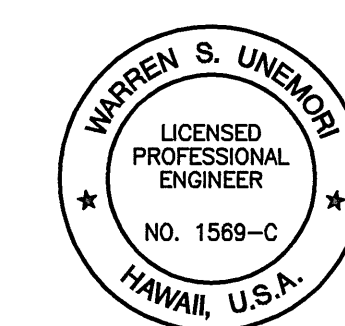



NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY:

1. THE CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM THE STATE'S HIGHWAY DISTRICT ENGINEER AT MAUI DISTRICT OFFICE PRIOR TO COMMENCEMENT OF WORK WITHIN STATE HIGHWAY RIGHT-OF-WAY.
2. CONSTRUCTION AND RESTORATION OF ALL EXISTING HIGHWAY FACILITIES WITHIN STATE RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE SPECIFICATION FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS, OF THE STATE HIGHWAYS DIVISION.
3. ALL LANES SHALL BE OPENED TO TRAFFIC AT ALL TIMES. LANE CLOSURE OF HONOPILILANI HIGHWAY WILL NOT BE PERMITTED.
4. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES, AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION AND FOR THE 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 HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, PART VI - TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS". IF LANE CLOSURES ARE REQUIRED DURING CONSTRUCTION, A TRAFFIC CONTROL PLAN SHALL BE INCORPORATED INTO THE CONSTRUCTION PLANS AND MUST BE APPROVED BY THE DIVISION PRIOR TO THE ISSUANCE OF THE PERMIT.
5. THE MINIMUM PAVEMENT STRUCTURE SHALL CONSIST OF:
 - A. RESIDENTIAL DRIVEWAYS
 - (1) 2" ASPHALT CONCRETE AND 6" AGGREGATE BASE COURSE, OR 2" ASPHALT CONCRETE AND 2-1/2" ASPHALT CONCRETE BASE COURSE OR ASPHALT CONCRETE.
 - (2) 4" OF CLASS "A" CONCRETE REINFORCED WITH 6"X 6" - 6/6 WIRE MESH ON 12" AGGREGATE SUBBASE IF DEEMED NECESSARY BY ENGINEER.
 - B. COMMERCIAL DRIVEWAYS, SIDE ROADS AND UTILITY INSTALLATIONS ON MINOR HIGHWAYS
 - (1) 2-1/2" ASPHALT CONCRETE, 8" AGGREGATE BASE COURSE AND 12" AGGREGATE SUBBASE, OR 2-1/2" ASPHALT CONCRETE AND 8" ASPHALT CONCRETE BASE COURSE OR ASPHALT CONCRETE.
 - (2) 6" OF CLASS "A" CONCRETE REINFORCED WITH 6"X 6" - 6/6 WIRE MESH ON 12" AGGREGATE SUBBASE IF DEEMED NECESSARY BY ENGINEER.
 - C. CHANNELIZED INTERSECTIONS AND UTILITY INSTALLATIONS ON MAJOR HIGHWAYS
 - 4" ASPHALT CONCRETE, 8" AGGREGATE BASE COURSE AND 12" AGGREGATE SUBBASE, OR 4" ASPHALT CONCRETE AND 8" ASPHALT CONCRETE BASE COURSE OR ASPHALT CONCRETE, OR MATCH EXISTING PAVEMENT STRUCTURE, WHICHEVER IS GREATER.
6. NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN HIGHWAY RIGHTS-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE DISTRICT ENGINEER.
7. COMPACTION TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE SPECIFICATIONS FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS, AS FOLLOWS:
 - A. SUBBASE: ONE (1) COMPACTION TEST(S)
 - B. BASE COURSE: ONE (1) COMPACTION TEST(S)
 - C. ONE (1) COMPACTION TEST(S) FOR EACH 200 LINEAL FEET OF TRENCH OR FRACTION THEREOF.SUBMIT COMPACTION TEST RESULTS TO DISTRICT ENGINEER FOR REVIEW.
8. PRIOR TO COMMENCING TRENCH EXCAVATION WORK, THE CONTRACTOR SHALL TAKE A PROFILE ALONG THE NEW CENTERLINE OF UTILITY TRENCH AND THAT SUCH 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 DISTRICT ENGINEER.
9. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ADEQUATE, SAFE, NON-SKID BRIDGING MATERIAL OVER THE TRENCH, INCLUDING SHORING, WHEN TRENCHING IN PAVEMENT AREAS TO HANDLE ALL TYPES OF VEHICULAR TRAFFIC.
10. NO TRENCH SHALL BE OPENED MORE THAN 150 FEET IN ADVANCE OF THE INSTALLED AND TESTED PIPE AND/OR DUCTLINE.
11. LONGITUDINAL DRAINAGE ALONG THE HIGHWAY SHALL BE MAINTAINED.
12. PAVEMENT STRIPING SHALL BE DONE BY CONTRACTOR.
13. APPROVAL OF PERMIT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF ONE YEAR THEREOF FROM THE DATE OF NOTIFICATION OF APPROVAL TO THE APPLICANT. IN THE EVENT CONSTRUCTION DOES NOT COMMENCE WITHIN THIS ONE-YEAR PERIOD, THE APPLICANT WILL BE REQUIRED TO RESUBMIT HIS CONSTRUCTION PLANS FOR DIVISION'S REVIEW AND APPROVAL.
14. ALL REGULATORY, GUIDE AND CONSTRUCTION SIGNS AND BARRICADES SHALL BE OF HIGH INTENSITY REFLECTIVE SHEETING.
15. OPERATION OF STEEL TRACK EQUIPMENT WILL NOT BE ALLOWED ON STATE HIGHWAY UNLESS AUTHORIZED BY DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION.



David M. Muma 5/4/00
SIGNATURE DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION "AS DEFINED IN SECTION 16-115-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS"








WARREN S. UNEMORI ENGINEERING, INC.
CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS
WELLS STREET PROFESSIONAL CENTER, SUITE 403
2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

KAONOULU MARKET PLACE
T.M.K.: (2) 2-2-02 : Por. of Par. 15 and 3-9-01 : 16
KIHEI, MAUI, HAWAII

TITLE CONSTRUCTION NOTES

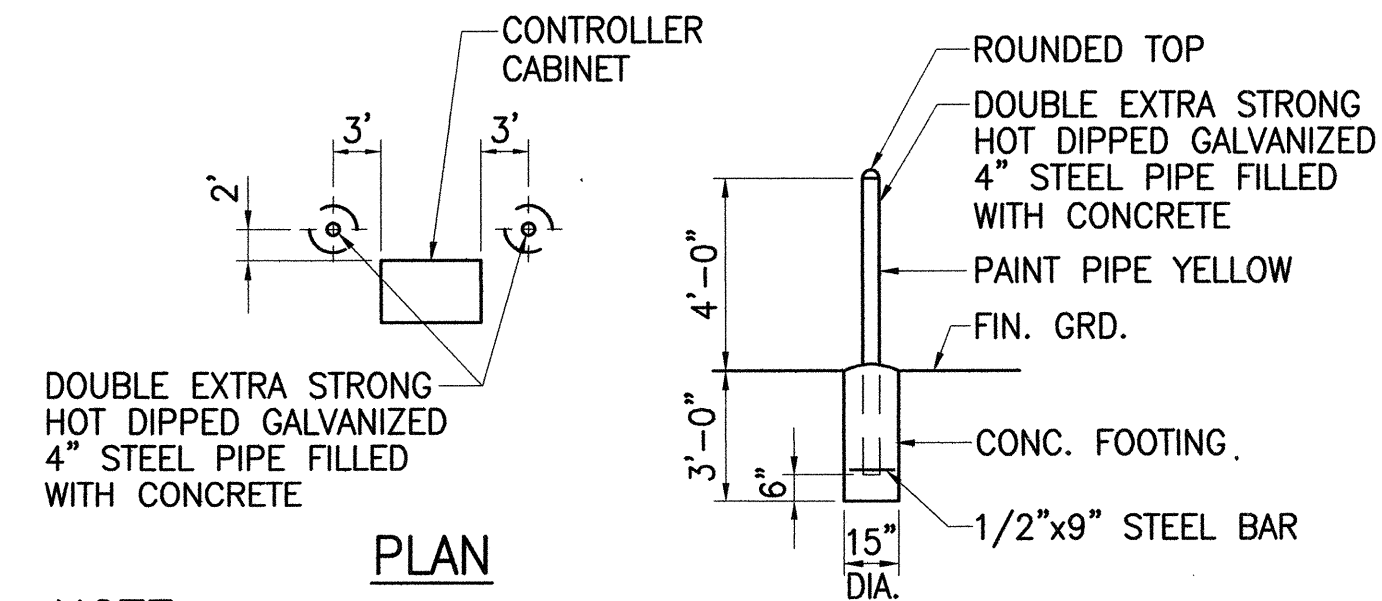
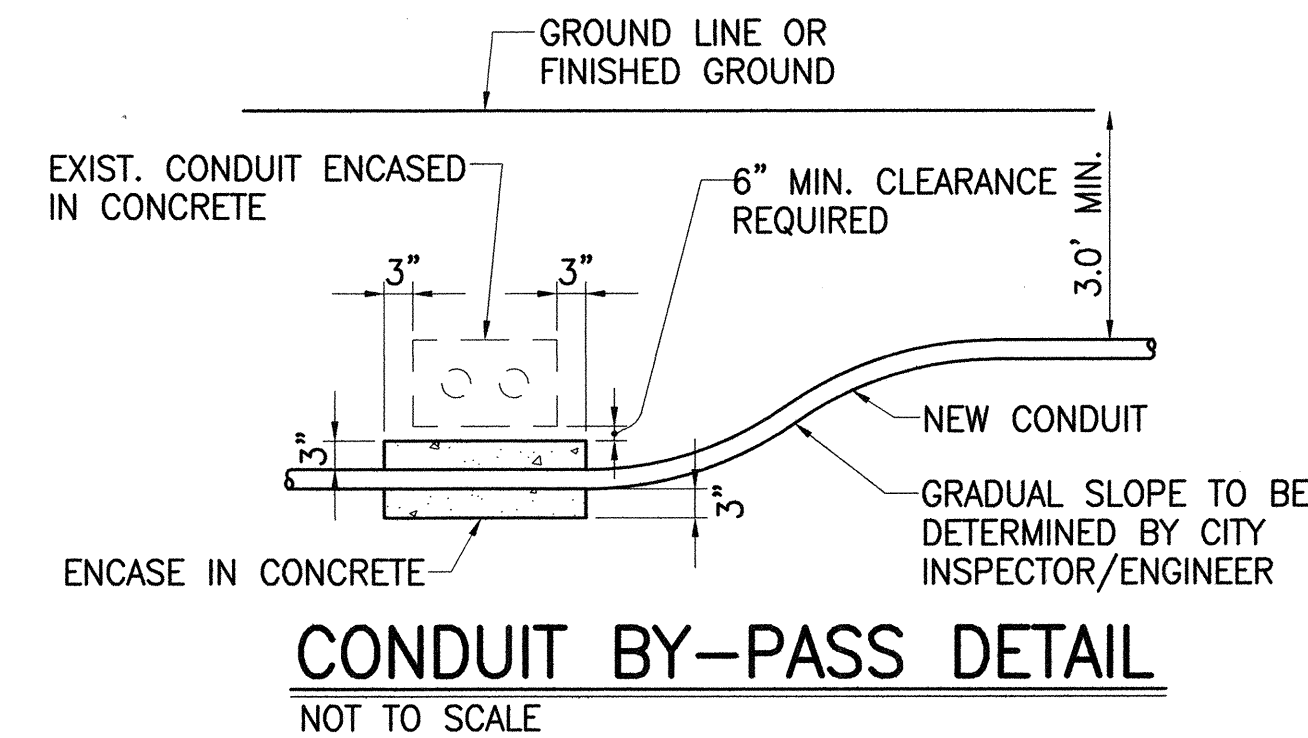
WSU DESIGNED BY	WSU CHECKED BY	04010.10	15.02
WIS DRAWN BY	WSU APPROVED BY	JOB NUMBER 10-10-05	
SCALE AS NOTED		DATE	
			SHEET
			OF SHEETS

TRAFFIC SIGNAL NOTES

- ALL TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE COMPLETELY WIRED IN THE CABINET AND SHALL CONTROL THE TRAFFIC SIGNALS AS CALLED FOR IN THE PLANS.
- SIGNAL INDICATIONS DURING CLEARANCE INTERVAL:
 - IF A SIGNAL IS G OR  AND WILL REMAIN G OR  DURING THE NEXT PHASE, IT SHALL BE G OR  DURING THE CLEARANCE INTERVAL.
 - IF A SIGNAL IS G OR  AND WILL BECOME R OR EXTINGUISHED DURING THE NEXT PHASE, IT SHALL BE Y OR  DURING THE CLEARANCE INTERVAL.
 - IF A SIGNAL IS R AND WILL REMAIN R OR BECOMES G DURING THE NEXT PHASE, IT SHALL REMAIN R DURING THE CLEARANCE INTERVAL.
- THE LOOP AMPLIFIER UNITS FURNISHED FOR THIS PROJECT SHALL BE CAPABLE OF OPERATING THE LOOP DETECTOR CONFIGURATIONS SHOWN ON THE PLANS. COST FOR THE LOOP AMPLIFIER SHALL BE INCIDENTAL TO THE INSTALLATION OF THE LOOP DETECTOR.
- A SOLID #8 BARE COPPER WIRE SHALL BE PULLED WITH THE TRAFFIC CONTROL CABLE FOR EQUIPMENT GROUND. COST SHALL BE INCIDENTAL TO THE INSTALLATION OF THE CONTROL CABLE.
- CONDUITS AND PULLBOX LOCATIONS AS SHOWN ON THE PLANS ARE SCHEMATIC. THEY MAY BE MODIFIED BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL INSTALL THE CONTROLLER AND CABINET IN THE INDICATED LOCATION.
- ALL WORK FOR THE INSTALLATION OR MODIFICATION OF THE TRAFFIC SIGNAL SYSTEM SHALL CONFORM TO THE LATEST REVISIONS OF THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1994" AND THE "STANDARD PLANS" OF THE DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION AND AS SHOWN ON THESE DRAWINGS.
- ALL SPLICING SHALL BE DONE IN THE PULLBOXES.
- FURNISHING AND INSTALLING THE CONDUIT STUBOUTS (PULLBOXES TO EDGE OF PAVEMENT) WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.
- THE CONCRETE JACKET FOR THE CONDUIT BY-PASS DETAIL SHOWN ON THIS SHEET SHALL NOT BE PAID FOR SEPARATELY BUT CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS. THE ENGINEER SHALL DETERMINE IF A CONCRETE JACKET IS REQUIRED.
- ALL CABLE AND ELEMENTS FOR GROUNDING SHALL BE NEW.
- CABLES BETWEEN SIGNAL FACES, PEDESTRIAN HEADS, PEDESTRIAN PUSH BUTTONS, AND EVP DETECTORS AND THE NEAREST PULLBOX ARE NOT CALLED OUT ON THE PLAN, BUT SHALL BE FURNISHED AND INSTALLED IN SUFFICIENT NUMBERS AND LENGTHS AS REQUIRED. COST SHALL BE INCIDENTAL TO VARIOUS TRAFFIC SIGNAL CONTRACT ITEMS.
- CONDUITS BETWEEN THE TRAFFIC SIGNAL STANDARD AND THE PULLBOX SHALL BE IN SUFFICIENT NUMBER AS REQUIRED. COST SHALL BE INCIDENTAL TO THE INSTALLATION OF THE TRAFFIC SIGNAL STANDARD FOUNDATION.
- UNLESS OTHERWISE SPECIFIED, ALL CONDUITS SHALL BE PVC SCHEDULE 80.
- THE CONTRACTOR SHALL NOTIFY THE MAUI DISTRICT OFFICE, HIGHWAY DIVISION, STATE OF HAWAII DEPARTMENT OF TRANSPORTATION, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE TRAFFIC SIGNAL SYSTEM (PHONE: 873-3535).
- THE TRAFFIC SIGNAL STANDARDS SHALL BE DESIGNED & CONSTRUCTED IN CONFORMANCE WITH THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES, AND TRAFFIC SIGNALS" OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIAL'S (AASHTO).
- ALL TRAFFIC SIGNAL CONDUITS SHALL BE CONCRETE ENCASED.

CONSTRUCTION NOTES

- LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES SUCH AS PIPE-LINES, CONDUITS, CABLES, ETC., SHOWN ON PLANS ARE APPROXIMATE ONLY. IT IS NOT THE INTENT OF THESE PLANS TO SHOW THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES WITH THE RESPECTIVE OWNERS. EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN COST.
- THE CONTRACTOR SHALL VERIFY AND CHECK 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 FOR CLARIFICATION.
- THE CONTRACTOR SHALL NOTIFY ALL COMPANIES TO VERIFY, TONE AND LOCATE THEIR EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO EXCAVATING. THE CONTRACTOR SHALL COORDINATE ALL WORK.
- THE LOCATIONS OF THE NEW TRAFFIC SIGNAL STANDARDS, TRAFFIC SIGNAL STANDARDS WITH MAST-ARM, PEDESTRIAN PUSH BUTTONS, TRAFFIC CONTROLLER, PULLBOXES, CONDUITS AND LOOP DETECTORS SHALL BE STAKED OUT IN THE FIELD BY THE CONTRACTOR AND APPROVAL OF THE LOCATIONS SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION AND INSTALLATION.
- ALL TRAFFIC SIGNAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," FEDERAL HIGHWAY ADMINISTRATION (2003) AND AMENDMENTS.
- MAINTENANCE OF TRAFFIC THROUGH THE CONSTRUCTION AREA SHALL BE IN ACCORDANCE WITH PART VI OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," FEDERAL HIGHWAY ADMINISTRATION (2003) AS AMENDED AND AS SPECIFIED IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE BARRICADES, BLINKERS, CONSTRUCTION SIGNS, ETC., FOR THE SAFETY OF THE MOTORING PUBLIC.
- AT THE END OF EACH DAY'S WORK, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND OTHER OBSTRUCTIONS TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC.
- THE CONTRACTOR SHALL PROVIDE A 3-FOOT MINIMUM VERTICAL CLEARANCE BETWEEN TRAFFIC SIGNAL CONDUIT AND ALL EXISTING UTILITY LINES.

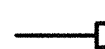










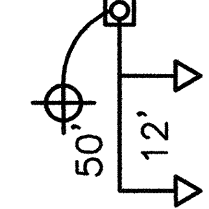

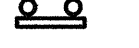



NOTE:
COST OF CONC. FILLED GALVANIZED POSTS SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.

PIPE GUARD DETAIL

NOT TO SCALE


LEGEND

- | NEW | EXISTING |
|---|--|
|  | PEDESTRIAN SIGNAL HEAD |
|  | 12" R Y G STANDARD TRAFFIC SIGNAL HEAD |
|  | 12" R Y ↑ STANDARD TRAFFIC SIGNAL HEAD |
|  | 12" R Y G STANDARD TRAFFIC SIGNAL HEAD |
|  | EVP DETECTOR |
|  | LOOP DETECTOR |
|  | MODEL 170 CONTROLLER ON BASE |
|  | TYPE "A" PULLBOX |
|  | TYPE "B" PULLBOX |
|  | TYPE "C" PULLBOX |
|  | STANDARD TRAFFIC AND PEDESTRIAN SIGNAL HEADS MOUNTED ON TYPE I SIGNAL STANDARD |
|  | TRAFFIC SIGNAL HEADS MOUNTED ON TYPE III SIGNAL STANDARD 50' M.A. : 12' BETWEEN HEADS WITH A 12' ARM FOR THE LUMINAIRE |
|  | NEW CONDUIT(S) WITH SIZE & NUMBER AND TYPE OF NEW CABLES AS INDICATED. |
|  | MECO METER PEDESTAL |
|  | SPREAD SPECTRUM RADIO RECEIVER (SSR) AND DECODER FOR WIRELESS INTERCONNECT |

X:\2005\05-019\TS-NOTES AND LEGEND.DWG

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS HONOLULU, HAWAII

LETTER	DESCRIPTION	DATE



SIGNATURE: *Keith K. Niika* DATE: *4/30/10*

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION "AS DEFINED IN SECTION 16-115-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS"

WARREN S. UNEMORI ENGINEERING, INC.
CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS
WELLS STREET PROFESSIONAL CENTER, SUITE 403
2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

KAONOULU COMMERCIAL CENTER
KIHAEI, MAUI, HAWAII

TITLE: **TRAFFIC SIGNAL NOTES AND LEGEND**

DESIGNED BY: KCC	CHECKED BY: KKN	JOB NUMBER: 04010.10	SHEET: TS-1
DRAWN BY: KCC	APPROVED BY:	MAY 2006	
SCALE: AS SHOWN			OF SHEETS

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TRUE NORTH
SCALE 1" = 30' FT.

NOTE: CONTRACTOR SHALL INSTALL SSR RECEIVER, DECODER, AND ALL NECESSARY CONNECTIONS FOR WIRELESS INTERCONNECT TO THE PIILANI HIGHWAY/OHUKAI STREET TRAFFIC SIGNAL. THE INTERCONNECT SYSTEM SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM AT THE PIILANI HIGHWAY/OHUKAI STREET INTERSECTION. CONTRACTOR SHALL TEST AND VALIDATE THAT THE INTERCONNECT SYSTEM IS WORKING. COST SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS TRAFFIC SIGNAL EQUIPMENT.

LEFT ON
LEFT
GREEN
ARROW
ONLY
R10-5a
24" X 30"

KAONOULU ST
INSTALL NEW STREET
NAME SIGN ON MASTARM

CONDUIT	CABLE
2" CONC.	1-26C#14
2" CONC.	1-26C#14
2" CONC.	3-2C#14
2" CONC.	2-2C#14

CONDUIT	CABLE
2" CONC.	1-EVP CABLE
2" CONC.	3-4C#14

LEFT ON
LEFT
GREEN
ARROW
ONLY
R10-5a
24" X 30"

INSTALL NEW
PED. PUSH
BUTTON

INSTALL NEW
PED. PUSH
BUTTON

CONDUIT	CABLE
2" CONC.	1-26C#14
2" CONC.	1-26C#14
2" CONC.	5-2C#14
2" CONC.	4-2C#14
2" CONC.	1-EVP CABLE

PIILANI HWY
INSTALL NEW STREET
NAME SIGN ON MASTARM

FOR POWER CONNECTION,
SEE ELECTRIC
PLANS FOR DETAILS.

