

SEWER

1. ABANDON ALL EXISTING SEPTIC SYSTEMS IN ACCORDANCE WITH IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY REQUIREMENTS. PROVIDE DOCUMENTATION TO THE CITY OF KUNA UPON REQUEST.
2. THE HORIZONTAL SEPARATION OF POTABLE WATER AND SEWER MAINS SHALL BE A MINIMUM OF TEN (10) FEET FROM PIPE EDGE TO PIPE EDGE AS SHOWN IN ISPWC SD407.
3. GROUNDWATER LEVELS SHALL BE MAINTAINED BELOW THE BOTTOM OF THE TRENCH DURING PIPE LAYING AND JOINING OPERATIONS.
4. TRENCH BACKFILL ABOVE THE PIPE ZONE SHALL BE INSPECTED BY ACHD OR BY THE OWNER'S ENGINEER IN ACCORDANCE WITH THE LATEST EDITION OF THE "CONSTRUCTION QUALITY ASSURANCE MANUAL". COMPACTION TESTS ARE REQUIRED IN THE BACKFILL ABOVE THE PIPE ZONE, WITHIN PUBLIC RIGHT-OF-WAY, ACCORDING TO ACHD REQUIREMENTS. SUBMIT DENSITY TEST RESULTS TO THE CITY OF KUNA AND ACHD BEFORE FINAL ACCEPTANCE.
5. CONTRACTOR SHALL LEAVE THE EXCAVATION FOR THE UPSTREAM END OF ALL SERVICE LINES OPEN TO ALLOW ON SITE VERIFICATION OF THE INVERT ELEVATIONS AND SLOPES BY THE CITY'S INSPECTOR. CONTRACTOR SHALL NOT BACKFILL THE ENDS OF SERVICE LINES UNTIL APPROVED BY THE CITY OF KUNA INSPECTOR OR OTHER ARRANGEMENTS HAVE BEEN MADE FOR THE VERIFICATION OF SERVICE LINE INVERT ELEVATIONS AND SLOPES.
6. CONTRACTOR SHALL INSTALL A REMOVABLE PLUG IN THE DOWN STREAM SIDE OF THE EXISTING MANHOLE WHERE THE NEW CONNECTION WILL BE MADE. THE PLUG SHALL REMAIN IN PLACE UNTIL FINAL ACCEPTANCE OF THE SEWER PROJECT.
7. ALL SEWER PIPE AND FITTINGS 4 INCH THROUGH 15 INCH DIAMETER SHALL BE POLYVINYL CHLORIDE (PVC) CONFORMING TO ASTM D-3034, SDR-35. SEWER PIPE AND FITTINGS SIZES 18 INCH THROUGH 36 INCH DIAMETER SHALL BE PVC CONFORMING TO ASTM F 679. PRESSURE SEWER PIPE SHALL CONFORM TO AWWA C900 PVC, DR 18 (235 PSI).
8. SEWER SERVICE LINES SHALL BE INSTALLED BEFORE STREET IMPROVEMENTS & SEWER SERVICE MARKERS SHALL BE IN PLACE BEFORE FINAL INSPECTION. CONTRACTOR SHALL NOTIFY THE CITY WHEN SEWER SERVICE STUB OUTS ARE INSTALLED, MARKED & READY FOR INSPECTION.
9. PLACE MARKING TAPE ABOVE ALL FORCE MAIN SEWER PIPE BETWEEN SIX (6) INCHES BELOW GROUND SURFACE AND SIXTEEN (16) INCHES ABOVE TOP OF PIPE. TAPE SHALL BE THREE (3) INCHES WIDE, 4 MIL POLYETHYLENE, GREEN IN COLOR, WITH "SEWER PIPE" CLEARLY MARKED ALONG THE LENGTH OF THE TAPE IN 1 ½" BLACK LETTERS.

