

THE CITY OF ALEXANDER CITY

SEWER IMPROVEMENTS

TRUSSELL ROAD GRAVITY SEWER REPLACEMENT BID #24-16

MAY 2024

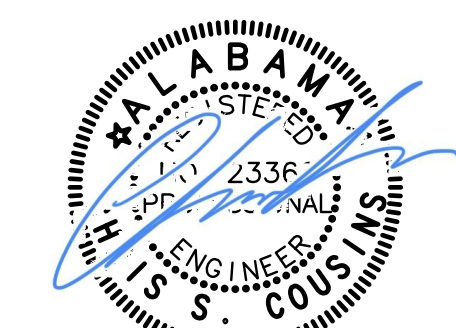
INDEX

SHEET	TITLE
0	TITLE PAGE
1	LOCATION MAP
2	PROJECT NOTES AND LEGEND
3	PROJECT MAP
4	LINE A - PLAN AND PROFILE
5	LINE B - PLAN AND PROFILE
6	STANDARD DETAILS
7	STANDARD DETAILS

Municipal
Consultants,
Inc. Birmingham, Alabama

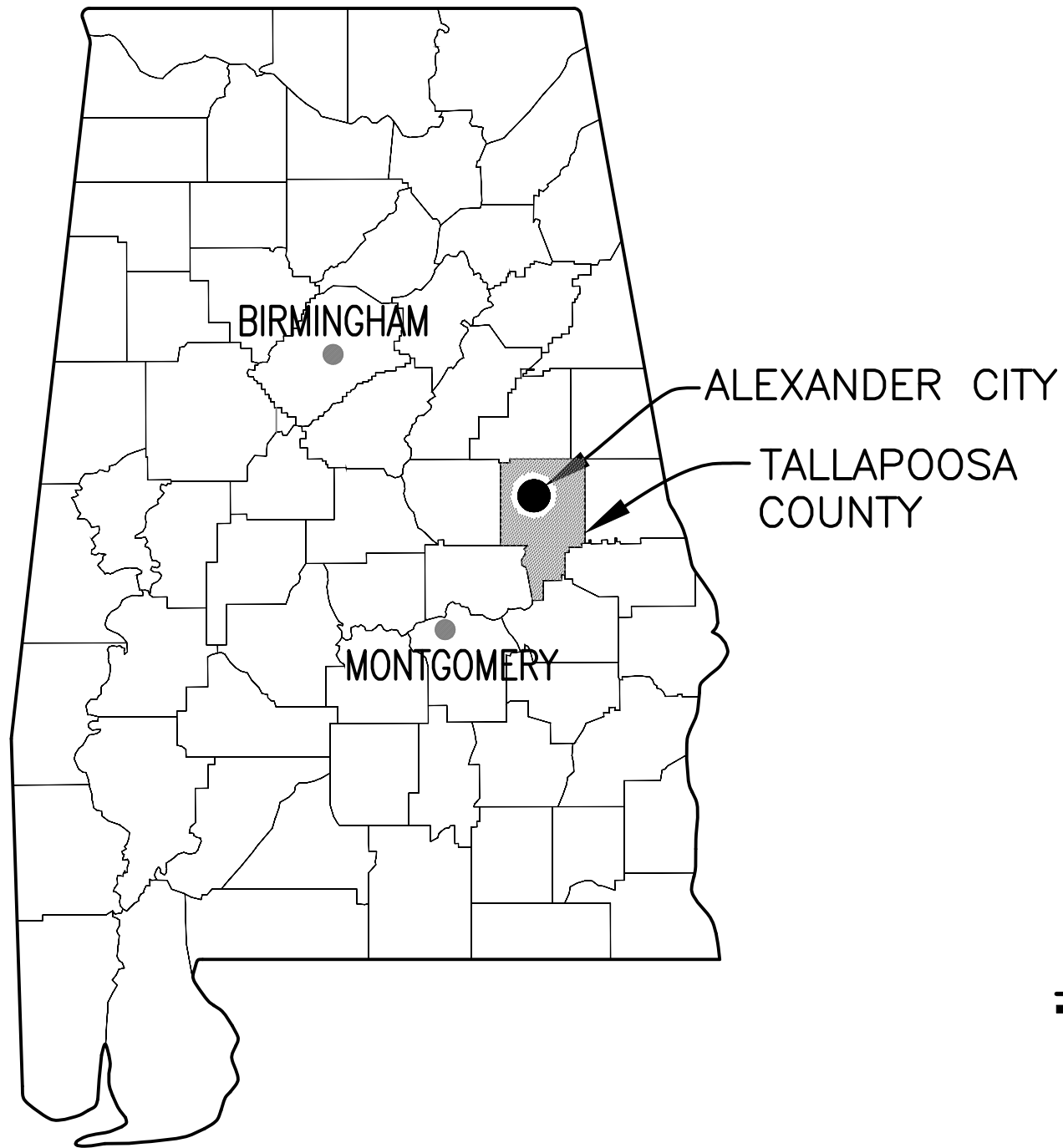


ALEXANDER
CITY
ALABAMA

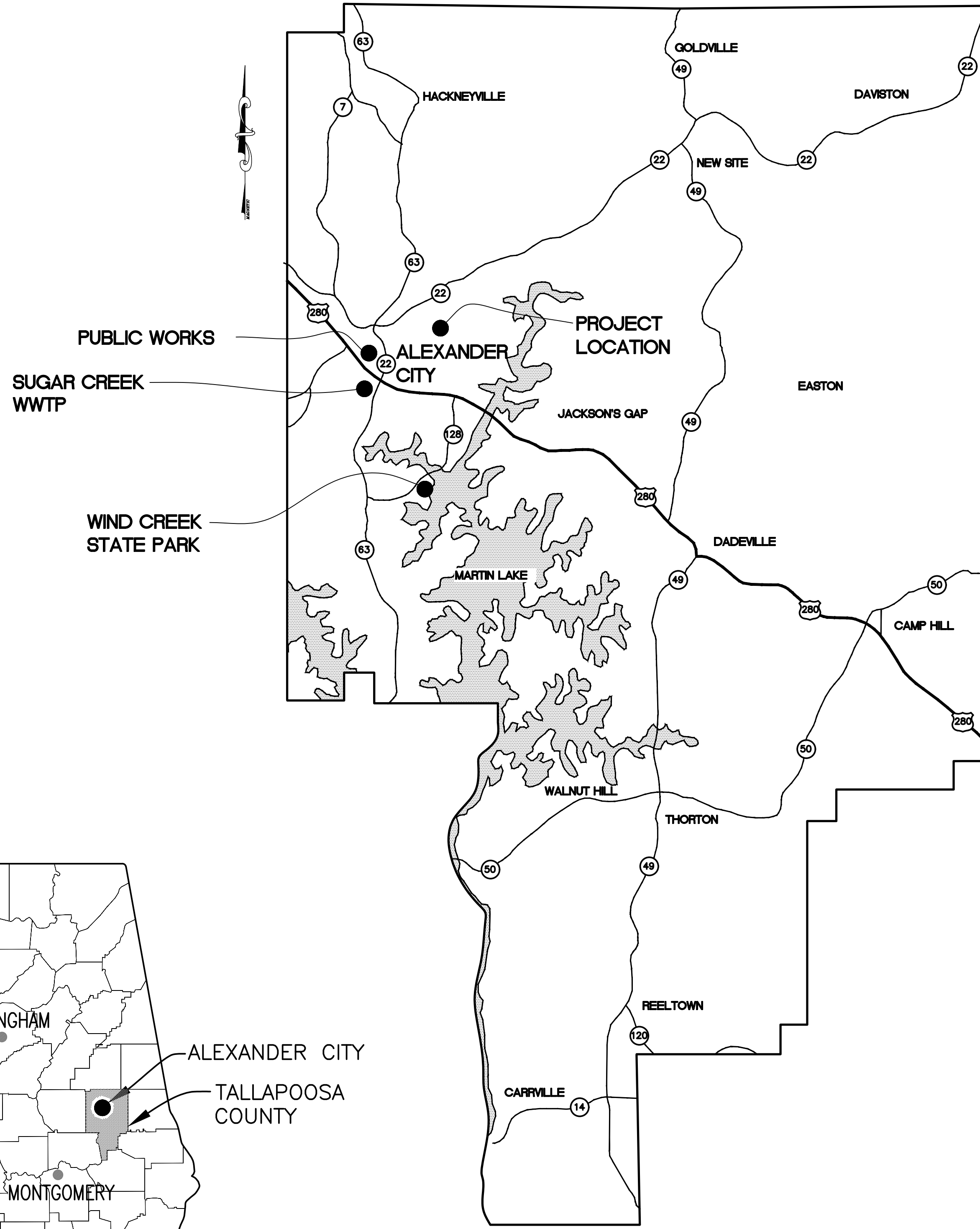


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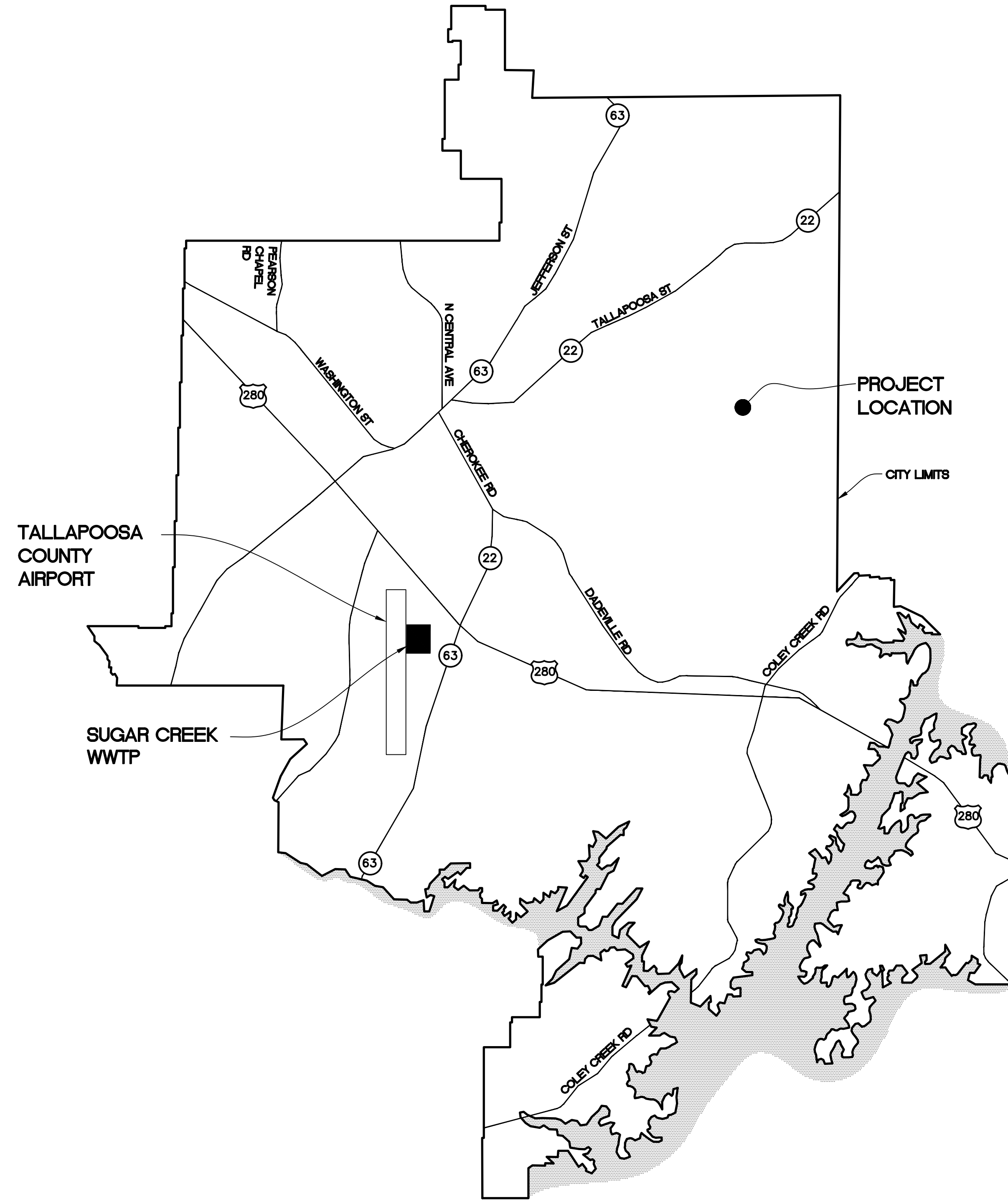
05.06.2024