CONDUIT	CABLE
2" CONC.	1-26C#14
2" CONC.	1-26C#14
2" CONC.	3-EVP CABLE
2" CONC.	6-2C#14
2" CONC.	5-2C#14
2" CONC.	5-2C#14

CONDUIT	CABLE
2" CONC.	1-2C#14

CONDUIT	CABLE
2" CONC.	1-26C#14
2" CONC.	1-26C#14
2" CONC.	4-EVP CABLE
2" CONC.	6-2C#14
2" CONC.	6-2C#14
2" CONC.	5-2C#14
2" CONC.	1-3C#6
2" CONC.	1-SSR CABLE

PIILANI HIGHWAY (STATE)

2 EA. 6-6'X6' LOOP DETECTORS
CENTERED IN LANE

2 EA. 1-6'X6' LOOP DETECTORS
CENTERED IN LANE

2 EA. 2-6'X6' LOOP DETECTORS
CENTERED IN LANE

CONDUIT	CABLE
2" CONC.	5-2C#14
2" CONC.	3-4C#14

INSTALL NEW
PED. PUSH
BUTTON

CONDUIT	CABLE
2" CONC.	1-2C#14

CONDUIT	CABLE
2" CONC.	1-2C#14
2" CONC.	1-EVP CABLE
2" CONC.	3-4C#14

LEFT ON
LEFT
GREEN
ARROW
ONLY
R10-5a
24" X 30"

PIILANI HWY
INSTALL NEW STREET
NAME SIGN ON MASTARM

KAONOULU STREET
(COUNTY)

INSTALL NEW
PED. PUSH
BUTTON

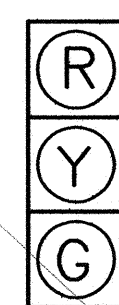
CONDUIT	CABLE
2" CONC.	2-2C#14

INSTALL NEW
PED. PUSH
BUTTON

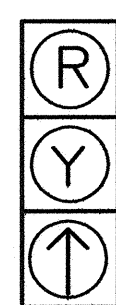
CONDUIT	CABLE
2" CONC.	1-26C#14
2" CONC.	1-26C#14
2" CONC.	4-2C#14
2" CONC.	2-EVP CABLE

KAONOULU ST
INSTALL NEW STREET
NAME SIGN ON MASTARM

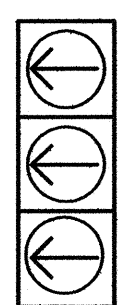
LEFT ON
LEFT
GREEN
ARROW
ONLY
R10-5a
24" X 30"



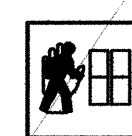
A-3
B-2
D-3
E-2
G-3
H-2
J-3
K-2



A-2
D-2
G-2
J-2

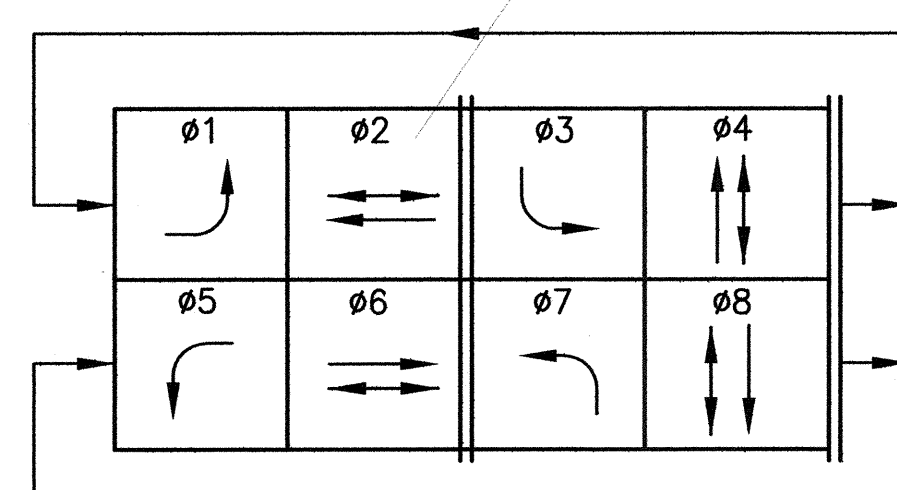


C-1
D-1
F-1
G-1
I-1
J-1
L-1



B-1
C-2
E-1
F-2
H-1
I-2
K-1
L-2

SIGNAL INDICATIONS



PHASE DIAGRAM

NEW MODEL 170 CONTROLLER
NEW MODEL 332A CABINET

1 EA. 6-6'X6' LOOP DETECTORS
CENTERED IN LANE

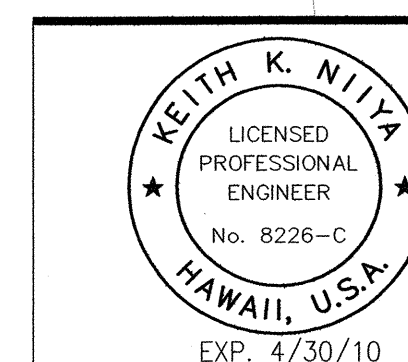
1 EA. 4-6'X6' LOOP DETECTORS
CENTERED IN LANE

TRAFFIC SIGNAL PLAN

SCALE: 1"=20'

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS
HONOLULU, HAWAII

LETTER	DESCRIPTION	DATE



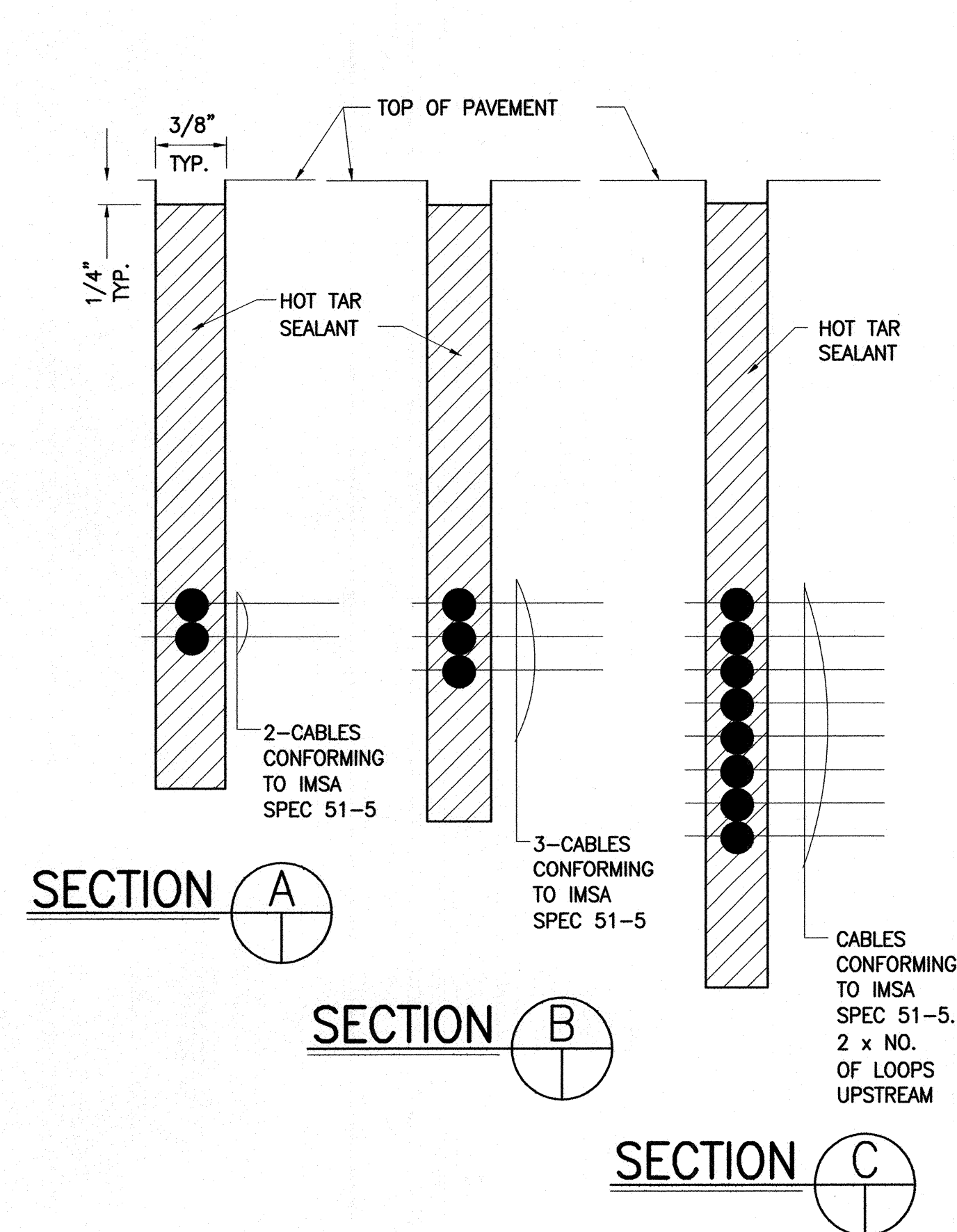
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION, AS DEFINED IN SECTION 10-115-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS.

WARREN S. UNEMORI ENGINEERING, INC.
CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS
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2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

KAONOULU COMMERCIAL CENTER
KIHIEI, MAUI, HAWAII

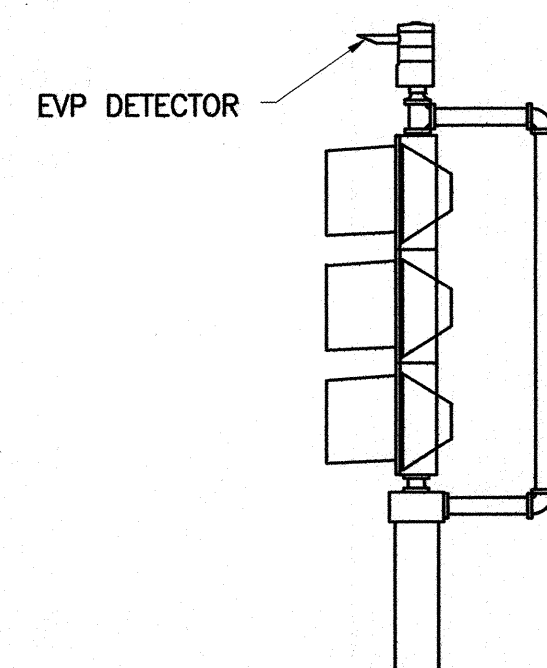
TITLE: TRAFFIC SIGNAL PLAN

DESIGNED BY: KC	CHECKED BY: KKN	JOB NUMBER: 04010.10	TS-2
DRAWN BY: KC	APPROVED BY:	DATE: MAY 2006	SHEET OF SHEETS
SCALE: AS SHOWN	DATE: 2006	DATE: 2006	DATE: 2006

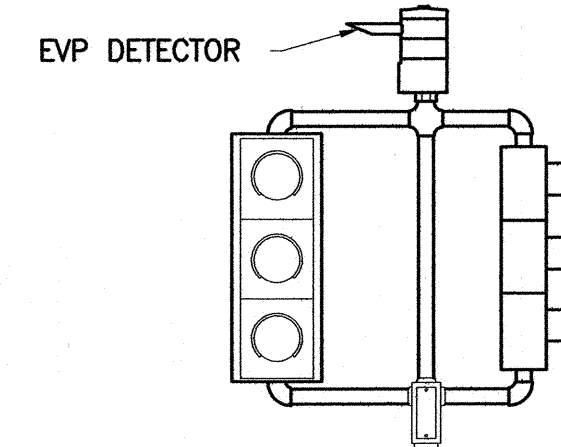


- NOTES:

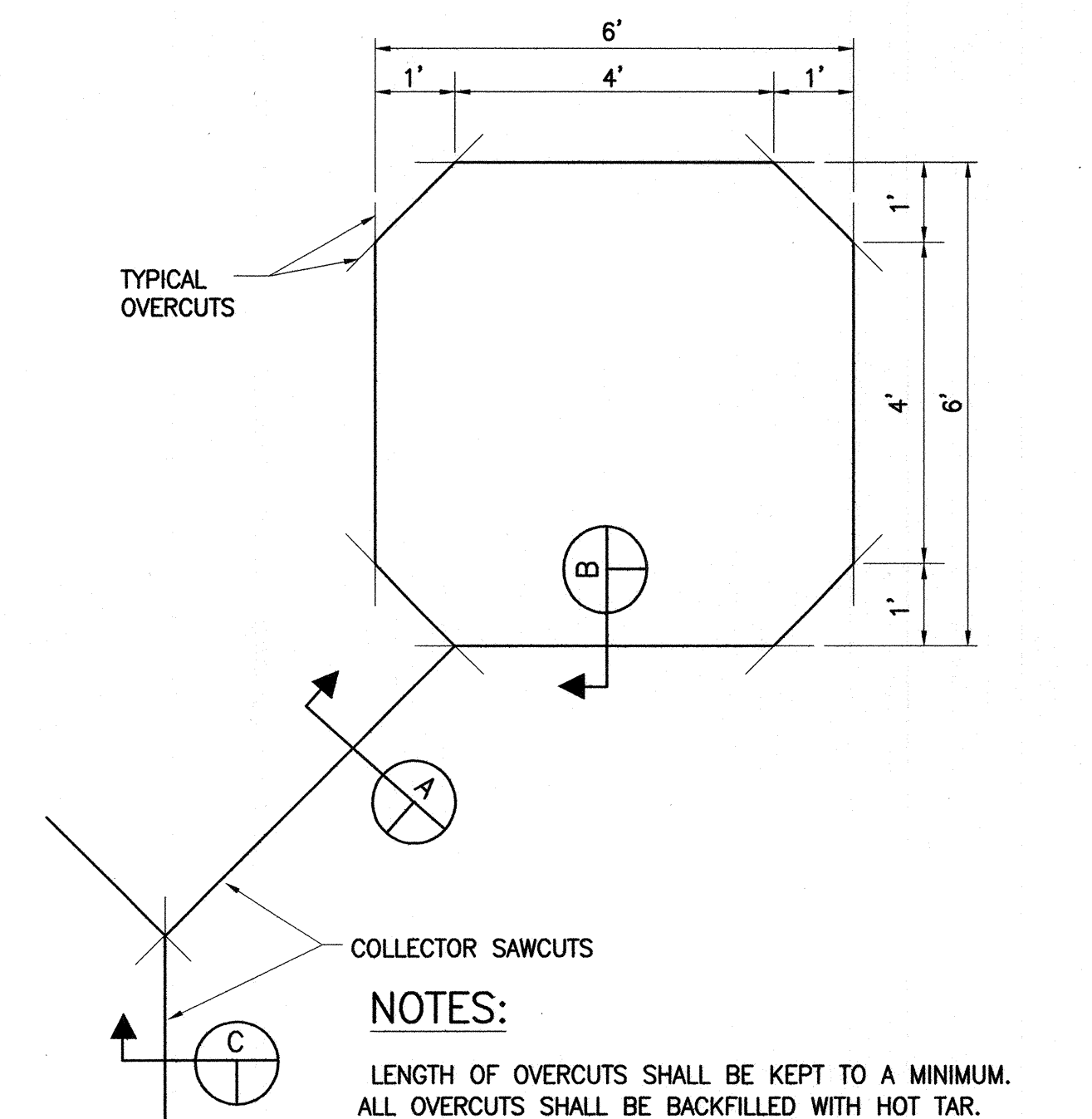
1. OPTICAL DETECTOR SHALL BE "MODEL 711 PREEMPTION DETECTOR" OR APPROVED EQUAL, UNLESS NOTED OTHERWISE IN THE SPECIAL PROVISIONS.
2. SUPPORT SADDLE ASSEMBLY SHALL BE "ASTRO MINI-BRAC, AB-0132-29", OR APPROVED EQUAL, UNLESS NOTED OTHERWISE IN THE SPECIAL PROVISIONS.



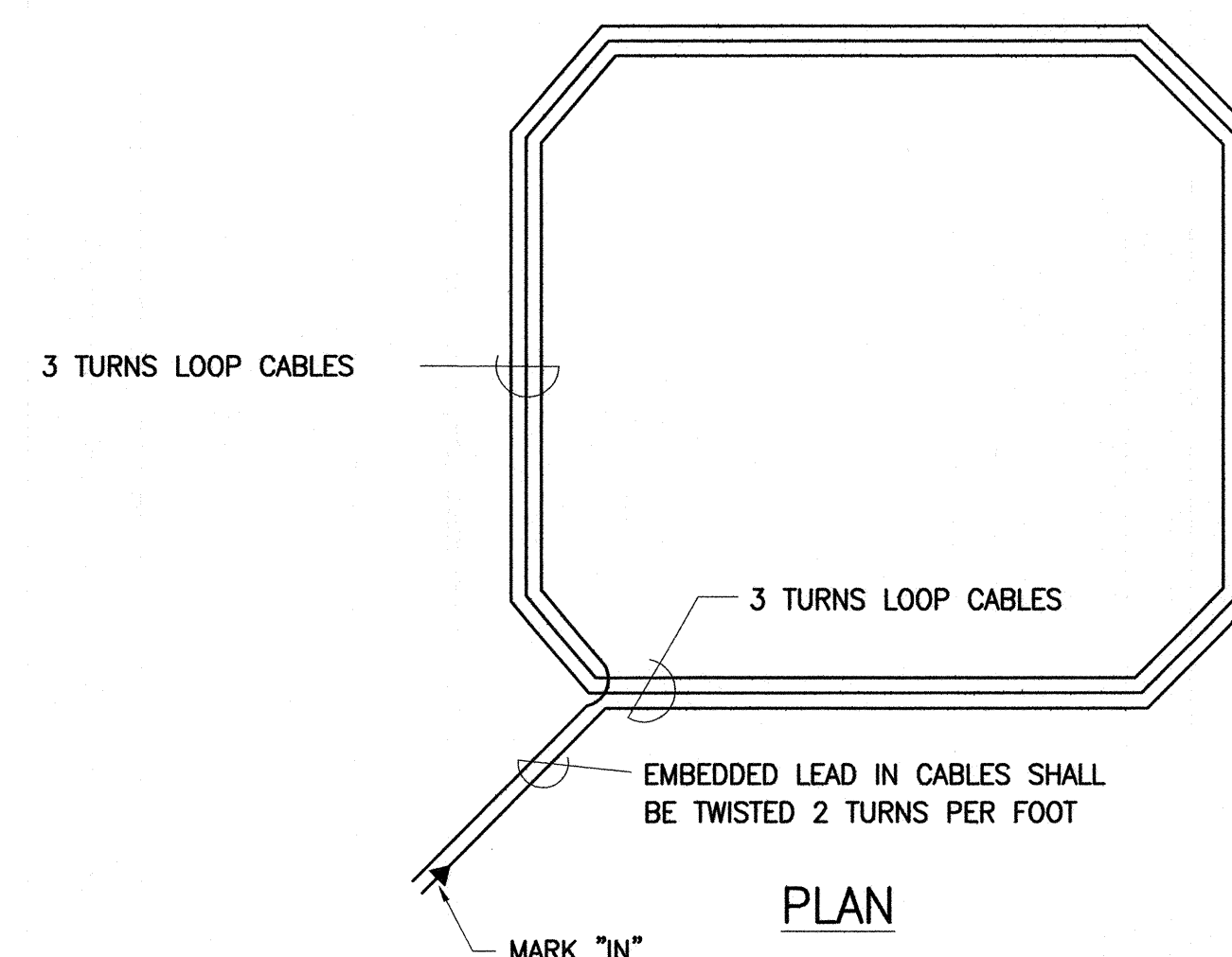
POST TOP
TP-EVP MOUNTING
NOT TO SCALE



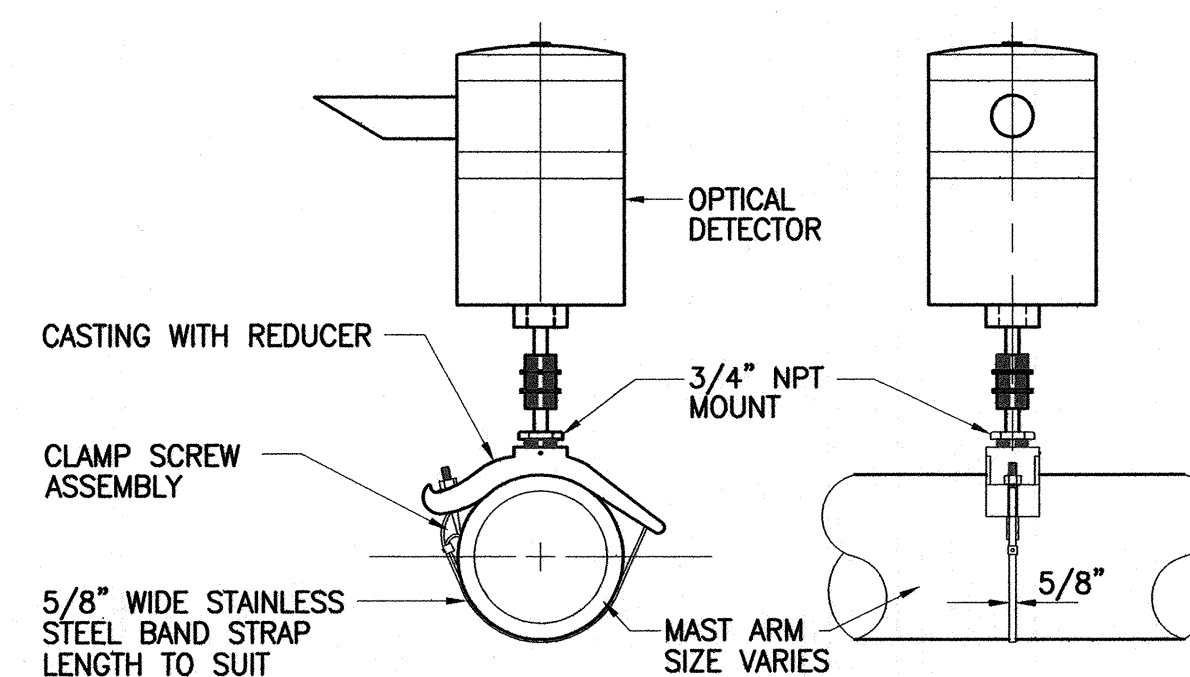
POST TOP
TP-EVP MOUNTING
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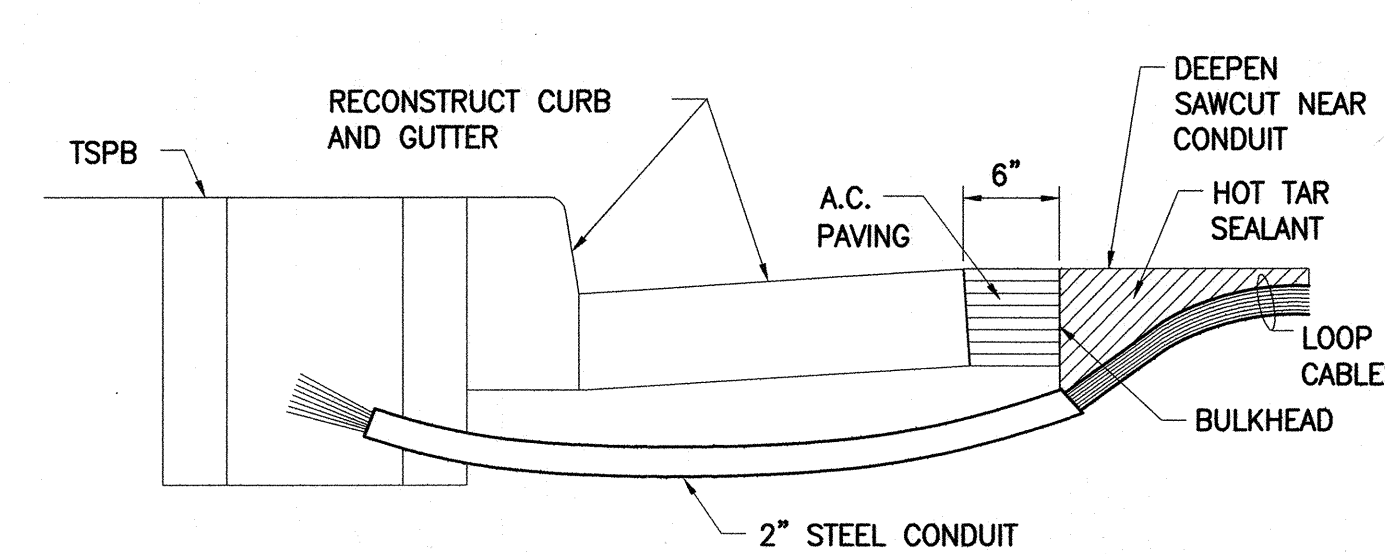
TYPICAL SENSOR LOOP SAWCUT DETAIL



TYPICAL SENSOR LOOP WIRING DIAGRAM



SIDE VIEW FRONT VIEW
OPTICAL DETECTOR FOR
MAST ARM MOUNTING
 NOT TO SCALE

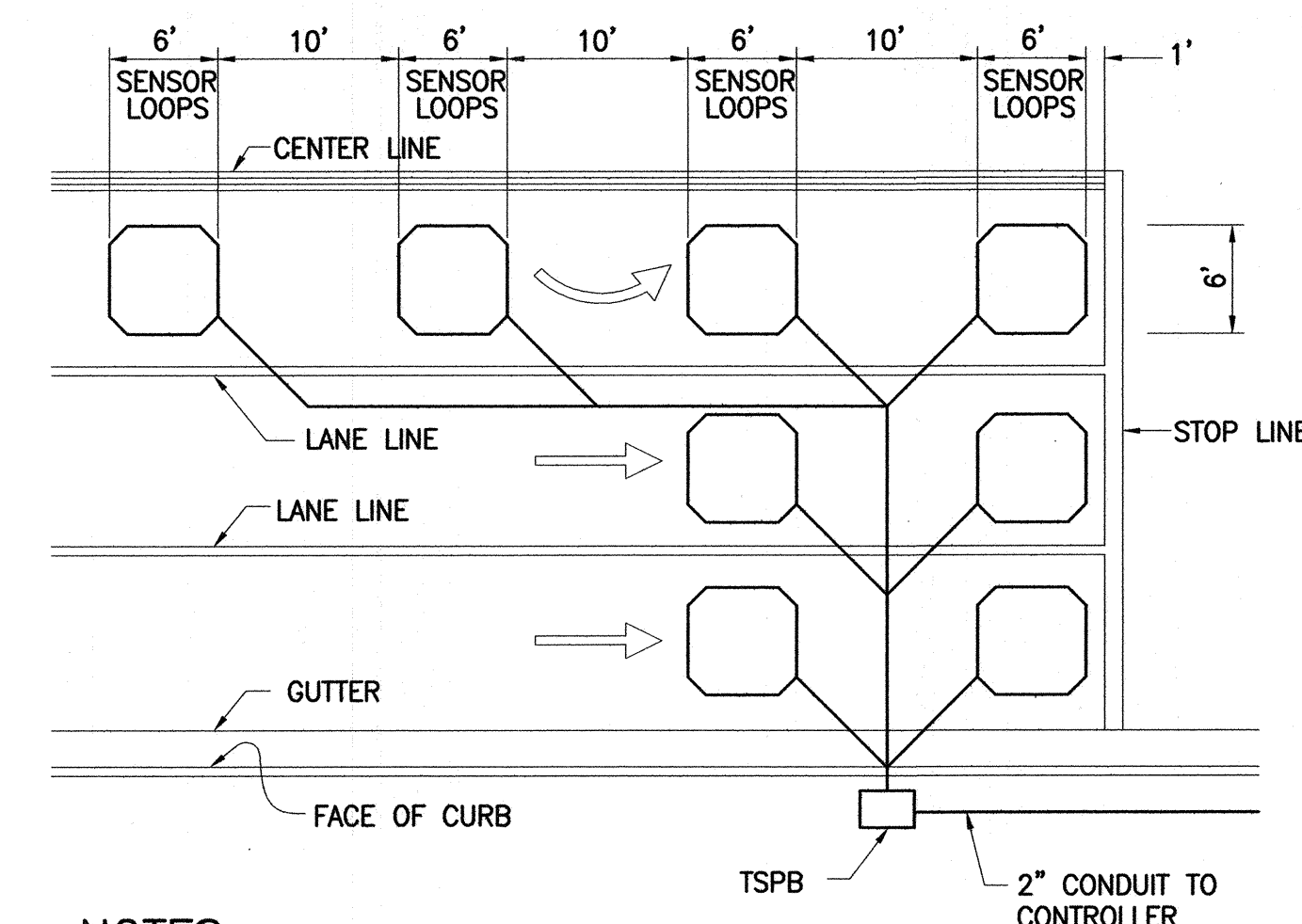


- NOTES ON CONSTRUCTION AT END OF SAWCUT

1. SEAL ROADWAY END OF CONDUIT AFTER INSTALLATION OF CONDUCTORS
2. INSTALL BULKHEAD ACROSS CONDUIT TRENCH.
3. PLACE HOT TAR IN SAWCUT.
4. BACKFILL OVER CONDUIT WITH NEW A.C.
5. RECONSTRUCT CURB AND GUTTER AS REQUIRED.

DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY

NOT TO SCALE

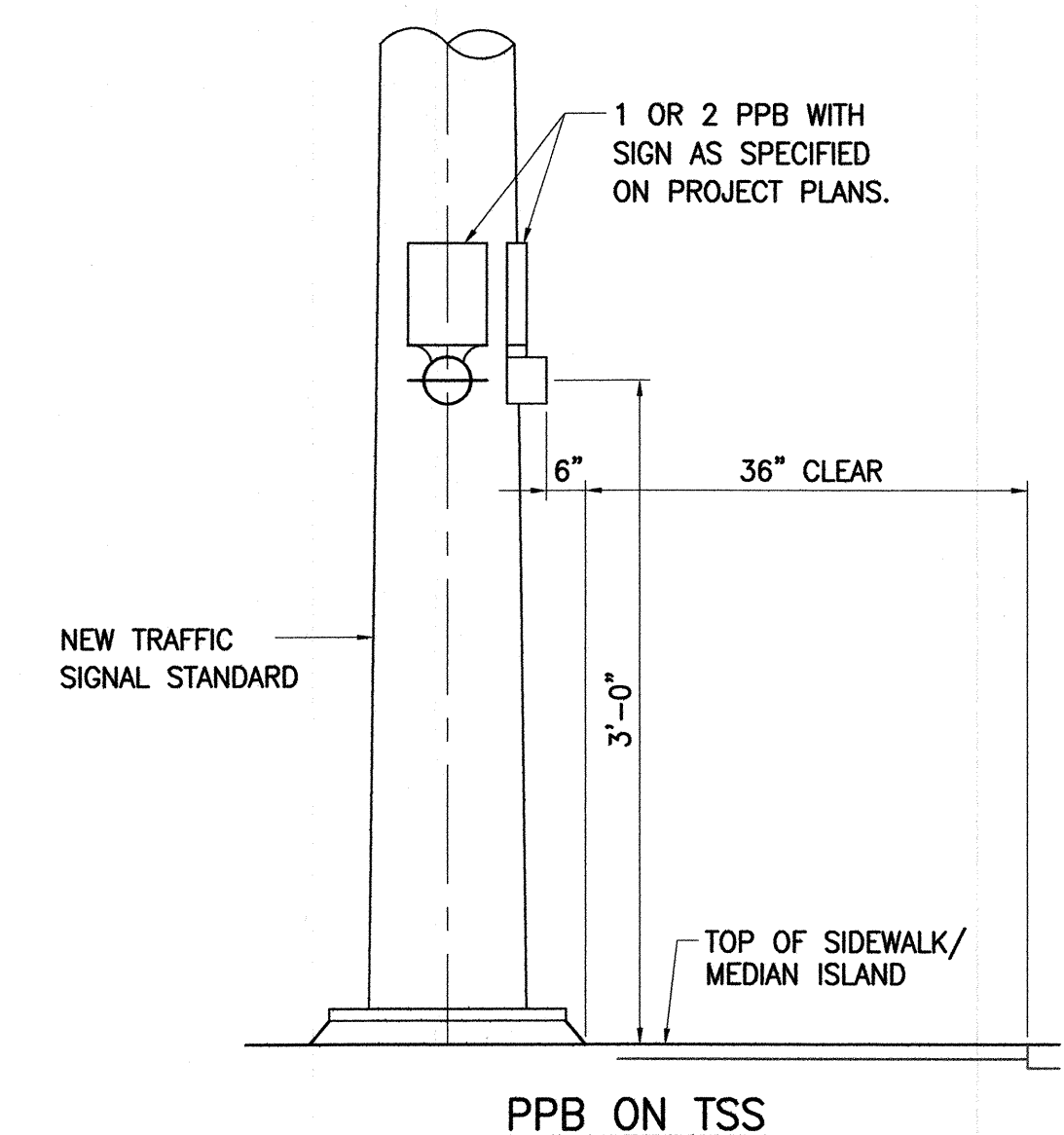
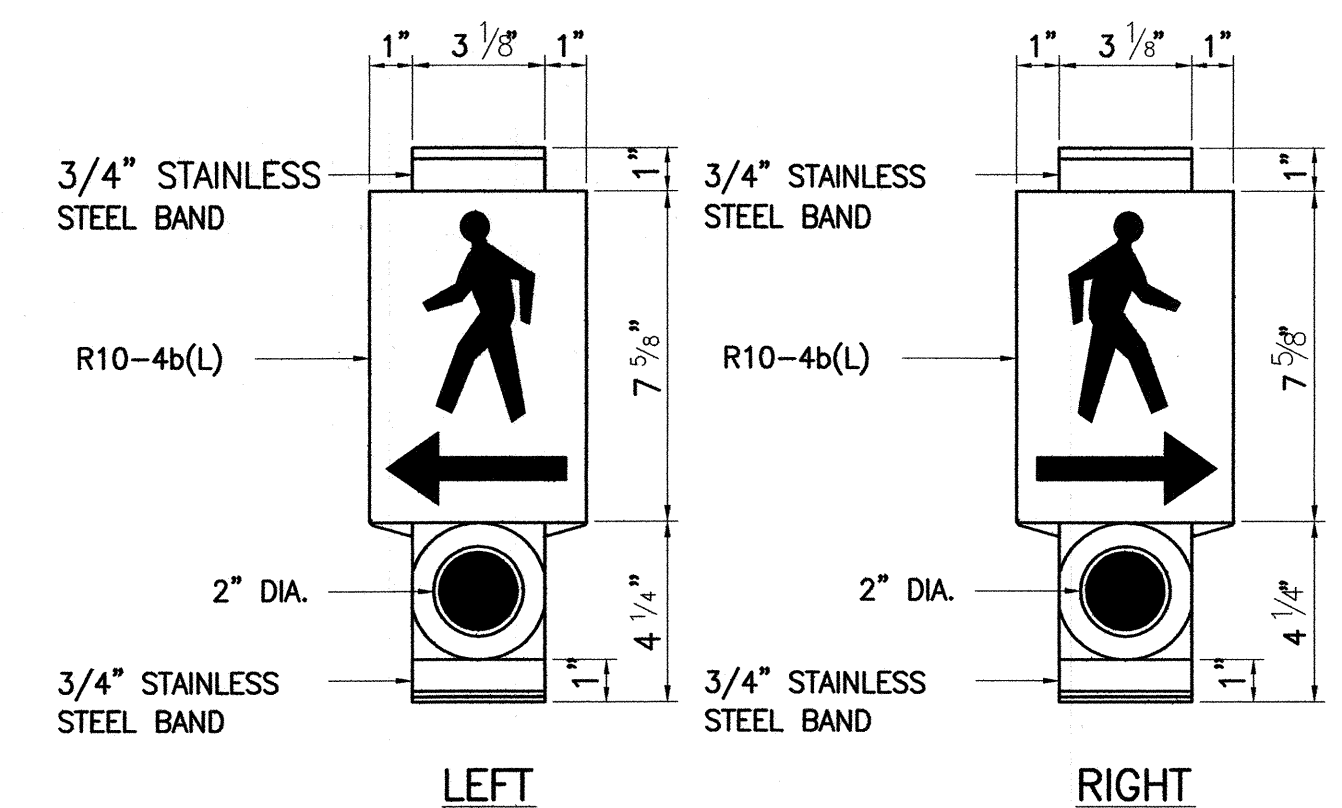
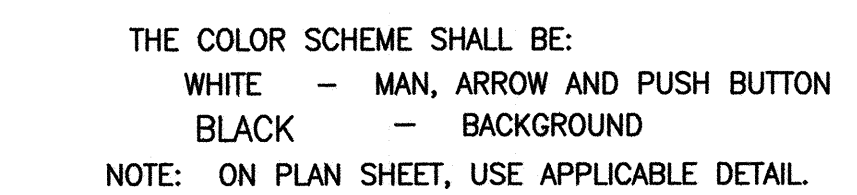


- NOTES:

1. CENTER SENSOR LOOPS IN LANES.
2. COLLECTOR CABLES SHALL BE TWISTED 2 TURNS PER FOOT.
3. NUMBER OF LOOPS AND LOCATIONS VARY. SEE PROJECT PLANS.
4. NUMBER AND LOCATIONS OF COLLECTOR SAWCUTS MAY BE VARIED IN THE FIELD TO SUIT.

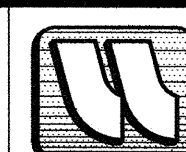
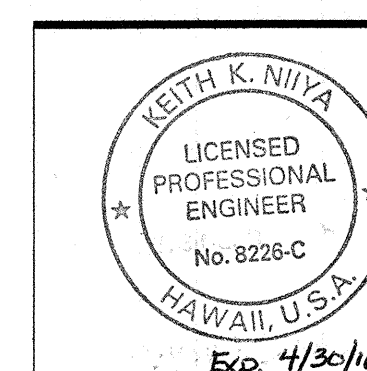
TYPICAL SENSOR LOOP LAYOUT

NOT TO SCALE



PEDESTRIAN PUSH BUTTON DETAILS

NOT TO SCALE



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2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

KAONOULU COMMERCIAL CENTER
KIHEI, MAUI, HAWAII

TITLE TRAFFIC SIGNAL DETAILS - 1

SIGNATURE See King DATE 12/15/04

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION "AS DEFINED IN SECTION 16-115-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS"

DESIGNED BY KC	CHECKED BY KKN	04010.10	TS-3
DRAWN BY KC	APPROVED BY		
SCALE AS SHOWN		MAY 2006	SHEET
		DATE	OF SHEETS

CONTROLLED LOW STRENGTH MATERIAL (CLSM)
APPROXIMATELY 50-150 PSI COMPRESSIVE
STRENGTH AT 28 DAYS. CLSM SHALL
COMPLY WITH SECTIONS 313 AND 601 OF
THE SPECIAL PROVISIONS.

NOTE: BASE COURSE & SUB-BASE COURSE PER
1994 STATE STANDARD SPECIFICATIONS
FOR HIGHWAY CONSTRUCTION.

1. IF TRENCH IS LOCATED ON UNPAVED AREA, THE CONTRACTOR SHALL REPLACE 10 A.C. BASE COURSE AND 4" A.C. PAVEMENT WITH TYPE "A" TRENCH BACKFILL MATERIAL. (TRENCH BACKFILL MATERIAL "A" CONSIST OF BEACH SAND, EARTH, OR EARTH AND GRAVEL. IF EARTH AND GRAVEL IS USED, THE MAXIMUM SHALL CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLE. MAXIMUM 8" LOOSE FILL PER LIFT OBTAIN 95% COMPACTION FOR EACH LIFT. ROCK SHALL NOT EXCEED 1" ϕ .)
2. THE METAL DETECTABLE RED PLASTIC WARNING TAPE SHALL BE A MINIMUM 5 MILS THICK AND 4" WIDE WITH A CONTINUOUS METALLIC BACKING AND CORROSION RESISTANT 1' MIL THICK FOIL CORE. THE MESSAGE ON THE TAPE SHALL READ, "CAUTION - STATE TRAFFIC SIGNAL AND/OR HWY LIGHTING BURIED BELOW," UTILIZING 1½ INCHES SERIES "C" BLACK LETTERING. THE MESSAGE WILL BE REPEATED WITH A 4¼" SPACING BETWEEN TOP LINE OF MESSAGE AND START OF NEXT REPEAT.
3. THE CONTRACTOR MAY BEGIN BACKFILLING THE CONDUIT TRENCH BEFORE THE CONCRETE REACHES 2500 PSI COMPRESSIVE STRENGTH BUT AFTER CONCRETE HAS HARDENED SUFFICIENTLY ENOUGH THAT BACKFILLING WILL NOT DAMAGE THE CONCRETE JACKET.
4. MAXIMUM FOUR (4) CONDUITS PER ROW FOR MULTIPLE CONDUIT DUCT SECTION. DUCTS SHALL BE INSTALLED WITH SPACERS AND ANCHORED TO THE GROUND BEFORE POURING CONCRETE. SPACERS SHALL BE A MAXIMUM OF 5' APART. JOINTS SHALL BE STAGGERED.
5. FOR DIRECT BURIED DUCT SECTIONS, THE CONCRETE JACKET REQUIRED AT THE CONDUIT BY-PASS FOR VARIOUS UTILITIES, SHALL BE AT THE CONTRACTOR'S EXPENSE.
6. AFTER INSTALLING ALL THE TRAFFIC SIGNAL CABLES, THE CONTRACTOR SHALL DUCT SEAL ALL CONDUITS IN THE PULLBOXES, TRAFFIC SIGNAL STANDARDS AND TRAFFIC SIGNAL CONTROLLER CABINET CONCRETE BASE. THE DUCT SEAL MATERIAL SHALL BE APPROVED BY THE TRAFFIC SIGNAL INSPECTOR/ENGINEER.



SAWCUT PRIOR TO TRENCHING

SAWCUT THROUGH AND REMOVE ALL EXISTING MATERIAL BOUND BY ASPHALT OR PORTLAND CEMENT

24" TRENCH WIDTH

24"

A.C. MIX IV PAV.T.

42" MIN.

4" ACB

8"

4" AC MIX (IV)

8" AGG BASE

12" AGG SUBBASE

VARIES

CLSM

3"


PRIME COAT

METAL DETECTABLE RED PLASTIC WARNING TAPE, SEE NOTE NO. 2.

CONCRETE ENCASEMENT

PVC CONDUITS SCH. 40 (TYP.) (See DUCT SECT.)

PRIOR TO INSTALLING CONDUITS, LEVEL & COMPACT BOTTOM OF TRENCH TO 95% COMPACTION



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KAONOULU COMMERCIAL CENTER

KIHEI, MAUI, HAWAII

Exp 4/30/10

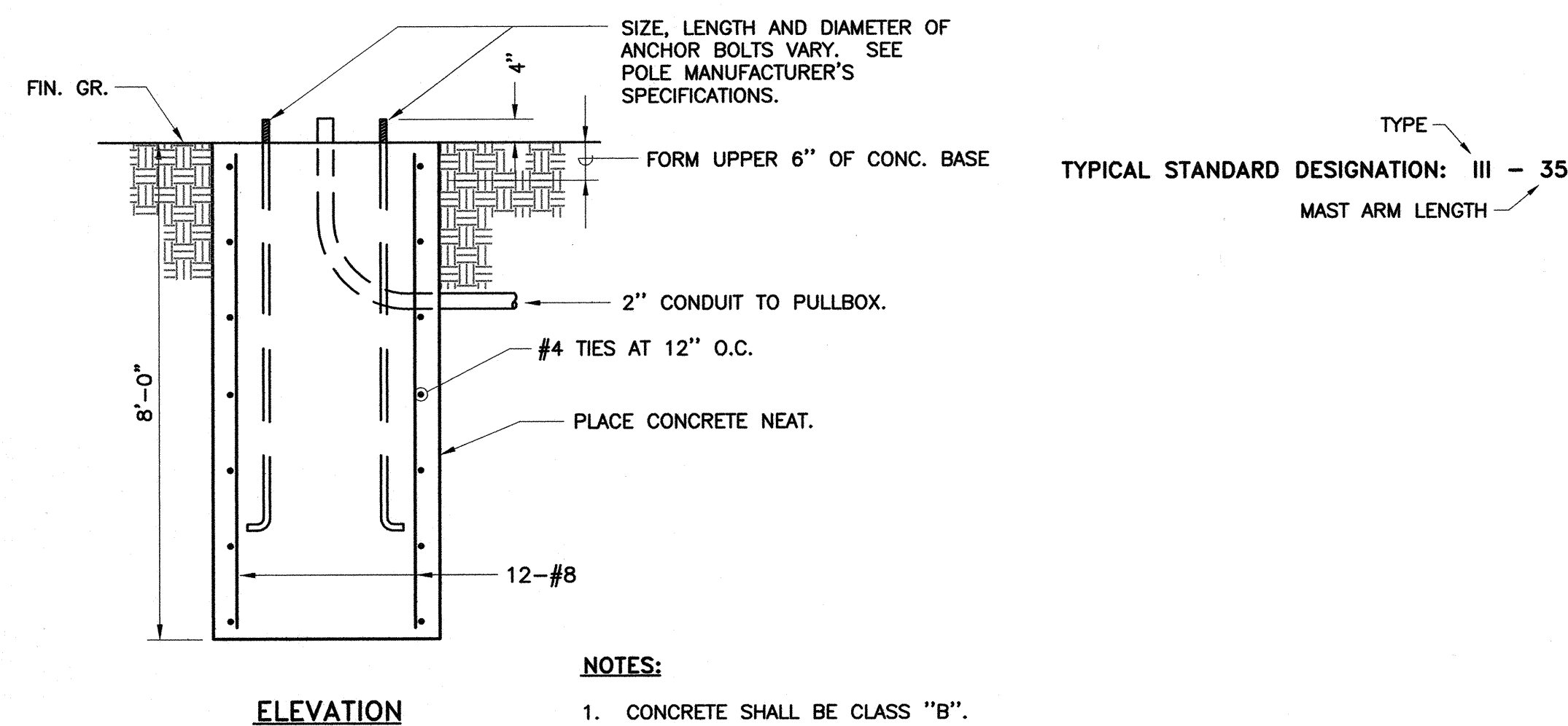
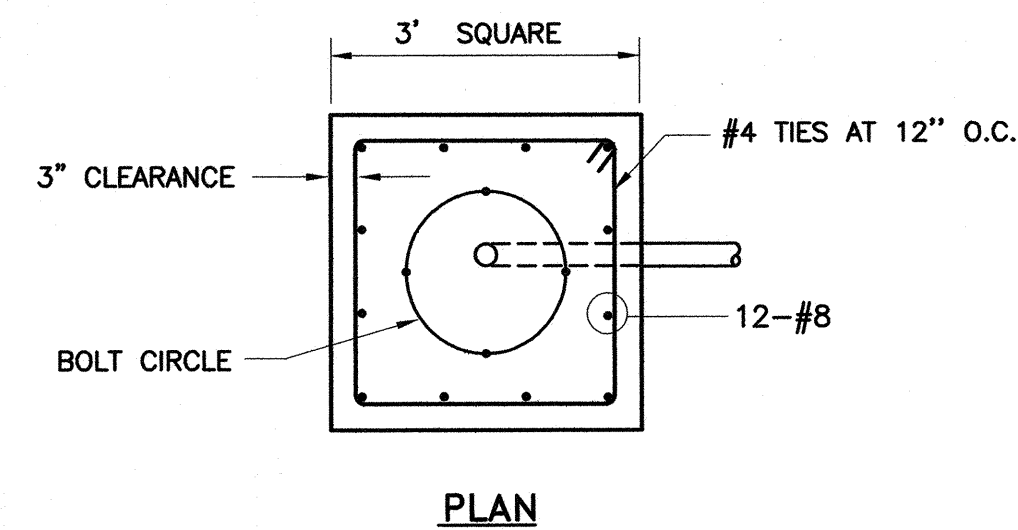
[Signature] 10/30/09

SIGNATURE DATE

TITLE TRAFFIC SIGNAL DETAILS - 2

DESIGNED BY KC	CHECKED BY KKN	04010.10 JOB NUMBER
DRAWN BY KC	APPROVED BY	TS-4 SHEET
SCALE AS SHOWN	DATE MAY 2006	NO. OF SHEETS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AND CONTROL IN SECTION 16-115-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS.



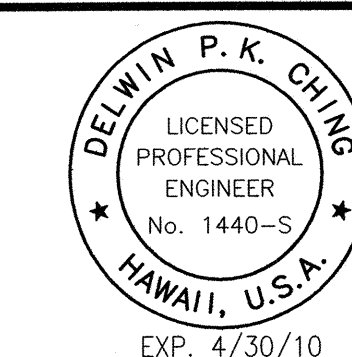
- NOTES:**
1. CONCRETE SHALL BE CLASS "B".
 2. TYPE "C" CONCRETE BASE SHALL BE USED FOR TYPES II AND III TRAFFIC SIGNAL STANDARDS.
 3. DESIGN LATERAL PRESSURE: 1,500 PSF.
 4. CONDUIT BEND IS INCIDENTAL TO CONCRETE BASE.

