

GENERAL CONSTRUCTION NOTES:

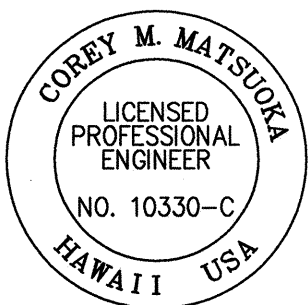
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-093-1(21)	2015	3	99

1. The project includes replacement of the existing Maipalaoa Bridge structure in the District of Waianae. Replacement includes but is not limited to the addition of piers, asphalt pavement reconstruction, bridge structure reconstruction, utility relocation and other related improvements required to complete this project.
2. The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 104.11 - Utilities and Services, Section 107 - Legal Relations and Responsibility to Public, and Section 645 - Work Zone Traffic Control.
3. The Contractor shall notify the State in writing, two (2) weeks prior to starting paving operations.
4. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.
5. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of the work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
6. The exact locations and limits or areas to be reconstructed and cold planed shall be determined in the field by the Engineer.
7. Preformed Pavement Marking Tape shall be removed prior to resurfacing. Removal shall be by scraping, grinding or other method approved by the Engineer. The work shall be incidental to Item No. 401.0100 - Hot Mix Asphalt Pavement, Mix No. IV.
8. The Contractor shall remove and dispose of all existing raised pavement markers prior to the overlaying of Asphalt Concrete. This work shall be considered incidental to Item No. 401.0100 - Hot Mix Asphalt Pavement, Mix No. IV.
9. Smooth riding connections shall be constructed at all limits of resurfacing including the beginning and end of project, side streets and driveways as shown on the plans and/or as directed by the Engineer.
10. Existing drainage system will be functional at all times during construction. Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to the various contract items.
11. Contractor shall provide for access to and from existing side streets and driveways at all times.
12. All saw cutting work shall be considered incidental to Item No. 401.0100 - Hot Mix Asphalt Pavement, Mix No. IV, and will not be paid for separately.
13. Initial preparation of shoulder areas shall be done by the Contractor. Shoulder preparation shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable excavated material from roadway reconstruction and cold planing, as shown on the plans and/or as directed by the Engineer. Contractor shall also be responsible for finish rolling and maintaining the shoulders until project completion. This work shall be considered incidental to Item No. 401.0100 - Hot Mix Asphalt Pavement, Mix No. IV.
14. Unprotected pavement dropoffs greater than 2" shall not be allowed during non-working hours, except where approved by the Engineer in writing.

15. Public Notice is required for lane closures. Contractor shall submit notice to the Engineer for approval a minimum of three weeks prior to publication. Pre-approval of notice, with dates left blank, is permissible.
16. Contractor shall maintain at least one paved shoulder free and clear of debris for pedestrian and bicycle traffic at the end of each work day.
17. The Contractor's attention is called to Section 407 - Tack Coat of the Special Provisions.
18. Temporary striping on cold planed surfaces shall be with paint (tape will not be allowed). Temporary striping on final overlay shall be with temporary tape.
19. Paving shall not commence on the same day as the cold-planing except where approved by the Engineer.
20. The Contractor will be allowed to pave one lane of the roadway on a single day with the adjacent shoulder being paved the next day. The adjacent lane shall be paved no later than the third day.
21. Pavement striping shall be done with alkyd-based thermoplastic.
22. Lane closures or detours that slow down traffic shall not occur during peak hours (6:30 am to 8:30 am and 3:00 pm to 6:00 pm). See sheets 38-41 Traffic Control Plan Notes. Night work may be permitted. If the Contractor elects to perform work at night, a noise variance permit shall be obtained at his cost with no additional time.
23. Cold planing of adjacent travel ways shall be completed on the same day. Temporary pavement markings shall be installed prior to the end of each work day.
24. If night work is approved, the Contractor shall stop all work and contact the Fish and Wildlife Service (800 344-9453) if bats or birds are seen flying around the work area at night.
25. When trench excavation is adjacent to or under existing structures or facilities, the Contractor shall be responsible for properly sheeting and bracing the excavation and stabilizing the existing ground to render it safe and secure from possible slides, cave-ins and settlement and for properly supporting existing structures and facilities with beams, struts or under-pinning to fully protect them from damage.
26. All excavation work called for on the plans and not itemized in the proposal and all excavation work not called for but required for the construction of this project shall be considered incidental to Item No. 203.0100- Roadway Excavation, and will not be paid separately.
27. Verify and check all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the Engineer for direction.
28. No Contractor shall perform any construction activity so as to cause falling rock, soil or debris in any form to fall, slide or flow onto adjoining properties, streets or natural water courses. Should such violations occur, the costs incurred for any remedial action shall be payable by the Contractor.
29. 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. All damaged portions shall be replaced in accordance with the standards and specifications of the

affected utility company and shall be the Contractor's responsibility. Personal injury resulting from contact with existing utilities shall be the Contractor's responsibility. 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 new lines.

