

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(92)	2004	5	187

GENERAL NOTES

- ORIGINAL PLAN

NO.

SURVEY PLOTTED BY

DRAWN BY

DESIGNED BY

QUANTITIES BY

CHECKED BY

DATE

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1. The scope of work for this project includes removing and disposing of existing curb, gutter, concrete sidewalk, curb ramps, pavement markings and striping; installing concrete curbs, curb and gutter, curb ramps, and concrete and asphalt concrete sidewalks and asphalt concrete pavement; adjusting utility pull box, relocating traffic signal boxes and poles, installing pedestrian push buttons, and installing pavement marking, striping and signing.

2. 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 30 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.

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, buried railroad tracks, and concrete pavements, and other structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. 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 in 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 connection to verify their location and depth 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 in writing, the Oahu Transit Services, Lowell Tom (848-4578) or Ed Sniffen (848-4571), two weeks prior to construction, informing them of location, scope of work, and closure of Name of Highway and/or traffic lanes and dates of closure.

7. The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting paving operations.

8. Existing drainage system will be functional at all times during construction. The Contractor is to furnish material, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to the various contract items.

9. The Contractor shall provide and maintain 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.

10. All saw cutting work shall be considered incidental to Section 650 – Curb Ramps.

11. Temporary bench marks indicated on the plans may fall within the new curb ramps. The Contractor shall establish new temporary benchmarks, under the supervision of a licensed surveyor, outside the limits of the new work. This work shall be considered incidental to Section 650 – Curb Ramps.

12. Smooth riding connections shall be constructed at all times on the project, including the beginning and end of the project, connecting approaches, side streets, walkways and driveways as shown on the plans and/or as directed by the Engineer.

13. The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing structures from the damages due to construction. Repairing of any damage shall be at the Contractor’s own expense, to the satisfaction of the owner.

14. The Contractor shall clean and remove all accumulation of aggregates along the roadside within 10 feet of the edge of pavement. This work shall be considered incidental to the various contract items and will not be paid for separately.

15. Removal and disposal of existing curb and gutter, curb, sidewalk and asphalt concrete pavement, curb, sidewalk and any debris shall be considered incidental to Section 650 – Curb Ramps and will not be paid for separately.

16. Concrete sidewalk shall be reinforced with 6x6 W1.4xW1.4 welded wire fabric.

17. Dressing of sidewalk shall consist of clearing and grubbing, grading, reshaping and compacting with suitable material the area adjacent to the improvement as shown on the plans and/or as directed by the Engineer and shall be considered incidental to sidewalk.

18. Provide smooth transition where new sidewalk construction meets the existing grade or sidewalk.

19. All curb angle points within the curb ramps shall be rounded with R=6”.

20. The Contractor shall provide and maintain a temporary pedestrian-safe and easily accessible route or detour with barricades in or near the work zone. This temporary route or detour shall be stable, firm and slip-resistant and shall be American With Disabilities Act compliant (This only applies if existing surface in non-ADA compliant). This work shall be incidental to all contract items and will not be paid for separately.

21. The Contractor shall remove and dispose of all existing raised pavement marker, thermo line markings, traffic tapes, and epoxy adhesives prior to the overlaying of Asphalt Concrete Pavement, Mix No. IV and will not be paid for separately. These work items shall be considered incidental to Section 650 – Curb Ramps.

22. Removal of existing crosswalk marking shall be incidental to contract item 629.1030 – Crosswalk Markings.
- EARTHTECH

A Tyco Infrastructure Services Company
841 Bishop Street, Suite 500
Honolulu, HI 96813

ARJALAN R. NIKOU

LICENSED PROFESSIONAL ENGINEER

No. 6198-C

HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE: 4/30/2006

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
- STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES – 1

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 1
Fed. Aid Proj. No. CMAQ-0300(92)

Scale: As Noted Date: August 2004

SHEET No. C-4 OF 154 SHEETS
- 5

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(92)	2004	7	187

CURB RAMP AND SIDEWALK NOTES:

- ORIGINAL PLAN

NOTE BOOK

No.

SURVEY PLOTTED BY

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QUANTITIES BY

CHECKED BY

DATE

08/22/04

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1. These typical details are intended as curb ramp guidelines for design and construction.

2. A 2% maximum cross slope shall be maintained in the direction of pedestrian traffic.

3. Subject to field conditions, the Engineer shall determine the final location of curb ramps.

4. All pullboxes shall be installed away from the curb ramp and within the sidewalk/unpaved area to the maximum extent feasible.

5. Where necessary, existing pullboxes, handholes, manholes, etc. shall be adjusted to match curb ramp grade. Adjustments shall not be paid for separately but shall be considered incidental to the various curb ramp items unless indicated otherwise.

6. Transitions from ramps to gutters and roadways shall be flush.

7. Curb ramps and sidewalks shall be constructed to eliminate ponding to the maximum extent feasible.

8. The pedestrian push button shall meet operational and reach requirements of the American with Disabilities Act Accessibility Guidelines (ADAAG):

A. Forward Reach. The maximum height for forward reach shall be 48".

B. Side Reach. The maximum height for side reach shall be 54".

C. Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf.

9. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% for Type A, D, and Combination ramps and 8.33% for Type B, C, and E ramps.

10. There shall be a 30"x48" level ground surface (2% max. cross slope, both directions) for a forward or side approach, as appropriate, to a pedestrian push button.

11. Construction joints are required to join curb ramps with sidewalks.

12. Unless otherwise noted, new gutters are required as shown.

13. All curb ramps shall be reinforced with 6x6 W1.4/W1.4 welded wire fabric.

14. Surface of sidewalks and curb ramps shall be firm, stable, and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.

15. Bed course material is required for curb ramps, sidewalks, and gutters.

16. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation. If this cannot be met, a minimum 32-inch clear width is allowed for a distance of 24-inches.

17. Passing spaces along new sidewalks with 5' clear width or less shall be provided at maximum 200' intervals as required by ADA guidelines. The passing area shall be a minimum 5' wide by 5' long as feasible.

18. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way.
19. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e. wall mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current American with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.

20. If a curb ramp is not constructed according to the plans, the Contractor shall reconstruct the curb ramp at no cost to the State. Construction tolerance for Portland Cement Concrete shall be based on 1/4 inch per 10 ft. (0.2%). Remedial measures will not be accepted.