ALABAMA MAP



TALLAPOOSA COUNTY, ALABAMA



ALEXANDER CITY

Municipal Consultants, Inc.
 200 Cahoon Park South, Suite 212
 Birmingham, Alabama 35226
 (205) 852-0367

THE CITY OF ALEXANDER CITY
 TRUSSELL ROAD
 GRAVITY SEWER REPLACEMENT
 BID #24-16
 2024



BAR = 1"

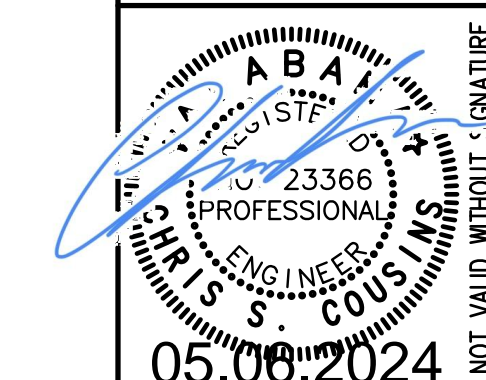
Drawing Project No.	Title	
	05 - 24	LOCATION MAP
Date	NONE	BID SET
Scale	1	
Sheet		

LEGEND	
— WM —	PROPOSED WATER MAIN
— LINE 12" DI —	PROPOSED SANITARY SEWER
— (AR) —	PROPOSED AIR RELIEF ASSEMBLY, TYPE DENOTED
— E-SS —	EXISTING SANITARY SEWER
— EWM —	EXISTING WATER MAIN
— FM —	EXISTING SANITARY SEWER FORCE MAIN
— UE —	EXISTING UNDERGROUND ELECTRIC
— FOC —	EXIST. UNDERGROUND FIBER OPTIC CABLE
— UT —	EXIST. UNDERGROUND TELEPHONE
— G —	EXIST. UNDERGROUND GAS MAIN
— CATV —	EXIST. UNDERGROUND CABLE TV
-----	ACQUIRED EASEMENT
--- ROW ---	EXISTING RIGHT OF WAY
-----	WATER EDGE
~~~~~	SLOPE DIRECTION INDICATOR
~~~~~	TREE LINE
— x —	FENCE
-----	EXISTING STORM SEWER
()	CONCRETE HEAD WALL
□	EXISTING STORM SEWER INLET
□	CATCH BASIN
→	GUIDE WIRE ANCHOR
⊙	UTILITY POLE
□	TELEPHONE PEDESTAL
+	SIGN
RR X	RAILROAD CROSSING
⊙	PROPOSED SANITARY SEWER MANHOLE
⊙	EXISTING SANITARY SEWER MANHOLE
⊙	EXISTING GAS VALVE
⊙	EXISTING WATER VALVE
⊙	PROPOSED VALVE
⊙	EXISTING FLUSH VALVE
⊙	EXISTING FIRE HYDRANT
⊙	PROPOSED FIRE HYDRANT
⊙	EXISTING TELEPHONE MANHOLE
⊙	EXISTING WATER METER
⊙	BORE HOLE LOCATION
⊙	TREE OR SHRUB
⊙ CP 1	SURVEY CONTROL POINT
⊙	BENCH MARK
⊙	11.25° BEND
⊙	22.5° BEND
⊙	45° BEND
⊙	90° BEND
⊙	TEE
⊙	WYE
⊙	CAP OR PLUG
⊙	REDUCER
⊙	PROPERTY PIN
⊙	ROW MONUMENT
⊙	MAILBOX
⊙	ASPHALT ROAD OR DRIVE
⊙	GRAVEL ROAD OR DRIVE
⊙	CONCRETE
⊙	RIP RAP
⊙	APPROXIMATE PROPERTY LINE
⊙	RAILROAD

ABBREVIATIONS					
AL, ALUM	ALUMINUM	H,HT,HT	HEIGHT	R,RAD	RADIUS
APPROX	APPROXIMATE	HORIZ	HORIZONTAL	RCP	REINFORCED CONC PIPE
ASSY	ASPHALT ASSEMBLY	HWL	HIGH WATER LEVEL	RED	REDUCER
BLDG	BUILDING	HWY	HIGHWAY	REINF	REINFORCING
BLK	BLOCK	HZ	HERTZ	REQD	REQUIRED
BM	BENCHMARK	ID	INSIDE DIAMETER	RJ	RESTRAINED JOINT
BOT, BTM	BOTTOM	IF	INSIDE FACE	R/W	RIGHT-OF-WAY
BS	BOTH SIDES	IN	INCHES	RS	RESILIENT SEAT
CCP	CONCRETE CULVERT PIPE	INV	INVERT	RT	RIGHT
CI	CAST IRON	JT	JOINT	S	SOUTH, SLUDGE
CIP	CAST IRON PIPE	LEN	LENGTH	SCH	SCHEDULE
CJ	CONSTRUCTION JOINT	LIN	LINEAL, LINEAR	SECT	SECTION
CL	CENTER LINE	LG	LONG	SF	SQUARE FEET
CMU	CONCRETE MASONRY UNIT CLASS	LOC	LOCATION	SHT	SHEET
CL	CONCRETE	LT	LOCATION LEFT	SPECS	SPECIFICATIONS
CONC	CONCRETE	MANUF	MANUFACTURER	SO	SQUARE
CONN	CONNECTION	MAX	MAXIMUM	SS	SANITARY SEWER
CONT	CONTINUOUS	MGD	MILLION GALLONS PER DAY	STA	STATION
DIA	DIAMETER	MH	MANHOLE	STD	STANDARD
DI	DUCTILE IRON	MIN	MINIMUM	STL,SS	STAINLESS STEEL
DIP	DUCTILE IRON PIPE	MISC	MISCELLANEOUS	SS	SANITARY SEWER
DWN	DOWN	MJ	MECHANICAL JOINT	T&B	TOP AND BOTTOM
DWG	DRAWING	N	NORTH	TBM	TEMPORARY BENCHMARK
EA	EACH	NIC	NOT IN CONTRACT	TEMP	TEMPORARY, TEMPERED
EF	EACH FACE	NO, #	NUMBER	THK	THICKNESS
ELEC	ELECTRICAL	NPW	NON POTABLE WATER	TOC	TOP OF CURB
EL, ELEV	ELEVATION	NTS	NOT TO SCALE	TOW	TOP OF WALL
EQ	EQUAL	OC	ON CENTER	TYP	TYPICAL
EW	EACH WAY	OD	OUTSIDE DIAMETER	UH	UNIT HEATER
EX,EXIST	EXISTING	OF	OUTSIDE FACE	V	VALVE, VENTILATOR, VOLTS
EXP	EXPANSION	OHP	OVERHEAD POWER	VERT	VERTICAL
EXT	EXTINGUISHER	PE	PLAIN END	VT	VENTILATOR
FH	FIRE HYDRANT	PH	PHASE	W	WEST, WIDTH, WINDOW, WATER
FIN GR	FINISH GRADE	PI	POINT OF INTERSECTION	W/	WITH
FL	FLOW LINE	PL, PLS	PLATE, PLACES	W/O	WITHOUT
FLG	FLANGED	PO	PUSH ON	WL	WATER LINE
FT	FOOT	PP	POWER POLE	WS	WATERSTOP
FTG	FOOTING	PSI	POUNDS PER SQUARE INCH	WTM	WATER TRANSMISSION MAIN
GALV	GALVANIZED	PV	PLUG VALVE	WHF	WELDED WIRE FABRIC
GL	GAS LINE	PVC	POLYVINYL CHLORIDE	WTP	WATER TREATMENT PLANT
GR	GRADE			WWTP	WASTEWATER TREATMENT PLANT
GRVL	GRAVEL			X	BY
GV	GATE VALVE				

