SUBDIVISION PLANS

SAVANNAH HILLS PH-IV

RESIDENTIAL SUBDIVISION

PREPARED FOR
SSP INVESTMENTS, LLC
JONESBORO, ARKANSAS
SEPTEMBER 8,2020

LOCAL CONTACTS

CITY OF JONESBORO - PLANNING & ZONING DEPARTMENT
300 South Church Street
Jonesboro, AR 72401
PH-870-932-0406

CITY OF JONESBORO - ENGINEERING DEPARTMENT
300 South Church Street
Jonesboro, AR 72401
PH-870-932-2438

CITY OF JONESBORO - FIRE SAFETY DEPARTMENT
3215 East Johnson
Jonesboro, AR 72401
PH-870-932-2428

CITY WATER & LIGHT - ENGINEERING DEPARTMENT
400 East Monroe
Jonesboro, AR 72401
PH-870-930-3320

ARKANSAS STATE HIGHWAY DEPARTMENT - R.O.W. PERMITS
2510 Hwy. 412 West
P.O. BOX 98
Paragould, AR 72451
PH-870-239-9511

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
2212 Fowler Ave. - Suite B
Jonesboro, AR 72401 72401
PH-870-935-7221

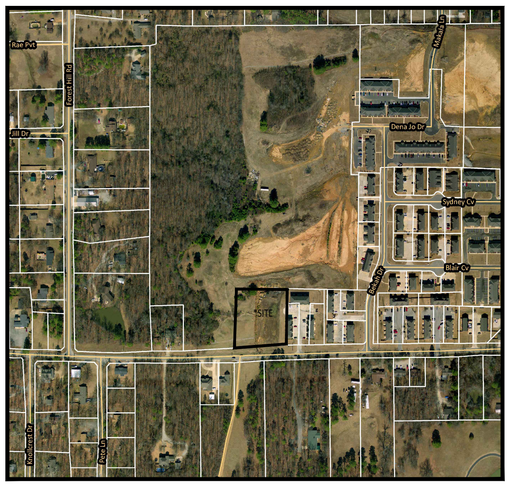
CENTERPOINT ENTERGY
613 Southwest Drive
Jonesboro, AR 72401
PH-800-555-6322

AT&T
723 South Church
Jonesboro, AR 72401
PH-870-972-7596

RITTER COMMUNICATIONS
2109 Fowler Ave.
Jonesboro, AR 72401
PH-870-336-3421

SUDDENLINK
1520 South Caraway
Jonesboro, AR 72401
PH-870-530-5393

VICINITY MAP



INDEX

COMPANY INFO:
2916 WOOD STREET
JONESBORO, AR 72404
PH: 1-870-203-9939
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TRALAN ENGINEERING

PROJECT:
SAVANNAH HILLS PH-IV

CLIENT:
SSP INVESTMENTS, LLC

CERTIFICATE OF AUTHORIZATION
TRALAN ENGINEERING, INC.
No. 2480
ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14026
MICHAEL A. BOSSE
09/08/2020

REVISIONS		
DATE	BY	DESCRIPTION

DRAWING INFO.	
DRAWN BY:	MAB
DATE:	09/08/2020
SCALE:	
JOB NO.:	20-019
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TITLE PAGE

SHEET NUMBER:
1 of 12

SITE INFORMATION

1. SITE INFORMATION

   ADDRESS- CRIAGHEAD FOREST ROAD

VERTICAL AND HORIZONTAL CONTROL

1. THE SITE VERTICAL BENCHMARK IS A MAG NAIL IN THE ASPHALT ODF THE WALKING TRAIL LOCATED 73 FEET EAST AND 7 FEET SOUTH OF THE SOUTHWEST CORNER OF LOT 2 OF SUBJECT PROPERTY AS SHOWN ON PLANS. ELEV = 309.64'

   VERTICAL CONTROL - NAVD 88

2. HORIZONTAL CONTROL POINT A
   N - 530,987.546 E - 1,699,768.106
   HORIZONTAL CONTROL POINT B
   N - 530,994.033 E - 1,699,993.362

   HORIZONTAL CONTROL - AR STATE PLANE GRID NORTH ZONE-NAD 83

LANDSCAPING REQUIREMENTS

1. All LANDSCAPING PLANS SHALL CONFORM TO THE CURRENT CITY OF JONESBORO LANDSCAPING AND SCREENING ORDINANCE (SEC 117-326).

2. TREE PLANTING ISLANDS SHALL BE AT LEAST EIGHTEEN (18) FEET WIDE AND PROTECTED BY RAISED CURBS TO PREVENT DAMAGE BY VEHICLES.

3. ALL TREES SHALL BE OF ORNAMENTAL, EVERGREEN, OR OF THE LARGE DECIDUOUS TYPE.

4. DECIDUOUS TREES SHALL BE BALLED AND BURLAPPED, HAVE A MINIMUM HEIGHT OF EIGHT (8) FEET, AND A MINIMUM TWO AND ONE-HALF (2-1/2) INCH CALIPER.

5. ORNAMENTAL TREES SHALL SHALL BE BALLED AND BURLAPPED, HAVE A MINIMUM HEIGHT OF EIGHT (8) FEET, AND A MINIMUM TWO AND ONE-HALF (2-1/2) INCH CALIPER.

6. EVERGREEN TREES SHALL BE BALLED AND BURLAPPED, HAVE A MINIMUM HEIGHT, AFTER PLANTING, OF TEN (10) FEET.

7. ALL SHRUBS ARE TO BE FIVE (5) GALLON SIZE MINIMUM.

8. ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES IN A MANNER DESIGNED TO ENCOURAGE VIGOROUS GROWTH.

9. ALL SEEDING APPLICATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AHTD STANDARD SPECIFICATIONS-2014 EDITION. CONTRACTOR MUST SUBMIT TO THE DESIGN ENGINEER ALL REQUESTED DEVIATIONS FROM THE MATERIALS, PREPARATION TECHNIQUES, AND CONSTRUCTION PRACTICES DESCRIBED IN SECTION 620. ALL GRANTED DEVIATIONS SHALL BE WARRANTED BY THE CONTRACTOR FOR NO LESS THAN YEAR.

QUALITY ASSURANCE TESTING

1. A HYDROSTATIC LEAKAGE TEST SHALL BE PERFORMED ON ALL WATER MAINS AND SHALL BE PERFORMED PRIOR TO STERILIZATION OPERATIONS. THE TEST PERIOD SHALL LAST AT LEAST TWO HOURS IN DURATION. TEST PRESSURE SHALL BE 1.5 TIMES THE CALCULATED WORKING PRESSURE OF THE MAIN, BUT NOT LESS THAN 100 PSI. THE LINE WILL NOT BE ACCEPTED UNLESS OR UNTIL THE TOTAL IS LESS THAN THAT SPECIFIED IN AWWA C600-10 FOR DUCTILE IRON AND AWWA C605-13 FOR PVC PIPE.

2. ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH THE STANDARDS OF AWWA D651-14.
   ANY NEW CONSTRUCTION OR REPAIRED WATER MAIN MUST BE THOROUGHLY CLEANED (FLUSHED), DISINFECTED, AND TESTED FOR BACTERIOLOGICAL QUALITY BEFORE IT CAN BE PLACED IN SERVICE. FOLLOWING A CONTACT PERIOD OF NOT LESS THAN 24 HOURS, THE CHLORINATED WATER SHALL BE FLUSHED FROM THE SYSTEM, AND THE SYSTEM FILLED WITH WATER OF NORMAL CHLORINE CONTENT. SAMPLES OF WATER THEN SHALL BE TAKEN ON TWO CONSECUTIVE DAYS FROM THE LINES AND DELIVERED TO CERTIFIED WATER TESTING LABORATORY FOR BACTERIAL ANALYSIS. THIS PROCESS SHALL BE CONTINUED UNTIL THE SAMPLES SHOW THE WATER IS SAFE FOR DOMESTIC USE. ALL VALVES IN SECTIONS OF LINES BEING STERILIZED SHALL BE OPENED AND CLOSED AT LEAST TWICE DURING THE STERILIZATION PERIOD. FLUSHING DEVICES SHOULD BE SIZED TO PROVIDE FLOWS WHICH WILL GIVE A VELOCITY OF AT LEAST 2.5 FEET PER SECOND IN THE WATER MAIN BEING FLUSHED. NO FLUSHING DEVICE SHALL BE DIRECTLY CONNECTED TO ANY SEWER MAIN.

3. A LOW PRESSURE AIR TEST SHALL BE PERFORMED ON ALL PVC SANITARY SEWER MAINS PER ASTM F1417.

4. SANITARY SEWER MAINS SHALL BE TESTED WITH A MANDREL FOR DEFLECTION AFTER THE FINAL BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS. DEFLECTION SHALL NOT EXCEED 5% OF THE PIPE DIAMETER IN ACCORDANCE ASTM D3034-16. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

5. ALL SANITARY SEWER MANHOLES SHALL BE VACUUM TESTED AFTER BACKFILL PER ASTM C1244-11.

6. COMPACTION DENSITY TESTS FOR ALL SUBGRADE MATERIAL, BASE MATERIAL, AND TRENCH BACKFILL MATERIAL SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D6938. THE TESTING FREQUENCY PER COMPACTED LIFT SHALL BE AS DESCRIBED BELOW. A MINIMUM OF TWO TESTS ARE REQUIRED IF THE AREA BEING TESTED ONLY WARRANTS ONE TEST PER THE BELOW REQUIREMENTS.

   PARKING LOTS - ONE TEST EVERY 2,000 SQUARE FEET
   ROADWAYS - ONE TEST EVERY 500 FEET (PER LANE)
   TRENCHES - ONE TEST EVERY 500 FEET OR MINIMUM OF ONE BETWEEN MANHOLE STRUCTURES

7. A PROOF ROLL OF THE SUBGRADE AND BASE MATERIALS SHALL BE PERFORMED PRIOR TO THE PLACEMENT OF CURB AND GUTTER, BASE MATERIAL, AND FLEXIBLE OR RIGID PAVEMENT, AS APPLICABLE. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF THE DESIGN ENGINEER. ALL PROOF ROLL TESTS WILL BE PERFORMED WITH A RUBBER-TIRE TANDEM-AXLE DUMP TRUCK WITH A MINIMUM GROSS WEIGHT OF 60,000 POUNDS UNLESS OTHERWISE APPROVED IN WRITING BY THE DESIGN ENGINEER. A CURRENT CERTIFIED WEIGHT TICKET MUST BE PROVIDED AT TIME OF PROOF ROLL TEST TO VERIFY LOADING CRITERIA. PROOF ROLLED MATERIAL SHALL SHOW NO SIGNIFICANT SIGNS OF MOVEMENT DURING PROOF ROLLING AS DETERMINED BY THE DESIGN ENGINEER.

8. AN INDEPENDENT TESTING AGENCY SHALL PERFORM FIELD QUALITY CONTROL TESTS FOR ALL CONCRETE PAVEMENTS AND SIDEWALKS. THE TESTING AGENCY SHALL MOLD AND CURE FOUR CONCRETE TEST CYLINDERS FOR EACH COMPRESSIVE STRENGTH TEST. TEST SAMPLES SHALL BE TAKEN EVERY 50 CUBIC YARDS OR LESS FOR EACH CLASS OF CONCRETE POURED EACH DAY. A SLUMP TEST, AIR TEST, AND TEMPERATURE TEST SHALL BE PERFORMED AND RECORDED FOR EACH SET OF TEST CYLINDERS.

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ALL LOCAL, STATE, AND FEDERAL PERMITS RELATED TO ANY CONSTRUCTION ACTIVITY.

2. CONSTRUCTION LIMITS ARE TO BE CLEARED BY CONTRACTOR. ALL STUMPS, DEBRIS, ETC., REMAINING WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT HIS/HER EXPENSE.

3. CONTRACTOR SHALL KEEP AN ORDERLY WORK SITE AND SHALL DISPOSE OF ALL CONSTRUCTION DEBRIS IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS.

4. BEFORE ANY CLEARING OR EXCAVATIONS ARE MADE, THE CONTRACTOR SHALL CONTACT THE ARKANSAS ONE-CALL AT 811 AT LEAST TWO DAYS PRIOR TO THE COMMENCEMENT OF ANY SAID ACTIVITY.

5. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO EXISTING FACILITIES AND/OR ADJACENT PROPERTIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE THAT MAY OCCUR. DAMAGE TO PUBLIC AND PRIVATE PROPERTY DUE TO HAULING OPERATIONS OR OPERATIONS OF CONSTRUCTION RELATED EQUIPMENT FROM THE CONSTRUCTION SITE SHALL BE REPAIRED BY THE RESPONSIBLE PARTY.

6. CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN WITH SUBSTANTIAL FENCING TO THE OUTER DRIP EDGE AND NO GRADING SHALL BE PERFORMED INSIDE THIS AREA.

