## SUGAR CREEK WWTP CLARIFIER #2 AND #3 IMPROVEMENTS

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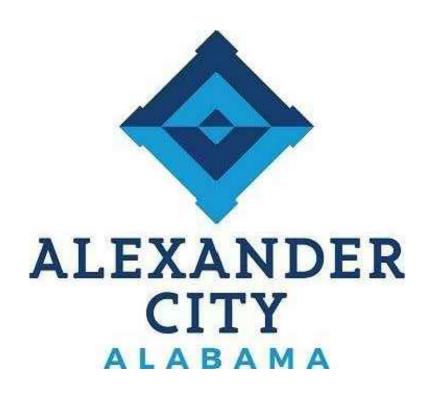
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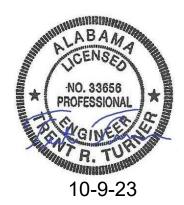
## SEWER IMPROVEMENTS

### OCTOBER 2023

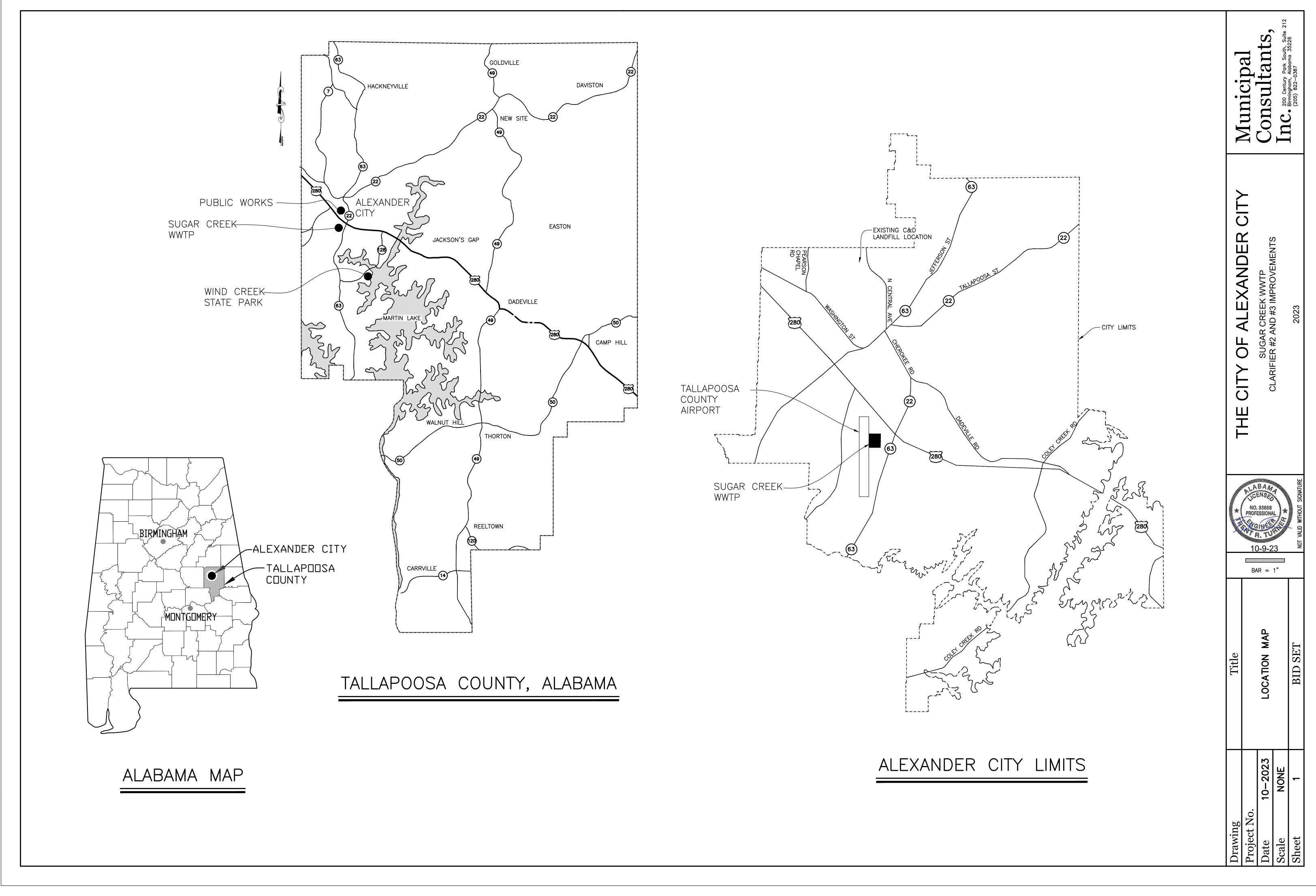
Municipal Consultants, Inc. Birmingham, Alabama











#### **GENERAL NOTES**

1. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROCEDURES, TECHNIQUES, MEANS AND METHODS OF CONSTRUCTION.

2. WASTEWATER TREATMENT PLANTS CONTAIN MANY DANGERS AND HAZARDS. THESE INCLUDE, BUT ARE BY NO MEANS LIMITED TO, SUCH DANGERS AS CONFINED SPACES, ATMOSPHERES WITH DANGEROUSLY LOW OXYGEN LEVELS, TOXIC AND EXPLOSIVE GASES, POTENTIALLY HAZARDOUS GASES STORED AND USED ONSITE, SEWAGE AND SLUDGE WITH PATHOGENS, ELECTRICAL HAZARDS, FALLING HAZARDS, DROWNING HAZARDS, NATURAL GAS HAZARDS, UNANTICIPATED EQUIPMENT STARTING, AND TRENCH DANGERS, AMONG OTHERS. NOTE THAT POWER IN A PANEL, AN ENCLOSURE, OR AT EQUIPMENT, ETC., MAY ORIGINATE FROM MULTIPLE, DIFFERENT AND INDEPENDENT SOURCES. THE CONTRACTOR SHALL HAVE A THOROUGH UNDERSTANDING OF ALL THE DANGERS AND HAZARDS ASSOCIATED WITH THIS TYPE OF WORK. THE CONTRACTOR SHALL INSURE THAT ALL HIS PERSONNEL AND ALL SUBCONTRACTOR PERSONNEL, ETC., FOLLOW ALL APPROPRIATE SAFETY PRECAUTIONS AT ALL TIMES. CONTINUOUSLY COMPLY WITH ALL OSHA REGULATIONS AND REQUIREMENTS. ETC. AND ALWAYS FOLLOW GOOD SAFETY PRACTICES. THE CONTRACTOR SHALL BE AWARE THAT THIS IS AN OPERATING FACILITY AND THAT PERSONNEL MUST MAKE THEIR ROUNDS THROUGH ALL AREAS OF THE WWTP THROUGHOUT THE DAY. AS SUCH, THE CONTRACTOR MUST CAREFULLY PLAN HIS ACTIVITIES AND ALWAYS PROVIDE ADEQUATE SAFETY BARRIERS AND OTHER MEASURES AS DESIRABLE, ETC., TO CONTINUOUSLY PROTECT PERSONNEL AND VISITORS, AS WELL AS HIS OWN PERSONNEL. SAFETY IS THE RESPONSIBILITY SOLELY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER HAVE ANY DUTY TO REVIEW THE SAFETY PRACTICES OF THE CONTRACTOR.

3. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS EQUIPMENT AND MATERIALS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO FIELD VERIFY ALL EXISTING PIPE FITTINGS AND LENGTHS BEFORE ORDERING MATERIALS.

4. THIS PROJECT REQUIRES WORK IN AND CONNECTIONS TO AN EXISTING, ACTIVE, OPERATING WASTEWATER TREATMENT PLANT. AS SUCH, THE CONTRACTOR SHOULD ANTICIPATE THE PROBLEMS ASSOCIATED WITH SUCH WORK, INCLUDING BUT NOT LIMITED TO, COORDINATION OF ALL WORK WITH THE OWNER (THROUGH THE ENGINEER) INCLUDING MAKING TIE-INS, ELECTRICAL TIE-INS AND MODIFICATIONS, AND INTERRUPTIONS DURING SUITABLE PERIODS. THOROUGHLY PLANNING WORK ACTIVITIES TO MINIMIZE INTERRUPTIONS OF NORMAL OPERATIONS, MAINTAINING SITE SAFETY FOR THE OPERATIONS AND MAINTENANCE STAFF, AND LEAKING GATES AND VALVES, ETC. SOME ACTIVITIES MAY BE BEST PERFORMED DURING THE EARLY MORNING HOURS OF DRY WEATHER. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER/ENGINEER DURING LOW DEMAND TIMES. THIS MAY REQUIRE WEEKEND AND OR NIGHT TIME WORK (NO ADDITIONAL PAYMENTS WILL BE MADE FOR THIS WORK IF NEEDED).

5. WHERE WORK TIES TO, OR IS LOCATED IN OR ADJACENT TO, EXISTING STRUCTURES OR PIPING, CAREFULLY INSPECT FACILITIES AND VERIFY MATERIALS, DEPTHS, DIMENSIONS, AND ANY POSSIBLE CONFLICTS PRIOR TO PLANNING THE WORK OR ORDERING MATERIALS, ETC. DEWATER OR EXCAVATE EXISTING FACILITIES AS REQUIRED FOR THESE INSPECTIONS. THE CONTRACTOR SHALL ANTICIPATE THAT CHANGES WILL BE NECESSARY AS A RESULT OF THESE INSPECTIONS AND THERE SHALL BE NO EXTRA PAYMENT OR TIME FOR THESE CHANGES OR ADJUSTMENTS.

6. PRIOR TO PLACING ANY NEW STRUCTURES, PIPING, OR EQUIPMENT, ETC., INTO SERVICE, CLEAN UP ALL TRASH AND DEBRIS AND CHECK OUT ALL EQUIPMENT, GATES, AND ALL APPURTENANCES TO THE MAXIMUM EXTENT POSSIBLE AND TAKE OTHER ACTIONS AS APPROPRIATE TO MINIMIZE THE POTENTIAL FOR PROBLEMS.

7. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL BACKUPS, BYPASSES, OR OVERFLOWS, ETC., RESULTING FROM HIS WORK, AND FOR ANY AND ALL SUBSEQUENT DAMAGES, FINES, PENALTIES, OR OTHER COSTS INCURRED, INCLUDING ANY AND ALL COSTS INCURRED BY THE OWNER, CAUSED BY WORK BY THE CONTRACTOR.

8. THIS IS AN EXISTING PLANT THAT HAS BEEN MODIFIED AFTER THE ORIGINAL CONSTRUCTION. MUCH INFORMATION IS BASED ON DRAWINGS PREPARED FOR THE CONSTRUCTION OF THE ORIGINAL PLANT AND OTHER ADDITIONS. MUCH OF THIS INFORMATION HAS NOT BEEN FIELD VERIFIED. CONTRACTOR SHALL FIELD VERIFY INFORMATION AS REQUIRED FOR THE TIMELY PROSECUTION OF THE WORK.

9. ALL WORK ACTIVITIES (INCLUDING ELECTRICAL) THAT AFFECT PLANT OPERATIONS MUST BE SEQUENCED WITH THE EXISTING PLANT OPERATIONS. THESE SHALL BE CAREFULLY PLANNED AND COORDINATED WITH BOTH THE OWNER AND THE ENGINEER TO RESULT IN A MINIMUM OF INTERFERENCE WITH THE EXISTING OPERATIONS. THE CONTRACTOR SHALL PERFORM AS MUCH PRELIMINARY OR ASSEMBLY WORK AS POSSIBLE PRIOR TO INITIATING OPERATIONS REQUIRING SEQUENCING. WHERE APPLICABLE, THE CONTRACTOR SHALL HAVE STANDBY EQUIPMENT ON SITE SUCH THAT THE LOSS OF INDIVIDUAL EQUIPMENT WILL NOT PREVENT THE COMPLETION OF SUCH CONNECTIONS, ETC.

10. THE CONTRACTOR SHOULD ANTICIPATE THAT EXISTING VALVES, GATES, OR OTHER FLOW CONTROL STRUCTURES OR DEVICES WILL LEAK. THE CONTRACTOR SHALL MAKE ALL PROVISIONS AND PROVIDE ALL REQUIRED EQUIPMENT (I.E. PLUGS, CAPS, COVERS, ETC.) TO HANDLE THE EXISTING FLOW WHILE PERFORMING THE REQUIRED WORK.

11. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH CITY OF ALEXANDER CITY RULES AND REGULATIONS. CONTRACTOR SHALL OBTAIN & PAY FOR ALL PERMITS REQUIRED FOR CONSTRUCTION.

#### **DEMOLITION NOTES**

1. THE CLARIFIER STRUCTURES ARE EXISTING. THE CONTRACTOR SHALL REMOVE AND DEMOLISH ALL ITEMS NOTED OR INFERRED IN REGARDS TO THE CLARIFIER MECHANISM. CENTER COLUMN. TRUSS ARMS. CAGES. SCUM BEACH. SCUM ARMS. CENTER WELL, BRIDGE, ELECTRICAL, CHLORINE LINES. ETC. THE CONTRACTOR SHALL BE AWARE THAT ALL EQUIPMENT, COMPONENTS, PIPING, ELECTRICAL, ETC. THAT WILL BE REQUIRED TO BE REMOVED MAY NOT BE SHOWN OR NOTED ON THE PLAN VIEW OR SECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND PROPERLY DISPOSE OF ALL EQUIPMENT. MATERIALS, ETC. REQUIRED TO COMPLETE THE PROJECT.

2. THE OWNER WOULD LIKE TO RETAIN ALL EQUIPMENT, MATERIALS, BRIDGE, GRATING, PIPING, ELECTRICAL ITEMS, LIGHTS, ETC, REMOVED FROM THE DEMOLISHED CLARIFIERS. THE OWNER RETAINS THE OPTION TO KEEP ALL ITEMS REMOVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL. LOADING, HAULING (TRANSPORTATION), AND UNLOADING ALL OWNER DESIRED ITEMS REMOVED AT A LOCATION ONSITE AT THE WWTP AS DESIGNATED BY THE OWNER. ALL COST(S) ASSOCIATED WITH THIS WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. FOR ALL OTHER ITEMS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROPER DISPOSAL OF ANY AND ALL EXCESS MATERIALS, EQUIPMENT, ETC. RESULTING FROM THE DEMOLITION AND/OR THE WORK PERFORMED. ANY AND ALL EXCESS MATERIALS, EQUIPMENT, CONSTRUCTION WASTE, ETC. (NOT RETAINED BY THE OWNER) SHALL BE HAULED OFF-SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL COST(S) ASSOCIATED WITH THIS WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

4. ALL UNUSED/OLD ANCHOR BOLTS, MISCELLANEOUS METAL, ETC. SHALL BE CUT AND GROUND SMOOTH FLUSH (OR BELOW THE SURFACE) WITH SURROUNDING CONCRETE FLOORS, WALLS, ETC.

5. SLAB DEFECTS SUCH AS HOLES, IMPERFECTIONS, DETERIORATED AREAS SHALL BE REPAIRED WITH GROUT AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.

#### PROJECT NOTES

1. THE CONTRACTOR SHALL REMOVE AND REPLACE THE CLARIFIER MECHANISM IN ITS ENTIRETY IN CLARIFIER #2 (ALTERNATE ADDER) AND CLARIFIER #3 (BASE BID) WITH NEW EQUIPMENT. THE CONTRACTOR SHALL INSTALL AND MAKE FULLY FUNCTIONAL ALL EQUIPMENT AND COMPONENTS REQUIRED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. SEE SPECIFICATIONS FOR EXACT EQUIPMENT TO BE PROVIDED. THE CLARIFIER MANUFACTURER SHALL PROVIDE (AS PART OF EQUIPMENT CONTRACT) A FIELD TECHNICIAN TO OVERSEE AND APPROVE THE INSTALLATION OF THE EQUIPMENT. CONTRACTOR WILL BE REQUIRED TO PROPERLY COORDINATE WITH THEM FOR INSPECTION OF EQUIPMENT.

