| FED. ROAD DIST. NO. | STATE | FEDERAL AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | NH-HI-1(285) | 2023 | 11 | 287 |

## SPECTRUM NOTES: cont.

41. Minimum clearance between street light stand and fire hydrants shall be three feet.

42. Underground utilities shown hereon is for information only. No guarantee is made on the accuracy or completeness of said installation.

43. For underground cable locating and marking, five working days advance notice is required. Three working days advance notice is required for any inspection by a designated representative. Contractor shall take necessary precaution not to damage any existing cables or ducts. Spectrum Oceanic's Inspector or designated representative is required to be at any job site whenever there will be a breakage into or entry into any structure that contain Spectrum Oceanic's facilities.

44. Concrete strength shall be 3000 psi in 28 days.

45. Curing and backfilling. Maintain concrete in a moist condition for 24 hours minimum for 3,000 psi and 48 hours minimum for 2,500 psi before compacted. Backfilling: 72 hours minimum before permitting motor traffic load on ductline. Curing method shall meet Spectrum Oceanic Inspector's approval.

46. Install 4-mil. thick orange color warning tape 4-inch wide entire length of trench when placing CATV conduits. Tape should read "CAUTION BURIED CABLE LINE BELOW". Manufactured by Harris Industries, Inc. catalog number UT-43 or equivalent tape. Tape to be installed 12-inches above conduit or if concrete jacket involved then 12-inches above jacket.

47. After ductline has been completed, a mandrel with a square front not less than 12-inch long and having a diameter of ¼-inch less than the inside diameter of duct, shall be pulled through each duct after which a brush with stiff bristles shall be pulled through to make certain that no particles of earth, sand, or gravel have been left inside. Ducts shall be completely dry and clean.

48. Metallic entrance conduits shall be grounded.

49. All conduits within a building shall:

    a. Be installed in the shortest and straightest possible run.

    b. Have no section longer than 100-feet nor contain more than two 90-degree bends. An approved sized junction box or gutter box shall be placed if this is exceeded.

    c. All bends shall be long sweep-radius bends but the inside radius of the bend must never be less than ten times the diameter of the conduit.

50. All construction must be inspected and approved by Spectrum Oceanic prior to the installation of any of its facilities and the energizing of its system.

51. Contractor and/or customer shall provide Spectrum Oceanic with sufficient installation time in their occupancy time table.

ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

## US ARMY SIGNAL CORPS - NETWORK ENTERPRISE CENTER-HAWAII JOINT TRUNKING SYSTEM / OUTSIDE CABLE PLANT GENERAL CONSTRUCTION NOTES:

1. All work impacting US Army Signal Corps (SC) telecommunications facilities and infrastructure shall be completed in accordance with:

    a. Military Standards and US Army Regulations (current version)

    a. US Army Technical Criteria for the Installation Information Infrastructure Architecture (I3A) dated February 2010 (or most current). Copy of the I3A Technical Criteria can be found at http://www.lrl.usace.army.mil/ed2/article.asp?id=1416&MyCategory=212.

    b. National Electric Code (NEC) and National Electric Safety Code (NESC), most current version.

    c. ANSI/TIA/EIA Telecommunication Standards

    d. National Electrical Manufacturers Association (NEMA) Bulletin No. TCB 2-2000.

    The contractor shall be responsible for acquisition of all applicable guidance and directives.

2. Excavation Permit.

    a. US Army Excavation Permit. The Contractor shall obtain, process, and have an approved excavation permit from the US Army, Directorate of Public Works located in Building 682, 451 Brannon Road, Wheeler Army Airfield, Hawaii. The excavation permit form shall be completed and approved a minimum of two weeks prior to beginning of construction; or

    b. One Call Center Form. The One Call Center form may be utilized in lieu of the US Army Excavation Permit form. The submission shall include a map of the areas affected by the excavations. The One Call Center Form shall be completed and approved a minimum of two weeks prior to the beginning of any construction. Submission of this form shall be submitted to Network Enterprise Center - Hawaii, Infrastructure Management Group, Bldg. 600, 148 Curtis Loop, Room 157, Wheeler Army Airfield, Hawaii.

3. The Contractor shall ensure the following for OSP placements:

    a. All duct joints shall be reamed to avoid burrs, obstructions, or areas where the mandrel will not flow freely or smoothly. Contractors shall utilize the NEMA Bulletin No. TCB 2-2000 for the general guidelines on the selection and installation of underground non-metallic duct. An electronic copy of this file is available at http://www.nema.org/stds/tcb2.cfm.

    b. All protruding surfaces in the communication ducts at the joints or connection points shall be repaired or replaced by the Contractor until accepted by the Government and the Government Service Provider.

    c. All new communication ducts shall be swabbed (cleaned) and bi-directional mandrel tested by the contractor. Bi-directional testing shall be witnessed by a Government Representative for acceptance by the Government and Government Service Provider. Ducts shall be completely dry and clean (free of dirt, rocks and debris).

    d. Mandrels shall flow through freely and smoothly with no noticeable obstructions or hang-ups.

    e. All equipment and personnel for mandrel testing shall be provided by the Contractor.

    f. Mandrels used for communication duct testing shall be 12-inches in length, solid, non-tapered, and a diameter of .25 inch less than the inner diameter of the ducts being tested.

    g. Contractor shall provide details of the mandrel test equipment used for Government approval 30 days prior to testing.

    h. Contractor shall provide a mandrel test schedule for Government approval 15 days prior to any testing.

4. The Contractor shall ensure the casting of all "new" maintenance hole covers bear the imprinting of the words "USA Signal Corps." The inside neck of the maintenance hole shall be permanently labeled with the maintenance hole idenitifier provided by the Government.

5. The cover and ring of the maintenance hole shall be manufactured with thread holes (5/8" threads) to accept security bolts. Security patterns are unique to the US Army.

6. The Contractor shall obtain and fund for all required permits, notices, licenses and authorizations for the intended work for Federal and US Military Facilities and infrastructure.

7. The Contractor shall be responsible to validate military and defense cables identified and shall ensure other utilities/facilities, both aerial and underground, are secured and not impacted during operation. Outages and damages to other utilities shall be the responsibility of the Contractor.

8. The Contractor shall contact the Network Enterprise Center 72-hours prior to any physical work performed on US Army infrastructure and facilities.

9. The Network Enterprise Center POC is Ms. Dale Shinseki-Hironaka, (808) 656-3514, dale.a.shinseki-hironaka.civ@army.mil or Ms. Janelle Reisdorf, janelle.m.reisdorf.civ@army.mil or Mr. Walter Selders, walter.l.selders.civ@army.mil or Mr. Byron Kawane, byron.k.kawane.civ@army.mil.

RANDALL M. URASAKI
LICENSED PROFESSIONAL ENGINEER
No. 7289-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/24 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SPECTRUM AND SIGNAL CORPS NOTES

INTERSTATE ROUTE H-1 IMPROVEMENTS
Vicinity of Pearl City Viaduct to Waimalu Viaduct
Federal-Aid Project No. NH-H1-1(285)

Scale: None Date: May 2023

SHEET No. N-9 OF 9 SHEETS