7. ACCESS ALONG ROADWAYS SHALL BE MAINTAINED AT ALL TIMES. CONSTRUCTION IN CITY, COUNTY, OR STATE RIGHTS-OF-WAY SHALL BE COORDINATED BY CONTRACTOR WITH THE APPROPRIATE PARTY. ALL WORK ZONE TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350.

8. CONTRACTOR SHALL NOT CONSTRUCT A DRIVEWAY OF ANY TYPE UNTIL THE OWNER HAS SECURED A DRIVEWAY ACCESS PERMIT FROM THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT (AHTD) OR THE LOCAL MUNICIPALITY.

9. THE LOCATIONS AND SIZES OF EXISTING UNDERGROUND UTILITIES SHOWN ARE BASED FIELD MEASUREMENTS AND EXISTING UTILITY MAPS. TRALAN ENGINEERING, INC, MAKES NO GUARANTEE TO THE EXACT LOCATION OF THE UTILITIES SHOWN ON THESE PLANS. LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES MAY VARY FROM LOCATIONS SHOWN. NO EXCAVATIONS WERE MADE TO LOCATE BURIED UTILITIES OR STRUCTURES.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKEOUT. CONTRACTOR SHALL VERIFY ALL MEASUREMENTS, ELEVATIONS, STATIONS, ETC. BEFORE ORDERING MATERIALS OR PROCEEDING WITH WORK, AND IS RESPONSIBLE FOR SAME. IF ANY DISCREPANCY IN THE PLANS OR SPECIFICATIONS ARISES, THE CONTRACTOR SHALL CONTACT THE OWNER OR THE OWNER'S REPRESENTATIVE BEFORE INITIATING WORK AFFECTED BY THE DISCREPANCY.

11. THE CONTRACTOR IS CAUTIONED AND SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER OR OWNER'S REPRESENTATIVE OF ANY ERROR OR OMISSION ON THESE PLANS WHICH MAY CREATE ADDITIONAL WORK OR EXPENSE BY THE CONTRACTOR. A WRITTEN WORK ORDER SHALL BE OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH ANY EXTRA WORK WHICH MAY BE CAUSED FROM SUCH ERROR OR OMISSION ON THESE CONSTRUCTION DOCUMENTS.

STANDARD ACCESSIBILITY REQUIREMENTS

1. HANDICAP ACCESSIBLE SPACES AND ACCESS AISLES SHALL HAVE A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS.

2. ALL ACCESSIBLE PARKING SPACES SHALL HAVE A VERTICALLY MOUNTED SIGN SHOWING THE SYMBOL OF ACCESSIBILITY. AT LEAST ONE SPACE MUST HAVE AN ADDITIONAL SIGN "VAN ACCESSIBLE" MOUNTED BELOW THE SIGN OF ACCESSIBILITY. SIGNS SHALL BE LOCATED 60 INCHES MINIMUM ABOVE THE ADJACENT PAVED SURFACE TO THE BOTTOM OF TEXT.

3. ACCESS AISLES SERVING ACCESSIBLE PARKING SPACES SHALL BE 60 INCHES MINIMUM. ALL VAN ACCESSIBLE SPACES SHALL HAVE ACCESS AISLES THAT ARE 96 INCHES MINIMUM.

4. HANDICAP ACCESSIBLE ROUTES SHALL HAVE A MAXIMUM CROSS-SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5%.

5. HANDICAP ACCESSIBLE RAMPS EXCEEDING 6 INCHES IN RISE (EXCLUDING CURB RAMPS) SHAVE HAVE HANDRAILS ON EACH SIDE BETWEEN 34 INCHES AND 36 INCHES IN HEIGHT, AND EXTEND 12 INCHES BEYOND THE TOP AND BOTTOM OF THE RAMP. HANDRAILS SHALL NOT DIMINISH THE CLEAR AREA REQUIRED FOR TOP AND BOTTOM LANDINGS SERVICING THE RAMPS.

6. BOTTOM LANDINGS FOR HANDICAP ACCESSIBLE RAMPS SERVING REQUIRED EXITS SHALL BE 5 FT X 5 FT MINIMUM.

7. ALL SIDEWALKS MUST BE AT LEAST 36 INCHES WIDE.

8. HANDICAP ACCESSIBLE RAMPS SHALL NOT EXCEED A 1:12 SLOPE.

STORMWATER POLLUTION PREVENTION PLAN NOTES

1. ALL EROSION AND SEDIMENT CONTROL MEASURES PRESENTED ON THESE CONSTRUCTION DOCUMENTS AND IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE INSTALLED AS SOON AS PRACTICAL.

2. TRAFFIC THAT EXITS THE CONSTRUCTION SITE MUST USE THE CONSTRUCTION EXIT. ANY SEDIMENT THAT IS TRACKED OFF-SITE MUST BE REMOVED IMMEDIATELY.

3. THE CONCRETE TRUCK WASHOUT AREA MUST BE CONFINED TO THE LOCATION SHOWN ON THESE DOCUMENTS. CONCRETE WASHOUT SHALL NOT BE DISCHARGED FREELY ON THE SITE OR INTO ANY STORM WATER SYSTEM.

4. A TEMPORARY SANITARY FACILITY MUST BE PLACED ONSITE. THE EXACT LOCATION SHALL BE COORDINATED WITH THE OWNER OR OWNER'S REPRESENTATIVE.

5. ALL SWPPP DOCUMENTS MUST BE UPDATED IMMEDIATELY UPON ANY WARRANTED CHANGE DURING CONSTRUCTION. ALL CHANGES MUST ME APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

6. CONTROL MEASURES MUST BE WELL MAINTAINED DURING ALL CONSTRUCTION ACTIVITIES TO ENSURE MINIMAL OFF-SITE ACCUMULATION OF SEDIMENT. A QUALIFIED PERSON MUST INSPECT EVERY CONTROL MEASURES AT LEAST ONCE EVERY SEVEN DAYS. ALL DEFICIENCIES SHALL BE REPAIRED WITHIN THREE DAYS OF DISCOVERY, UNLESS OTHERWISE DIRECTED BY STATE OR LOCAL OFFICIALS.

7. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY WILL STOP FOR AT LEAST 21 DAYS SHALL BE SEEDED WITHIN 14 DAYS.

8. CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING SEDIMENT COLLECTED IN ANY DETENTION/RENTION POND OR STORM SEWER SYSTEM AFTER THE SITE HAS BEEN FULLY STABILIZED.

9. ALL TEMPORARY CONTROL MEASURES SHALL BE DISPOSED OF WITHIN 30 DAYS AFTER FINAL STABILIZATION. FINAL STABILIZATION HAS OCCURRED WHEN ALL DISTURBANCE ACTIVITIES HAS CEASED AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 80% HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS.

GRADING AND DRAINAGE NOTES

1. ALL SUBGRADE STRUCTURAL FILL SHALL BE PLACED IN UNIFORM HORIZONTAL LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS AND COMPACTED WITH SUITABLE EQUIPMENT TO ACHIEVE 95% STANDARD PROCTOR (ASTM D698) AT 2% BELOW TO 3% ABOVE OPTIMUM MOISTURE CONTENT. STRUCTURAL FILL MATERIALS SHALL HAVE A PLASTICITY INDEX BETWEEN 5 AND 25 AND A LIQUID LIMIT NOT EXCEEDING 50. ALL FILL MATERIAL SHALL BE LESS THAN 3" IN DIAMETER.

2. ALL AGGREGATE BASE MATERIALS SHALL MEET THE CLASS 7 GRADING AND CRUSHING REQUIREMENTS AS OUTLINED IN AHTD STANDARD SPECIFICATIONS-2014 EDITION, SECTION 303. ALL BASE MATERIAL SHALL BE COMPACTED TO 98% MODIFIED PROCTOR (ASTM D1557).

3. ASPHALT SURFACE COURSE MATERIALS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AHTD STANDARD SPECIFICATIONS-2014 EDITION. ALL PARKING LOTS SHALL BE CONSTRUCTED UTILIZING THE 3/8" ASPHALT CONCRETE HOT MIX SURFACE COURSE DESIGN REQUIREMENTS AS SHOWN IN SECTION 407 & 409. CONTRACTOR SHALL MEET THE CONSTRUCTION REQUIREMENTS AND ACCEPTANCE CRITERIA IN SECTION 410. ASPHALT CONCRETE PAVEMENTS SHALL NOT BE APPLIED WHEN THE SURFACE TEMPERATURE IS BELOW 40 DEGREES (F), WHEN THERE IS FROST IN THE BASE MATERIAL, OR ANY OTHER TIME WHEN WEATHER CONDITIONS ARE UNSUITABLE.

4. ALL CONCRETE CURB AND GUTTER SECTIONS SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI.

5. ALL SIDEWALK, DRIVING, PARKING, AND DUMPSTER AREAS SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 PSI AND REINFORCED WITH MASTERFIBER MAC 2200 CB AT AN APPLICATION RATE OF 3 LB/CU. YD. AN EQUIVALENT REINFORCEMENT PRODUCT SUCH AS WELDED WIRE MESH (GALVANIZED FLAT SHEETS ONLY) OR REBAR MATS MAY BE USED, BUT MUST BE APPROVED BY DESIGN ENGINEER. ALL WELDED WIRE MESH AND REBAR MATS SHALL BE PLACED ON CHAIRS OR BAR SUPPORTS AT INTERVALS NECESSARY FOR PROPER REINFORCEMENT PLACEMENT. THE MAXIMUM FLY ASH CONTENT IN THE CONCRETE SHALL NOT EXCEED 10% OF THE TOTAL CEMENTITIOUS MATERIAL. THE TOTAL TARGETED AIR CONTENT SHALL BE 5% (PLUS OR MINUS 1%) AS DETERMINED BY ASTM C173/C173M. MAXIMUM SLUMP SHALL BE 5 INCHES AS DETERMINED BY ASTM C143. MAXIMUM WATER-TO-CEMENT RATIO SHALL BE 0.45.

6. A WHITE-PIGMENTED MEMBRANE-FORMING CURING COMPOUND MEETING ASTM C309, TYPE II, CLASS A REQUIREMENTS SHALL BE APPLIED ON ALL CONCRETE SURFACES. THE APPLICATION RATE SPECIFIED BY THE MANUFACTURER SHALL BE USED UNLESS SITE CONDITIONS WARRANT EXTRA COVERAGE. A SECOND APPLICATION AT A 90 DEGREE OFFSET IS RECOMMENDED ON WINDY DAYS OR WHENEVER A SINGLE APPLICATION RESULTS IN COVERAGE THAT IS NOT UNIFORM. THE MINIMUM APPLICATION RATE SHALL NEVER BE LESS THAN 200 SQ.FT/GAL.

7. HOT AND COLD WEATHER WARRANT SPECIAL PRECAUTIONS WHEN PLACING, FINISHING, AND PROTECTING CONCRETE AGAINST THE EFFECTS OF WEATHER. DURING HOT WEATHER THE CONTRACTOR MUST COMPLY WITH ACI 305.1 AND DURING COLD WEATHER ACI 306.1.

8. CONTRACTOR IS CAUTIONED TO NOT PREMATURELY FINISH OR OVERWORK THE SURFACE OF EXTERIOR AIR-ENTRAINED CONCRETE WHICH MAY LEAD TO SURFACE DELAMINATION.

9. ALL CONCRETE PAVEMENT AND SIDEWALKS SHALL HAVE A LIGHT BROOM FINISH THAT IS PERPENDICULAR TO THE PAVEMENT DIRECTION.

10. THE MAXIMUM CONTRACTION JOINT SPACING OF ANY CONCRETE PANEL SHALL BE 30 TIMES THE THICKNESS OF THE SLAB. IN NO CASE SHALL THE SPACING EXCEED 15 FEET. JOINT PATTERNS SHOULD DIVIDE ALL PAVEMENT SECTIONS INTO APPROXIMATELY SQUARE PANELS. THE LENGTH OF ANY PANEL SHALL NEVER BE MORE THAN 25% GREATER THAN ITS WIDTH. ALL JOINTS SHALL BE CONSTRUCTED TO A MINIMUM DEPTH OF ¼ THE THICKNESS OF THE SLAB. TRAVERSE JOINTS SHALL BE CONSTRUCTED BEFORE ANY LONGITUDINAL JOINT.

11. ALL CURB AND GUTTER SECTIONS SHALL HAVE CONTRACTION JOINTS CONSTRUCTED AT A MAXIMUM SPACING OF 15 FT.

12. ISOLATION (EXPANSION) JOINTS ARE REQUIRED WHERE CURB AND PAVEMENTS ABUT BUILDINGS, FOUNDATIONS, EXISTING PAVEMENTS, MANHOLES AND OTHER FIXED OBJECTS.

13. ALL CONCRETE ISOLATION JOINTS SHALL BE SEALED IN ACCORDANCE WITH ACI 504R.

14. STORM SEWER MANHOLES MAYBE PRE-CAST OR POURED IN PLACE CONCRETE. REFER TO GRADING AND DRAINAGE PLAN FOR MANHOLE SIZE AND SHAPE. ALL MANHOLE TOPS MUST BE POURED IN PLACE CONCRETE AND MATCH ALL PLAN GRADES / PAVEMENT SLOPES. CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 PSI. ALL MANHOLE RING AND COVERS SHALL BE 24" DIAMETER GRAY CAST IRON (DEETER 2018-A OR EQUIVALENT).

