

CONSTRUCTION NOTES:

GENERAL:

1. The scope of work for this project includes construction of reinforced concrete barrier wall; excavation and disposal of accumulated talus material; installation of rockfall impact barrier system; installation of underground electrical and communication system; reconstruction of shoulder and slope; guardrail installation; roadway resurfacing; pavement striping and various appurtenant and incidental work.
2. The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 105.06 – Coordination Between the Contractors; Subsection 107.13 – Public Convenience and Safety; Subsection 107.21 – Contractor's Responsibility For Utility Property And Services; and Section 645 – Work Zone Traffic Control.
3. Construction and restoration of all existing highway facilities within State highway right-of-way shall be done in accordance with all applicable sections of the current "Standard Specifications For Road and Bridge Construction" and "Specification for Installation of Miscellaneous Improvements Within State Highways" of the State Highways Division, and the Project Plans and Special Provisions.
4. 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 tone for all utility lines before starting any work. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
5. Smooth riding connections shall be constructed at the limits of roadway resurfacing, including the beginning and end of project, connecting approaches, side streets and driveways as shown on the plans and/or as directed by the Engineer.
6. All saw cutting work shall be considered incidental to Roadway Excavation. The Contractor shall clean up any cuttings and shall not wash down material into the storm drain or sewer systems.
7. All work specified in the contract but not listed separately in the proposal schedule shall be considered incidental to other various contract items and shall not be paid for separately.
8. All work to remove temporary facilities by the Contractor shall be considered incidental to the various contract items in the proposal.

NOTIFICATION:

9. The Contractor shall obtain a Permit to Perform Work Upon State Highways from the Oahu District Engineer, State Highways, at 727 Kakoi Street, prior to commencement of work within the State's highway right-of-way.

10. The Permit to Perform Work Upon State Highways may be revoked because of default in any of the following, but not limited to, conditions:
- a. Work performed before or after permitted hours.
  - b. Failure to maintain roadway surfaces in a smooth and safe condition.
  - c. Failure to clean up construction debris generated from project work.
  - d. Failure to provide proper traffic control.
  - e. Failure to replace damaged pavement markings and signs.
11. The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting paving operations.
12. The Contractor shall notify the Fire and Police Departments, Ambulance and The Bus (OTS), seven (7) days prior to any paving operations.
13. The Contractor shall inform the State Highways' Permit Office (831-6712) at least two (2) days prior to closing any lanes or performing any trench restoration work. This work shall include any backfilling and compacting of trench material; placing and compacting of base course material; and any paving operations. Any trench restoration work performed by the Contractor that is not witnessed by a State representative will be required to be removed and restored with a State Representative present. All restoration work will be at the Contractor's expense.
14. In the event any artifacts or human remains are uncovered during construction operations, the Contractor shall immediately suspend work and notify the Honolulu Police Department, the State Department of Land and Natural Resources-Historic Preservation Division (692-8015), and the State's Engineer.

PRECAUTION:

15. The Contractor shall exercise care to minimize damages to existing highway improvements. All damages shall be repaired by the Contractor, at his expense, to the satisfaction of the Engineer.
16. The Contractor shall exercise care when performing work in or adjacent to the State highway right-of-way. Damages to the existing facilities shall be immediately reported to the respective utility company, and/or City/State agency. The repair work shall be done at the Contractor's expense.
17. Contractor shall take proper precautions when working near overhead lines.

WORK EXECUTION:

18. Work may be performed only between the hours of 8:30 a.m. to 3:30 p.m., Monday through Friday, and 8:30 p.m. to 4:30 a.m., Sunday through Thursday, except holidays, unless otherwise permitted by the Engineer. The Contractor shall be responsible for obtaining the necessary permits to perform night work.

19. No material and/or equipment shall be stockpiled or otherwise stored within the Highway Right-of-Way except at locations designated in writing and approved by the Engineer.
20. The Contractor shall reference to the satisfaction of the Engineer, all existing traffic signs, posts & pavement markings prior to the commencement of construction. The Contractor shall replace or repair all traffic signs, posts & pavement markings disturbed by his activities, unless directed otherwise by the Engineer or his representative.
21. All regulatory, guide and construction signs and barricades shall be of high intensity reflective sheeting. Portable concrete barriers shall be reflectorized in accordance to the "Standard Plans", State of Hawaii, Department of Transportation.
22. All traffic control devices including: signs, barricades, warning lights, arrow boards, changeable message signs, cones, delineators and markers shall conform to the American Traffic Safety Services Association (ATSSA) "Quality Standard for Work Zone Traffic Control Devices" and MUTCD. Compliance with these requirements shall be as described in Section 645 – Work Zone Traffic Control.
23. The Contractor shall provide, install, and maintain all necessary signs, lights, flares, markers, barricades, cones, and other protective facilities, and shall take all necessary precautions for the protection, convenience, and safety of public traffic. All such protective facilities and precautions to be taken shall conform with the "Administrative Rules of Hawaii Governing the Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways", adopted by the Director of Transportation, and the current U.S. Federal Highways Administration "Manual on Uniform Traffic Control Devices, Part VI – Standards and Guides for Traffic Controls for Street and Highway Construction, Maintenance, Utility and Incident Management Operations" and NCHRP350.
24. Traffic signals shall be kept operational during construction, and if deemed necessary by the Engineer or his representative, a temporary vehicle detection device shall be installed. All work shall be done in accordance to the requirements of the Department of Transportation Services, City and County of Honolulu.
25. All construction signs shall be left in place until all construction items have been completed unless otherwise directed by the Engineer. The Contractor shall obtain prior approval from the Engineer to remove construction signs.
26. After the project is completed, the Contractor shall restore grades and ground cover within the project limits to a condition equal or better than the existing condition prior to construction.

