

LIST OF ABBREVIATIONS  
AND SYMBOLS

|                |  |               |                          |
|----------------|--|---------------|--------------------------|
| B <sub>L</sub> | Baseline                                   | lbs           | Pounds                   |
| C <sub>L</sub> | Centerline                                 | LF            | Linear Feet              |
| S <sub>L</sub> | Stationline                                | Lg            | Long                     |
| Ø              | Diameter                                   | LS            | Lump Sum                 |
| (E)            | Existing                                   | ML            | Match Line               |
| (N)            | New  | Max.          | Maximum                  |
|                |  | Min           | Minimum                  |
| Abt.           | About                                      | M.P.H.        | Miles Per Hour           |
| Abut.          | Abutment                                   |               |                          |
| A.C.           | Asphaltic Concrete                         | O.B.          | Out Bound                |
| Approx.        | Approximate                                | o.c.          | On Center                |
| Ave.           | Avenue                                     | O.D.          | Outside Diameter         |
| AZ.            | Azimuth                                    | O.H.          | Opposite Hand            |
|                |  |               |                          |
| Beg.           | Beginning                                  | Pav't, Pavm't | Pavement                 |
| Blvd.          | Boulevard                                  | pen           | Penetration              |
| B.O.F.         | Bottom of Footing                          | P.C.          | Point Of Curve           |
| Bot, Bott      | Bottom                                     | P.C.C.        | Point Of Compound Curve  |
| Brg            | Bearing                                    | PL            | Plate                    |
|                |  | psi           | Pounds Per Square Inch   |
| CB             | Catch Basin                                | PT            | Point of Tangent         |
| CL             | Class                                      | PVC           | Polyvinyl Chloride       |
| clr            | Clear                                      |               |                          |
| col.           | Column                                     | R             | Radius                   |
| C.P.           | Complete Penetration                       | RCP           | Reinforced Concrete Pipe |
| conc           | Concrete                                   | Ref.          | Reference                |
| cont.          | Continuous                                 | Reinf         | Reinforcing              |
| Cy             | Cubic yard                                 | Req'd         | Required                 |
|                |  | Ret.          | Retaining                |
| Det.           | Detail                                     | R/W           | Right Of Way             |
| D. Dia         | Diameter                                   |               |                          |
| D.O.H.         | Department of Health                       | Sht           | Sheet                    |
|                |  | SF            | Square Feet              |
| Ea             | Each                                       | Sim.          | Similar                  |
| EF             | Each Face                                  | SDMH          | Storm Drain Manhole      |
| El, Elev       | Elevation                                  | SP            | Space                    |
| Emb            | Embedment                                  | SL            | Slope                    |
| EQ             | Equal                                      | Specs         | Specifications           |
| Exp.           | Expansion                                  | Sta.          | Station                  |
| EW             | Each Way                                   | Stiff.        | Stiffener                |
| EXC.           | Excavation                                 | Stl.          | Steel                    |
| Exist.         | Existing                                   | Str.          | Strong                   |
|                |  | struct.       | Structural               |
| f'c            | Specified Compressive Strength of Concrete | Symm.         | Symmetrical              |
| Ft.            | Feet                                       | Sy            | Square Yard              |
| ftg(s)         | footing(s)                                 |               |                          |
| fy, Fy         | Specified Minimum Yield Stress of Steel    | T & B         | Top and Bottom           |
|                |  | Temp          | Temperature              |
| galv.          | Galvanized                                 | Thk           | Thick                    |
| gr.            | Grade                                      | TMK           | Tax Map Key              |
|                |  | TOT           | Total                    |
| Horiz          | Horizontal                                 | Typ.          | Typical                  |
| H.S.           | High Strength                              |               |                          |
|                |  | UNO.          | Unless Noted Otherwise   |
| I.B.           | In Bound                                   |               |                          |
| I.D.           | Inside Diameter                            | Vert.         | Vertical                 |
| Inv            | Invert                                     |               |                          |
| Jt.            | Joint                                      | w/            | With                     |

ESTIMATED QUANTITIES

| NINOLE BRIDGE |  |                  |
|---------------|--|------------------|
| ITEM NO.      | ITEM   | APPROX. QUANTITY |
| 206.0100A     | STRUCTURAL EXCAVATION  | 15 CY            |
| 206.0200A     | STRUCTURAL BACKFILL  | 8 CY             |
| 501.0200A     | STRUCTURAL STEEL   | 500 #            |
| 503.1091A     | CONCRETE IN BRIDGE SUBSTRUCTURE RETROFIT INCLUDING IN-FILL WALLS AND ABUTMENT WALLS          | 50 CY            |
| 602.0091A     | REINFORCING STEEL IN BRIDGE SUBSTRUCTURE RETROFIT INCLUDING IN-FILL WALLS AND ABUTMENT WALLS | 4820 #           |
| 655.0100A     | DRILL HOLES AND INSTALL DOWEL REBARS   | 980 EA.          |