21. Additional information is available from:

A. American with Disabilities Act Accessibility Guidelines (ADAAG), Jan. 1998, The Access Board.

B. Accessible Rights-of-Way: A Design Guide, Nov. 1999, The Access Board.

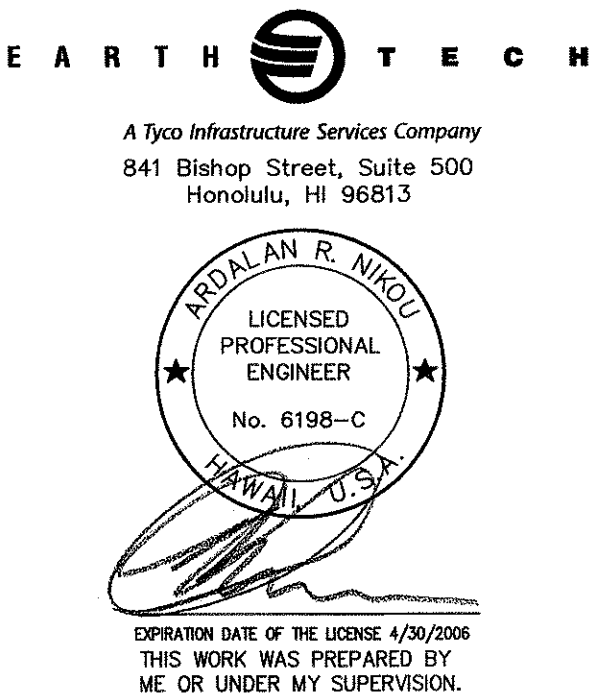
C. Designing Sidewalks and Trails for Access, Part 1, July 1999, FHWA.

D. Designing Sidewalks and Trails for Access, Part 2, Sept. 2001, FHWA.

22. Pay limits for the various types of curb ramps are as shown on these typical details.

23. For curb ramps at curb returns, install Construction Joints per Standard Detail D-04 (Detail C), full width sidewalk at curb return.

24. When directed by the Engineer, Sidewalk Transition Area shall be extended beyond shown plan limits to match the nearest scoreline.



STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

NOTES - 3

Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 1

Fed. Aid Proj. No. CMAQ-0300(92)

Scale: As Noted

Date: August 2004

SHEET No. C-6

OF 154 SHEETS

SEWER NOTES

- ORIGINAL
PLAN

NOTE BOOK

No.

SURVEY PLOTTED BY

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DATE
1. All sewer construction shall be performed in accordance with the City's Standard Specifications, Sept. 1986, the Department of Public Works Standard Details, Sept. 1984, current City practices and revised ordinances of Honolulu, 1990 as amended, and the Design Standards of the Dept. of Wastewater Management, Vol. 1, July 1993.

2. The Contractor shall notify the inspection section, Wastewater Branch, DDC at 527-5855 or 523-4345 to arrange for inspection services and submit four (4) sets of approved construction plans seven (7) calander days prior to commencement of sewer work. The Contractor shall pay for all inspection costs.

3. The underground pipes, cables or ductlines known to exist by the engineer from his research of records are indicated on the plans. The Contractor shall verify the location and depth of the facilities including and affecting sewer lines, in the presence of the wastewater inspector, and exercise proper care in excavating the area. The Contractor shall be responsible and shall pay for all damaged utilities.

4. The Contractor shall be responsible for maintaining continuous sewer service to all affected areas during construction.

5. The Contractor shall be responsible for any sewage spills caused during construction. The Contractor shall notify the State Department of Health and utilize appropriate sampling and analyzing procedures. The Contractor shall be responsible for all public notifications and press releases.

6. Adjust all utility valve box frames and covers, water meter boxes, manhole frames and covers, etc. , to new finish grade. Coordinate with private companies and City agencies for work on each respective utility.

7. For sewer manhole adjustments upward less than 3", see Std. Detail S-25. For smh adjustments upward greater 3" or for any adjustments downward reconstruct smh top from below the cone section.

8. Confined space

For entry by City personnel, including inspectors, into a permit required confined space as defined in 29 CFR part 1910.146(b), the Contractor shall be responsible for providing:

A. All safety equipment required by the confined space regulations applicable to all parties other than the construction industry, to include, but not limited to, the following:

1. Full body harnesses for up to two personnel.
2. Lifeline and associated clips.
3. Ingress/egress and fall protection equipment.
4. Two-way radios (walkie-talkies) if out of line-of-sight.
5. Emergency (escape) respirator (10 minute duration).
6. Cellular telephone to call for emergency assistance.
7. Continuous gas detector (calibrated) to measure O2, H2S, CO and flammables (capable of monitoring at a distance at least 20 feet away).
8. Personal multi-gas detector to be carried by inspector.

B. Continuous forced air ventilation adequate to provide safe entry conditions.

C. One attendant/rescue personnel topside (two, if conditions warrant it).

VERIZON HAWAII GENERAL CONSTRUCTION/DESIGN NOTES

1. The Contractor shall procure and pay for all licenses and permits and shall give all notices necessary and incident to the due and lawful prosecution of the work.

2. The Contractor shall obtain an excavation permit and toning request from Verizon Hawaii's records section, located at 3239 Ualena Street, third floor, two weeks prior to the start construction. Hours of business are 8:00 a.m. to 11:00 a.m. and 12:00 a.m. to 3:30 p.m. Monday through Friday, except holidays.

3. Prior to the excavation of the ductline, the Contractor shall request Verizon Hawaii to locate existing ductline wherever required. For underground cable locating and marking, five (5) calander days advance notice is required. Three (3) calander days advance notice is required for any inspection by a designated representative.

4. The locations of existing utilities are approximate only. The Contractor shall exercise extreme caution and shall maintain proper clearances whenever construction crosses or is in close proximity of Verizon Hawaii facilities. The Contractor shall verify their locations and shall be liable for any damages to Verizon Hawaii facilities. Any damages shall be reported immediately to Verizon Hawaii's repair section at #611 (24 hours) or to the excavation permit section at 840-1444 (normal working hours, Monday through Friday, except holidays). As a result of his operations, adjustments to the new ductline alignment, if required, shall be made to provide the required clearances.

5. The Contractor shall take necessary precaution not to damage existing cables or ducts. A Verizon Hawaii inspector or designated representative is required to be at any job site whenever there will be a breakage into or entry into any structure that contain Verizon Hawaii facilities. Temporary cable and duct supports shall be provided wherever necessary.