15. ALL DRAINAGE PIPE SHALL BE CLASS III REINFORCED CONCRETE PIPE, UNLESS NOTED OTHERWISE. CONTRACTOR MAY BID ANOTHER EQUIVALENT PIPE MATERIAL EXCEPT UNDER PUBLIC ROAD CROSSINGS. ALL EQUIVALENT PIPES SHALL BE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE AND HAVE A MINIMUM MANNING'S ROUGHNESS COEFFICIENT ("N") OF 0.013.

16. THE MINIMUM BARREL SPACING ON MULTIPLE PARALLEL PIPE RUNS SHALL BE IN CONFORMANCE WITH THE BELOW TABLE:

DIAMETER	SPACING
12" TO 24"	12"
24" TO 72"	1/2 PIPE DIAMETER
72" AND OVER	36"

17. CONTRACTOR SHALL FAMILIARIZE HIMSELF/HERSELF WITH THE GRADES SHOWN ON THESE CONSTRUCTION DOCUMENTS. ALL COMBINATION CURB AND GUTTER SECTIONS SHALL HAVE THE GUTTER PORTION PITCHED IN THE SAME DIRECTION OF THE INTENDED FLOW.

18. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN CONFORMANCE WITH THE GRADES AND SLOPES SHOWN ON THESE CONSTRUCTION DOCUMENTS THROUGHOUT ALL SITE GRADING AND EXCAVATING ACTIVITIES.

PAINTED PAVEMENT MARKINGS

1. PARKING LOT/STREET MARKINGS, CROSSWALKS, ARROWS, SYMBOLS AND CURB MARKINGS SHALL COMPLY WITH THE DETAILS DEPICTED ON THESE DOCUMENTS AND IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION-MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD).

2. ALL MARKING PAINT MATERIAL SHALL BE ON THE MASTER PAINTERS INSTITUTE APPROVED LIST FOR TRAFFIC MARKING PAINT (MPI #97). STREET AND PARKING STRIPES SHALL BE WHITE OR YELLOW AS SHOWN ON CONSTRUCTION DOCUMENTS. CROSSWALKS, ARROWS, AND SYMBOLS SHALL BE WHITE.

3. CONTRACTOR SHALL ALLOW NEW PAVEMENT SURFACES TO CURE FOR A PERIOD OF NOT LESS THAN 14 DAYS BEFORE APPLICATION OF MARKING MATERIALS.

4. CONTRACTOR SHALL CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION AND BEGIN MARKING AS SOON AS PRACTICAL.

5. PAINT MARKINGS SHALL NOT BE APPLIED IF THE TEMPERATURE OF THE SURFACE TO BE PAINTED OR THE ATMOSPHERE IS LESS THAN 50 DEGREES (F) OR MORE THAN 95 DEGREES (F).

6. CONTRACTOR SHALL UNIFORMLY APPLY ALL PAINTED MARKINGS TO THE COLORS, LENGTHS, AND WIDTHS AS INDICATED ON THESE CONSTRUCTION DOCUMENTS. PAINT SHALL BE APPLIED IN ONE COAT WITH A WET FILM THICKNESS OF 0.015" MINIMUM AND A WIDTH TOLERANCE OF PLUS OR MINUS 1/8".

7. ALL ARROWS AND SYMBOLS SHALL UTILIZE A SUITABLE TEMPLATE THAT WILL PROVIDE A PAVEMENT MARKING WITH TRUE, SHARP EDGES AND ENDS.

8. CONTRACTOR SHALL PROVIDE ANY BARRICADES, WARNING SIGNS, AND FLAGS AS NECESSARY TO PREVENT TRAFFIC FROM CROSSING NEWLY PAINTED MARKINGS.

9. ANY DEFECTIVE MARKING SHALL BE REMOVED IN MANNER TO AVOID DAMAGE TO THE SURFACE TO WHICH THE MARKING WAS APPLIED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.

WATER-SEWER UTILITY NOTES

1. ALL MATERIALS USED FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL MEET LOCAL UTILITY DISTRICT/MUNICIPALITY SPECIFICATIONS AND BE INSTALLED IN CONFORMANCE WITH DETAILS SHOWN HEREON.

2. ALL WORKED PERFORMED ON THIS PROJECT ASSOCIATED WITH THE WATER OR SEWER SYSTEM SHALL COMPLY WITH THE RECOMMENDED STANDARDS FOR WATER WORKS (TEN STATE STANDARDS) AND THE ARKANSAS BOARD OF HEALTH RULES AND REGULATIONS PERTAINING TO PUBLIC WATER SYSTEM AS DESIGNED AND SHOWN HEREON.

3. WATER MAINS AND SANITARY SEWER SHALL BE CONSTRUCTED AS FAR APART AS PRACTICABLE, AND SHALL BE SEPARATED BY UNDISTURBED AND COMPACTED EARTH. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHOULD BE MAINTAINED BETWEEN WATER LINES AND SEWER LINES OR OTHER SOURCES OF CONTAMINATION. WATER LINES AND SEWER LINES SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ARKANSAS DEPARTMENT OF HEALTH AND HUMAN SERVICES. WATER MAINS IN CLOSE PROXIMITY TO SEWER MAINS MUST BE PLACED SO THAT THE BOTTOM OF THE WATER LINE WILL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE AT ITS HIGHEST POINT. IF THIS DISTANCE MUST UNAVOIDABLY BE REDUCED, THE WATER LINE OR SEWER LINE MUST BE ENCASED IN WATERTIGHT PIPE WITH SEALED WATER TIGHT ENDS EXTENDING AT LEAST TEN FEET EITHER SIDE OF THE CROSSING. ANY JOINT IN THE ENCASEMENT PIPE IS TO BE MECHANICALLY RESTRAINED. THE ENCASEMENT PIPE MAY BE VENTED TO THE SURFACE IF CARRYING WATER OR SEWER UNDER PRESSURE. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH THE SEWER LINE, AT LEAST 18 INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENTS. EXCEPTIONS TO THIS MUST BE APPROVED IN WRITING BY ARKANSAS DEPARTMENT OF HEALTH.

4. SOLID 12 GAUGE LOCATER WIRE SHALL BE INSTALLED WITH MARKERS EVERY 750 FEET AND BEHIND EACH FIRE HYDRANT.

5. ARKANSAS STATE LICENSING LAW FOR COMMERCIAL CONTRACTORS ACT 150 OF 1965 AND ACT 162 OF 1987 (AS AMENDED) REQUIRES THE INSTALLATION CONTRACTOR TO HAVE A CONTRACTORS LICENSES CLASSIFICATION OF MUNICIPAL AND UTILITY CONSTRUCTION.

6. ALL SEWER SERVICE LATERALS FROM THE MAIN TO THE PROPERTY LINE SHALL NOT BE ASSEMBLED WITH GLUED JOINTS.

7. ALL SEWER SERVICE LINES SHALL MEET WITH THE REQUIREMENTS OF THE ARKANSAS STATE PLUMBING CODE AND OTHER LOCAL PLUMBING CODES (IF APPLICABLE).

8. ALL PIPE TRENCHES THAT LIE UNDER PAVEMENT SHALL BE BACK FILLED WITH CLASS 8 LIMESTONE COMPACTED TO 98% MODIFIED PROCTOR (ASTM D1557) TO 1 FOOT ABOVE THE PIPE AND FLOWABLE FILL PLACED TO WITHIN 1 FOOT BELOW THE DESIGN SUBGRADE.

9. ALL PIPE TRENCHES NOT UNDER PAVEMENT SHALL BE BACKFILLED WITH NATIVE SOIL PLACED IN UNIFORM HORIZONTAL LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS AND COMPACTED WITH SUITABLE EQUIPMENT TO ACHIEVE 95% STANDARD PROCTOR (ASTM D698) AT 2% BELOW TO 3% ABOVE OPTIMUM MOISTURE CONTENT.

10. SANITARY SEWER MANHOLES SHALL BE PRE-CAST CONCRETE WITH A MINIMUM INTERIOR DIAMETER OF 48 INCHES AND A WALL THICKNESS OF 5 INCHES. THE CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 PSI. ALL MANHOLE RING AND COVERS SHALL BE 24" DIAMETER GRAY CAST IRON (EAST JORDAN IRON WORKS - EJ 1348 OR EQUIVALENT).

11. ALL GRAVITY SEWER MAINS AND SERVICE LATERAL SHALL BE LAID IN STRAIGHT ALIGNMENT AT NO LESS THAN THE MINIMUM GRADE FOR THE PIPE SIZE AS FOLLOWS:

4 INCH:	1.00%	18 INCH:	0.12%
6 INCH:	0.60%	21 INCH:	0.10%
8 INCH:	0.40%	24 INCH:	0.08%
12 INCH:	0.22%	30 INCH:	0.058%
15 INCH:	0.15%	42 INCH:	0.037%

12. ALL SOLID ENCASEMENT PIPE SHALL BE FABRICATED FROM PLATE CONFORMING TO CURRENT ASTM DESIGNATION A 36. DIMENSIONS SHALL CONFORM TO THE FOLLOWING, EXCEPT WHEN THE STATE HIGHWAY DEPARTMENT OR RAILROAD COMPANIES REQUIRE A THICKER WALL.

NOMINAL CARRIER DIAMETER	OUTSIDE DIAMETER ENCASEMENT	WALL THICKNESS THICKNESS
24"	36"	¼"
20"	30"	¼"
16"	24"	¼"
12"	20"	¼"
8"	16"	¼"
4" TO 6"	12"	¼"

13. ALL SEWER SERVICE LINES MUST BE CONSTRUCTED AT A MINIMUM DISTANCE OF 10 FT FROM THE SIDE PROPERTY LINES.

14. ALL SEWER MAIN PIPE SHALL BE SDR 26 PVC, UNLESS OTHERWISE NOTED.

15. ALL WATER MAIN PIPE SHALL BE C900 DR-18 PVC, UNLESS OTHERWISE NOTED.

16. CITY WATER AND LIGHT IS NOT RESPONSIBLE FOR ANY UTILITY TRENCH SETTLEMENT BEFORE OR AFTER THE CONSTRUCTION WARRANTY PERIOD.

17. NO TRANSFORMER, JUNCTION BOX, OR PULL BOX TO BE PLACED OVER WATER FITTINGS WITHOUT CITY WATER & LIGHT APPROVAL.

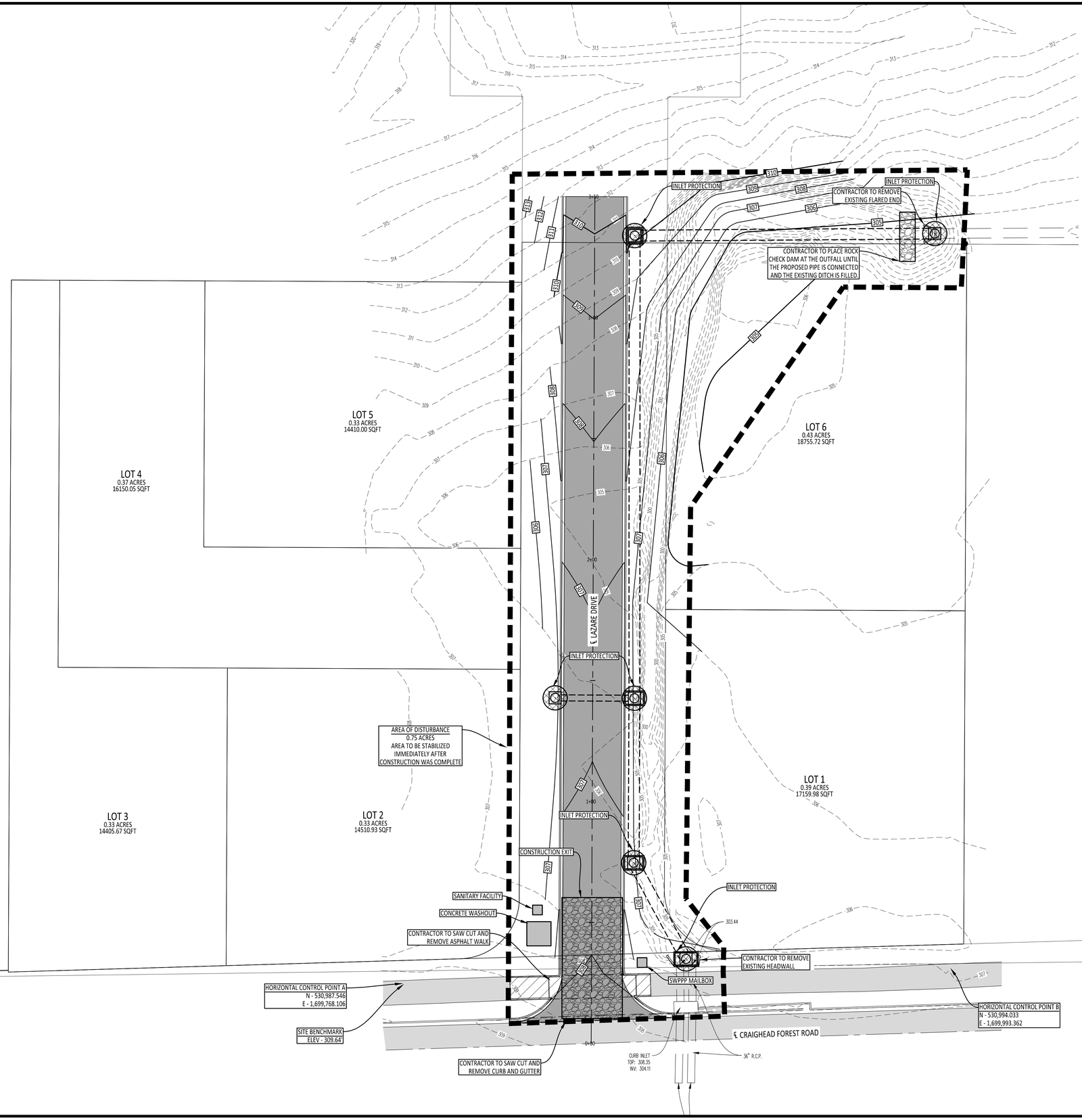
18. IF UNSAFE PRACTICES ARE DISCOVERED DURING INSPECTIONS OF WORKMANSHIP, OSHA MAYBE NOTIFIED. THIS IN NO WAY OBLIGATES TRALAN ENGINEERING OR ANY PUBLIC ENTITY FOR THE RESPONSIBILITY OF THE CONTRACTORS SAFETY PRACTICES.

