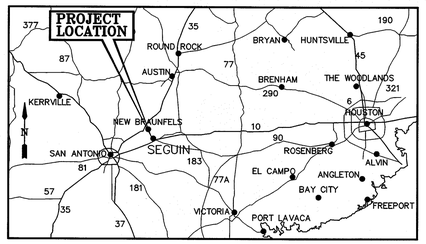
SEGUIN, TEXAS

COUNTRYSIDE 12" WATER MAIN



VICINITY MAP
N.T.S.

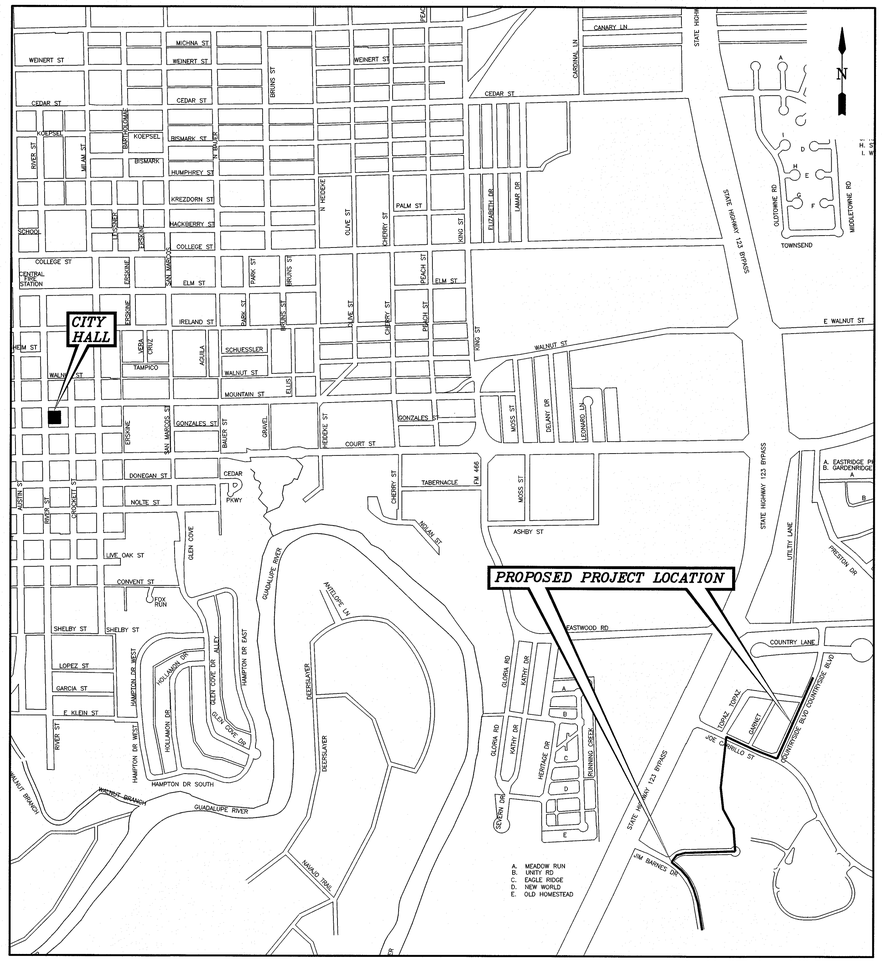
CITY COUNCIL
DON KEIL, MAYOR
CARLOS MEDRANO, MAYOR PRO TEM
TOMAS V. CASTELLON, JR.
JEANNETTE CRABB
DONNA DODGEN
ERNEST LEAL
FONDA MATHIS
NICK L. CARRILLO
BOB PEES

CITY MANAGER
DOUGLAS G. FASELER

ASSISTANT CITY MANAGER
RICK CORTES

CITY ENGINEER
JOE RAMOS, P.E.

PROJECT MANAGER
NATHAN GARZA



LOCATION MAP
N.T.S.

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8. STA. 15+00 TO STA. 20+00
9. STA. 20+00 TO STA. 25+00
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TRC
TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 – 8716

PROJECT NUMBER: 209248

STATE OF TEXAS
K. CULP
88467
LICENSED
PROFESSIONAL ENGINEER
8/1/14

JULY 2014

F:\WORK IN PROGRESS\SEGUIN\209248 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\01 COVER SHEET.DWG 7/31/2014 5:41:11 PM

A. GENERAL NOTES

1. BLASTING IS NOT PERMITTED ON THIS PROJECT.
2. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.
3. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE REGISTERED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THE WORK.
4. THE TRENCH EXCAVATION AND SHORING SAFETY SYSTEM, AS OUTLINED IN THE TECHNICAL SPECIFICATIONS, WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE.
5. A PRE–CONSTRUCTION CONFERENCE IS TO BE HELD PRIOR TO BEGINNING CONSTRUCTION. THIS CONFERENCE SHALL TAKE PLACE AT A LOCATION SELECTED BY OWNER & ENGINEER. CONTRACTOR TO ARRANGE A MEETING DATE WITH THE OWNER AT LEAST SEVEN DAYS PRIOR TO THE MEETING TIME.
6. CONTRACTOR SHALL NOTIFY THE OWNER, OWNER'S REPRESENTATIVE, AND TCEQ BY TELEPHONE A MINIMUM OF 48 HOURS IN ADVANCE OF CONSTRUCTION STARTUP, FOLLOWED BY A LETTER OF CONFIRMATION.
7. CONTRACTOR SHALL ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN ONLY BE ISSUED TO CONTRACTOR ARE TO BE OBTAINED AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR SHALL GIVE A MINIMUM OF 48 HOURS NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK.
9. CONTRACTOR SHALL TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF THESE CONSTRUCTION OPERATIONS ARE TO BE REPAIRED IMMEDIATELY BY THE CONTRACTOR TO AT LEAST THE PRE–EXISTING CONDITION AT NO ADDITIONAL COST TO OWNER.
10. LOCATION OF EXISTING UTILITIES SHOWN ON PLANS WAS COMPILED FROM RECORD INFORMATION. NO WARRANTY IS IMPLIED AS TO THE ACTUAL LOCATION OF EXISTING UTILITIES. CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. WHEN UNLOCATED OR INCORRECTLY LOCATED UNDERGROUND PIPING OR A BREAK IN A LINE OR OTHER UTILITIES AND SERVICES ARE ENCOUNTERED DURING SITE WORK OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE UTILITY COMPANY IMMEDIATELY TO OBTAIN PROCEDURE DIRECTIONS. THE CONTRACTOR SHALL COOPERATE WITH THE APPLICABLE UTILITY COMPANY IN MAINTAINING ACTIVE SERVICES IN OPERATION.
12. THE CONTRACTOR SHALL MAINTAIN ACCESS TO PUBLIC AND PRIVATE FACILITIES DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES TO BE COORDINATED WITH THE OWNER.
13. THE CONTRACTOR SHALL COORDINATE INTERRUPTIONS OF ALL UTILITIES AND SERVICES WITH APPLICABLE UTILITY COMPANY OR COMPANIES. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY COMPANY OR AGENCY INVOLVED.
14. THE CONTRACTOR SHALL LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, AND CONTROL POINTS. RE–ESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PUBLIC SURVEYOR IN THE STATE OF TEXAS AT NO ADDITIONAL COST TO OWNER.
15. EXISTING PAVING, BUILDINGS, AND OTHER ITEMS SHOWN ON PLANS NOT SPECIFICALLY RELATED TO THE WORK OF THE CONTRACTOR IS FOR INFORMATION ONLY.
16. DEMOLITION PERMITS (IF NEEDED) ARE TO BE OBTAINED BY THE CONTRACTOR.
17. EXISTING SURFACE AND SUBSURFACE STRUCTURES (GAS MAINS, WATER MAINS, STORM SEWERS, TELEPHONE CABLES, ETC.) ARE SHOWN ON THE PLANS IF THEIR LOCATION HAS BEEN DETERMINED, BUT IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO AVOID DAMAGING THESE EXISTING STRUCTURES WHETHER OR NOT THEY ARE SHOWN ON THE PLANS. THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITY FOR FAILURE TO SHOW ANY OR ALL OF THESE STRUCTURES ON THE PLANS OR TO SHOW THEM IN THEIR EXACT LOCATION. IF ANY STRUCTURE IS DAMAGED BY THE CONTRACTOR, IT SHALL BE HIS RESPONSIBILITY TO REPAIR THE DAMAGE AT HIS OWN EXPENSE AND RESTORE THE STRUCTURE TO ITS ORIGINAL CONDITION.
18. THE ORIGINAL PLANS FOR THIS PROJECT WERE PREPARED ON FULL SIZE STANDARD SHEETS (24–INCHES X 36–INCHES). THE SPECIFIC SCALE FOR THE INDIVIDUAL UNITS WOULD BE TRUE ONLY ON THE ORIGINAL TRACING. REPRODUCED COPIES, REDUCTIONS OR OTHER METHODS OF PRINTING MAY CHANGE OR ALTER THE SCALE. THE ENGINEER IS NOT RESPONSIBLE FOR SCALE DIMENSIONS UTILIZED BY OTHERS ON THESE PLANS.
19. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS, ELEVATIONS AND DIMENSIONS OF ADJACENT AND/OR CONFLICTING UTILITIES IN ADVANCE OF CONSTRUCTION IN ORDER THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES, IF REQUIRED. THE CONTRACTOR SHALL PRESERVE AND PROTECT PUBLIC UTILITIES AT ALL TIMES DURING CONSTRUCTION. ANY DAMAGE TO UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT HIS EXPENSE. THE ENGINEER SHALL BE NOTIFIED WHEN PROPOSED FACILITY GRADES CONFLICT WITH EXISTING UTILITY GRADES.
20. ALL CONCEPTS, IDEAS, DESIGNS, ARRANGEMENTS, AND PLANS INDICATED OR REPRESENTED BY THESE INSTRUMENTS, AS OUTLINED ON THE TITLE SHEET INDEX, AND BY ANY ADDENDUM ARE OWNED BY AND ARE THE PROPERTY OF TRC ENGINEERS, INC. AND WERE CREATED AND DEVELOPED FOR THE USE ON AND IN CONNECTION WITH THE SPECIFIED PROJECT. THESE CONCEPTS, IDEAS, DESIGNS ARRANGEMENTS OR PLANS SHALL NOT BE USED BY ANY PERSON, FIRM OR CORPORATION FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION AND CONSENT OF TRC ENGINEERS, INC. OF AUSTIN, TEXAS.

B. GENERAL ENVIRONMENTAL NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING EXCESS AND WASTE MATERIAL, INCLUDING METHODS OF HANDLING AND DISPOSAL.
2. CONTRACTOR SHALL LOCATE MATERIAL STORAGE AREAS AWAY FROM STORM WATER CONVEYANCE SYSTEMS. PROVIDE PROTECTED STORAGE AREAS FOR CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS, AND OTHER POTENTIALLY TOXIC MATERIALS.
3. FUEL STORAGE IS NOT ALLOWED ON THIS PROJECT.
4. THE CONTRACTOR SHALL REPORT ANY FUEL OR TOXIC MATERIAL SPILLS TO THE APPROPRIATE STATE OR FEDERAL AGENCY, AS WELL AS THE LOCAL FIRE DEPARTMENT. THE OWNER SHALL BE ADVISED IMMEDIATELY, VERBALLY AND IN WRITING, OF ANY FUEL OR TOXIC MATERIALS SPILLS WITHIN THE PROJECT/CONSTRUCTION AREA AND THE ACTIONS TO BE TAKEN TO REMEDY THE PROBLEM.
5. THE CONTRACTOR SHALL DISPOSE OF FUELS, HAZARDOUS MATERIALS, AND CONTAMINATED EXCAVATIONS IN A LEGALLY APPROVED MANNER.
6. NO OPEN BURNING IS ALLOWED WITHIN THE CITY LIMITS. NO VARIANCE WILL BE ALLOWED FOR THIS PROJECT.
7. CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, LABOR, AND EQUIPMENT TO FIX DAMAGED TREES OR ROOTS OF TREES IMPACTED BY CONSTRUCTION ACTIVITIES. ALL EQUIPMENT SHALL BE STERILIZED AFTER CUTTING OF ROOT, BRANCHES, ETC. TO LIMIT POTENTIAL SPREAD OF OAK WILT. OWNER SHALL BE NOTIFIED OF ANY TREE DAMAGE IMMEDIATELY BY THE CONTRACTOR. NO SEPARATE PAY.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL DEBRIS RELATED TO CONSTRUCTION AT THE END OF EACH DAY FROM THE ROW. USE OF PRIVATE TRASH CANS IS NOT ACCEPTABLE.

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C. GENERAL PIPING NOTES

1. THE CONTRACTOR SHALL PROVIDE FITTINGS, PLUGS, AND OTHER DEVICES FOR USE IN FILLING, FLUSHING, TESTING, ETC. NO SEPARATE PAY.
2. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND TEST PRESSURES. NO SEPARATE PAY.
3. THE CONTRACTOR SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION FOR CURVATURE OF LINES AND/OR DEFLECTION OF PIPE JOINTS. INSTALL JOINTS AS REQUIRED.
4. PIPING DRAWINGS INDICATE INVERT ELEVATIONS FOR GRAVITY FLOW LINES. SLOPE PIPE UNIFORMLY BETWEEN ELEVATIONS SHOWN; NO VALLEYS OR PEAKS PERMITTED IN GRAVITY FLOW LINES. FOR OTHER PIPING, REFER TO DETAIL SHEETS FOR PIPE ELEVATIONS AT EACH STRUCTURE. SITE PIPING DRAWINGS DO NOT INDICATE VERTICAL BENDS AND TRANSITIONS. WHEN NECESSARY, MAKE VERTICAL TRANSITIONS OR FURNISH AND INSTALL VERTICAL BENDS AT NO EXTRA COST. DO NOT EXCEED MANUFACTURER'S RECOMMENDATIONS FOR CURVATURE OF LINES AND/OR DEFLECTION OF PIPE JOINTS.
5. MAINTAIN MINIMUM CLEARANCE OF THREE (3) FEET FROM EDGE OF STRUCTURES TO CLOSEST EDGE OF PIPELINE ADJACENT AND PARALLEL TO EDGE OF STRUCTURE, UNLESS OTHERWISE NOTED ON PLANS.
6. DI–ELECTRIC CONNECTIONS TO BE PREVENTED BY USE OF NON–CONDUCTIVE GASKETS BETWEEN DISSIMILAR PIPING MATERIALS.
7. REFERENCE SPECIFICATIONS FOR REQUIREMENTS ON REQUIRED SEPARATION DISTANCE BETWEEN SEWER AND WATER MAINS AND REQUIREMENTS IN THE EVENT THE SEPARATION DISTANCE CANNOT BE MET.
8. ALL UNDERGROUND DUCTILE IRON PIPE VALVES AND FITTINGS TO BE WRAPPED WITH POLYETHYLENE WRAP, IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.
9. PRESSURE RATING OF VALVES, FITTINGS, AND APPURTENANCES SHALL BE EQUAL TO OR EXCEED PRESSURE RATING OF ADJACENT PIPELINE.
10. ALL UNDERGROUND DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT, UNLESS OTHERWISE NOTED. WHERE DUCTILE IRON PIPE ENTERS STRUCTURES, CONNECT TO WALL PIPE WITH MECHANICAL JOINTS USING EPOXY–COATED NUTS AND BOLTS, UNLESS OTHERWISE NOTED ON PLANS.
11. UNLESS OTHERWISE INDICATED, ABOVE–GROUND FITTINGS SHALL BE FLANGED SHORT RADIUS.
12. PROVIDE BURIED VALVES WITH NUT OPERATORS, EXTENSION STEMS, AND VALVE BOXES WITH COVER.
13. TRACER WIRE (14 GAUGE SOLID): FOR ALL NONMETALLIC PIPE (WATER LINE), DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND A MINIMUM OF 12 INCHES BELOW THE SUB GRADE, OR A MINIMUM OF 18" BELOW FINISHED GRADE ON AREAS OUTSIDE THE LIMITS OF PAVEMENT, SHALL BE PLACED INDUCTIVE TRACER DETECTION WIRE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE WIRE SHALL BE ENCASED IN A PROTECTIVE, INERT, PLASTIC JACKET AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.
14. ALL JOINTS SHALL BE RESTRAINED WITH MEGALUG MECHANICAL RESTRAINTS. BENDS, CROSSES, TEES, PLUGS, CAPS, AND OTHER FITTINGS SHALL BE RESTRAINED WITH MEGALUG MECHANICAL RESTRAINTS AND ANCHORED WITH CONCRETE THRUST BLOCKING.
15. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT PERMITTED.
16. THE CITY DOES NOT WARRANT THAT EXISTING WATER LINES CAN BE ISOLATED FOR CONNECTION PURPOSES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE ALL AVAILABLE STAFF, MATERIALS, EQUIPMENT, ETC. ONSITE FOR ALL CONNECTIONS. WATER SHALL NOT BE CUT OFF FOR PERIODS LONGER THAN FOUR (4) HOURS. ALL WATER SHUT OFFS SHALL REQUIRE A MINIMUM 72 HOURS PRIOR NOTICE TO THE CITY. NO SEPARATE PAY.