30. The Contractor shall be responsible for conformance with the applicable provisions of Chapter 54, Water Quality Standards, and Chapter 55, Water Pollution Control, of Title 11, Hawaii Administrative Rules of the State Department of Health. Prior to the start of construction, the contractor shall perform preconstruction water quality testing in accordance with the "Applicable Monitoring and Assessment Program (AMAP) for Clean Water Act (CWA) Section 401 Water Quality Certification (WQC) for Maipalaoa Bridge Project in Mailli, Oahu, Hawaii."
31. Prior to the start of construction, the Contractor shall contact the Hawaii One Call Center to have respective utility companies have and mark where their underground facilities are located. The Contractor shall coordinate all work.
32. The Contractor shall restore to their original condition or better, all improvements damaged as a result of the construction, including pavements, embankments, curbs, signs, landscaping, structures, utilities, walls, fences, etc. unless provided for specifically in the proposal. Demolition and restoration of existing items shall be incidental and included within the amount paid for unclassified trench excavation.
33. If a grading permit is required, the Contractor shall retain the services of a licensed Professional Engineer to be responsible during construction and prepare the certification and report after grading in accordance with Revised Ordinances of Honolulu 1990, Chapter 14, Article 14, Article 15 as amended.
34. Pile driving into open stream waters is not allowed.
35. No heavy construction equipment are allowed in stream waters.
36. The Contractor shall provide for access to and from all existing driveways, sidewalks and ADA access routes, and side streets and cross streets at all times. This work shall be considered incidental to the various contract items, and will not be paid for separately.
37. Construction and restoration of all existing highway facilities within the State's right-of-way, including the legal relations and responsibility to the public, shall be in accordance with the current Standard Specifications for Road and Bridge Construction, and the Special Provisions.
38. Monitor construction activities for archaeological items in accordance with specifications Section 212 - Archaeological Monitoring.
39. The Contractor shall give the owner of Construction Parcel C-4 a 30-day written notice prior to start of Construction. Owner's name and address is Wendell Choy, 1103 Prospect Street, Honolulu, HI 96822.



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OR UNDER MY SUPERVISION

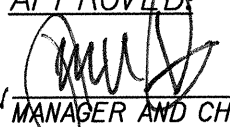
Corey Matsuda 4/30/16
SIGNATURE DATE OF THE
EXPIRATION
LICENSE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>GENERAL NOTES</u>	
<u>FARRINGTON HIGHWAY</u>	
<u>Replacement of Maipalaoa Bridge</u>	
<u>Federal Aid Project No. BR-093-1(21)</u>	
Scale:	Date: JUNE 2015
SHEET No. 1 OF 2 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-093-1(21)	2015	4	99

WATER NOTES:

- 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", Dated 2002, The "Water System External Corrosion Control Standards", Volume 3, Dated 1991, and all subsequent amendments and additions.
- Test pressure shall be 150 psi. During the 30-minute pressure test, the pressure shall not drop more than 10 psi.
- The Contractor shall notify BWS Capital Projects Division, Construction Section in writing and submit six (6) sets of approved construction plans six weeks prior to commencing work on the water system.
- 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.
- All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply.
- 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 movement due to removal of the supporting earth beyond the existing reaction blocks. The Contractor shall take whatever measure necessary to protect the water lines, such as constructing special reaction blocks (with BWS approval) and/or modifying his construction method.
- 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 2002.
- Re-approval shall be required if this project is not under construction within a period of two years.
- Pipe cushion shall be of high resistivity material. The Contractor shall submit a soil certification that high resistant cushion material has a resistivity greater than 5,000 ohm-cm. Remainder of the backfill material shall be as specified in the Water System Standards. Pipe cushion and backfill material shall not contain hazardous substances above regulatory action levels including but not limited to lead, asbestos, mercury, chromium, cadmium, zinc, strontium, and polychlorinated biphenyls (PCB).
- All ductile iron pipe, fittings and valves shall be wrapped with two layers of 8 mil polyethylene wrap.
- Cleaning shall be by the use of "pigs" introduced into the pipeline and run completely through all installed pipelines and all branch lines for fire hydrants. "Pigging" of service laterals is not required. Bare foam "pigs" shall be used to swab piping clean as each length of the pipeline is installed. Each "pig" shall consist of a cylindrical piece of polyurethane foam with a density of 3-7 pounds per cubic foot and a vinyl-coated nose. Outside diameter of the "pig" shall be equal to 1-1/4 to 1-1/2 times the inside diameter of the pipe being installed. The length of the "pig" shall be 1-1/2 to 2 times its diameter. Prior to use, the "pig" shall be submerged in a chlorine solution of 1 oz. of 5% chlorine bleach in 5 gallons of water. "Pigging" of the pipeline shall be considered incidental to the installation of the new pipeline.
- Ball corp and ball stop shall be used in lieu of a corporation stop and stopcock, respectively.
- Install 4 mil thick, non-metallic, blue colored, 6 inches wide warning tape over centerline of the pipe and below the base course along the entire length of trench. Tape should be marked with "Caution Water Line Buried Below" or BWS approved alternate, See WL Detail on Sheet 36.
- 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.
- The Contractor shall obtain a NPDES permit prior to chlorination and/or dewatering. A copy of the permit shall be submitted to the Board of Water Supply, Capital Projects Division, Construction Section.
- 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.
- Water Pipeline Chlorination and Testing Procedures
 - The following chlorination and water sample collection procedure shall apply to all water pipeline projects:
Step 1: Chlorinate main by filling with water and introducing chlorine in sufficient quantity to obtain a minimum chlorine concentration of 50 parts per million. Leave chlorinated water in main overnight.
Step 2: Flush main with fresh water until all chlorine has been flushed out as evidenced by the N,N-Diethyl-P-Phenylenediamine (DPD) test, then collect a water sample while continuing to flush the main.
Step 3: Repeat Steps 1 and 2. After collecting the second water sample, stop flushing and allow the water to stand in the main overnight.
Step 4: Thoroughly flush the main with fresh water until all water that had been standing in the main overnight has been flushed out. Stop flushing and let the water stand in the main for one hour. Collect a water sample.
 - The main is deemed acceptable and certified when (1) two consecutive water samples, collected 24 hours apart under Steps 1 and 2, show no total and fecal coliform and less than 200 colony forming units (CFU) of total bacterial and (2) the sample of water held in the main for one hour collected under Step 4, also shows no total and fecal coliform and less than 200 CFU of total bacteria.
 - Chlorination, flushing, sampling and testing will be extended should unsatisfactory results be encountered. Any sample that shows positive coliform presence or total bacteria greater than 200 CFU is unsatisfactory.
 - Steps 1 and 2 can be repeated before collecting the one-hour hold sample specified in Step 4. Repeating Steps 1 and 2 is recommended in the event samples shown the presence of coliforms and/or increasing total bacterial results from one sample to the next.
 - Water samples that show the presence of atypical colonies, debris or results inconsistent with existing water are subject to reconfirmation. BWS reserves the right to request and test additional water samples in the interest of safeguarding public health and safety.
- Typical Electronic Marker Installation
The Contractor shall install electronic markers to All mains and test the electronic markers prior to installations to verify proper operations. BWS personnel shall verify the number and location of placed electronic markers before final paving of the project.