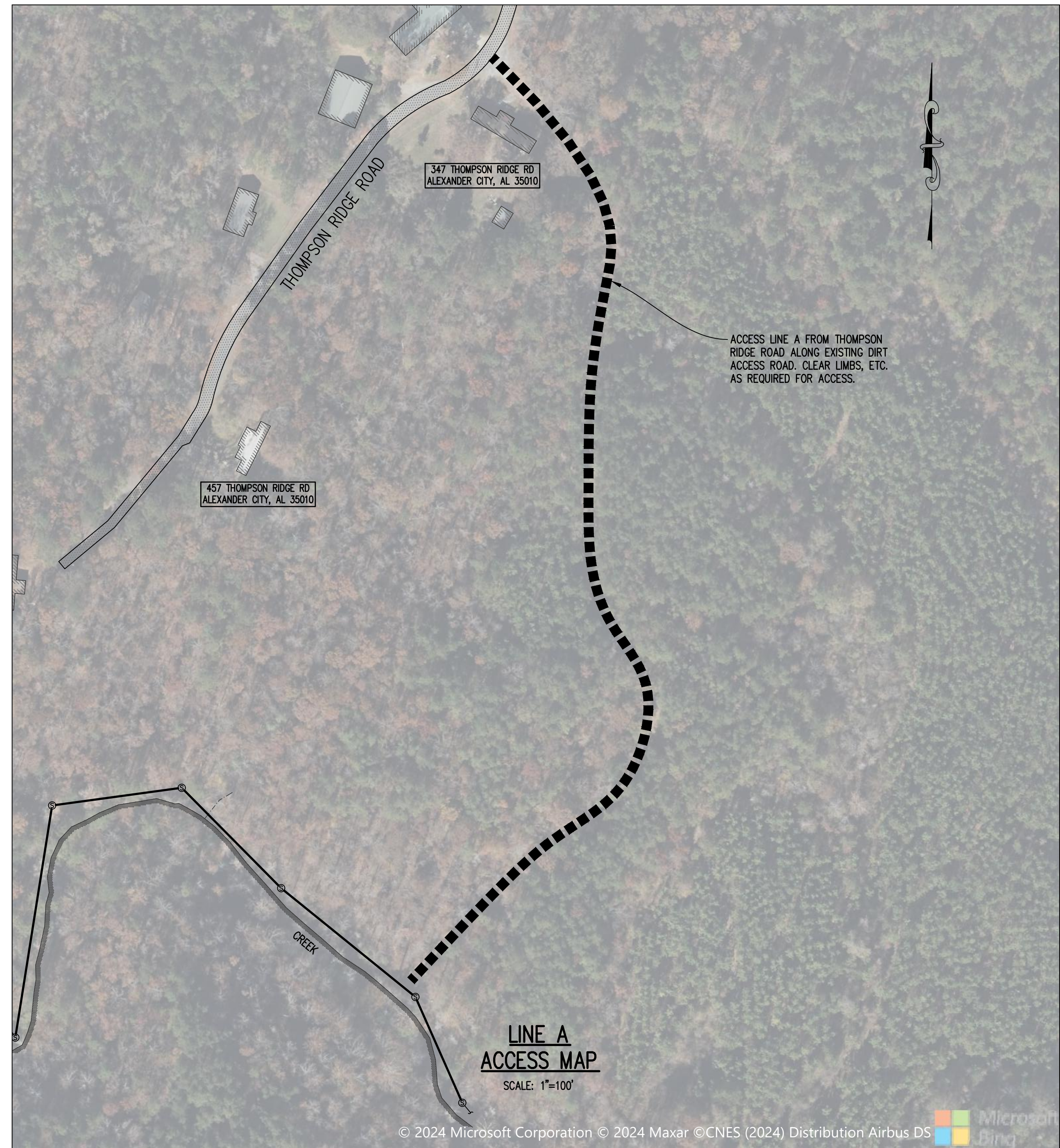
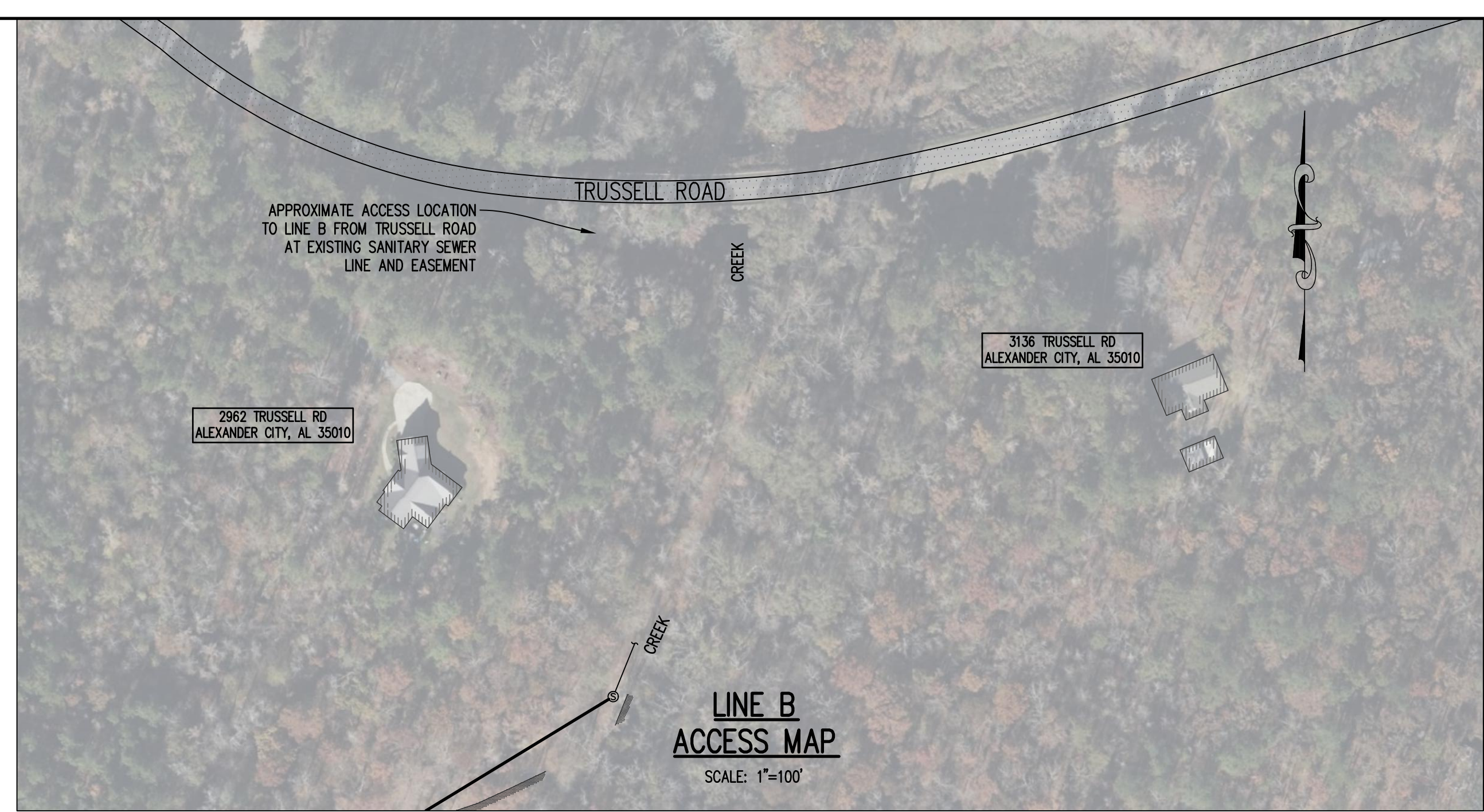
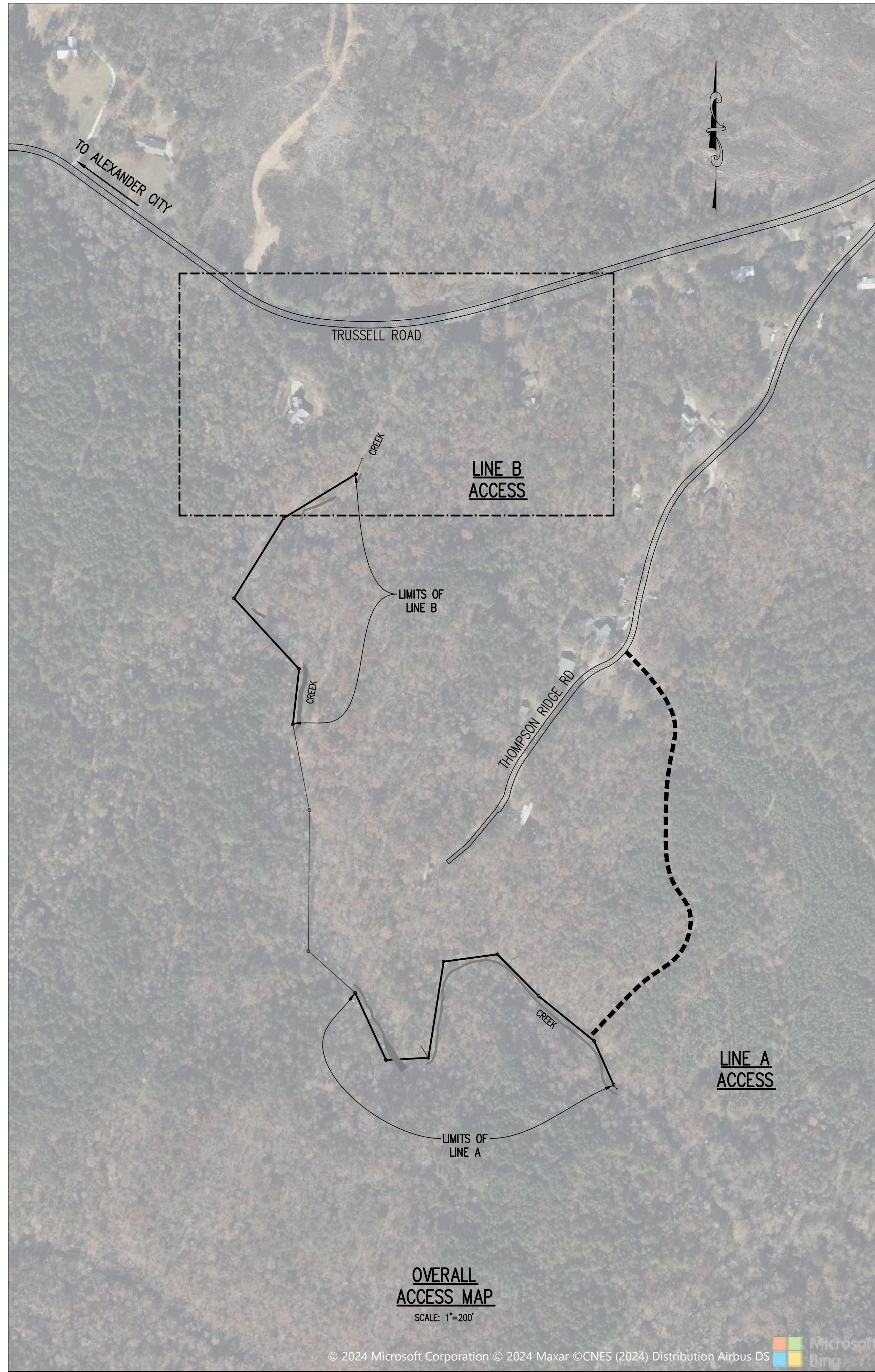
PROJECT NOTES:

1. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR SAFETY. THE ENGINEER IS NOT RESPONSIBLE FOR SAFETY. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA STANDARDS AND RECOMMENDATIONS, ETC., APPLICABLE TO ALL WORK AND COMPONENTS ASSOCIATED WITH THIS PROJECT. THE CONTRACTOR SHALL CONTINUOUSLY UTILIZE SAFETY PRACTICES THAT MAY BE NEEDED FOR THE FULL PROTECTION OF ALL PERSONS INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION PERSONNEL, CITY PERSONNEL, INSPECTORS, THE GENERAL PUBLIC, ETC.
2. THE CONTRACTOR SHALL SOLELY BE RESPONSIBLE FOR FIELD VERIFYING ALL UNDERGROUND UTILITIES LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE WORK. LOCATIONS AND DEPTHS WILL VARY AND ADDITIONAL UTILITIES MAY EXIST.
3. ANY PROPERTY (I.E. FENCING, LANDSCAPING, SHRUBBERY, DRIVEWAYS, ACCESS ROADS, STRUCTURES, ETC.) THAT IS DAMAGED, REMOVED, AND/OR DISTURBED DURING CONSTRUCTION SHALL BE REPLACED OR RESTORED IN-KIND (AS A MINIMUM) IN A TIMELY MANNER FOLLOWING COMPLETION OF CONSTRUCTION IN THAT AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL SHRUBBERY, SOD, SPRINKLER HEADS, ETC. IN-KIND (WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS) THAT IS DAMAGED, REMOVED, AND/OR DISTURBED DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL APPROPRIATE AGENCIES BEFORE WORK COMMENCES TO VERIFY THE TYPE, LOCATION, PROTECTION REQUIREMENTS, DEPTH OF ALL EXISTING UTILITIES, DRAINAGE FACILITIES, AND OTHER OBSTRUCTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRING AND/OR REPLACING ANY SUCH ITEMS DAMAGED DURING CONSTRUCTION.
5. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE TRAFFIC CONTROL AND SIGNAGE FOR THE DURATION OF PROJECT AS REQUIRED BY THE NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - PART VI, AND/OR ALL OTHER APPLICABLE GUIDELINES OF THE ADOT, COUNTY, CITY, OR ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE PROJECT AREAS.
6. ALL CONNECTIONS TO EXISTING LINES OR SERVICES ARE TO BE COORDINATED WITH THE ENGINEER AND OWNER (AND OWNERS OF SERVICES, IF APPLICABLE) TO MINIMIZE INTERRUPTION OF SERVICE. CONTRACTOR TO COORDINATE WITH THE CITY AND INFORM ALL POTENTIAL USERS WHEN EXISTING MAINS WILL BE OUT OF SERVICE. AT OWNER'S SOLE DISCRETION, MAINLINE CONNECTIONS MAY BE REQUIRED BETWEEN 10:00 PM AND 6:00 AM. CONNECTIONS ARE PROHIBITED ON WEEKENDS AND HOLIDAYS. CONNECTIONS MAY ALSO BE PROHIBITED ON FRIDAYS AT THE OWNER'S SOLE DISCRETION.
7. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING EROSION, RUN-OFF, AND SEDIMENT CONTROL IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS, CODES, AND REGULATIONS REGARDING THE CONTROL AND PREVENTION OF STORM WATER RUNOFF AND POLLUTION. A NPDES PERMIT IS REQUIRED FOR THIS PROJECT. CONTRACTOR SHALL OBTAIN AND PAY FOR PERMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING AND IMPLEMENTING ALL APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) FOR THE PREVENTION AND CONTROL OF NONPOINT SOURCES OF POLLUTANTS DURING AND AFTER PROJECT IMPLEMENTATION. THE CONTRACTOR, AT A MINIMUM, MUST IMPLEMENT BMP'S AS PROVIDED IN THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS, AS AMENDED, AND ALL APPLICABLE EPA STORMWATER POLLUTION PREVENTION PLANS AND BEST MANAGEMENT PRACTICES PUBLICATIONS, AS AMENDED.
8. ALL DISTURBED AREAS SHALL BE GRASSED, SODDED, OR LANDSCAPED AS SPECIFIED UPON COMPLETION OF WORK. ALL TEMPORARY SEEDING SHALL BE DONE IN ACCORDANCE WITH THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF ANY ROW MONUMENTS OR PROPERTY PINS DISTURBED DURING CONSTRUCTION.
10. THE EXISTING COLLECTION SYSTEM IS A LIVE OPERATING SEWER. THE CONTRACTOR SHALL COORDINATE WORK TO ALLOW CONTINUOUS OPERATION. CONTRACTOR SHALL COORDINATE ANY LIMITATION IN SERVICE WITH OWNER, ENGINEER, AND PROPERTY OWNERS. THERE SHALL BE NO PROPERTY BACKUPS. FLOW IN EXISTING SEWERS SHALL NOT BE INTERRUPTED DUE TO CONSTRUCTION RELATED TO THIS PROJECT. EXISTING FLOW (INCLUDING THAT CAUSED BY RAIN EVENTS) SHALL BE MAINTAINED BY BYPASS PUMPING AROUND THE CONSTRUCTION AREA.
11. ALL REQUIRED BYPASS PIPING SHALL BE PROVIDED BY THE CONTRACTOR. ADEQUATE SIZING OF BYPASS PUMPS REQUIRED TO CONVEY THE EXISTING FLOW, BUT NOT OVERWHELM DOWNSTREAM SEWERS, IS THE RESPONSIBILITY OF THE CONTRACTOR. WHERE BYPASS PUMPING IS REQUIRED DURING THE PROJECT, PUMPING SHALL BE HELD TO A MINIMUM. ROUND-THE-CLOCK BYPASS PUMPING IS NOT ALLOWED. AT END OF EACH DAYLIGHT CONSTRUCTION PERIOD, EXISTING SEWAGE WILL BE TEMPORARILY ROUTED TO NEW OR EXISTING PIPES WITH FITTINGS, PIPE, HOSE, OR OTHER APPURTENANCES AS REQUIRED AND DITCH LINES SHALL BE BACKFILLED TO EXISTING GRADE. COST OF THIS WORK SHALL BE INCLUDED IN PIPE INSTALLATION.
12. CONTRACTOR SHALL BE RESPONSIBLE TO RESPOND, MAKE REPAIRS, AND CLEAN UP ALL SEWER OVERFLOW RESULTING FROM HIS WORK AND SHALL BE RESPONSIBLE FOR ALL SUBSEQUENT DAMAGES, FINES, PENALTIES, OR OTHER COSTS INCURRED.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OFF-SITE OF ALL EXCESS MATERIALS, EXISTING PIPING AND STRUCTURES REMOVED, ETC.
14. CONTRACTOR SHALL CONTINUALLY MAINTAIN TRAFFIC FLOW AND MINIMIZE DISRUPTION OF ACCESS TO ALL BUSINESSES AND RESIDENCES. CONTRACTOR SHALL COORDINATE AS REQUIRED WITH PROPERTY OWNERS TO ENSURE UNOBSTRUCTED ACCESS DURING SPECIFIC/CRITICAL TIMES OF DAY IF NECESSARY.
15. ALL DUCTILE IRON PIPE SHALL HAVE INTERNAL CEMENT LINING AND BE PRESSURE CLASS 350 PROTECTO 401 LINED.
16. ALL NEW GRAVITY SEWER PIPING SHALL BE TESTED IN ACCORDANCE WITH THE SPECIFICATIONS. TESTING SHALL BE COMPLETED BEFORE ANY LINES ARE PLACED INTO SERVICE AND ANY FLOW FROM EXISTING LINE(S) IS DIVERTED.
17. EXISTING MANHOLES ARE NOT REQUIRED TO BE VACUUM TESTED. CONTRACTOR TO BE RESPONSIBLE FOR REPAIRING/CORRECTING ANY WATER INFILTRATION AT NEW GRAVITY SEWER PIPE CONNECTIONS TO EXISTING MANHOLES UNTIL THE END OF THE PROJECT'S WARRANTY PERIOD.
18. ALL RESTRAINED JOINT PIPE SHALL BE FULLY EXTENDED FROM THE ADJOINING PIPE BELL DURING INSTALLATION.
19. ACCESS TO SEWER LINE SHALL BE LIMITED TO THE LOCATIONS SHOWN ON THE PLANS UNLESS CONTRACTOR OBTAINS PERMISSION OTHERWISE.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR HANDLING ALL WATER (SURFACE AND GROUNDWATER) ON THE PROJECT.
21. TOPOGRAPHIC SURVEY & EXISTING SANITARY SEWER INFORMATION PROVIDED BY:
LARRY E. SPEAKS & ASSOCIATES, INC.
535 HERRON STREET
MONTGOMERY, ALABAMA 36104
(334) 262-1091
22. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF ALEXANDER CITY RULES AND REGULATIONS. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR CONSTRUCTION.
23. CONTRACTOR SHALL CLEAR EASEMENT AS REQUIRED FOR CONSTRUCTION WORKING LIMITS FOR PROJECT ARE 15- FEET EACH SIDE OF PIPELINE UNLESS OTHERWISE AUTHORIZED BY THE CITY.



