FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	3	69

GENERAL NOTES

1. The Project Scope of Work includes leak and crack remediation of tunnel walls; installation of tunnel wall tiling; safety improvements (crash terminal and median barriers); replacement of motors and variable frequency drive for exhaust fans; replacement of sidewalks and curbs; construction of pavement; adjustment of utilities and structures to accommodate new work; and relocation of street lights and traffic signals.
2. All applicable construction work shall be done in accordance with Hawaii Standard Specifications for Road, Bridge, and Public Works Construction, 1994.
3. 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.
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 concrete pavements, and other 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 make an independent check on the ground by probing and/or with the various utility companies and governmental agencies to verify the exact locations and depths of the existing utilities and obstructions. The Contractor shall exercise proper care when excavating in the area. Whenever 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 excavating for the new lines. 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 Contractor shall notify the Engineer in writing, two (2) weeks prior to starting paving operations.
7. Smooth riding connections shall be constructed at all limits of resurfacing, including the beginning and end of project and connecting approaches as shown on the plans and/or as directed by the Engineer.
8. Dressing of shoulder and sidewalk shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable material as shown on the plans and/or as directed by the Engineer. This work shall be considered incidental to the various contract items.
9. Existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.
10. All saw cutting work shall be considered incidental to Removal of A.C. Pavement and Aggregate Base Course.
11. Contractor shall dispose or deliver any removed material at no cost to the State.
12. The Contractor shall be held liable for any damages incurred to the existing utilities as a result of his operations. All damaged portions shall be replaced in accordance with the standards and specifications of the affected utility company at the Contractor's expense.
13. After the project is completed, the Contractor shall restore grades and ground cover in the project limits to a condition equal or better than existing before such damage or injury was done.
14. All existing utilities, whether or not shown on the plans, shall be protected at all times by the Contractor during construction unless specified on the plans to be abandoned. Any damage to the existing utilities shall be repaired and paid for by the Contractor.
15. Unless relocation is called for on the plans, existing utilities shall remain in service and in place at all times. If relocation of the existing utilities is required for the Contractor's convenience, interruption of service shall be kept to a minimum and shall be done at the Contractor's expense with the approval of the affected utility company.
16. The Contractor shall field verify the operational status of all existing utilities to be removed or abandoned in place. Any discrepancy shall be brought to the attention of the Engineer.
17. The Contractor shall verify 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.
18. The Contractor shall stop work and notify the Engineer upon uncovering any potential historical artifacts or items of archaeological significance.
19. The existing improvements on the premises and in adjacent area that are not to be removed shall be preserved and protected. Any and all damages resulting from the Contractor's construction operations shall be replaced and repaired to original condition, to the satisfaction of the owner.
20. Elevations shown on these plans are referenced to Mean Sea Level (MSL).
21. For geologic and structural inspection summary refer to "Likelike Highway Wilson Tunnel Improvements Leak and Crack Remediation, Inspection Report" dated December 18, 2002 prepared by Geolabs Inc. and Jacobs Associates.
22. The Contractor shall clean the Air plenum of all grit, soot, and mineral deposits prior to work with the Air plenum. The work shall be considered incidental to Drainage Trough work.
23. The Contractor shall clean the entire drainage system (through the entire length of the tunnel including portions of drainage system outside Kalihi and Kaneohe Portals to discharge points). All silt, soil, and debris shall be completely flushed out of the drainage system. The Contractor shall collect and dispose of silt, soil, and debris within the drainage system and dispose at a State approved dump site. The cost shall be considered incidental to 202.0444 Removal of Debris and Sediment from Drainage System.
24. All work within tunnels shall comply with applicable Hawaii Occupational Safety and Health (HIOSH), State of Hawaii, Department of Health and Government regulations and standards.
25. The Contractor shall clear and dispose of dust, debris, deposits and any other material removed from the tunnel and air plenum at a State approved dump site. The cost of clearing disposing of dust, debris deposits and any other material removed from the air plenum and tunnel shall be considered incidental to various items of work.
26. The weather condition varies greatly from extremely wet to dry conditions The Contractor shall review the report entitled "Likelike Highway Wilson Tunnel Improvements Leak and Crack Remediation Inspection Report, December 18, 2002" and shall assume the worst case condition during construction.