2. MUCH OF THE INFORMATION IS BASED ON DRAWINGS PREPARED FOR THE CONSTRUCTION OF THE ORIGINAL PLANT AND/OR OTHER ADDITIONS/MODIFICATIONS. THE CONTRACTOR/CLARIFIER MANUFACTURER SHALL BE RESPONSIBLE FOR, IN A TIMELY MANNER, VERIFYING ALL EXISTING SIZES, MATERIALS, LOCATIONS, ELEVATIONS, DEPTHS, AND DIMENSIONS OF WALLS, CONCRETE, PIPING, ELECTRICAL, ETC. PRIOR TO ORDERING MATERIALS FOR EQUIPMENT OR OTHER PROPOSED WORK. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, LOCATIONS, ETC. ASSOCIATED WITH THE WORK REQUIRED. CONTRACTOR/CLARIFIER MANUFACTURER SHALL PROVIDE THE VERIFIED DIMENSIONS, ELEVATIONS, SIZES, ETC. TO THE OWNER/ENGINEER.

3. THE EXISTING PIPING AND ELECTRICAL LOCATIONS ARE NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR EXISTING PIPING AND ELECTRICAL ITEMS THAT MAY CONFLICT WITH PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL REMOVE/REPLACE, REROUTE, ETC. ANY ITEMS THAT CONFLICT WITH THE PROPOSED ITEMS TO BE INSTALLED AS DIRECTED BY THE OWNER.

4. NO EXISTING YARD PIPING AND ELECTRICAL FACILITIES ARE SHOWN. USE APPROPRIATE MEASURES AND SAFETY PRECAUTIONS TO AVOID DIGGING INTO ELECTRICAL LINES AND OTHER POTENTIAL DANGERS. COORDINATE WITH THE OWNER.

5. CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS EQUIPMENT AND MATERIALS REQUIRED FOR A COMPLETE, FULLY FUNCTIONAL SYSTEM AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL PROVIDE ALL SUPPORTS REQUIRED (I.E. UNI-STRUT, L BRACKETS, ETC.). THESE SUPPORTS SHALL BE STAINLESS STEEL.

6. CONTRACTOR SHALL PROVIDE A DUMPSTER (IF NEEDED) AND PORTABLE TOILET FACILITIES FOR HIS FORCES, COORDINATE LOCATION OF FACILITIES WITH OWNER AND ENGINEER.

7. COORDINATE ALL WORK WITH EQUIPMENT PROVIDED, EXISTING STRUCTURES, WALLS, FLOORS, ETC, AND ADJUST AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

8. THE CONTRACTOR SHALL BE AWARE THAT EQUIPMENT DIMENSIONS VARY BY MANUFACTURER. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH APPROVED SHOP DRAWINGS BEFORE ORDERING MATERIALS. COORDINATE ALL WORK WITH EQUIPMENT PROVIDED, EXISTING STRUCTURES, WALLS, FLOORS, ETC, AND ADJUST AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

9. THE CONTRACTOR SHALL PROPERLY ANCHOR ALL EQUIPMENT, PIPING, ELECTRICAL, SUPPORTS, BRIDGE, STAIRS, ETC. TO THE CONCRETE WALLS, FOUNDATION, OR OTHER AREAS. CONTRACTOR SHALL FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. PROVIDE ALL ANCHOR BOLTS AND HARDWARE AS REQUIRED. ALL ANCHOR BOLTS AND HARDWARE SHALL BE STAINLESS STEEL.

10. UNLESS INDICATED OTHERWISE ALL ANCHOR BOLTS, WEDGE ANCHORS, EPOXY ANCHORS, MISCELLANEOUS FASTENERS & HARDWARE, ETC, NOT PROVIDED WITH THE PURCHASED EQUIPMENT, SHALL BE STAINLESS STEEL AND BE PROVIDED BY THE CONTRACTOR. ALL THREADS ON STAINLESS STEEL BOLTS, ANCHORS, ETC. USED IN EQUIPMENT APPLICATIONS SHALL BE COATED WITH ANTI-GALLING COMPOUND DESIGNED FOR STAINLESS STEEL.

11. THE CONTRACTOR SHALL COORDINATE WITH OWNER FOR VERTICAL (ELEVATION) CONTROL ONSITE. CONTRACTOR SHALL ESTABLISH VERTICAL CONTROL AROUND CLARIFIER FOR SETTING EQUIPMENT. THE CONTRACTOR SHALL TRANSFER ELEVATION AS REQUIRED FOR WORK TO BE PERFORMED. COORDINATE WITH THE OWNER/ENGINEER.

12. ALL EXISTING D.I. PIPING IN THE CLARIFIER SHALL BE BRUSH BLASTED, CLEANED, AND PREPARED TO BE PRIMED WITH TNEMEC SERIES N140 OR APPROVED EQUAL. ALL NEW AND EXISTING PRIMED PIPING SHOULD BE COATED WITH 2 COATS OF A TNEMEC 142 SPECIFICALLY DESIGNED FOR SEWAGE APPLICATIONS APPLIED OVER TNEMEC PRIMER. FINAL COLOR OF PIPING SHOULD BE BLACK.

13. CONTRACTOR SHALL PROVIDE THEIR OWN JOB-SITE TRAILER (IF NECESSARY) FOR HIS FORCES. CONTRACTOR SHALL CONNECT WATER, POWER, AND OTHER UTILITIES AS REQUIRED. JOB SITE TRAILER AND OTHER ONSITE POWER DEMANDS SHALL BE SERVED FROM THE OWNERS EXISTING ONSITE POWER SUPPLY. WHERE CONSTRUCTION DEMANDS (E.G. CONCRETE VIBRATORS) EXCEED ONSITE POWER AVAILABILITY AT A LOCATION, PROVIDE AUXILIARY POWER AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL MAKE ALL UTILITY CONNECTION(S) REQUIRED.

14. ALL CONCRETE USED (IF ANY) ON THE PROJECT SHALL BE 4,000 PSI TYPE IL-MS(OR 10) CEMENT.

15. PRIOR TO THE SUBMITTAL PROCESS OF THE CLARIFIER EQUIPMENT, THE CONTRACTOR SHALL SEPARATELY STOP ALL FLOW INTO CLARIFIER #2 AND CLARIFIER #3 AND DRAIN THE CLARIFIER (IF NOT ALREADY DRAINED). CONTRACTOR SHALL CLEAN/PRESSURE WASH CLARIFIER WALLS AND FLOOR AS NECESSARY. THE CONTRACTOR/CLARIFIER MANUFACTURER SHALL MEASURE/VERIFY ALL ELEVATIONS, DIMENSIONS, SIZES, LENGTHS, DIAMETER, ETC. OF THE EXISTING CLARIFIER WALLS, FLOOR, WEIRS, SCUM BAFFLES, PIPING, ETC. AS REQUIRED FOR THE NEW CLARIFIER EQUIPMENT. THE CONTRACTOR SHALL ALSO VERIFY THE CONDITION OF THE EXISTING CONCRETE/GROUT BOTTOM WITH THE ENGINEER. THE CONTRACTOR SHALL SUBMIT ALL MEASUREMENTS, DISTANCES, ETC. TO THE OWNER/ENGINEER AND CLARIFIER MANUFACTURER ONCE COMPLETE DURING THE SUBMITTAL PROCESS. COORDINATE WITH THE OWNER/ENGINEER FOR TIMING OF ALL WORK.

16. THE CONTRACTOR SHALL CLEAN/PRESSURE WASH ALL CLARIFIER WALLS, FLOOR, EQUIPMENT, ETC. AS NECESSARY AND REQUIRED TO COMPLETE IMPROVEMENTS SHOWN OR INDICATED.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING OF CLARIFIER REQUIRED DURING THE PROJECT.

18. ONCE EXISTING CENTER PIER IS REMOVED. CONTRACTOR SHALL CHIP. HAMMER. GRIND. ETC. LEVELING GROUT AS REQUIRED FOR INSTALLATION OF NEW CLARIFIER CENTER PIER. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ANCHOR BOLTS, HARDWARE, EPOXY GROUT AND NON-SHRINK GROUT FOR LEVELING/INSTALLING NEW CENTER PIER AS RECOMMENDED AND REQUIRED BY CLARIFIER MANUFACTURER.

19. THE CONTRACTOR SHALL REMOVE ALL CHLORINE PIPING AROUND THE INSIDE OF THE CLARIFIERS. CONTRACTOR SHALL REMOVE ALL ASSOCIATED BRACKETS AND SUPPORTS AND GRIND ALL ANCHOR BOLTS SMOOTH WITH CONCRETE WALL.

20. CONTRACTOR SHALL PROVIDE AND INSTALL NEW SET OF ALUMINUM STEPS (36" WIDE MINIMUM) AND HANDRAIL TO ACCESS NEW CLARIFIER BRIDGES. STEPS AND HANDRAIL SHALL BE PROVIDED BY THOMPSON FABRICATING CO. HANDRAIL SHALL BE 1.5" ALUMINUM POSTS AND RAILS. STEPS WITH 1.5" I-BAR GRATING SHALL BE PROVIDED TO ACCESS BRIDGE. CONTRACTOR SHALL VERIFY AND COORDINATE ALL ELEVATIONS, DIMENSION, HEIGHTS, ETC. EACH STEP SHALL BE NO MORE THAN 7.5".

21. THE CONTRACTOR WILL BE REQUIRED TO EXTEND 3-1" ALUMINUM CONDUITS ON THE BRIDGE TO THE CENTER PIER LOCATION OF EACH CLARIFIER. PROPERLY ATTACH AND SECURE THESE CONDUITS TO THE BRIDGE WITH STAINLESS STEEL SUPPORTS AND HARDWARE.

22. THE EXISTING SCUM BAFFLE AND EFFLUENT WEIRS IN CLARIFIER #2 (IF ADDER ACCEPTED. SEE BID DOCUMENTS) AND #3 SHALL BE REMOVED AND REPLACED WITH NEW EFFLUENT WEIRS AND SCUM BAFFLES IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL THE SCUM BAFFLES AND EFFLUENT WEIRS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS. THE CONTRACTOR SHALL CAULK WALL AND WEIR JOINT AND ALL ALL EDGES, SEAMS, ETC. AS REQUIRED BY THE MANUFACTURER WITH A SIKAFLEX OR EQUAL PRODUCT AS RECOMMENDED BY THE WEIR MANUFACTURER. THE WEIRS AND SCUM BAFFLES SHALL BE LEVEL ACROSS THE CLARIFIERS WITH NO DEVIATION GREATER THAN 1/16" FROM ONE QUADRANT TO THE OTHER WITH NO GREATER THAT 1/8" VARIATION ACROSS THE CLARIFIER. COORDINATE FINAL V-NOTCH ELEVATIONS WITH OWNER/ENGINEER PRIOR TO SETTING THEM.

23. THE CONTRACTOR SHALL COMPLETE IMPROVEMENTS TO CLARIFIER #3 FIRST AND THEN CLARIFIER #2 SECOND (IF ADDER ACCEPTED. SEE BID DOCUMENTS). THE CONTRACTOR WILL NOT BE ALLOWED TO TAKE THE EXISTING CLARIFIER #3 OUT OF SERVICE FOR IMPROVEMENTS UNTIL 2 WEEKS PRIOR TO THE EXPECTED EQUIPMENT DELIVERY DATE. THE CONTRACTOR SHALL PROVIDE THE FIRM EQUIPMENT DELIVERY DATE TO OWNER PRIOR TO TAKING CLARIFIER OUT OF SERVICE.

24. ONCE CLARIFIER #3 MECHANISM IS COMPLETE AND OPERATIONAL, THE CLARIFIER SHALL BE PLACED INTO SERVICE AND RUN TROUBLE FREE FOR A MINIMUM OF 10 CONSECUTIVE DAYS PRIOR TO OWNER ACCEPTANCE. IF CLARIFIER TRIPS OR ALARMS DURING RUN-IN PERIOD. THE 10 DAY RUN-IN PERIOD STARTS OVER. ONCE CLARIFIER #3 RUNS FOR 10 CONSECUTIVE DAYS TROUBLE FREE, THE CONTRACTOR WILL BE ALLOWED TO BEGIN THE CONSTRUCTION OF CLARIFIER #2 (IF ADDER ACCEPTED. SEE BID DOCUMENTS). ONCE CLARIFIER #2 MECHANISM IS COMPLETE AND OPERATIONAL, THE CLARIFIER SHALL BE PLACED INTO SERVICE AND RUN TROUBLE FREE FOR A MINIMUM OF 10 CONSECUTIVE DAYS PRIOR TO OWNER ACCEPTANCE. IF CLARIFIER TRIPS OR ALARMS DURING RUN-IN PERIOD, THE 10 DAY RUN-IN PERIOD STARTS OVER. ONCE CLARIFIER RUNS FOR 10 CONSECUTIVE DAYS TROUBLE FREE, THE CONTRACTOR WILL BE GRANTED SUBSTANTIAL COMPLETION FOR THE PROJECT.

25. THE EXISTING CLARIFIER(S) IS CURRENTLY POWERED AND CONTROLLED FROM THE MCC INSIDE THE RAS PUMP STATION ELECTRICAL BUILDING. THE CONTRACTOR SHALL REMOVE THE EXISTING COMPONENTS INSIDE THE MCC BUCKET POWERING THE CLARIFIER AND REPLACE WITH A NEW 5A (MIN) BREAKER (OF SAME TYPE AND STYLE AS EXISTING) AND NEW TERMINAL STRIPS INSIDE THE BUCKET. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER/ENGINEER TO PROPERLY COORDINATE EXISTING CONTROLS AND SIGNALS WITH NEW CONTROLS AND SIGNALS TO BE PROVIDED. CONTRACTOR SHALL VERIFY ALL ALARMS, SIGNALS, ETC. WITH NEW CLARIFIER AND SCADA SYSTEM ONCE COMPLETE.

26. EXISTING CLARIFIER #1 IS POWERED AND CONTROLLED FROM THE MCC INSIDE THE RAS PUMP STATION ELECTRICAL BUILDING. THE CONTRACTOR SHALL REMOVE THE EXISTING COMPONENTS INSIDE THE MCC BUCKET POWERING CLARIFIER #1 AND REPLACE WITH A NEW 5A (MIN) BREAKER (OF SAME TYPE AND STYLE AS EXISTING) AND NEW TERMINAL STRIPS INSIDE THE BUCKET FOR ALARMS AND SIGNALS. THE CONTRACTOR SHALL PROPERLY COORDINATE EXISTING CONTROLS AND SIGNALS WITH SCADA ONCE COMPLETE.

#### SITE NOTES

1. ALL DAMAGED OR DISTURBED AREAS DURING CONSTRUCTION SHALL BE BACKFILLED AND/OR GRADED TO MATCH SURROUNDING GRADES. ALL DISTURBED AREAS SHALL BE SEEDED AND GRASSED TO MATCH SURROUNDING AREA GRASSING. CONTRACTOR SHALL PROVIDE TOPSOIL, FERTILIZER, GRASSING, ETC. AS NECESSARY TO MAINTAIN AN EROSION FREE SURFACE CAPABLE OF MAINTAINING A COMPLETE STAND OF GRASS.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL SITE GRADING AS REQUIRED FOR PROPER AND POSITIVE SITE DRAINAGE. NO PONDING OR STANDING WATER WILL BE ALLOWED OR ACCEPTED.