WARRANTY DISCLAIMER

THE DESIGNS REPRESENTED IN THESE DOCUMENTS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DOCUMENTS AS CONSTRUCTED EXCEPT IN SPECIFIC CASES WHERE THE ENGINEER INSPECTS ALL SITE IMPROVEMENTS ON A CONTEMPORARY BASIS AS REQUIRED FOR PROJECT APPROVAL THROUGH A LOCAL, STATE, OR FEDERAL AGENCY.

SAFETY NOTICE TO CONTRACTOR

THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES. THIS INCLUDES THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF ALL WORK AND IS NOT LI



VICINITY MAP
NOT TO SCALE

20 10 0 20
SCALE 1" = 20'

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

COMPANY INFO:
2916 WOOD STREET
JONESBORO, AR 72404
PH: 1-870-203-9939
WWW.TRALANENG.COM

TRALAN ENGINEERING

PROJECT:
SAVANNAH HILLS PH-IV

CLIENT:
SSP INVESTMENTS, LLC

CERTIFICATE OF AUTHORIZATION
TRALAN ENGINEERING, INC.
No. 2480
ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14026
MICHAEL A. BOGGS
09/08/2020

REVISIONS

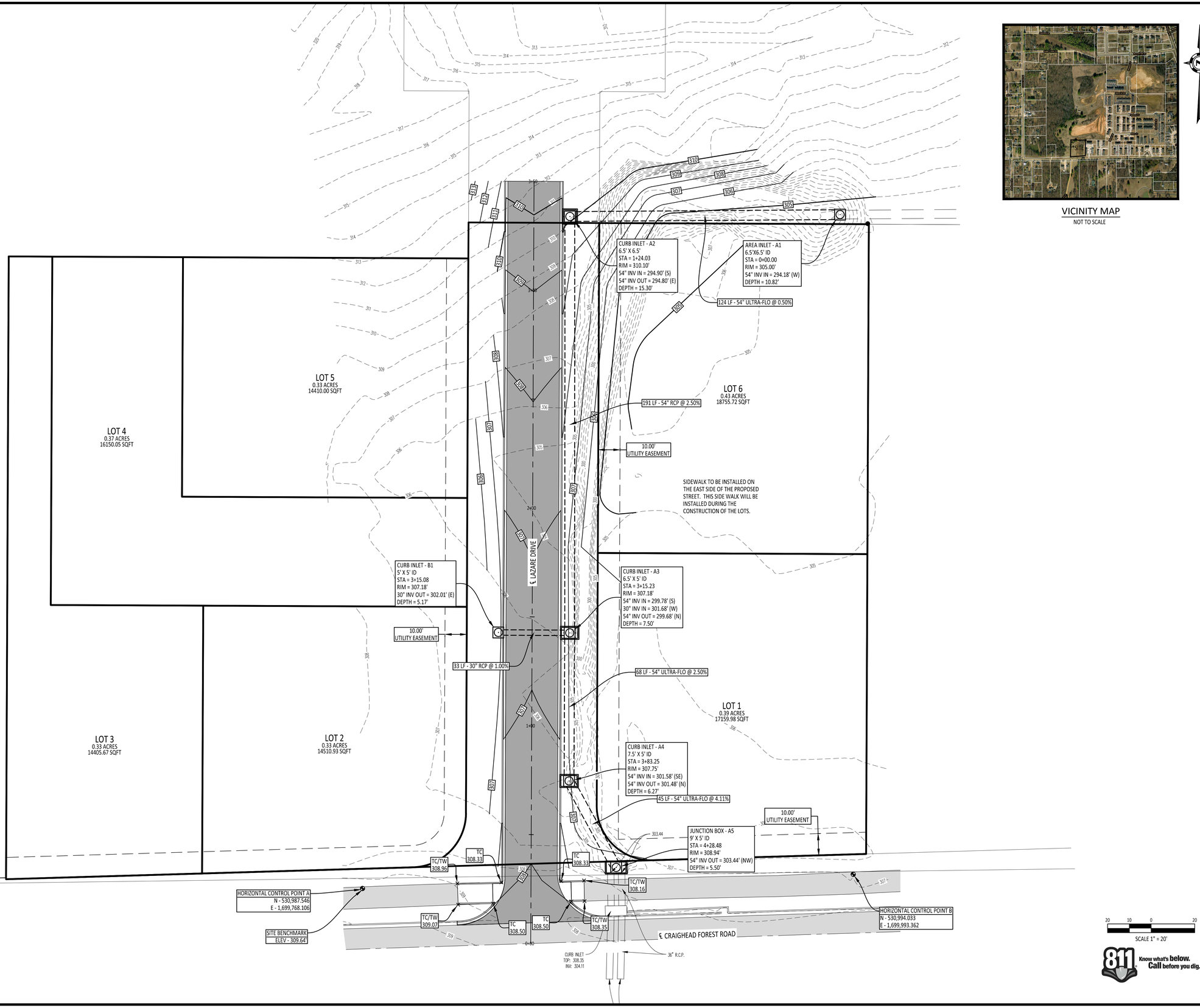
DATE	BY	DESCRIPTION

DRAWING INFO.

DRAWN BY:	MAB
DATE:	09/08/2020
SCALE:	1" = 20'
JOB NO.:	20-019
CAD NO.:	

SWPPP / DEMO PLAN

SHEET NUMBER:
4 of 12



VICINITY MAP
NOT TO SCALE

SCALE 1" = 20'

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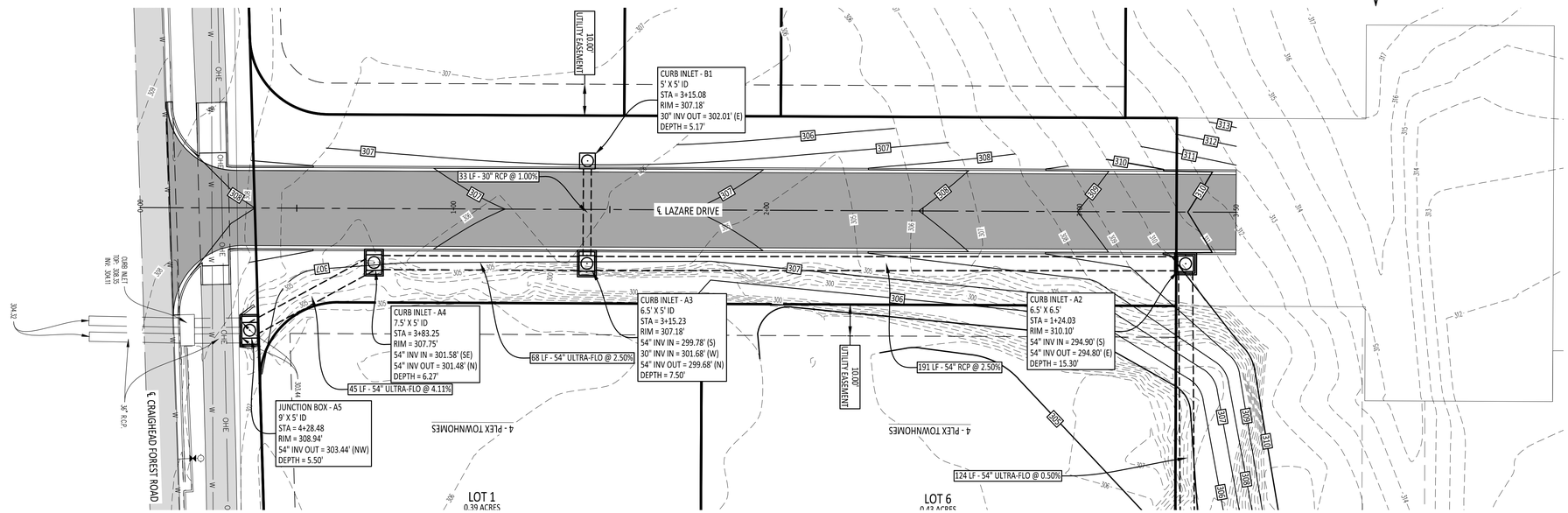
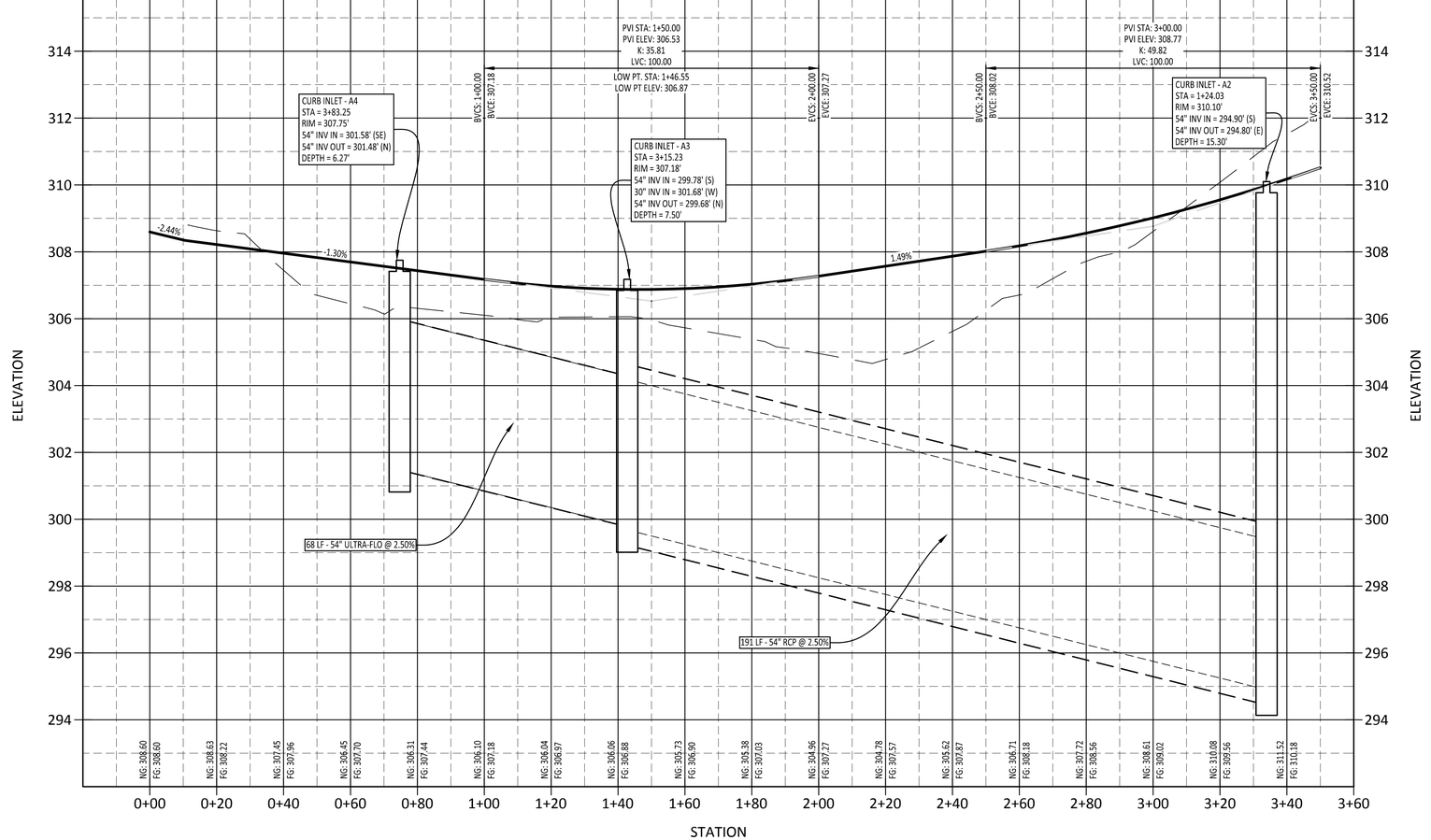
GRADING & DRAINAGE PLAN