6. The Contractor shall notify Verizon Hawaii's inspector or designated representative a minimum of 72 hours prior to excavation, bracing, or backfilling of Verizon Hawaii's structures or facilities.

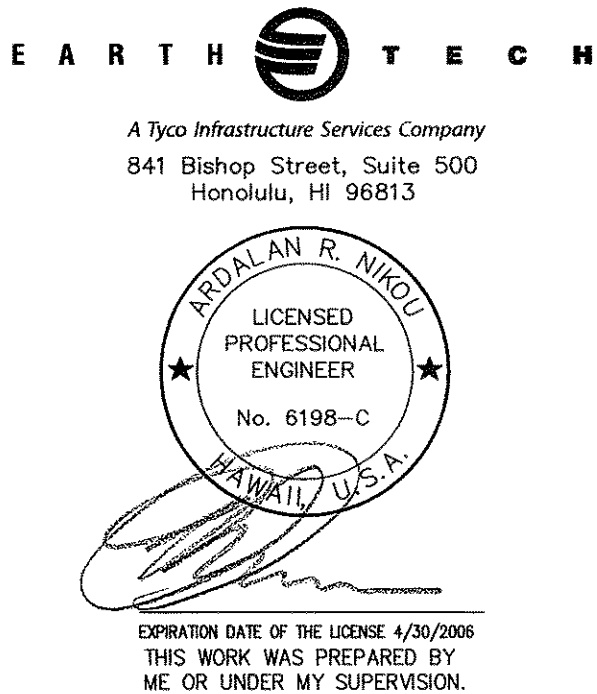
Verizon Hawaii's Inspectors As Follows:
Moanalua To Koko Head To Laie:
Larry Caetano, 840-2979
Puuloa To Pearl City, Mililani To Mokuleia/Sunset Beach:
Colman Nyuha, 840-2995
Waipahu To Waianae/Kaena Point:
Joe Correia, 840-2994

7. All applicable construction work shall be done in accordance with the "Verizon Hawaii Standard Specifications for Placing Underground Telephone Systems", dated March 1999. All subsequent amendments and additions, and all other pertinent standards for telephone construction. Contractor shall familiarize his personnel by obtaining applicable specifications.

8. When excavation is adjacent to or beneath Verizon Hawaii's existing structures or facilities, the Contractor shall:

A. Sheet and/or brace the excavation to prevent slides, cave-ins, or settlements to ensure no movement to Verizon Hawaii's structures or facilities.
B. Protect existing structures and/or facilities with beams, struts, or underpinning while excavating beneath them to ensure no movement to Verizon Hawaii's structures or facilities.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES - 4

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 1
Fed. Aid Proj. No. CMAQ-0300(92)

Scale: As Noted Date: August 2004

SHEET No. C-7 OF 154 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(92)	2004	9	187

VERIZON HAWAII GENERAL CONSTRUCTION/DESIGN NOTES (CONT'D)

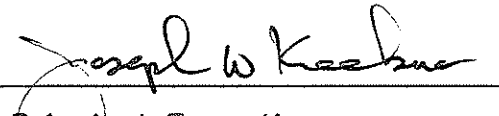
9. The underground pipes, cables, or ductlines known to exist by the engineer from his search and records are indicated on the plans. The Contractor shall verify the locations and depths of the facilities and exercise proper care in excavating in the area.
10. The Contractor, at his own expense, shall keep the project and surrounding area free from dust nuisance. The cost for supplementary measures, which will be required by the City and County, shall be borne by the Contractor.

CATV NOTES:

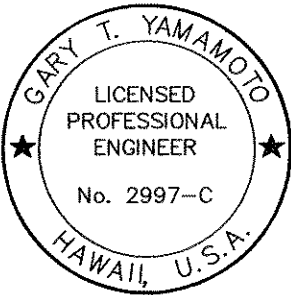
1. The Contractor shall procure and pay for all licenses and permit and shall give all necessary and incident to the due and lawfull prosecution of the work.
2. The Contractor shall take necessary precaution not to damage existing cables or ducts. Any work involving existing cables or ducts shall be done in the presence of the Time Warner Oceanic Cable Company inspector or his representative.
3. The Contractor shall notify the Time Warner Oceanic Cable Company inspector 48 hours prior to start of pullbox adjustments.
4. Contractor shall provide all materials and furnish all labor and equipment necessary to re-adjust the pullbox.
5. The location of CATV facilities shown on plans are from existing records with varying degrees of accuracy as to its actual fixed location. The Contractor shall use extreme caution when working in close proximity of CATV.
6. The Contractor shall obtain Excavation Permit clearance from Oceanic's Engineering Section located at 200 Akamainui st., Mililani Tech Park.
7. Any work required to relocate CATV facilities shall be done by Time Warner Oceanic Cable and the Contractor shall be responsible for all coordination requirements and associated costs.
8. Any damage to Time Warner Oceanic's facilities shall be reported to OCI's Repair Dispatch Department at 625-8282 or 625-8666.
9. At no time shall cement mortar, wood, or any other material be used between precast sections. Leveling or raising of boxes to grade must be done at brickwork section using cement mortar. The permanent installation of wooden wedges to accomplish this purpose will not be accepted.
10. Trenching to be by hand digging near and across existing utility lines.
11. For underground cable locating and marking, seven (7) calander days advance notice is required. Five (5) calander days advance notice is required for any inspection by a designate representative. Contractor shall take necessary precaution not to damage any existing cables or ducts. Oceanic's inspector or designated representative is required to be at any job site whenever there will be a breakage into or entry into any structure that contain Time Warner Oceanic facilities.

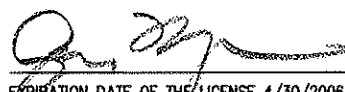
WATER NOTES

1. Unless otherwise specified, all materials and construction of 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 SYSTEMS STANDARD", 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 Contractor shall notify in writing and submit five (5) sets of approved construction plans (for relocation work) to BWS maintenance Unit-Engineering, Construction Section one week prior to commencing work on the water system.
4. 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 of 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.
5. Re-approval shall be required if this project is not under construction within a period of two years.
6. Prior to any excavating, the Contractor shall verify in the field the location of existing water mains and appurtenances.
7. The Contractor shall adjust all manhole frames/valve boxes/meter boxes within the project limits. The Contractor shall be responsible for "referencing" these manholes/valves boxes/meter boxes to facilitate the adjustments.
8. 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, trees, 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 measures necessary to protect the water lines, such as construction special reaction blocks (with BWS approval) and/or modifying his construction method.
9. 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.
10. The Contractor shall verify all existing service lateral locations whether shown or not shown on plans prior to commencing with any of the work and shall not assume that where no services are shown, none exist.
11. Maintain 3'-0" minimum cover for all existing waterlines (18" minimum for service laterals) from new finish grade. The contractor shall probe the waterline and service laterals and submit the probing data to BWS Maintenance Unit-Engineering Construction Section. Any adjustments to the existing water system to meet the minimum cover and there requirements of the BWS Standards, whether shown on plans or not, shall be done by the contractor at no cost to BWS.