TYPE "C" CONCRETE BASE
NOT TO SCALE

04010.10/4w2004/complans/

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS HONOLULU, HAWAII

LETTER	DESCRIPTION	DATE



EXP. 4/30/10

SIGNATURE DATE

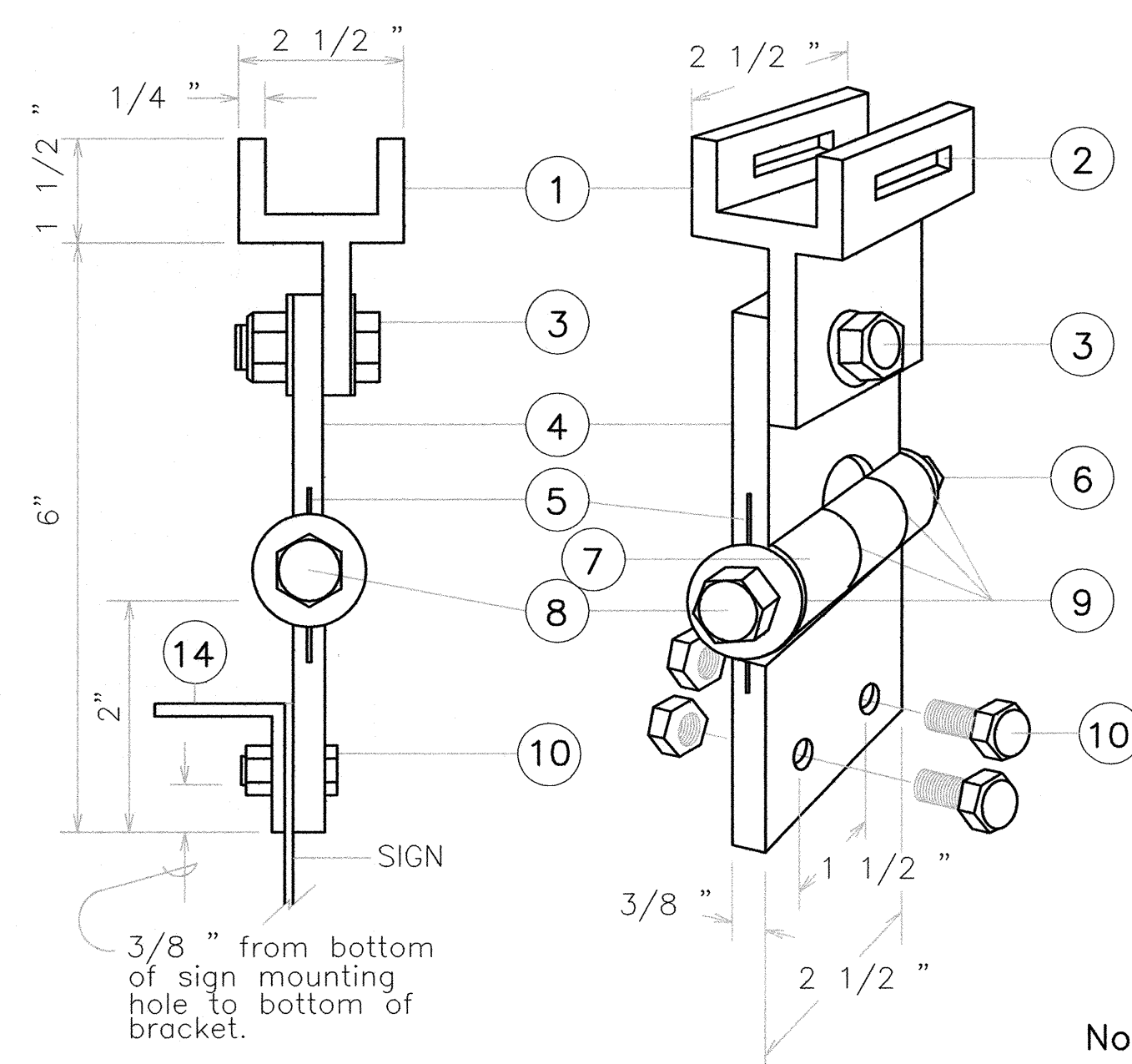
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION "AS DEFINED IN SECTION 16-115-2 OF THE HAWAII ADMINISTRATIVE RULES FOR PROFESSIONAL ENGINEERS, ARCHITECTS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS"

WARREN S. UNEMORI ENGINEERING, INC.
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KAONOULU COMMERCIAL CENTER
KIHAI, MAUI, HAWAII

TITLE TRAFFIC SIGNAL DETAILS - 3

DESIGNED BY KC	CHECKED BY KKN	JOB NUMBER 04010.10	SHEET TS-5
DRAWN BY KC	APPROVED BY	DATE MAY 2006	OF SHEETS
SCALE AS SHOWN			

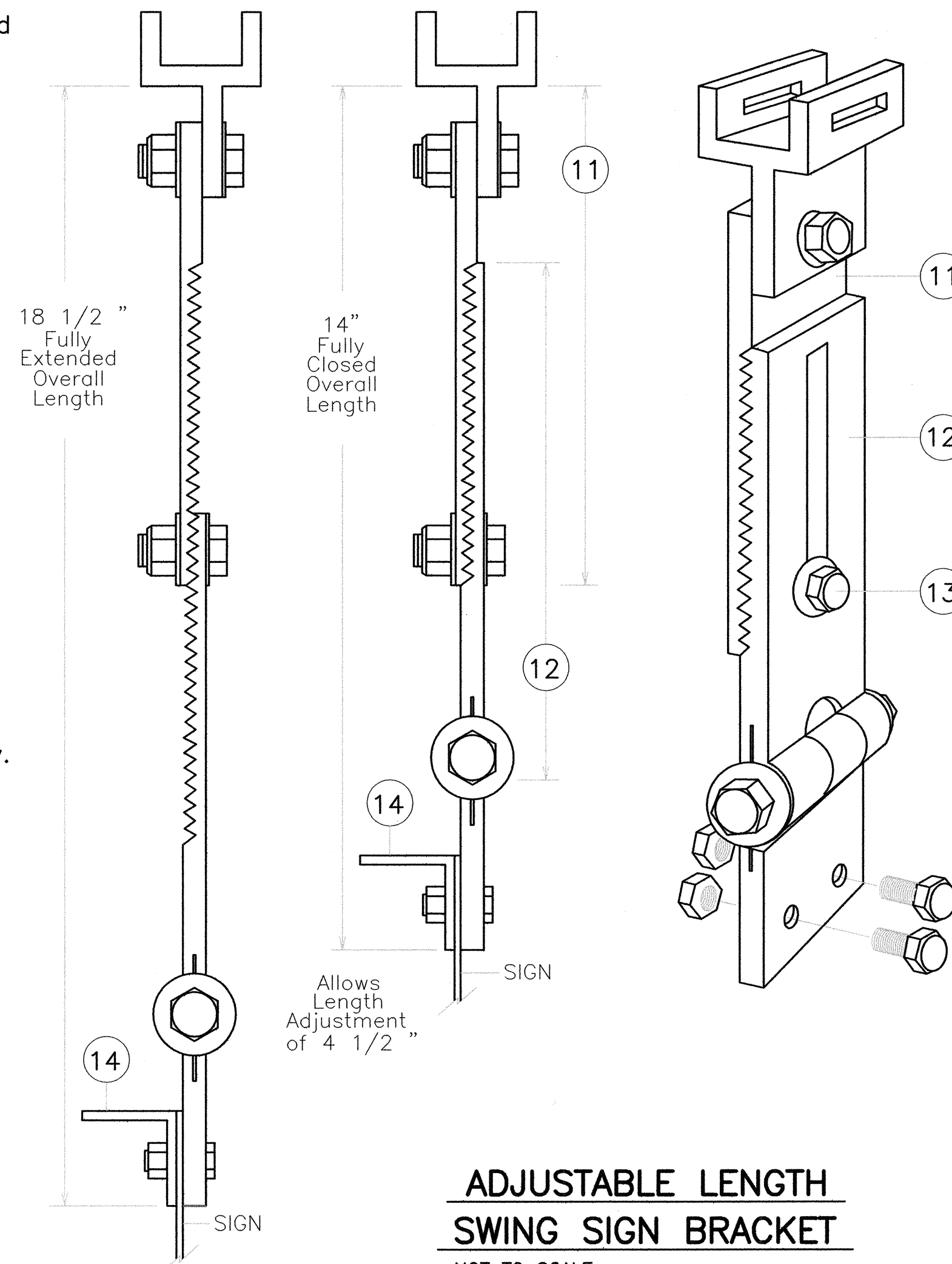


**FIXED LENGTH NON-ADJUSTABLE
SWING SIGN BRACKET**
NOT TO SCALE

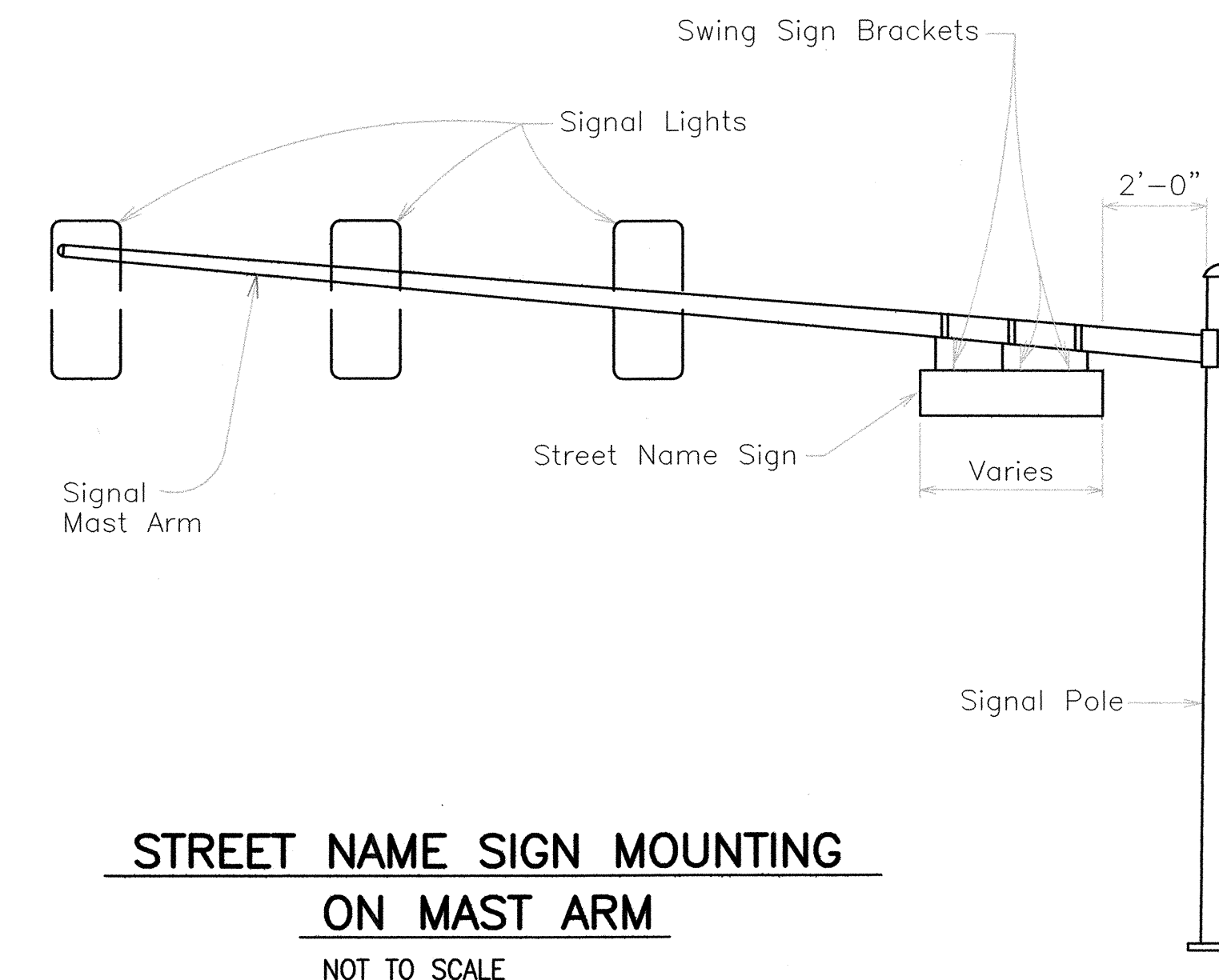
All Aluminum 6061T6 Alloy and
Stainless Steel Components.

Note: Dimensions may vary slightly.

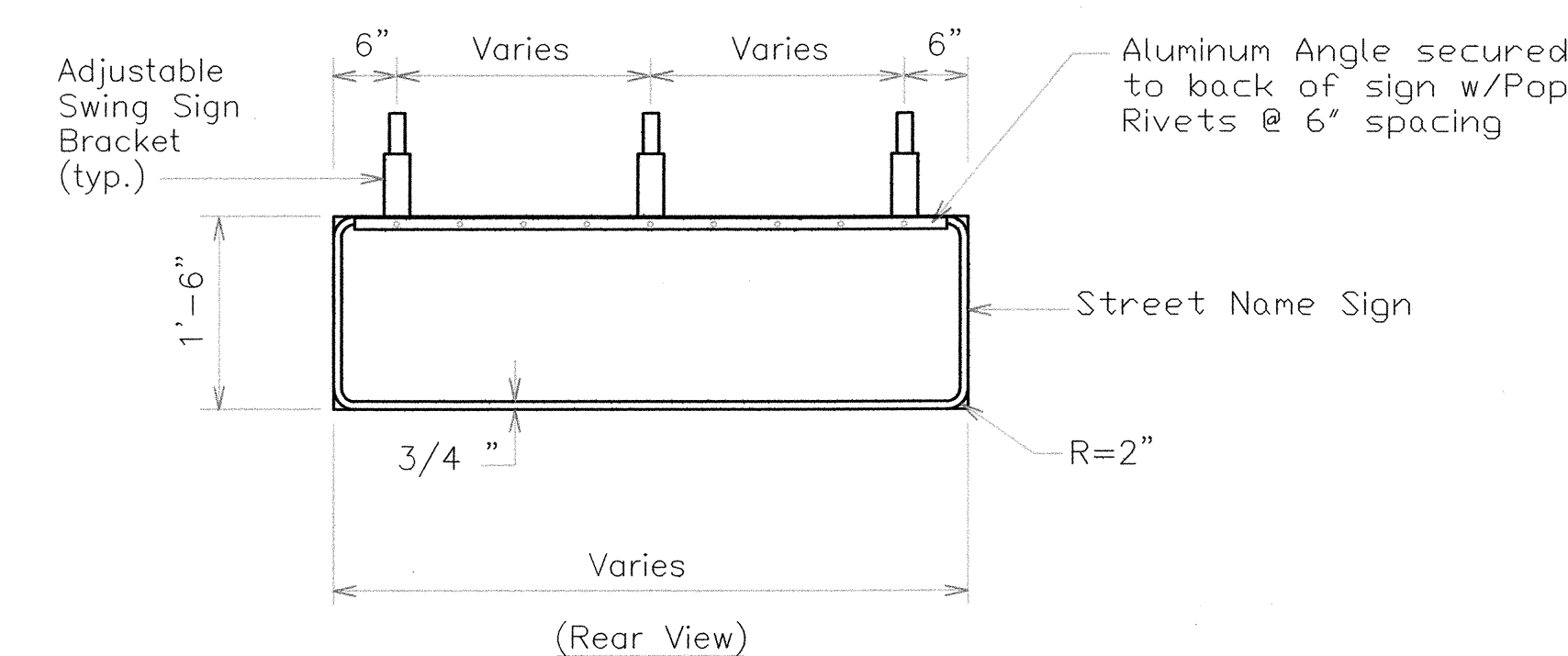
- ① Pivotal Upper Bracket
- ② 1 5/8 " x 1/4 " Slot for double strapping to electrolier mast arm.
(M2G-34S(HD) .030" x 3/4 " Heavy Duty Stainless Steel Strap
with M2G-34B(HD) Buckle recommended.)
- ③ 1/2 " - 13 x 1 1/2 " Stainless Steel Hex Head Bolt with Stainless
Steel Hex Lock Nut and 1/16 " Stainless Steel Washer (both
sides). Allows upper bracket to pivot and align with elec-
trolier mast arm.
- ④ 6" Overall drop with Fixed Length Sign Bracket
- ⑤ Stainless Steel Dampener Spring (Removable)
- ⑥ Stainless Steel Hex Lock Nut with 1/16 " Stainless Steel
Washer
- ⑦ 1" O.D. Axle Housing
- ⑧ 1/2 " - 13 x 4" Stainless Steel Hex Head Bolt with 1/16 " Stainless Steel Washer
- ⑨ Oilite Bushing
- ⑩ Sign Mounting Sets, consisting of two each 5/16 " - 18 x 1 " Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut. Two holes on 1 1/2 " centers provide positive lock sign mounting to bracket.
- ⑪ 8 1/4 " overall length Upper Adjustable Sign Bracket section
- ⑫ 9" overall length Lower Adjustable Sign Bracket section, including Axle Housing (8" overall length to top of Axle Housing)
- ⑬ 1/2 " - 13 x 1 1/2 " Stainless Steel Hex Bolt with Stainless Steel Hex Lock Nut and 1/16 " Stainless Steel Washers (both sides). Loosen lock nut, adjust bracket teeth to level sign.
- ⑭ 1 1/4 " x 1 1/4 " x 1/8 " Aluminum Angle



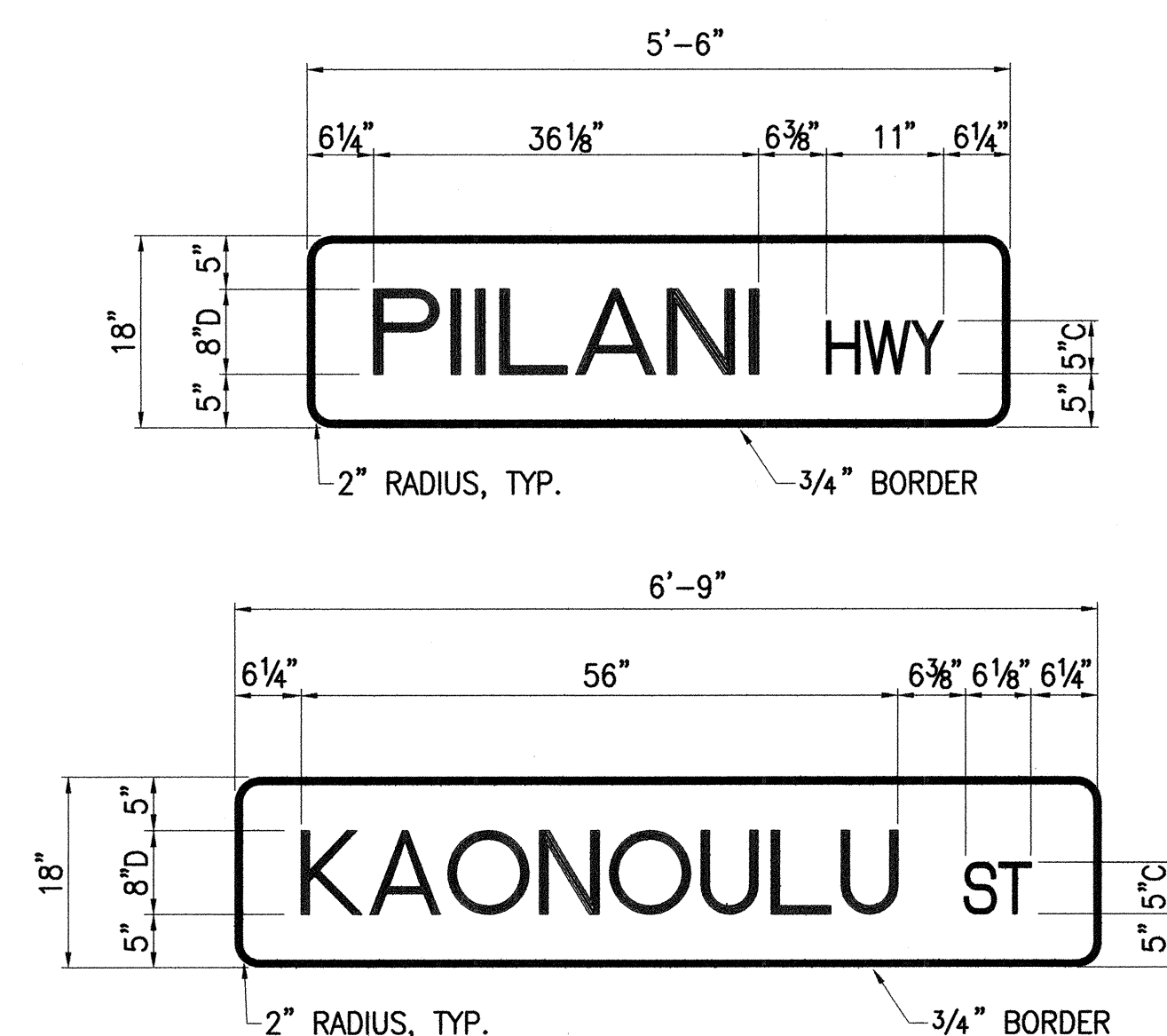
**ADJUSTABLE LENGTH
SWING SIGN BRACKET**
NOT TO SCALE



**STREET NAME SIGN MOUNTING
ON MAST ARM**
NOT TO SCALE

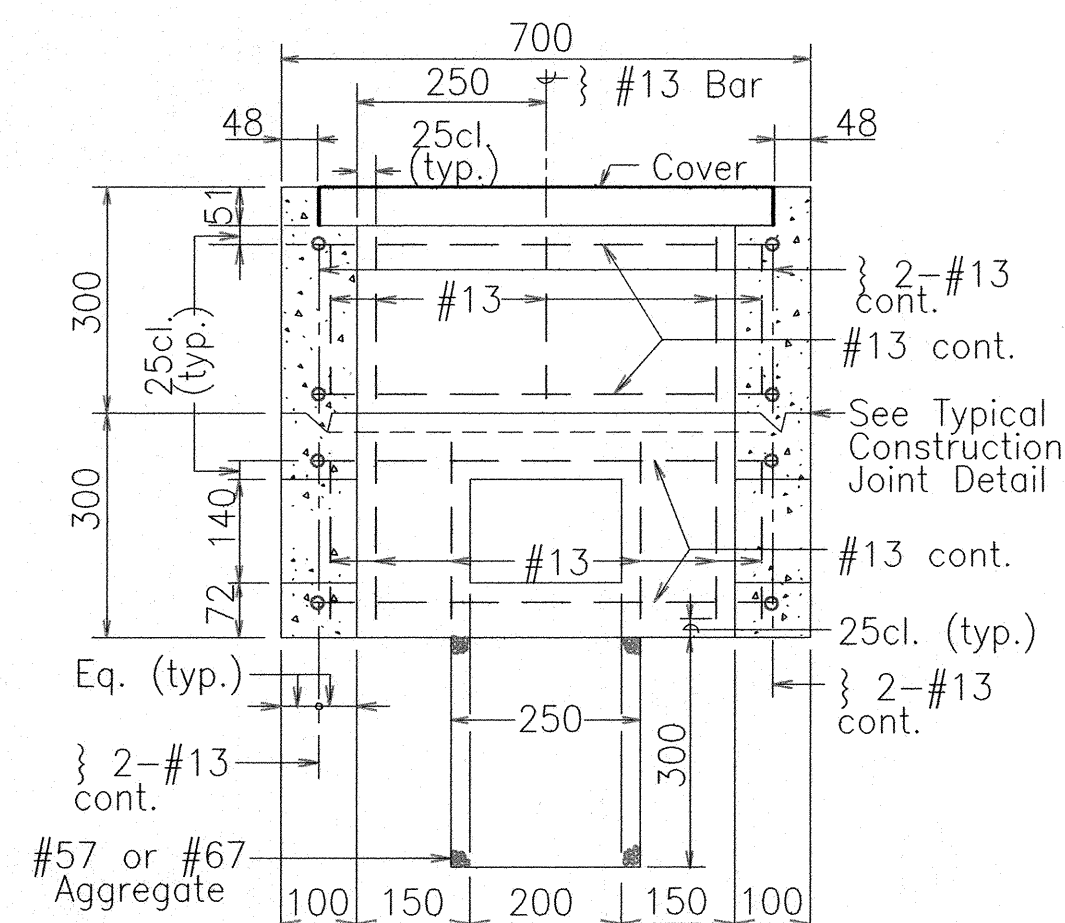
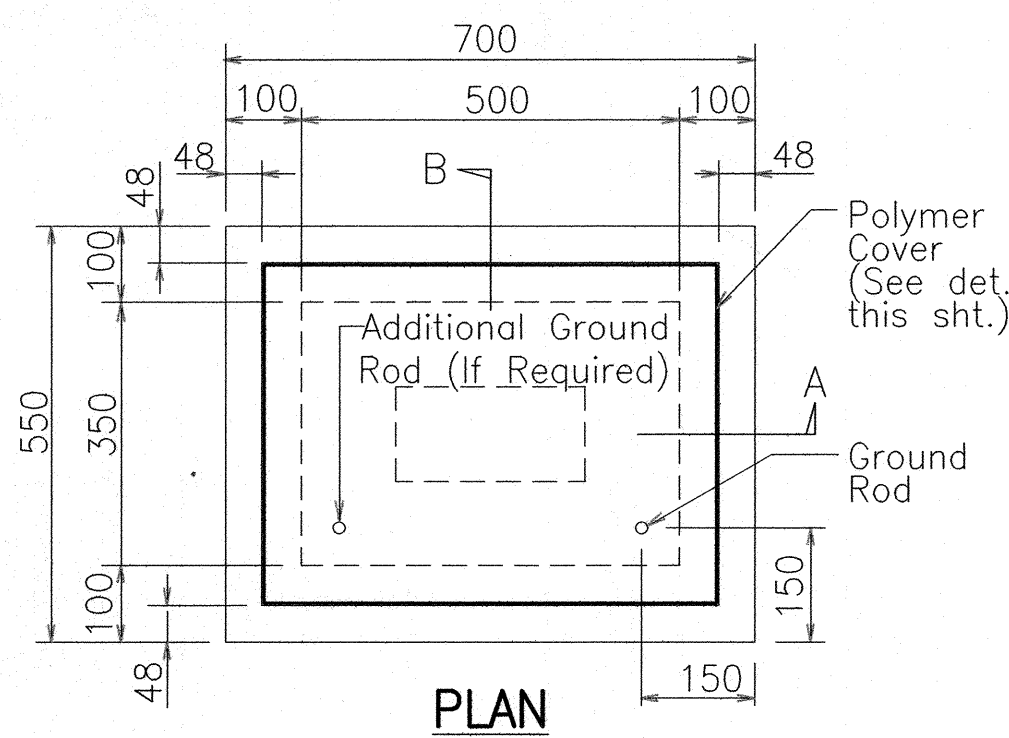