3. ALL EXISTING SURFACES, STRUCTURES, SIDEWALKS, PAVEMENT, ASPHALT, CURB AND GUTTER, WALKWAYS, PADS, LANDSCAPING, ETC. DAMAGED OR DISTURBED DURING CONSTRUCTION SHALL BE REPLACED IN LIKE KIND AT NO ADDITIONAL COST TO THE OWNER. EXCEPT WHERE IMPROVEMENTS OR CHANGES ARE SHOWN OR NOTED ON THE DRAWINGS. CONCRETE SHALL BE REPLACED FROM THE NEAREST UNDAMAGED CONSTRUCTION OR CONTROL JOINTS. ALL EXISTING SIDEWALKS, WALKWAYS, PADS, PAVEMENT, ETC. AND ALL OTHER CONCRETE MAY NOT BE SHOWN ON THESE DRAWINGS.

4. WALKWAYS, SIDEWALKS, MOW STRIPS, ETC. SHALL BE POURED WITH SLIGHT SLOPE AND NO LOW SPOTS TO ENSURE THEY WILL DRAIN FREE.

5. ALL EXISTING YARD PIPING, ELECTRICAL, UTILITIES, ETC. ARE NOT BE SHOWN THROUGHOUT THE SITE. USE APPROPRIATE MEASURES AND SAFETY PRECAUTIONS TO AVOID DIGGING INTO PIPING, ELECTRICAL LINES, AND OTHER UTILITIES.

#### PIPING NOTES

3. THE CONTRACTOR SHALL PROVIDE ALL PIPE HARDWARE (I.E. BOLTS, NUTS, WASHERS, GASKETS, ETC.) AS REQUIRED TO PROPERLY SECURE ALL PIPING.

4. CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED PIPING, TEES, FITTINGS, REDUCERS, INCREASERS, BUSHINGS, SPOOL PIECES, ETC. AS REQUIRED FOR A COMPLETE AND FUNCTIONAL PIPING SYSTEM INSTALLATION.

5. CONTRACTOR IS RESPONSIBLE FOR, IN A TIMELY MANNER, VERIFYING EXISTING LINE SIZES, MATERIAL, LOCATIONS, DEPTHS, AND DIMENSIONS PRIOR TO ORDERING MATERIALS FOR CONNECTIONS.

6. SEE PAINTING NOTE FOR PIPING IN PROJECT NOTES.

7. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL STAINLESS PIPING, FITTINGS, REDUCERS, ETC. FOR A COMPLETE WATERLINE SYSTEM. WATERLINE SHOULD BE MOUNTED SECURELY TO THE BRIDGE. CONTRACTOR SHALL PROVIDE ALL REQUIRED SUPPORTS, BRACKETS, ETC. AND HARDWARE. ALL BRACKETS AND HARDWARE SHALL BE STAINLESS STEEL.

8. CONTRACTOR SHALL MAKE CONNECTION TO EXISTING WATERLINE IN THE AREA OF CLARIFIER #2 AND CLARIFIER #3. CONTRACTOR SHALL PROVIDE ALL FITTINGS, REDUCERS, VALVES, BENDS, ETC. FOR PROPER CONNECTION. THIS SHOULD BE FOR WATERLINE ON BRIDGE AND WATERLINE FOR SCUM BOX.

#### SCHEDULING NOTES

PRE-SUBMITTAL CLARIFIER DOWNTIME NOTES:

2. THE CONTRACTOR/CLARIFIER MANUFACTURER SHALL MEASURE/VERIFY ALL ELEVATIONS, DIMENSIONS, SIZES, LENGTHS, DIAMETER, ETC. OF THE EXISTING CLARIFIER WALLS, FLOOR, PIPING, ETC. AS REQUIRED FOR THE NEW CLARIFIER EQUIPMENT.

6. THE CONTRACTOR SHALL STOP ALL FLOW INTO CLARIFIER #2 AND DRAIN THE CLARIFIER. CONTRACTOR SHALL CLEAN/PRESSURE WASH CLARIFIER WALLS AND FLOOR (IF NECESSARY).

7. THE CONTRACTOR/CLARIFIER MANUFACTURER SHALL MEASURE/VERIFY ALL ELEVATIONS, DIMENSIONS, SIZES, LENGTHS, DIAMETER, ETC. OF THE EXISTING CLARIFIER WALLS, FLOOR, PIPING, ETC. AS REQUIRED FOR THE NEW CLARIFIER EQUIPMENT.

10. THE CONTRACTOR SHALL SUBMIT ALL MEASUREMENTS, DISTANCES, ETC. TO THE OWNER/ENGINEER AND CLARIFIER MANUFACTURER ONCE COMPLETE. 11. COORDINATE WITH THE OWNER/ENGINEER FOR TIMING OF ALL WORK.

#### NEW CLARIFIER EQUIPMENT INSTALLATION NOTES:

1. THE CONTRACTOR SHALL COMPLETE ALL IMPROVEMENTS TO CLARIFIER #3 FIRST. ONCE COMPLETE, CONTRACTOR SHALL COMPLETE IMPROVEMENTS TO CLARIFIER #2 (IF ADDER ACCEPTED. SEE BID DOCUMENTS).

2. THE CONTRACTOR WILL NOT BE ALLOWED TO TAKE THE EXISTING CLARIFIER #3 OUT OF SERVICE FOR IMPROVEMENTS UNTIL 2 WEEKS PRIOR TO THE EXPECTED EQUIPMENT DELIVERY DATE UNLESS APPROVED BY THE OWNER/ENGINEER. THE CONTRACTOR SHALL PROVIDE THE FIRM EQUIPMENT DELIVERY DATE FROM THE CLARIFIER MANUFACTURER TO OWNER PRIOR TO TAKING CLARIFIER OUT OF SERVICE.

3. ONCE CLARIFIER #3 IS TAKEN OUT OF SERVICE FOR DEMOLITION, IT CAN NOT BE OUT OF SERVICE LONGER THAN 10 WEEKS (70 CALENDAR DAYS). 4. THE CONTRACTOR SHALL WORK EFFECTIVELY AND EFFICIENTLY TO COMPLETE THE CLARIFIER INSTALLATION WITHIN THIS TIMEFRAME.

5. THE 10 WEEK TIME FRAME INCLUDES, BUT IS NOT LIMITED TO, ALL DEMOLITION, INSTALLATION, TESTING, AND THE 10 DAY RUN IN PERIOD FOR CLARIFIER ACCEPTANCE.

6. ONCE CLARIFIER #3 IS ACCEPTED, CONTRACTOR SHALL COMPLETE IMPROVEMENTS TO CLARIFIER #2 (IF ADDER ACCEPTED. SEE BID DOCUMENTS). 7. ONCE CLARIFIER #2 IS TAKEN OUT OF SERVICE FOR DEMOLITION, IT CAN NOT BE OUT OF SERVICE LONGER THAN 10 WEEKS (70 CALENDAR DAYS). 8. THE CONTRACTOR SHALL WORK EFFECTIVELY AND EFFICIENTLY TO COMPLETE THE CLARIFIER INSTALLATION WITHIN THIS TIMEFRAME.

9. THE 10 WEEK TIME FRAME INCLUDES, BUT IS NOT LIMITED TO, ALL DEMOLITION, INSTALLATION, TESTING, AND THE 10 DAY RUN IN PERIOD FOR CLARIFIER ACCEPTANCE.

10. ONCE CLARIFIER #2 RUNS FOR 10 CONSECUTIVE DAYS TROUBLE FREE AND IS ACCEPTED BY THE OWNER, THE CONTRACTOR WILL BE GRANTED SUBSTANTIAL COMPLETION FOR THE PROJECT.

1. ALL NEW PIPING INSIDE CLARIFIER SHALL BE FLANGED DUCTILE IRON WITH D.I. FLANGED FITTINGS. PROVIDE ALL GASKETS REQUIRED. 2. ALL PIPING AND FITTINGS THROUGHOUT THE PROJECT SHALL BE CEMENT LINED DUCTILE IRON PRIMED WITH TNEMEC N140 PRIMER.



1. PRIOR TO THE SUBMITTAL PROCESS OF THE CLARIFIER EQUIPMENT, THE CONTRACTOR SHALL STOP ALL FLOW INTO CLARIFIER #3 FIRST AND DRAIN THE CLARIFIER. CONTRACTOR SHALL CLEAN/PRESSURE WASH CLARIFIER WALLS AND FLOOR (IF NECESSARY).

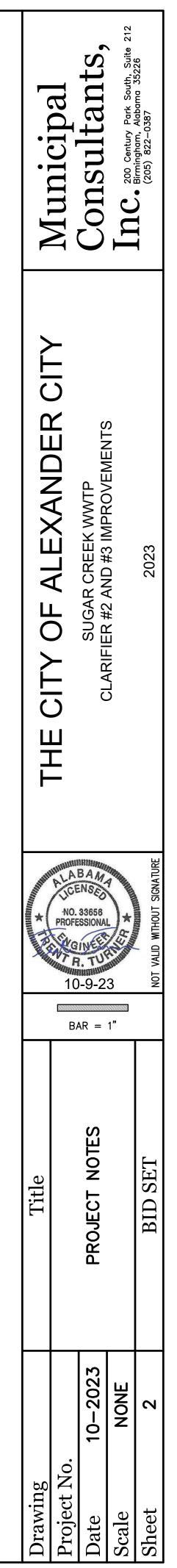
3. THE CONTRACTOR SHALL ALSO VERIFY THE CONDITION OF THE EXISTING CONCRETE/GROUT BOTTOM WITH THE ENGINEER.

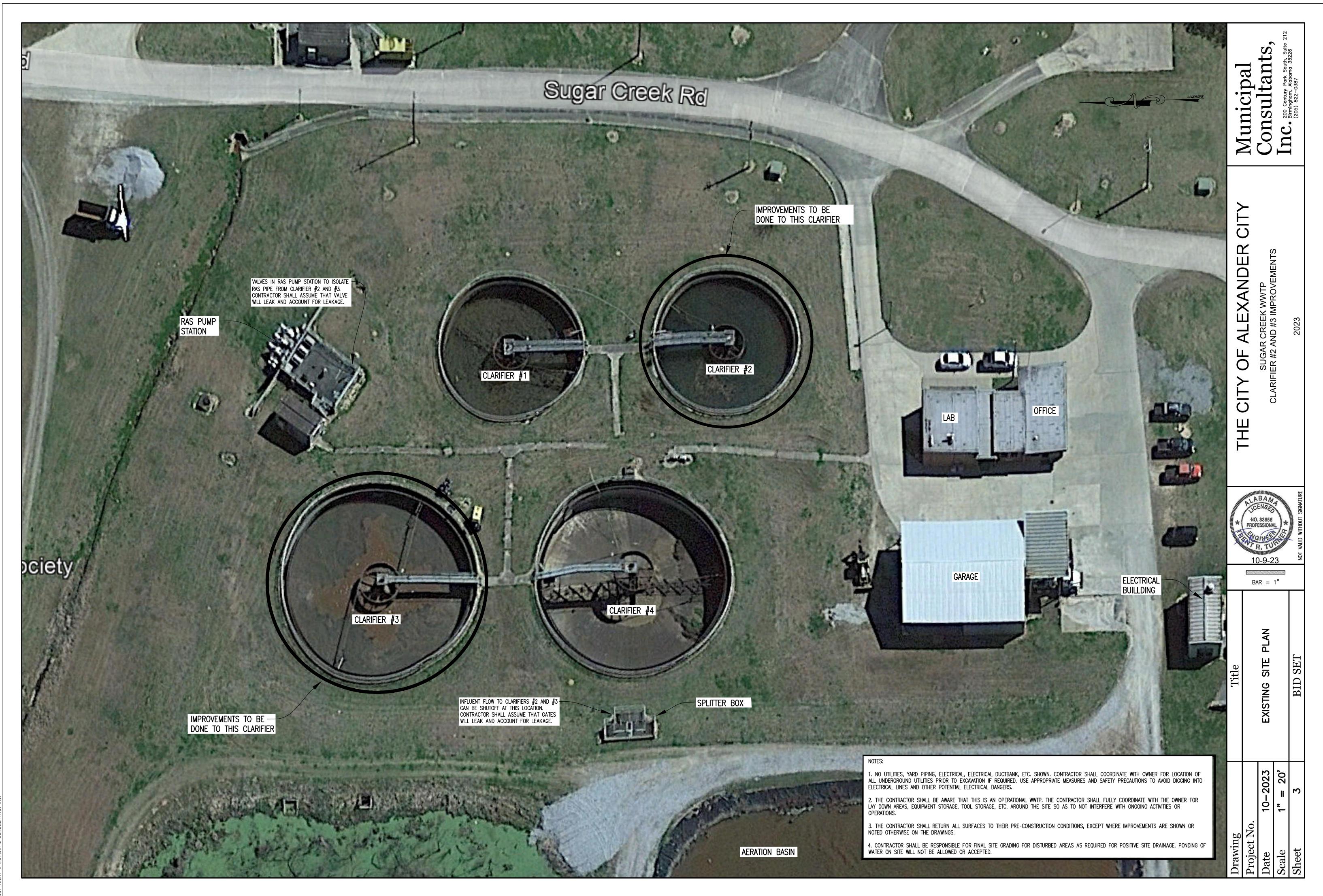
4. THE CLARIFIER MAY ONLY BE OUT OF SERVICE FOR 3 (THREE) DAYS IN ORDER FOR CLEANING, MEASUREMENT, AND INSPECTIONS.

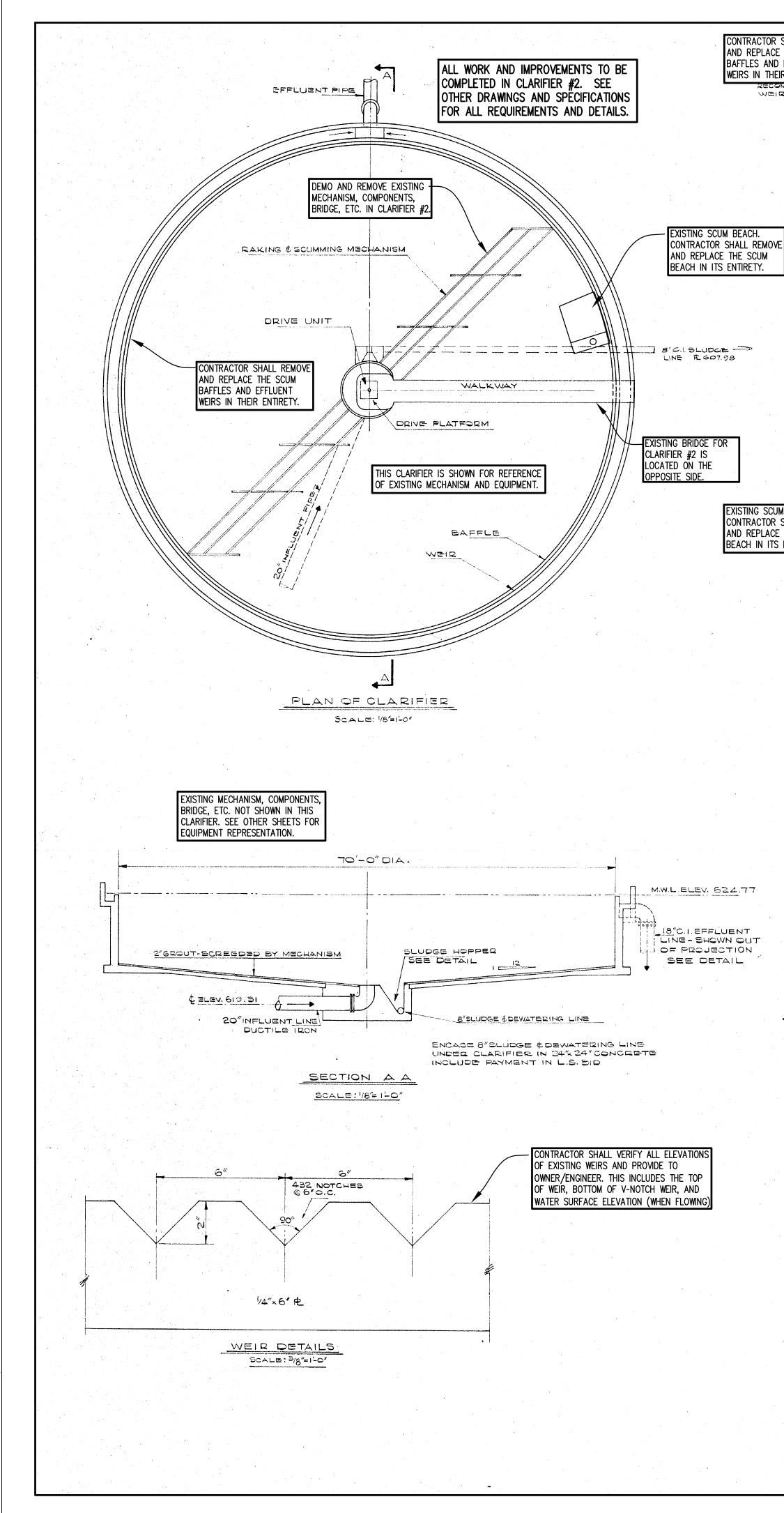
5. ONCE THE CLARIFIER #3 IS PUT BACK INTO SERVICE, IT SHALL BE OPERATING BEFORE TAKING CLARIFIER #2 OUT OF SERVICE.