 8/16/04
Principal Executive
Maintenance Unit, BWS Date

EARTH  TECH
A Tyco Infrastructure Services Company
841 Bishop Street, Suite 500
Honolulu, HI 96813




EXPIRATION DATE OF THE LICENSE: 4/30/2006
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES - 5

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 1
Fed. Aid Proj. No. CMAQ-0300(92)

Scale: As Noted Date: August 2004

SHEET No. C-8 OF 154 SHEETS

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HAWAII	HAW.	CMAQ-0300(92)	2004	10	187

HECO NOTES

1. Location of HECO Facilities

The location of HECO's overhead and underground facilities shown on the plans are from existing records with varying degrees of accuracy and are not guaranteed as shown. The contractor shall verify in the field the locations of the facilities and shall exercise proper care in excavating and working in the area. The contractor shall be responsible for any damages to HECO's facilities whether shown or not shown on the plans.

2. Compliance with Hawaii Occupational Safety and Health Laws

The contractor shall comply with the state of Hawaii's Occupational Safety and Health laws and regulations, including without limitation, those related to working on or near exposed or energized exposed or energized electrical lines and equipment.

3. Excavation Permit

The contractor shall obtain an excavation permit from HECO's Technical Division (543-5654) located at 820 Ward Avenue, 4th floor, two weeks prior to starting construction. Please refer to our request number at that time.

4. Caution!!! Electrical Hazard!!!

Existing HECO overhead and underground lines are energized and will remain energized during construction unless prior special arrangements have been made with HECO. Only HECO personnel are to handle these energized lines and erect temporary guards to protect these lines from damage. the contractor shall work cautiously at all times to avoid accidents and damage to existing HECO facilities, which can result in electrocution.

5. Overhead Lines

State law requires that a worker and the longest object he or she may contact cannot come closer than a minimum radial clearance of 10 feet when working close to or under any overhead lines rated 50KV and below. For each additional KV above 50KV, an additional 0.4 inch shall be added to the 10-foot clearance requirement. The preceding information on line clearance requirements is provided as a convenience and it is the contractor's responsibility to be informed of and comply with any revisions or amendments to the law.

Should the contractor anticipate that his work will result in the need to encroach within the minimum required clearance at any time, the contractor shall notify HECO at least four (4) weeks prior to the planned encroachment so that, if feasible, the necessary protections (e.g. relocate, de-energize, or blanket HECO lines) can be put in place. HECO's cost of safeguarding its lines will be charged to the contractor.

Contact HECO's customer installations department at 543-7846 for assistance in identifying and safeguarding overhead power lines.

Refer to Section X of HECO's Electric Service Installation Manual for additional guidelines when working around HECO's facilities. A copy may be obtained from HECO's Customer Installations Department.

6. Pole Bracing

A minimum clearance of 10 feet must be maintained when excavating around utility poles and/or their anchor system to prevent weakening or pole support failure.

Should work require excavating within 10 feet of a pole and/or its anchor system, the contractor shall protect, support, secure, and take all other precautions to prevent damage to or leaning of these poles. The contractor is responsible for all associated costs to brace, repair, or straighten poles. All means of structural support for the pole proposed by the contractor shall first be reviewed by HECO before implementation. For pole bracing instructions, the contractor shall call the HECO Construction and Maintenance Dept., customer & system superintendent at 543-4223 a minimum of two (2) weeks in advance.

7. Underground Lines

The contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines. HECO's existing electrical cables in the area are energized and will remain energized during construction. Only HECO personnel are to handle these cables and erect temporary guards to protect these cables from damage. The cost of HECO's assistance in providing proper support and protection of its underground lines will be charged to the contractor. The contractor shall exercise due care and precautions to avoid disturbing any energized cables and temporary guards and shall work cautiously at all times to avoid accidents. For verification of underground lines or for assistance in providing proper support and protection of these lines, the contractor shall call HECO's Construction & Maintenance Dept., Customer & System Superintendent, at 543-4223, a minimum of two (2) weeks in advance.

8. Underground Fuel Pipelines

The contractor shall exercise extreme caution whenever Construction Crosses or is in close proximity of HECO's Underground fuel oil pipelines. Special precautions are required when excavating near HECO's underground fuel oil pipeline (see HECO instruction consultants / contractors on "excavation near HECO's underground fuel pipeline

9. Excavations

When trench excavation is adjacent to or beneath HECO's existing structures or facilities, the contractor is responsible for:

- A. Sheet piling and bracing the excavation to prevent slides, cave-ins, and settlements.
- B. Protecting existing structures or facilities with beams, struts, or under-pinnings.
- C. Backfilling with proper backfill material including special thermal backfill where existing (refer to engineering department for thermal backfill specifications).

10. Relocation of HECO facilities

Any work required to relocate or modify HECO facilities shall be done by HECO, or by the contractor under HECO's supervision. The contractor shall be responsible for all coordination, and shall provide necessary support for HECO's work, which may include, but not be limited to, excavation and backfill, permits and traffic control, and restoration of pavement, sidewalks, and other facilities.

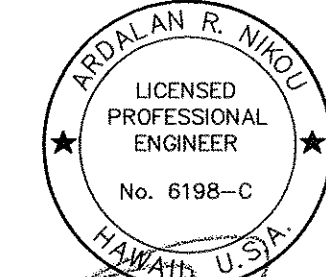
All costs associated with any relocation or modification (either temporary or permanent) for the convenience of the contractor, or to enable the contractor to perform his work in a safe and expeditious manner in fulfilling his contract obligations shall be borne by the contractor.

11. Conflicts

The contractor acknowledges that HECO is not responsible for any delay or damage that may arise as a result of any conflicts discovered or identified with respect to the location or construction of HECO's electrical facilities in the field, regardless of whether the contractor has met the requested minimum advance notices. In order to minimize any delay or impact arising from such conflicts, the contractor shall notify HECO immediately upon discovery or identification of such conflict.