APPROVED:

MANAGER AND CHIEF ENGINEER, BWS
(For Work Affecting BWS Facilities in City/State R/W & BWS Easements only)
2-24-2015
DATE

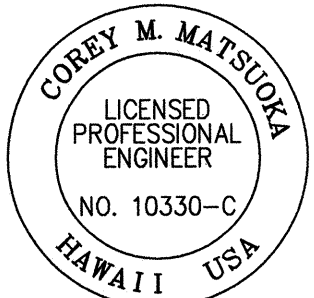
- At the electrical/signal ductline water crossings, adjust all electrical/signal ductline elevations to maintain 6" vertical clear separation from all waterlines (12" clear for all electrical/signal ductline structures larger than 16") at no cost to the Board of Water Supply. Maintain 3'-0" min. horizontal clear separation between all waterline systems and nearest electrical/signal ductlines paralleling the water system at no cost to the Board of Water Supply. Maintain 3'-0" min. horizontal clear separation between street light/traffic signal, standards (including any modular units) and the nearest water system. Contractor shall field verify for any conflicts at each street light/traffic signal standard location. Where conflicts occur, the Contractor shall coordinate with the Project Engineer to revise the street light/traffic signal standard to provide the required clearances at no cost to the BWS.
- Upon completion of the project, the Contractor shall provide the BWS with a certificate from a registered soils engineer certifying that the road prism has been constructed in accordance to State of Hawaii, Hawaii Standard Specifications for Road and Bridge Construction.
- The existence and location of underground utilities and structures as shown on the plans are from the latest available data, but not guaranteed as to their accuracy or the encountering of other obstacles during the course of the work. The Contractor shall be responsible and pay for all damages to existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.
- Prior to any excavating, the Contractor shall verify in the field, the location of existing waterlines and appurtenances.
- Any adjustments to the existing water system required during construction, to meet the requirements of the BWS Standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board.
- The Contractor shall furnish and install polyethylene wrap, 3 feet minimum at all taps (for DI pipe and copper lateral combination only) and plastic pipe (PE tubing) 3 feet long after meters for all service lateral connections. (For copper service laterals only.)
- All waterline construction requiring shutdown connection shall be scheduled for normal working hours at six (6) hours maximum downtime.

PERMITS, INSPECTION SERVICE AND COORDINATION:

- With Utility Companies: Contractor shall attain all necessary permits, inspection services and coordination of work required to expedite project work prior to schedule start of construction. This work shall be considered incidental work.

NOTIFICATION:

- Contractor shall notify the Police, Fire Department and EMS with project information including location, dates, times, lane closures, etc., two weeks prior to the start of the project.



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OR UNDER MY SUPERVISION


SIGNATURE
4/30/16
EXPIRATION
DATE OF THE
LICENSE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>GENERAL NOTES</u>	
FARRINGTON HIGHWAY Replacement of Maipalaoa Bridge Federal Aid Project No. BR-093-1(21)	
Scale:	Date: JAN. 2015
SHEET No. 2 OF 2 SHEETS	