8. THE CONTRACTOR SHALL ALSO VERIFY THE CONDITION OF THE EXISTING CONCRETE/GROUT BOTTOM WITH THE ENGINEER.

9. THE CLARIFIER MAY ONLY BE OUT OF SERVICE FOR 3 (THREE) DAYS IN ORDER FOR CLEANING, MEASUREMENT, AND INSPECTIONS.

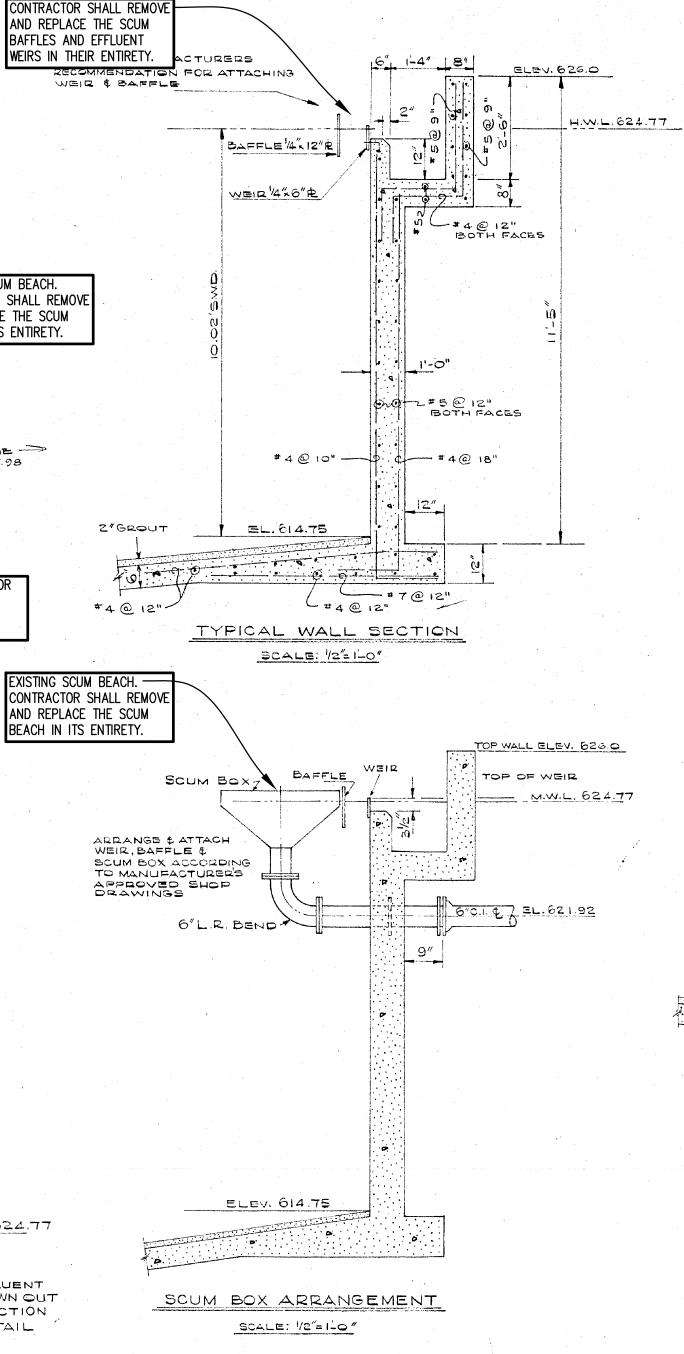


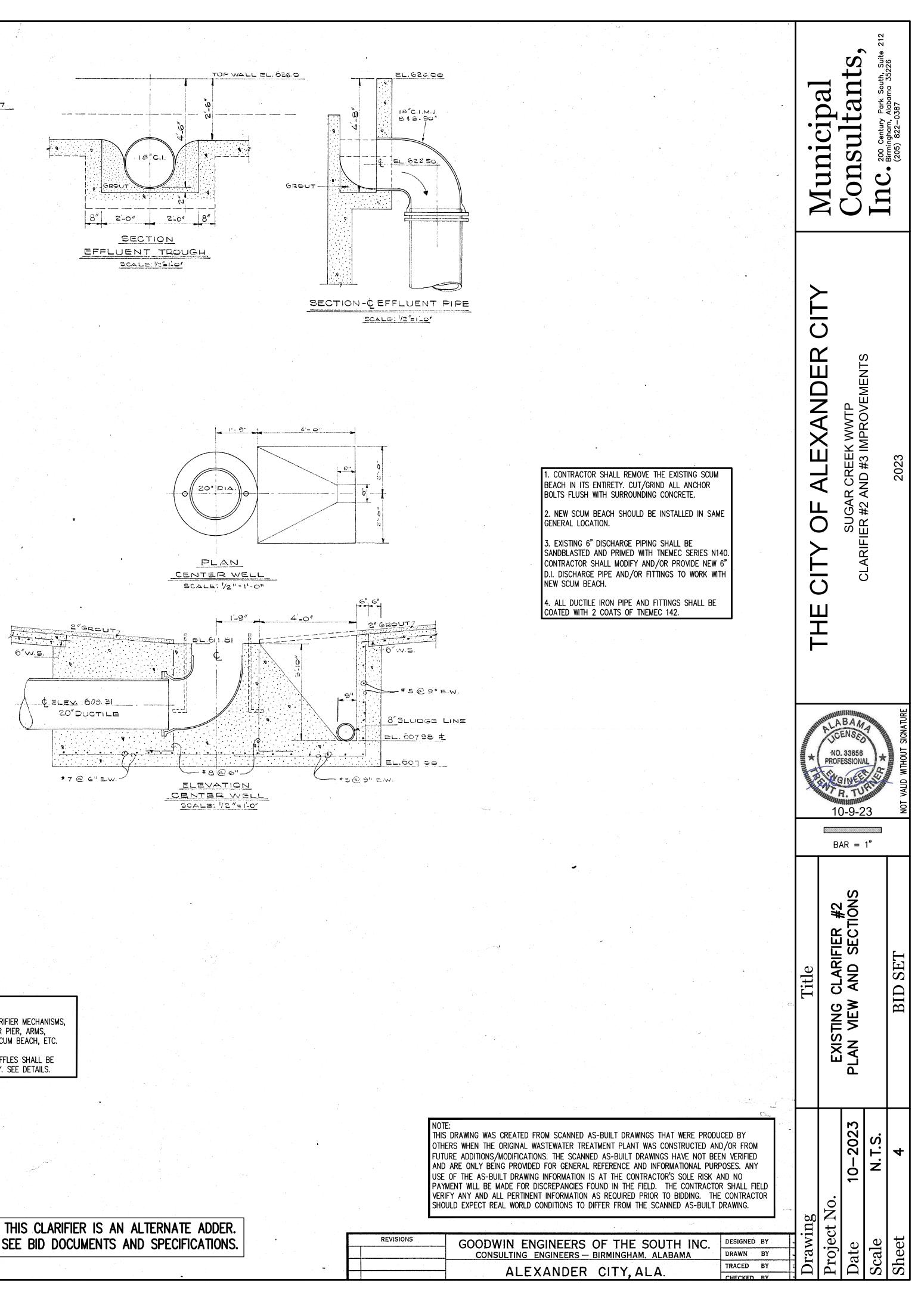


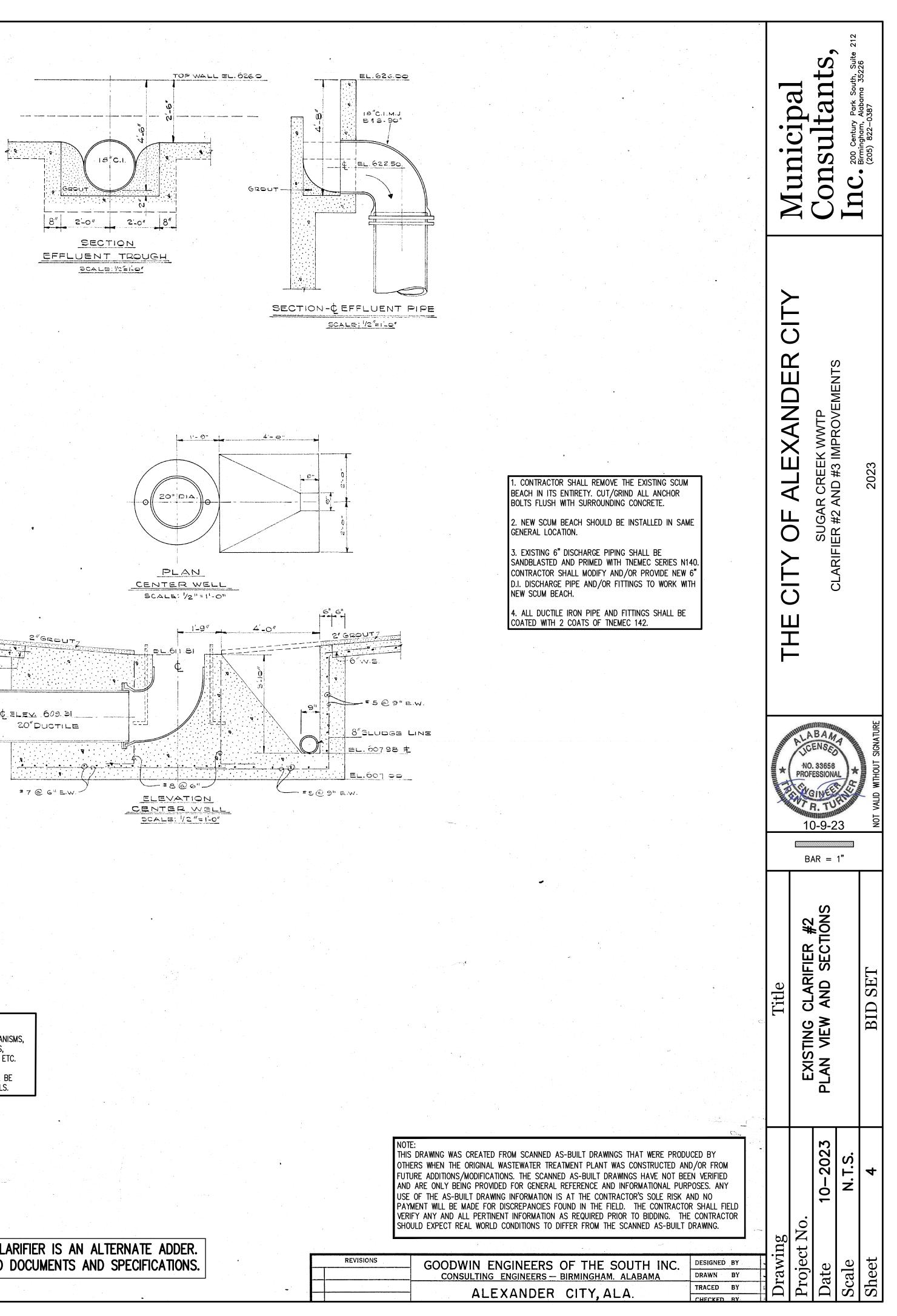


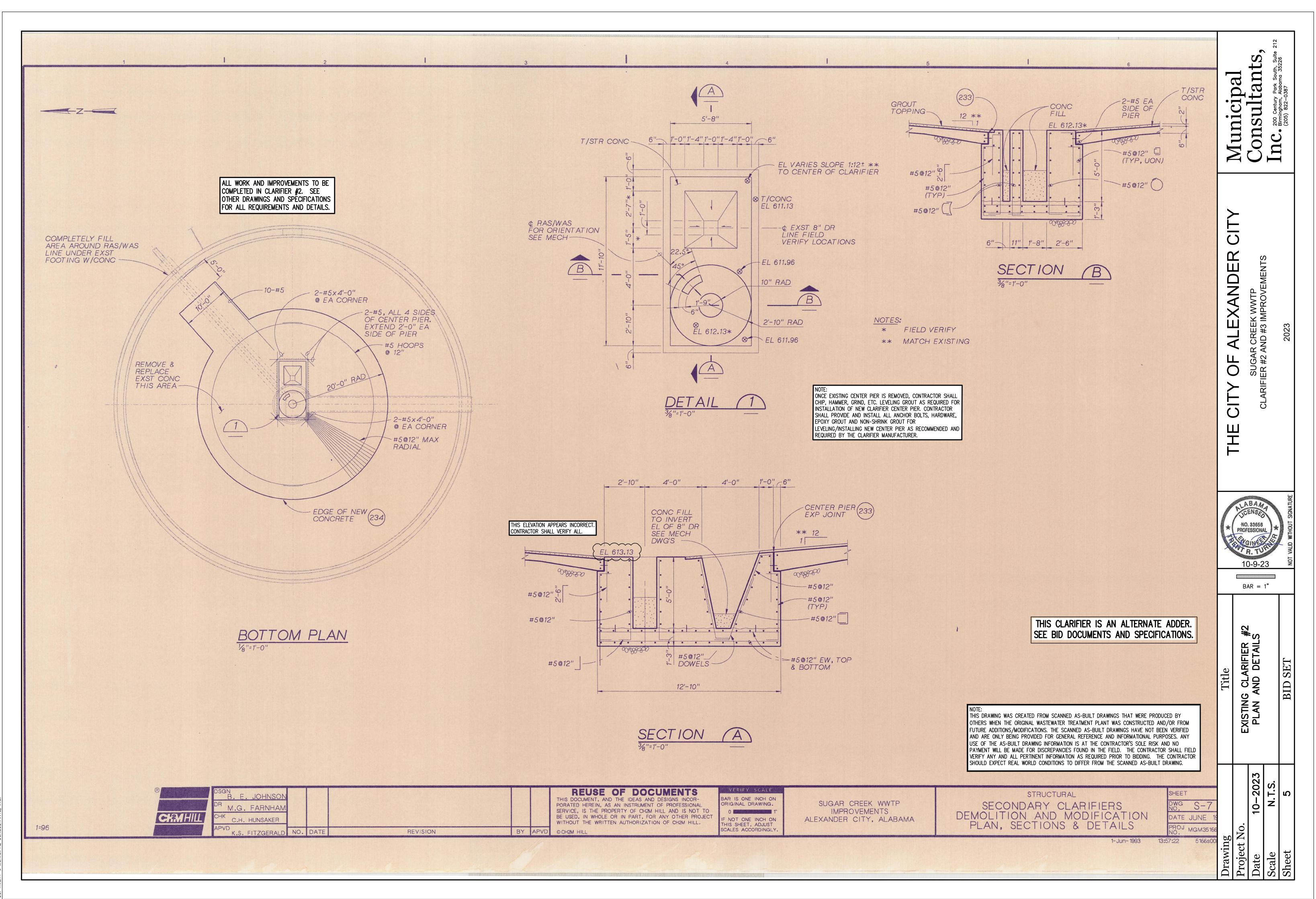
#### SEE BID DOCUMENTS AND SPECIFICATIONS.