EARTHTECH

A Tyco Infrastructure Services Company
841 Bishop Street, Suite 500
Honolulu, HI 96813



EXPIRATION DATE OF THE LICENSE 4/30/2006
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES - 6

Pedestrian Facilities & ADA Compliance
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HECO NOTES (CONT'D)

12. Damage to HECO facilities

The Contractor shall be responsible for the protection of all HECO surface and subsurface utilities and shall be responsible for any damages to HECO's facilities as a result of his operations. The Contractor shall immediately report such damages to HECO's trouble dispatcher at 548-7961. Repair work shall be done by HECO or by the contractor under HECO's supervision. Costs for damages to HECO's facilities shall be borne by the contractor.

13. HECO Stand-By Personnel

The Contractor may request HECO to provide an inspector to stand-by during Construction near HECO facilities. The cost of such inspection will be charged to the Contractor.

The Contractor shall call HECO Construction and Maintenance Dept., Customer & systems superintendent at 543-4223 a minimum of seven (7) calander days in advance to arrange for HECO stand-by-personnel.

14. Clearances

The following clearances shall be maintained between HECO's ductline and all adjacent structures (charted and uncharted) in the trench:

Structure Type	Minimum Clearance (Inches)
Water lines, parallel	36
Water lines, crossing	12(a)
Sewer lines, parallel	36(b)
Sewer lines, crossing	24(c)
Drain lines, parallel	12
Drain lines, crossing	6(d)
Electrical and gas lines, parallel	12
Electrical and gas lines, crossing	12
Telephone lines, parallel	6(d)
Telephone lines, crossing	6(d)
Chevron oil lines, parallel	36
Chevron oil lines, crossing	48 below oil line (e)

- A. The minimum vertical clearances to water lines crossing electrical ductlines can be reduced to 6 inches if the electrical ductline structure is smaller than 16 inches, is concrete encased, and is below the water line.
- B. A minimum horizontal clearance of 36 inches is required between new handholes and existing sewer laterals.
- C. The minimum vertical clearances to sewer pipes crossing electrical ductlines can be reduced to 12 inches if the sewer pipe is jacketed in concrete.
- D. The minimum clearances shall be increased to 12 inches if the electrical ductline is direct buried.
- E. The minimum vertical clearances to oil lines crossing electrical ductlines can be reduced to 24 inches below oil lines if the crossings are encased in 6 inches of concrete.
- F. The contractor shall notify the construction manager & HECO of any heat sources (power cable duct bank, steamline, etc.) encountered that are not properly identified on the drawing.

The following clearance shall be maintained between HECO's fuel oil pipelines and all adjacent structures: 24-inches, parallel or crossing. The minimum clearance can be reduced to 12 inches (parallel and below only) if the structure is jacketed in concrete.

15. Indemnity

The contractor shall indemnify, defend and hold harmless HECO from and against all losses, damages, claims, and actions, including but not limited to reasonable attorney's fees and costs based upon or arising out of damage to property or injuries to persons, or other tortious acts caused or contributed to by contractor or anyone acting under its direction or control or on its behalf; provided contractor's indemnity shall not be applicable to any liability based upon the sole negligence of HECO.

Additional Notes When Work Involves Constr. of HECO Facilities

16. Schedule

Contractor shall furnish his construction schedule _ working days prior to starting work on HECO facilities. Contractor shall give HECO, in writing, _ working days notice to proceed with HECO's portion of work.

17. Authority

All construction, restoration work, and inspection shall be subject to whichever governmental agency has authority over the work.

18. Specifications

Construction of HECO's underground facilities shall be constructed in accordance with the latest revisions of HECO specifications cs7001, cs7003, cs7202, cs9301, and cs9401 and applicable HECO standards.

19. Construction

Contractor shall furnish all labor, materials, equipment, and services to properly perform and fully complete all work shown on the contract, drawings, and specifications. All materials shall be new and manufactured in the United States of America. All manhole, handhole, and ductline installations shall be inspected and approved by HECO prior to excavation and prior to placing concrete. Contractor shall notify HECO's Inspection Division at 543-4356 at least 48 hours prior to placing concrete.

20. Stakeout

The contractor shall stakeout all proposed HECO facilities within the project area so as to not conflict with any utility (existing or proposed) and any proposed construction or improvement work for verification by HECO before proceeding with HECO work.

21. Ductlines

All ductline installations shall be pvc schedule 40 encased in concrete, unless otherwise noted. All completed ductlines shall be mandrel tested by the contractor in the presence of HECO's inspector using HECO's standard practice. The contractor shall install a 1/8" polyolefin pull line in all completed ductlines after mandrel testing is complete.

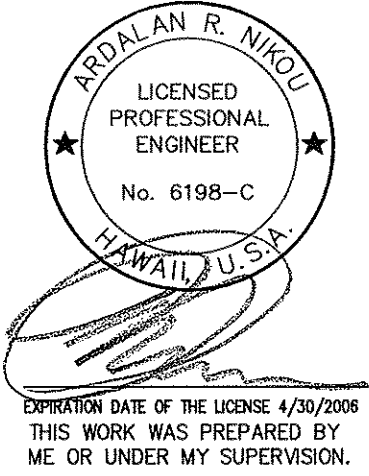
22. Joint Pole Removal

The last joint pole occupant off the poles shall remove the poles.

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QUANTITIES BY	
CHECKED BY	
No.	

EARTH TECH

A Tyco Infrastructure Services Company
841 Bishop Street, Suite 500
Honolulu, HI 96813



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES - 7

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 1
Fed. Aid Proj. No. CMAQ-0300(92)

Scale: As Noted Date: August 2004

SHEET No. C-10 OF 154 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(92)	2004	12	187