10. SLEEVE SEWER SERVICE LINES IN A MINIMUM OF SIX (6) INCH DIAMETER C900 DR 18 OR SCH 80 PIPE WHEREVER THE SERVICE LINE CROSSES A STREET DRAINAGE SEEPAGE BED. SLEEVE SHALL BE ADEQUATELY SIZED TO PROVIDE SPACE FOR THE OUTSIDE DIAMETER OF BELL JOINTS AND SHALL MEET ACHD REQUIREMENTS.
11. CONSTRUCT ALL MANHOLES WATER TIGHT. THE TOP OF MANHOLE CONE SHALL BE WITHIN TWELVE (12) INCHES OF FINISHED GRADE. CONTRACTOR SHALL SUPPLY ALL LID ASSEMBLIES AND GRADE RINGS.
12. SEWER CONSTRUCTION SHALL MEET THE SPECIFIC DETAILS AND REQUIREMENTS OF THE FOLLOWING STANDARD DRAWINGS AND ACCOMPANYING SPECIFICATIONS FOUND IN "IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION" AND ACHD STANDARD DRAWINGS:
 1. STANDARD MANHOLE – TYPE A, DRAWING NO. SD-501 AND SD-501A.
 2. STANDARD SHALLOW MANHOLE – DRAWING NO. SD-505.
 3. MANHOLE COLLAR DETAIL – DRAWING NO. SD-508.
 4. MANHOLE COVER AND FRAME – DRAWING NO. SD-507.
 5. STANDARD SEWER SERVICE LINE – DRAWING NO. SD-511 & SD-511A.
 6. SEWER SERVICE MARKER – DRAWING NO. SD-512.
13. CONTRACTOR SHALL FIELD VERIFY THE TOP ELEVATION OF MANHOLE CONES TO ENSURE THAT ALL RING ELEVATIONS MATCH FINAL STREET GRADES.
14. MANHOLE: APPLY NON-SHRINK GROUT BETWEEN THE METAL FRAME AND GRADE RINGS. GRADE RINGS SHALL NOT BE STACKED WITHOUT NON-SHRINK GROUT OR MORTAR.
15. SET EACH GRADE RING IN A BED OF NON-SHRINK GROUT OR MORTAR. TROWEL SMOOTH WITH THE INSIDE OF THE MANHOLE.
16. PAVING CONTRACTOR SHALL SET THE GRADE RINGS AND POUR THE CONCRETE COLLARS PER ISPWC DRAWING NO. SD-508. THE PAVING CONTRACTOR SHALL CONTACT ACHD 24 HOURS PRIOR TO POURING CONCRETE COLLARS.
17. PRIOR TO CONNECTING TO THE EXISTING SEWER SYSTEM, WHERE THE CONNECTION IS MADE BETWEEN MANHOLES AND EXISTING SERVICES, ALL SEWER MAINS AND SERVICES MUST BE AIR TESTED.
18. COMPLETE INTEGRITY TESTING, AFTER ALL UTILITIES ARE INSTALLED AND BEFORE PAVING.
19. CONTRACTOR SHALL CONTACT OWNERS' ENGINEER AND THE CITY OF KUNA AT LEAST 24 HOURS BEFORE TESTING. SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH DIVISION 500 OF THE ISPWC SPECIFICATIONS. A CITY REPRESENTATIVE MUST OBSERVE THE TESTING. TESTING SHALL INCLUDE AIR PRESSURE TESTING, DEFLECTION TESTING, INVERT ELEVATION SURVEY AND VISUAL INSPECTION USING A CLOSED-CIRCUIT TELEVISION (CCTV) CAMERA. ALL SEWER LINES SHALL BE CLEANED AND CHECKED FOR DEFLECTION BEFORE BEGINNING

THE CCTV CAMERA INSPECTION. PROVIDE A COPY (DVD or THUMB) OF THE VISUAL INSPECTION TO THE CITY OF KUNA FOR QUALITY VERIFICATION. NO SEWER MAINLINE SHALL BE CONSIDERED APPROVED AND ACCEPTED UNTIL THE VISUAL REVIEW IS COMPLETE.

20. SEWER CONSTRUCTION INSPECTIONS WILL BE PERFORMED BY THE OWNER'S ENGINEER OR DESIGNATED REPRESENTATIVE. SUCH APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PERFORMING THE WORK IN AN ACCEPTABLE MANNER, IN CONFORMANCE WITH THE APPROVED MASTER PLAN, CONTRACT DRAWINGS, AND ASSOCIATED SPECIFICATIONS.

21. CITY OF KUNA SHALL PROVIDE FINAL APPROVAL AND ACCEPTANCE OF ALL SEWER CONSTRUCTION.