**PANEL & SWING BRACKET LAYOUT
FOR STREET NAME SIGN**
NOT TO SCALE

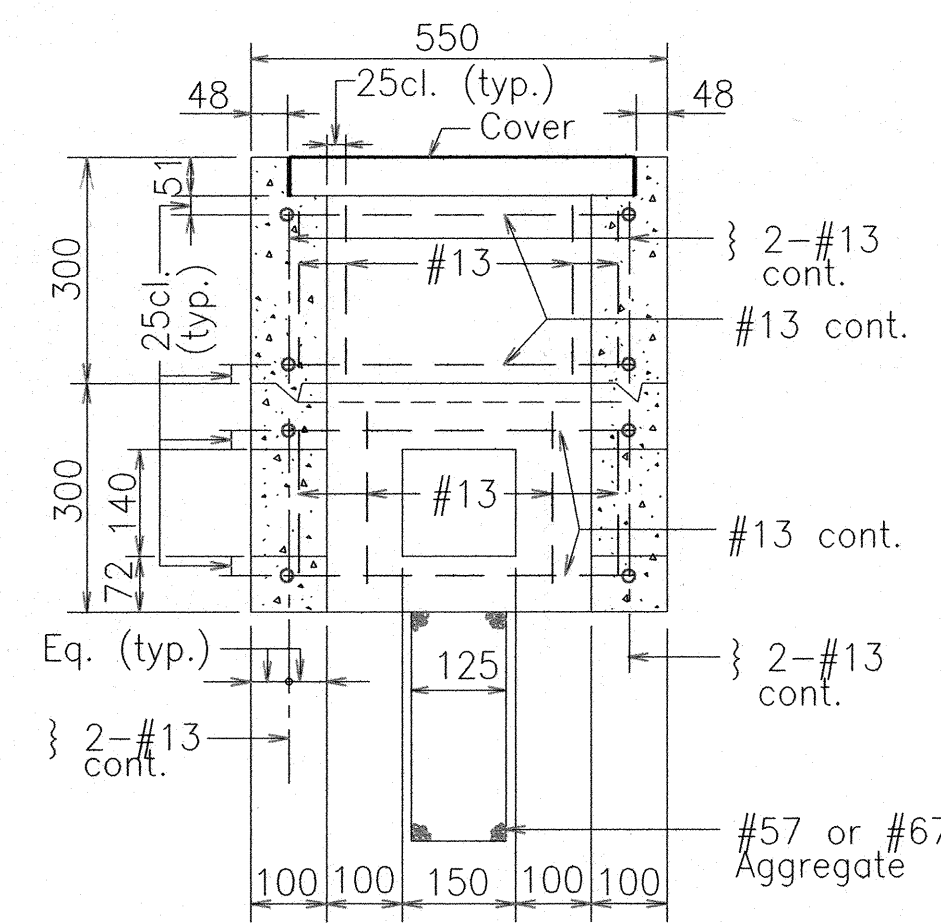


STREET NAME SIGN DETAILS
NOT TO SCALE

	WARREN S. UNEMORI ENGINEERING, INC. CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS WELLS STREET PROFESSIONAL CENTER, SUITE 403 2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793			
	KAONOULU COMMERCIAL CENTER KIHIEI, MAUI, HAWAII			
	TITLE STREET NAME SIGN DETAILS			
	DESIGNED BY KC DRAWN BY KC SCALE AS SHOWN	CHECKED BY KKN APPROVED BY DATE 2006	04010.10 JOB NUMBER MAY 2006 DATE	TS-6 SHEET OF SHEETS

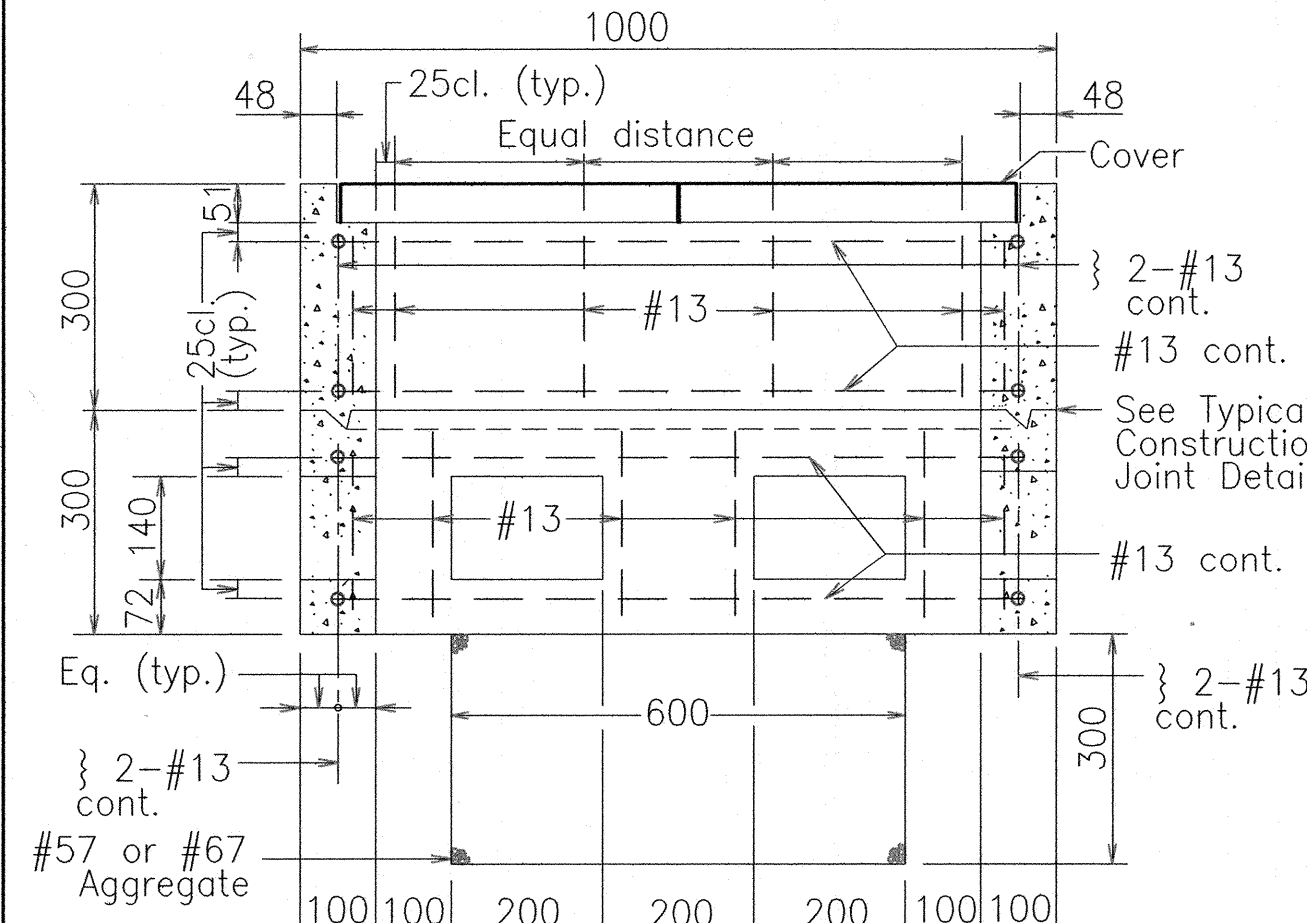
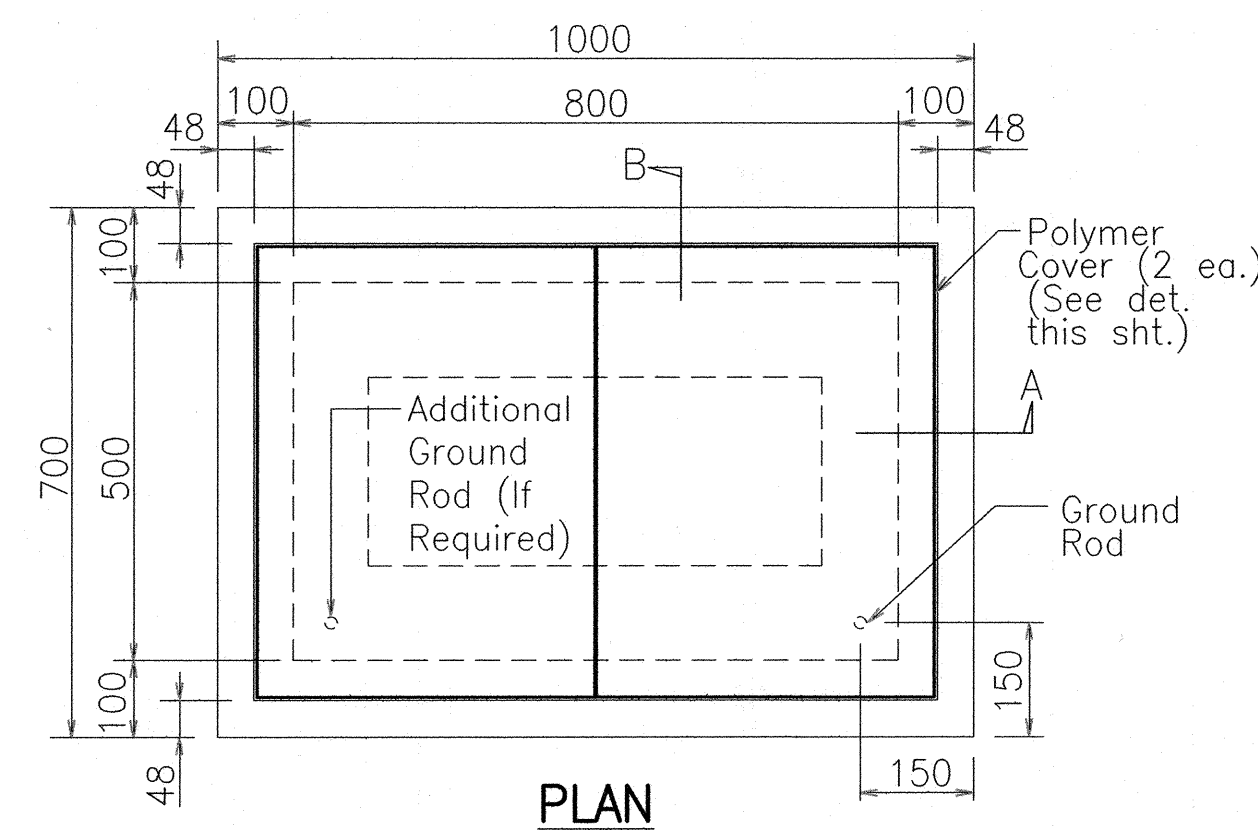


SECTION A-A

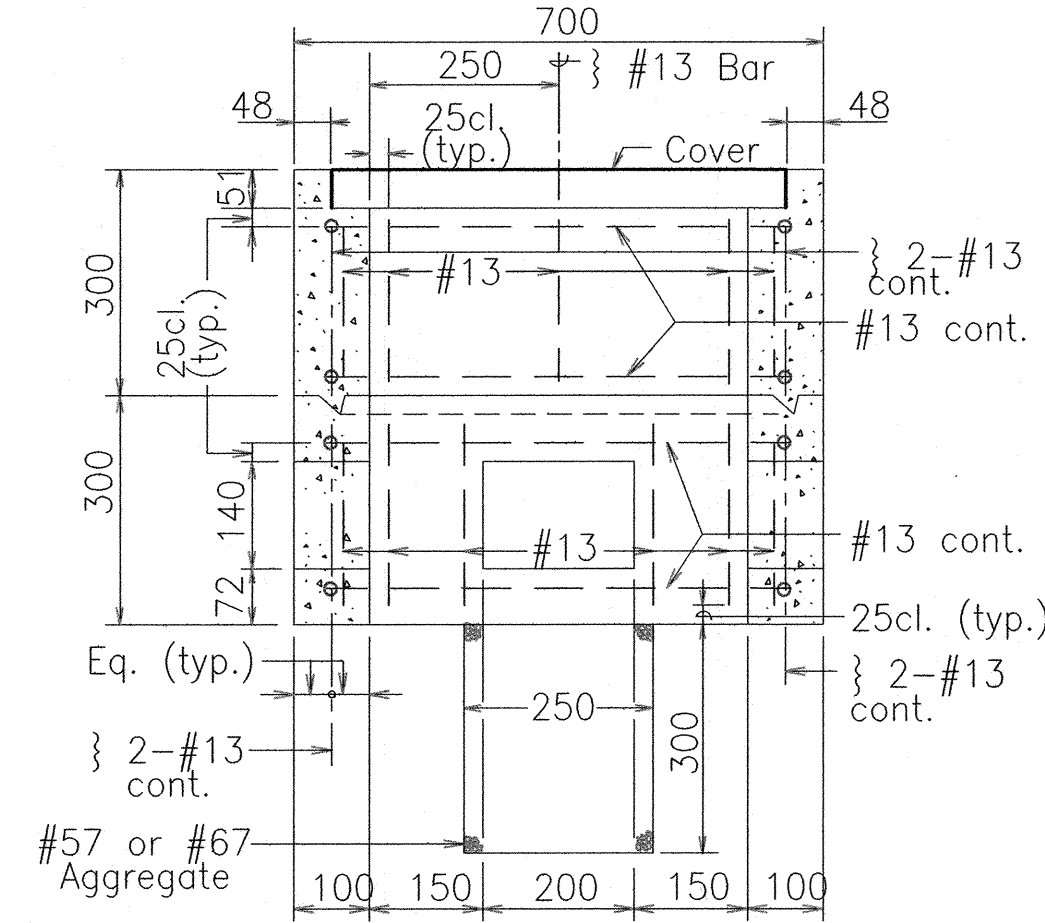


SECTION B-B
TYPE "A" PULLBOX
(Old Type "B")

Scale: 1 : 100

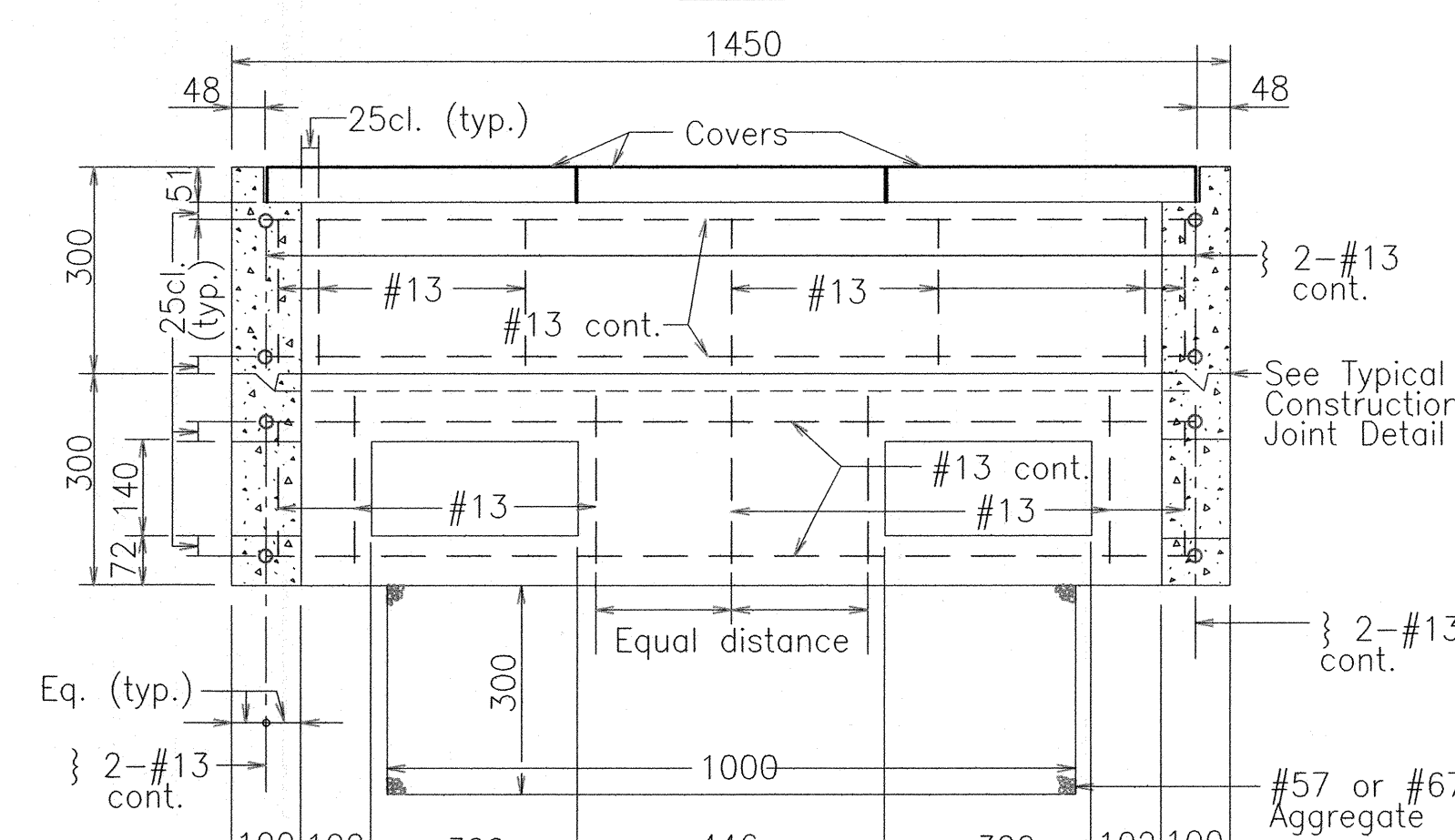
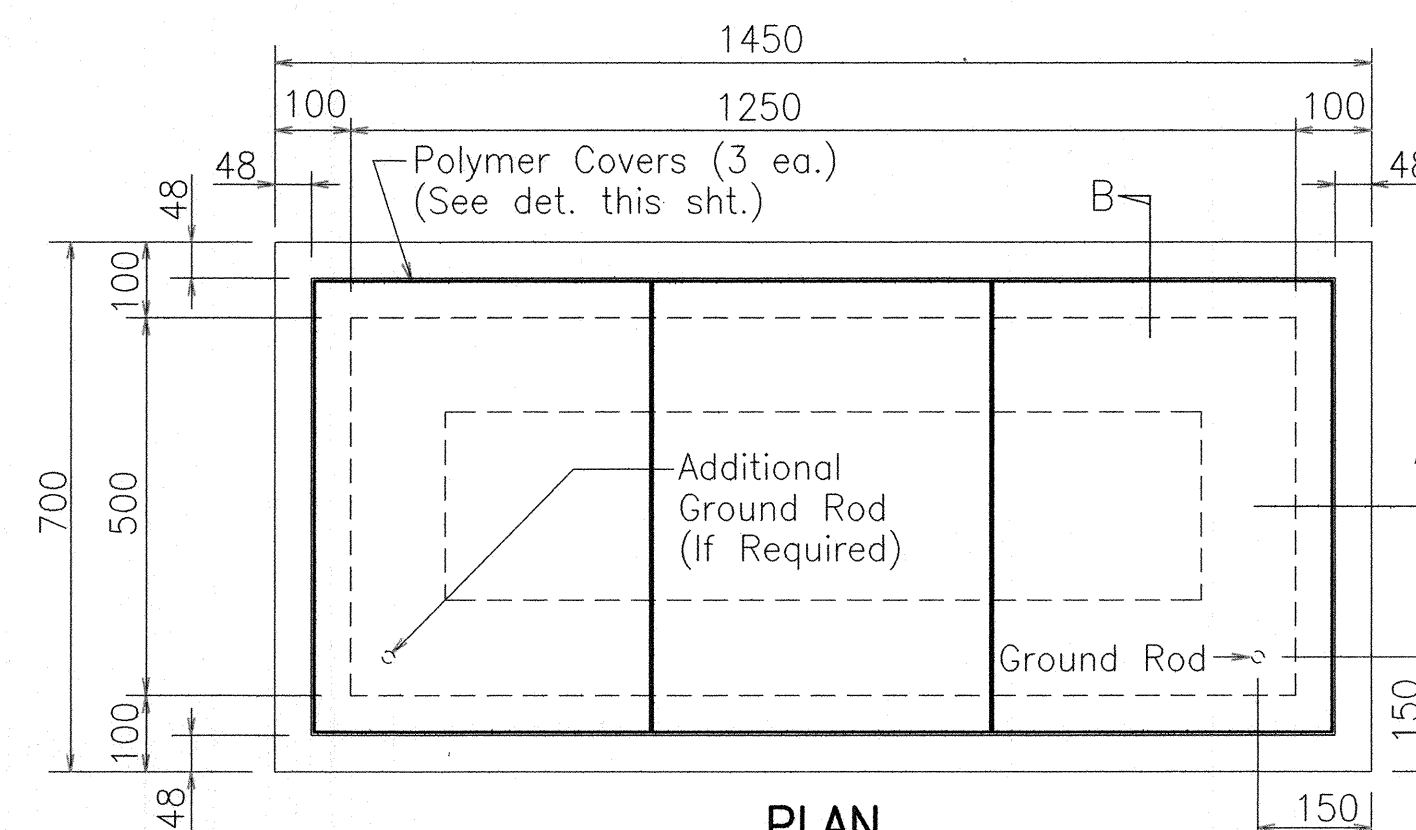


SECTION A-A

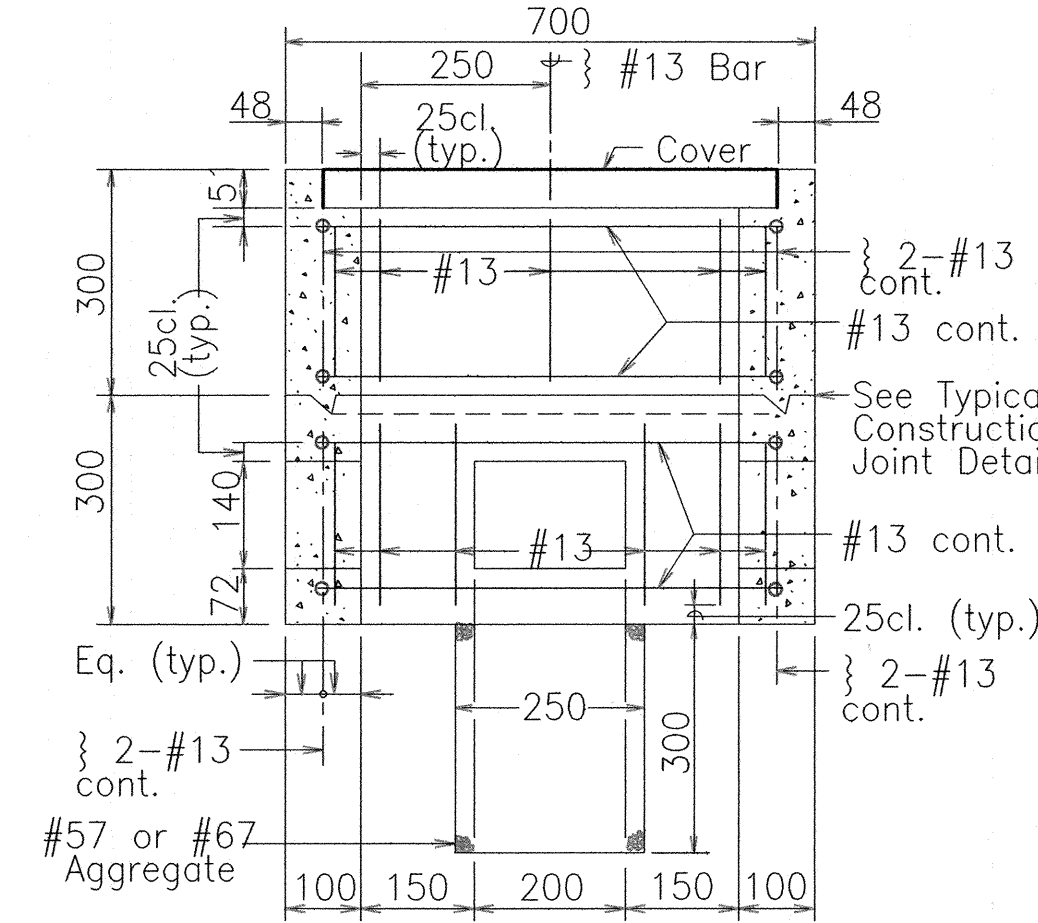


SECTION B-B
TYPE "B" PULLBOX (Old Type "C")

Scale: 1 : 100



SECTION A-A



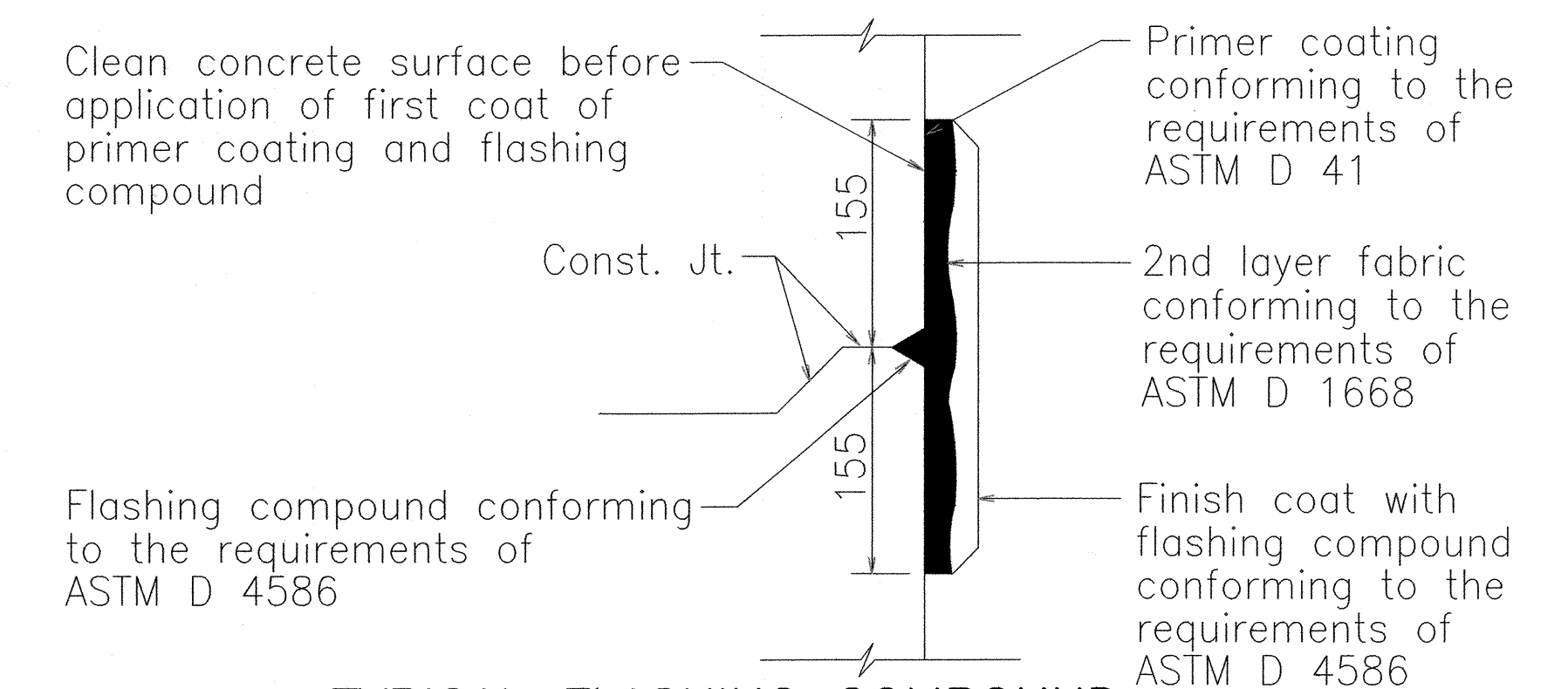
SECTION B-B
TYPE "C" PULLBOX (Old Type "D")