GAS COMPANY NOTES

1. The Gas Company gas pipelines in the project area are plastic coated and cathodically protected. The Contractor shall be extremely careful when working near these gas pipelines.
2. Written clearances must be obtained from The Gas Company, Maps and Records Department, 515 Kamakee Street, at least seven (7) calander days prior to starting excavation near these gas pipelines.
3. Since gas line locations on field maps are approximate, the Contractor, after obtaining written clearance, shall call USA North a minimum of two (4) calander days before starting excavation to arrange for field location of the existing gas pipelines. The telephone number is 1-800-227-2600.
4. The Contractor shall excavate and backfill around gas pipelines in the presence of a representative of The Gas Company and HDOT. All backfill within six inches of any gas pipeline shall be select cushion material approved by The Gas Company.
5. For relocation of any gas pipeline, the Contractor shall notify HDOT and The Gas Company seven (7) calander days before starting work. The telephone number is 594-5574. The Contractor shall provide the necessary excavation and backfill, obtain traffic permits, and restore pavement, sidewalks, and other facilities. Any relocation of gas facilities shall be done by The Gas Company and paid for by the Contractor.
6. The Contractor shall notify The Gas Company immediately after any damage has been caused to existing gas pipelines, coatings, or its cathodic protection devices. The telephone number is 535-5933, 24 hours a day. The Contractor shall be liable for any damage to The Gas Company facilities. Repair work on such damage shall be done by The Gas Company with payment for this work to be borne by the Contractor.
7. Minimum vertical and horizontal clearance between the gas pipelines and other pipelines, conduits, ductlines, or other facilities shall be 12 inches. Adequate support and protection for gas pipelines exposed in the trench shall be provided by the Contractor and approved by The Gas Company.
8. The Contractor shall work in an expeditious manner in order to keep the uncovered gas pipelines exposed for as short a period of time as possible.

TRAFFIC SIGNAL AND TECHNOLOGY DIVISION NOTES:

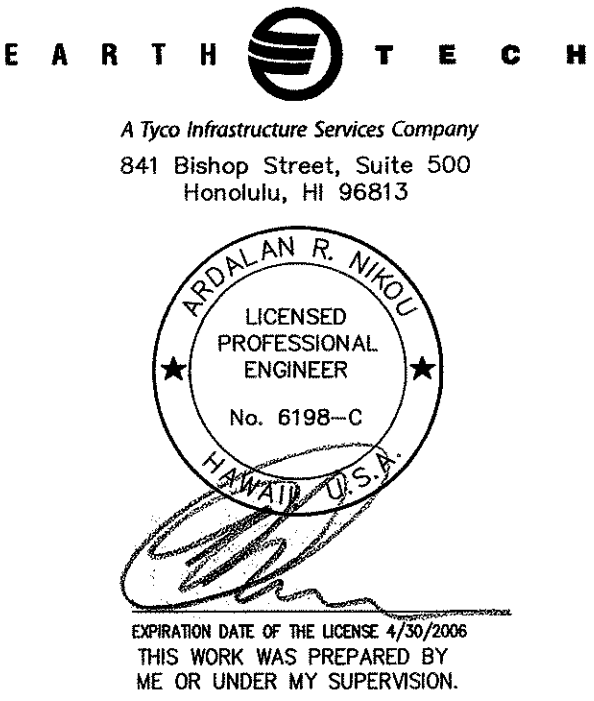
1. The contractor shall notify the Traffic Signal and Technology Division, Department of Transportation services, five (5) calander days prior to commencing work on the traffic signal system (phone: 523-4589)
2. The traffic signal system shall be kept operational during construction. Any relocation required shall be approved by the traffic signal and technology division, department of transportation services, and paid for by the contractor.
3. The contractor shall be responsible for any damages to the existing traffic signal facilities, including the traffic signal interconnect system. Any and all damages to these facilities shall be repaired by the contractor at his cost in accordance with the requirements of the City and County of Honolulu.
4. The contractor shall be responsible for any damages to the existing traffic signal fiber optic cable system. Any and all damages to these facilities shall be repaired by the contractor at his cost in accordance with the requirements of the City and County of Honolulu.

PAVING AROUND MANHOLES

1. The Contractor shall place hot asphalt concrete around manholes and compact properly with a vibrating plate compactor.
2. If a plate compactor is not used, the Contractor shall use a pneumatic roller to roll the area around the manhole which is not rolled by the steel roller.
3. The Contractor shall fog seal or brush emulsion seal on the material placed as backfill on the area around the manhole that was not compacted by the roller. Black sand shall be used to blot out the area if the fog is too heavy.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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No.	DESIGNED BY	" "
	QUANTITIES BY	" "
	CHECKED BY	" "

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES - 8

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 1
Fed. Aid Proj. No. CMAQ-0300(92)

Scale: As Noted Date: August 2004

SHEET No. C-11 OF 154 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(92)	2004	13	187

MECHANICAL / ELECTRICAL DIVISION NOTES (CITY)

1. The contractor shall notify the joint pole committee two (2) weeks in advance of any relocation of utility pole(s) that may be necessary.
2. The contractor shall notify the Mechanical / Electrical Division, Department of Design and Construction, three (3) working days prior to commencing work on the street light system or fiber optic communications system. (phone: 527-5002).
3. The street lightiing system shall be kept operational during construction. Any relocation required shall be approved by the Mechanical / Electrical division and paid for by the contractor.
4. The locations of the existing underground street light facilities shown on the plans are from existing plans and are approximate only. The contractor shall exercise caution when construction crosses or is in close proximity to the existing street light facilities. The contractor shall be responsible for any damages to the existing street light facilities. Any and all damages to these facilities shall be repaired by the contractor at his cost in accordance with the requirements of the City and County of Honolulu.
5. The contractor shall be responsible for any damages to the City's existing communications fiber optic cable system. Any and all damages to these facilities shall be repaired by the contractor at his cost in accordance with the requirements of the City and County of Honolulu.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS

1. The Contractor shall obtain and comply with the National Pollutant Discharge Elimination System (NPDES) requirements for Oahu District permit projects. This is available at the Oahu District office at 727 Kakoi Street (ph. 831-6793). Due to potential cost impacts, the Contractor needs to be aware of these requirements.
2. The contractor shall complete and submit a contractor's certification of NPDES compliance, including completion of the best management practice (BMP) checklist and submittal of a written BMP plan and drawings, prior to issuance of the permit to perform work upon State highways.

FREE SERVICE FOR LOCATING UNDERGROUND UTILITIES

1. A free service is available to Contractors for locating underground utilities. Service is provided by Underground Service Alert North, at toll free telephone no. 1-800-227-2600. Call Underground Service Alert North at least four (4) calander days prior to the start of any excavation work.

PUBLIC TRANSIT DIVISION (DTS) NOTE:

1. The Contractor shall notify Oahu Transit Services, Inc., (OTS-THEBUS Contractor), ED Sniffen (848-4571) or Lowell Tom (848-4578), two weeks prior to construction, informing them of location, scope of work, proposed closure of any streets or traffic lanes, and the need to relocate any bus stops.