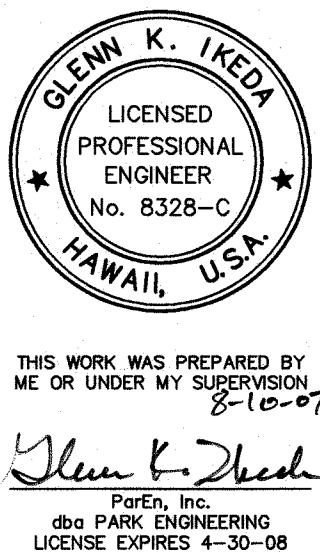
ACCESS:

27. Existing pedestrian routes must be maintained in accessible condition or an alternate route must be provided around the construction area. Per ADAAG Section 4.1.1.(4), the temporary accessible route shall comply with the guidelines found in ADAAG Section 4.3, "Accessible Route".
28. Where pedestrian walkways exist, they shall be maintained in a safe and passable condition, or other facilities for pedestrians shall be provided. Passages between walkways at intersections shall likewise be provided.
29. Driveways shall be kept open unless the owners of the properties using these rights-of-way are otherwise provided for satisfactorily.
30. The minimum clearance around fire hydrants, utility poles, light standard, or any other obstruction shall be 3'-0".
31. A minimum of 36" clear width and 80" headroom clearance height shall be maintained along sidewalk and potential walkways.
32. The Contractor shall provide for access to and from all existing side streets, driveways and adjacent properties at all times.
33. Design and construction of public access shall be in accordance with the Americans with Disabilities Act.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(51)	2007	3	106

ORIGINAL PLAN	DATE
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NO.	
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SURVEY PLOTTED BY	

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

CONSTRUCTION NOTES

Kalaniana'ole Highway Improvements  
Retaining Wall at Makapuu, Oahu  
Federal-Aid Project No. NH-072-1(51)

Scale: As Noted Date: APR. 2007

SHEET No. 1 OF 3 SHEETS



CONSTRUCTION NOTES:

TRENCHING:

34. Prior to commencing trench excavation work, the Contractor shall take a profile along the centerline of the proposed utility trench. This information shall be used in the verification of restoring the roadway to its original condition. A copy of the profile shall be submitted to the Engineer.
35. Unless otherwise noted, no trench shall be opened more than 300 feet in advance of installed and tested pipeline and/or ductline.
36. The Contractor shall provide an adequate and safe non-skid bridging material, including shoring, over trenches in pavement areas. The bridging shall be able to support all types of vehicular traffic.
37. The Contractor will make every effort to minimize the use and the duration of use of steel plates. All steel plates shall have a non-skid surface. The State may require the backfilling of patches of trenches due to the excessive usage of steel plates.
38. Temporary cold mix trench patches will be permitted in any given area for a maximum duration of two weeks, and shall be a minimum of 2-inches thick. All temporary patches shall be placed over properly placed and compacted backfill and base course layers. The Contractor shall be responsible for maintaining all temporary patches and to make repairs to unsatisfactory patches within 24 hours.
39. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of traffic.

DRAINAGE:

40. The Contractor shall verify the locations of all existing culverts and utilities in the field. Any existing culverts and utilities damaged during construction shall be repaired or replaced by the Contractor at his own expense.
41. 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 7/8"Ø, and voids after installing dowels shall be filled with non-gaseous, non-shrink epoxy grout.
42. The existing drainage system and longitudinal drainage along the highway will be maintained and 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 the various contract items.
43. The Contractor shall remove all silt and debris deposited in drainage facilities, on roadways and in other areas resulting from his work. The costs incurred for any necessary remedial action by the Engineer shall be payable by the Contractor.