Scale: 1 : 100

**ALL DIMENSIONS ARE IN MILLIMETERS
UNLESS OTHERWISE SHOWN**

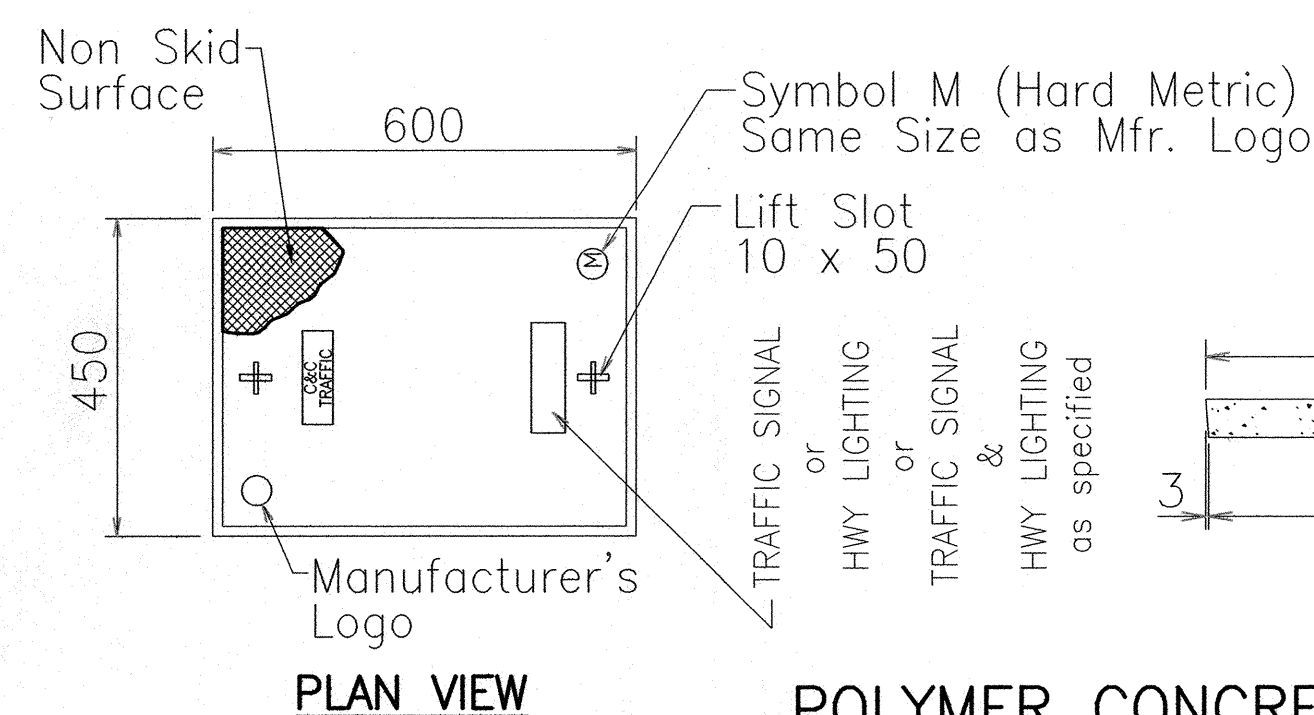
GENERAL NOTES

1. Provide a minimum of one 16 ϕ x 2.5m Copperweld Ground Rod in each pullbox. When directed by the Traffic Signal Inspector/Engineer, install additional Ground Rods. Cost of Ground Rods shall be incidental to the pullboxes.
2. All pre-cast concrete pullboxes shall be manufactured in two pieces.
3. The pullbox with cover shall be capable of supporting an MS 18 Loading.
4. The maximum weight of the pullbox cover shall not exceed 27 kilograms.
5. The openings for the conduits on all pullboxes shall be pre-cast concrete knockouts.
6. After installing the conduits in the openings of the pullboxes, the Contractor shall fill the excess opening in the pre-cast knockouts with concrete mortar.
7. Prior to installing the pullboxes, the Contractor shall level the bottom of the trench and achieve a minimum of 95% relative compaction of the bottom of the trench.
8. All concrete shall be Class A (21MPa or 3000PSI, min.)
9. Rebars shall be Grade 300 and all lapped splices shall be 360mm minimum.
10. The #57 or #67 size aggregate shall conform to latest version of AASHTO M43 (ASTM D 448).
11. Type "C" Pullbox shall be installed in a location protected from vehicular traffic (i.e. raised sidewalk, behind A.C. curbs, traffic signal standard or pipe guards).



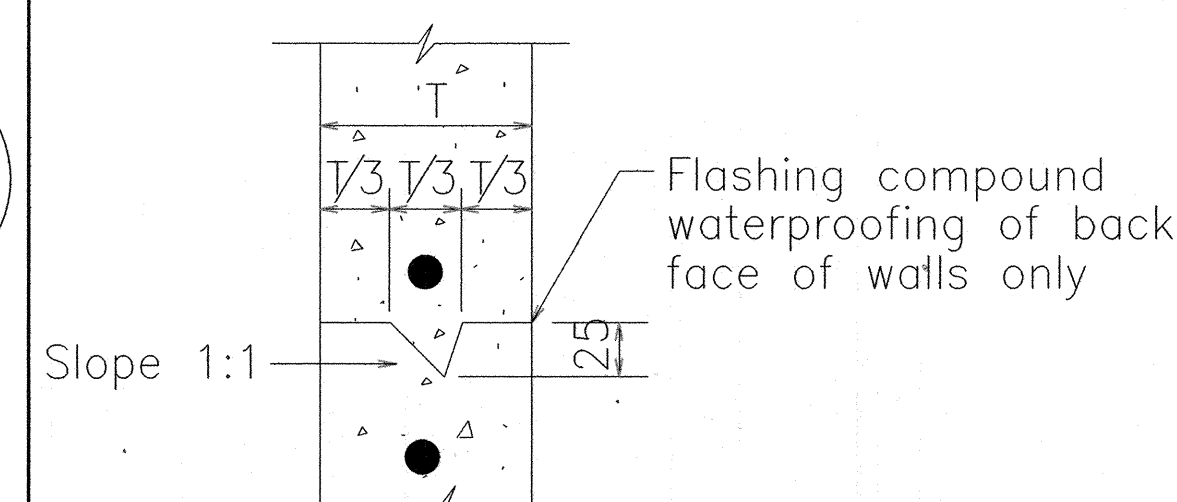
**TYPICAL FLASHING COMPOUND
WATERPROOFING DETAILS**

Not to Scale



POLYMER CONCRETE COVER

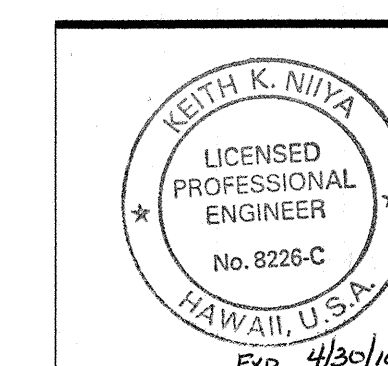
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**TYPICAL CONSTRUCTION
JOINT DETAIL**

Not to Scale

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS
HONOLULU, HAWAII



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CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS
WELLS STREET PROFESSIONAL CENTER, SUITE 403
2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

KAONOULU COMMERCIAL CENTER
KIHAI, MAUI, HAWAII

TITLE: **PULLBOX DETAILS**

DESIGNED BY: KC	CHECKED BY: KKN	DATE: 12/1/09	JOB NUMBER: 04010.10	SHEET: TS-7
DRAWN BY: KC	APPROVED BY:	DATE: MAY 2006	SCALE: AS SHOWN	OF SHEETS:

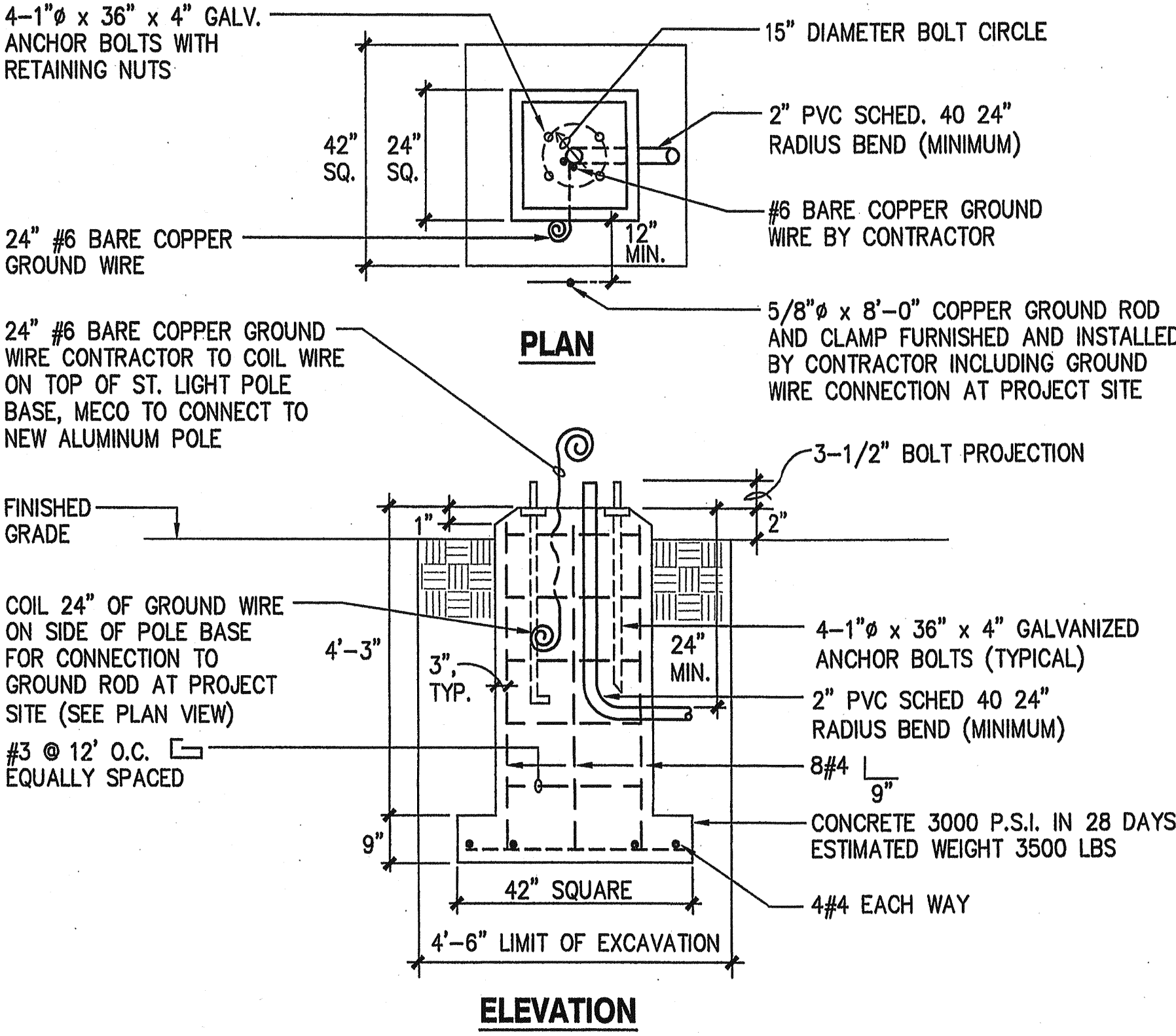
LETTER	DESCRIPTION	DATE

GENERAL NOTES:

1. COORDINATE ALL DUCT WORK WITH RESPECTIVE UTILITY COMPANIES.
2. SEE UTILITY COMPANY STANDARD DRAWINGS FOR ALL DETAILS. COORDINATE DUCT ENTRIES INTO HANDHOLES AND MANHOLES WITH UTILITY COMPANY.
3. CONTRACTOR SHALL EXCLUDE UTILITY COMPANY SERVICE CHARGES. ALL COSTS PAID BY DEVELOPER.
4. HANDHOLES AND MANHOLE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING UTILITY COMPANY STANDARDS.
- a) 2' x 4' MECO HH - PRECAST CONCRETE, PER #30-2005
- b) 3' x 5' MECO HH - PRECAST CONCRETE, PER #18841
- c) 4' x 6' MECO HH - PRECAST CONCRETE, PER #18842
- d) 5' x 7' MECO HH - PRECAST CONCRETE, PER #18843
- e) 6' x 11' MECO HH - PRECAST CONCRETE, PER MECO #18844, 6'-6" DEEP
- f) 2' x 4' TEL HH - PRECAST CONCRETE, PER #435TB
- g) 3' x 5' TEL HH - PRECAST, PER GTE SPEC. #GTS-8395
- h) 4' x 6' TEL HH, TYPE 1 - PRECAST, PER GTE SPEC. #GTS-8395
- i) 4' x 6' TEL MH - PRECAST CONCRETE, PER GTS #8395 #GTE 4x6.5x6.5
- j) 5' x 10' TEL MH - PRECAST CONCRETE, PER GTS #8395 #GTE 5x10.5x6.5
- k) 6' x 12' TEL MH - PRECAST CONCRETE, PER GTS #8395 #GTE 6x12x7
- l) 2' x 4' CATV HH - PRECAST CONCRETE, 24" MINIMUM DEPTH, NON-SKID COVER WITH "CATV" STENCIL

TELEPHONE GENERAL NOTES:

1. INSTALLATION OF TELEPHONE DUCTLINE SYSTEM SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF VERIZON HAWAII'S "STANDARD SPECIFICATIONS FOR PLACING UNDERGROUND TELECOMMUNICATIONS SYSTEM", MAR 1999, UNLESS OTHERWISE MODIFIED IN THESE PLANS. CHECK WITH VERIZON HAWAII PRIOR TO ORDERING MATERIAL FOR THE DUCTLINE SYSTEM INSTALLATION WORK.
2. THE CONTRACTOR WILL PROVIDE A 5/8" x 8' GALVANIZED GROUND ROD IN EACH HANDHOLE AND/OR PULLBOX AND BELOW A TELEPHONE CABINET.
3. ALL CONDUITS WILL ENTER AND LEAVE THE HANDHOLE/PULLBOX AT 90 DEGREES TO THE FACE OF THE BOX.
4. THE MAXIMUM SIZE CONDUIT THAT MAY ENTER THE SIDE WALL OF A 2' x 4' PULLBOX IS 2".
5. ALL CONDUITS WILL BE TERMINATED WITH A BELL END. THE BELL END SHALL BE FLUSH WITH THE INSIDE FACE OF THE PULLBOX WALL. NO PROTRUSION OF THE BELL END WILL BE PERMITTED.
6. ALL ENTRANCES INTO THE PULLBOX WILL BE GROUTED AROUND THE CONDUIT. THE INSIDE SURFACE SHALL BE FINISHED SMOOTH AND FLUSH WITH THE EXISTING WALL SURFACE.
7. ALL CONDUITS SHALL HAVE AN 1800#, POLYESTER MULETAPE (NEPTCO WP1800P, VERIZON HAWAII MATERIAL CODE NO. 571154) INSTALLED THROUGHOUT ITS ENTIRE LENGTH. ALL CONDUITS SHALL BE CAPPED WITH A TEMPORARY CAP TO PREVENT THE ENTRANCE OF FOREIGN MATERIAL DURING CONSTRUCTION. THE TEMPORARY CAPS SHALL REMAIN INSTALLED ON EACH CONDUIT ENTERING A PULLBOX OR HANDHOLE AT THE COMPLETION OF THE INSTALLATION.
8. ALL CONDUIT AND PULLBOXES/HANDHOLES INSTALLED BY THE CONTRACTOR FOR USE BY VERIZON HAWAII WILL BE SUBJECT TO INSPECTION. THE INSPECTION SHALL TAKE PLACE PRIOR TO BACKFILL OR CONCRETE ENCASEMENT. CALL FOR INSPECTION 3 WORKING DAYS PRIOR TO SCHEDULE THE INSPECTION.
9. AFTER DUCTLINE HAS BEEN COMPLETED, A MANDREL NOT LESS THAN 12" LONG AND HAVING A DIAMETER OF 1/4" LESS THAN INSIDE DIAMETER OF DUCT, SHALL BE PULLED THROUGH EACH DUCT AFTER WHICH A BRUSH WITH STIFF BRISTLES SHALL BE PULLED THROUGH TO MAKE CERTAIN THAT NO PARTICLES OF EARTH, SAND, OR GRAVEL HAVE BEEN LEFT IN THE LINE.
10. A VERIZON HAWAII STANDBY MAN IS REQUIRED TO BE AT THE JOB SITE ANY TIME NON-UTILITY CO. PERSONNEL WILL BE BREAKING INTO OR ENTERING ANY STRUCTURES THAT CONTAIN COMMUNICATION FACILITIES. THE WORKING DAYS ADVANCE NOTICE IS REQUIRED FOR ANY INSPECTION OR STANDBY MAN. FIVE WORKING DAYS ADVANCE NOTICE IS REQUIRED FOR UNDERGROUND CABLE LOCATING AND MARKING.
11. THE DEVELOPER WILL BE RESPONSIBLE FOR ALL REVISIONS REQUIRED ON TELEPHONE DESIGN, DUE TO FIELD CONDITIONS.
12. MINIMUM BENDING RADIUS SHALL BE 24" FOR 2" DUCT, 36" FOR 4" DUCT.
13. MINIMUM HORIZONTAL CURVE FOR 4" DUCT IS 25' RADIUS, MINIMUM VERTICAL CURVE FOR 4" DUCT IS 20' RADIUS.
14. ALL PULLBOXES INSTALLED IN NON-SIDEWALK AREAS WILL REQUIRE A 10" CONCRETE COLLAR, 5" THICK AROUND THE ENTIRE COVER FEATHERED TO FINISHED GRADE.
15. ONE PIECE 2' x 4' PULLBOXES WILL BE ACCEPTED ONLY IN AREAS WITH CURBS AND GUTTERS, STANCHIONS, OR BERMS.
16. THE APPROVAL OF THE SUBJECT DRAWING(S) IS GOOD FOR A PERIOD OF 180 DAYS. IF CONSTRUCTION ACTIVITIES HAVE NOT COMMENCED WITHIN THE 180 DAYS OF VERIZON HAWAII'S APPROVED DATE, THE APPROVAL WILL BE VOID. SHOULD THIS OCCUR, THE GENERAL CONTRACTOR WILL BE NOTIFIED UPON RECEIPT OF REQUEST FOR INSPECTION OF UNDERGROUND TELEPHONE SUPPORT STRUCTURES.

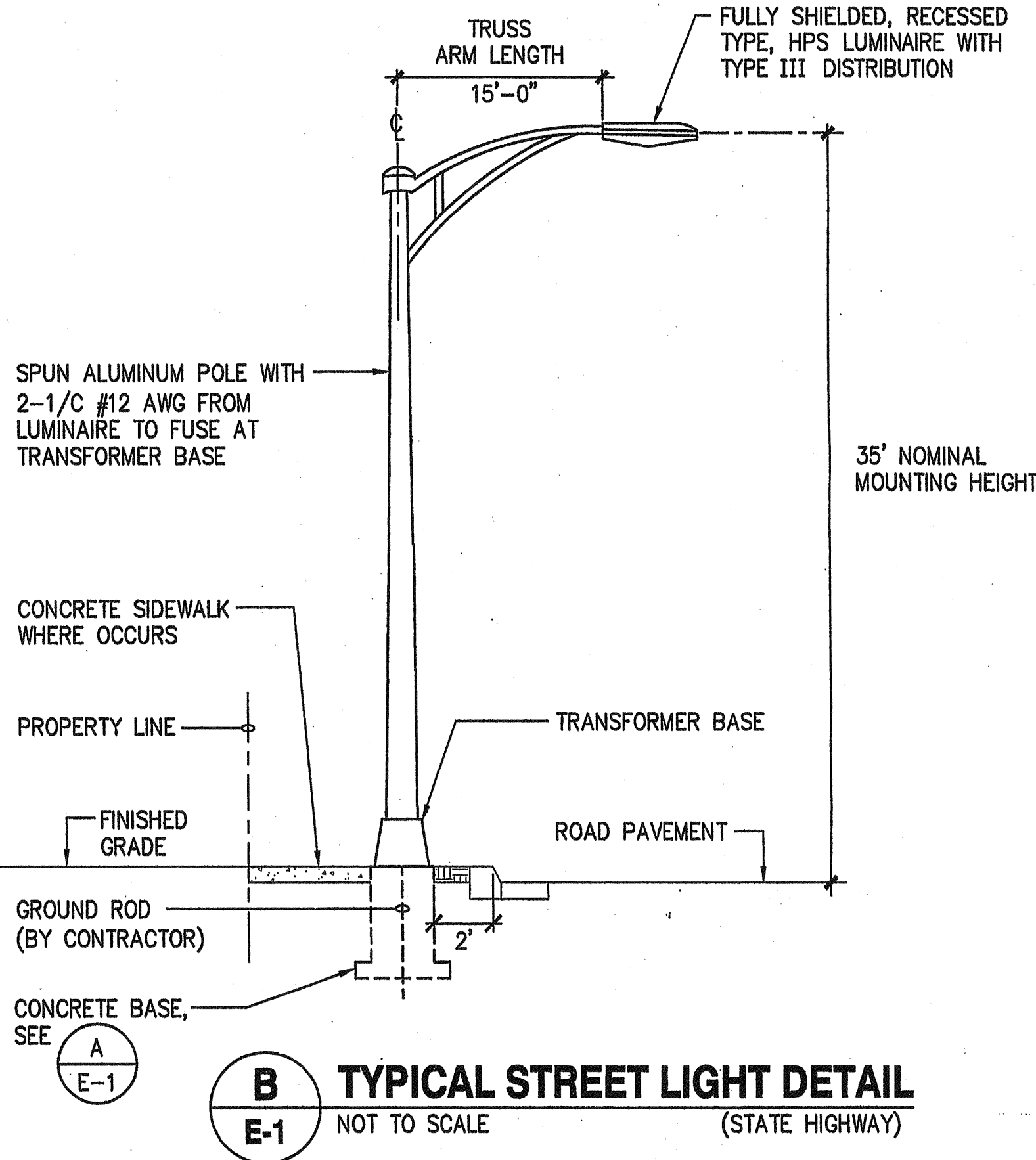


NOTES:

1. THIS ITEM PREFABRICATED BY WALKER INDUSTRIES AT MAUI CONCRETE AND AGGREGATE.
2. MECO SHALL PROVIDE 1" x 36" x 4" ANCHOR BOLTS (4 EACH) AS FURNISHED BY MANUFACTURER, PICK-UP BY CONTRACTOR AT MECO'S KAHULUI WAREHOUSE.
3. INSPECTION BY MECO INSPECTOR REQUIRED PRIOR TO FABRICATION OF FOOTING, CONTACT MECO INSPECTOR (PHONE: 871-8461).