| MAULUA BRIDGE |   |                  |
|---------------|---|------------------|
| ITEM NO.      | ITEM  | APPROX. QUANTITY |
| 206.0100B     | STRUCTURE EXCAVATION  | 590 CY           |
| 206.0200B     | STRUCTURE BACKFILL  | 570 CY           |
| 501.0200B     | STRUCTURAL STEEL  | 12,700 #         |
| 503.1090B     | CONCRETE IN BRIDGE SUPERSTRUCTURE RETROFIT INCLUDING CATCHERS             | 29 CY            |
| 503.1091B     | CONCRETE IN BRIDGE SUBSTRUCTURE RETROFIT INCLUDING IN-FILL WALLS          | 62 CY            |
| 602.0090B     | REINFORCING STEEL IN BRIDGE SUPERSTRUCTURE RETROFIT INCLUDING CATCHERS    | 3,900 #          |
| 602.0091B     | REINFORCING STEEL IN BRIDGE SUBSTRUCTURE RETROFIT INCLUDING IN-FILL WALLS | 6,750 #          |
| 655.0100B     | DRILL HOLES AND INSTALL DOWEL REBARS                                      | 875 EA           |
| 677.0100B     | DECK JOINT SEALS  | 76 LF            |

|                     |       |                    |             |           |              |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| HAWAII              | HAW.  | BR-019-2(47)       | 1999        | 3         | 20           |

| KAPEHU BRIDGE |  |                  |
|---------------|--|------------------|
| ITEM NO.      | ITEM   | APPROX. QUANTITY |
| 206.0100C     | STRUCTURE EXCAVATION   | 46 CY            |
| 206.0200C     | STRUCTURE BACKFILL   | 36 CY            |
| 503.1090C     | CONCRETE IN BRIDGE SUPERSTRUCTURE RETROFIT INCLUDING CATCHERS AND CREEP BLOCKS                               | 15 CY            |
| 503.1091C     | CONCRETE IN BRIDGE SUBSTRUCTURE RETROFIT INCLUDING IN-FILL WALLS, PIER FOOTINGS AND ABUTMENT WALLS           | 60 CY            |
| 602.0090C     | REINFORCING STEEL IN BRIDGE SUPERSTRUCTURE RETROFIT INCLUDING CATCHERS AND CREEP BLOCKS                      | 2,400 #          |
| 602.0091C     | REINFORCING STEEL IN BRIDGE SUBSTRUCTURE RETROFIT INCLUDING IN-FILL WALLS, PIER FOOTINGS AND ABUTMENT WALLSS | 18,000 #         |
| 655.0100C     | DRILL HOLES AND INSTALL DOWEL REBARS   | 750 EA           |
| 677.0100C     | DECK JOINT SEALS   | 22 LF            |

| KAALAU BRIDGE |  |                  |
|---------------|--|------------------|
| ITEM NO.      | ITEM   | APPROX. QUANTITY |
| 206.0100D     | STRUCTURE EXCAVATION   | 46 CY            |
| 206.0200D     | STRUCTURE BACKFILL   | 36 CY            |
| 503.1090D     | CONCRETE IN BRIDGE SUPERSTRUCTURE RETROFIT INCLUDING CATCHERS AND CREEP BLOCKS                     | 15 CY            |
| 503.1091D     | CONCRETE IN BRIDGE SUBSTRUCTURE RETROFIT INCLUDING IN-FILL WALLS, PIER FOOTINGS AND ABUTMENT WALLS | 60 CY            |
| 602.0090D     | REINFORCING STEEL IN BRIDGE SUPERSTRUCTURE RETROFIT INCLUDING CATCHERS AND CREEP BLOCKS            | 2,400 #          |
| 602.0091D     | REINFORCING STEEL IN BRIDGE SUBSTRUCTURE RETROFIT INCLUDING CTACHERS AND CREEP BLOCKS              | 15,000 #         |
| 612.0100D     | GROUTED RUBBLE PAVING  | 150 SY           |
| 655.0100D     | DRILL HOLES AND INSTALL DOWEL REBARS   | 700 EA           |
| 677.0100D     | DECK JOINT SEALS   | 22 LF            |

SURVEY PLOTTED BY \_\_\_\_\_ DATE \_\_\_\_\_

ORIGINAL PLAN

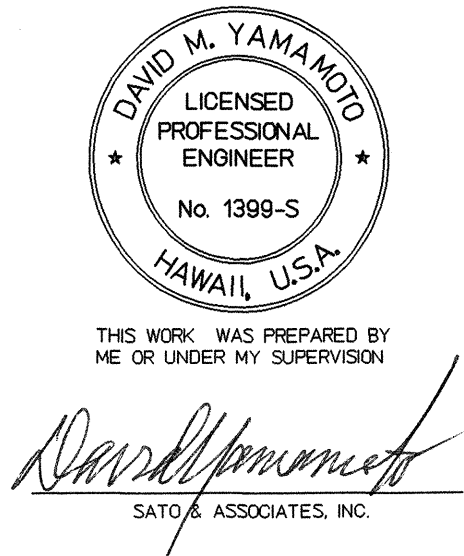
DESIGNED BY \_\_\_\_\_

NOTE BOOK

QUANTITIES BY \_\_\_\_\_

CHECKED BY \_\_\_\_\_

No. \_\_\_\_\_



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

LIST OF ABBREVIATIONS AND SYMBOLS  
ESTIMATED QUANTITIES

HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES.  
WEST OF NINOLE  
FEDERAL AID PROJECT NO. BR-019-2(47)

SCALE: AS NOTED  
DATE: November 1998

SHEET No. 1 OF 1 SHEETS