

WATER NOTES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-076-1(2) &	1990	4	148
S-RS-0760(2)R/W					

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the City and County of Honolulu Board of Water Supply's "WATER SYSTEM STANDARDS" Volume 1, dated 1985, and the "APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION", Volume 2, dated 1985, and all subsequent amendments and additions.
2. Nuts and bolts for flange connections within meter boxes shall be bronze or stainless steel except coupling adapters where "COR-TEN" (U.S. Steel) or "MAYARI" (Bethlehem Steel) may be used. Flange connections outside of meter box may use "COR-TEN" or "MAYARI" type nuts and bolts.
3. Test pressure shall be one of the following:
- a. Prevailing line pressure, joints left exposed for 24 hours to check for leaks prior to backfill.
- b. 150 psi.
4. The Contractor shall chlorinate the entire inside surface of each pipe and fitting with disinfection solution of 5 ounces of sodium hypochlorite mixed with 10 gallons of water.
5. The Contractor shall notify BWS Planning and Engineering Division, Construction Section, one week prior to commencing work on the water system.
6. Contractor shall cut and plug all existing unused laterals at the main whether or not shown on the plans. Meter and valve boxes to be or already abandoned shall be demolished or removed and properly disposed of. The damaged area shall be repaired to an equal or better condition than the immediate area. All work shall be done at the expense of the Contractor.
7. After installation of tapping sleeve and valve prior to actual tapping operations, the assembly shall be tested at 150 psi. on both sides of the valve.
8. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply.
9. The installation, chlorination and testing of the water main and facilities after the meter shall not be the responsibility of the Board of Water Supply.
10. The Contractor shall be responsible for the protection of all water lines during construction. The Contractor shall be especially careful when excavating behind water lines, tees and bends wherever there is a possibility of water line improvement due to the removal of the supporting earth beyond the existing reaction blocks (with BWS approval) and/or modifying his construction method.
11. The existence and location of underground utilities and structures as shown on the plans are from the latest available data but is not guaranteed as to the accuracy or the encountering of other obstacles during the course of the work. The Contractor shall be responsible and shall pay for all the damages to existing utilities.
12. Prior to installation, the Contractor shall submit for approval by Board of Water Supply, the manufacturer's certification that all cast iron (gray or ductile) fittings for the project conform in all respects to the Water System Standards, dated 1985.
13. Polygon shape for mechanical joint glands as described in AWWA Standard C111 shall be "straight-sided" and shall be applicable to both cast iron and ductile iron glands.
14. Re-approval shall be required if this project is not under construction within a period of two years.
15. Contractor shall adjust all manholes, valve boxes and meter boxes, within this projects scope of work, to match any new finished grade.

16. Notes for waterline lowering:
- a. Contractor shall verify all locations and inverts prior to prefabricating concrete jacket.
- b. Where applicable, reinforced concrete jacketed sections may be prefabricated, tested and chlorinated, then laid in place.
- c. Items for testing shall be provided by contractor.

All work requiring water system down time shall be done as follows:

Station	Normal Working Hours	After Working Hours	Down Time (Max) Hrs.
9+50 (16")		✓	6
9+50 (8")	✓		6
10+00 (12")	✓		6
14+10 (16")	✓		6
14+10 (8")	✓		6
19+50 (16")	✓		6
21+42 (16")	✓		6
24+10 (16")	✓		6
1+62 (8" Makule Rd.)	✓		6
53+25 (8")	✓		6
57+14 (6")	✓		6
59+50 (8")	✓		6
63+72 (6")	✓		6
72+55 (12")	✓		6

\* Cutting and plugging of F.H. laterals should be coordinated with pipeline lowerings which involve similar valve closures.

HIGHWAY LIGHTING AND TRAFFIC SIGNAL NOTES

1. The Contractor shall notify the joint pole committee two (2) weeks in advance of any relocation of utility pole(s).
2. The Contractor shall notify the Highway Lighting and Traffic Signal Supervisor, Department of Transportation, three (3) working days prior to commencing work on the street lighting or traffic signal system (Phone 548-4077).
3. Street lighting and traffic signals shall be kept operational during construction. Any relocation required shall be approved by the Highway Lighting and Traffic Signal Supervisor, Department of Transportation and paid for by the Contractor.
4. The Contractor shall be responsible for all damage to existing street lighting and traffic signal facilities. Damages shall be repaired by the Contractor at his cost.
5. The Contractor shall measure and record the ground resistance at each standard with no external ground wires connected to the ground rod. The Contractor shall schedule ground resistance measurements 48 hours in advance and shall not proceed with measurements until approval is granted. Schedules are subject to change depending upon weather conditions. Reports shall include name of personnel conducting the test, meter type and serial number, date of test and soil conditions. Test results shall be certified by the Contractor and submitted to the State Highways Division, 727 Koko Street.
6. The Contractor shall not backfill trenches until approval is granted by the Highway Lighting and Traffic Signal Supervisor.

APPROVED:

for   
CHIEF, PLANNING & ENG. BWS.