D. STORM WATER NOTES

1. THROUGHOUT THE CONSTRUCTION, AND AT THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL ASSURE THAT DRAINAGE OF STORM WATER RUNOFF IS NOT BLOCKED.
2. DURING CONSTRUCTION, THE STORM WATER RUNOFF FROM ALL DISTURBED AREAS TO BE FILTERED BY SILT FENCES AND/OR ROCK BERMS. THESE TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE TO REMAIN IN PLACE UNTIL THE DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS TO BE INSPECTED PERIODICALLY FOR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES AND FOLLOWING EVERY RAINFALL. DAMAGED OR OBSTRUCTED CONTROLS TO BE REPAIRED/REPLACED AS NECESSARY TO MAINTAIN THEIR PROPER OPERATION.
3. CONTRACTOR SHALL ENSURE EXISTING DRAINAGE PATTERNS ARE MAINTAINED AS SHOWN.
4. ALL SPRING FLOW DISTURBED DURING CONSTRUCTION SHALL BE THE CONTRACTORS RESPONSIBILITY TO RESOLVE AND HANDLE.

E. SITE GRADING NOTES

1. THE CONTRACTOR SHALL CONTROL DUST CAUSED BY THE WORK AND COMPLY WITH POLLUTION CONTROL REGULATIONS OF GOVERNING AUTHORITIES. ALLOW AT LEAST FOUR TIMES PER DAY WHEN NEEDED.
2. EXCESS EXCAVATED MATERIAL SHALL BE STOCKPILED IN DESIGNATED AREA AS SHOWN ON PLANS OR AS DIRECTED BY THE OWNER. REINFORCED FILTER FABRIC FENCE TO BE INSTALLED AROUND STOCKPILE ON DOWNSTREAM SIDE AND BOTH SIDES ADJACENT TO THE DOWNSTREAM SIDE. STOCKPILES ARE NOT TO TRAP OR POND WATER. TOPSOIL TO BE STOCKPILED SEPARATELY. ALL EXCESS EXCAVATED MATERIAL IS TO BE REMOVED FROM THE SITE, CONTRACTOR TO NOTIFY TCEQ AND THE OWNER'S REPRESENTATIVE OF LOCATION OF DISPOSAL BEFORE MATERIAL IS REMOVED.
3. THE FINISHED GRADE ELEVATIONS SHOWN ARE INTENDED TO PROVIDE DRAINAGE AWAY FROM STRUCTURES. MINOR FIELD CHANGES MAY BE NECESSARY TO PROVIDE ADEQUATE DRAINAGE. GRADE UNIFORMLY BETWEEN ELEVATIONS SHOWN TO PROVIDE DRAINAGE.

F. PAVING NOTES

1. ANY EXISTING PAVEMENT, CURBS, AND/OR SIDEWALK DAMAGED OR REMOVED BY THE CONTRACTOR ARE TO BE REPAIRED BY THE CONTRACTOR TO AT LEAST THE PREEXISTING CONDITION AT HIS EXPENSE BEFORE ACCEPTANCE OF THE WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A TRAFFIC CONTROL PLAN TO BE SUBMITTED TO THE CITY AND ENGINEER FOR APPROVAL. TRAFFIC CONTROLS DURING CONSTRUCTION TO BE CONTRACTOR'S RESPONSIBILITY AND INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. NO SEPARATE PAY.
3. REPLACE EXISTING ROADWAY THAT IS CUT BY PIPE TRENCHES WITH SIMILAR ROADWAY.

G. EROSION/SEDIMENTATION & TREE PROTECTION NOTES

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE PROPOSED SWPPP. DEVIATIONS FROM THE PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER.
3. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINES.
4. TO AVOID SOIL COMPACTION, NO VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IS ALLOWED IN THE TREE DRIPLINE AREAS.
5. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
6. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.
7. TREES GREATER THAN 6" ø SHALL REMAIN, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL CONDUCT THE NECESSARY PRECAUTIONS TO PRESERVE THE INTEGRITY OF THE TREES. TREES TO REMAIN SHALL BE FLAGGED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
8. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH (1") IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN VICINITY OF TREES SHALL PROCEED WITH CAUTION.

H. SITE SPECIFIC NOTES

1. CONTRACTOR TO STRIP 4 – 6 INCHES OF TOPSOIL FROM ALL AREAS TO BE DISTURBED BY CONSTRUCTION. STOCKPILE TOPSOIL AT A LOCATION DESIGNATED BY THE OWNER. SUBSEQUENT TO CONSTRUCTION ACTIVITY, REPLACE TOPSOIL ON EXPOSED AREAS.
2. MANHOLE RIM ELEVATIONS SHOWN ON PLAN AND PROFILE DRAWINGS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY.
3. INTERRUPTION OF WASTEWATER FLOWS THROUGH EXISTING PROCESS FACILITIES IS NOT PERMITTED WITHOUT PRIOR WRITTEN APPROVAL. SUBMIT TO ENGINEER CONSTRUCTION PLAN WHICH DETAILS SCHEDULE AND TECHNIQUES TO BE USED FOR REVIEW PRIOR TO ANY CONNECTIONS TO EXISTING PIPES OR STRUCTURES. PARTIAL INTERRUPTION OF FLOWS IS TO BE SCHEDULED DURING LOW FLOW PERIODS FOR AS SHORT A DURATION AS PRACTICAL. MAKE PROVISIONS FOR ACCOMMODATING PEAK FLOWS WHICH MAY OCCUR DURING CONSTRUCTION OPERATIONS. ENGINEER AND OWNER SUPERINTENDENT TO BE NOTIFIED WHEN ANY INTERRUPTIONS ARE TO BE MADE.
4. SHERWOOD SURVEYING, L.L.C. PROVIDED TOPOGRAPHICAL SURVEYING SERVICES FOR THIS PROJECT. INFORMATION TO THE CONTRACTOR FOR CONSTRUCTION STAKING MAY BE AVAILABLE FROM SHERWOOD SURVEYING, L.L.C.

   MR. DAVID L. ELLIS, R.P.L.S.
   SHERWOOD SURVEYING, LLC
   6477 FM 311
   SPRING BRANCH, TX 78070
   PHONE: 830–228–5446
   FAX: 830–885–2170

5. COORDINATES SHOWN ON THESE PLANS ARE IN TEXAS STATE PLANE COORDINATE SYSTEM , NAD 83 (93), SOUTH CENTRAL ZONE.
6. THE CONTRACTOR WILL PROVIDE ALL CONSTRUCTION STAKING SERVICES FOR THE PROJECT. THE COST OF THESE SERVICES WILL BE REFLECTED IN THE UNIT PRICE AMOUNT BID IN THE PROPOSAL. NO SEPARATE PAYMENT WILL BE MADE.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE TELEPHONE AND GAS COMPANIES FOR LOCATION OF ALL EXISTING LINES. NO SEPARATE PAY.
8. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ALL SURFACE OR SEEPAGE WATER FROM SEWERS, DRAINS, DITCHES, AND OTHER SOURCES WHICH MAY ACCUMULATE DURING THE EXCAVATION AND CONSTRUCTION WORK BY PROVIDING THE NECESSARY UNDERDRAINS OR OTHERWISE AND BY DOING THE NECESSARY PUMPING, BAILING OR DRAINING. THE CONTRACTOR SHALL HAVE AVAILABLE AT ALL TIMES SUFFICIENT EQUIPMENT IN PROPER WORKING ORDER FOR DOING THE WORK HEREIN REQUIRED. ALL WATER REMOVED FROM EXCAVATIONS SHALL BE DISPOSED OF IN AN APPROVED MANNER SO AS TO NOT CREATE UNSANITARY CONDITIONS NOR TO INTERFERE UNDULY WITH THE USE OF STREETS, PRIVATE DRIVEWAYS, OR ENTRANCES. PUMPING, BAILING, DRAINING, UNDERDRAINS, DITCHES, ETC., SHALL BE CONSIDERED AS INCIDENTAL WORK AND WILL NOT BE PAID FOR AS SEPARATE ITEMS, BUT THEIR COST SHALL BE INCLUDED IN THE CONTRACT PRICES BID IN THE PROPOSAL FOR THE VARIOUS BID ITEMS. NO SEPARATE PAY.
9. CONTRACTOR SHALL ADJUST ALL EXISTING UTILITIES AS REQUIRED FOR THE INSTALLATION OF THE PROPOSED IMPROVEMENTS INCLUDING RELOCATING THE EXISTING UTILITIES IF NECESSARY. NO SEPARATE PAY.
10. A GEOTECHNICAL REPORT HAS BEEN NOT PREPARED. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE SOIL CONDITIONS FOR THE PURPOSE OF PREPARING THIS BID. ALL EXCAVATION WILL BE UNCLASSIFIED.
11. CONTRACTOR SHALL PROVIDE DUST ABATEMENT AS DIRECTED BY OWNER. NO SEPARATE PAY. THIS SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT FOR TRANSPORTING, GATHERING, ETC. OF WATER. OWNER SHALL SUPPLY WATER AT NO COST TO THE CONTRACTOR AT A DESIGNATED LOCATION. ALLOW AT LEAST FOUR TIMES PER DAY WHEN NEEDED, REGARDLESS IF WORK IS TAKING PLACE OR NOT.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING A STAGING AREA FOR EQUIPMENT, MATERIALS, ETC. THE OWNER DOES NOT OWN ANY PROPERTY WITHIN THE PROJECT AREA. STAGING WITHIN THE EXISTING R.O.W. IS ALLOWED CONTINGENT UPON IT DOES NOT IMPEDE OR INTERFERE WITH EMERGENCY SERVICES, MAIL DELIVERY, OR ACCESS FOR RESIDENTS DURING NON WORKING HOURS.
13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ACCESSIBILITY FOR DELIVERY OF MAIL THROUGHOUT THE PROJECT. NO SEPARATE PAY.
14. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND ENGINEER AND HIS EMPLOYEES, PARTNERS, OFFICERS, DIRECTORS, OR CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.
15. CONTRACTOR TO CONTACT THE ENGINEER–OF–RECORD (EOR) FOR ANY FIELD CHANGES. ANY REVISIONS OR CHANGES TO THE APPROVED CONSTRUCTION PLANS WILL REQUIRE ADDITIONAL APPROVAL BY THE OWNER IN WRITING.

H. SITE SPECIFIC NOTES (CONT.)

16. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
17. OSHA REGULATIONS PROHIBIT OPERATIONS THAT WILL BRING PERSONS EQUIPMENT WITHIN 10 FEET OF AN ENERGIZED LINE. WHERE WORKMEN AND/OR EQUIPMENT HAVE TO WORK CLOSE TO AN ENERGIZED ELECTRICAL LINE, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL POWER COMPANY INVOLVED AND MAKE WHATEVER ADJUSTMENTS NECESSARY TO ENSURE THE SAFETY OF THOSE WORKMEN. NO SEPARATE PAY.
18. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
19. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192 (8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
20. THE CONTRACTOR WILL OWN THE PROJECT UNTIL ACCEPTANCE BY THE OWNER. HE SHALL ARRANGE AND PURCHASE INSURANCE FOR FLOOD OR ANY OTHER DAMAGES TO HIS WORK DURING CONSTRUCTION.
21. CONTRACTOR SHALL USE CAUTION AND MINIMIZE LANDSCAPE DISTURBANCE THROUGHOUT THE PROJECT LIMITS. LANDSCAPE SHALL BE RETURNED TO ITS ORIGINAL CONDITION. NO SEPARATE PAY.
22. POWER POLES TO BE BRACED AT CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY/COORDINATE WITH THE APPROPRIATE UTILITY COMPANY.
23. REMOVE AND REPLACE EXISTING FENCES AS NECESSARY. THE REQUIRED REMOVAL OF ANY TREES, SHRUBS, OR SMALL STRUCTURES SHALL BE SUBSIDIARY TO THE TOTAL COST OF THE PROJECT. TEMPORARY FENCING SHALL BE PROVIDED BY THE CONTRACTOR, AS REQUIRED. NO SEPARATE PAY.
24. CONTRACTOR SHALL PROVIDE PRECONSTRUCTION VIDEO/PHOTOS PRIOR TO CONSTRUCTION. REFERENCE THE SPECIFICATIONS, SECTION B.
25. THERE SHALL BE AN ASSIGNED 24–HOUR COMPETENT PERSON ON CALL FOR THE OCCURRENCE OF RAIN EVENTS.

NO.	REVISION	DATE

DESIGN BY:	KAC
DRAWN BY:	DWH
CHECKED BY:	KBP
SCALE:	NONE
JOB NUMBER:	209248

TRC
TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 – 8716

SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
GENERAL CONSTRUCTION NOTES

JULY 2014

I. DETOURS, BARRICADES, WARNING SIGNS, ETC.

1. TRAFFIC MUST BE HANDLED THROUGHOUT THE PROJECT DURING CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE FOR THE SAFE AND COMFORTABLE PASSAGE OF TRAFFIC WITH MINIMAL INCONVENIENCE TO THE PUBLIC AT ALL TIMES. TRAFFIC LANES SHALL BE ENTIRELY OPEN TO TRAFFIC EACH NIGHT AND NO EQUIPMENT SHALL BE LEFT IN A POSITION OVERNIGHT THAT WILL ENDANGER TRAFFIC. NO SEPARATE PAY.