SHEET NUMBER:
5 of 12



Lazare Drive Profile



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STREET
PLAN AND PROFILE

SHEET NUMBER:
6 of **12**

VICINITY MAP
NOT TO SCALE

SSMH - A2
STA = 2+77.35
RIM = 311.25'
8" INV OUT = 301.25' (S)
DEPTH = 10.00'

2" ABOVE GROUND BLOWOFF ASSEMBLY

6" GATE VALVE

1" LONG WATER SERVICE METER

1" SHORT WATER SERVICE

158 LF - 6" C900 DR18 PVC

10.00' UTILITY EASEMENT

4" SHORT SEWER SERVICE WYE

4" LONG SEWER SERVICE WYE

1" LONG WATER SERVICE METER

4" SHORT SEWER SERVICE WYE

277 LF - 8" SDR 26 PVC @ 2.10%

℄ LAZARE DRIVE

FIRE HYDRANT ASSEMBLY

10.00' UTILITY EASEMENT

1" SHORT WATER SERVICE

1" LONG WATER SERVICE METER

140 LF - 6" C900 DR18 PVC

SSMH - A1 (DOGHOUSE)
STA = 0+00.00
RIM = 308.25'
8" INV IN = 295.43' (N)
8" INV OUT = 294.93' (E)
DEPTH = 13.32'

SEWER MANHOLE
TOP: 314.58
INV: 303.83

1" SHORT WATER SERVICE

4" SHORT SEWER SERVICE WYE

SEWER MANHOLE
TOP: 307.97
INV: 295.14

4" SHORT SEWER SERVICE STUB OUT

4" SHORT SEWER SERVICE WYE

10.00' UTILITY EASEMENT

EX-SSMH
RIM: 306.75
INV IN: 293.95 W
DEPTH: 12.80

HORIZONTAL CONTROL POINT A
N - 530,987.546
E - 1,699,768.106

SITE BENCHMARK
ELEV - 309.64

12" X 6" TAPPING SLEEVE AND VALVE

STATIC PRESSURE
97 PSI

℄ CRAIGHEAD FOREST ROAD

HORIZONTAL CONTROL POINT B
N - 530,994.033
E - 1,699,993.362

LOT 4
0.37 ACRES
16150.05 SQFT

LOT 5
0.33 ACRES
14410.00 SQFT

LOT 6
0.43 ACRES
18755.72 SQFT

LOT 3
0.33 ACRES
14405.67 SQFT

LOT 2
0.33 ACRES
14510.93 SQFT

LOT 1
0.39 ACRES
17159.98 SQFT

3+60
3+40
2+20
1+80
0+80

20 10 0 20
SCALE 1" = 20'

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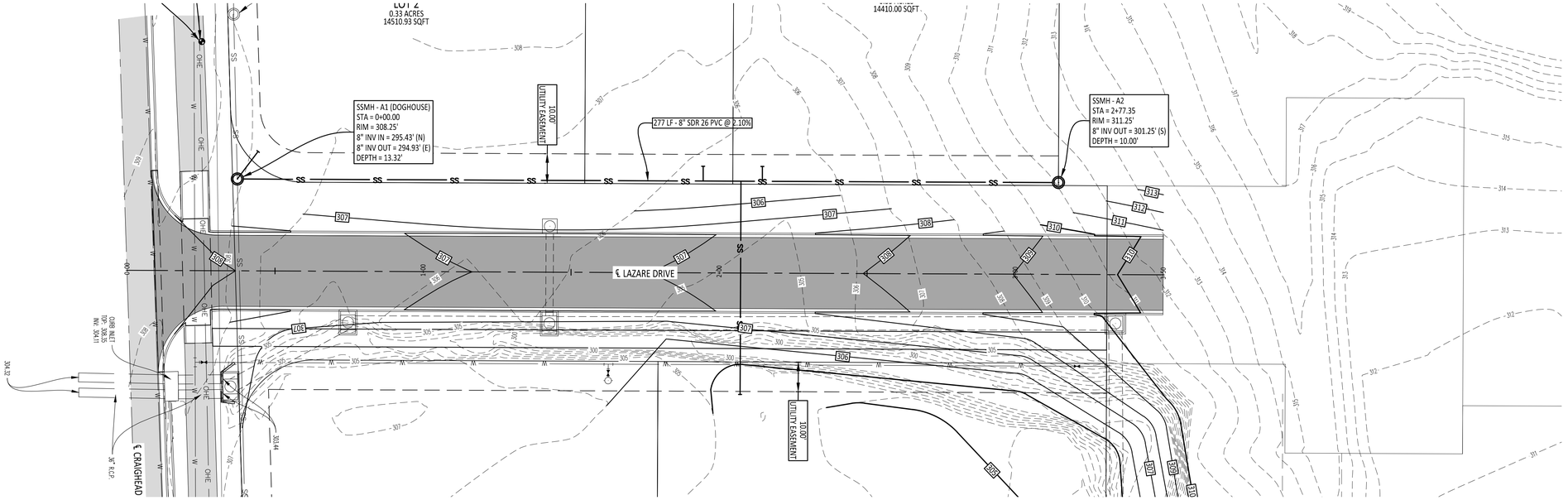
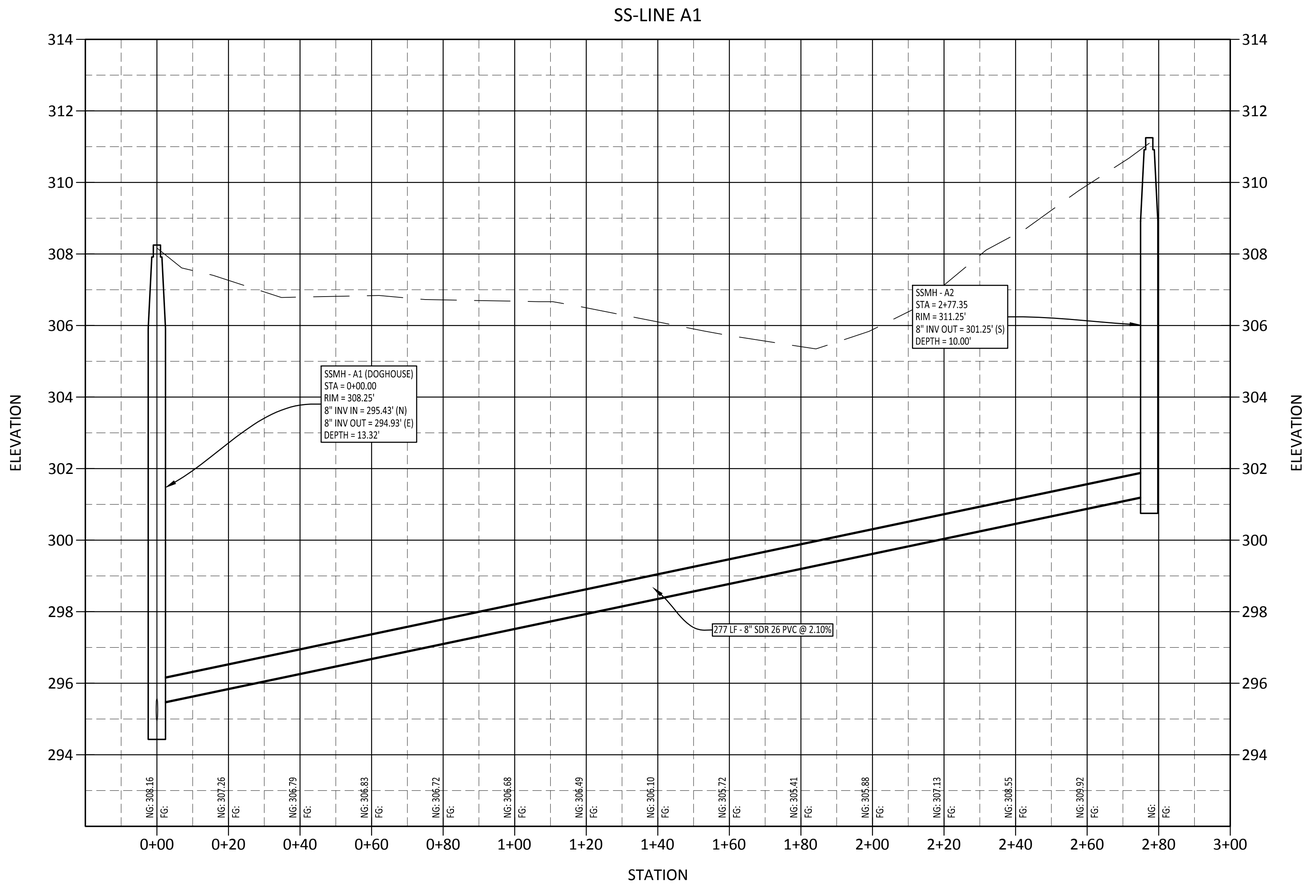
SITE UTILITY PLAN

SHEET NUMBER:
7 of 12





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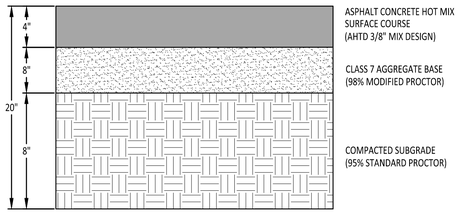
SANITARY SEWER
PLAN AND PROFILE

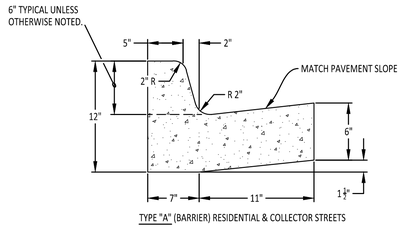
SHEET NUMBER:
8 of **12**



ASPHALT PAVING SECTION

N.T.S.

1



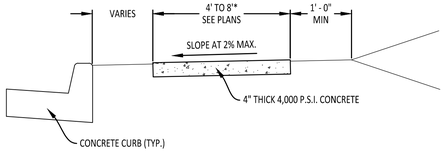
TYPE "A" (BARRIER) RESIDENTIAL & COLLECTOR STREETS

COMBINATION CURB AND GUTTER

N.T.S.

NOTE:
CONTRACTION JOINTS SHALL BE CONSTRUCTED EVERY FIFTEEN FEET.
EXPANSION JOINTS SHALL BE CONSTRUCTED AT FIXED STRUCTURAL OBJECTS, SUCH AS DRAINAGE INLETS AND SIDEWALKS.

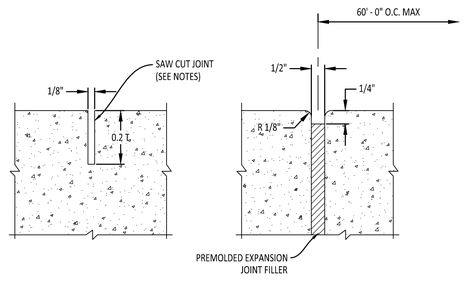
2



TYPICAL SIDEWALK SECTION

N.T.S.

3

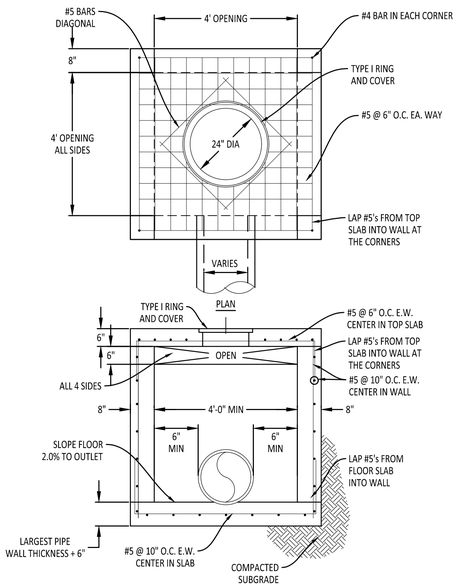


CONSTRUCTION JOINT DETAILS

N.T.S.

NOTE:
1. PROVIDE EXPANSION JOINT WHERE CONCRETE ABUTTS EXISTING CONCRETE, SUCH AS CURB AND NEXT TO STRUCTURES AND DRIVEWAYS.
2. JOINT SPACING ON CURBS TO BE MAXIMUM 15'.
3. JOINT SPACING ON SIDEWALKS TO BE EQUAL TO THE SIDEWALK WIDTH.