BAR = 1"

Drawing	Title	
	PROJECT NOTES	
Project No.	05 - 24	BID SET
Date	NONE	
Scale	2	
Sheet		



Municipal Consultants, Inc.
200 Cahaba Park, South, Suite 212
Birmingham, Alabama 35226
(205) 822-0387

THE CITY OF ALEXANDER CITY
TRUSSELL ROAD
GRAVITY SEWER REPLACEMENT
BID #24-16
2024

Professional Engineer Seal:
T. A. B. A. M.
Professional Engineer
T. S. COUSINS
05.08.2024
NOT VALID WITHOUT SIGNATURE

BAR = 1"

Drawing	Title	
Project No.	PROJECT SITE ACCESS MAP	
Date	05 - 24	
Scale	AS SHOWN	
Sheet	3	BID SET

- NOTES:**
- CONTRACTOR SHALL CLEAR & GRUB AREA AS REQUIRED TO COMPLETE THESE IMPROVEMENTS. WORKING AREA NOT TO EXCEED 15' OFFSET OF EXISTING GRAVITY SEWER LINE IN EITHER DIRECTION UNLESS AUTHORIZED BY THE CITY. PROPERLY DISPOSE OF TREES, BRUSH, DEBRIS, ETC.
 - CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR MEANS AND METHODS OF DIVERTING CREEK FLOW IN ORDER TO INSTALL PIPE IN AND ADJACENT TO CREEK. CONTRACTOR SHALL, TO THE MAXIMUM EXTENT POSSIBLE, PREVENT SEDIMENT FROM LEAVING SITE.
 - ALL MANHOLES ARE EXISTING AND SHALL REMAIN. ANY MANHOLES DAMAGED DURING CONSTRUCTION AND DEEMED UNFIT TO REMAIN IN SERVICE BY THE OWNER AND ENGINEER SHALL BE REPLACED PER TYPICAL NON WATER TIGHT MANHOLE INSTALLATION DETAIL AND ALL OTHER RELEVANT REQUIREMENTS AND SPECIFICATIONS. ANY NEW MANHOLE REQUIRED SHALL HAVE STRAPS PER WATER TIGHT MANHOLE DETAIL.
 - EXISTING PIPES WITHIN PROJECT LIMITS SHALL BE REMOVED AND REPLACED WITH DUCTILE IRON PIPE. SLOPES SHOWN ARE APPROXIMATE AND BASED ON INVERT ELEVATIONS PROVIDED BY LARRY E. SPEAKS & ASSOCIATES, INC. NEW PIPE SHALL BE INSTALLED AT A CONSTANT SLOPE BETWEEN EXISTING INVERT ELEVATIONS AT EACH MANHOLE. PRIOR TO REMOVING A SEGMENT OF EXISTING SEWER PIPE (MANHOLE TO MANHOLE), CONTRACTOR SHALL MEASURE AND PROVIDE EXISTING INVERT ELEVATIONS TO OWNER AND ENGINEER FOR REVIEW. NO EXISTING PIPE SHALL BE REMOVED UNTIL THESE INVERT ELEVATIONS ARE APPROVED BY OWNER AND ENGINEER.
 - EXISTING GRAVITY SEWER MAINS ARE CLAY MATERIAL. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL EXISTING MAINS REMOVED.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF INVERTS WITHIN MANHOLES AS NECESSARY TO COMPLETE INSTALLATION OF NEW PIPE. ANY INVERT REMOVED SHALL BE REPLACED PER THE TYPICAL MANHOLE INSTALLATION DETAIL.
 - CONSTRUCTED ALIGNMENT AND INVERT ELEVATIONS AT MANHOLES SHALL MATCH ALIGNMENT AND INVERT ELEVATIONS AT MANHOLES OF EXISTING GRAVITY SEWER.
 - EXISTING FRAME AND COVERS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH STANDARD FRAMES AND COVERS.

EXISTING MH-A1
STA: 0+00.00
INVERT IN: 541.89 (10" D.I.)
INVERT OUT: 541.51 (10" CLAY)

EXISTING MH-A2
STA: 1+47.20
INVERT IN: 546.16 (10" D.I.)
INVERT OUT: 545.94 (10" D.I.)

POINT OF ACCESS FROM THOMPSON RIDGE ROAD

EXISTING MH-A3
STA: 3+66.93
INVERT IN: 546.71 (10" D.I.)
INVERT OUT: 546.55 (10" D.I.)

EXISTING MH-A6
STA: 10+11.65
INVERT IN: 556.57 (10" D.I.)
INVERT IN: 561.52 (6")
INVERT OUT: 556.44 (10" D.I.)

RESTRAINED JOINT GASKETS REQUIRED ON ALL PIPE JOINTS BETWEEN EX. MH-A6 AND A7.

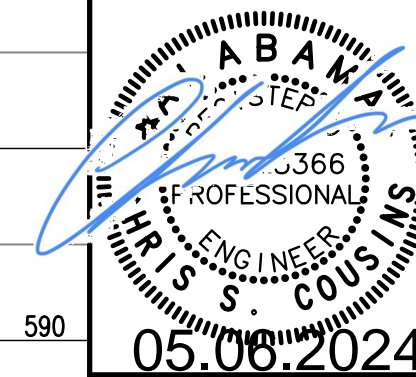
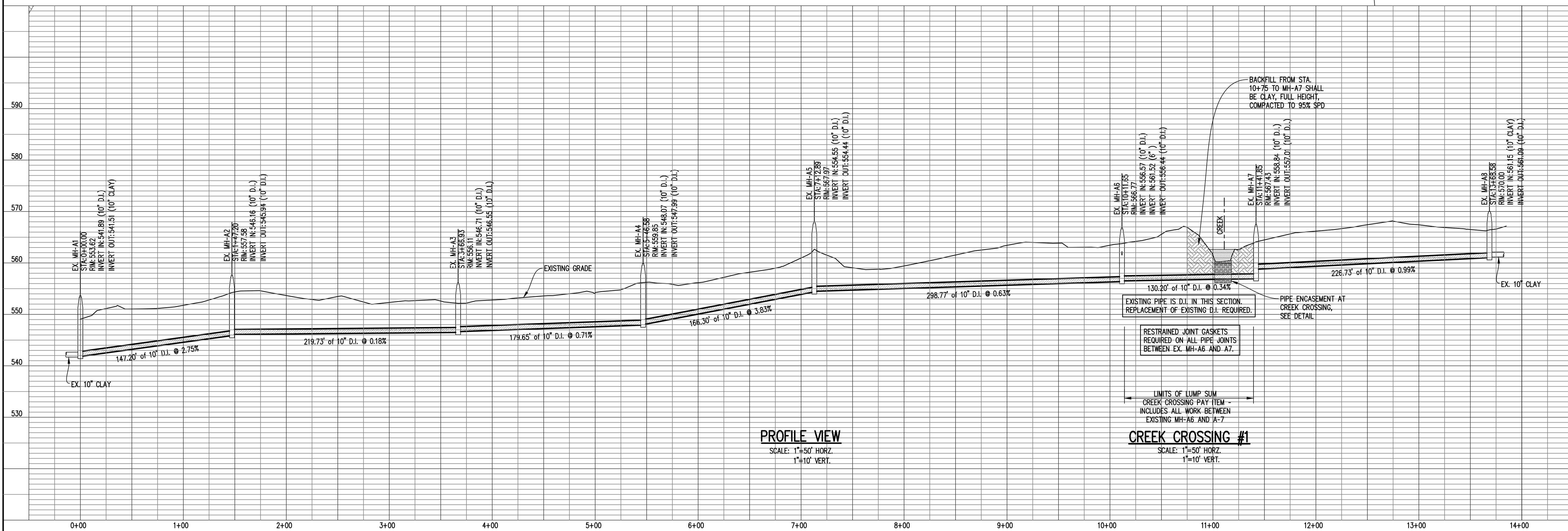
EXISTING MH-A4
STA: 5+46.58
INVERT IN: 548.07 (10" D.I.)
INVERT OUT: 547.99 (10" D.I.)

EXISTING MH-A5
STA: 7+12.89
INVERT IN: 554.55 (10" D.I.)
INVERT OUT: 554.44 (10" D.I.)

EXISTING MH-A7
STA: 11+41.85
INVERT IN: 558.84 (10" D.I.)
INVERT OUT: 557.01 (10" D.I.)

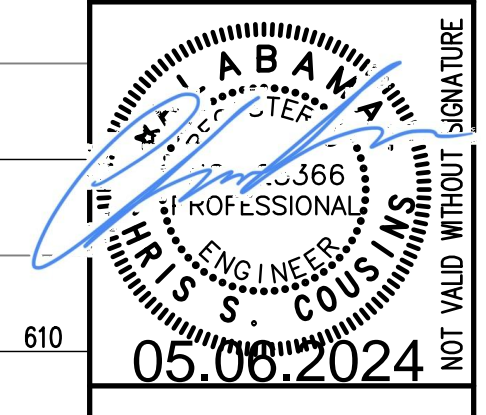
EXISTING MH-A8
STA: 13+68.58
INVERT IN: 561.15 (10" CLAY)
INVERT OUT: 561.09 (10" D.I.)

PLAN VIEW
SCALE: 1"=50' HORZ.