GENERAL NOTES FOR TRAFFIC CONTROL PLAN

1. The permittee shall make minor adjustments at intersections, driveways, structures, etc., to fit field conditions.
2. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
3. 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.
4 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.
5. Flaggers and/or police officers shall be in sight of each other or in direct communication at all times.
6. When required by the issuing office, the permittee shall install a flashing arrow signal as shown on the traffic control plans.

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

CRAIG W. L. LUKE LICENSED PROFESSIONAL ENGINEER No. 6935-O HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE April 30, 2004 EXPIRATION DATE OF THE LICENSE

DATE	REVISION
6/20/03	ADDED/REVISED NOTES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES – 1

LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: No Scale Date: April 24, 2003

SHEET No. C-2 OF 30 SHEETS

ADD. 3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	4	69

GENERAL NOTES FOR TRAFFIC CONTROL PLAN (Cont.)

7. Sign spacings (d), taper lengths (t) and spacings of cones or delineators shall be as shown in table 645-1, section 645-traffic control devices of the specifications, unless otherwise noted on the traffic control plans.
8. All traffic lanes shall be a minimum of 10 feet wide.
9. All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
10. 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 messages on both faces).
11. At the end of each day's work or as soon as the work is completed, the permittee shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
12. Permanent pavement markings and traffic signs shall be replaced upon the completion of each phase of work.
13. Contractor shall coordinate lane closure with Contractor of Likelike Highway Resurfacing Project (Emmeline Place to Wilson Tunnel). The Likelike Highway Resurfacing Project shall have priority in lane closure. No additional monetary compensation will be allowed due to conflict of lane closure due to concurrent construction schedules. Contractor may request a no-cost time extension if conflict of lane closure affects his schedule.
14. Closure of inbound and outbound lanes simultaneously will not be allowed. Contraflow of lanes will not be permitted.
15. The Contractor shall be allowed to close inbound or outbound lane for night work from 8 PM to 4:30 AM Sunday night/Monday morning through Thursday night/Friday morning.
16. 24 hour lane closure will only be allowed for early time incentive work as specified in Section 108 of the specifications.
17. Traffic control cost will be the responsibility of the contractor.

WATER POLLUTION AND EROSION CONTROL NOTES

1. General:

The Contractor is reminded of the requirements of Section 209 – Water Pollution and Erosion Control, in the "Hawaii Standard Specifications for Road, Bridge and Public Works Construction," Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the engineer; construction requirements; method of measurement; and basis of payment. No work shall commence without an approved BMP plan.

The Contractor shall follow the guidelines in the "Best Management Practices Manual for Construction Sites in Honolulu," dated May 1999 in developing, installing and maintaining the best management practices (BMP) for the project.

The Contractor shall keep a copy of the approved BMP, NOI, etc. on the project site. The BMP shall be updated to reflect any changes made during the course of construction for the duration of the project.

The Engineer may assess liquidated damages of up to $27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every day of non-compliance. There is no maximum limit on the amount assessed per day.

The Engineer will deduct the cost from the progress payment for all citations received by the department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.)

2. Waste Disposal:

A. Waste Materials: All waste materials shall be collected and stored in a securely lidded metal dumpster that does not leak. The dumpster shall meet all local and State solid waste management regulations. All trash and construction debris from the site shall be deposited in the dumpster. The dumpster shall be emptied a minimum of twice per week or as often as is deemed necessary. No construction waste materials shall be buried onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Notices stating these practices shall be posted in the office trailer and the Contractor shall be responsible for seeing that these procedures are followed.