4



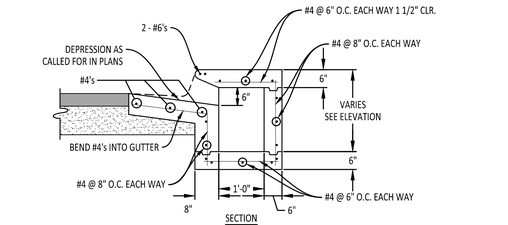
FRONT ELEVATION

NOTE:
INLETS MORE THAN 3'-0" DEEP SHALL HAVE STANDARD MANHOLE STEPS PLACED AT 15" O.C.
- MANHOLE FRAME AND COVER SHALL BE PLACED ADJACENT TO THE WALL WITH THE STEPS.

AREA INLET DETAIL

N.T.S.

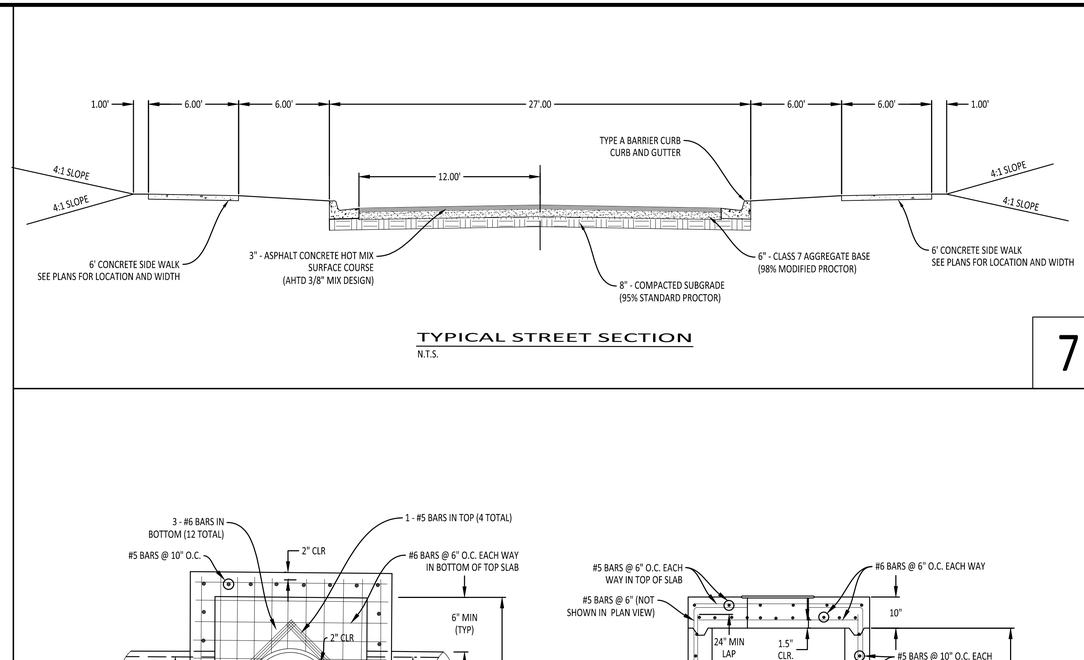
5



CURB INLET EXTENSION

N.T.S.

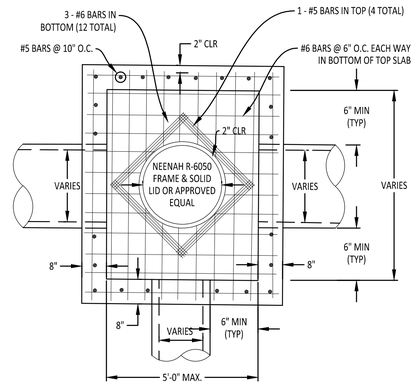
6

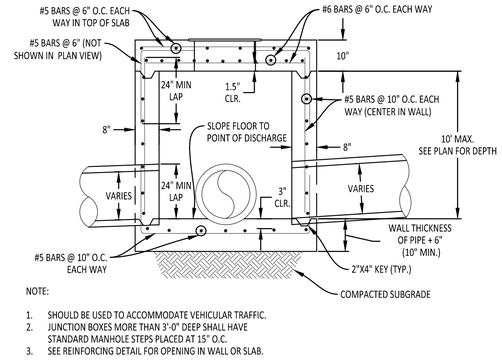


TYPICAL STREET SECTION

N.T.S.

7





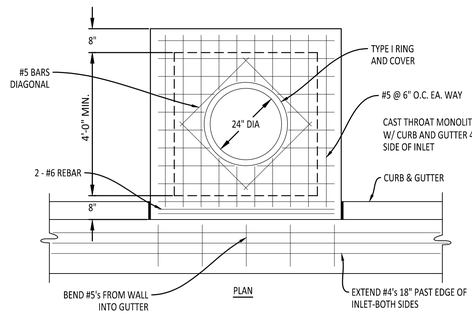
NOTE:

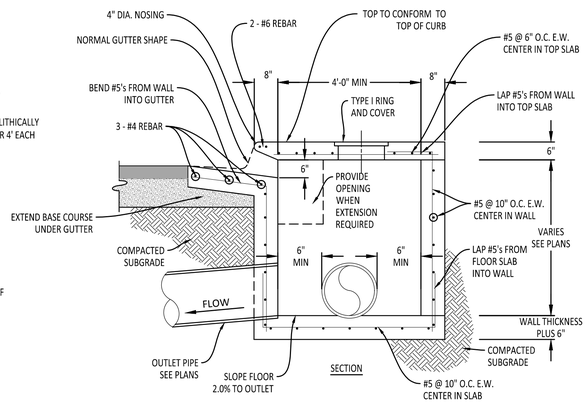
1. SHOULD BE USED TO ACCOMMODATE VEHICULAR TRAFFIC.
2. JUNCTION BOXES MORE THAN 3'-0" DEEP SHALL HAVE STANDARD MANHOLE STEPS PLACED AT 15" O.C.
3. SEE REINFORCING DETAIL FOR OPENING IN WALL OR SLAB.

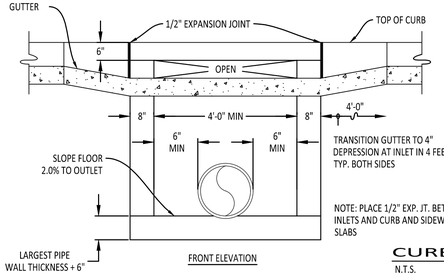
JUNCTION BOX - HEAVY

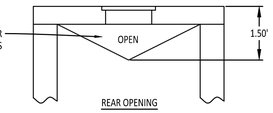
N.T.S.

8









NOTE:
INLETS MORE THAN 3'-0" DEEP SHALL HAVE STANDARD MANHOLE STEPS PLACED AT 15" O.C.
- MANHOLE FRAME AND COVER SHALL BE PLACED ADJACENT TO THE WALL WITH THE STEPS.

AS APPROVED BY ENGINEER, WALLS MAY BE 8" BLOCK WITH 1/2" MORTAR. FILL CELLS WITH CONCRETE AND WITH #4 @ 16" O.C. MINIMUM DISTANCE FROM WALL TO PIPE SHALL BE 8" IF BLOCK WALLS ARE CONSTRUCTED.

CURB INLET DETAIL

N.T.S.

9

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SITE CONSTRUCTION DETAILS

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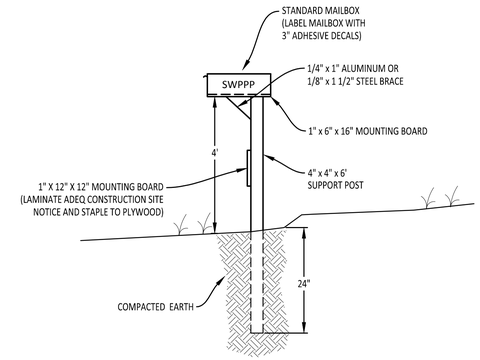
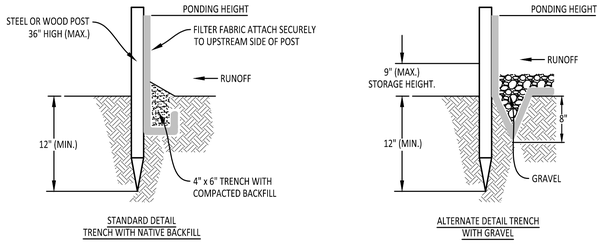
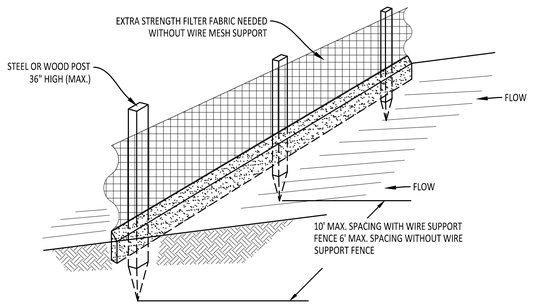
10 of **12**



SWPPP MAILBOX

1



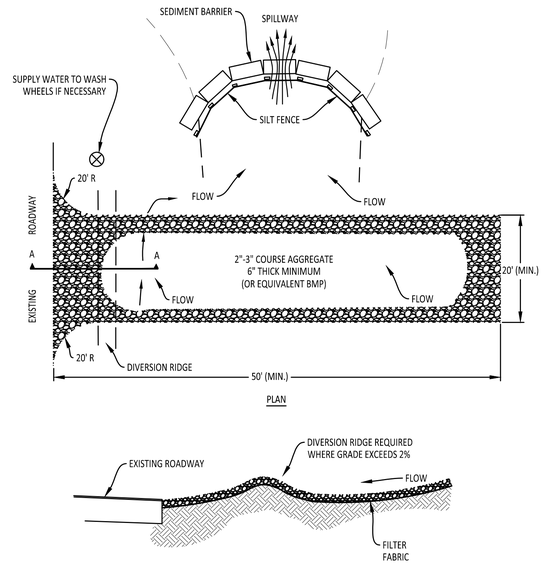


NOTES:

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

SILT FENCE

3

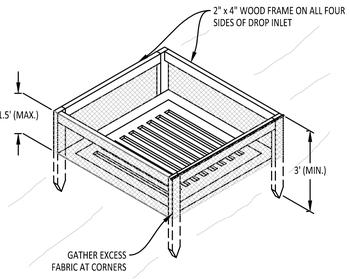


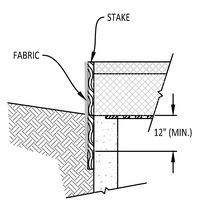
NOTES:

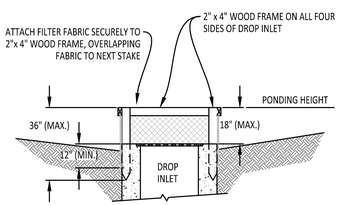
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANING OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. USE SANDBAGS, STRAW BALES OR OTHER APPROVED METHODS TO CHANNEL RUNOFF TO BASIN AS REQUIRED. WHEN STRAW BALES ARE USED IN THIS APPLICATION A SILT FENCE IS TO BE INCLUDED AS SHOWN ON THE UPSTREAM SIDE OF THE SEDIMENT BARRIER.