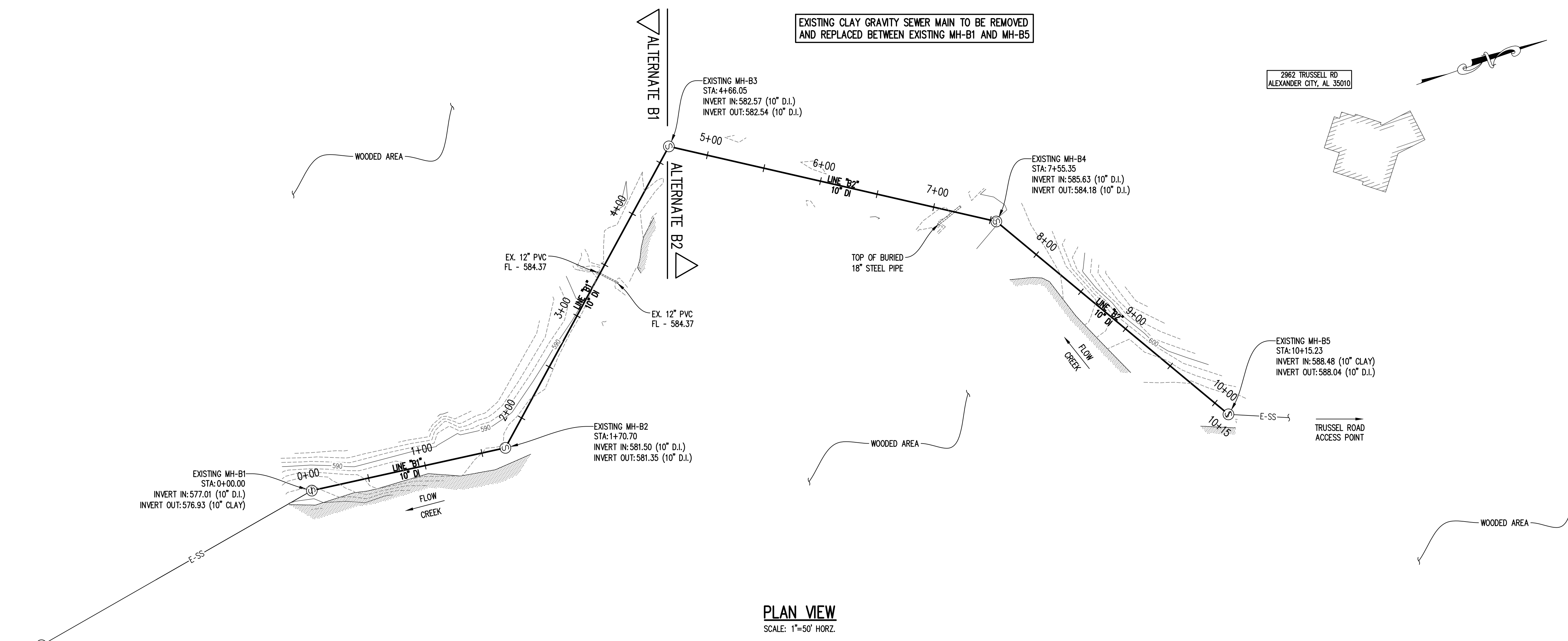
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Title		PLAN AND PROFILE	BID SET
LINE A			
Drawing Project No.	05 - 24		
Date	AS SHOWN		
Scale	4		
Sheet			

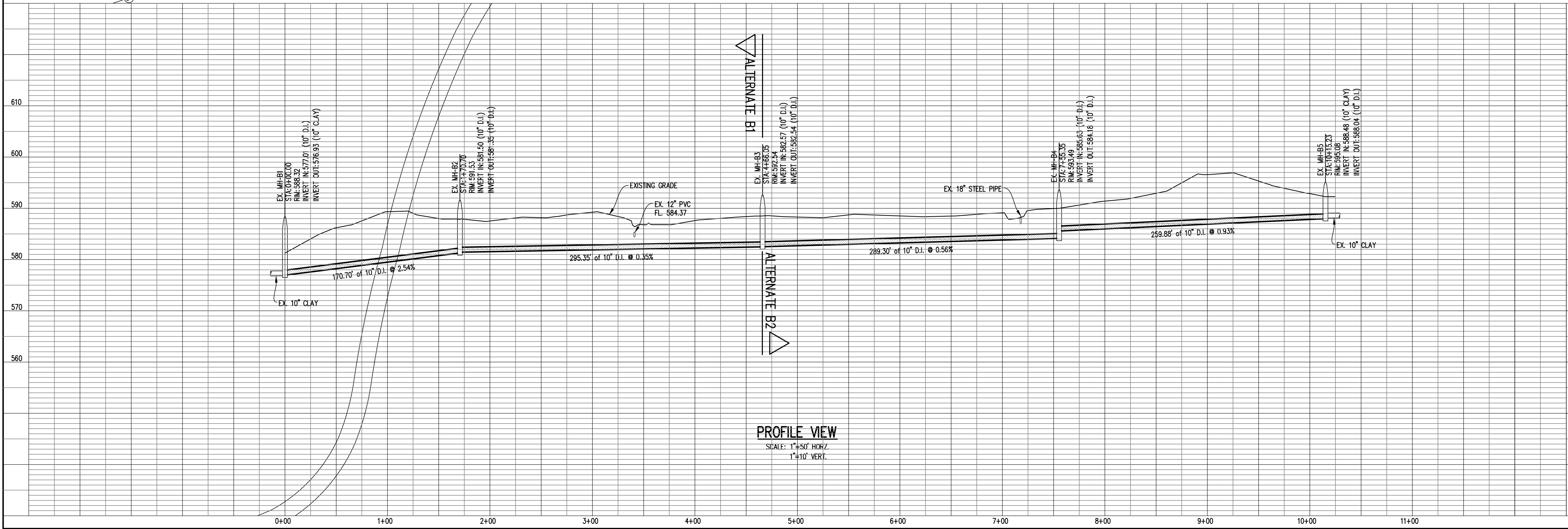


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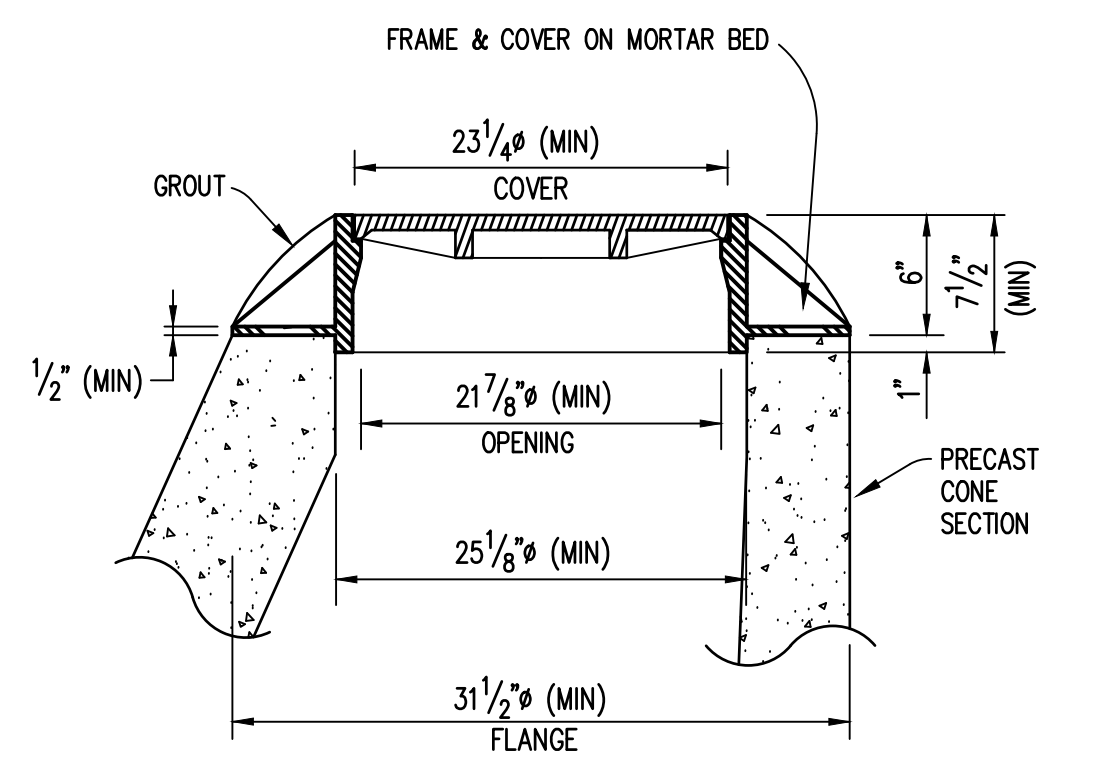
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Sheet	BID SET



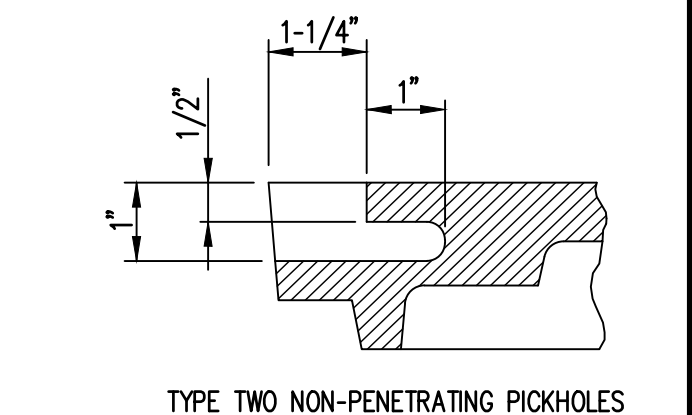
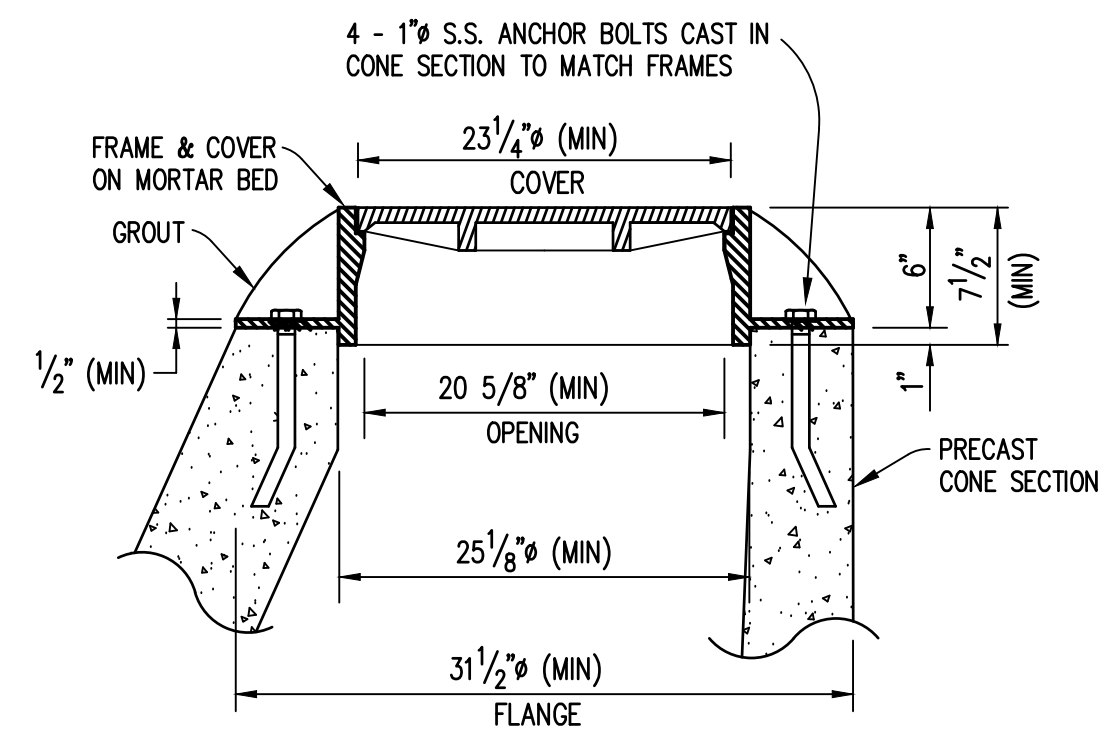
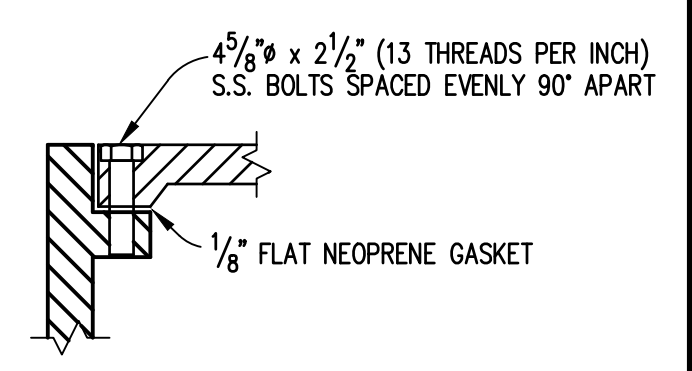
PLAN VIEW
 SCALE: 1"=50' HORZ.



