

| FED. ROAD DIST. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------|-------------|-----------|--------------|
| HAWAII | HAW. | HWY-H-04-00M | 2000 | 3 | 9 |

GENERAL NOTES:

- The scope of work for this project consists of repairing existing drainage culverts, headwalls, inlets and outlets, mitigating erosion at the inlet and outlet side of the drainage structures; installing and maintaining traffic controls; and other related work.
- The Contractor is reminded of the requirements of Subsection 108.01 - Subletting of Contract, which requires him to perform work amounting to not less than 50 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.
- The Contractor's attention is directed to the following Sections of the Special Provisions : Subsection 107.13 - Public Convenience and Safety; Subsection 107.21 - Contractor's Responsibility For Utility Property And Services; and Section 645 -Traffic Control.
- 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.
- 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 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.
- The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting construction operations.
- Removal and disposal of any debris shall be considered incidental to their respective bid items.
- The Contractor shall provide for access to and from all existing driveways, sidewalks and side streets at all times. This work shall be considered incidental to various contract items.
- The Contractor shall clean and remove any accumulation of construction materials along the roadside within 10 feet of the edge of pavement daily and shall clear debris accumulated at the ends and inside of culverts. This work shall be considered incidental to the various contract items and will not be paid for separately.
- The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing structures from damages due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer. See Drainage Note #4.
- In the event that permit(s) are required, the Contractor shall comply with all conditions of the Army Corps of Engineer's Nationwide Permit and the Department of Health's Water Quality Certification Permit. Any proposed changes to either of these permits will require the Contractor to file an amended permit application(s) with the appropriate agencies.
- No material or equipment shall be stockpiled or stored within highways right-of-way except for the locations approved by the Engineer.
- The contractor shall make his own arrangements for, and pay for all temporary utilities required for his work.

NOTES FOR TRAFFIC CONTROL PLAN:

- The permittee shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
- Cone or delineators shall be extended to a point where they are visible to approaching traffic.
- Traffic control devices shall be installed such that the sign or device farthest from the work area shall be placed first. The others shall then be placed progressively toward the work area.
- Regulatory and warning signs within the construction zone that are in conflict with the traffic control plans shall be removed or covered. All signs shall be restored upon completion of the work.
- Flaggers and/or police officers shall be in sight of each other or in direct communication at all times.
- When required by the issuing office, the permittee shall install flashing arrow signal as shown on the traffic control plans.
- Sign spacings (L), taper lengths (T) and spacings of cones or delineators shall be as shown in Table 645-1 and Figures 1 and 7 of Section 645 of the specification, unless otherwise noted on the traffic control plans.
- All traffic lanes shall be a minimum of 10 feet wide.
- All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
- The backs of all signs used for traffic control shall be appropriately covered to preclude the display of inapplicable sign messages (i.e. when signs have massages on both faces).
- At the end of each day's work or as soon as the work is completed, the permittee shall remove all traffic control devices and any other obstructions no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
- Sign details shall conform to the latest editions of FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways", "Standard Alphabets for Highway Signs", and "Standard Highway Signs", and as amended.
- All construction signs shall be reflectorized.
- All construction signs shall have 3/8" bolt holes drilled at appropriate locations.

DRAINAGE NOTES:

- Existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to accomplish maintenance of flow. The Contractor shall submit his plans for bypassing storm water around the construction work in the culverts to Engineer for approval at least 21 days prior to the start of any construction work. The cost shall be incidental to the various Contract Items.
- Only non-pneumatic type of drill as approved by the Engineer will be permitted for drilling holes in concrete. Where indicated on Plans, the approximate diameter of drilled holes for installation of dowels shall be 5/8", and voids after installing dowels shall be filled with epoxy grout as directed by the Engineer.
- Unless otherwise noted in the proposal, furnishing and providing backfill materials for the new structures will not be paid for but shall be considered incidental to various Contract Items.
- When structure 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 settlements, and properly support existing structures and facilities with beams, struts or underpinning to fully protect it from damage. Contractor shall be aware that water will be encountered on most all of the excavation operations.

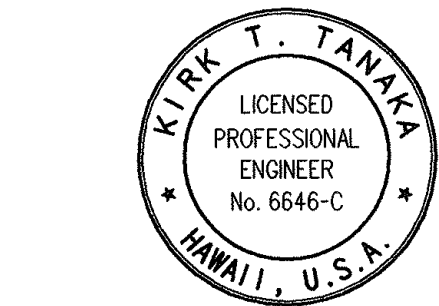
REPAIR NOTES:

- All surfaces in contact with concrete shall be cleaned and debris removed prior to placement of concrete.
- Remove all foreign materials trapped at hole locations before placement of concrete.
- The work shall be finished to a smooth surface acceptable to the Engineer. Within 18 hours after finishing, the surface of the concrete shall be protected by an approved curing compound. Inverts exposed to sunlight should be protected in such a fashion immediately after the finishing operations have been completed and the surface water has evaporated.
- Provide sealant approved by the Engineer along edges of concrete.
- Contractor shall ensure adequate bypass drainage until culvert has been completely repaired and accepted by the Engineer. See Drainage Notes #1 below.
- The concrete placed in the culvert shall be allowed to cure for a minimum of 48 hours before water is allowed to flow over it.
- The culvert surface to be in contact with concrete shall be cleaned to the satisfaction of the Engineer. Badly corroded loose reinforcements shall be cut and removed, provided the structural integrity of the culvert is not compromised. Epoxy bonding compound shall be neatly applied to the clean surface prior to placing concrete.
- The welded wire fabric steel reinforcement shall be placed two inches below the finish top of the floor. If lapping of the welded wire fabric is necessary, it shall be lapped a minimum of six inches.
- The welded wire fabric and epoxy bonding compound shall not be paid for separately but shall be considered incidental to contract items.
- The concrete culvert lining shall be scored 3/4" deep laterally at 20 feet on center. (Control Joint)
- Existing culvert to be repaired shall be properly shored during construction.
- Contractor shall be aware that water will be encountered on most all of the repair areas.

NPDES GENERAL NOTES:

- Discharge into receiving waters (streams, rivers, ocean channels, drainage systems, etc.) from dewatering activities require NPDES Permit(s) from the Department of Health (DOH). If the Contractor options to discharge dewatering effluent into receiving waters, the Contractor shall be responsible in obtaining the NPDES permit(s) from DOH. See Sub-section 107.08 of the specifications.
- No dewatering activities will be authorized until the receipt of the NPDES Permit(s) from DOH.
- Progress payment will not be authorized until receipt of the BMP's and the Quality of Discharge Test Results.
- Any citation (fine) received by the State for noncompliance of the NPDES Permit requirements shall be deducted from the progress payment.

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| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK | DESIGNED BY | |
| 11/18/04/ldgn | CHECKED BY | |
| N. | | |



THIS WORK WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION
R. T. TANAKA ENGINEERS, INC.

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|---|---------------------|
| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION | |
| CONSTRUCTION NOTES | |
| HAWAII BELT ROAD, CULVERT REPAIRS AND RENOVATIONS VARIOUS LOCATIONS, HAWAII PROJECT No. HWY-H-04-00M | |
| Scale: AS NOTED | Date: FEBRUARY 2000 |
| SHEET No. 1 OF 1 SHEET | |