CONSTRUCTION EXIT
W/ DIVERSION BERM

2





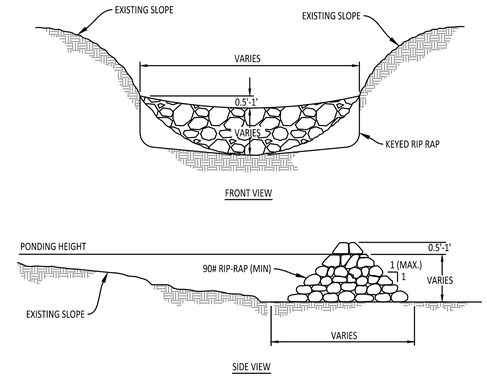


NOTES:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%)
2. USE 2"x 4" WOOD OR EQUIVALENT METAL STAKES. (3 FT. MIN. LENGTH)
3. INSTALL 2"x 4" WOOD TOP FRAME TO INSURE STABILITY.
4. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

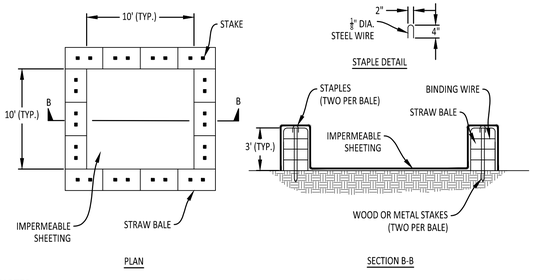
SEDIMENT BARRIER AT DROP INLET

4



RIP RAP CHECK DAM

5

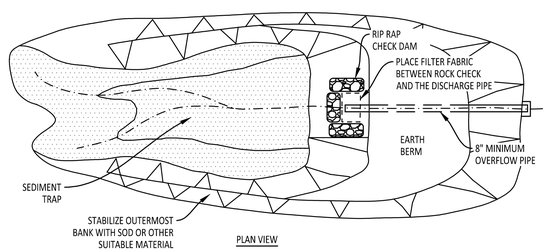


NOTES:

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

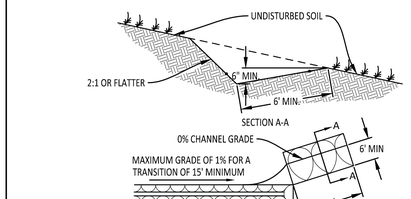
CONCRETE WASHOUT

6



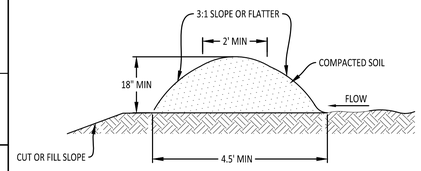
EROSION CONTROL SEDIMENT BASIN

7



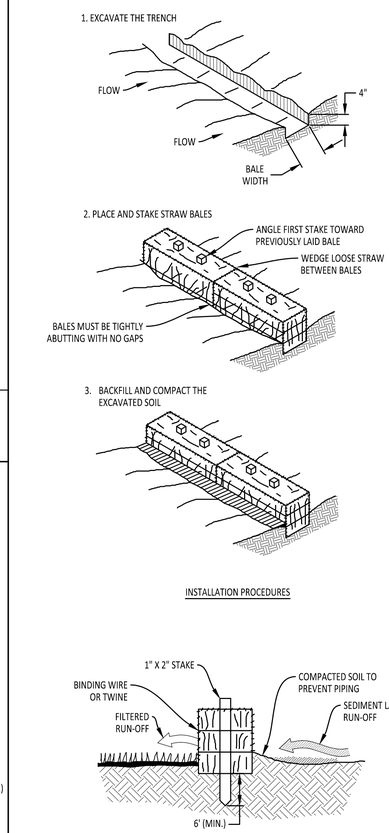
LEVEL SPREADER

8



TEMPORARY DIVERSION DIKE

9



STRAW BALE BARRIER

10

COMPANY INFO:
TRALAN ENGINEERING
2916 WOOD STREET
JONESBORO, AR 72404
PH: 1-870-203-9939
WWW.TRALANENG.COM

PROJECT:
SAVANNAH HILLS PH-IV

CLIENT:
SSP INVESTMENTS, LLC

TRALAN ENGINEERING, INC. No. 2480
CERTIFICATE OF AUTHORIZATION
ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14026
MICHAEL A. BOSSE
09/08/2020

REVISIONS		
DATE	BY	DESCRIPTION

DRAWING INFO.	
DRAWN BY:	MAB
DATE:	09/08/2020
SCALE:	
JOB NO.:	20-019
CAD NO.:	

SWPPP
DETAILS

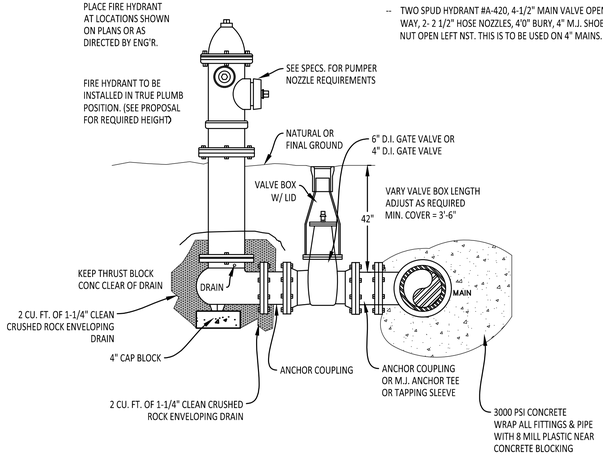
SHEET NUMBER:
9 of 12

FIRE HYDRANT SHALL BE MULLER TYPE ONLY

-- THREE SPUD HYDRANT #A-423, 5-1/4" MAIN VALVE OPENING, 3 WAY, 2- 2 1/2" HOSE NOZZLES, 1-4 1/2" PUMPER NOZZLE, 4'0" BURY, 6" M.J. SHOE PENTAGON NUT OPEN LEFT NST.

-- TWO SPUD HYDRANT #A-422, 5-1/4" MAIN VALVE OPENING, 2 WAY, 2- 2 1/2" HOSE NOZZLES, 4'0" BURY, 6" M.J. SHOE PENTAGON NUT OPEN LEFT NST.

-- TWO SPUD HYDRANT #A-420, 4-1/2" MAIN VALVE OPENING, 2 WAY, 2- 2 1/2" HOSE NOZZLES, 4'0" BURY, 4" M.J. SHOE PENTAGON NUT OPEN LEFT NST. THIS IS TO BE USED ON 4" MAINS.



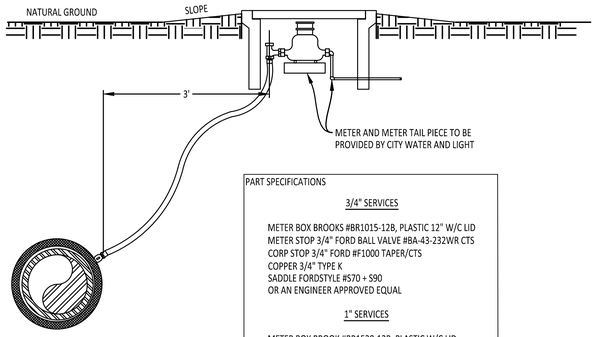
NOTES:
(1) PROVIDE TWO (2) MECHANICAL JOINT ANCHORING COUPLINGS VALVE BOXES AND TEES.

FIRE HYDRANT DETAIL WITH ANCHOR COUPLING

N.T.S.

NOTE: ONLY 3/4" SERVICES TO BE USE OUTSIDE CITY LIMITS

NOTE: 1" SERVICES TO BE USE WHEN WATER PRESSURE IS BELOW 60 PSI



PART SPECIFICATIONS

3/4" SERVICES

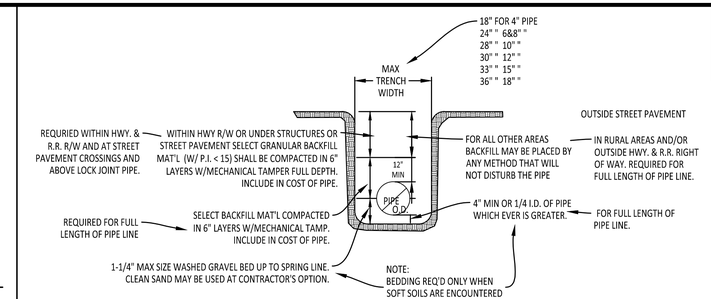
METER BOX BROOKS #BR1015-12B, PLASTIC 12" W/C LID
METER STOP 3/4" FORD BALL VALVE #BA-43-232WR CTS
CORP STOP 3/4" FORD #F1000 TAPER/CTS
COPPER 3/4" TYPE K
SADDLE FORDSTYLE #S70 + S90
OR AN ENGINEER APPROVED EQUAL

1" SERVICES

METER BOX BROOK #BR1520-12B, PLASTIC W/C LID
METER STOP 1" FORD BALL VALVE #BA-43-444W CTS
CORP STOP FORD #F1000 TAPER/CTS
COPPER 1" TYPE K
SADDLE FORD STYLE #S70 + S90
OR AN ENGINEER APPROVED EQUAL

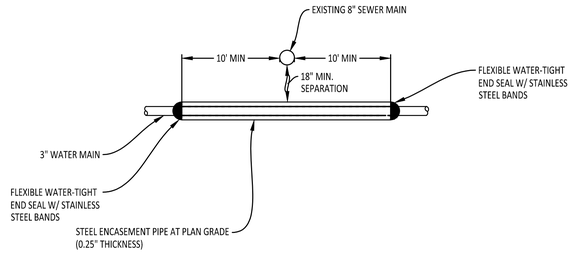
SERVICE CONNECTION AND METER SETTING

N.T.S.



TYPICAL WATER PIPE BEDDING AND BACKFILL DETAIL

N.T.S.

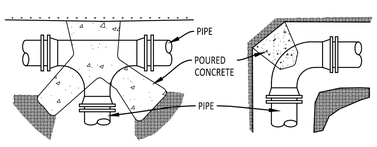


ENCASED WATER AND SEWER CROSSING

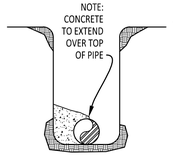
N.T.S.

NOTE:

1. WHEN THE WATER UNAVOIDABLY PASSES BENEATH THE SEWER MAIN A MINIMUM OF 18" OF SEPARATION BETWEEN THE TOP OF THE WATER MAIN AND THE BOTTOM OF THE SEWER MAIN.
2. ENCASEMENT PIPE SHALL AT A MINIMUM EXTEND 10' EITHER SIDE OF SEWER MAIN
3. END SEAL SHALL BE A CASCADE MODEL CCES OR EQUIVALENT



ALL CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED SOIL.



NOTES:

1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED HAND DUG SOIL.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE BLOCKING OVER JOINTS. THE ENDS OF THE ADJACENT PIPES MUST HAVE A BRACE BLOCK TO RESIST MOVEMENT OF THESE JOINTS.
3. ALL FITTINGS & PIPE SHALL BE COVERED WITH 8 MILL PLASTIC WHEN BLOCKING TO PREVENT BONDING OF CONCRETE.
4. WHERE SHEAR IS HIGH PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING AS DIRECTED BY ENGINEER.
5. COVER SHALL BE A MINIMUM OF 3' BELOW NATURAL GRADE.
6. CLEARANCE FROM OIL & GAS COMPANIES LINES SHALL BE A MINIMUM OF 18".
7. THRUST BLOCKING DIMENSIONS SHALL BE 150% OF THE THRUST CALCULATED FROM THE FORMULA (THRUST=2 AP SINΦ. WHERE A=PIPE END AREA. P=PRESSURE PRODUCED BY PUMPING LIQUID. & Φ=ANGLE OF BEND TO BE BLOCKED) AND SOIL BEARING CAPACITY OF 1500 PSF.
8. ALL CONCRETE SHALL BE 3000 PSI AT 28 DAY STRENGTH.

THRUST BLOCKING REQUIREMENTS AT STANDARD FITTINGS

Thrust Exerted and Minimum Required Thrust Block Area Per 100 PSI of Water Pressure With a Minimum Soil Bearing Capacity of 2000 PSF (Factor of Safety = 1.5)

Pipe Size (in)	Pipe Area (sq in)	Thrust at Plug/Tee (lb)	Area of Thrust Block (sq ft)	Thrust at 90° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 45° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 22.5° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 11.25° Bend (lb)	Area of Thrust Block (sq ft)
3	7.07	707	0.50	1,000	0.75	541	0.50	276	0.25	139	0.00
4	12.57	1,257	1.00	1,777	1.25	962	0.75	490	0.25	246	0.25
6	28.27	2,827	2.00	3,999	3.00	2,164	1.50	1,103	0.75	554	0.50
8	50.27	5,027	3.75	7,109	5.25	3,847	3.00	1,961	1.50	985	0.75
10	78.54	7,854	6.00	11,107	8.25	6,011	4.50	3,064	2.25	1,540	1.25
12	113.10	11,310	8.50	15,994	12.00	8,656	6.50	4,413	3.25	2,217	1.75
16	201.06	20,106	15.00	28,434	21.25	15,389	11.50	7,845	6.00	3,942	3.00

Thrust Exerted and Minimum Required Thrust Block Area Per 100 PSI of Water Pressure With a Minimum Soil Bearing Capacity of 1500 PSF (Factor of Safety = 1.5)

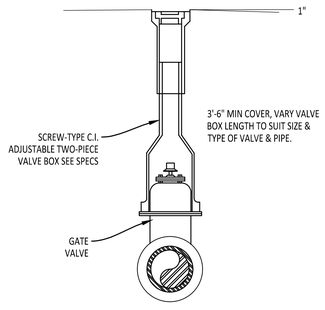
Pipe Size (in)	Pipe Area (sq in)	Thrust at Plug/Tee (lb)	Area of Thrust Block (sq ft)	Thrust at 90° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 45° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 22.5° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 11.25° Bend (lb)	Area of Thrust Block (sq ft)
3	7.07	707	0.75	1,000	1.00	541	0.50	276	0.25	139	0.25
4	12.57	1,257	1.25	1,777	1.75	962	1.00	490	0.50	246	0.25
6	28.27	2,827	2.75	3,999	4.00	2,164	2.25	1,103	1.00	554	0.50
8	50.27	5,027	5.00	7,109	7.00	3,847	3.75	1,961	2.00	985	1.00
10	78.54	7,854	7.75	11,107	11.00	6,011	6.00	3,064	3.00	1,540	1.50
12	113.10	11,310	11.25	15,994	16.00	8,656	8.75	4,413	4.50	2,217	2.25
16	201.06	20,106	20.00	28,434	28.50	15,389	15.50	7,845	7.75	3,942	4.00

Thrust Exerted and Minimum Required Thrust Block Area Per 100 PSI of Water Pressure With a Minimum Soil Bearing Capacity of 1000 PSF (Factor of Safety = 1.5)

Pipe Size (in)	Pipe Area (sq in)	Thrust at Plug/Tee (lb)	Area of Thrust Block (sq ft)	Thrust at 90° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 45° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 22.5° Bend (lb)	Area of Thrust Block (sq ft)	Thrust at 11.25° Bend (lb)	Area of Thrust Block (sq ft)
3	7.07	707	1.00	1,000	1.50	541	0.75	276	0.50	139	0.25
4	12.57	1,257	2.00	1,777	2.75	962	1.50	490	0.75	246	0.25
6	28.27	2,827	4.25	3,999	6.00	2,164	3.25	1,103	1.75	554	0.75
8	50.27	5,027	7.50	7,109	10.75	3,847	5.75	1,961	3.00	985	1.50
10	78.54	7,854	11.75	11,107	16.75	6,011	9.00	3,064	4.50	1,540	2.25
12	113.10	11,310	17.00	15,994	24.00	8,656	13.00	4,413	6.50	2,217	3.25
16	201.06	20,106	30.25	28,434	42.75	15,389	23.00	7,845	11.75	3,942	6.00

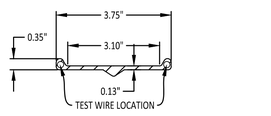
THRUST BLOCK DETAIL

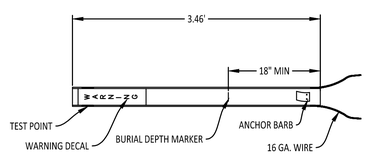
N.T.S.