PROFILE VIEW
 SCALE: 1"=50' HORZ.
 1"=10' VERT.



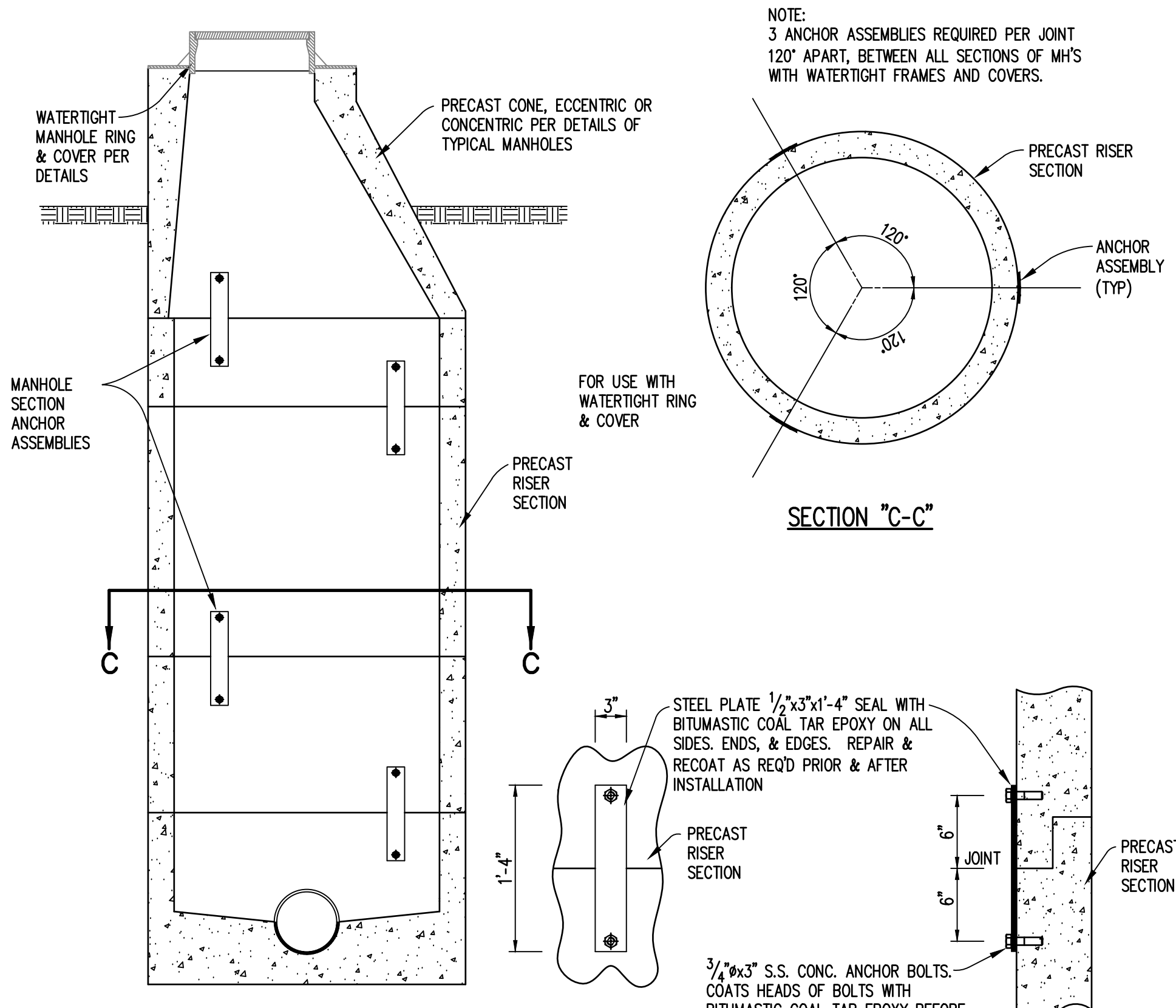
- NOTES:
- CONTACTING/SEALING SURFACES OF FRAME AND COVER SHALL BE MACHINED.
 - MINIMUM WEIGHTS:
FRAME - 180 LB
COVER - 120 LB
 - UNLESS INDICATED ON PLANS, ALL COVERS SHALL BE NON-VENTED.
 - COVER PATTERN SHALL MATCH THE STANDARD OF THE OWNER.



TYPICAL MANHOLE RINGS & COVERS DETAIL

SCALE N.T.S.

FOR NEW MANHOLES ONLY, IF REQUIRED

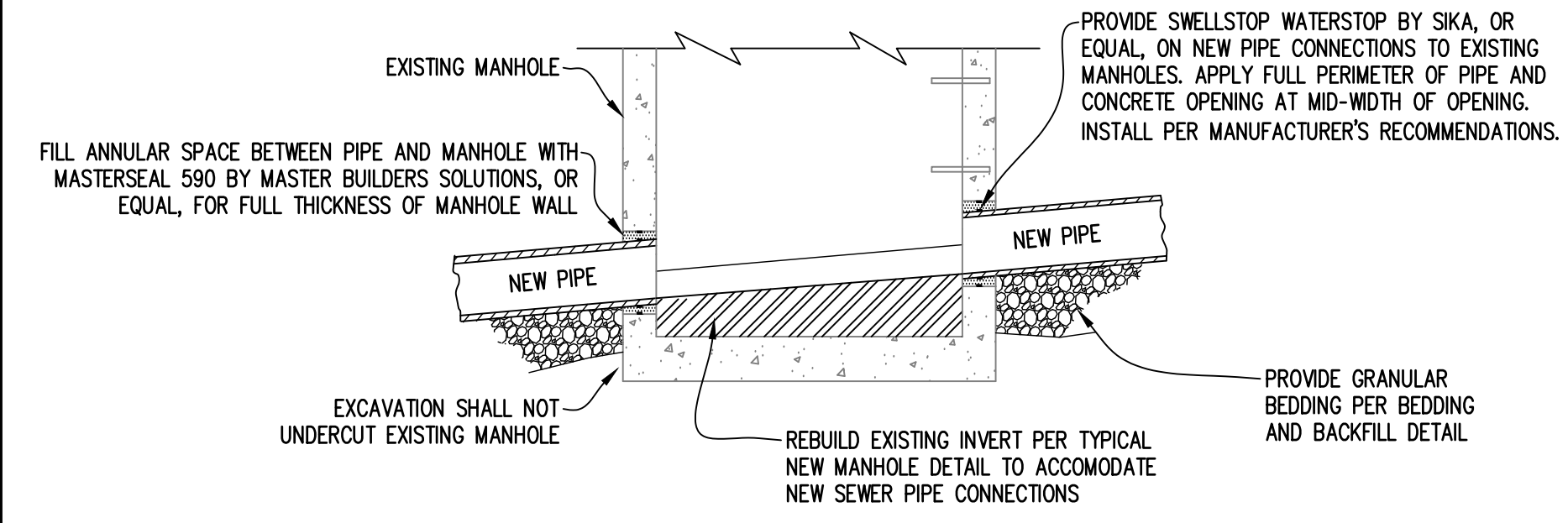
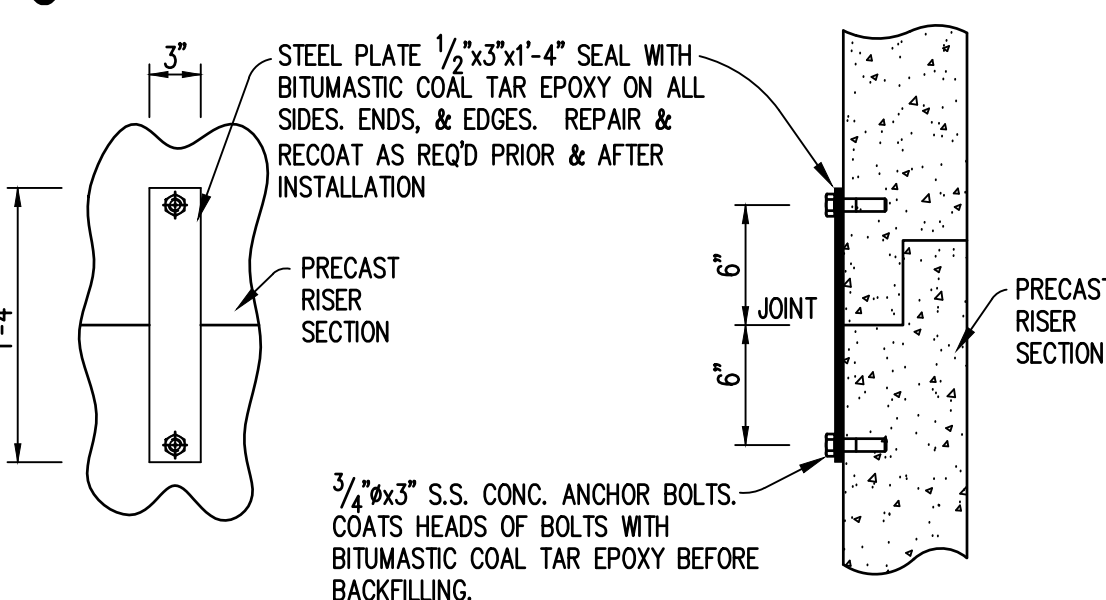
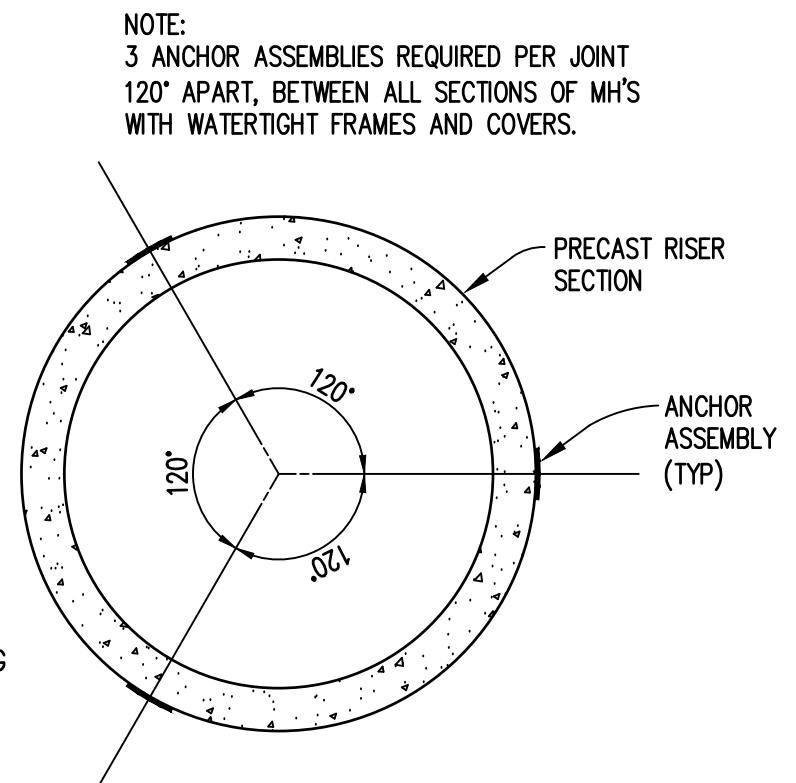


NOTE:
THESE FEATURES ARE TO APPLY IN ADDITION TO THOSE SPECIFIED FOR STANDARD MANHOLES OF EQUAL SIZE.

STRAPS FOR WATER-TIGHT MANHOLE DETAIL

SCALE N.T.S.