B. Hazardous Waste: All hazardous waste materials shall be disposed of in the manner specified by local or State regulation or by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

C. Sanitary Waste: All hazardous waste materials shall be disposed of in the manner specified by local or State regulation or by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

D. Sanitary Waste: All sanitary waste shall be collected from the portable units a minimum of once per week, or as required.

3. Erosion and sediment control inspection and maintenance practices:

A. All control measures shall be inspected at least once each week and following any rainfall event of 0.5 inches or greater. The Contractor shall provide and maintain a rain gauge and install it at a location agreed to by the State. If rainfall exceeds 0.5 inches on weekend or holiday and remedial measures are needed as determined by the Engineer, the Contractor is required to come out on weekend or holiday to provide the necessary corrective measures. The Engineer will not pay for corrective measures on weekends and holiday separately including overtime pay; it shall be considered incidental to the Lump Sum item 209.0100 – Installation, Maintenance and Monitoring of BMP Plan.

B. All measures shall be maintained in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.

C. Built-up sediment shall be removed from silt fence when it has reached one-third the height of the fence, or as directed by the Engineer.

D. Silt screen or fence shall be inspected for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground.

E. Temporary and permanent seeding and planting shall be inspected for bare spots, washouts and healthy growth.

F. The Contractor shall submit to the Engineer a maintenance inspection report promptly after each weekly inspection.

G. The Contractor shall select a minimum of three personnel who shall be responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.

H. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

I. All slopes and exposed areas shall be grassed as soon as final grades have been established. Grading to final grade shall be continuous, and any area in which work within has been interrupted or delayed or exposed for more than 15 days shall be grassed in order to prevent dust, erosion and silt runoff. Areas with imported soils shall be grassed not more than 5 working days after final grades have been established.

J. Temporary erosion controls shall not be removed before permanent erosion controls are in-place and established.

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

CRAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 6935-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES – 2

LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: No Scale Date: April 24, 2003

SHEET No. C-3 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	5	69

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.)

4. Good Housekeeping Best Management Practices:

A. Materials Pollution Prevention Plan:

(1) Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory of the Construction Contractor's site-specific BMP plan.

Concrete	Fertilizers
Detergents	Petroleum Based Products
Paints (enamel and latex)	Cleaning Solvents
Metal Studs	Wood
Tar	Masonry Block

(2) Material management practices shall be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. An effort shall be made to store only enough product as is required to do the job.

(3) All materials stored onsite shall be stored in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.

(4) Products shall be kept in their original containers with the original manufacturer's label.

(5) Substances shall not be mixed with one another unless recommended by the manufacturer.

(6) Whenever possible, a product shall be used up completely before disposing of the container.

(7) Manufacturer's recommendations for proper use and disposal shall be followed.

(8) The Contractor shall conduct a daily inspection to ensure proper use and disposal of materials onsite.

B. Hazardous Material Pollution Prevention Plan

(1) Products shall be kept in original containers unless they are not resealable.

(2) Original labels and Material Safety Data Sheets (MSDS) shall be submitted to the Engineer prior to storing the material on the job site.

(3) Surplus products shall be disposed of according to manufacturers' instructions or local and state recommended methods.

C. Onsite and Offsite Products Specific Plan

(1) The following product specific practices shall be followed onsite:

a. Petroleum Based Products: All onsite vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite shall be applied according to the manufacturer's recommendation.

b. Fertilizers: Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to storm water. Storage shall be in a covered shed. The contents of any partially used bags of fertilizer shall be transferred to a sealable plastic bin to avoid spills.

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.)

c. Paints: All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the highway drainage system but shall be properly disposed of according to manufacturers' instructions or State and local regulations.

d. Concrete Trucks: Concrete trucks shall be allowed to wash out or drum wash water only at designated site. Water shall not be discharged in the highway drainage system or waters of the United States (i.e. streams, rivers, harbors). The Contractor shall contact Drinking Water Branch, Department of Health at 586-4258 to receive permission to designate a disposal site. The Contractor shall clean the disposal site as required or as requested by the owner's representative at no cost to the owner or the State.

