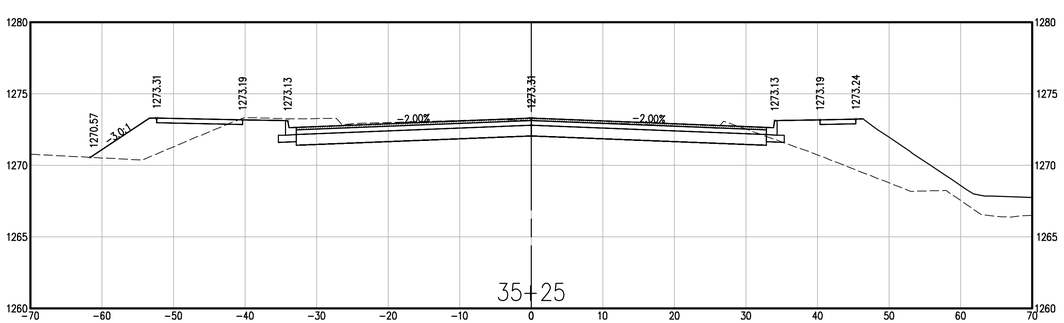

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No. 109
ARKANSAS ENGINEER

MOBERLY LANE - WALTON BLVD TO S.E. 28TH

BENTONVILLE, ARKANSAS

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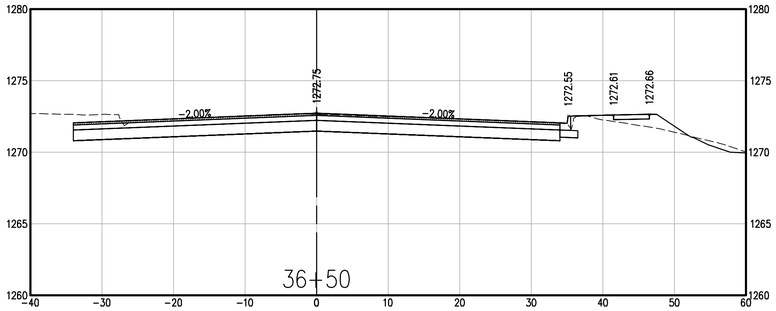
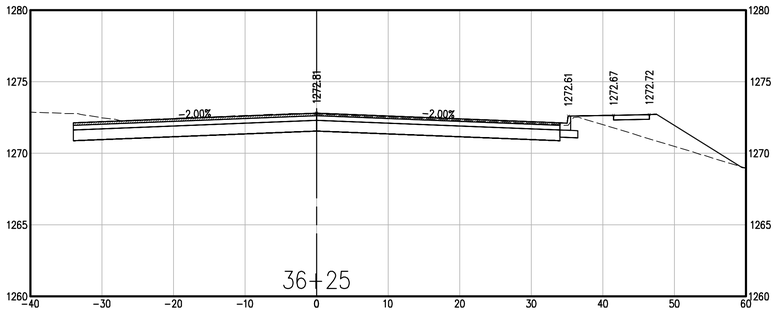
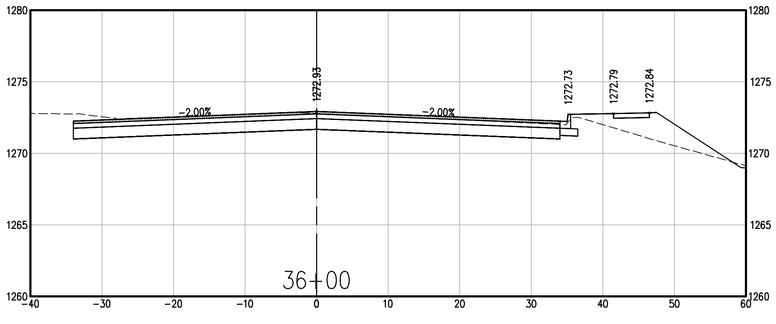
SE MOBERLY LN. (SOUTH) CROSS SECTIONS

C-819







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C-820

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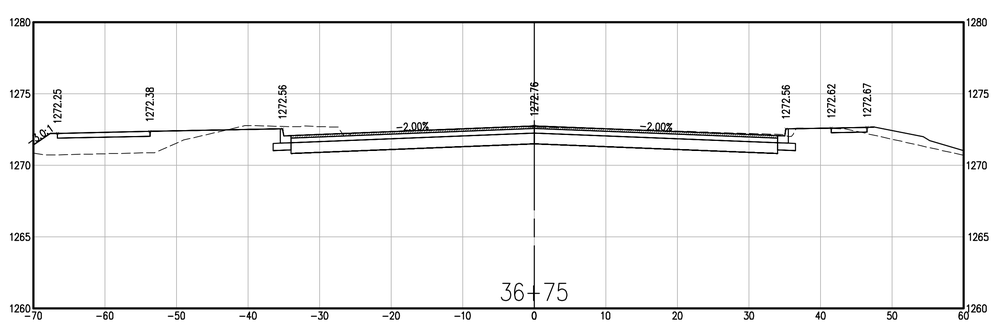

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C-821

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