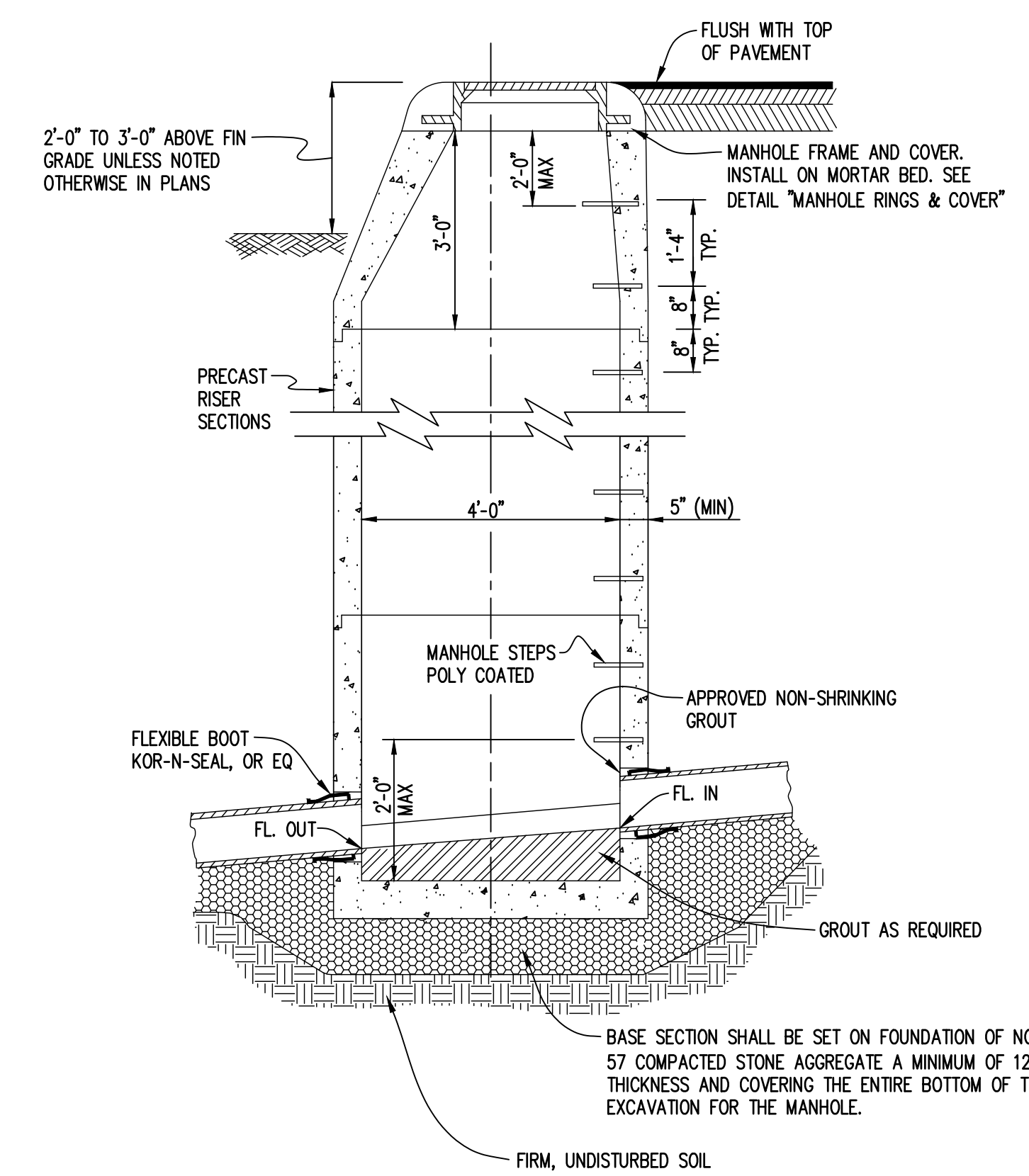
FOR NEW MANHOLES ONLY, IF REQUIRED



NEW PIPE CONNECTION TO EXISTING MANHOLE

SCALE: N.T.S.

- NOTES:
- AFTER REMOVING EXISTING PIPES FROM MANHOLES, REMOVE ANY EXCESS MATERIALS, DEBRIS, ETC FROM OPENING TO PROVIDE A CLEAN SURFACE.
 - MODIFY EXISTING OPENINGS AS REQUIRED TO ACCOMMODATE NEW PIPE INSTALLATION.

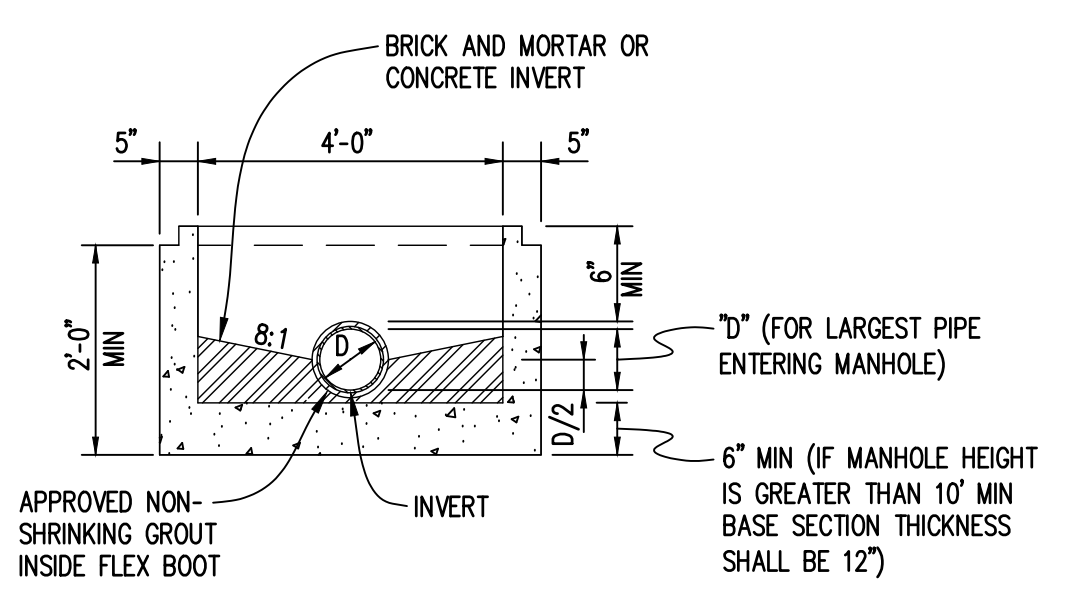
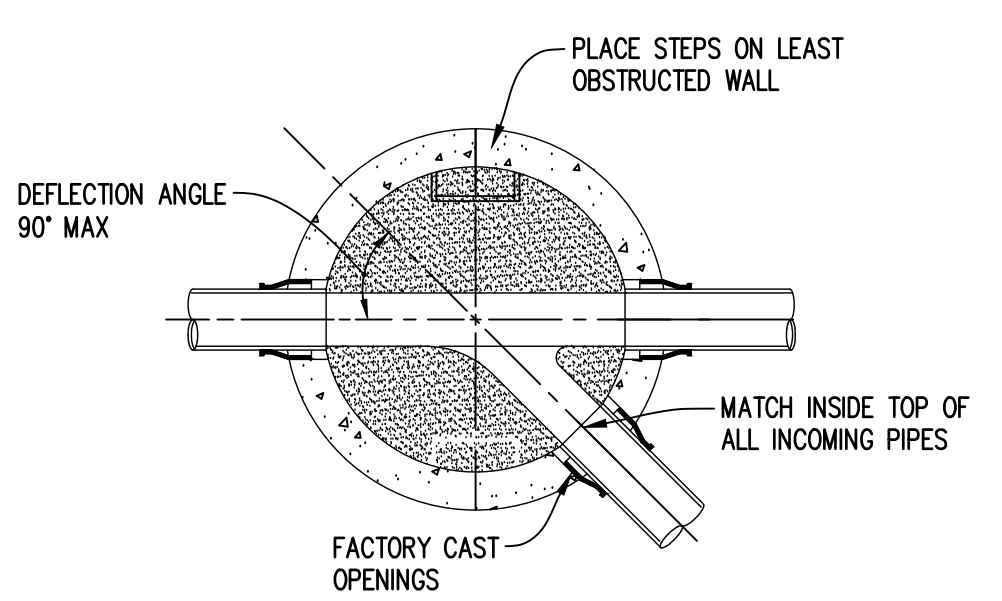


- NOTES:
- ALL MANHOLES WITH PIPE ENTERING WITH DIAMETER OF 24" O.D.P OR LESS SHALL BE SUPPLIED WITH KOR-N-SEAL FLEXIBLE BOOTS OR APPROVED EQUAL. LINES > 24" SHALL HAVE A-LOK (OR EQ) FLEX BOOTS CAST INTO MH WALLS, GROUT CONN (2" MIN CL OPNG) ONLY WHEN CALLED FOR IN PLANS
 - PRECAST SECTIONS SHALL BE REINFORCED PER ASTM C-478
 - UNLESS OTHERWISE INDICATED ON PLANS OR PROFILES, ALL MANHOLES SHALL BE 48" DIAMETER

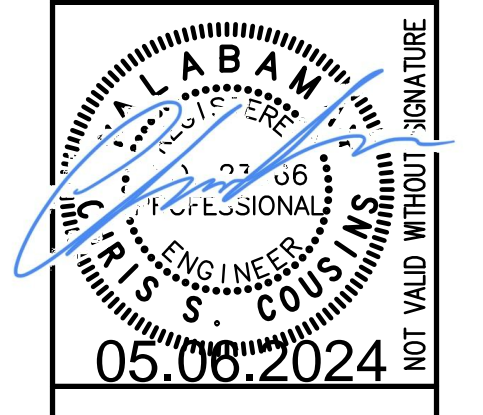
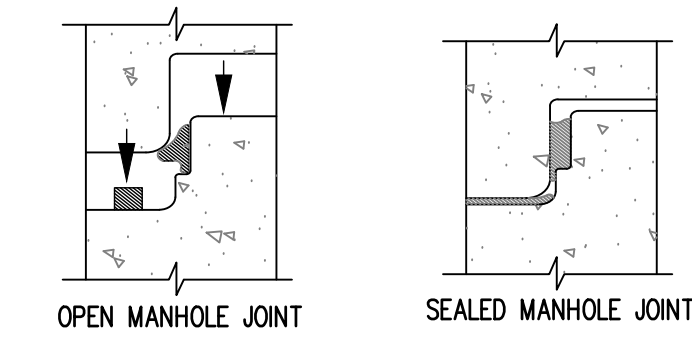
TYPICAL 48" MANHOLE DETAIL

SCALE N.T.S.

FOR NEW MANHOLES ONLY, IF REQUIRED



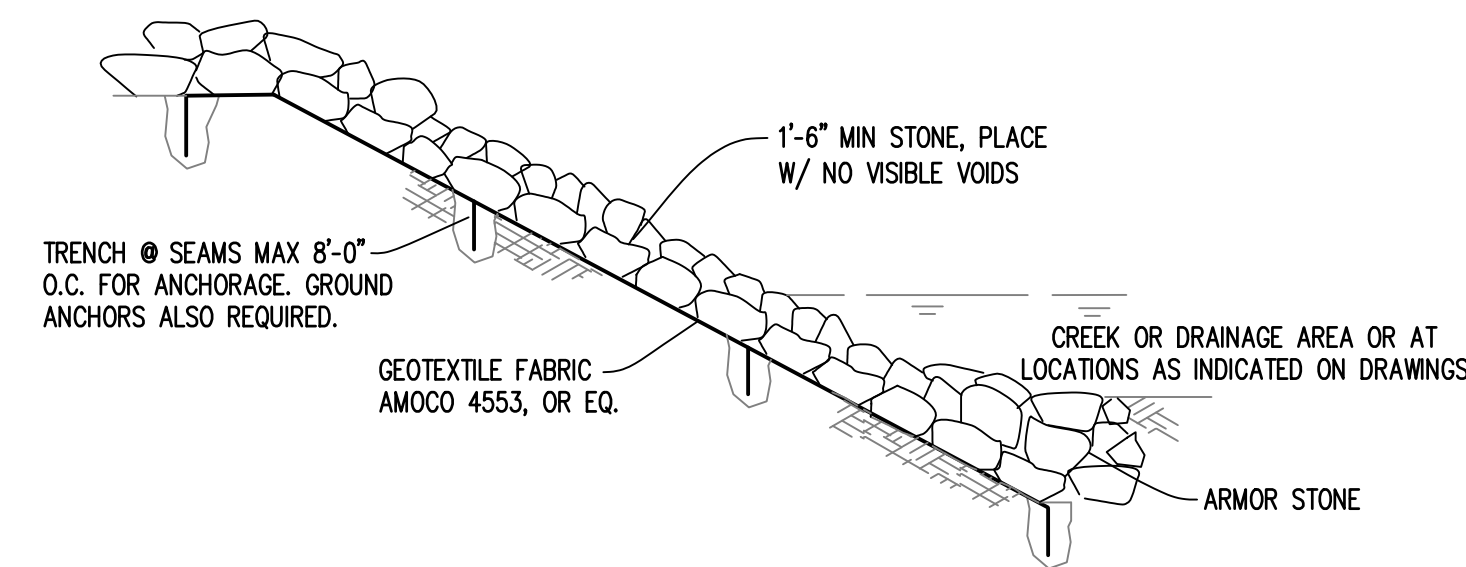
TYLOX-SUPER (OR EQ) SEAL SIZE CHART	
48" O.D.	3/8
60" I.D.	3/8
72" I.D.	3/8
84" I.D.	3/4
96" I.D.	3/4