NOTES: . CONTRACTOR SHALL REMOVE ENTIRE CLARIFIER MECHANISMS, INCLUDING BUT NOT LIMITED TO THE CENTER PIER, ARMS, TRUSSES, INFLUENT WELL, DRIVE, BRIDGE, SCUM BEACH, ETC. 2. EXISTING EFFLUENT WEIRS AND SCUM BAFFLES SHALL BE REMOVED AND REPLACED IN THEIR ENTIRETY. SEE DETAILS.

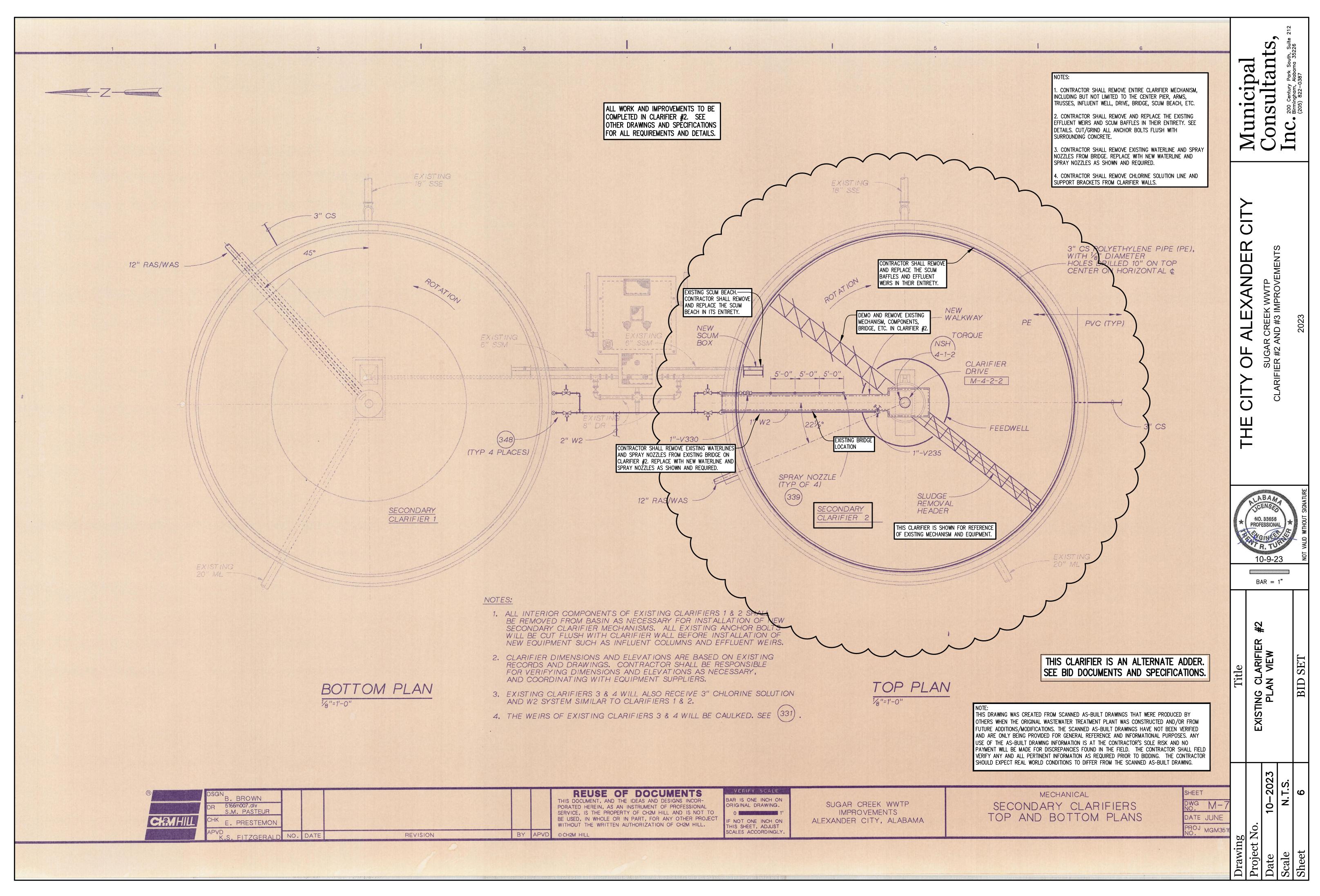




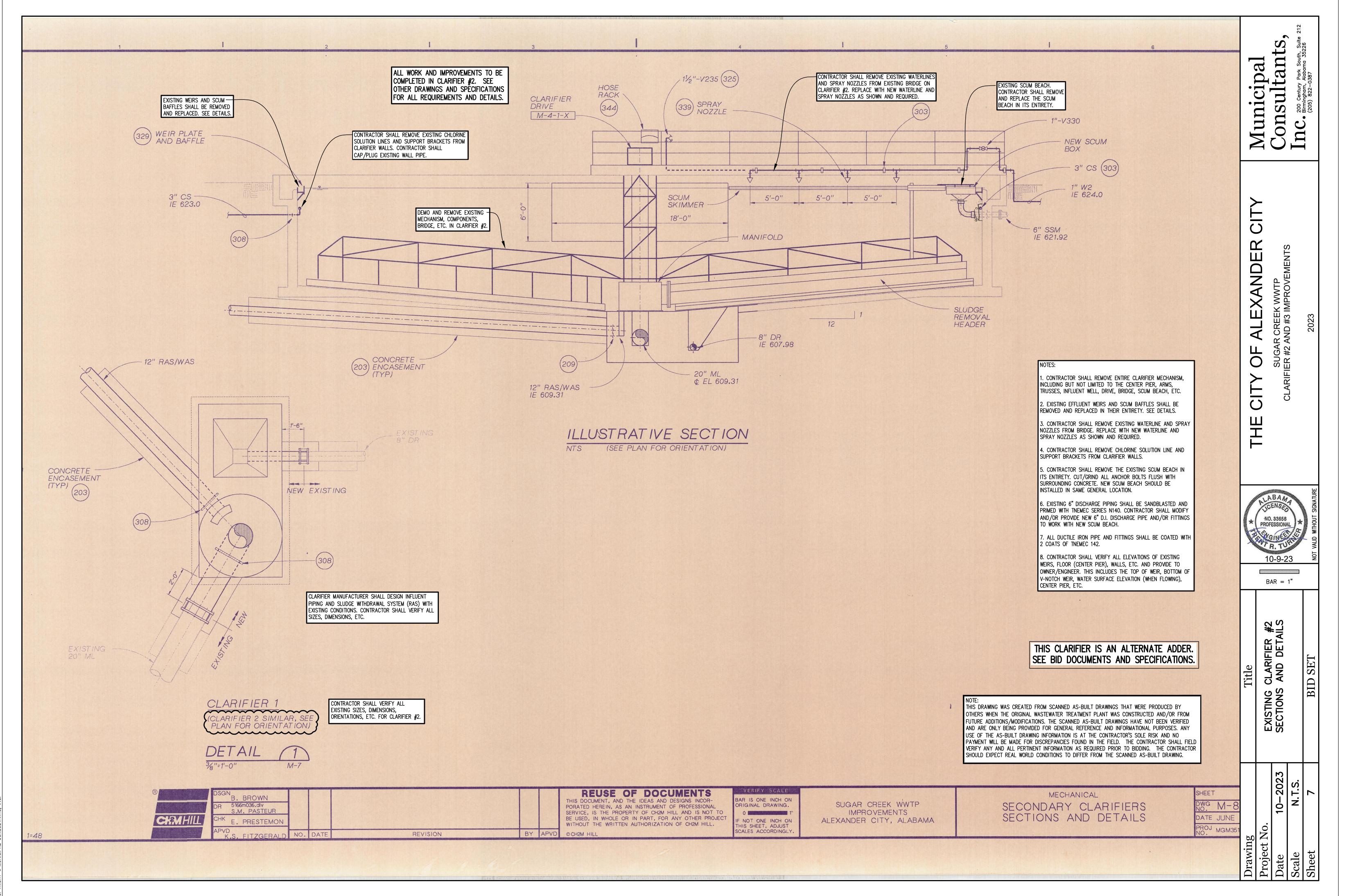




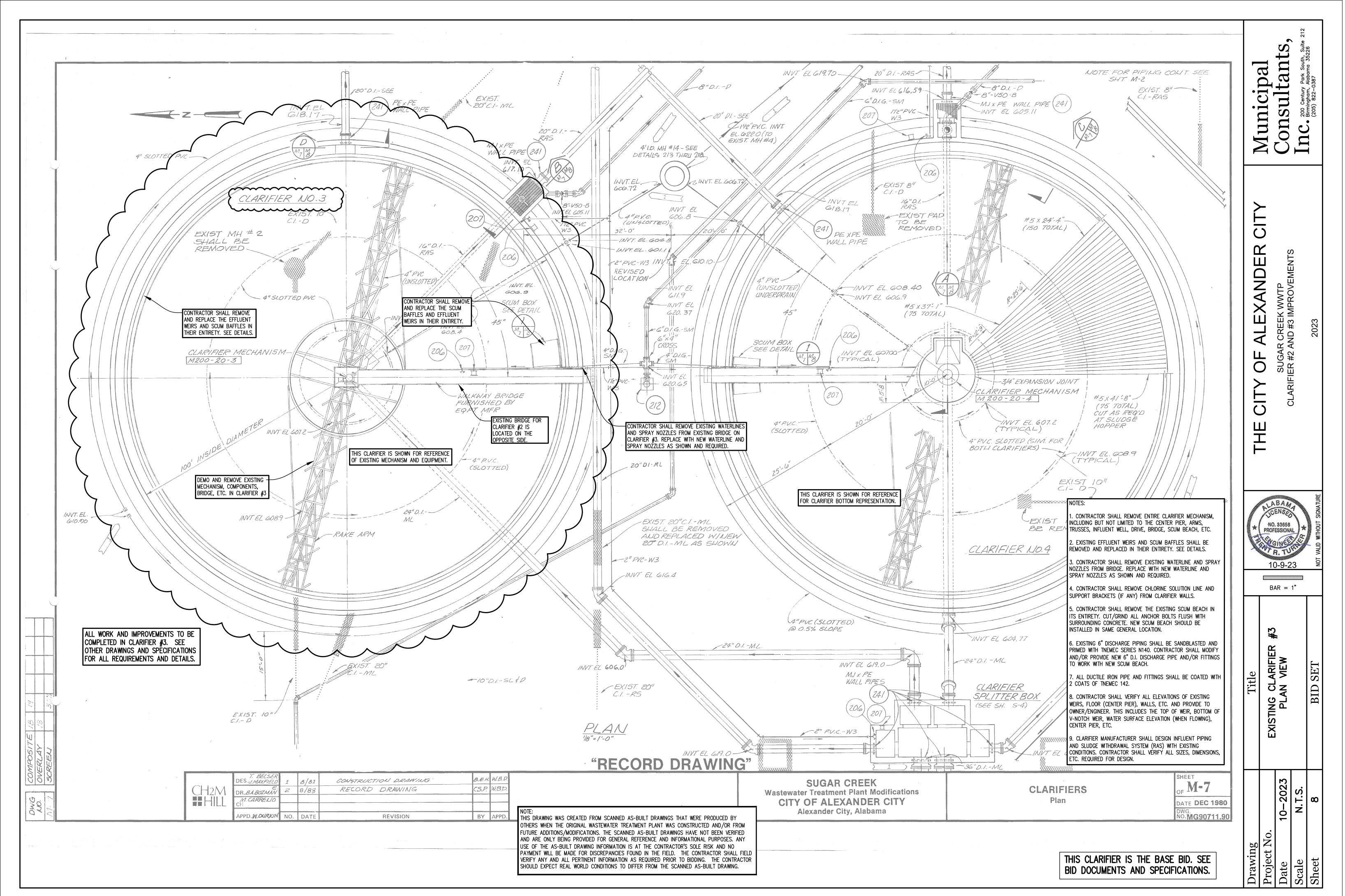
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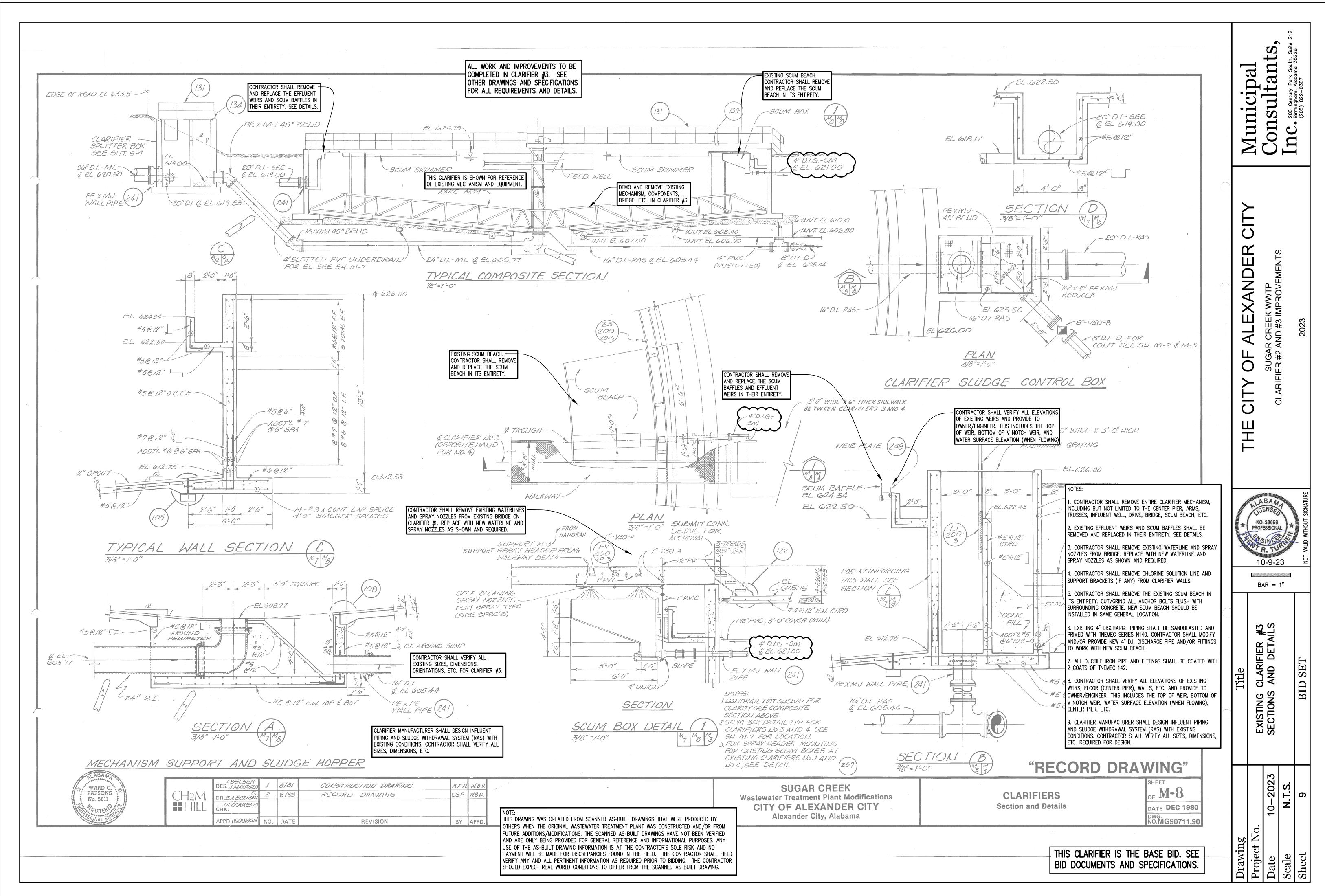


			PORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CH2M HILL AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CH2M HILL.	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST	SUGAR CREEK WWTP IMPROVEMENTS ALEXANDER CITY, ALABA
ION	BY	APVD	© CH2M HILL	SCALES ACCORDINGLY.	