11/10/90  
DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

UTILITY NOTES

Fort Weaver Road  
Hanakahi St. To Ewa Beach Rd.  
Proj. Nos. F-076-1(2) &  
S-RS-0760(2) R/W

Date: Dec., 1989

SHEET No. 1 OF 2 SHEETS



HAWAIIAN TELEPHONE COMPANY NOTES

1. The Contractor shall procure and pay for all licences and permits and shall give all notices necessary and incident to the due and lawful prosecution of the work.
2. The locations of existing utilities are approximate only. The Contractor shall verify their locations and shall be responsible for any damages to these utilities as a result of his operations. Adjustments to the new ductline alignment, if required, shall be made to provide the required clearances.
3. The Contractor shall brace all poles or light standards near the new ductline or manhole during his operations.
4. The Contractor shall saw-cut A.C. pavement and concrete gutter wherever new manholes or ductlines are to be placed and shall restore to existing condition or better.
5. The Contractor shall comply with the policy adopted by the Department of Public Works, City and County of Honolulu, concerning the replacement of concrete sidewalks after excavation work.
6. The underground pipes, cables or ductlines known to exist by the Engineer from his search of records are indicated on the plans. The Contractor shall verify the locations and depths of the facilities and exercise proper care in excavating in the area. Wherever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for the new lines.
7. The Contractor, at his own expense, shall keep the project and surrounding area free from dust nuisance. The cost for supplementary measures which will be required by the City and County shall be borne by the Contractor.
8. Prior to the excavation of the ductline, the Contractor shall request the Hawaiian Telephone Company to locate existing ductline wherever required.
9. The Contractor shall take necessary precaution not to damage existing cables or ducts. Any work involving existing cables or ducts shall be done in the presence of the Hawaiian Telephone Company Inspector or his representative. Temporary cable and duct supports shall be provided wherever necessary.
10. The Contractor shall pump all manholes dry during final inspection.
11. The Contractor shall notify the Hawaiian Telephone Company Inspector 48 hours prior to the pouring of concrete or backfilling.
12. Wherever connections to existing utilities are shown on the plans, the Contractor shall expose the existing lines prior to excavation of the main trenches to verify their locations and depths.
13. The Contractor shall provide all materials and furnish all labor and equipment necessary to install the ductline in place complete.
14. When connecting to manhole walls, all existing reinforcing bars shall be left intact. Ducts shall be adjusted in the field in order to clear reinforcing.
15. All applicable construction work shall be done in accordance with the "Hawaiian Telephone Company Standard Specifications For Placing Underground Telephone Systems" dated June 1989.
16. The Contractor shall be responsible for laying out all required lines and grades and shall preserve all bench marks and working points necessary to lay out the work correctly. The new ductline shall be adjusted by the Contractor to suit the existing conditions and the details as described in the plans.

HAWAIIAN ELECTRIC COMPANY NOTES

1. HECO is to coordinate its work with the State's Contractor in a manner which does not impede construction.
2. The duct legend on the General Notes sheet applies throughout this project.
3. The existing facilities shown throughout these drawings are approximate only. The State's Contractor shall verify their actual locations.
4. Adjustments to any new or existing HECO facilities shall be made as directed by HECO Engineers and approved by the State's Resident Engineer.
5. All existing HECO facilities shall remain in place until proposed permanent facilities are provided. Any cost for temporary relocations arising during construction for the State's Contractor's benefit, shall be borne by the State's Contractor.
6. The construction of the new pole line and underground facilities is subject to HECO obtaining satisfactory rights of entry and easements.
7. The State's Contractor shall be liable for any and all damages to HECO's facilities which is caused by his operations. Damages will be corrected by HECO at the State's Contractor's expense.
8. HECO shall furnish and install all materials to complete construction of HECO's overhead system including all joint pole agreement items.
9. The proposed joint poles and anchors are to be staked out by the State's Contractor and verified by HECO and HECO.
10. The excavation of joint pole holes and joint pole anchor holes, installation of joint poles and joint pole anchors and backfilling of joint pole and anchor holes are to be done by HECO and/or its Contractor.
11. The State's Contractor shall provide existing and finished grade information at each pole and anchor location. Depth of poles and anchors will be taken from finished grades.
12. All proposed overhead conductor installations will be aluminum unless noted otherwise.
13. HECO shall furnish and install all materials to complete construction of HECO's underground ductline system including riser bends.
14. The stakeout and installation of ducts and handholes are to be done by the State's Contractor and verified by HECO.
15. The locations and depths of handholes, service and splice boxes, and ductlines are to be verified and approved in the field by the State's Resident Engineer prior to construction or installation.
16. The ducts to be used for the new or proposed underground conductors may be of metallic or non-metallic composition.
17. All ducts and conduits to be installed in concrete jacket shall be inspected and approved by the State's Resident Engineer before placing concrete. Notify the State's Resident Engineer 24 hours minimum before placing concrete.
18. The minimum depth of ductlines from finished grade shall be as follows except when otherwise noted in the plans:
  - a. Top of concrete duct encasement in State's R/W = 3'-0".
  - b. Top of concrete duct encasement in Private Property = 1'-6".For handhole development and duct entrance details, see project plan drawings concerned.
19. HECO is to mandrel test his completed ductlines in presence of the State's Resident Engineer before acceptance.

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S-RS-0760(2)R/W					

APPROVED:

HAWAIIAN ELECTRIC CO., INC.

DATE

APPROVED:

HAWAIIAN TELEPHONE CO., LTD.

DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

UTILITY NOTES

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SHEET No. 2 OF 2 SHEETS