2. A CERTIFIED FLAGGER SHALL BE STATIONED WHERE ANY EQUIPMENT IS WORKING ON THE ROAD OR WHERE ANY OTHER HAZARDS DUE TO CONSTRUCTION OPERATIONS EXIST OR AS DIRECTED BY THE ENGINEER.

3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES THROUGHOUT ALL PHASES OF CONSTRUCTION. ADEQUACY OF ACCESS WILL BE AT THE DISCRETION OF THE ENGINEER. SAFE ENTRANCE AND EXIT TO ALL DRIVEWAYS SHALL BE PROVIDED WITH A MINIMUM OF INCONVENIENCE.

4. THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIAL OR EQUIPMENT AT ANY LOCATION THAT WILL CONSTITUTE A HAZARD AND WILL ENDANGER TRAFFIC.

5. THE CONTRACTOR SHALL NOTIFY THE OWNER OF IMPENDING/UPCOMING LANE CLOSURES NO LATER THAN 7 DAYS IN ADVANCE OF LANE CLOSURES.

6. FOR THIS PROJECT, UNLESS OTHERWISE NOTED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER, NO LANE CLOSURES SHALL BE ALLOWED.

7. THE CONTRACTOR MAY PROPOSE/RECOMMEND MODIFICATIONS TO THE SEQUENCE OF WORK FOR CONSIDERATION BY THE ENGINEER. ANY MAJOR RECOMMENDED MODIFICATION BY THE CONTRACTOR SHALL INCLUDE ANY CHANGES TO THE VARIOUS PAY ITEMS, IMPACT TO TRAFFIC, EFFECT OF OVERALL PROJECT IN TIME AND COST, ETC. THE CONTRACTOR SHALL NOT PROCEED WITH ANY CONSTRUCTION OPERATIONS BASED ON A REVISED PHASE/SEQUENCE UNTIL HE/SHE OBTAINS WRITTEN APPROVAL FROM THE ENGINEER. IF AT ANY TIME DURING CONSTRUCTION THE CONTRACTOR'S PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC DOES NOT PROVIDE SAFE AND COMFORTABLE MOVEMENT, THE CONTRACTOR SHALL IMMEDIATELY CHANGE HIS OPERATION TO CORRECT THE UNSATISFACTORY CONDITION.

8. THE CONTRACTOR SHALL INSTALL AND MAINTAIN AN ADEQUATE NUMBER OF BARRICADES, WARNING AND DIRECTIONAL SIGNS TO DELINEATE TRAFFIC FOR ANY DETOURS.

9. ALL CONSTRUCTION TRAFFIC SHALL BE REGULATED SO AS TO CAUSE A MINIMUM OF INCONVENIENCE TO THE TRAVELING PUBLIC. AT POINTS WHERE IT IS NECESSARY FOR TRUCKS TO STOP AND UNLOAD, WARNING SIGNS AND FLAGGERS SHALL BE PROVIDED AS NECESSARY TO ADEQUATELY PROTECT TRAVEL.

10. UPON COMPLETION OF THE WORK AND BEFORE FINAL ACCEPTANCE IS MADE, THE CONTRACTOR SHALL SHAPE AND FINISH SUCH PORTIONS OF THE RIGHT-OF-WAY AS MAY HAVE BEEN DISTURBED IN MAKING THE ABOVE PROVISIONS FOR TRAFFIC AND WILL BE REQUIRED TO LEAVE THE ENTIRE RIGHT-OF-WAY IN A SMOOTH, NEAT AND SIGHTLY CONDITION.

11. ALL WORK AND MATERIALS REQUIRED BY THESE PROVISIONS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS OF THE CONTRACT, UNLESS OTHERWISE INDICATED IN THE PLANS OR SPECIFICATIONS.

12. CONTRACTOR SHALL HAVE A COMPANY REPRESENTATIVE CERTIFIED IN FLAGGER TRAINING APPROVED BY THE OWNER.

13. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE TRAFFIC CONTROL AND WILL BE RESPONSIBLE FOR FURNISHING ALL TRAFFIC CONTROL DEVICES AND FLAGGERS. THE CONSTRUCTION METHODS SHALL BE CONDUCTED TO PROVIDE THE LEAST POSSIBLE INTERFERENCE TO TRAFFIC SO AS TO PERMIT THE CONTINUOUS MOVEMENT OF TRAFFIC IN ALL ALLOWABLE DIRECTIONS AT ALL TIMES.

14. THE CONTRACTOR SHALL PROVIDE FOR THE PASSAGE OF TRAFFIC THROUGH THE PROJECT WITH SIGNS, WARNING LIGHTS, BARRICADES, ETC. IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED FOR MAINTENANCE ACTIVITIES AND TO THE SATISFACTION OF THE ENGINEER.

15. LANE CLOSURES WILL NOT BE ALLOWED UNLESS PRIOR APPROVAL IS GIVEN BY THE ENGINEER. IF LANE CLOSURES ARE APPROVED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER 48 HOURS IN ADVANCE OF THE CLOSURE.

J. SAFETY FENCE NOTES

1. SAFETY FENCE SHALL BE USED TO PROTECT ALL EXCAVATIONS AND TO SEPARATE CONSTRUCTION ACTIVITIES FROM PEDESTRIAN, DURING THE ENTIRE CONSTRUCTION PERIOD.

2. ALL SAFETY FENCING SHALL BE PLASTIC, 4'-0" MINIMUM HEIGHT AND ORANGE IN COLOR.

3. SAFETY FENCE USED WITHIN THE ROADWAY SHALL BE REFLECTORIZED WITH A MINIMUM OF TWO (2) STRIPS OF RETROREFLECTIVE MATERIAL, A MINIMUM OF 1'-0" WIDE THE LENGTH OF THE FENCE OR DELINEATED BY CHANNELIZING DEVICES.

4. SAFETY FENCE USED TO SEPARATE SIDEWALKS FROM CONSTRUCTION ACTIVITIES SHALL HAVE MINIMUM ENCROACHMENT TO THE SIDEWALK.

5. FENCE MATERIAL SHALL BE SUPPORTED FROM 1/4" DIA. NYLON ROPE FROM POSTS SPACED ON MAXIMUM 8 FT. CENTERS. POSTS SHALL EXTEND 4'-0" ABOVE NATURAL GROUND. FENCE MATERIAL SHALL BE SECURED TO POSTS W/ PLASTIC WIRE TIES, MINIMUM 3 PER POST.

6. POSTS SHALL INCLUDE SUPPORT BRACES SUFFICIENT TO HANDLE ALL LOADS.

7. PAYMENT FOR SECURITY FENCE SHALL BE CONSIDERED INCIDENTAL WORK (LABOR, MATERIALS, EQUIPMENT, ETC.) NO SEPARATE PAY.

K. SANITARY FACILITIES

1. THE CONTRACTOR SHALL PROVIDE SUFFICIENT CHEMICAL TOILET FACILITIES FOR THE USE OF HIS FORCES. ADEQUACY OF THESE FACILITIES WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER & MAINTENANCE OF SAME MUST BE SATISFACTORY TO THE ENGINEER AT ALL TIMES. CONTRACTOR SHALL PROVIDE A MAINTENANCE SCHEDULE TO THE OWNER FOR APPROVAL.

ABBREVIATIONS

ABDN	ABANDON
AC	ASBESTOS-CEMENT
ARV	AIR RELEASE VALVE
AWS	AVERAGE WATER SURFACE
BFV	BUTTERFLY VALVE
BOC	BACK OF CURB
BOP	BEGINNING OF PROJECT
C	CURVE, CONDUIT
CARV	COMBINATION AIR RELEASE/ VACUUM RELIEF VALVE
CATV	CABLE TV
C.F.	CUBIC FEET
C.I.	CAST IRON
CL	CENTERLINE
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CWQZ	CRITICAL WATER QUALITY ZONE
DESC	DESCRIPTION
DET	DETAIL
D.I.	DUCTILE IRON
DIA.	DIAMETER
D.I.P.	DUCTILE IRON PIPE
DWG	DRAWING
E	EAST
EC	END CONNECTION
EJ	EXPANSION JOINT
EL., ELEV.	ELEVATION
ELL	ELBOW
EOP	END OF PROJECT EDGE OF PAVEMENT
ESM'T	EASEMENT
EXIST.	EXISTING
EXP	EXPANSION
FL	FLOWLINE
FLG	FLANGE
FLG'D	FLANGED
FO	FIBER OPTIC
FT.	FEET
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GV	GATE VALVE
HORZ.	HORIZONTAL
HWY.	HIGHWAY
IE	INVERT ELEVATION
INV	INVERT
JT	JOINT
L.F., LF	LINEAR FEET
LO	LIVE OAK
LOC	LIMITS OF CONSTRUCTION
LT., LT	LEFT
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN.	MINIMUM
M.J.	MECHANICAL JOINT
MSQ	MESQUITE TREE
N	NORTH
N.G.	NATURAL GROUND
NO.	NUMBER
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OE	OVERHEAD ELECTRIC
P.C.	POINT OF CURVATURE
PEC	PECAN TREE
P.I.	POINT OF INTERSECTION
P.L.	PROPERTY LINE
PNTCR	POINT OF NON-TANGENT CURVE RETURN
PPD	POUNDS PER DAY
PROP., PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
P.T.	POINT OF TANGENCY
P.U.E., PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVMT.	PAVEMENT
R	RADIUS
RB	ROCK BERM
RCP	REINFORCED CONCRETE PIPE
R.O.W, ROW	RIGHT OF WAY
RED	REDUCER
REF.	REFERENCE
RT., RT	RIGHT
S	SOUTH
S.F.	SILT FENCE
SCH	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
STA., STA	STATION
STD	STANDARD
STL	STEEL
STR	STREAM
SUPP	SUPPORTS
SW	SOLVENT WELD
TEL	TELEPHONE
TBA	TO BE ABANDONED
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TEMP.	TEMPORARY
TFD	TRIANGULAR FILTER DIKE
TOC	TOP OF CONCRETE
TP	TOP OF PAVEMENT
TYP., TYP	TYPICAL
UE	UNDERGROUND ELECTRIC
UNO	UNLESS OTHERWISE SPECIFIED
UST	UNDERGROUND STORAGE TANK
VERT., VERT	VERTICAL
VC	VITRIFIED CLAY
VCP	VITRIFIED CLAY PIPE
VL	VENT LINE
W/	WITH
W	WEST, WATER
WL	WATERLINE
WQBZ	WATER QUALITY BUFFER ZONE
WW	WASTEWATER LINE
YR	YEAR

LEGEND

—S—	SANITARY SEWER
—W—	WATER LINE
—GAS—	GAS LINE
—ATT—	OVERHEAD AT&T LINE
—U ATT—	UNDERGROUND AT&T LINE
—TW—	OVERHEAD TIME WARNER LINE
—U TW—	UNDERGROUND TIME WARNER LINE
—OE—	OVERHEAD ELECTRIC
—X—	BARB WIRE FENCE
—OO—	CHAIN LINK FENCE
—//—	WOOD FENCE
—O—	WIRE FENCE
—PL—	PROPERTY LINE
—///	EDGE OF ASPHALT
	EX. CURB (NO GUTTER)
	EX. CURB AND GUTTER
	PROP. CONSTRUCTION LIMITS
	PROP. CONC. RIBBON CURB
	TREE
	TREE PROTECTION REQUIRED
	PROPERTY CORNER
	CONCRETE MONUMENT
STM	STORM SEWER MANHOLE
S.S.	SANITARY SEWER MANHOLE
TELE	TELEPHONE MANHOLE
	WATER/GAS METER
	FIRE HYDRANT
	POWER POLE
	POWER POLE W/GUY WIRE
	TELEPHONE PEDESTAL
	WATER VALVE
	SHRUB
	HIGHWAY SIGN
	MAILBOX
	CONTROL POINT
	HANDICAP SIGNAL
	GRATE INLET
	CURB INLET
	SEWER CLEAN OUT
	SEWER VENT
	SPIGOT
	PUMP
	STORM WATER FLOW DIRECTION

NO.	REVISION	DATE

DESIGN BY: KAC
DRAWN BY: DWH
CHECKED BY: KBP
SCALE: NONE
JOB NUMBER: 209248

TRC
TRC ENGINEERS, INC.
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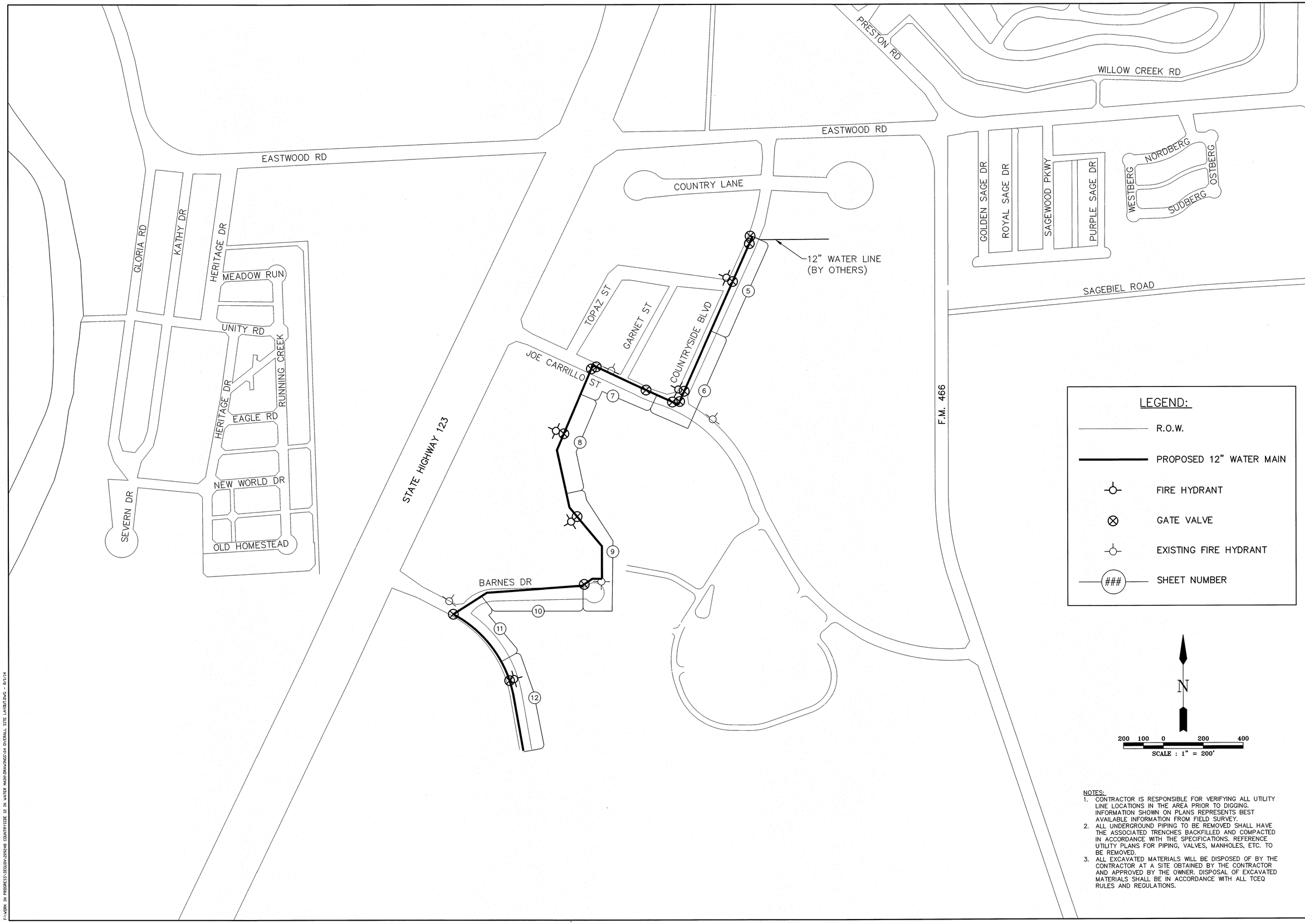
STATE OF TEXAS
K. COLEP
98407
LICENSED PROFESSIONAL ENGINEER
8/1/14

SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
GENERAL NOTES, LEGEND AND ABBREVIATIONS

SHEET 3 OF 15

JULY 2014

F:\WORK IN PROGRESS\SEGUIN\209248 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\03 SYMBOLS & ABBREVIATIONS.DWG - 7/29/14



NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY LINE LOCATIONS IN THE AREA PRIOR TO DIGGING. INFORMATION SHOWN ON PLANS REPRESENTS BEST AVAILABLE INFORMATION FROM FIELD SURVEY.
2. ALL UNDERGROUND PIPING TO BE REMOVED SHALL HAVE THE ASSOCIATED TRENCHES BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS. REFERENCE UTILITY PLANS FOR PIPING, VALVES, MANHOLES, ETC. TO BE REMOVED.
3. ALL EXCAVATED MATERIALS WILL BE DISPOSED OF BY THE CONTRACTOR AT A SITE OBTAINED BY THE CONTRACTOR AND APPROVED BY THE OWNER. DISPOSAL OF EXCAVATED MATERIALS SHALL BE IN ACCORDANCE WITH ALL TCEQ RULES AND REGULATIONS.

NO.	REVISION	DATE

DESIGN BY: KAC
DRAWN BY: DWH
CHECKED BY: KBP
SCALE: 1" = 200'
JOB NUMBER: 209248

TRC
TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
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STATE OF TEXAS
K. CULP
86467
LICENSED PROFESSIONAL ENGINEER
8/1/14

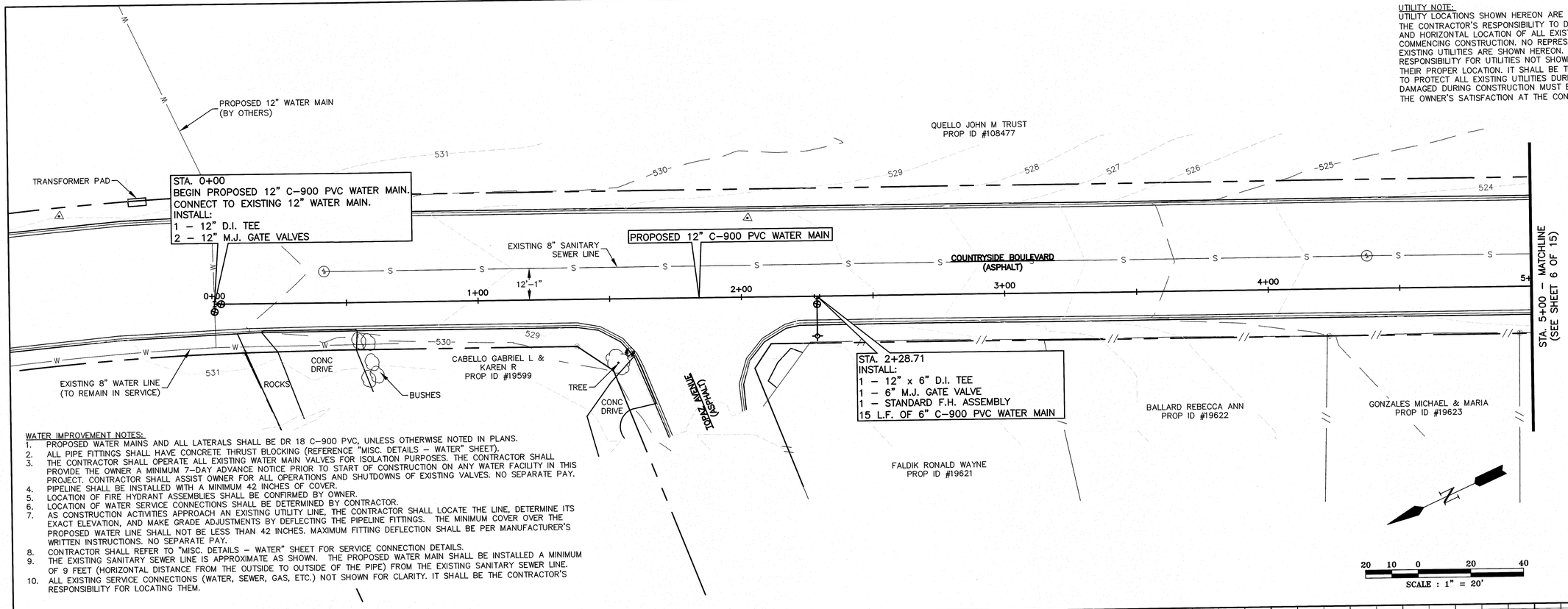
SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
OVERALL SITE PLAN

SHEET
4 OF 15

JULY 2014

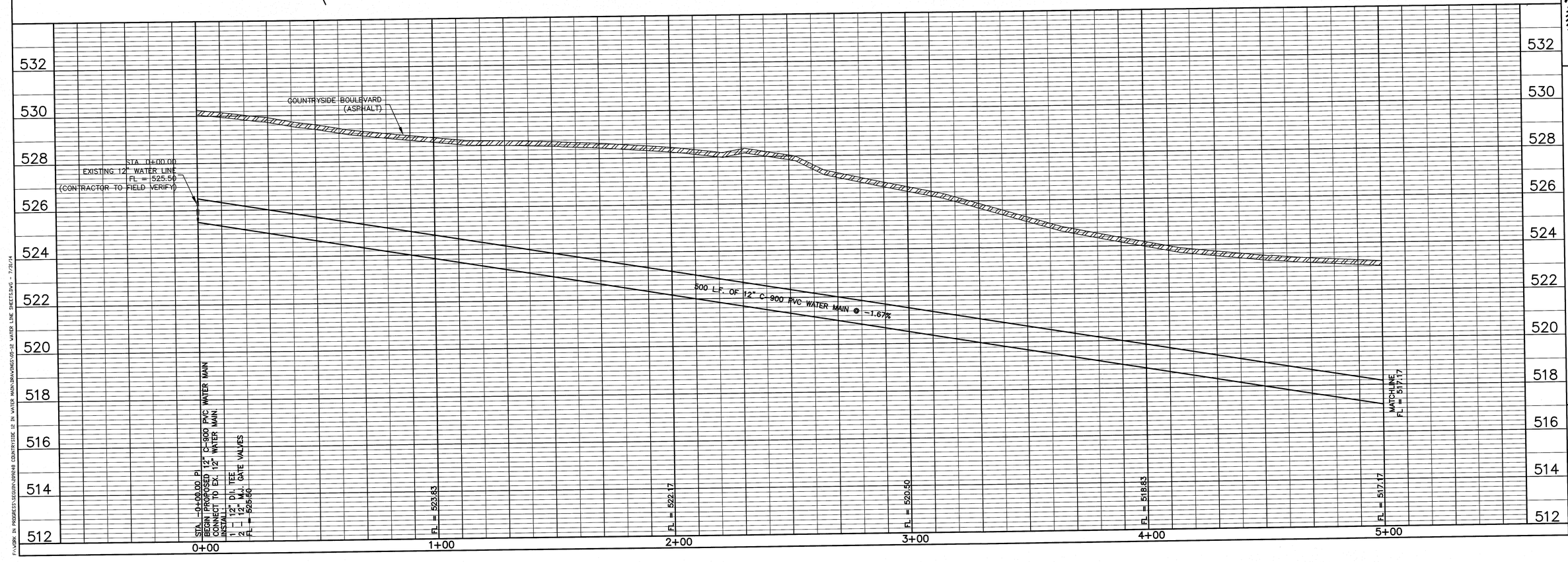
F:\WORK IN PROGRESS\SEGUIN\209248 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\04 OVERALL SITE LAYOUT.DWG - 8/1/14

UTILITY NOTE:
UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. ANY UTILITIES DAMAGED DURING CONSTRUCTION MUST BE REPAIRED IMMEDIATELY AND TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.



WATER IMPROVEMENT NOTES:

1. PROPOSED WATER MAINS AND ALL LATERALS SHALL BE DR 18 C-900 PVC, UNLESS OTHERWISE NOTED IN PLANS.
2. ALL PIPE FITTINGS SHALL HAVE CONCRETE THRUST BLOCKING (REFERENCE "MISC. DETAILS – WATER" SHEET).
3. THE CONTRACTOR SHALL OPERATE ALL EXISTING WATER MAIN VALVES FOR ISOLATION PURPOSES. THE CONTRACTOR SHALL PROVIDE THE OWNER A MINIMUM 7-DAY ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION ON ANY WATER FACILITY IN THIS PROJECT. CONTRACTOR SHALL ASSIST OWNER FOR ALL OPERATIONS AND SHUTDOWNS OF EXISTING VALVES. NO SEPARATE PAY.
4. PIPELINE SHALL BE INSTALLED WITH A MINIMUM 42 INCHES OF COVER.
5. LOCATION OF FIRE HYDRANT ASSEMBLIES SHALL BE CONFIRMED BY OWNER.
6. LOCATION OF WATER SERVICE CONNECTIONS SHALL BE DETERMINED BY CONTRACTOR.
7. AS CONSTRUCTION ACTIVITIES APPROACH AN EXISTING UTILITY LINE, THE CONTRACTOR SHALL LOCATE THE LINE, DETERMINE ITS EXACT ELEVATION, AND MAKE GRADE ADJUSTMENTS BY DEFLECTING THE PIPELINE FITTINGS. THE MINIMUM COVER OVER THE PROPOSED WATER LINE SHALL NOT BE LESS THAN 42 INCHES. MAXIMUM FITTING DEFLECTION SHALL BE PER MANUFACTURER'S WRITTEN INSTRUCTIONS. NO SEPARATE PAY.
8. CONTRACTOR SHALL REFER TO "MISC. DETAILS – WATER" SHEET FOR SERVICE CONNECTION DETAILS.
9. THE EXISTING SANITARY SEWER LINE IS APPROXIMATE AS SHOWN. THE PROPOSED WATER MAIN SHALL BE INSTALLED A MINIMUM OF 9 FEET (HORIZONTAL DISTANCE FROM THE OUTSIDE TO OUTSIDE OF THE PIPE) FROM THE EXISTING SANITARY SEWER LINE.
10. ALL EXISTING SERVICE CONNECTIONS (WATER, SEWER, GAS, ETC.) NOT SHOWN FOR CLARITY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR LOCATING THEM.



NO.	REVISION	DATE

DESIGN BY: KAC
DRAWN BY: DWH
CHECKED BY: KBP
SCALE: V:1"=2'; H:1"=20'
JOB NUMBER: 209248

TRC
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505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

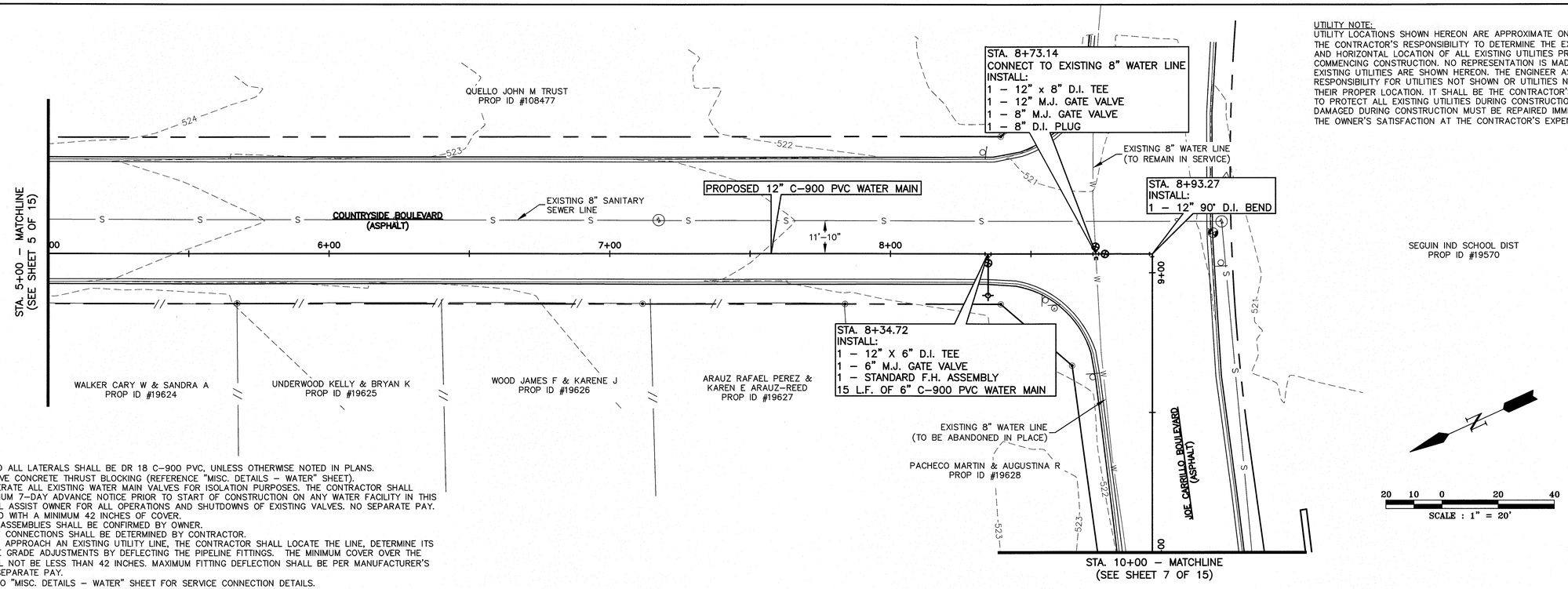
STATE OF TEXAS
K. CLIP
86467
LICENSED
PROFESSIONAL ENGINEER
8/1/14

SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
STA. 0+00 TO STA. 5+00

SHEET
5 OF 15

JULY 2014

F:\WORK IN PROGRESS\SEGUIN\209248 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\05-12 WATER LINE SHEETS.DWG - 7/31/14



UTILITY NOTE:
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WATER IMPROVEMENT NOTES:

1. PROPOSED WATER MAINS AND ALL LATERALS SHALL BE DR 18 C-900 PVC, UNLESS OTHERWISE NOTED IN PLANS.
2. ALL PIPE FITTINGS SHALL HAVE CONCRETE THRUST BLOCKING (REFERENCE "MISC. DETAILS – WATER" SHEET).
3. THE CONTRACTOR SHALL OPERATE ALL EXISTING WATER MAIN VALVES FOR ISOLATION PURPOSES. THE CONTRACTOR SHALL PROVIDE THE OWNER A MINIMUM 7-DAY ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION ON ANY WATER FACILITY IN THIS PROJECT. CONTRACTOR SHALL ASSIST OWNER FOR ALL OPERATIONS AND SHUTDOWNS OF EXISTING VALVES. NO SEPARATE PAY.
4. PIPELINE SHALL BE INSTALLED WITH A MINIMUM 42 INCHES OF COVER.
5. LOCATION OF FIRE HYDRANT ASSEMBLIES SHALL BE CONFIRMED BY OWNER.
6. LOCATION OF WATER SERVICE CONNECTIONS SHALL BE DETERMINED BY CONTRACTOR.
7. AS CONSTRUCTION ACTIVITIES APPROACH AN EXISTING UTILITY LINE, THE CONTRACTOR SHALL LOCATE THE LINE, DETERMINE ITS EXACT ELEVATION, AND MAKE GRADE ADJUSTMENTS BY DEFLECTING THE PIPELINE FITTINGS. THE MINIMUM COVER OVER THE PROPOSED WATER LINE SHALL NOT BE LESS THAN 42 INCHES. MAXIMUM FITTING DEFLECTION SHALL BE PER MANUFACTURER'S WRITTEN INSTRUCTIONS. NO SEPARATE PAY.
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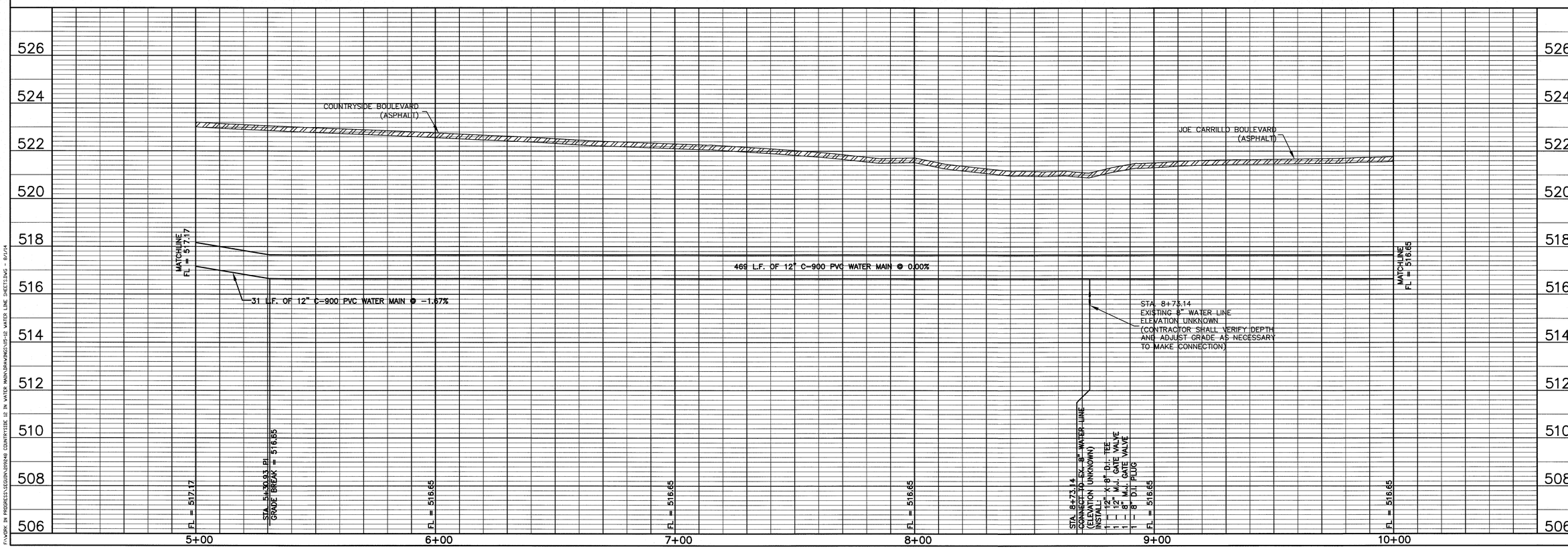

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8/1/14

SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
STA. 5+00 TO STA. 10+00

SHEET
6 OF 15

JULY 2014

F:\WORK IN PROGRESS\SEGUIN\209248 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\09-02 WATER LINE SHEETS.DWG - 8/1/14

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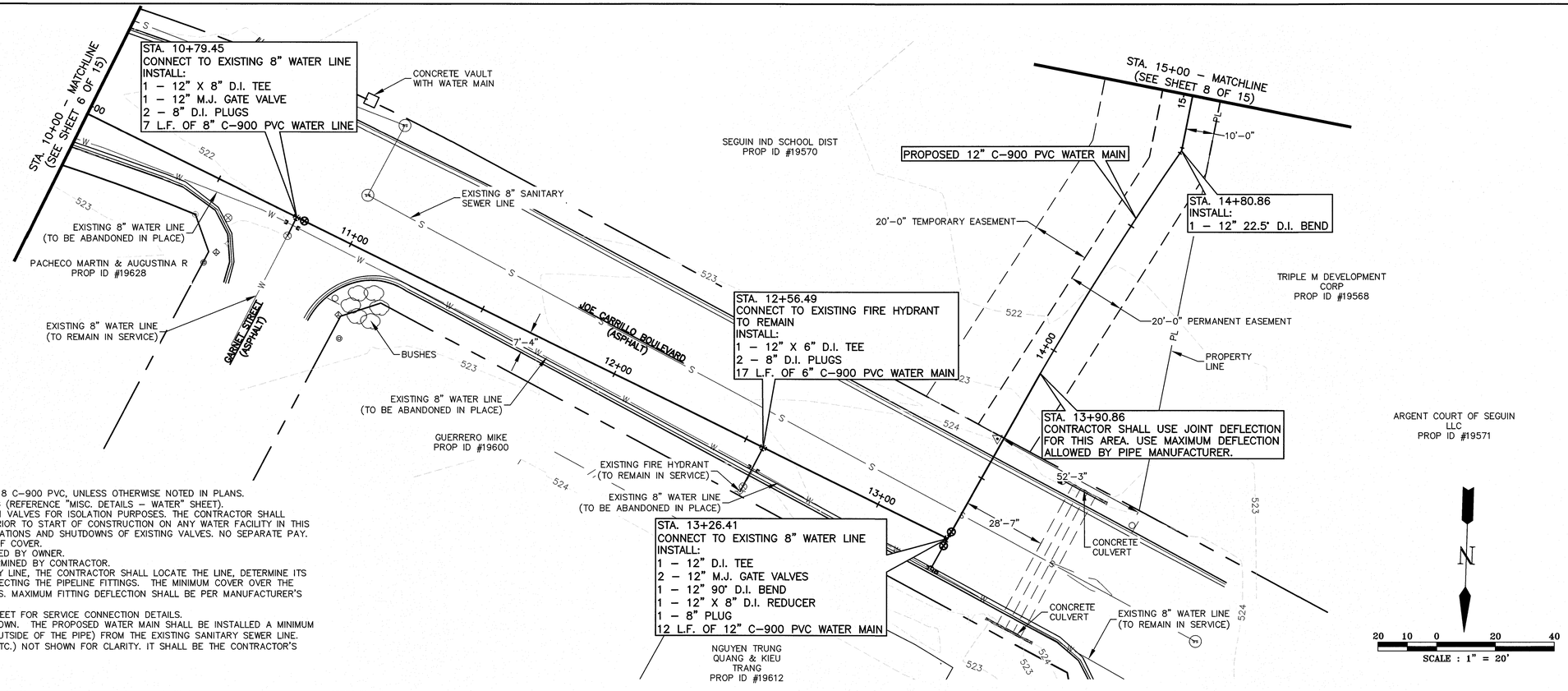

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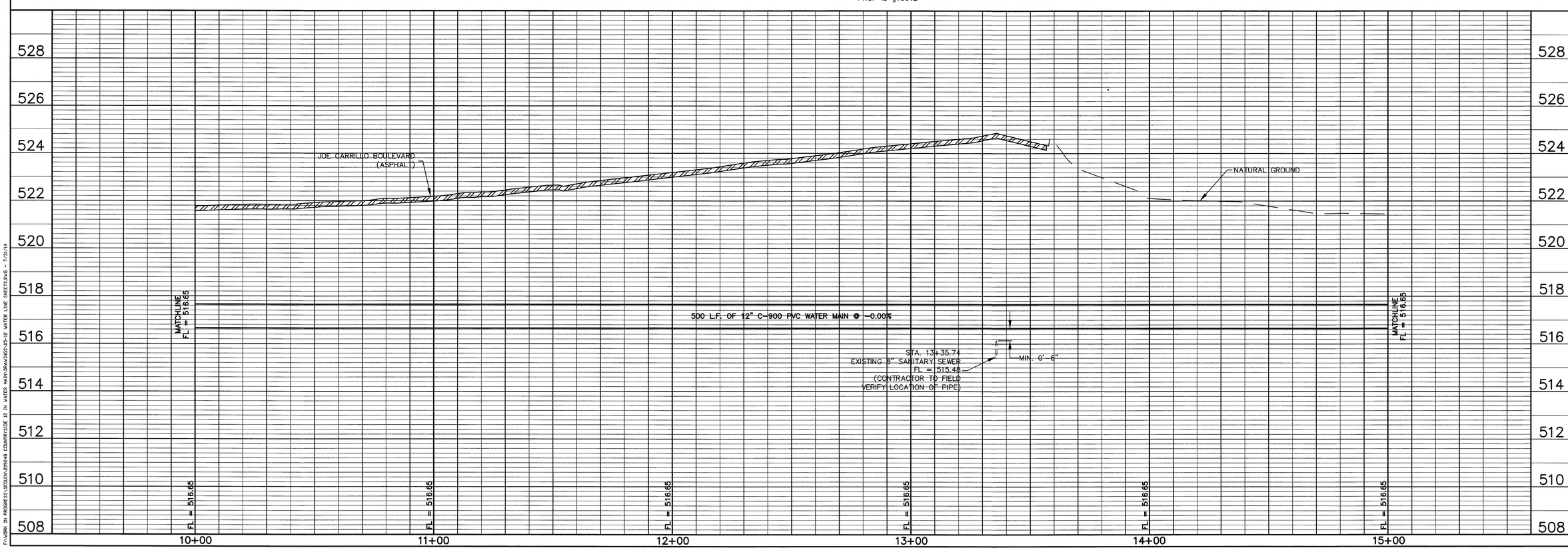

DATE	REVISION	NO.

DESIGN BY:	KAC
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SCALE:	V:1"=2'/H:1"=20'
JOB NUMBER:	209248

TRC
TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 – 8716

STATE OF TEXAS K. CULP 86867 LICENSED PROFESSIONAL ENGINEER
8/1/14

SEGUIN, TEXAS COUNTRYSIDE 12" WATER MAIN STA. 10+00 TO STA. 15+00

SHEET 7 OF 15

JULY 2014

F:\WORK IN PROGRESS\SEGUIN\209248 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\VS-12 WATER LINE SHEETS.DWG - 7/31/14

UTILITY NOTE:
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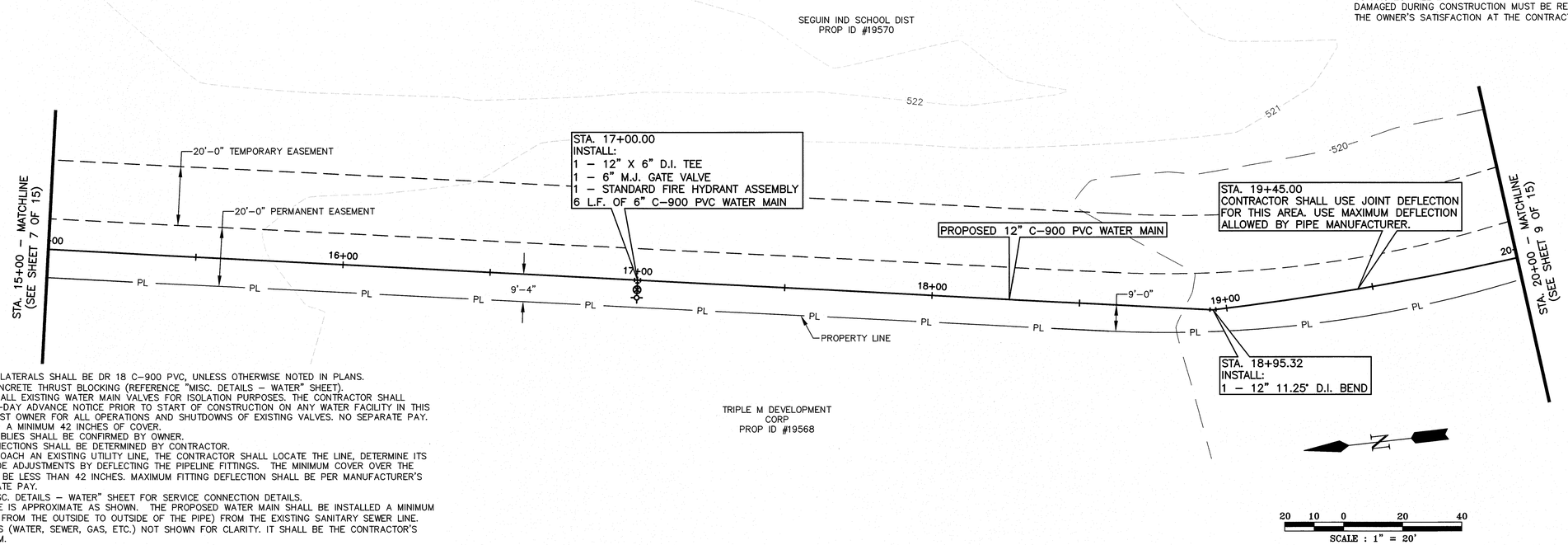

WATER IMPROVEMENT NOTES:

1. PROPOSED WATER MAINS AND ALL LATERALS SHALL BE DR 18 C-900 PVC, UNLESS OTHERWISE NOTED IN PLANS.
2. ALL PIPE FITTINGS SHALL HAVE CONCRETE THRUST BLOCKING (REFERENCE "MISC. DETAILS – WATER" SHEET).
3. THE CONTRACTOR SHALL OPERATE ALL EXISTING WATER MAIN VALVES FOR ISOLATION PURPOSES. THE CONTRACTOR SHALL PROVIDE THE OWNER A MINIMUM 7-DAY ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION ON ANY WATER FACILITY IN THIS PROJECT. CONTRACTOR SHALL ASSIST OWNER FOR ALL OPERATIONS AND SHUTDOWNS OF EXISTING VALVES. NO SEPARATE PAY.
4. PIPELINE SHALL BE INSTALLED WITH A MINIMUM 42 INCHES OF COVER.
5. LOCATION OF FIRE HYDRANT ASSEMBLIES SHALL BE CONFIRMED BY OWNER.
6. LOCATION OF WATER SERVICE CONNECTIONS SHALL BE DETERMINED BY CONTRACTOR.
7. AS CONSTRUCTION ACTIVITIES APPROACH AN EXISTING UTILITY LINE, THE CONTRACTOR SHALL LOCATE THE LINE, DETERMINE ITS EXACT ELEVATION, AND MAKE GRADE ADJUSTMENTS BY DEFLECTING THE PIPELINE FITTINGS. THE MINIMUM COVER OVER THE PROPOSED WATER LINE SHALL NOT BE LESS THAN 42 INCHES. MAXIMUM FITTING DEFLECTION SHALL BE PER MANUFACTURER'S WRITTEN INSTRUCTIONS. NO SEPARATE PAY.
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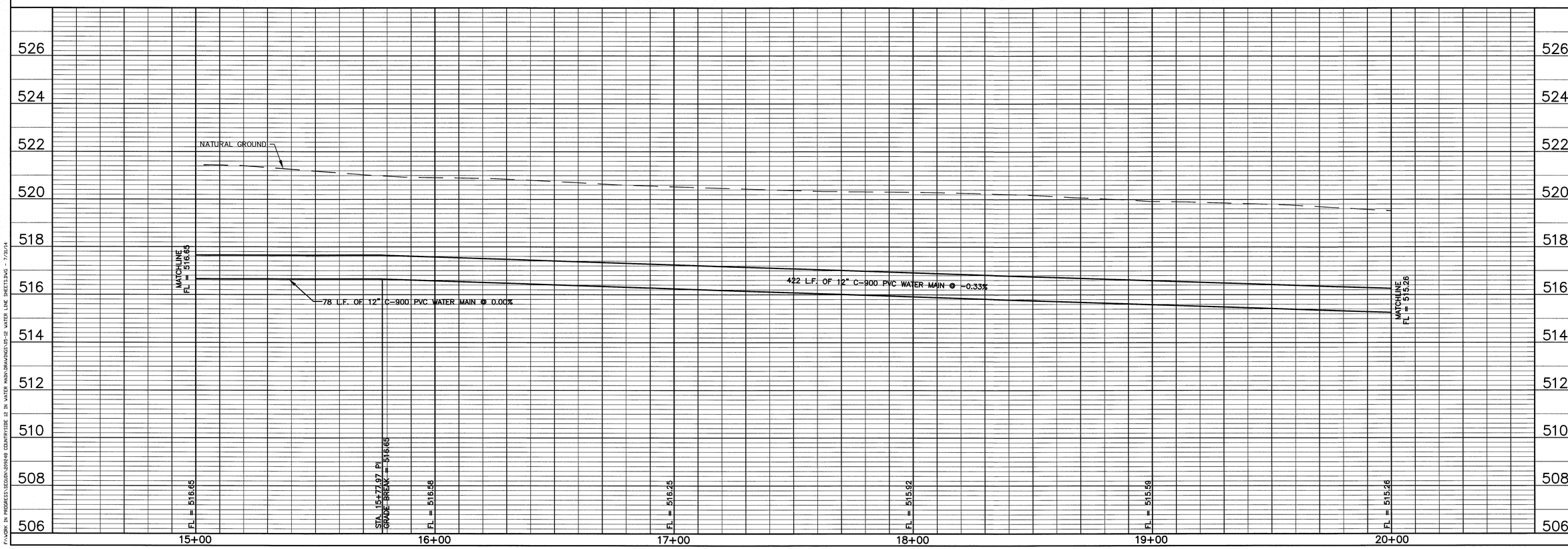

F:\WORK IN PROGRESS\SEGUIN\209248 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\05-12 WATER LINE SHEETS.DWG - 7/30/14

NO.	REVISION	DATE

DESIGN BY: KAC
DRAWN BY: DWH
CHECKED BY: KBP
SCALE: V:1"=2'/H:1"=20'
JOB NUMBER: 209248

TRC
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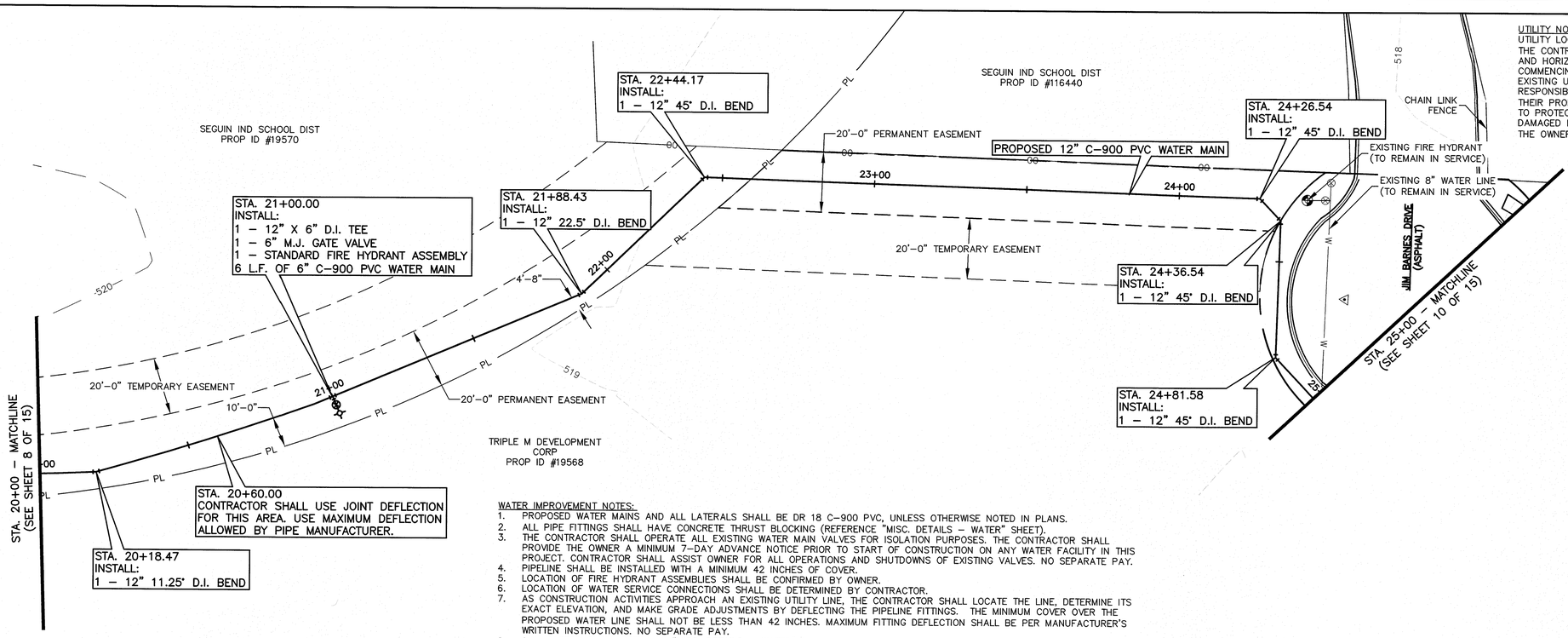
(512) 454 - 8716

STATE OF TEXAS
K. CULP
88480
LICENSED
PROFESSIONAL ENGINEER
8/1/14

SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
STA. 15+00 TO STA. 20+00

SHEET
8 OF 15

JULY 2014



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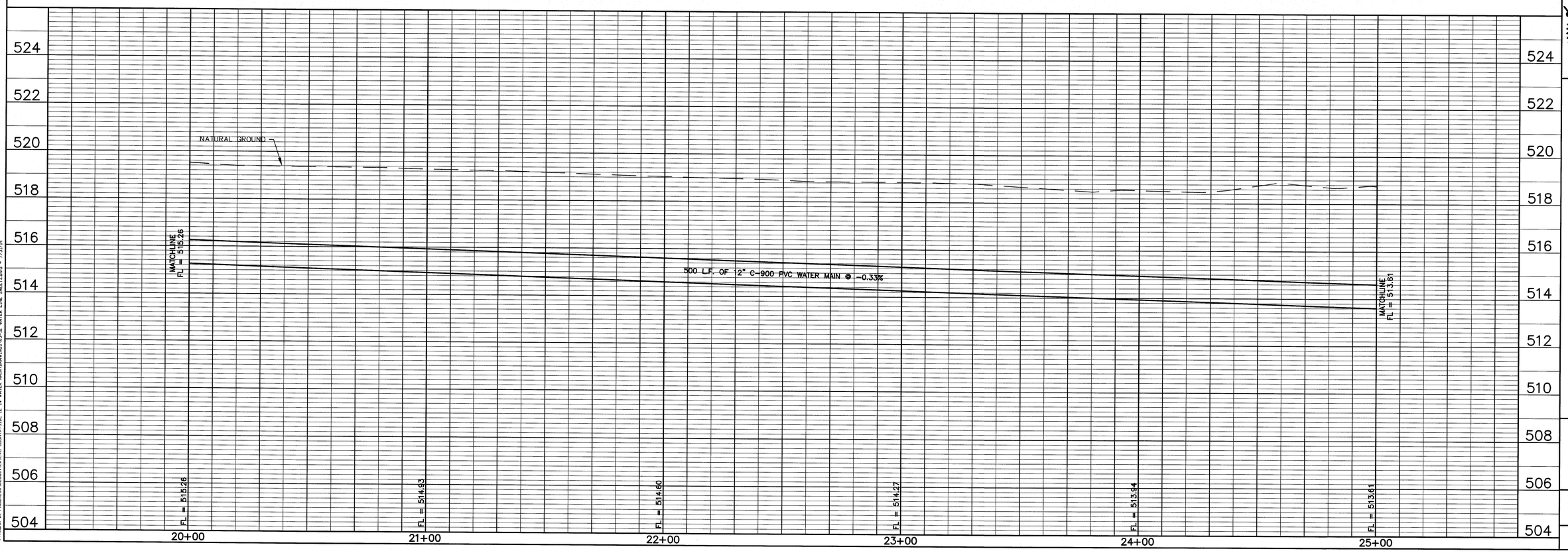

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COUNTRYSIDE 12" WATER MAIN
STA. 20+00 TO STA. 25+00

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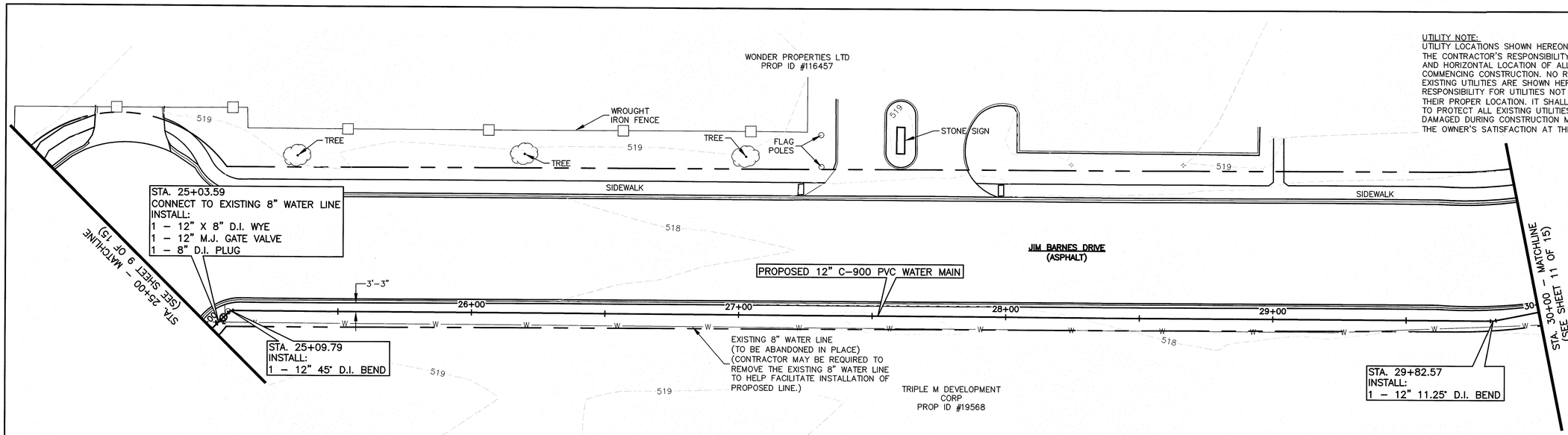

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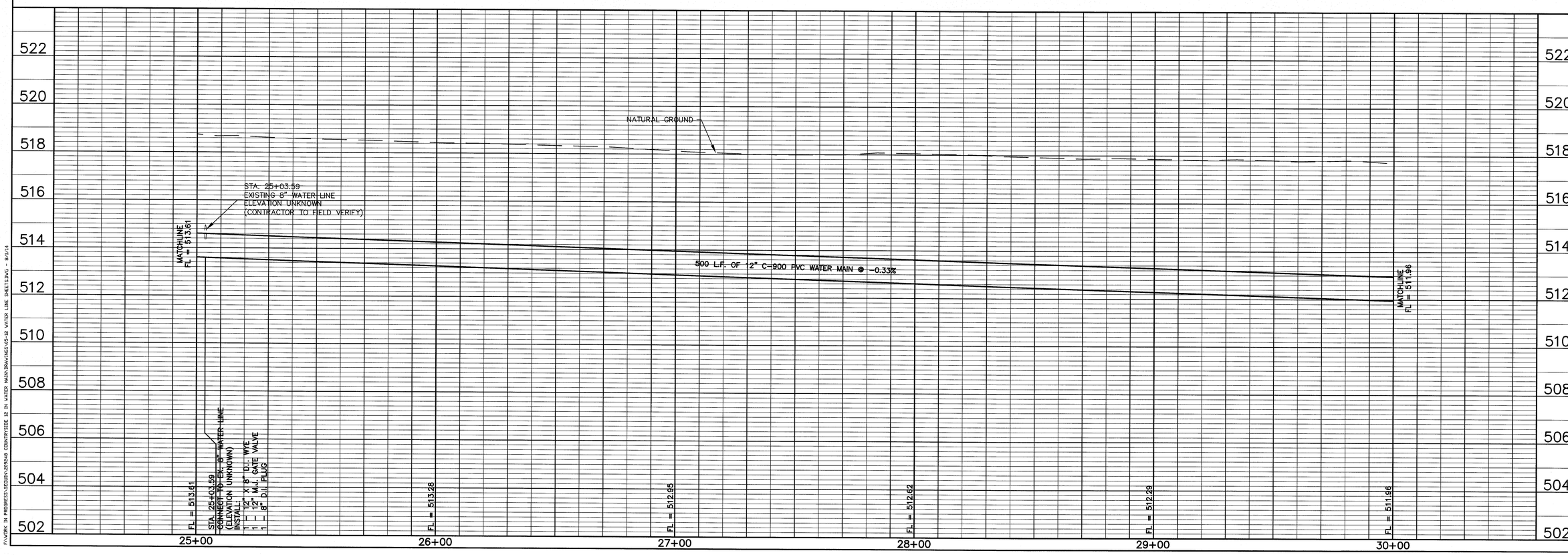