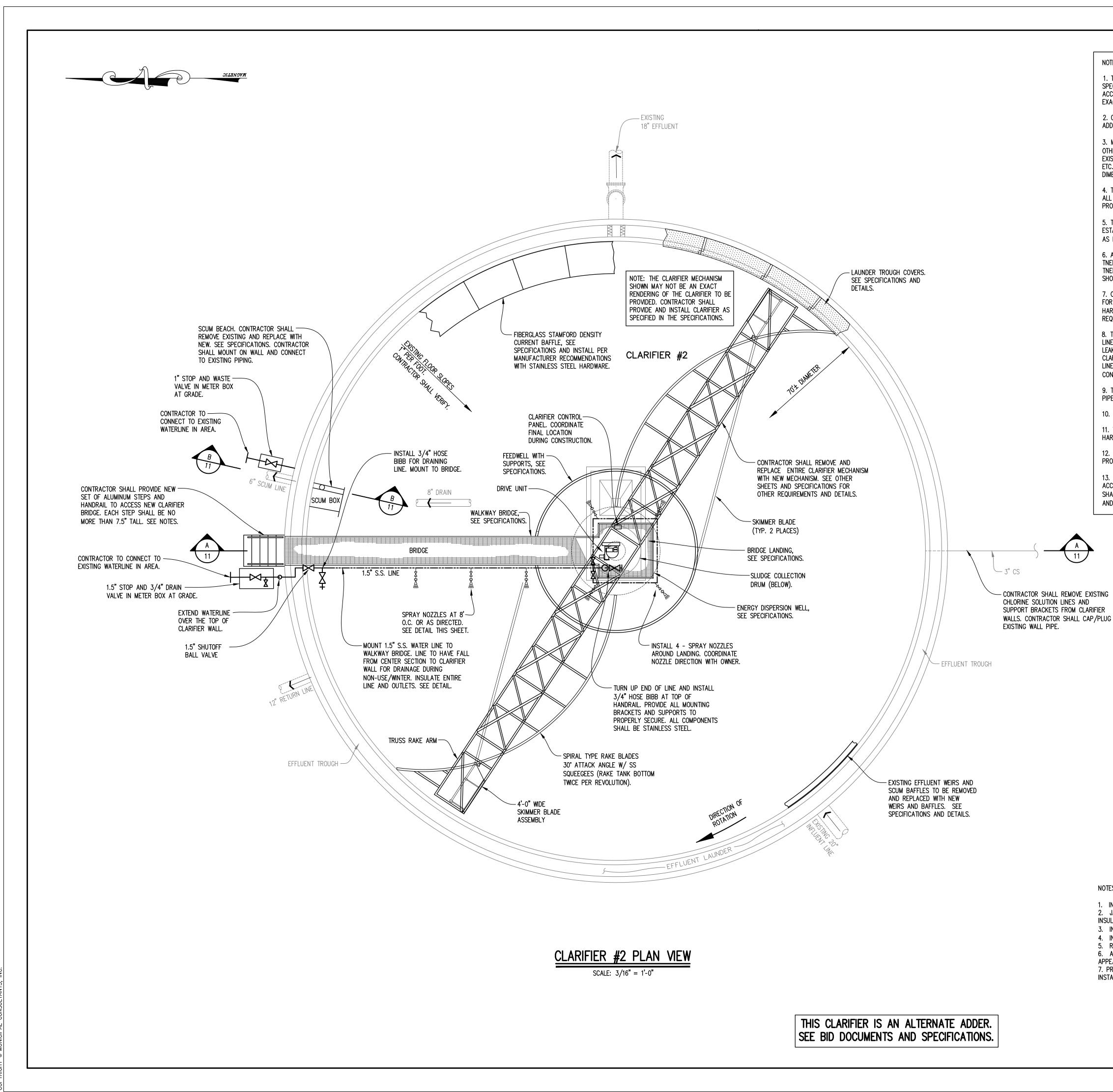


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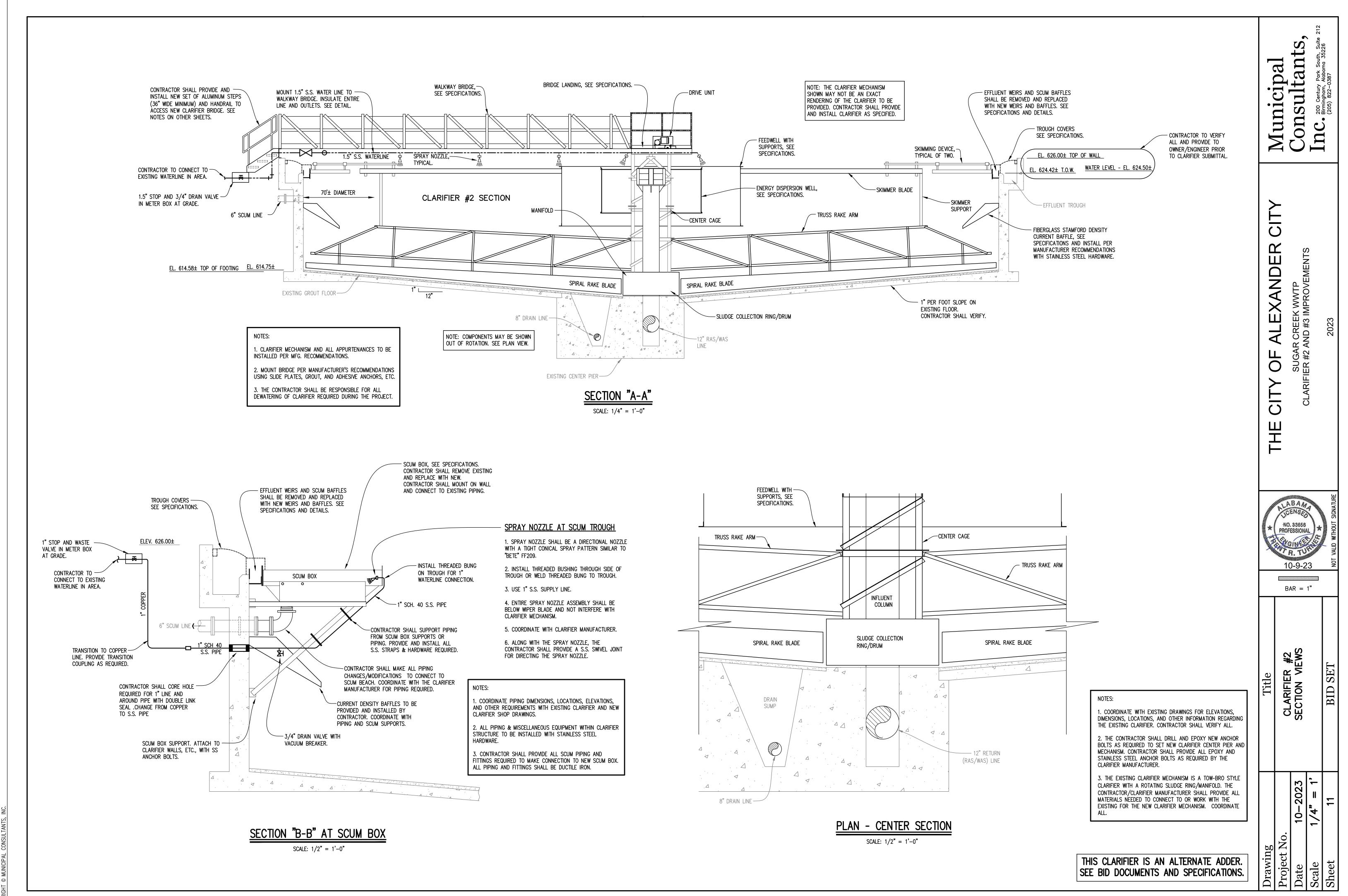