A STREET LIGHT BASE DETAIL

E-1 NOT TO SCALE



STREET LIGHT NOTES:

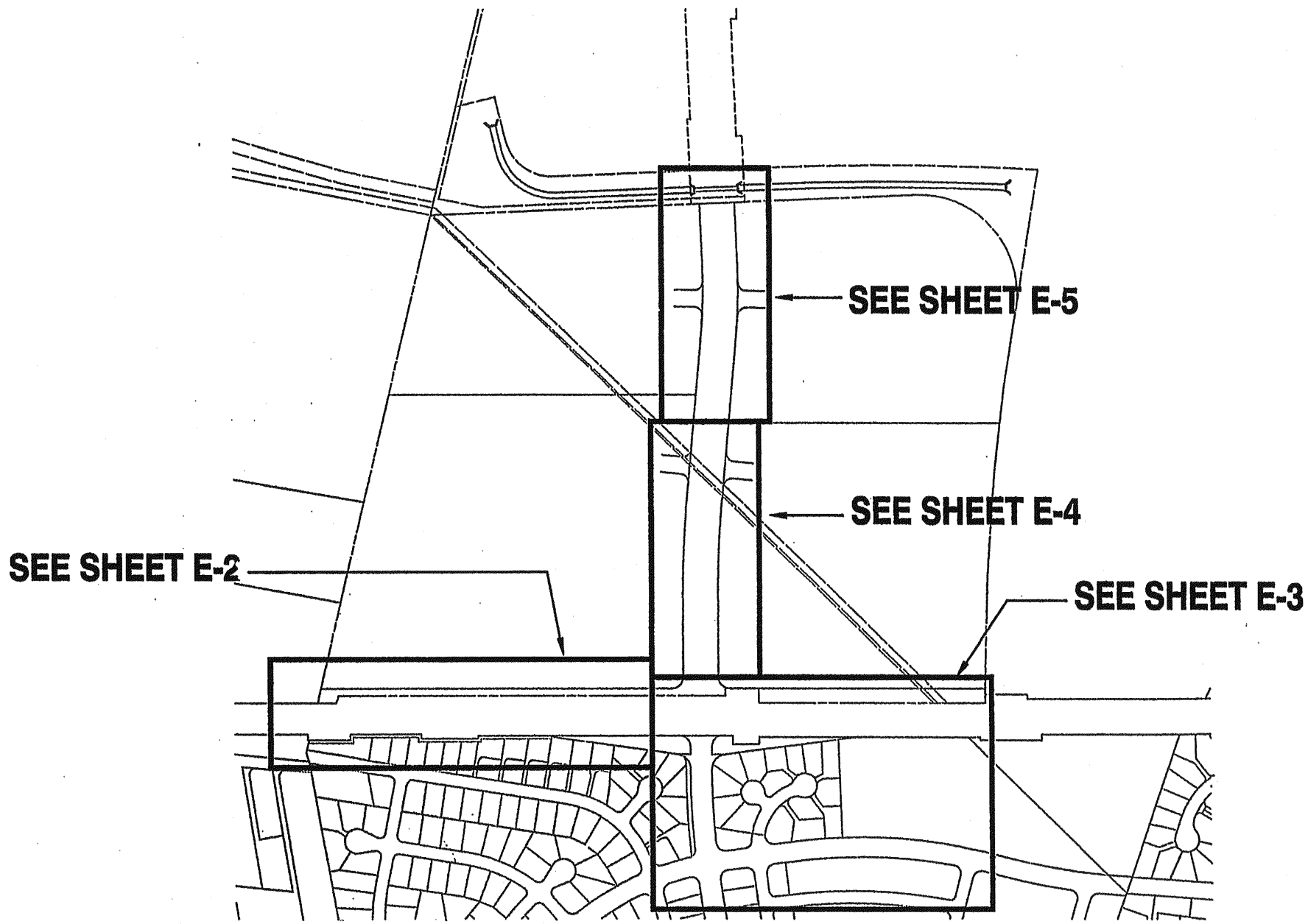
1. CONTRACTOR SHALL CONSTRUCT AND INSTALL CONCRETE STREET LIGHT FOOTING AND PROVIDE NECESSARY MATERIALS.
2. MECO SHALL PROVIDE THE 1" x 36" x 4" GALVANIZED ANCHOR BOLTS TO BE INSTALLED BY CONTRACTOR.
3. MECO SHALL PROVIDE AND INSTALL ALL NECESSARY ELECTRICAL WIRES, ALUMINUM POLES AND FIXTURES.
4. CONCRETE SHALL HAVE COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS.
5. OTHER TRADES SHALL BE ALLOWED AMPLE TIME TO PERFORM THEIR WORK.

APPROVED:

Gregorynn Gaudin 11/20/08 DATE
MECO
HAWAIIAN TELCOM
OCEANIC CABLEVISION
2/2/09 DATE
12/03/08 DATE
12/10/08 DATE

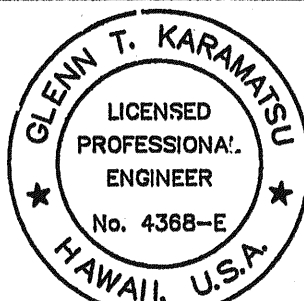
ELECTRICAL SYMBOL LIST

SYMBOLS	DESCRIPTION
	STREET LIGHT BASE FOR MECO STREET LIGHT PER A E-1
	EXISTING STREET LIGHT
	2' x 4' MECO PULLBOX
	MANHOLE, TYPE AS NOTED
	UTILITY HANDHOLE GROUP, TYPE AS NOTED
	PME SWITCH CONCRETE PAD, SEE E-6
	1# MECO TRANSFORMER PAD IN MECO EASEMENT
	STUB-OUT WITH CAP AND CONCRETE MARKER FOR FUTURE
	UNDERGROUND ELECTRICAL DUCTLINE, SEE DUCT SCHEDULE E-6, CONCRETE ENCASED
	EXISTING DUCTLINE
	MECO DUCTS
	TEL DUCTS
	CATV DUCTS
	STREET LIGHT DUCT, 2" PVC SCHEDULE 40, WIRING BY MECO, DIRECT BURIED
	DUCT SCHEDULE INDICATOR. 1=DUCT TYPE, A=DUCT SECTION TYPE
	DETAIL INDICATOR TOP HALF: DETAIL LETTER BOTTOM HALF: SHEET ON WHICH SHOWN
	CABLE TELEVISION (OCEANIC CABLEVISION)
	GROUND FAULT CIRCUIT INTERRUPTER
	GROUND
	HANDHOLE GROUP
	MAUI ELECTRIC COMPANY
	NIGHT LIGHT
	TELEPHONE (HAWAIIAN TELCOM)



OVERALL PLAN

SCALE: 1" = 500'



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PROJECT ENGINEER for ECS, Inc.
APRIL 30, 2008
EXPIRATION DATE OF THE LICENSE



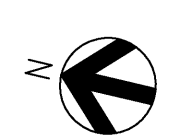
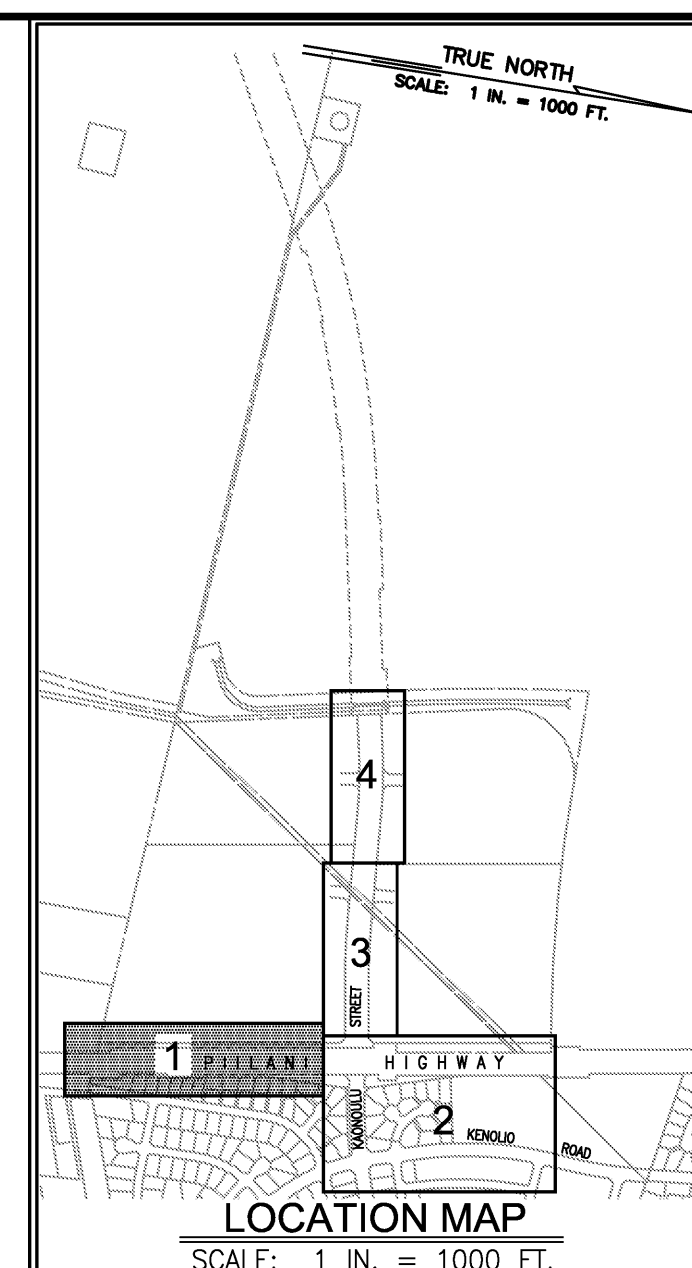
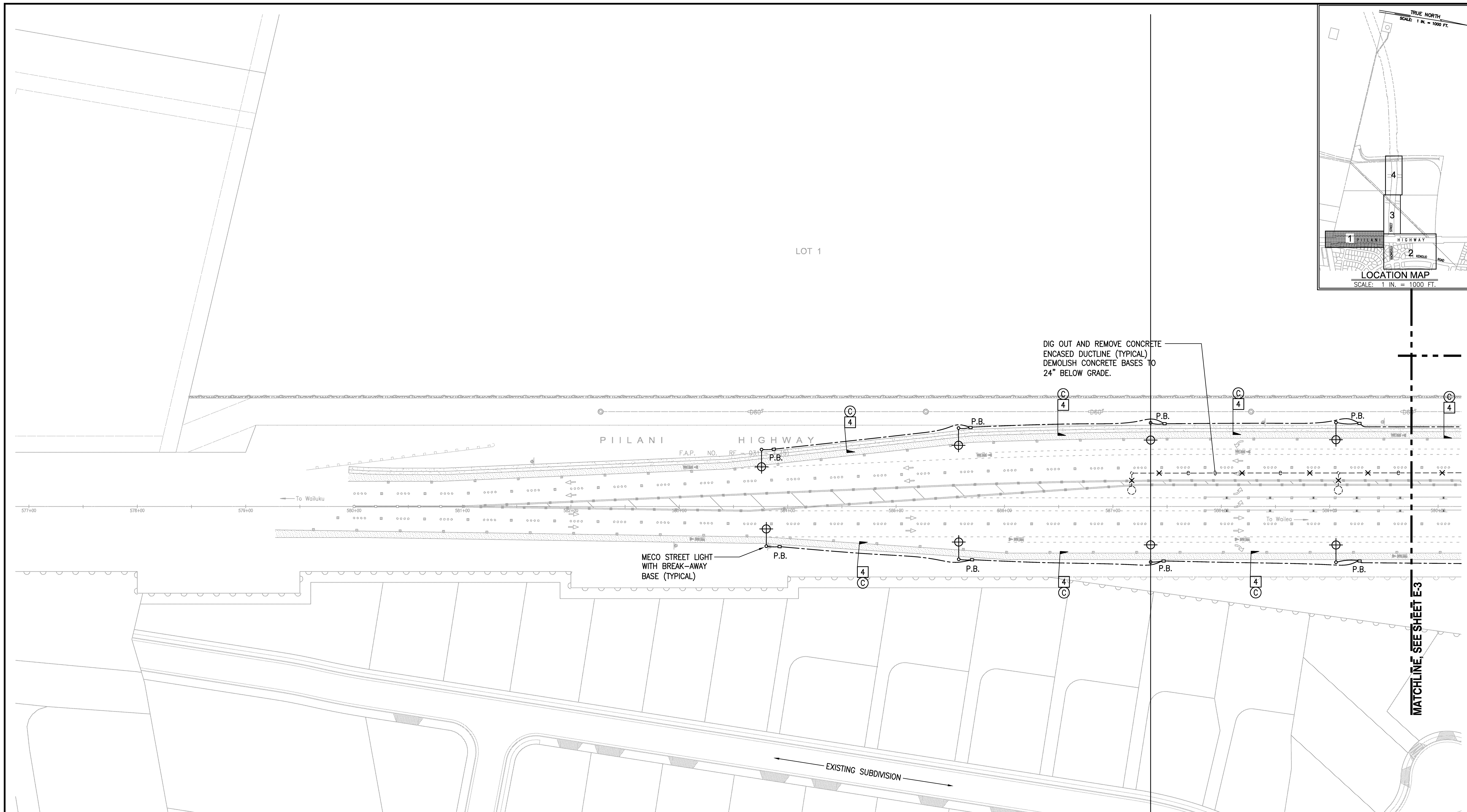
WARREN S. UNEMORI ENGINEERING, INC.
CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS
WELLS STREET PROFESSIONAL CENTER, SUITE 403
2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

KAONOULU MARKET PLACE

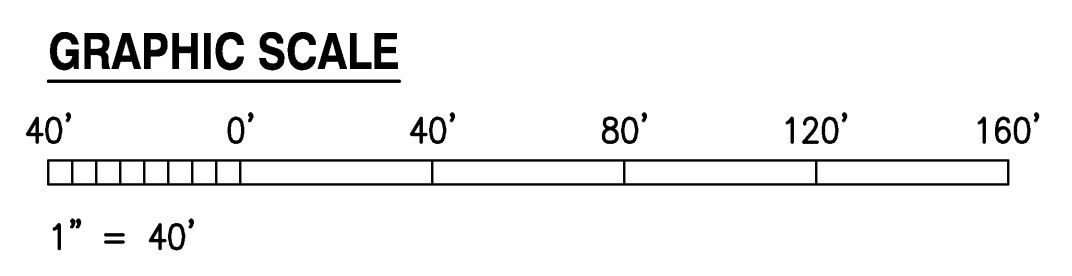
T.M.K.: (2) 2-2-02 : Por. of Par. 15 and 3-9-01 : 16
KIHEI, MAUI, HAWAII

TITLE ELECTRICAL NOTES AND SYMBOLS

DESIGNED BY GK	CHECKED BY GK	JOB NUMBER 04010.10	E-1
DRAWN BY CS	APPROVED BY GK	DATE 10-10-08	
SCALE AS NOTED	DATE	OF SHEETS	



PARTIAL ELECTRICAL SITE PLAN - 1
SCALE: 1" = 40'



LETTER	DESCRIPTION	DATE

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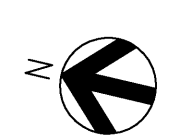
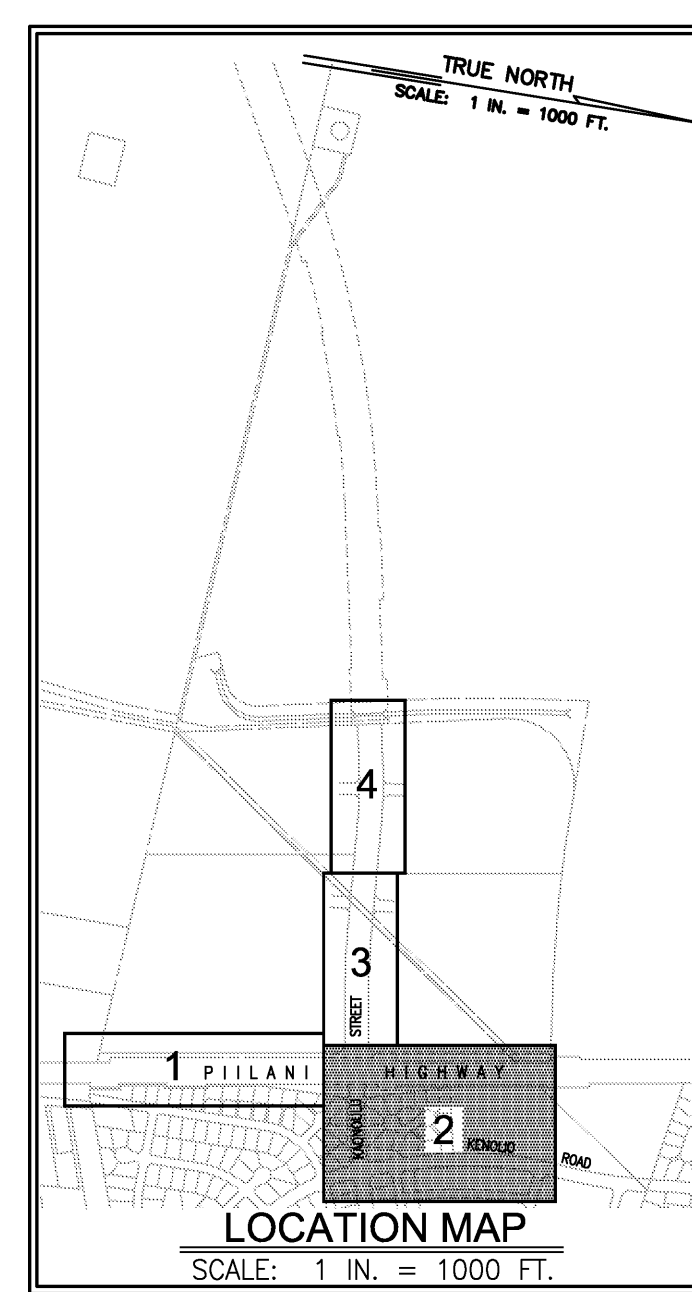
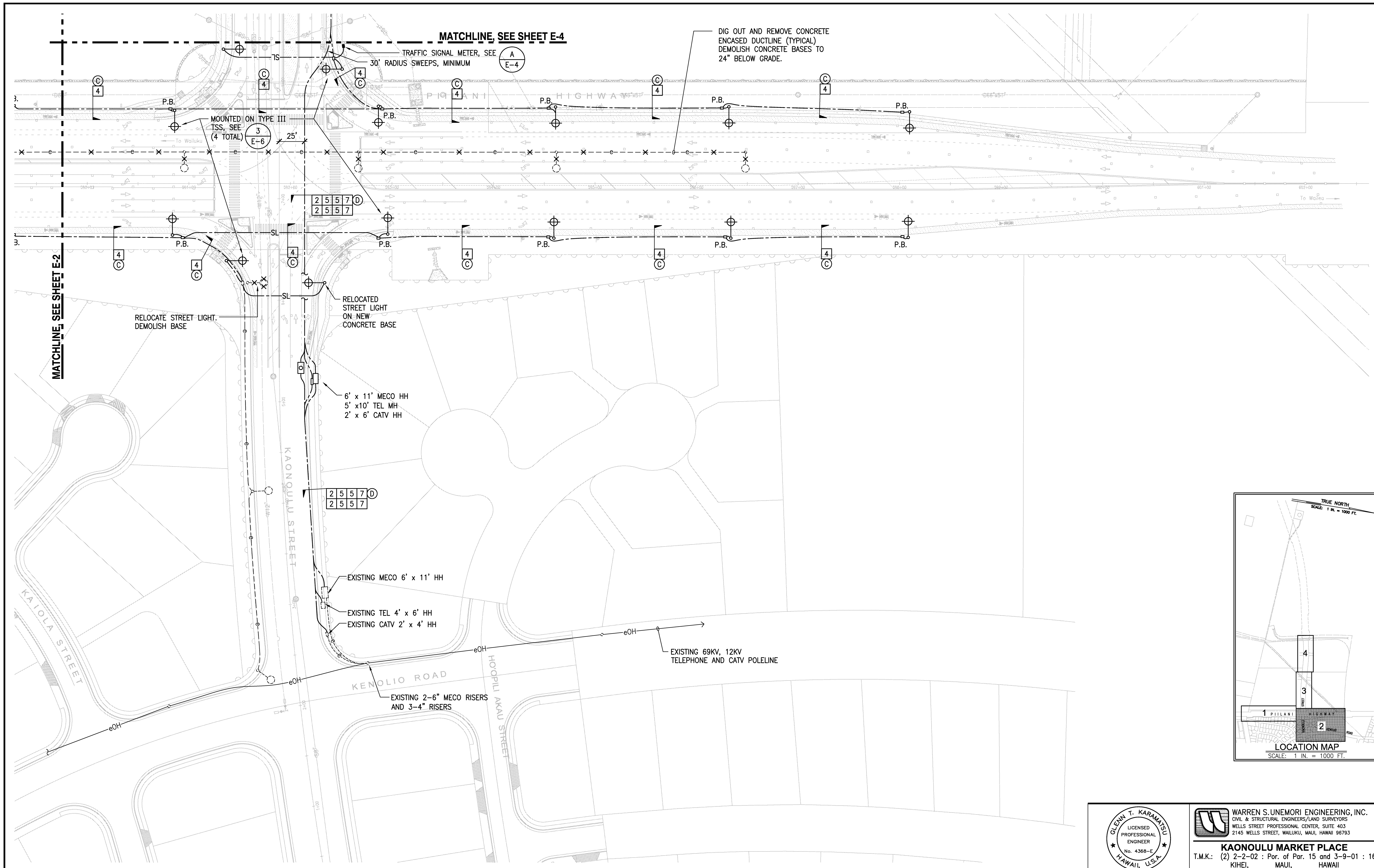
Glenn Karamatsu
PROJECT ENGINEER for ECS, Inc.
APRIL 30, 2010
EXPIRATION DATE OF THE LICENSE

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2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

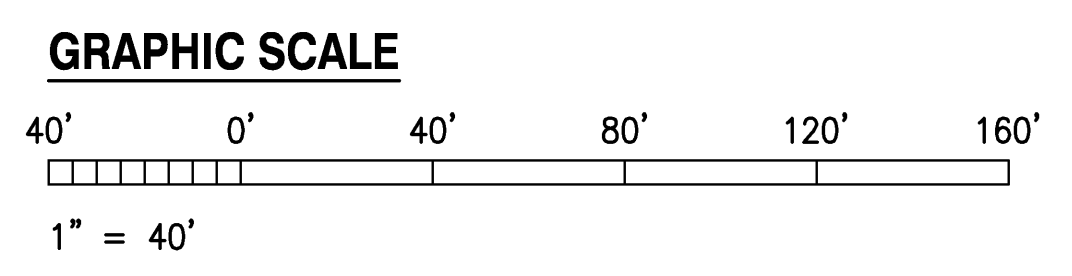
KAONOULU MARKET PLACE
T.M.K.: (2) 2-2-02 : Por. of Par. 15 and 3-9-01 : 16
KIHEI, MAUI, HAWAII

TITLE: PARTIAL ELECTRICAL SITE PLAN - 1

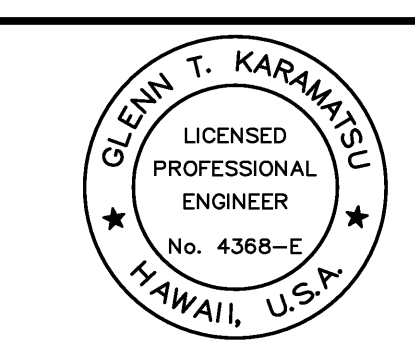
DESIGNED BY CK	CHECKED BY CK	JOB NUMBER 04010.10	E-2 SHEET OF SHEETS
DRAWN BY CS	APPROVED BY CK	DATE 11-5-08	
SCALE: AS NOTED			



PARTIAL ELECTRICAL SITE PLAN - 2
SCALE: 1" = 40'



LETTER	DESCRIPTION	DATE



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OR UNDER MY SUPERVISION.

Glenn Karamatsu
PROJECT ENGINEER for ECS, Inc.