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K. COLP
89407
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8/1/14

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COUNTRYSIDE 12" WATER MAIN
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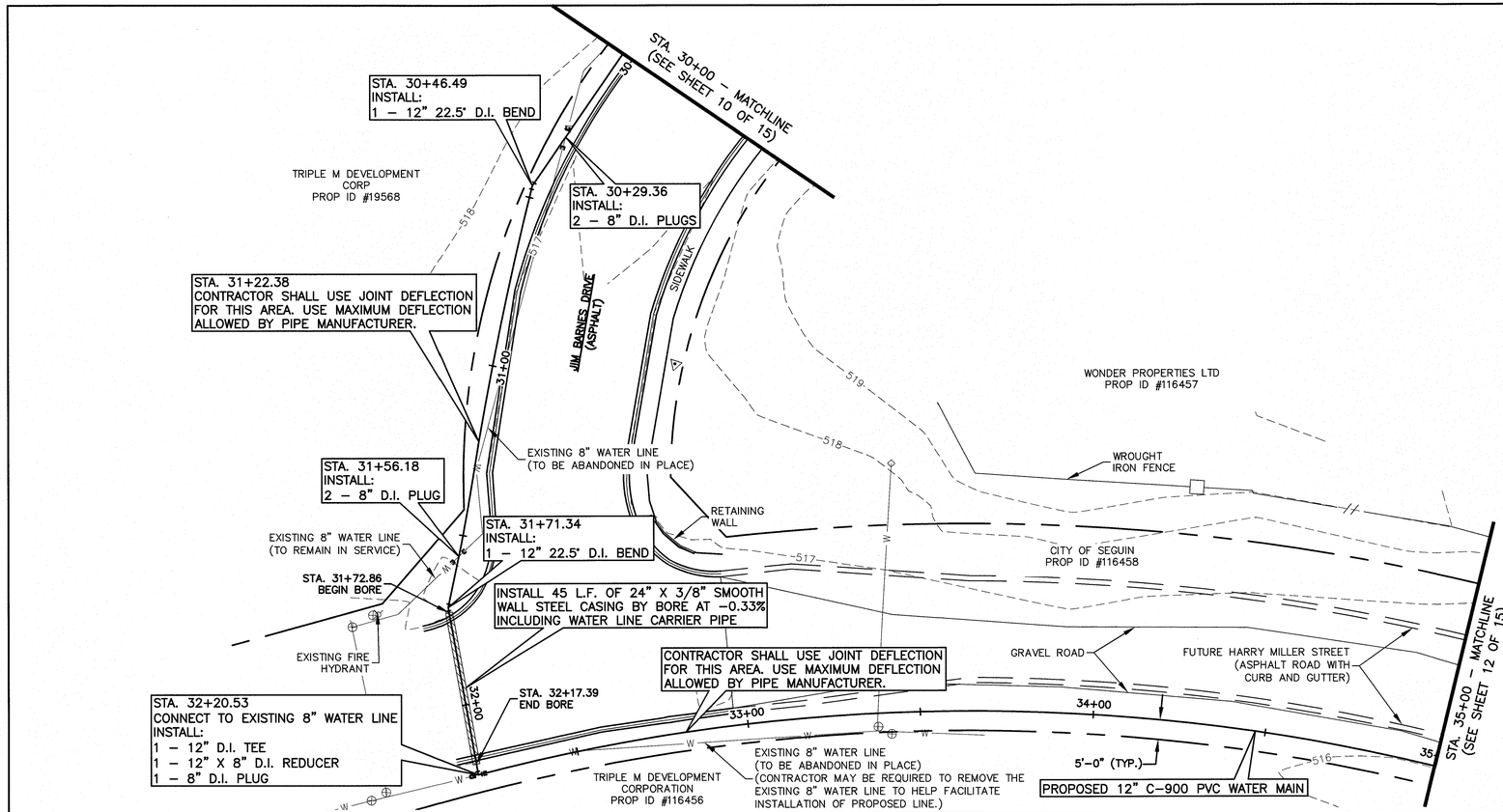

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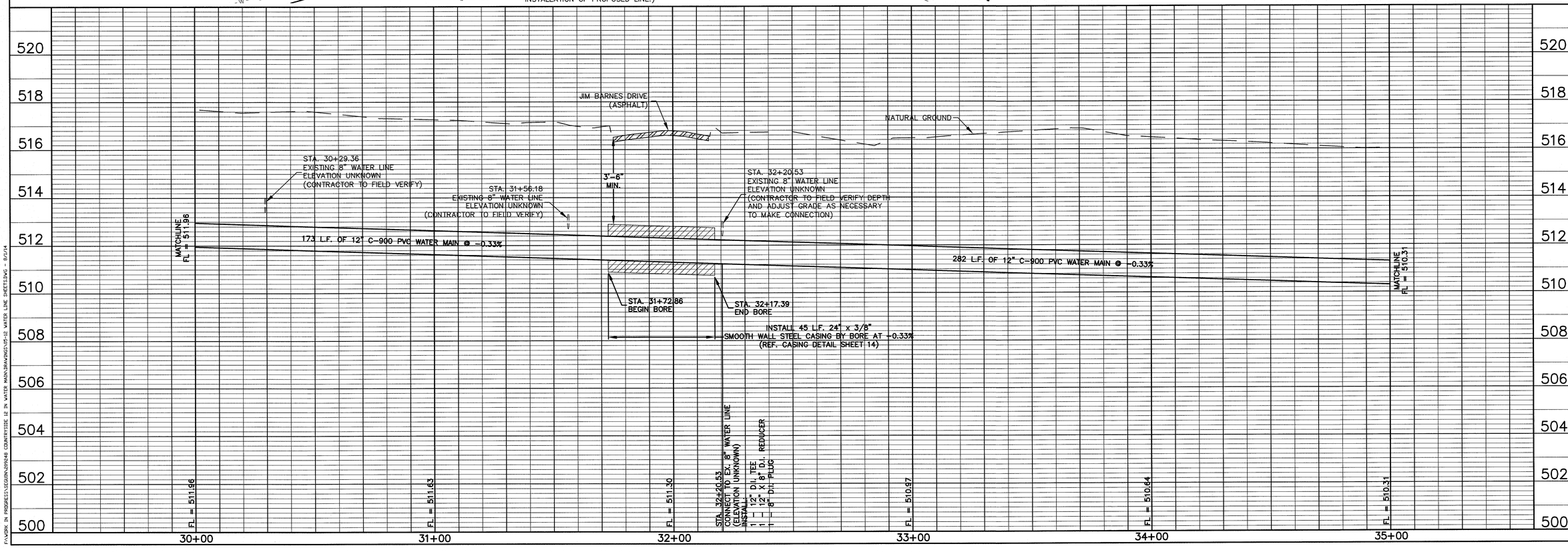

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TRC ENGINEERS, INC.
505 E. HUTCHINSON, SUITE 200, SAN ANTONIO, TEXAS 78752
T.B.P.E. FIRM REGISTRATION #F-8832
(512) 454 – 8716

STATE OF TEXAS
KARL A. COLP
LICENSED
88497
PROFESSIONAL ENGINEER
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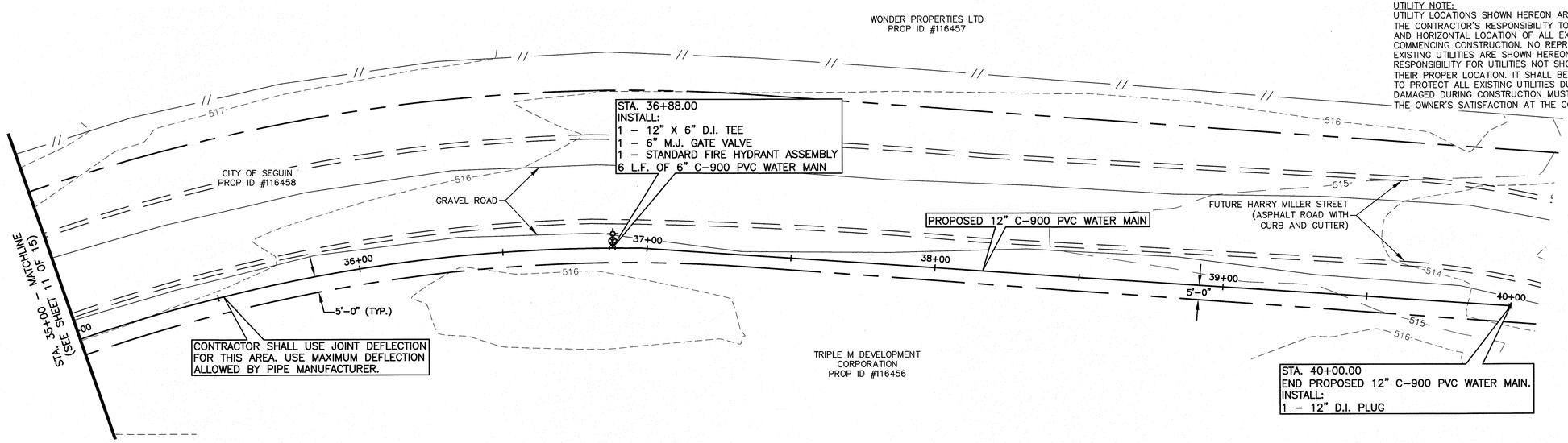

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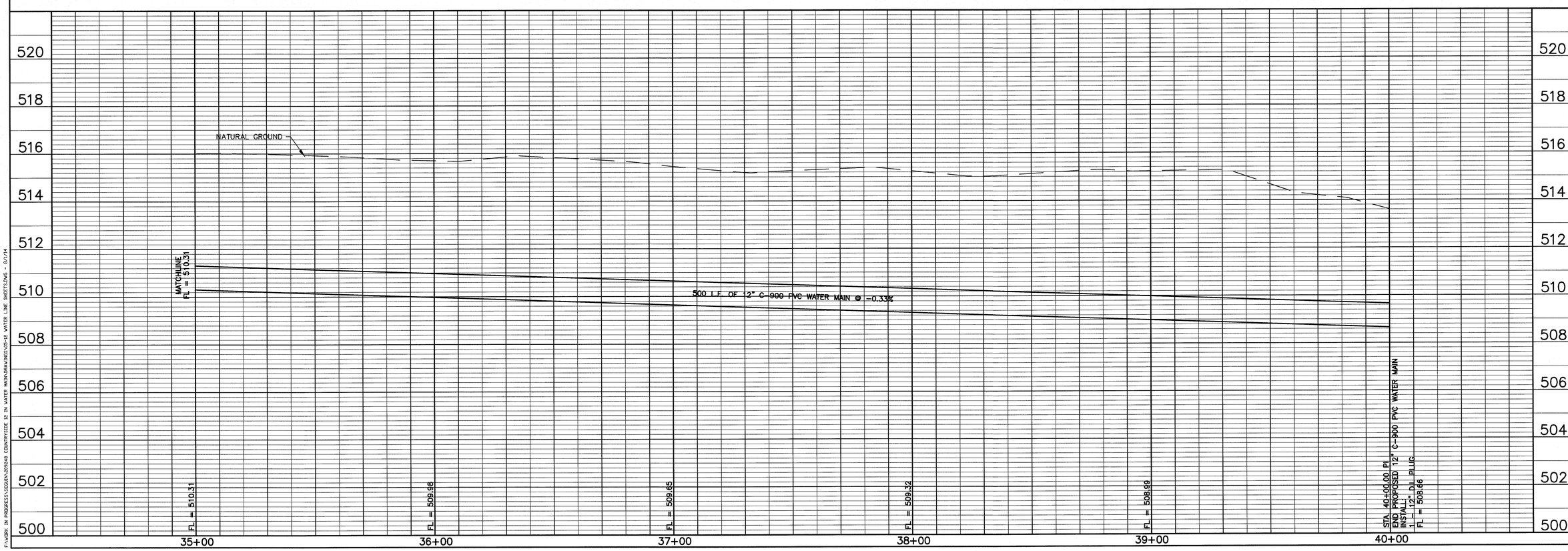

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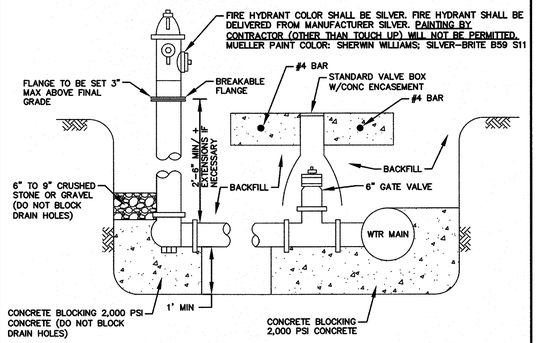


MATERIALS FOR THE FIRE HYDRANT ASSEMBLIES SHALL BE PAID FOR AS FOLLOWS:

MAIN LINE TEE – DUCTILE IRON FITTINGS BID ITEM
6" PIPE – 6" PIPE BID ITEM
FIRE HYDRANT, BURY AND CONCRETE BLOCKING – FIRE HYDRANT BID ITEM
6" GATE VALVE, VALVE BOX WITH CONCRETE ENCASEMENT – 6" GATE VALVE BID ITEM

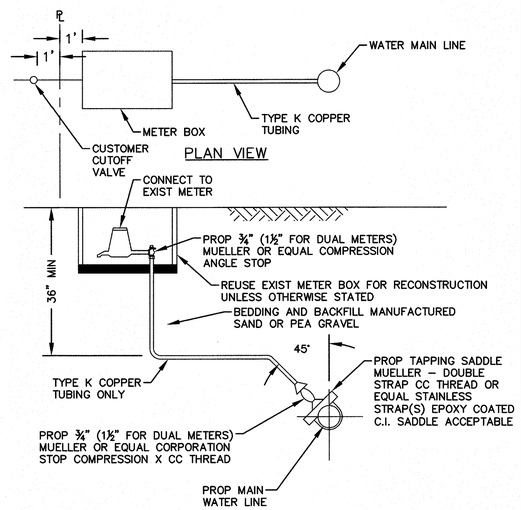
FIRE HYDRANT ASSEMBLY
(AMERICAN DARLING OR MUELLER)

NOTES:

1. CONTRACTOR SHALL INSTALL BLUE REFLECTOR CENTERED ON PROPOSED/EXISTING STREET @ EACH PROPOSED/EXISTING FIRE HYDRANT
2. BACKFILL MATERIAL SHALL MEET ASTM C-33 CRUSHED STONE #57.
3. ALL FIRE HYDRANTS INSTALLED WITHIN PROPOSED CONCRETE SHALL HAVE BLOCKOUTS.