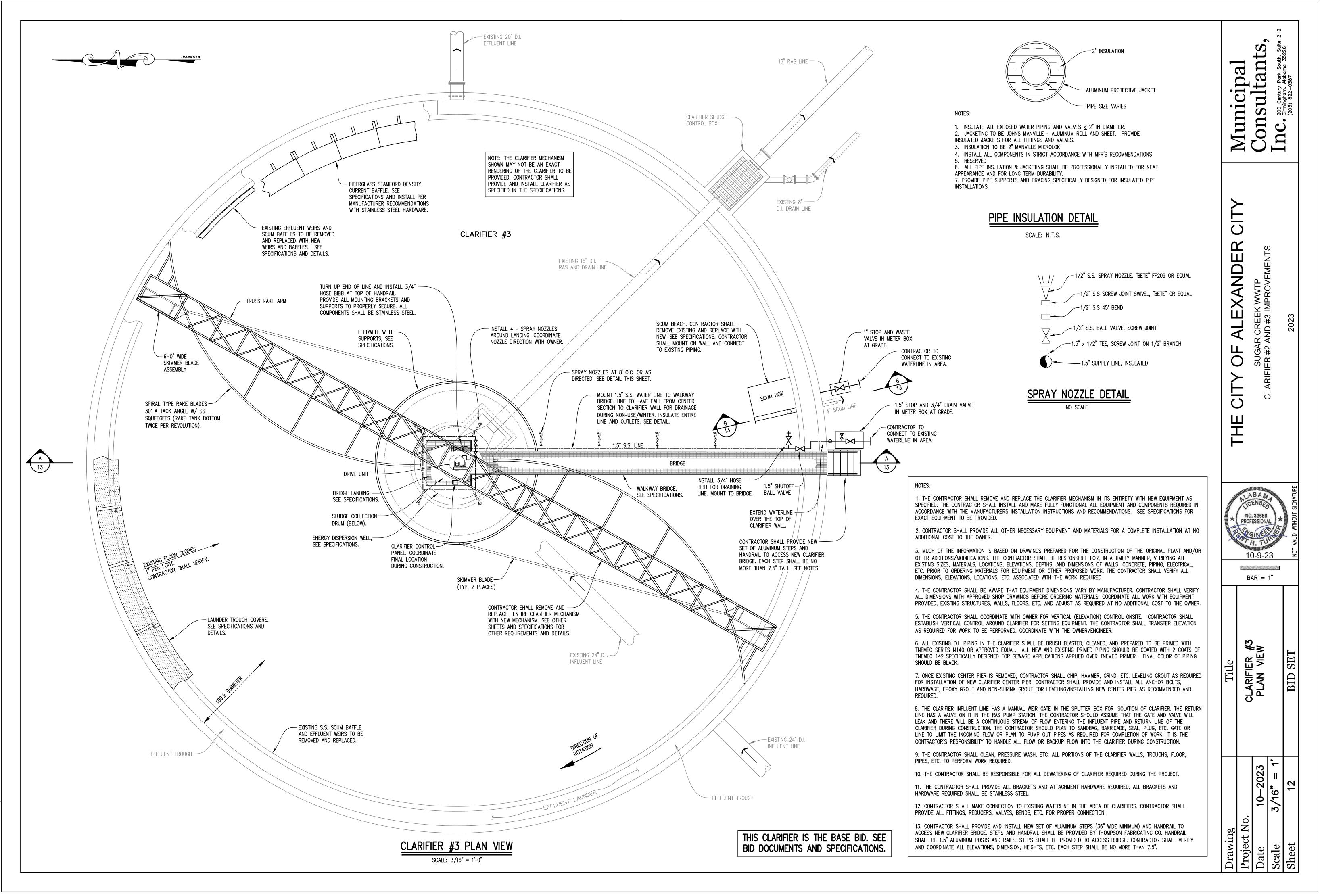
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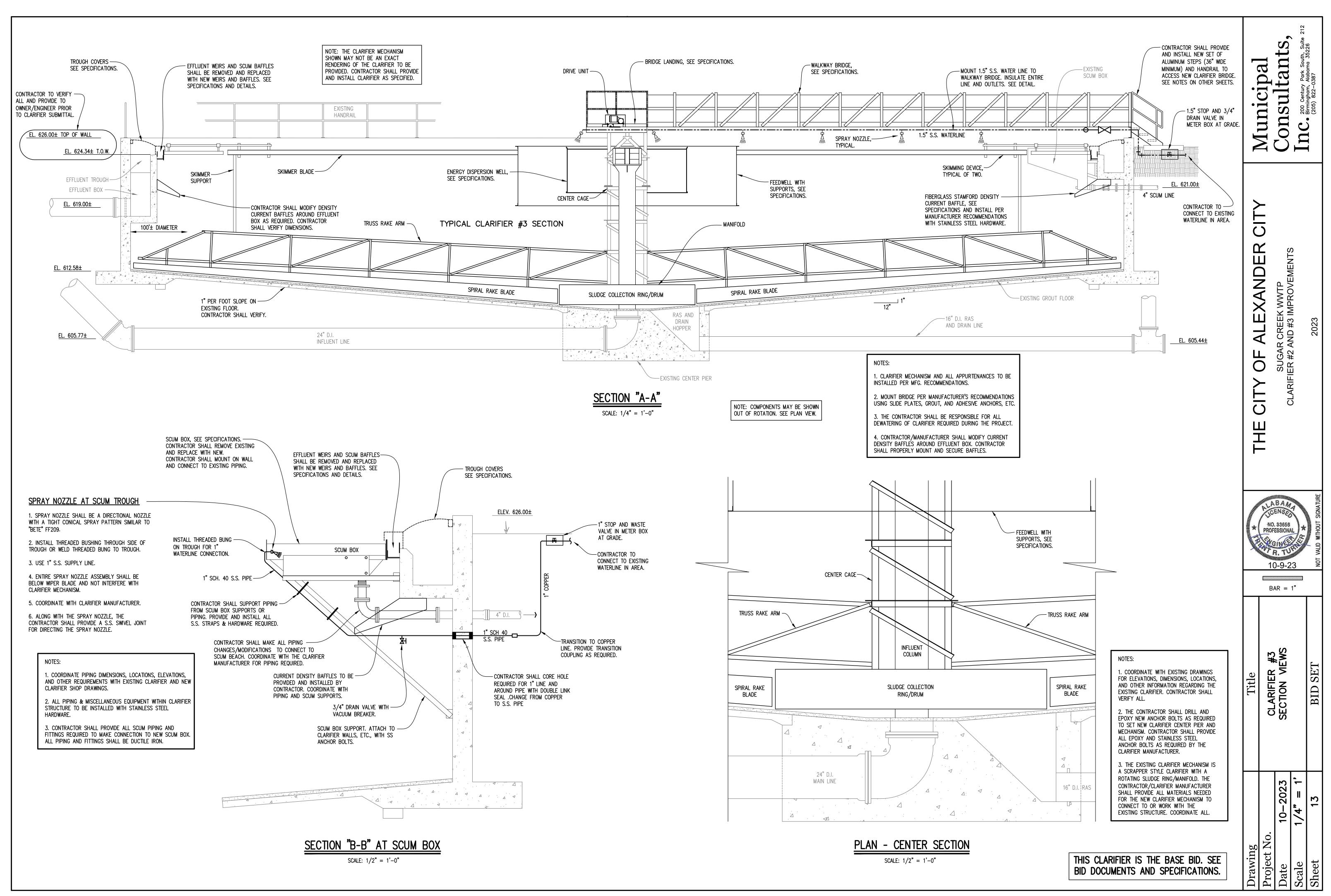
#### NOTES: $\mathbf{v}$ 1. THE CONTRACTOR SHALL REMOVE AND REPLACE THE CLARIFIER MECHANISM IN ITS ENTIRETY WITH NEW EQUIPMENT AS an SPECIFIED. THE CONTRACTOR SHALL INSTALL AND MAKE FULLY FUNCTIONAL ALL EQUIPMENT AND COMPONENTS REQUIRED IN ち ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. SEE SPECIFICATIONS FOR cip EXACT EQUIPMENT TO BE PROVIDED. +2. CONTRACTOR SHALL PROVIDE ALL OTHER NECESSARY EQUIPMENT AND MATERIALS FOR A COMPLETE INSTALLATION AT NO nl ADDITIONAL COST TO THE OWNER. uni $\mathbf{\hat{v}}$ 3. MUCH OF THE INFORMATION IS BASED ON DRAWINGS PREPARED FOR THE CONSTRUCTION OF THE ORIGINAL PLANT AND/OR OTHER ADDITIONS/MODIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR, IN A TIMELY MANNER, VERIFYING ALL ON EXISTING SIZES, MATERIALS, LOCATIONS, ELEVATIONS, DEPTHS, AND DIMENSIONS OF WALLS, CONCRETE, PIPING, ELECTRICAL, ETC. PRIOR TO ORDERING MATERIALS FOR EQUIPMENT OR OTHER PROPOSED WORK. THE CONTRACTOR SHALL VERIFY ALL Ż DIMENSIONS, ELEVATIONS, LOCATIONS, ETC. ASSOCIATED WITH THE WORK REQUIRED. $\mathbf{H}$ 4. THE CONTRACTOR SHALL BE AWARE THAT EQUIPMENT DIMENSIONS VARY BY MANUFACTURER. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH APPROVED SHOP DRAWINGS BEFORE ORDERING MATERIALS. COORDINATE ALL WORK WITH EQUIPMENT PROVIDED, EXISTING STRUCTURES, WALLS, FLOORS, ETC, AND ADJUST AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER. 5. THE CONTRACTOR SHALL COORDINATE WITH OWNER FOR VERTICAL (ELEVATION) CONTROL ONSITE. CONTRACTOR SHALL ESTABLISH VERTICAL CONTROL AROUND CLARIFIER FOR SETTING EQUIPMENT. THE CONTRACTOR SHALL TRANSFER ELEVATION AS REQUIRED FOR WORK TO BE PERFORMED. COORDINATE WITH THE OWNER/ENGINEER. 6. ALL EXISTING D.I. PIPING IN THE CLARIFIER SHALL BE BRUSH BLASTED, CLEANED, AND PREPARED TO BE PRIMED WITH TNEMEC SERIES N140 OR APPROVED EQUAL. ALL NEW AND EXISTING PRIMED PIPING SHOULD BE COATED WITH 2 COATS OF TNEMEC 142 SPECIFICALLY DESIGNED FOR SEWAGE APPLICATIONS APPLIED OVER TNEMEC PRIMER. FINAL COLOR OF PIPING SHOULD BE BLACK. 7. ONCE EXISTING CENTER PIER IS REMOVED, CONTRACTOR SHALL CHIP, HAMMER, GRIND, ETC. LEVELING GROUT AS REQUIRED FOR INSTALLATION OF NEW CLARIFIER CENTER PIER. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ANCHOR BOLTS, R HARDWARE, EPOXY GROUT AND NON-SHRINK GROUT FOR LEVELING/INSTALLING NEW CENTER PIER AS RECOMMENDED AND Ш REQUIRED. $\square$ 8. THE CLARIFIER INFLUENT LINE HAS A MANUAL WEIR GATE IN THE SPLITTER BOX FOR ISOLATION OF CLARIFIER. THE RETURN LINE HAS A VALVE ON IT IN THE RAS PUMP STATION. THE CONTRACTOR SHOULD ASSUME THAT THE GATE AND VALVE WILL XAN LEAK AND THERE WILL BE A CONTINUOUS STREAM OF FLOW ENTERING THE INFLUENT PIPE AND RETURN LINE OF THE CLARIFIER DURING CONSTRUCTION. THE CONTRACTOR SHOULD PLAN TO SANDBAG, BARRICADE, SEAL, PLUG, ETC. GATE OR LINE TO LIMIT THE INCOMING FLOW OR PLAN TO PUMP OUT PIPES AS REQUIRED FOR COMPLETION OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HANDLE ALL FLOW OR BACKUP FLOW INTO THE CLARIFIER DURING CONSTRUCTION. ALE ய் ல 9. THE CONTRACTOR SHALL CLEAN, PRESSURE WASH, ETC. ALL PORTIONS OF THE CLARIFIER WALLS, TROUGHS, FLOOR, PIPES, ETC. TO PERFORM WORK REQUIRED. CR CR 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING OF CLARIFIER REQUIRED DURING THE PROJECT. 11. THE CONTRACTOR SHALL PROVIDE ALL BRACKETS AND ATTACHMENT HARDWARE REQUIRED. ALL BRACKETS AND #2 HARDWARE REQUIRED SHALL BE STAINLESS STEEL. Ο ) (Y 12. CONTRACTOR SHALL MAKE CONNECTION TO EXISTING WATERLINE IN THE AREA OF CLARIFIERS. CONTRACTOR SHALL PROVIDE ALL FITTINGS, REDUCERS, VALVES, BENDS, ETC. FOR PROPER CONNECTION. 13. CONTRACTOR SHALL PROVIDE AND INSTALL NEW SET OF ALUMINUM STEPS (36" WIDE MINIMUM) AND HANDRAIL TO ACCESS NEW CLARIFIER BRIDGE. STEPS AND HANDRAIL SHALL BE PROVIDED BY THOMPSON FABRICATING CO. HANDRAIL SHALL BE 1.5" ALUMINUM POSTS AND RAILS. STEPS SHALL BE PROVIDED TO ACCESS BRIDGE. CONTRACTOR SHALL VERIFY AND COORDINATE ALL ELEVATIONS, DIMENSION, HEIGHTS, ETC. EACH STEP SHALL BE NO MORE THAN 7.5". Ш |||/ - 1/2" S.S. SPRAY NOZZLE, "BETE" FF209 OR EQUAL -1/2" S.S SCREW JOINT SWIVEL, "BETE" OR EQUAL <u>/1/2" S.S 45° BEND</u> LABAM CENSE -1/2" S.S. BALL VALVE, SCREW JOINT NO. 33656 PROFESSIONA -1.5" x 1/2" TEE, SCREW JOINT ON 1/2" BRANCH AGINE 1.5" SUPPLY LINE, INSULATED 10-9-23 SPRAY NOZZLE DETAIL BAR = 1"NO SCALE ¥2 CLARIFIER 2" INSULATION Title - ALUMINUM PROTECTIVE JACKET - PIPE SIZE VARIES NOTES: 1. INSULATE ALL EXPOSED WATER PIPING AND VALVES $< 2^{"}$ IN DIAMETER. 2. JACKETING TO BE JOHNS MANVILLE - ALUMINUM ROLL AND SHEET. PROVIDE INSULATED JACKETS FOR ALL FITTINGS AND VALVES. 3. INSULATION TO BE 2" MANVILLE MICROLOK 4. INSTALL ALL COMPONENTS IN STRICT ACCORDANCE WITH MFR'S RECOMMENDATIONS M 5. RESERVED 202; 6. ALL PIPE INSULATION & JACKETING SHALL BE PROFESSIONALLY INSTALLED FOR NEAT APPEARANCE AND FOR LONG TERM DURABILITY. 7. PROVIDE PIPE SUPPORTS AND BRACING SPECIFICALLY DESIGNED FOR INSULATED PIPE INSTALLATIONS. 기의 PIPE INSULATION DETAIL SCALE: N.T.S.

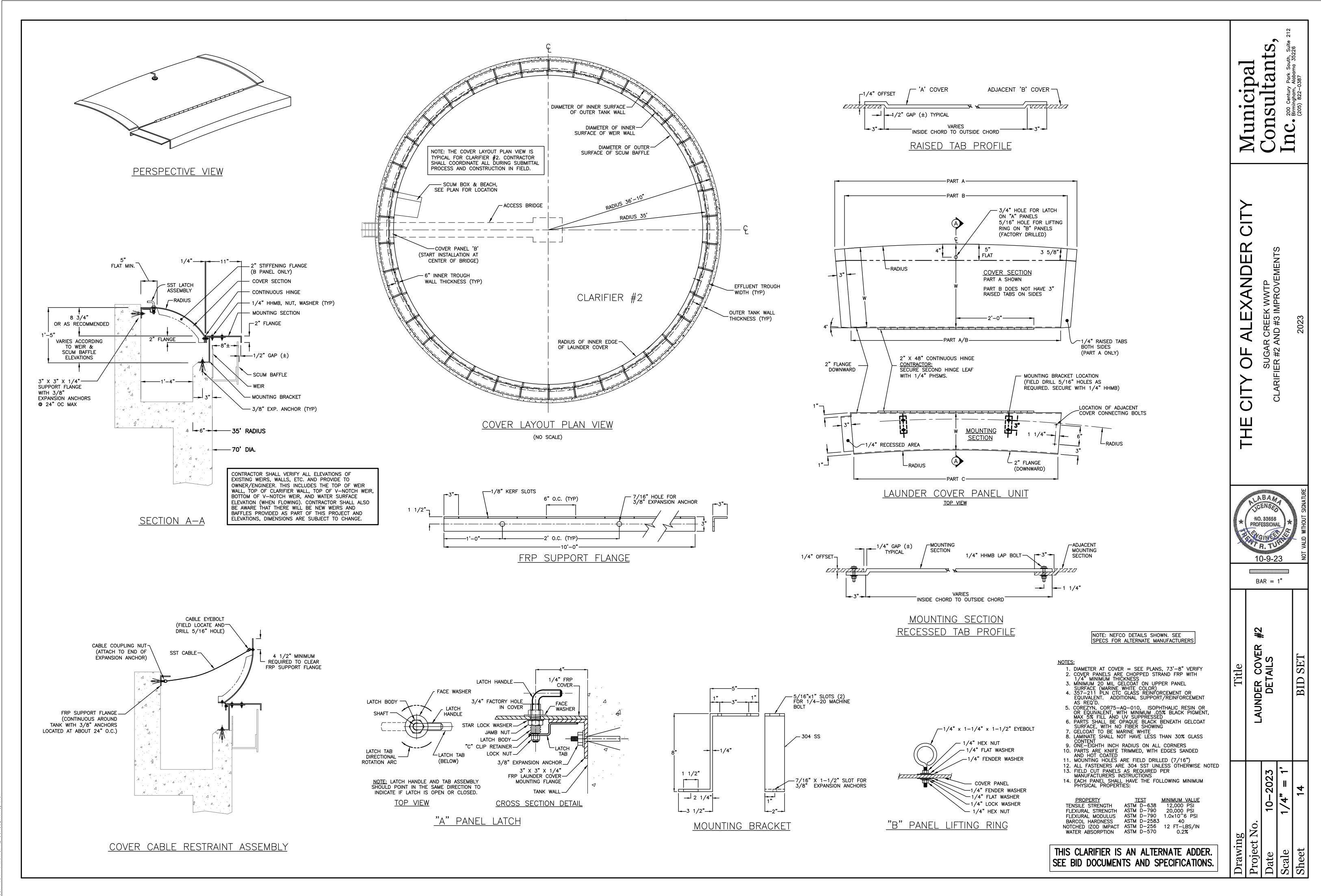


		SPRAY NOZZLE AT SCUM TROUGH		
		1. SPRAY NOZZLE SHALL BE A DIRECTIONAL NOZZLE WITH A TIGHT CONICAL SPRAY PATTERN SIMILAR TO "BETE" FF209.		
aded BU For 1" Onnectio		2. INSTALL THREADED BUSHING THROUGH SIDE OF TROUGH OR WELD THREADED BUNG TO TROUGH.		
		3. USE 1" S.S. SUPPLY LINE.		
		4. ENTIRE SPRAY NOZZLE ASSEMBLY SHALL BE BELOW WIPER BLADE AND NOT INTERFERE WITH CLARIFIER MECHANISM.		
PING		5. COORDINATE WITH CLARIFIER MANUFACTURER.		
L RED.		6. ALONG WITH THE SPRAY NOZZLE, THE CONTRACTOR SHALL PROVIDE A S.S. SWIVEL JOINT FOR DIRECTING THE SPRAY NOZZLE.		
ER	NOTES:			
	1. COORDINATE PIPING DIMENSIONS, LOCATIONS, ELEVATIONS, AND OTHER REQUIREMENTS WITH EXISTING CLARIFIER AND NEW CLARIFIER SHOP DRAWINGS.			
		IG & MISCELLANEOUS EQUIPMENT WITHIN CLARIFIER TO BE INSTALLED WITH STAINLESS STEEL		

