

## GENERAL NOTES ON SEWER PLANS

1. All sanitary sewer mains and system plans and construction shall conform to the Columbine Water and Sanitation District (the District) sanitary sewer standards and specifications, and be subject to construction observation by District personnel or representatives. Copies of the District standards and specifications may be obtained from the District. The Owner, his Engineer or Contractor, shall schedule a preconstruction meeting with the District at least 48 hours prior to the start of construction. Approved Plans will be distributed at the preconstruction meeting. No construction will be permitted until formal completion of easements and recordings, and prior to the preconstruction meeting.
2. Underground utilities in the area of construction must be located with Field Investigation and the best available utility records prior to start of construction. The Contractor shall be responsible for the protection of all utility lines whether shown on the plans or not. The Contractor shall coordinate his activities with the affected utility companies and shall notify Colorado 811 72 hours prior to starting construction.
3. The length of sanitary sewer lines is the horizontal distance between center of manhole to center of manhole. Therefore, distances shown on the plans are approximate and could vary due to vertical alignment and manhole dimensions.
4. The Contractor shall have in his possession at all times one (1) signed copy of plans approved by the District.
5. As-built drawings as required in the specifications are to be submitted by the Contractor prior to probationary acceptance of the construction.
6. The Contractor shall be responsible for removing and replacing any existing signs, structures, fences, etc., encountered on the job and restoring them to their original condition.
7. The Contractor is responsible for:
  - A. Notifying the District 48 hours in advance of any need to shut down any portion of the existing sanitary sewer system.
  - B. Notifying the District 48 hours in advance of the work.
  - C. In case of an emergency after working hours, call the District office at 303-979-2333 for recorded instructions.
8. Prior to installation of sanitary sewer mains, road construction must have progressed to at least the "sub-grade" stage. Sub-grade is defined as an elevation of no more than eight inches below the finished street grade. All manhole covers shall be adjusted to the final finished grade by the Contractor.

9. The Contractor shall be responsible for removing any groundwater encountered during the construction of any portion of this project. Contractor or owner is responsible for procurement of all de-watering permits from appropriate agencies. Groundwater shall be pumped, piped, removed and disposed of in a manner which does not cause flooding of existing streets nor erosion on abutting properties in order to construct the improvements shown on these plans. No concrete shall be placed where groundwater is visible or until the groundwater table has been lowered below the proposed improvements. Any unstable areas, as a result of groundwater, encountered during the construction of the proposed improvements shall be stabilized as agreed upon by the Contractor, the District, County authority and the Design Engineer at the time of their occurrence.
10. It shall be the Design Engineer's responsibility to resolve construction problems with the District due to changed conditions encountered during the progress of any portion of the proposed work. If, in the opinion of the District, proposed alterations to the signed construction plans involves significant changes to the character of the work, or to the future contiguous public or private improvements, the Design Engineer shall be responsible for submitting revised plans to the District for review prior to any further construction related to that portion of the work.
11. The Contractor agrees to assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property; that this requirement shall apply continuously, and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of, the Owner, the Design Engineer, Municipality or the County.
12. The pipe used for sanitary sewer mains shall be in accordance with ASTM D-3034 SDR 35 PVC pipe in paved R-O-W's and easements, and AWWA C-900, Class 150 in unpaved easements or under storm and water pipes.
13. Probationary acceptance of the new sanitary sewer mains is contingent upon receiving the following documents:
  - A. Sanitary sewer trench compaction test results
  - B. Video of pipe and manholes post construction
  - C. As-built records
  - D. Easement Certification
  - E. Project cost
  - F. Surety Bond
  - G. Recorded plat
14. The sanitary sewer system will be tested in accordance with the District standards and specifications. The District will witness the contractor's performance of the following:
  - A. Low pressure air test 100% of the new system, and,
  - B. Deflection test of the entire system at a minimum of 33% of the system fifteen (15) feet or less in depth, and 100% of the system greater than fifteen

(15) feet in depth.

C. Video inspection (with original CD or USB Drive to the District) 100% of the new system.

15. Manhole rims shall be set at an elevation relative to the pavement, in accordance with the County standards. Whether the manhole is in a paved or unpaved locations, a minimum of one (1) and a maximum of four (4) rows of concrete rings shall be used to adjust the rim elevations to final grade. The maximum acceptable vertical adjustment utilizing concrete rings is twelve (12) inches.
16. Connections to existing District lines will be permitted upon acceptance of the new sanitary sewer system. Existing pipe at the point of connection shall not be "broken out" until the new system is accepted.
17. The Contractor shall verify existing manhole inverts to be connected to prior to construction staking.
18. The Contractor shall take care to properly shape all manhole inverts and benches in accordance with District standards and specifications to promote smooth flow through the manhole. Inverts of lines intersecting at 90 degrees and at highly divergent or flat slopes are especially critical. Manhole inverts shall be constructed with a smooth trowel finish, and benched finished with a light broom, non-skid, finish.
19. The District, its representative, and/or the District Engineer, is not a guarantor of the constructing Contractors' obligations and performance of contract. Observations of work in progress and on-site visits are not to be construed as a guarantee by the District or District Engineer of the Contractor's contractual commitment.
20. The District, and/or District Engineer, is not responsible for safety in, on, or about the project site, nor for compliance by the appropriate party of any regulations relating thereto.
21. The District and/or District Engineer, exercises no control of the safety or adequacy of any equipment, building components, scaffolding, forms or any other work aids used in or about the project, or in the superintending of the same.
22. The Owner is responsible for all costs associated with plan review and construction observation and payment must be made prior to probationary acceptance of the project.