VALVE BOX DETAIL

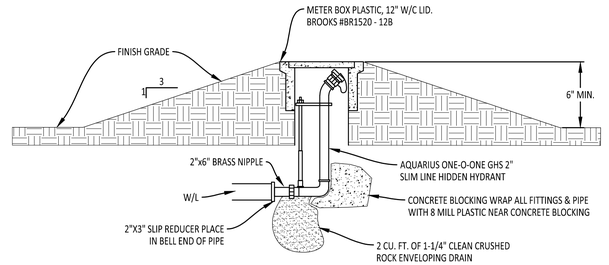
N.T.S.





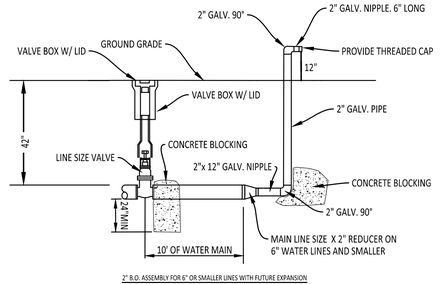
WATER LINE & FORCE MAIN MARKER DETAIL

N.T.S.



UNDERGROUND WASHOUT ASSEMBLY FOR COVES AND DEAD END LINES WITH NO FUTURE EXTENSION

N.T.S.



2" B.O. ASSEMBLY FOR 6" OR SMALLER LINES WITH FUTURE EXPANSION

NOTE: ALL 2" GALVANIZED PIPE AND FITTINGS ARE TO BE SCH 40

BLOW-OFF ASSEMBLY DETAIL

N.T.S.

COMPANY INFO:
2916 WOOD STREET
JONESBORO, AR 72404
PH: 1-870-203-9939
WWW.TRALANENG.COM

TRALAN ENGINEERING

PROJECT:
SAVANNAH HILLS PH-IV

CLIENT:
SSP INVESTMENTS, LLC

CERTIFICATE OF AUTHORIZATION
TRALAN ENGINEERING, INC.
No. 2480
ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14026
MICHAEL A. BOSS
09/08/2020

REVISIONS

DATE	BY	DESCRIPTION

DRAWING INFO.

DRAWN BY:	MAB
DATE:	09/08/2020
SCALE:	
JOB NO.:	20-019
CAD NO.:	

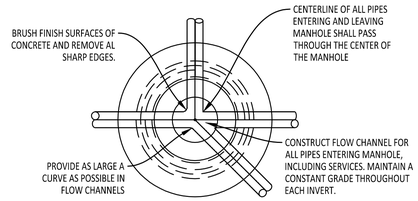
CWL WATER DETAILS

SHEET NUMBER:
11 of 12

NOTES TYPICAL TO ALL MANHOLES :

1. MANHOLE BASES TO BE 4000 PSI, 28 DAY STRENGTH, LIMESTONE MIX CONCRETE ON UNDISTURBED SUB-GRADE OR ON COMPACTED SELECT FILL MATERIAL AS AUTHORIZED.
2. MANHOLE SIDEWALL MATERIAL TO BE CONCRETE IN ACCORDANCE WITH PROPOSAL FORM REQUIREMENTS.
   a. 4' I.D. FOR SEWER SIZES 6" THRU 24"
   b. 5' I.D. FOR SEWER SIZES 24" THRU 30"
   c. 6' I.D. FOR SEWER SIZES 36" THRU 42"
3. SET MANHOLE TOPS AS FOLLOWS:
   a. IN STREETS, ROADS, HIGHWAYS, AND OTHER PAVED AREAS: FLUSH WITH FINISHED PAVING GRADE.
   b. UNDEVELOPED AREAS, SUCH AS FIELDS, WOODS, ETC..: 12" ABOVE GROUND.
   c. OTHER AREAS: 1" ABOVE GROUND.
4. MANHOLE FRAMES SHALL HAVE MIN. OPENING OF 22" DIA.

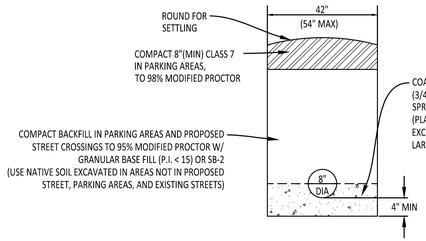
STANDARD MANHOLE



PLAN

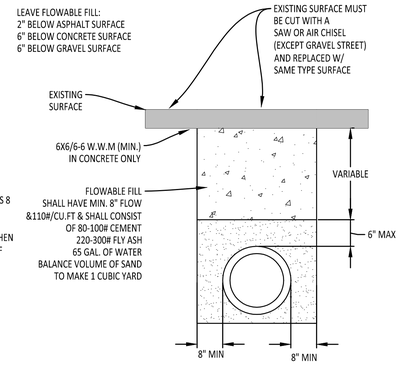
MANHOLE DETAILS
N.T.S.

NOTES:
1. COARSE AGGREGATE SHALL BE MECHANICALLY TAMPED WHEN USED.
2. PIPE IN TRENCH SHALL BE PLACED ON NO LESS THAN 4" OF CLASS B (3/4" MINUS) LIMESTONE. ALL OVER EXCAVATION SHALL BE COMPACTED BACK TO GRADE W/ BEDDING MATERIAL.
3. PVC PIPE SHALL BE SDR-26 AND INSTALLED IN ACCORDANCE WITH UNI-BELL PVC PIPE ASSOCIATION'S RECOMMENDATIONS FOR CONSTRUCTION.



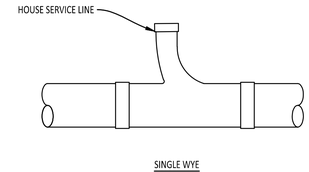
NON-EXISTING STREET LOCATIONS

NOTE:
1) CONTRACTOR SHALL OBTAIN A STREET CROSSING PERMIT FROM THE CITY OF JONESBORO PRIOR TO CUTTING STREET.
2) EXCAVATED MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR
3) THIS REPAIR DETAIL IS REQUIRED FOR ALL EXCAVATION WITHIN 5' OF PAVED EDGE AND ALL TRANSVERSE EXCAVATIONS TO EXTEND 3' BEYOND PAVED EDGE.

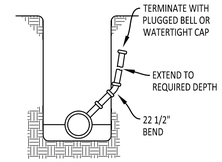


EXISTING STREET LOCATIONS

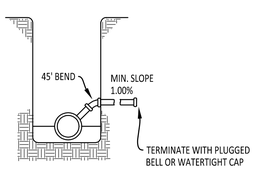
PVC TRENCH DETAIL
N.T.S.



SINGLE WYE

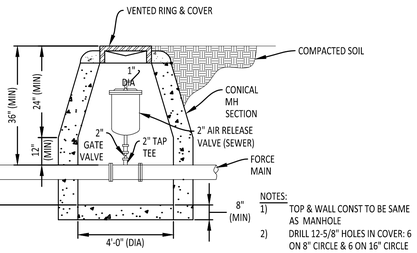


FROM DEEP MAIN



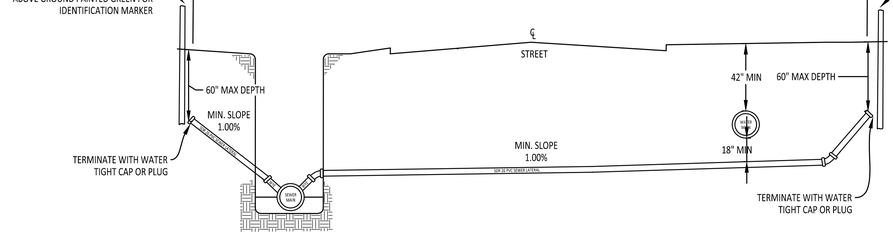
NORMAL DEPTH

SERVICE CONNECTIONS
N.T.S.



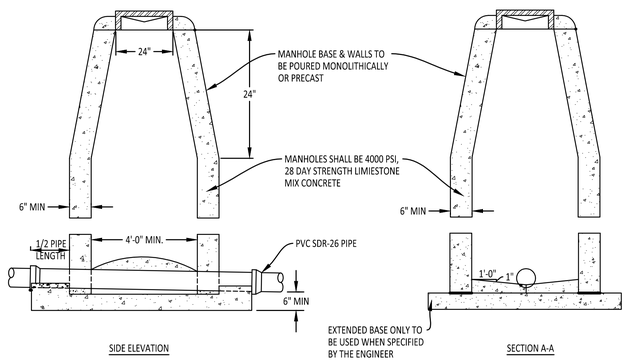
NOTES:
1) TOP & WALL CONST TO BE SAME AS MANHOLE
2) DRILL 12-5/8" HOLES IN COVER: 6 ON 8" CIRCLE & 6 ON 16" CIRCLE

AIR/VACUUM RELEASE VALVE DETAIL
N.T.S.



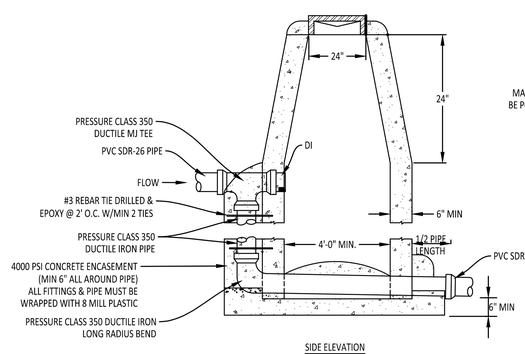
SEWER LATERAL STUBOUT (PERMITS REQUIRED BEFORE INSTALLATION)
N.T.S.

(USE SAME CONFIGURATION FOR MANHOLE STUBOUTS)

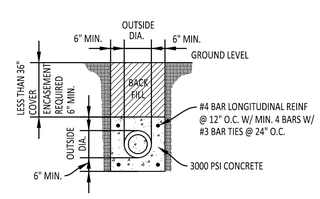


NOTE:
MANHOLES SHALL BE PRECAST W/ NEOPRENE GASKETS AS APPROVED BY ENGINEER AND/OR UTILITY COMPANY

STANDARD MANHOLE DETAIL
N.T.S.



DROP MANHOLE DETAIL
N.T.S.



CONCRETE ENCASEMENT FOR DITCH CROSSINGS
N.T.S.

NOTE:
ENCASEMENT PIPE MUST PRESSURE CLASS 350 DUCTILE IRON AND WRAP DUCTILE IRON PIPE WITH 8 MILL PLASTIC NOTE: WHEN 18" SEPARATION CANNOT BE MAINTAINED, JOINTS SHALL BE LOCATED SUCH THAT THEY ARE EQUAL DISTANCE BEFORE AND AFTER CROSSING.

COMPANY INFO:
2916 WOOD STREET
JONESBORO, AR 72404
PH: 1-870-203-9939
WWW.TRALANENG.COM

TRALAN ENGINEERING

PROJECT: SAVANNAH HILLS PH-IV

CLIENT: SSP INVESTMENTS, LLC

CERTIFICATE OF AUTHORIZATION
TRALAN ENGINEERING, INC.
No. 2480
ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14026
MICHAEL A. BOGGS
09/08/2020

REVISIONS		
DATE	BY	DESCRIPTION

DRAWING INFO.	
DRAWN BY:	MAB
DATE:	09/08/2020
SCALE:	
JOB NO.:	20-019
CAD NO.:	

CWL SEWER DETAILS

SHEET NUMBER:
12 of 12