SIGNS AND MARKING NOTES FOR WORK WITHIN CITY R/W:

1. All traffic sign and pavement marking installations shall be done in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways", 2000 Edition, as amended, the latest specifications from the Traffic Review Branch, Department of Planning and Permitting, and as shown on the plans.
2. Contractor shall notify and coordinate work with the Traffic Review Branch, Department of Planning and Permitting, one (1) week in advance of commencing work at 527-5087.
3. Contractor shall submit material brochures for all signs and paint materials to the Traffic Review Branch, Department of Planning and Permitting.
4. The Contractor shall keep one (1) set of approved signing and/or striping plans at the project site at all times during construction work.
5. Contractor shall paint temporary guidelines and outline of arrows, legends, and crosswalks with four inch (4") wide brushed taped line on the day the roadway is opened to traffic. These markings must be approved by the inspector from the Traffic Review Branch, Department of Planning and Permitting.
6. Contractor shall notify the Traffic Review Branch, Department of Planning and Permitting, three (5) calander days in advance of final inspection.
7. Contractor shall meet with the inspector from the Traffic Review Branch, Department of Planning and Permitting during the final inspection.
8. Within ten (10) calander days following notification of award of contract, the Contractor shall submit to the Department of Planning and Permitting (phone: 523-4881) for approval, a list of any signing and pavement marking material which he proposes to install. The list shall be complete as to the name of the manufacturer, catalog number, and shall be supplemented with material brochures.
9. Upon final inspection of the project, the Contractor shall submit a letter of certification for all traffic signing and pavement marking material installed.
10. Signs shall be installed with at least one (1) foot of clearance from sign edge to curb face.
11. All traffic signs shall be reflectorized.
12. Raised pavement markers shall be installed in accordance with the Department of Planning and Permitting.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOTES - 9

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 1
Fed. Aid Proj. No. CMAQ-0300(92)

Scale: As Noted Date: August 2004

SHEET No. C-12 OF 154 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(92)	2004	14	187

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," as amended. 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 a BMP plan approved by the Department of Health.

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 (BMPs) for the project. The Contractor may submit alternate methods to the Engineer for acceptance.

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, whichever is greater.

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 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 within 24 hours following any rainfall event of 0.5 inches or greater.

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.

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 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.

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.

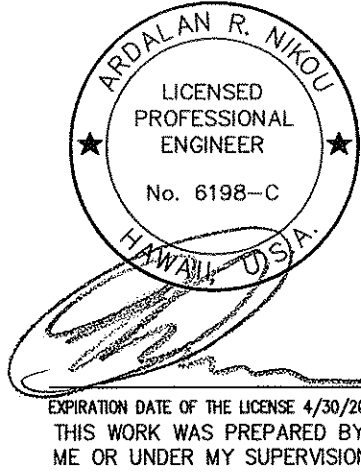
6. A product shall be used up completely before disposing of the container.

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.

EARTH TECH

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION
NOTES – 1

Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 1
Fed. Aid Proj. No. CMAQ-0300(92)

Scale: As Noted Date: August 2004

SHEET No. C-13 OF 154 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(92)	2004	15	187