THE CITY OF SEGUIN

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	FIRE HYDRANT ASSEMBLY (MUELLER OR CLOW ONLY)
			SCALE: N.T.S. / DRAWING No. WTR-6



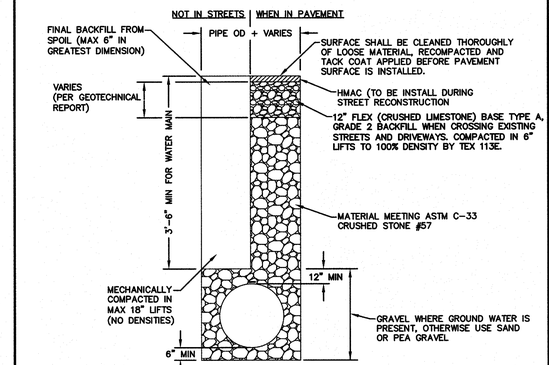
RESIDENTIAL SERVICE CONNECTION (WATER)

NOTES:

1. WATER SERVICE SHALL BE REPLACED FROM MAIN TO EXISTING WATER METER. SERVICE LINE BACKFILL SHALL BE IDENTICAL TO WATER MAIN.
2. BEDDING AND BACKFILL SHALL BE PER WATER MAIN BACKFILL DETAILS.

THE CITY OF SEGUIN

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	RESIDENTIAL SERVICE CONNECTTION (WATER)
			SCALE: N.T.S. / DRAWING No. WTR-5



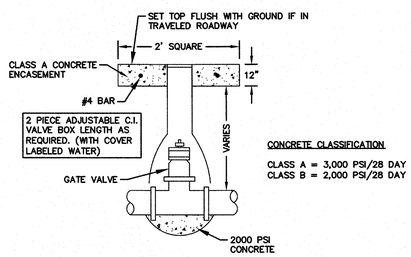
WATER MAIN BACKFILL

NOTES:

1. FOR ASPHALT OR CONCRETE STREET REPAIRS WHERE THE SAW-CUT PAVEMENT EDGE WILL BE WITHIN 3' OF EDGE OF EXISTING PAVEMENT OR LIP OF GUTTER, THE EXISTING PAVEMENT SURFACE BETWEEN THE DITCH LINE AND EDGE OF PAVEMENT OR LIP OF GUTTER SHALL BE REMOVED AND REPLACED WITH MATERIAL SPECIFIED. (INCLUDE IN STREET REPAIR BID ITEM).
2. FOR STREETS NOT BEING RECONSTRUCTED, SURFACE MATERIALS SHALL BE EQUAL TO MATERIAL REMOVED-MINIMUM AMOUNTS; 2" HMAC (TxDOT ITEM 340. TYPE D) EXISTING ASPHALT TO BE SAW CUT.
3. WATER LINE BACKFILL TYPE SHALL BE DETERMINED BY LIMITS OF PROPOSED STREETS. NOT EXISTING.
4. FOR STREETS BEING RECONSTRUCTED ONLY, CONTRACTOR MAY BACKFILL FINAL 12" WITH COMPACTED SPOIL MATERIAL PRIOR TO STREET EXCAVATION TO ALLOW FOR TRAFFIC FLOW. MATERIAL MUST BE PASSABLE FOR ALL VEHICULAR TRAFFIC.
5. TRACER WIRE (14 GAUGE SOLID) FOR NONMETALLIC WATER LINE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND A MINIMUM OF 12 INCHES BELOW THE SUBGRADE SHALL BE PLACED INDUCTIVE TRACER WIRE IN ACCORDANCE WITH THE MANUFACTURE'S REQUIREMENTS. THE WIRE SHALL BE ENCASED IN A PROTECTIVE, INERT, PLASTIC JACKET AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.

THE CITY OF SEGUIN

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	WATER MAIN BACKFILL
			SCALE: N.T.S. / DRAWING No. WTR-2



CONCRETE CLASSIFICATION

CLASS A = 3,000 PSI/28 DAY
CLASS B = 2,000 PSI/28 DAY

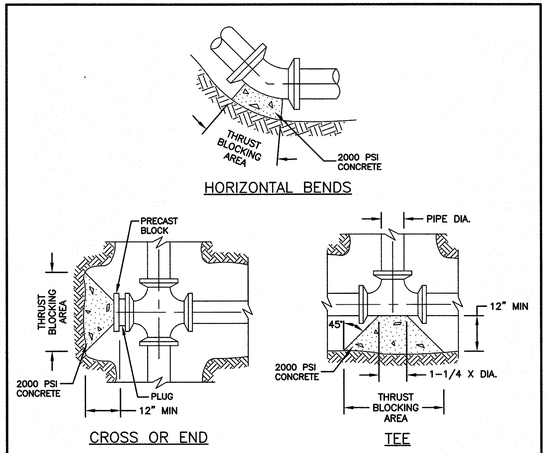
STANDARD VALVE INSTALLATION
(MUELLER ONLY)

NOTES:

1. VALVE BOX SHALL NOT CONTACT WATERMAIN OR VALVE. VALVE & VALVE BOX SHALL BE SUPPORTED BY CONCRETE BLOCKING.
2. VALVE STEM RISER TO BE WITHIN 3' OF SURFACE.
3. CONTRACTOR MAY CONSTRUCT CONCRETE ENCASEMENT AFTER STREET RECONSTRUCTION. ASPHALT SHALL BE SAW-CUT IN NEAT DIMENSIONS.
4. READY MIX OR LEANCRETE IS NOT ACCEPTABLE FOR ENCASEMENT.
5. ALL BACKFILL MATERIAL SHALL MEET ASTM C-33 CRUSHED STONE #57.

THE CITY OF SEGUIN

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	STANDARD VALVE INSTALLATION
			SCALE: N.T.S. / DRAWING No. WTR-4

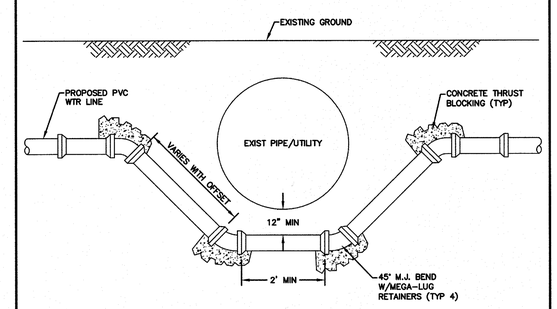


THRUST BLOCKING AREA REQUIRED (SQUARE FEET)				
PIPE DIA.	TEE, CROSS, OR END	90° BEND	45° BEND	22 1/2° BEND
2 & 4"	1.00	1.00	0.75	0.50
6"	1.00	1.00	0.75	0.50
8"	1.60	1.60	1.25	0.90
12"	5.40	5.40	4.20	3.00
16 & 18"	11.40	11.40	8.70	6.00

THRUST BLOCKING DETAILS

THE CITY OF SEGUIN

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	THRUST BLOCK DETAILS
			SCALE: N.T.S. / DRAWING No. WTR-3



WATER MAIN OFFSET DETAIL

NOTES:

1. MATERIALS AND COATINGS TO BE ACCORDANCE WITH WATER MAIN STANDARD SPECIFICATIONS.
2. RESTRAIN EXISTING PIPE BEYOND SECTION AS REQUIRED TO PREVENT MOVEMENT.
3. DUCTILE IRON PIPE FOR WATER LINE CONSTRUCTION SHALL BE ANSI/AWWA-C-150/A21.50 PRESSURE CLASS 250 UNLESS OTHERWISE NOTED.
4. FITTINGS SHALL CONFORM TO ANSI/AWWA-C110/A21.10 OR ANSI/AWWA-C153/A21.53 AND ANSI/AWWA-C111/A21.11 STANDARDS.
5. ALL FITTINGS SHALL BE CEMENT LINED ACCORDING TO ANSI/AWWA-C104/A21.4.
6. FITTINGS SHALL BE DUCTILE IRON OR COMPACT DUCTILE IRON.
7. D.I. PIPE SHALL INCLUDE POLYETHYLENE WRAP AS DETAILED IN THE SPECIFICATIONS.

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	
			SCALE: N.T.S. / DRAWING No. WTR-1

NO.	REVISION	DATE

DESIGN BY:	KAC
DRAWN BY:	DWH
CHECKED BY:	KBP
SCALE:	AS SHOWN
JOB NUMBER:	209248

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

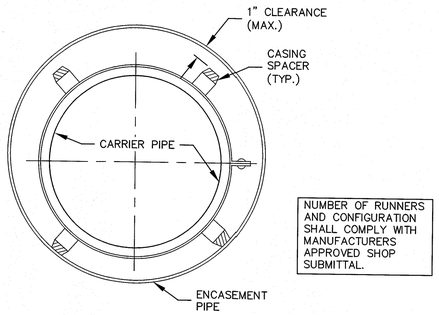
STATE OF TEXAS K. COLP 86487 LICENSED PROFESSIONAL ENGINEER
8/1/14

SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
MISC. DETAILS – WATER

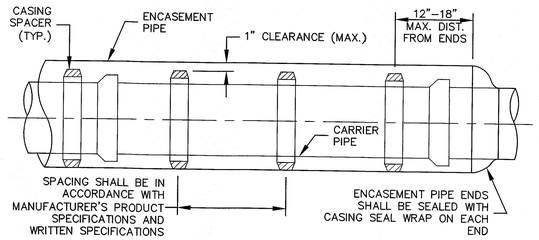
SHEET 13 OF 15

JULY 2014

F:\WORK IN PROGRESS\SEGUIN\209248 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\13 MISC.DETAILS - WATER.DWG - 8/1/14



NUMBER OF RUNNERS AND CONFIGURATION SHALL COMPLY WITH MANUFACTURERS APPROVED SHOP SUBMITTAL.



ENCASEMENT DETAIL WITH CASING SPACERS
N.T.S.

		NO.	REVISION	DATE
DESIGN BY:	KAC			
DRAWN BY:	DMH			
CHECKED BY:	KBP			
SCALE:	AS SHOWN			
JOB NUMBER:	209248			

TRC

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250, AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

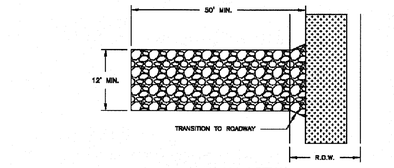
STATE OF TEXAS
K. COLP
89467
LICENSED PROFESSIONAL ENGINEER
8/1/14

SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
MISC. DETAILS – WATER (CONT.)

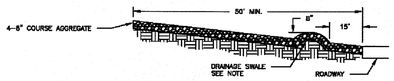
SHEET
14 OF 15

JULY 2014

F:\WORK IN PROGRESS\SEGUIN-209248 COUNTRYSIDE 18 IN WATER MAIN\DRAWINGS\14 MISC. DETAILS - WATER CONT.DWG - 7/31/14



PLAN VIEW



PROFILE

NOTES:

1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION WITH A MINIMUM THICKNESS OF 8 INCHES.
2. IF THE SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE 8 INCHES HIGH WITH 3:1 (H:V) SIDESLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OX/YD^2, A MULLEN BURST RATING OF 140 LB/IN^2, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. THE MINIMUM WIDTH OF THE ENTRANCE SHOULD BE 12 FT OR THE FULL WIDTH OF THE EXIT ROADWAY, WHICHEVER IS GREATER.
5. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
6. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH 4 INCH MINIMUM CRUSHED STONE OR COMMERCIAL RACK WHICH DRAINS TO A SEDIMENT TRAP OR BASIN.

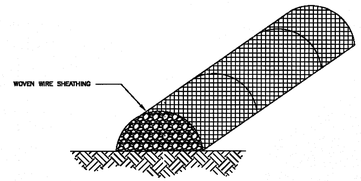
MAINTENANCE:

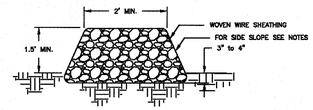
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
8. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

STABILIZED CONSTRUCTION ENTRANCE

THE CITY OF SEGUIN

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	STABILIZED CONSTRUCTION ENTRANCE
			SCALE: N.T.S. / DRAWING No. EC-1





NOTES:

1. USE ONLY CLEAN, OPEN GRADED ROCK 5-8 INCH DIAMETER FOR STREAM FLOW CONDITIONS; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED.
3. THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.
4. FOR INSTALLATIONS IN ACTIVE STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
5. ROCK BERMS PLACED IN STATE RIGHT OF WAY WILL BE INSTALLED WITH A MAXIMUM SLOPE OF 8:1 OR FLATTER FOR ALL SLOPES PARALLEL TO THE FRONTAGE ROAD EDGE OF PAVEMENT.

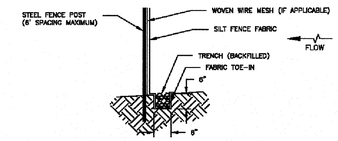
MAINTENANCE AND REMOVAL:

6. REPAIR ANY LOOSE WIRE SHEATHING.
7. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION
8. THE STONE AND/OR FABRIC CORE – WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
9. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
10. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

ROCK BERM

THE CITY OF SEGUIN

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	ROCK BERM
			SCALE: N.T.S. / DRAWING No. EC-2



NOTES:

1. TRIANGULAR SEDIMENT FILTER DIKES MAY BE SUBSTITUTED FOR SILT FENCE IN AREAS WHERE INSTALLATION OF SILT FENCE IS NOT POSSIBLE OR WHERE VEHICLE ACCESS MUST BE MAINTAINED PROVIDED THE CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE ACRE.
2. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN^2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND A MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
3. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT^2, AND BRINDELL HARDNESS EXCEEDING 140.
4. WOVEN WIRE BACKING IS REQUIRED IN THE EDWARDS AQUIFER RECHARGE AND CONTRIBUTING ZONE; OPTIONAL ELSEWHERE. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2"X4" WELDED WIRE, 12 GAUGE MINIMUM.
5. SILT FENCE SHOULD BE INSTALLED FOLLOWING THE CONTOURS AS CLOSE AS POSSIBLE. THE ENDS SHOULD BE CURVED UPSTREAM TO CREATE AN AREA OF WATER IMPOUNDMENT AND PREVENT FLOW FROM ESCAPING AROUND THE FENCE.
6. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT AND SPACED NOT MORE THAN 6 FEET ON CENTER.
7. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (E.G., PAVEMENT OR ROCK OUTCROP) WEIGHT FABRIC FLAP WITH 3" OF WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
8. THE TRENCH MUST BE A MINIMUM OF 8 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
9. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. WHERE ENDS MEET, OVERLAP FABRIC 3-FEET AND SECURELY FASTEN.

MAINTENANCE AND REMOVAL:

12. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
13. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SILT FENCE

THE CITY OF SEGUIN

DATE ISSUED: JUNE 1, 2013			TITLE
REV	DATE	BY	SILT FENCE
			SCALE: N.T.S. / DRAWING No. EC-3

DESIGN BY:	KAC	NO.	REVISION / DATE
DRAWN BY:	DWH		
CHECKED BY:	KBP		
SCALE:	NONE		
JOB NUMBER:	209248		

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STATE OF TEXAS
K. C. PEARSON
68487
LICENSED PROFESSIONAL ENGINEER
8/1/14

SEGUIN, TEXAS
COUNTRYSIDE 12" WATER MAIN
EROSION CONTROL DETAILS

THE CITY OF SEGUIN

SHEET
15 OF 15

JULY 2014

F:\WORK IN PROGRESS\SEGUIN\209848 COUNTRYSIDE 12 IN WATER MAIN\DRAWINGS\08 EROSION CONTROL DETAILS.DWG - 7/31/14