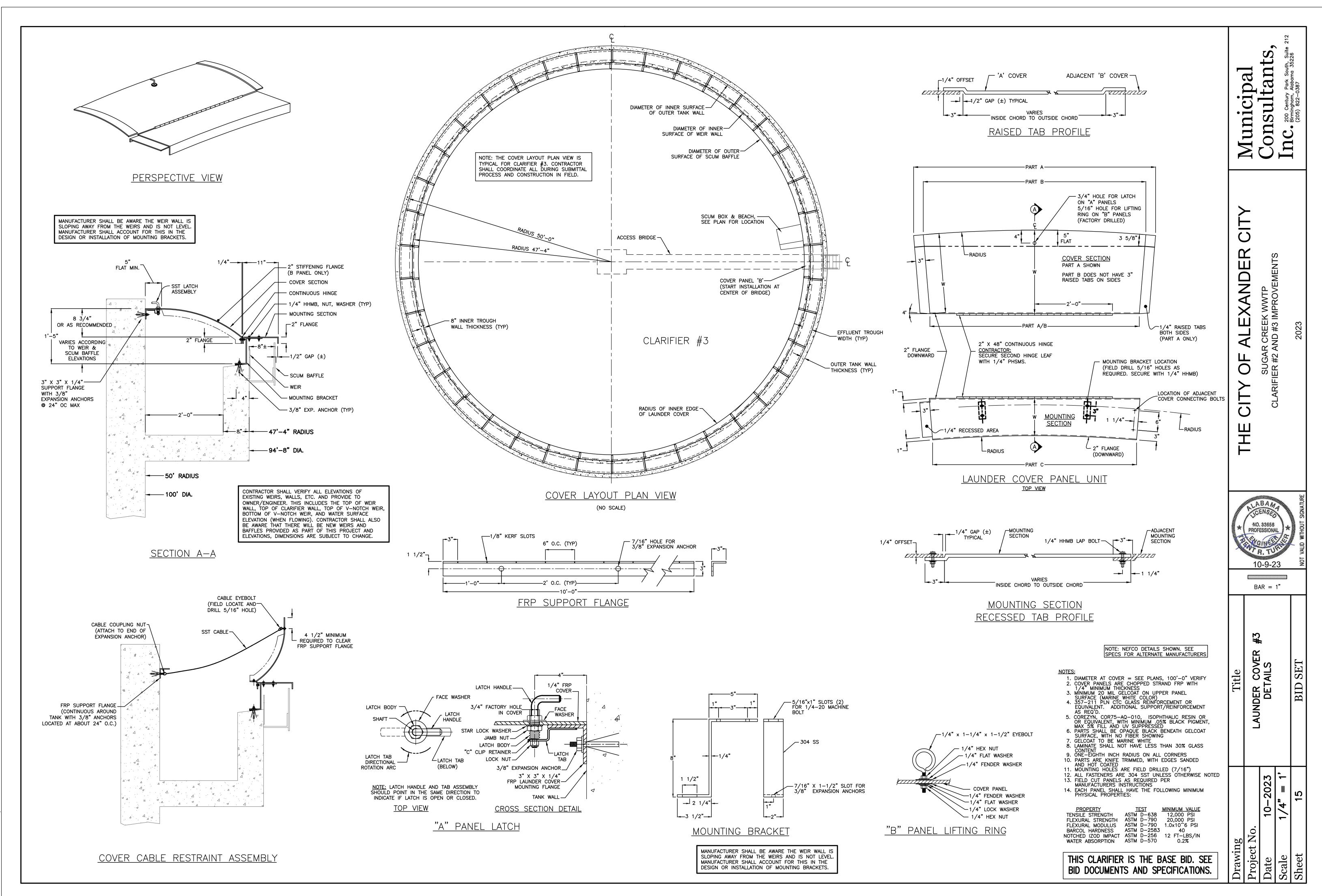


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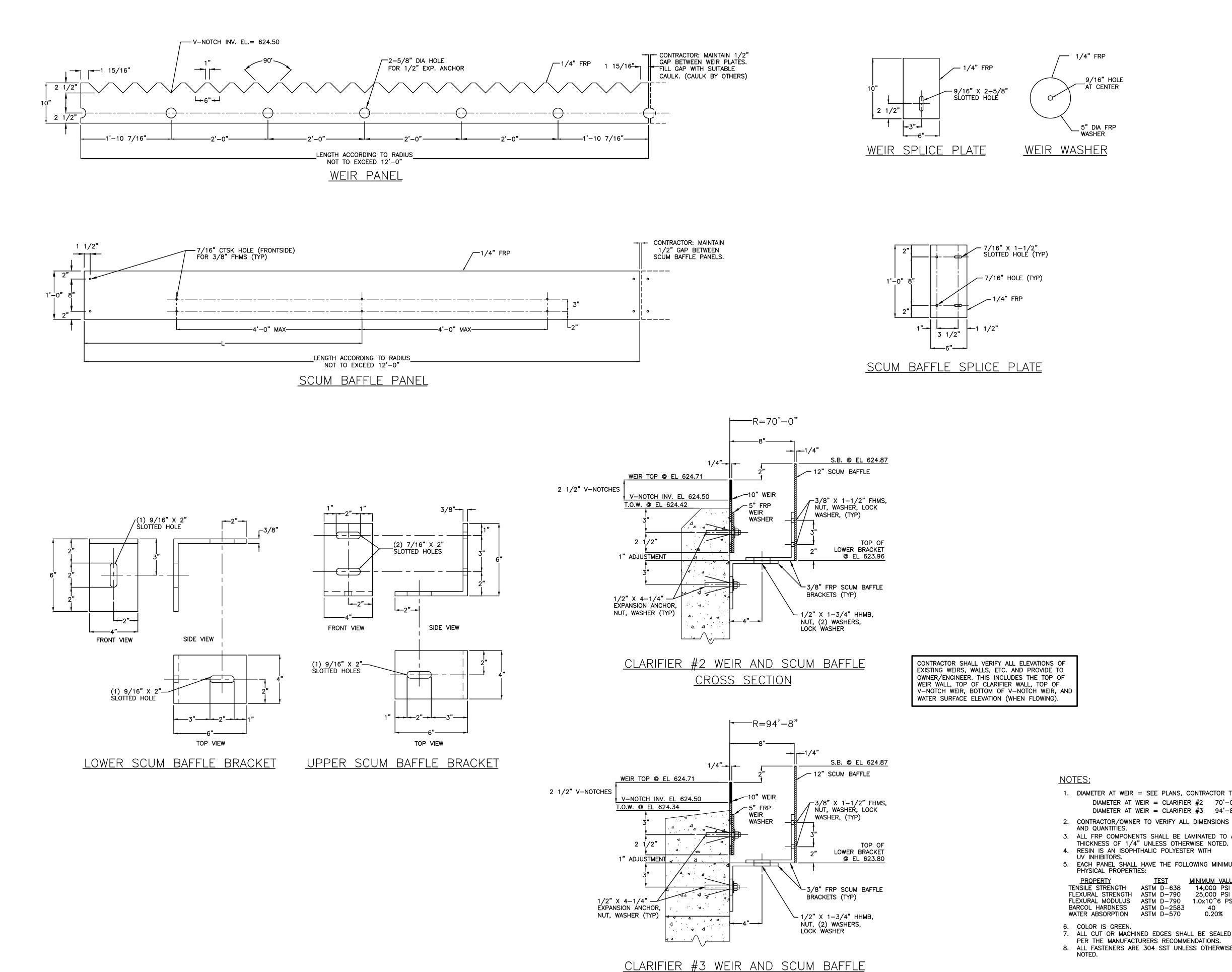


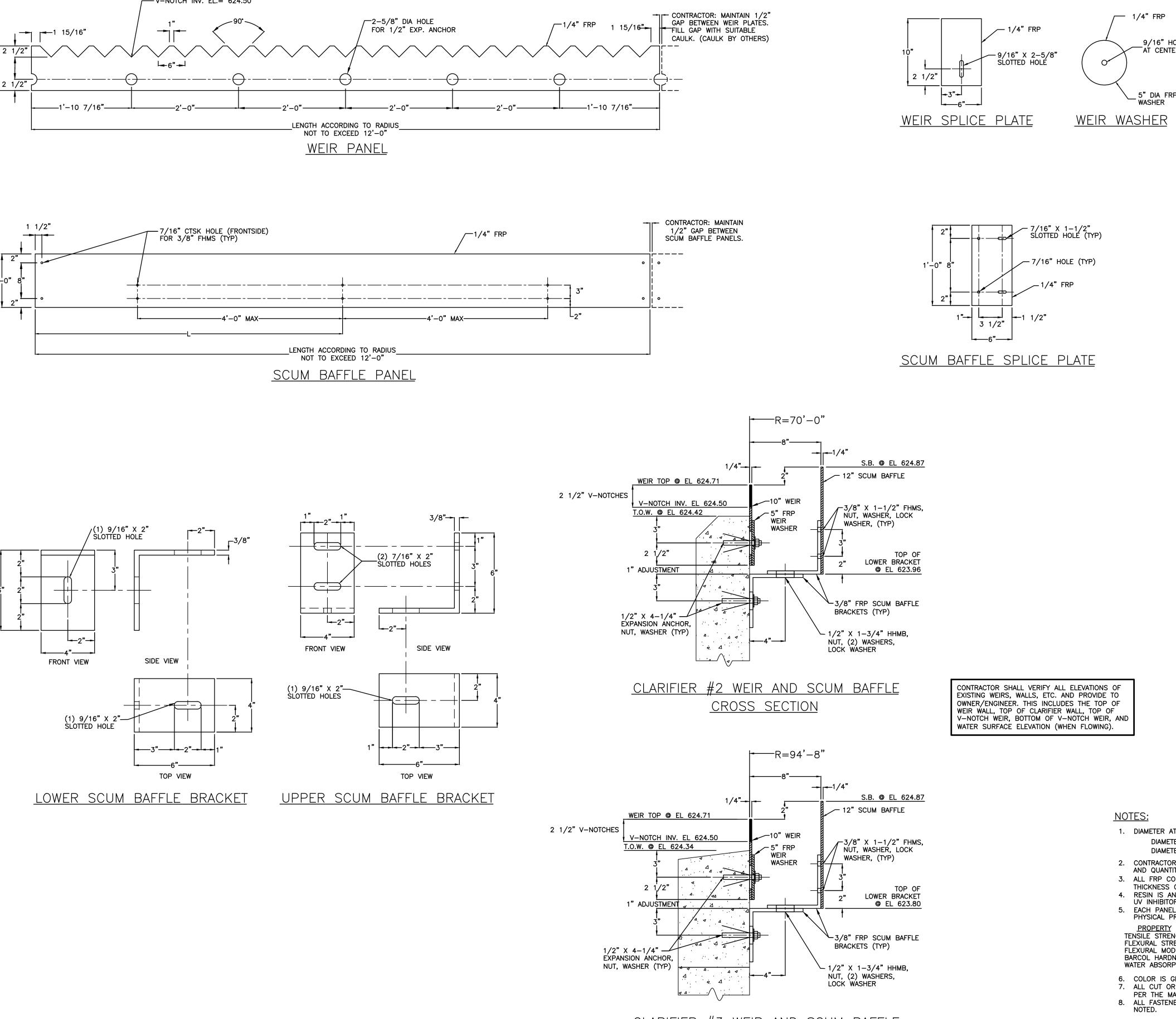


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CROSS SECTION

CONTRACTOR SHALL VERIFY ALL ELEVATIONS OF
EXISTING WEIRS, WALLS, ETC. AND PROVIDE TO
WNER/ENGINEER. THIS INCLUDES THE TOP OF
WEIR WALL, TOP OF CLARIFIER WALL, TOP OF
/-NOTCH WEIR, BOTTOM OF V-NOTCH WEIR, AND
WATER SURFACE ELEVATION (WHEN FLOWING).
· · · ·

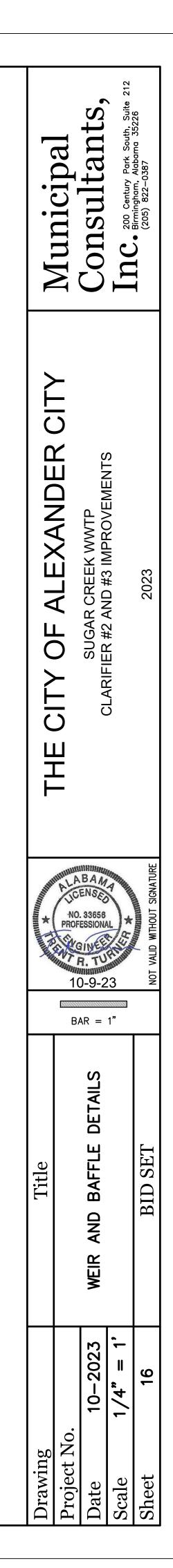
- 1. DIAMETER AT WEIR = SEE PLANS, CONTRACTOR TO VERIFY DIAMETER AT WEIR = CLARIFIER #2 70'-0" DIAMETER AT WEIR = CLARIFIER #3 94'-8"

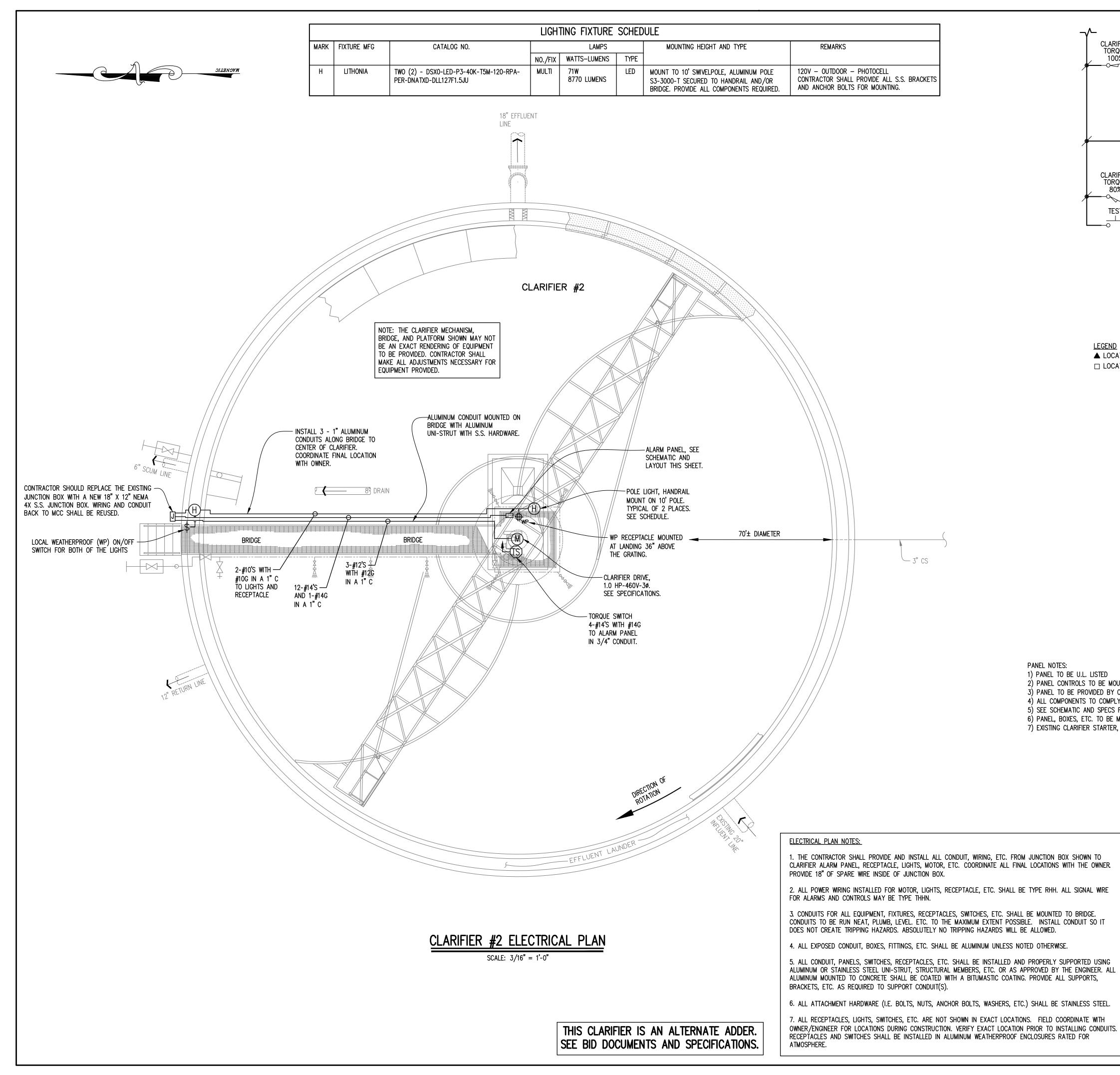
- 3. ALL FRP COMPONENTS SHALL BE LAMINATED TO A THICKNESS OF 1/4" UNLESS OTHERWISE NOTED.
- 4. RESIN IS AN ISOPHTHALIC POLYESTER WITH UV INHIBITORS.
- 5. EACH PANEL SHALL HAVE THE FOLLOWING MINIMUM PHYSICAL PROPERTIES: TEST MINIMUM VALUE ASTM D-638 14,000 PSI

TENSILE STRENGTH	ASTM D-030	14,000 F31
FLEXURAL STRENGTH	ASTM D-790	25,000 PSI
FLEXURAL MODULUS	ASTM D-790	1.0x10^6 PSI
BARCOL HARDNESS	ASTM D-2583	40
WATER ABSORPTION	ASTM D-570	0.20%

7. ALL CUT OR MACHINED EDGES SHALL BE SEALED PER THE MANUFACTURERS RECOMMENDATIONS. 8. ALL FASTENERS ARE 304 SST UNLESS OTHERWISE

NOTE: NEFCO DETAILS SHOWN. SEE SPECS FOR ALTERNATE MANUFACTURERS





	LIGH	TING FIXTURE	SCHED	ULE	
	LAMPS			MOUNTING HEIGHT AND TYPE	REMARKS
	NO./FIX	WATTS-LUMENS	TYPE		
A-	MULTI	71W 8770 LUMENS	LED	MOUNT TO 10' SWIVELPOLE, ALUMINUM POLE S3-3000-T SECURED TO HANDRAIL AND/OR BRIDGE. PROVIDE ALL COMPONENTS REQUIRED.	120V – OUTDOOR – PHOTOCELL CONTRACTOR SHALL PROVIDE ALL S.S. BRACKETS AND ANCHOR BOLTS FOR MOUNTING.