WATER NOTES:

1. Unless otherwise specified, all materials and construction of the water system facilities and appurtenances shall be in accordance with the Standard Specifications For Road and Bridge Construction, dated 1994, as amended, of the Hawaii Highways Division, Department of Transportation, and 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.
2. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply. All other features of the water system, such as lines, grades, fittings, drainage, etc., and other features of improvements shall not be the responsibility of the Board of Water Supply.
3. The existence and location of underground utilities and structures as shown on the plans are from the latest available data but is not guaranteed as to the 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.
4. Re-approval shall be required if this project is not under construction within a period of two years.
5. 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 the 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.
6. Prior to any excavating, the Contractor shall verify in the field the location of existing water mains and appurtenances.
7. The Contractor shall have existing water mains toned before construction of work in vicinity of water mains, call the Investigation Section at 748-5381 for toning services. Guardrail post locations are to be kept to a minimum clear distance of 18 inches to any 2-1/2 inch water lines and meter boxes. No post driving will be allowed when post is to be installed closer than 3 feet from water mains. Excavated areas shall be restored to their original condition.
8. The Contractor shall verify all existing service lateral locations whether shown or not shown on the plans prior to commencing with any of the work and shall not assume that where no services are shown none exists.

GRADING NOTES:

1. All grading work shall be done in accordance with Chapter 14, Articles 13, 14, 15 and 16, as related to Grading, Soil Erosion and Sediment Control of the Revised Ordinances of Honolulu, 1990, as amended, and Soils Report by Geolabs, Inc., dated December 8, 2006.
2. No Contractor shall perform any grading operation so as to cause falling rocks, soil or debris in any form to fall, slide or flow onto adjoining properties, streets or natural watercourses. Should such violation occur, the Contractor may be cited and the Contractor shall immediately make all remedial actions necessary.
3. The Contractor, at his own expense, shall keep the project area and surrounding area free from dust nuisance. The work shall be in conformance with the air pollution control standards contained in the Hawaii Administrative Rules, Title 11, Chapter 60.1, "Air Pollution Control".
4. 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. Wherever connections of new utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depth prior to excavation for the new lines.
5. Adequate provisions shall be made to prevent surface waters from damaging the cut face of an excavation or the sloped surfaces of a fill. Furthermore, adequate provisions shall be made to prevent sediment-laden runoff from leaving the site.
6. All slopes and exposed areas shall be sodded or planted as soon as final grades have been established. Planting shall not be delayed until all grading work has been completed. Grading to final grade shall be continuous, and any area within which work has been interrupted or delayed shall be planted.
7. Fills on slopes steeper than 5:1 shall be keyed.
8. The City shall be informed of the location of the borrow/disposal site for the project when the application for a grading permit is made. The borrow/disposal site must also fulfill the requirements of the grading ordinance.
9. No grading work shall be done on Saturdays, Sundays and holidays at any time without prior notice to the Director, DPP, provided such grading work is also in conformance with the community noise control standards contained in the Hawaii Administrative Rules, Title 11, Chapter 46, "Community Noise Control".
10. The limits of the area to be graded shall be flagged before the commencement of the grading work.



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION  
Glenn K. Ikeda  
PAREK, INC.  
480 PARK ENGINEERING  
LICENSE EXPIRES 4-30-08

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(51)	2007	4	108

11. All grading operations shall be performed in conformance with the applicable provisions of the water quality and water pollution control standards contained in Hawaii Administrative Rules, Title 11, Chapter 54, "Water Quality Standards" and Title 11, Chapter 55 "Water Pollution Control" and if applicable, the NPDES permit for the project.
12. Where applicable and feasible the measures to control erosion and other pollutants shall be in place before any earth moving phase of the grading is initiated. The Contractor shall incorporate the measures described in the "Water Pollution and Erosion Control" notes.
13. Temporary erosion controls shall not be removed before permanent erosion controls are in-place and established.
14. Temporary Erosion Control Procedures shall be submitted for approval prior to application for grading permit.
15. If the grading work involves contaminated soil, then all grading work shall be done in conformance with applicable State and Federal requirements.
16. For non-City projects, the Contractor shall notify the Civil Engineering Branch, DPP at 523-4881 to arrange for inspectional services and submit three (3) sets of approved Construction Plans seven (7) days prior to commencement of the construction work. For City projects, the Contractor shall coordinate inspectional services with the responsible City agency.
17. Pursuant to Chapter 6E, HRS, in the event any artifacts or human remains are uncovered during construction operations, the Contractor shall immediately suspend work and notify the Honolulu Police Department, the State Department of Land and Natural Resources-Historic Preservation Division (692-8015). In addition, for non-City projects, the Contractor shall inform the Civil Engineering Branch, DPP (523-4881); and for City projects, notify the responsible City agency.
18. Non-compliance to any of the above requirement shall mean immediate suspension of all work, and the remedial work shall commence immediately. All costs incurred shall be billed to the violator. Furthermore, violators shall be subjected to administrative, civil and/or criminal penalties.
19. For Benchmark, see Sheets 9 and 13.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
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	QUANTITIES BY	
	CHECKED BY	