(2) Offsite Vehicle Tracking: A stabilized construction entrance shall be provided to help reduce vehicle tracking of sediments. The paved street adjacent to the site entrance shall be cleaned daily or as required to remove any excess mud, cold planed materials, dirt or rock tracked from the site. Pollutants shall not be discharged to the drainage system. Dump trucks hauling material from the construction site shall be covered with a tarpaulin.

D. Spill Control Plan

(1) A spill prevention plan shall be posted and adjusted to include a description and cause of each spill, measures to prevent and clean up each spill.

(2) The Contractor shall be the spill prevention and cleanup coordinator. The Contractor shall designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel shall be posted in the material storage area and in the office trailer onsite.

(3) Manufacturers' recommended methods for spill cleanup shall be clearly posted and site personnel shall be made aware of the procedures and the location of the information and cleanup supplies.

(4) Materials and equipment necessary for spill cleanup shall be kept in the material storage area onsite.

(5) All spills shall be cleaned up immediately after discovery.

(6) The spill area shall be kept well ventilated and personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

(7) Spills of toxic hazardous material shall be reported to the appropriate State or local government agency, regardless of the size.

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

CRAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 6935-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES - 3

LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: No Scale Date: April 24, 2003

SHEET No. C-4 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	6	69

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.)

5. Permit Requirements

   A. The Contractor shall submit to the Engineer four sets of the water pollution and erosion control submittals as detailed in Subsection 209.04 of the specifications. No work shall begin until the submittal has been reviewed and approved by the Engineer.

   B. The Contractor shall comply with all applicable State and Federal permit conditions. Permits may include but are not limited to the following:

      NPDES Permit for Construction Activities

6. 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, Administrative Rules of the State Department of Health.

7. The Contractor at his own expense shall keep the project area and surrounding areas free from dust nuisance and any material tracked on to the roadways. The work shall be in conformance with the Air and Water Pollution Control Standards and Regulations of the State Department of Health.

8. The Contractor shall provide temporary drainage or erosion control measures so that surface or subsurface drainage does not come in contact with the exposed subgrade during concrete pavement reconstruction period. The cost of temporary drainage or erosion control shall be considered incidental to Item 662.0300 "Tunnel Drain Pipe (2-inch HDPE)".

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

C. RAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 8935-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES - 4

LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: No Scale Date: April 24, 2003

SHEET No. C-5 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-063-1(22)	2003	7	69

