

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-23(001)	2021	9	109

**SEWER NOTES:**

1. In the event that any changes in alignment or grade for the proposed sewer mains & laterals are required due to unforeseen conflicts, the Contractor shall notify the Engineer who in turn will be responsible for the required changes.
2. Minimum slope for all sewer laterals shall be 1.00 percent unless otherwise specified on the plans. As-built drawings showing lateral location, vertically and horizontally shall be provided.
3. The Contractor shall verify the location and invert of all existing utilities whether shown or not shown as required.
4. Pipeline inverts shall be installed at a constant slope and on a straight line connecting the invert elevations at manholes.
5. Crushed rock cradle shall be required for all sewer lines, except in area of unsuitable soils, the Engineer will determine the pipe support required.
6. For the construction and installation of sewer lines, sewer laterals, sewer manholes and sewer connections, the Contractor shall refer to the County of Kauai's Sewer Design Standards dated June 1973, Standard Details for Public Works Construction dated Sept. 1984 as amended by the Department of Public Works, City and County of Honolulu, and the Counties of Kauai, Maui and Hawaii, and the "Hawaii Standard Specifications for Road and Bridge Construction, 2005" and its amendments.
7. Plastic sewer pipes and fittings shall be PVC (Polyvinyl-Chloride), extra strength bell and spigot, and conform to ASTM designation D3034.73 with an SDR of 35.
8. Section 706.09 PVC pipe for sewer system of the Department of Public Works, County of Kauai is the specifications for the pipe with modifications as follows:

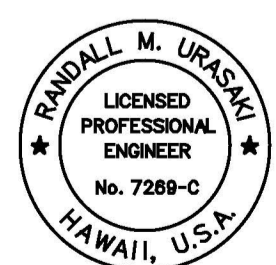
- d. Maximum allowable vertical pipe deflection (reduction in vertical inside diameter) shall be 5 percent. Deflection shall be checked by the Contractor in the presence of the Inspector by using an approved deflectometer, calibrated television, properly sized "Go, No-Go" mandrel or sewer ball. For the purpose of deflection measures, the base inside diameter without deflection are provided below:

SIZE	BASE I.D.
6"	5.915"
8"	7.92"
10"	9.90"
12"	11.78"

- e. Locations with excessive deflection shall have the pipe replaced and retested.
- f. PVC Pipe connection to manholes shall be made with elastomeric water seal stop or seal.

- a. Bedding and the first lift of backfill from the bottom of the pipe to 6 inches above the pipe barrel shall be crushed rock ASTM gradation No. 67. The minimum thickness of the bedding below the pipe shall be 4 inches. Bedding shall be compacted to a relative compaction of not less than 90 percent.
- b. The trench shall be backfilled only to a height of 6 inches above the crown of the pipe. Further backfilling of the trench will only be permitted after of the alignment and grade of the pipe has been inspected and passed. The Contractor will provide proper facilities for access and inspection, including clearing the pipe of all dirt, joint compound and superfluous or foreign material.
- c. No base course for roadways shall be placed until sewer line within said roadway has been inspected and passed. The Contractor shall provide proper facilities for access and inspection, including clearing the pipe of all dirt, joint compound and superfluous or foreign material.

GENERAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
DATE	

 <p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</p> <p>SIGNATURE: <i>R. Urasaki</i> 04/30/22 EXPIRATION DATE OF THE LICENSE</p>	<p>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</p> <p><b>SEWER NOTES</b></p> <p><b>KUHIO HIGHWAY</b> <b>Repairs to Wailua River Bridge</b> <b>Fed. Aid Project No. ER-23(001)</b></p> <p>Scale: None Date: Apr. 2021</p>
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