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APPROVED:

DATE:

Chief, Capital Projects Division, BWS

7/11/07

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

CONSTRUCTION NOTES

Kalaniana'ole Highway Improvements

Retaining Wall at Makapuu, Oahu

Federal-Aid Project No. NH-072-1(51)

Scale: As Noted

Date: APR. 2007

SHEET No. 2 OF 3 SHEETS



WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

- The Contractor is reminded of the requirements of Section 209 – Temporary Water Pollution, Dust, and Erosion Control, in the Special Provisions. 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.
- 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 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.
- For projects that require a NPDES Permit from the Dept. of Health, install a rain gage prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall, and have an opening of at lest one-inch in diameter. Install the rain gage on the project site in an area that will not deter rainfall from entering the rain gage opening. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site-specific best management practices are in-place.

B. WASTE DISPOSAL:

- Waste Materials:  
All waste materials shall be collected and stored in a securely lidded metal dumpster. 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.
- 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.
- Sanitary Waste:  
All sanitary waste shall be collected from the portable units a minimum of once per week, or as required.

C. EROSION & SEDIMENT CONTROL INSPECTION & MAINTENANCE PRACTICES:

- All control measures shall be inspected at least once each week and within 24 hours following any rainfall event of 0.5 inches or greater. Submit a copy of the inspection report to the Engineer, no later than 1 week from date of inspection.
- All measures shall be maintained in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.
- Built-up sediment shall be removed from silt fence when it has reached one-third the height of the fence.
- 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.
- Temporary and permanent seeding and planting shall be inspected for bare spots, washouts and healthy growth.
- A maintenance inspection report shall be made promptly after each inspection by the Contractor.
- 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.
- 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.
- The Contractor shall contain, remove and dispose of slurry generated from sawcutting activities. Payment for containing, removing and disposing of slurry from sawcutting activities will be considered incidental to the various items.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

- Materials Pollution Prevention Plan
  - 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.

Concrete	Fertilizers
Detergents	Petroleum Based Products
Paints (enamel and latex)	Cleaning Solvents
Metal Studs	Wood
Tar	Masonry Block
  - 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.
  - 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.
  - Products shall be kept in their original containers with the original manufacturer's label.

- Substances shall not be mixed with one another unless recommended by the manufacturer.
  - Whenever possible, a product shall be used up completely before disposing of the container.
  - Manufacturer's recommendations for proper use and disposal shall be followed.
  - The Contractor shall conduct a daily inspection to ensure proper use and disposal of materials onsite.
- Hazardous Material Pollution Prevention Plan
    - Products shall be kept in original containers unless they are not resealable.
    - Original labels and material safety data sheets (MSDS) shall be retained.
    - Surplus products shall be disposed of according to manufacturers' instructions or local and State recommended methods.
  - Onsite and Offsite Product Specific Plan
    - The following product specific practices shall be followed onsite:
      - 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.
      - 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.
      - 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.
      - Concrete Trucks: Concrete trucks shall be allowed to wash out or drum wash water only at designated sites. Water shall not be discharged in the highway drainage system or waters of the United States. 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 disposal site as required or as requested by the Owner's representative.

- 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. Dump trucks hauling material from the construction site shall be covered with a tarpaulin.
- Spill Control Plan
    - 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.
    - 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.
    - 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.
    - Materials and equipment necessary for spill cleanup shall be kept in the material storage area onsite.
    - All spills shall be cleaned up immediately after discovery.
    - The spill area shall be kept well ventilated and personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
    - Spills of toxic hazardous material shall be reported to the appropriate State or local government agency, regardless of the size.

E. PERMIT REQUIREMENTS:

- A National Pollutant Discharge Elimination System (NPDES) Permit is required for Construction Activities of one (1) acre or more, the Contractor shall submit to the Engineer, six sets of the Water Pollution and Erosion Control Submittals as detailed in Subsection 209.04 of the specifications.
- The Contractor shall comply with all applicable State and Federal Permit conditions. Permit may include but are not limited to the following:  
NPDES Permit for Construction Activities

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION  
8-16-07  
Glen K. Ikeda  
PAREN, INC.  
dba PARK ENGINEERING  
LICENSE EXPIRES 4-30-08

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<b>WATER POLLUTION AND EROSION CONTROL NOTES</b>	
<i>Kalaniana'ole Highway Improvements Retaining Wall at Makapuu, Oahu Federal-Aid Project No. NH-072-1(51)</i>	
Scale: As Noted	Date: APR. 2007
SHEET No. 3 OF 3 SHEETS	