ABBREVIATIONS

&	And	Max.	Maximum
@	At	Min.	Minimum
A.C.	Asphalt Concrete	MJ	Mechanical Joint
AASHTO	American Association Of State Highway Transportation Officials	MPH	Miles Per Hour
		N	North
℄	Baseline	N.T.S.	Not To Scale
B	Bottom	NO.	Number
B.V.C.	Begin Vertical Curve	O.B.	Outbound
℄	Centerline	O.C.	On Center
C	Chord	O.D.	Outer Diameter
C	Cut	O/S	Offset
C.Y.	Cubic Yards	OSHA	Occupational Safety & Health Administration
CL.	Class	ℙ	Property Line
Clr	Clearance	P.C.	Point Of Curvature
CMP	Corrugated Metal Pipe	P.C.C.	Point Of Compound Curvature
Conc.	Concrete	P.I.	Point Of Intersection
Cont'd.	Continued	P.I.V.C.	Point Of Intersection Vertical Curve
Cont.	Continuous	P.O.C.	Point Of Curve
D or Dia.	Diameter	P.T.	Point Of Tangency
D.I.	Drain Inlet	Pavt.	Pavement
D.L.	Drain Line	Pt.	Point
Diag.	Diagonal	R	Radius
DIP	Ductile Iron Pipe	RCP	Reinforced Concrete Pipe
DMH	Drain Manhole	Rd.	Road
Dwgs.	Drawings	Reinf.	Reinforced
E	East	Req'd.	Required
E.F.	Each Face	R/W	Right-of-way
E.V.C.	End Vertical Curve	Rt.	Right
E.W.	Each Way	S.E.	Super Elevation
EMB	Electronic Message Board	Sect.	Section
Emb.	Embankment	Shldr.	Shoulder
E.P.	Existing Edge Of Pavement	Sht.	Sheet
E.S.	Existing Edge Of Shoulder	Sim.	Similar
Exc.	Excavation	St. Mon.	Street Monument
Ex. or Exist.	Existing	SRAP	Spiral Ribbed Aluminum Pipe
F	Fill	Sta.	Station
F.A.I.	Federal And Interstate	Std.	Standard
Fin.	Finished	Stl.	Steel
Ft.	Feet	Struc.	Structural
Galv.	Galvanized	T	Tangent
H	Horizontal	T	Top
Hex.	Hexagonal	Typ.	Typical
Horiz.	Horizontal	UNREINF.	Unreinforced
Ht.	Height	V	Vertical
I.B.	Inbound	V_C	Vertical Curve
I.D.	Inside Diameter	Vert.	Vertical
INV.	Invert	w/	With
JT.	Joint	WWF	Welded Wire Fabric
L.D.	Lined Ditch	e.p.	Existing Edge Of Pavement
Lb.	Pound	e.s.	Existing Edge Of Shoulder
L_C	Length Of Curve	r/w	Existing Right-of-way
Lf	Linear Feet		
Lg.	Long		
Lt.	Left		

LEGEND

EXISTING

- ST. MON. — Street Monument
- SMH — Sewer Manhole
- DMH — Drain Manhole
- WMH — Water Manhole
- WM — Water Meter
- 50 — Contour Line
- WV — Water Valve
- CV — Check Valve
- BFV — Butterfly Valve
- FH — Fire Hydrant
- Electrical Pole
- Elec. Pole W/light
- Street Light
- DI — Drain INLET
- CB — Catch Basin
- R/W OR R.O.W. — Right-of-way
- Sign
- ℙ — Property Line
- Trees
- Bench Mark
- +44.30 — Spot Elevation
- Crm Wall
- Fence
- Easement Line
- —S18"— — Sewer Line
- —D18"— — Drain Line
- —W18"— — Water Line
- E_O - T_O — Electrical/telephone Overhead Line
- E_O — Electrical Overhead Line
- T_O — Telephone Overhead Line

NEW

- Street Monument
- WMH — Water Manhole
- WM — Water Meter
- WV — Water Valve
- ARV — Air Relief Valve
- Sign
- R.p.m.
- 670 — Finish Grade Elevation
- Boring Location
- Flow
- Existing Roadway/ Removal Limit
- Existing Roadway Removal And Reconstruction Limit For Road Transition
- —W12"— Water Line & Size
- Existing MH Or Structure To Be Adjusted
- Demolish And Remove
- Water Lateral Connection
- Fence
- Irrigation Pipe Sleeve
- Top Of Cut Slope
- Bottom Of Cut Slope
- Top Of Fill Slope
- Bottom Of Fill Slope
- Abandon In Place
- Guardrail
- 704.00 TC / 704.00 BC — Finished Top Of Curb Grade / Finished Bottom Of Curb Grade
- Underdrain And Cleanout

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

CRAIG W. L. LUKE
LICENSED PROFESSIONAL ENGINEER
No. 6935-O
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LEGEND AND ABBREVIATIONS

LIKELIKE HIGHWAY
Wilson Tunnel Improvements
Leak and Crack Remediation
F. A. Project No. STP-063-1(22)

Scale: 1" = 1'-0" Date: April 24, 2003

SHEET No. C-6 OF 30 SHEETS