BAR = 1"

Title
STANDARD DETAILS
BID SET

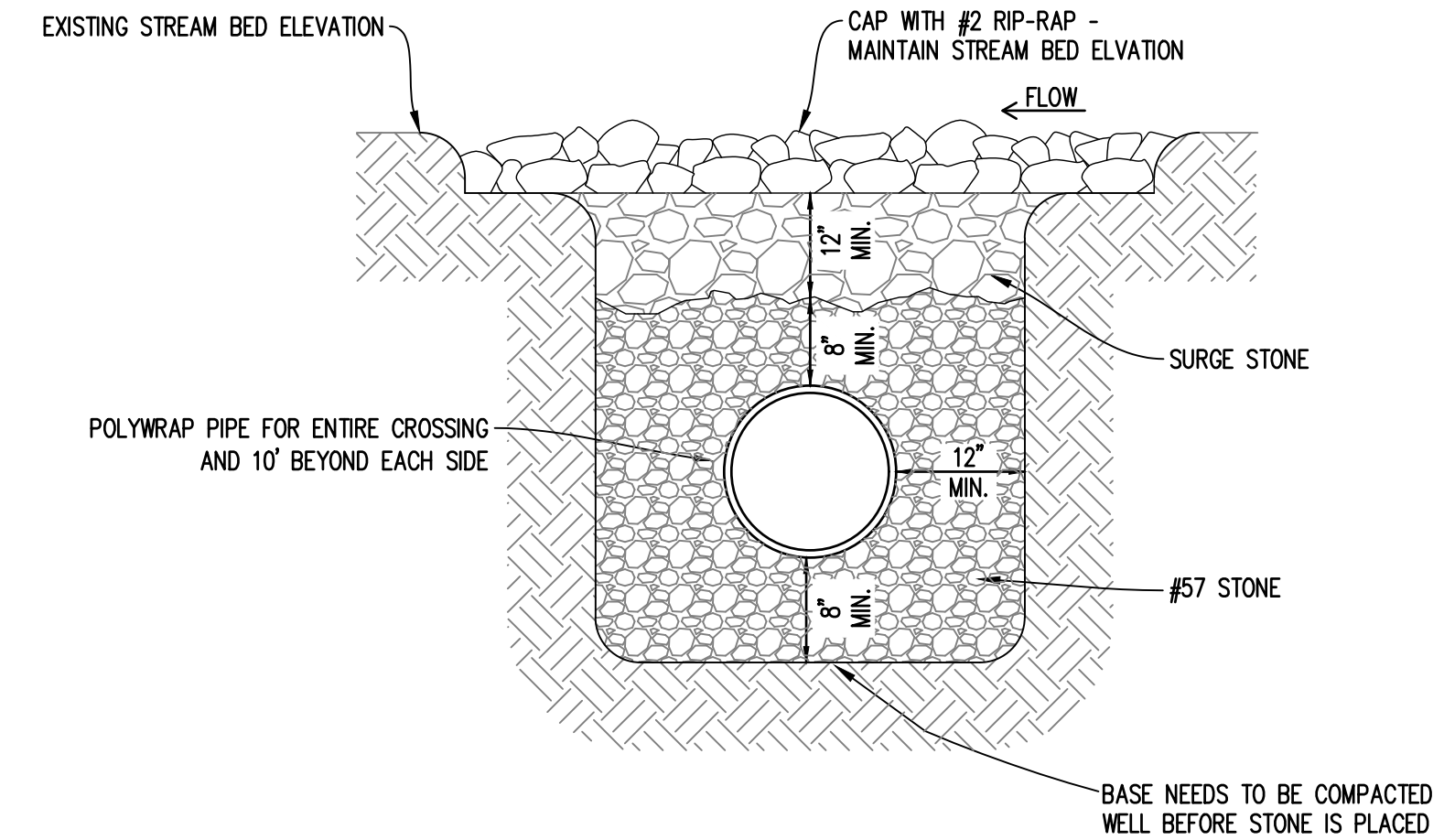
Drawing Project No. 05 - 24
Date AS SHOWN
Scale 6
Sheet



- NOTES:
- STONE FOR CHANNEL PROTECTION RIP RAP SHALL BE SELECTED LIMESTONE ROCK CONSISTING OF WELL GRADED STONE WEIGHING FROM 10 POUNDS TO 200 POUNDS EACH WITH AT LEAST 50% WEIGHING OVER 80 POUNDS. BOTH WIDTH AND THICKNESS SHOULD BE 1/3 THE LENGTH FOR EACH STONE. NOT MORE THAN 10% BY TOTAL WEIGHT SHALL WEIGH LESS THAN 10 POUNDS AND NOT MORE THAN 10% BY TOTAL WEIGHT SHALL WEIGH MORE THAN 200 POUNDS.
 - RIP-RAP ALL DISTURBED AREAS ALONG CREEK BANKS, ANY DRAINAGE AREA WITH SLOPES GREATER THAN 3:1, AND OTHER AREAS AS INDICATED ON THE DRAWINGS.

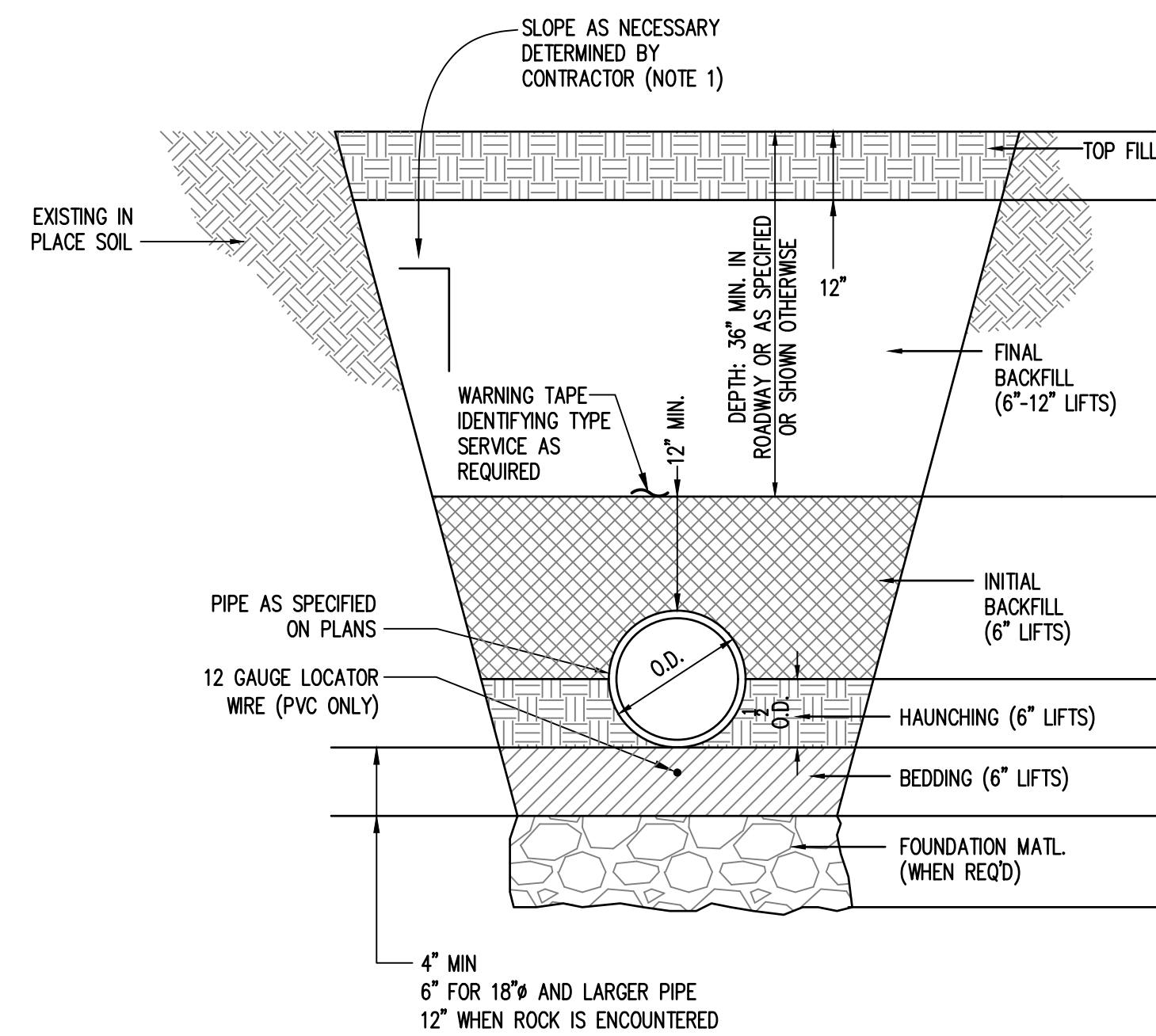
TYPICAL SLOPE PROTECTION USING RIP-RAP DETAIL

SCALE: N.T.S.



PIPE ENCASEMENT AT CREEK CROSSING DETAIL

SCALE N.T.S.



	PRESSURE MAINS			GRAVITY LINES			PAVED AREAS			TYPE 4, 5 OR A TRENCHES WHERE INDICATED ON PLANS
	DI	CONC	PVC	DI	CONC	PVC	DI	CONC	PVC	
	4	4	4	4	4	4	5**	5**	5**	4 OR 5
	3	3	3	3	3	3	5	5	5	3
	2	2	2	2	2	1	1	1	1	1
	2	2	2	2	2	1	1	1	1	1
	2*	1*	1*	1	1	1	1	1	1	1
	RIP-RAP OR CRUSHED STONE CLASS 1B (USCS IN ASTM D2487)									

* SEE NOTE B
** SEE NOTE D

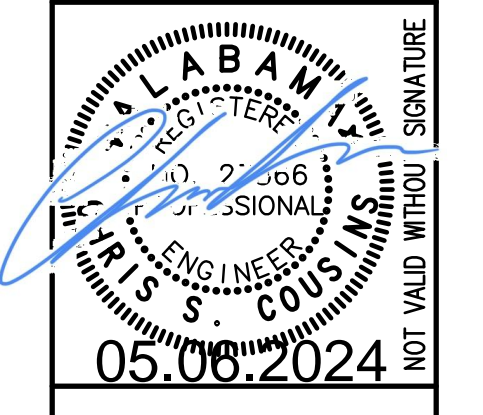
BEDDING AND BACKFILL FOR TRENCHES DETAIL

SCALE: N.T.S.

MATERIALS	DESCRIPTION
1	CRUSHED STONE, ASTM-448 NO. 57 OR 67 GRADATION
2	SELECT EXCAVATED MATL. REASONABLY DRY (WITHIN LIMITS REQD FOR COMPACTION) NO STONES GREATER THAN 1" DIA.
3	EXCAVATED MATL. REASONABLY DRY (WITHIN LIMITS REQD FOR COMPACTION) NO STONES GREATER THAN 12" DIA.
4	SELECT TOPSOIL MATL. TO SUPPORT VEGETATION, NO STONES GREATER THAN 1/2" DIA.
5	CRUSHED STONE, MOIST "PUG-MIX" PER ALDOT SECTION 825

NOTES:

- CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE OSHA REGULATIONS FOR "OPEN TRENCH EXCAVATIONS".
- BEDDING NOT REQUIRED FOR PRESSURE MAINS UNLESS IN AREAS OF ROCK EXCAVATION OR UNSUITABLE SOIL; BELL HOLES REQD FOR PIPES GREATER THAN 4" DIA.
- ALL MATERIALS SHALL BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR DENSITY AT 2% OPTIMUM MOISTURE CONTENT TO PREVENT SETTLEMENT. MATERIALS UNDER PAVING, CONCRETE STRUCTURES, ETC. SHALL BE COMPACTED TO MINIMUM 98%-100% STANDARD PROCTOR.
- TEMPORARY PUG-MIX BACKFILL REQD UNTIL PAVEMENT PLACEMENT IS COMPLETE. IF REQD TO PREVENT SETTLEMENT, PUG-MIX MAY BE SUBSTITUTED FOR NO. 57 AND 67 STONE IN PAVED AREAS WITH DEEP CUTS.
- ADDITIONAL AND/OR SPECIAL REQUIREMENTS MAY BE REQUIRED BY THE PLANS, SPECIFICATIONS AND/OR CONTRACT DOCUMENTS.



BAR = 1"

Title		STANDARD DETAILS	
Drawing Project No.	05 - 24	Scale	AS SHOWN
Sheet	7	BID SET	