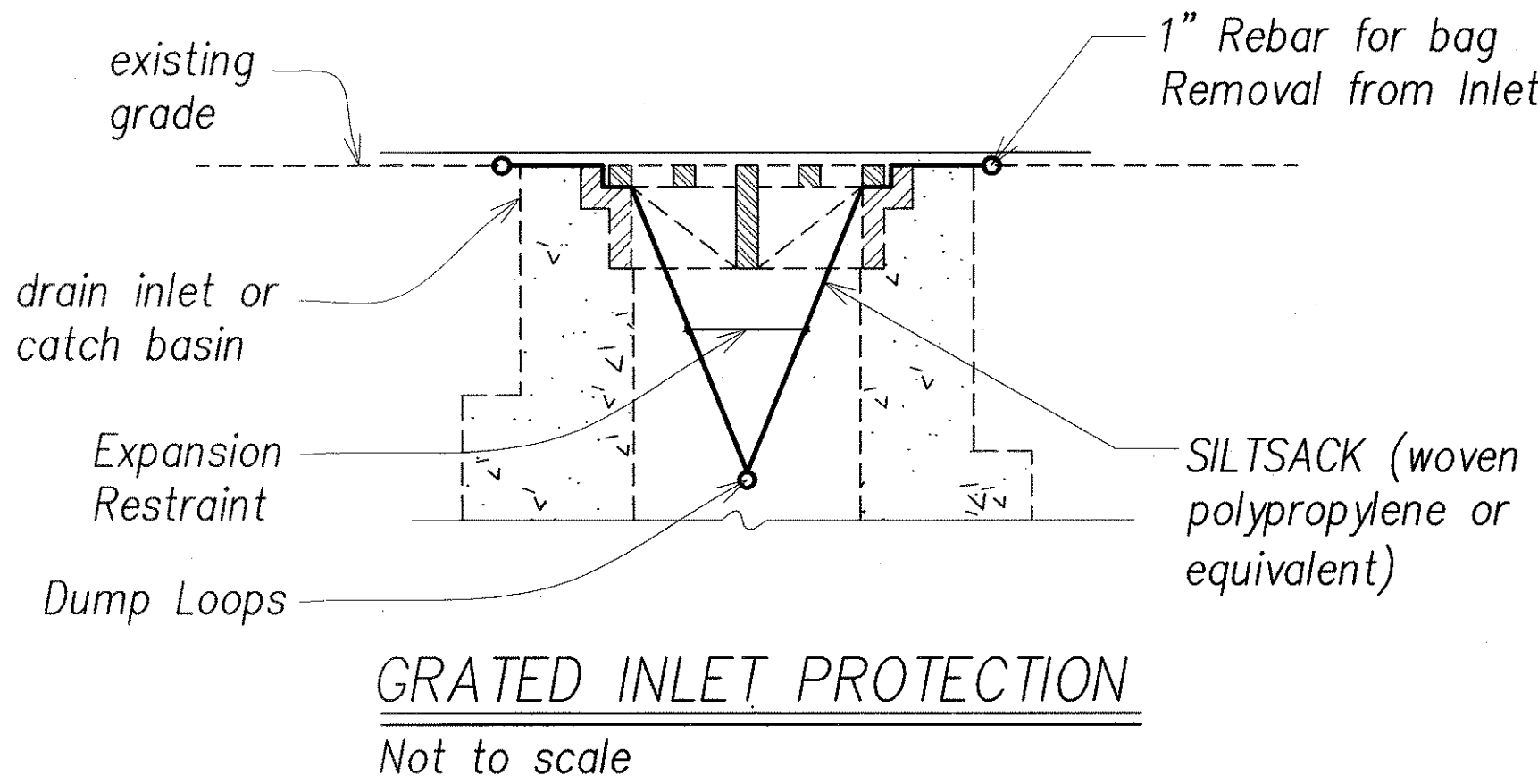
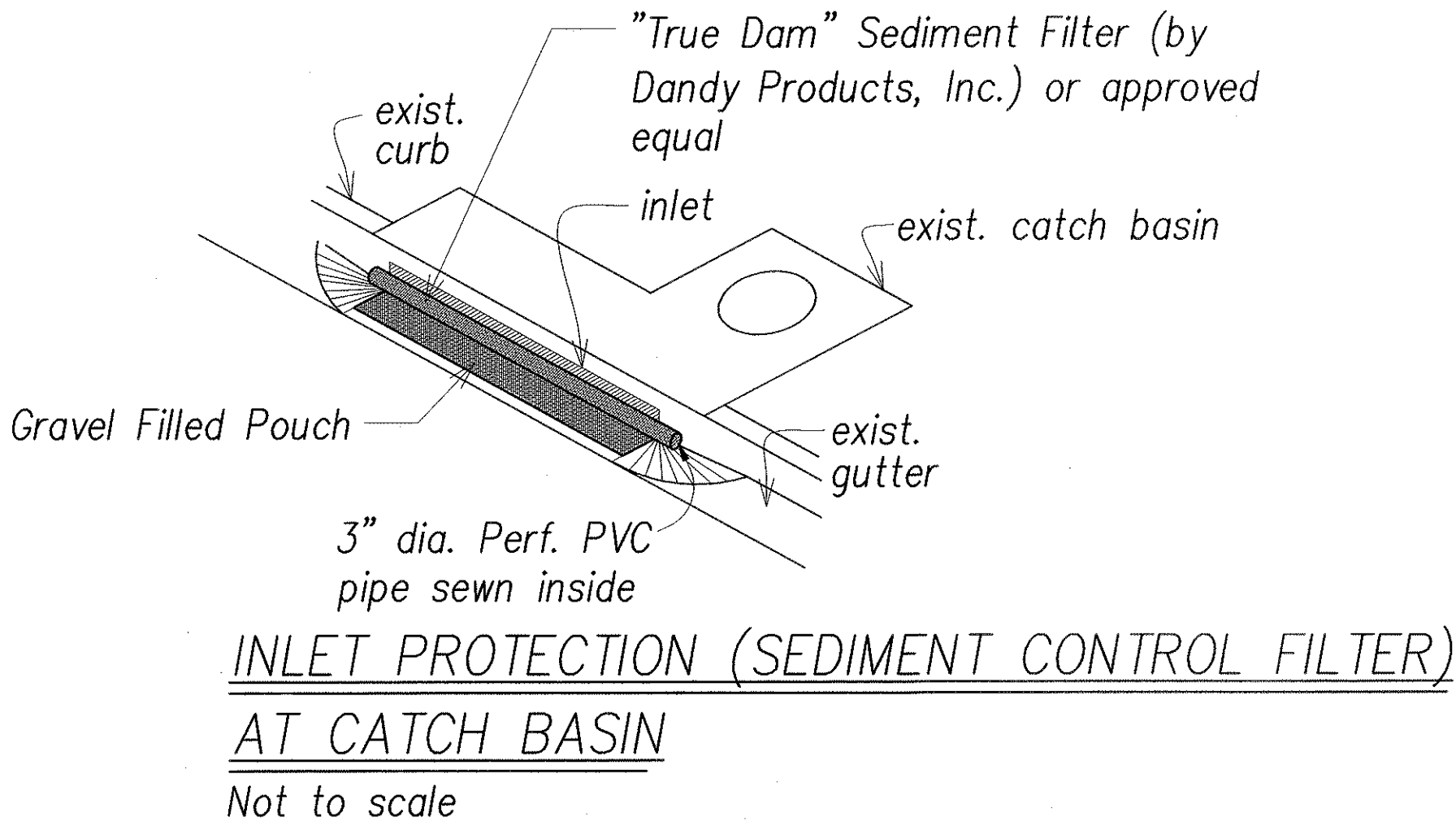
WATER POLLUTION AND EROSION CONTROL NOTES (Cont.)

B. Hazardous Material Pollution Prevention Plan

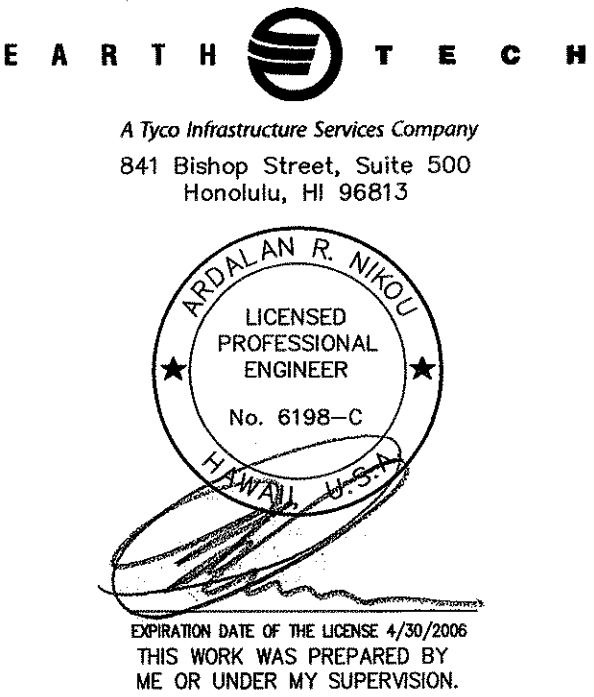
1. Products shall be kept in original containers unless they are not resealable.
2. Original labels and Material Safety Data Sheets (MSDS) shall be retained and made available to the Engineer upon request.
3. Surplus products shall be disposed of according to manufacturers' instructions or local and 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.



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**WATER POLLUTION NOTES
AND DETAILS - 2**

*Pedestrian Facilities & ADA Compliance
at Various Locations on Oahu, Unit 1
Fed. Aid Proj. No. CMAQ-0300(92)*

Scale: As Noted Date: August 2004

SHEET No. C-14 OF 154 SHEETS