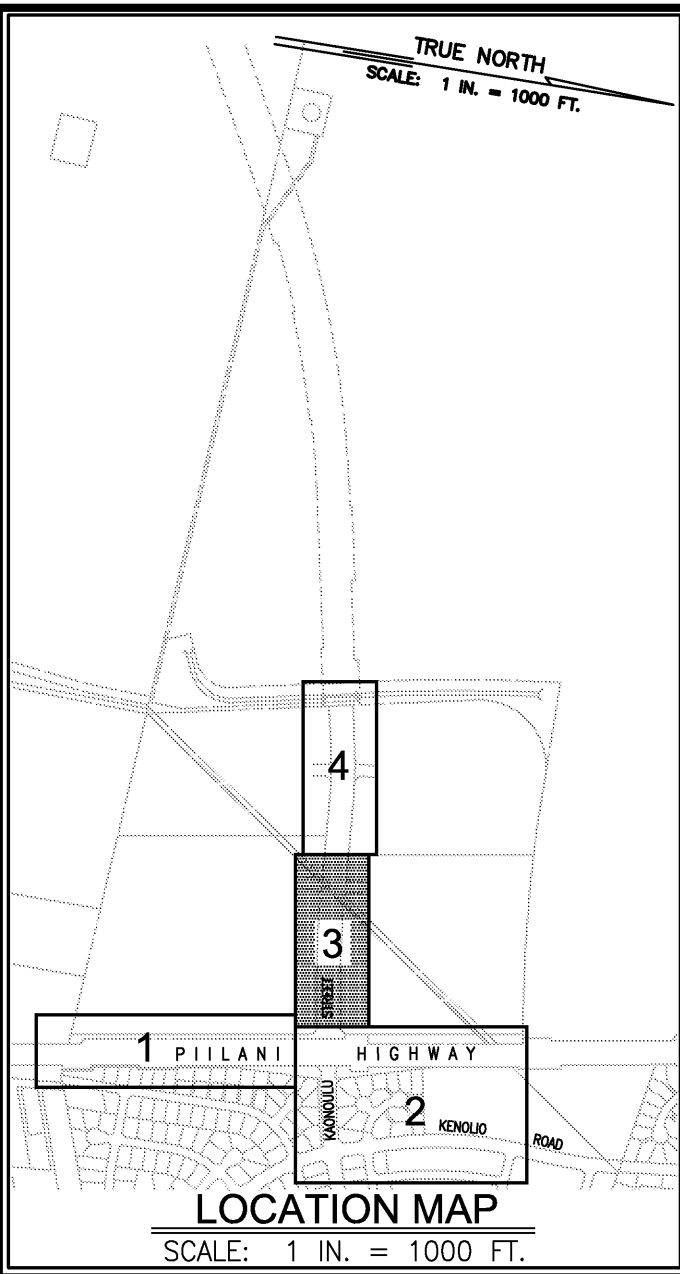
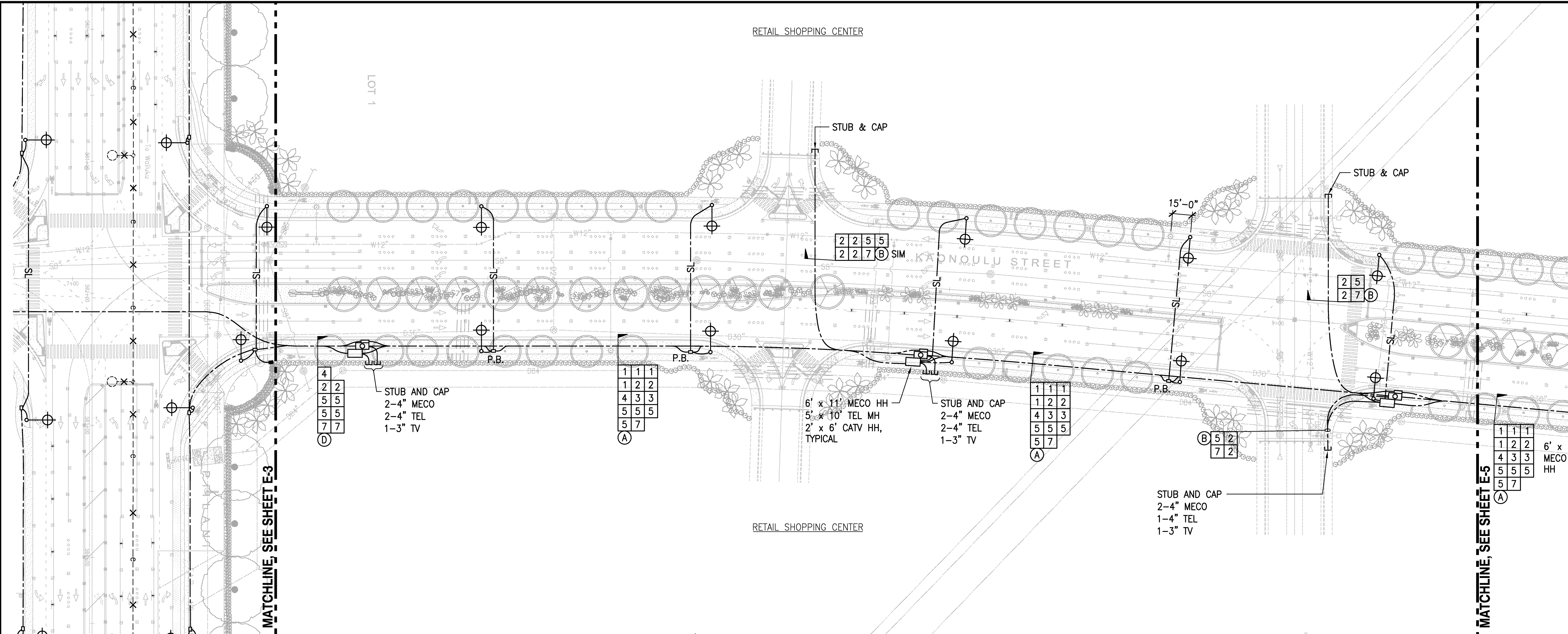
APRIL 30, 2010
EXPIRATION DATE OF THE LICENSE

WARREN S. UNEMORI ENGINEERING, INC.
CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS
WELLS STREET PROFESSIONAL CENTER, SUITE 403
2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

KAONOULU MARKET PLACE
T.M.K.: (2) 2-2-02 : Por. of Par. 15 and 3-9-01 : 16
KIHEI, MAUI, HAWAII

TITLE PARTIAL ELECTRICAL SITE PLAN - 2

DESIGNED BY GK	CHECKED BY GK	JOB NUMBER 04010.10	E-3 SHEET OF SHEETS
DRAWN BY CS	APPROVED BY GK	DATE 11-5-08	
SCALE AS NOTED		DATE	

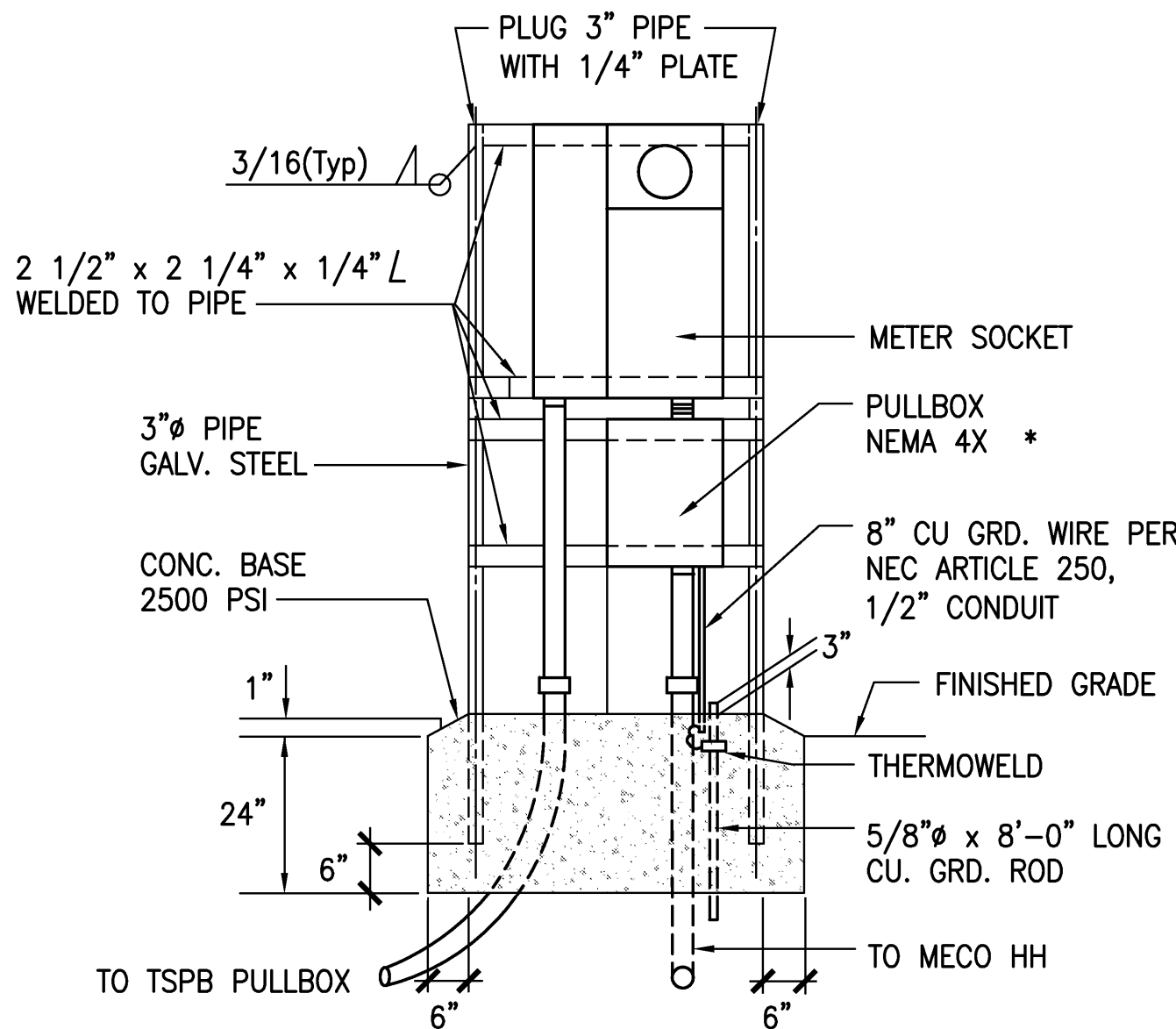


PARTIAL ELECTRICAL SITE PLAN - 3
SCALE: 1" = 40'

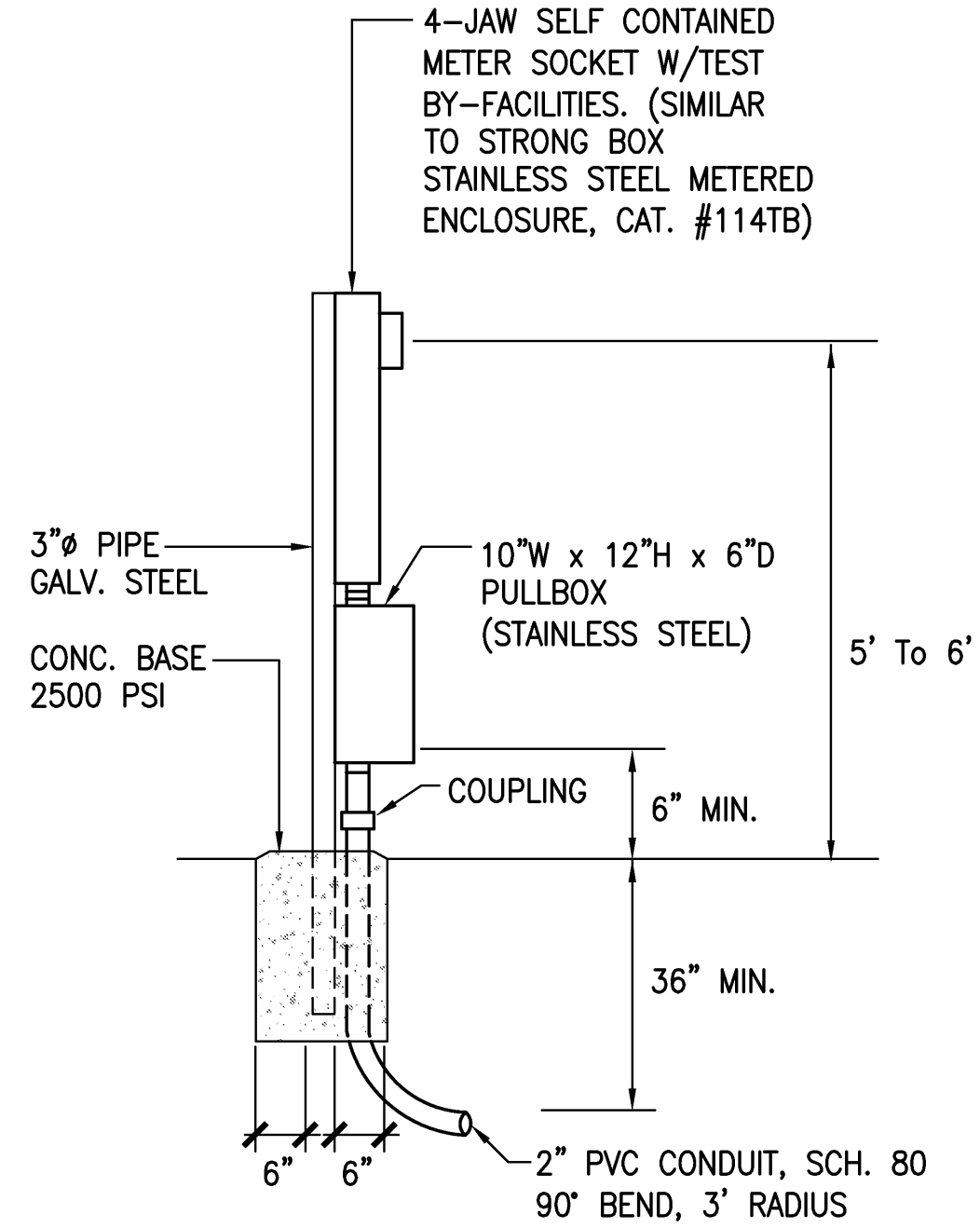
NOTES:

PEDESTAL SHALL BE HOT-DIPPED GALV. AFTER FABRICATION. ALL FASTENING BOLTS, NUTS, & WASHERS SHALL BE STAINLESS STEEL. PROVIDE 4 FT. CL. IN FRONT OF METER.

- * SEALABLE STAINLESS STEEL ENCLOSURE 10"W x 12"H x 6"D.

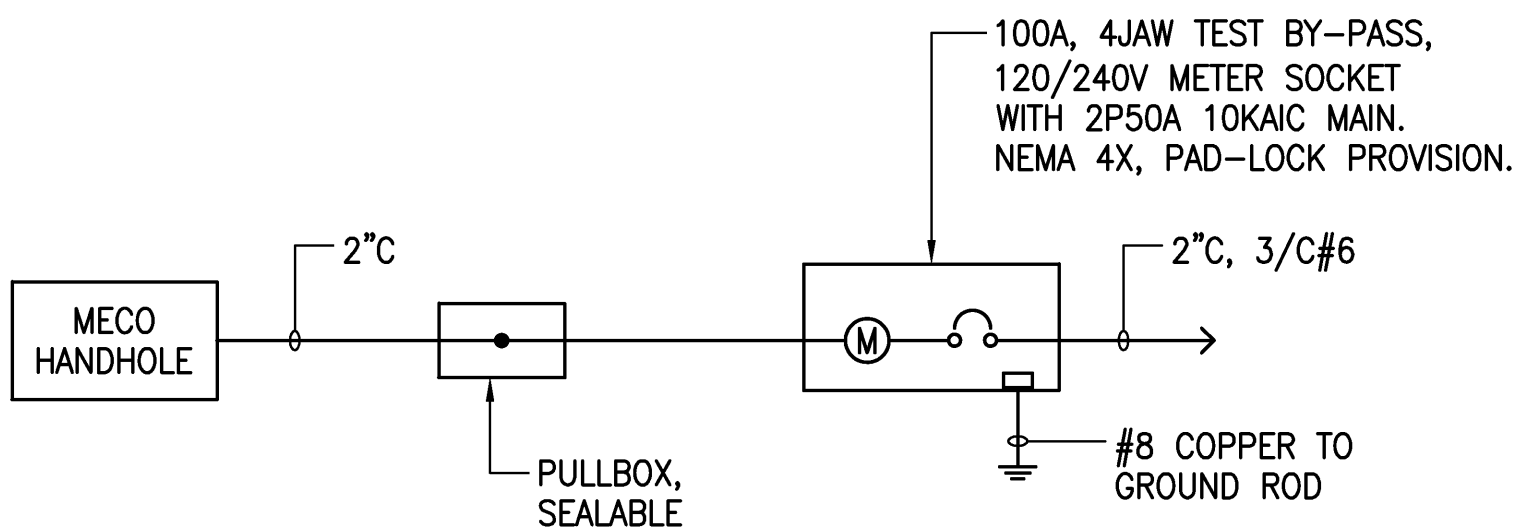


FRONT ELEVATION

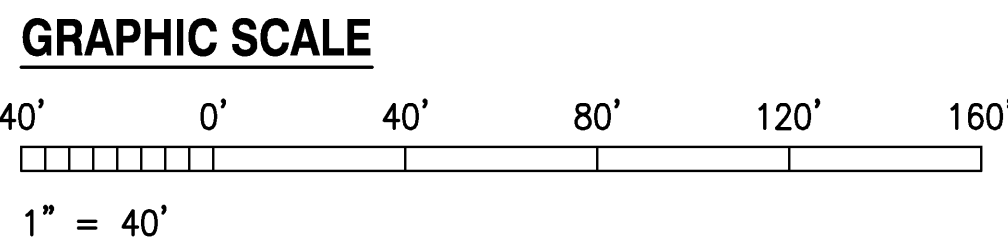


SIDE ELEVATION

A METER PEDESTAL FOR UNDERGROUND SERVICE DETAIL
E-4 NOT TO SCALE



1 TRAFFIC SIGNAL ONE LINE DIAGRAM
E-4 NO SCALE



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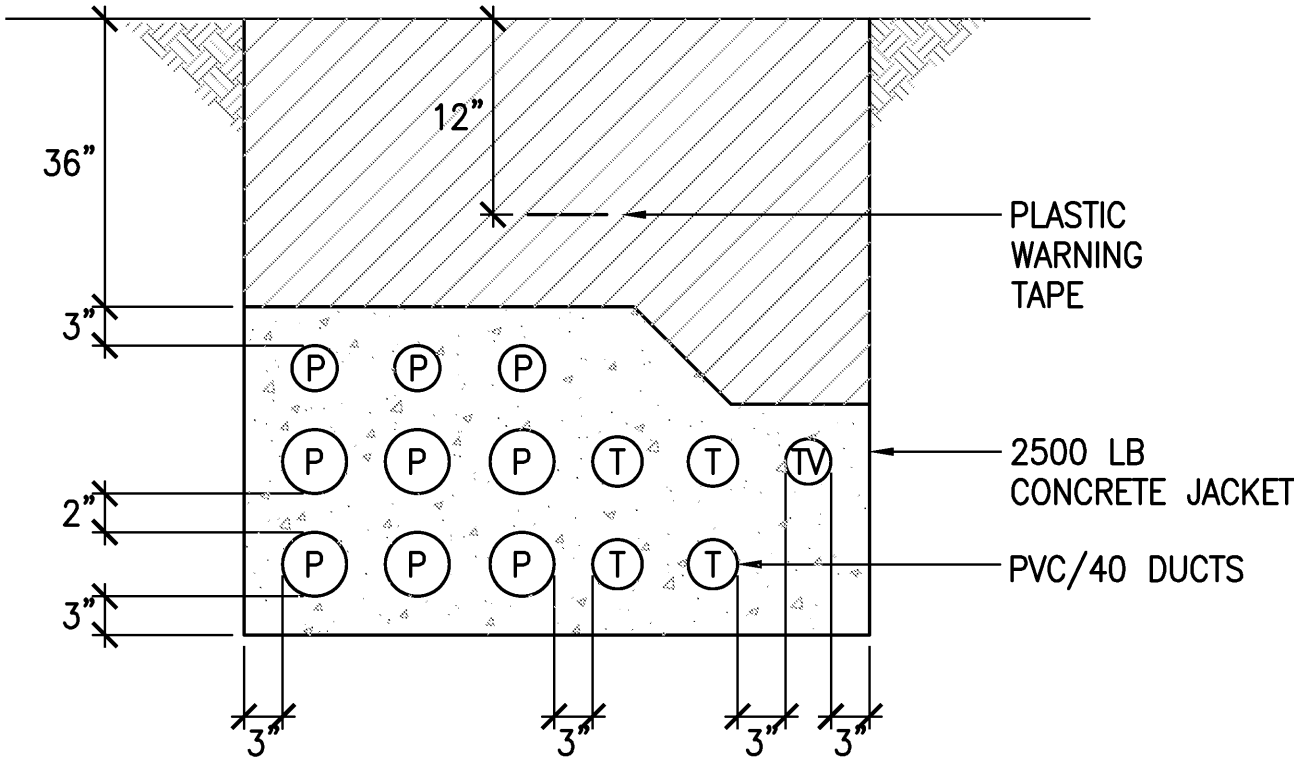
Glenn T. Karamatsu
PROJECT ENGINEER for ECS, Inc.
APRIL 30, 2010
EXPIRATION DATE OF THE LICENSE

WARREN S. UNEMORI ENGINEERING, INC.
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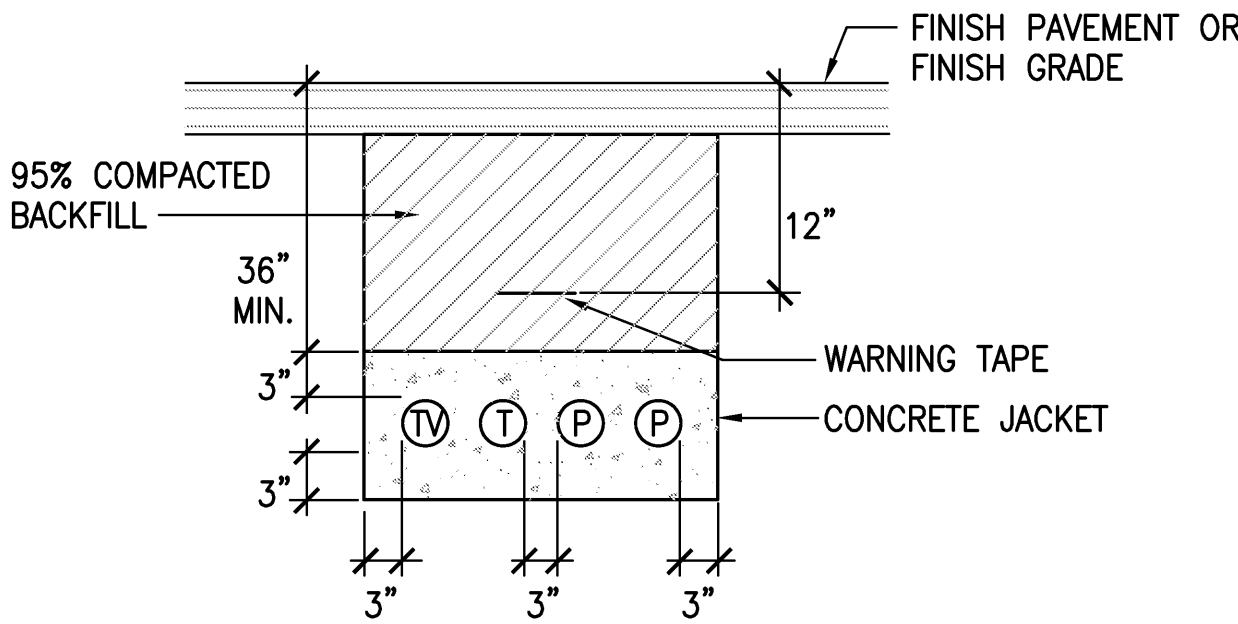
KAONOULU MARKET PLACE
T.M.K.: (2) 2-2-02 : Por. of Par. 15 and 3-9-01 : 16
KIHEI, MAUI, HAWAII

TITLE: PARTIAL ELECTRICAL SITE PLAN - 3	
DESIGNED BY: GK	CHECKED BY: GK
DRAWN BY: CS	APPROVED BY: GK
SCALE: AS NOTED	JOB NUMBER: 04010.10
	DATE: 12-26-08
	SHEET: E-4
	OF SHEETS:

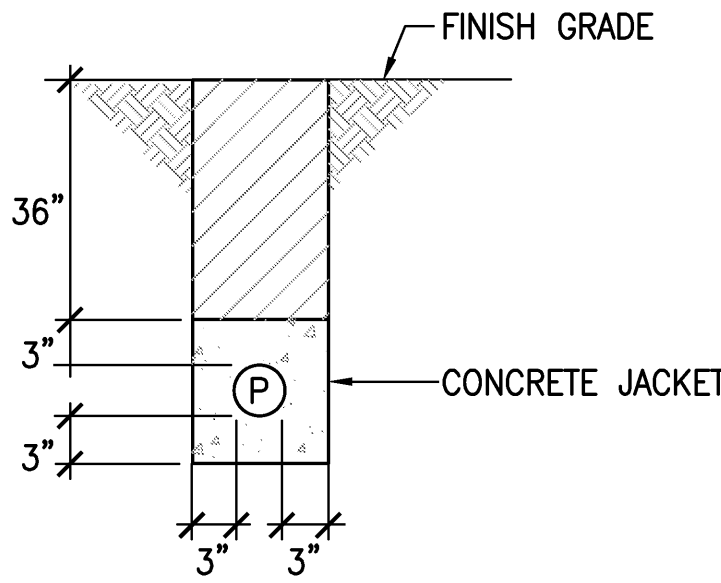
DUCT SCHEDULE			
NO.	USE	SIZE	CABLES
1	MECO 12 KV PRIMARY	5"	NONE-BY MECO
2	MECO 12 KV PRIMARY	4"	NONE-BY MECO
3	MECO 1Ø PRIMARY	2"	NONE-BY MECO
4	MECO SECONDARY	3"	NONE-BY MECO
5	TELEPHONE	4" GTS	MULETAPE
6	TELEPHONE	2" GTS	MULETAPE
7	CATV	4"	MULETAPE



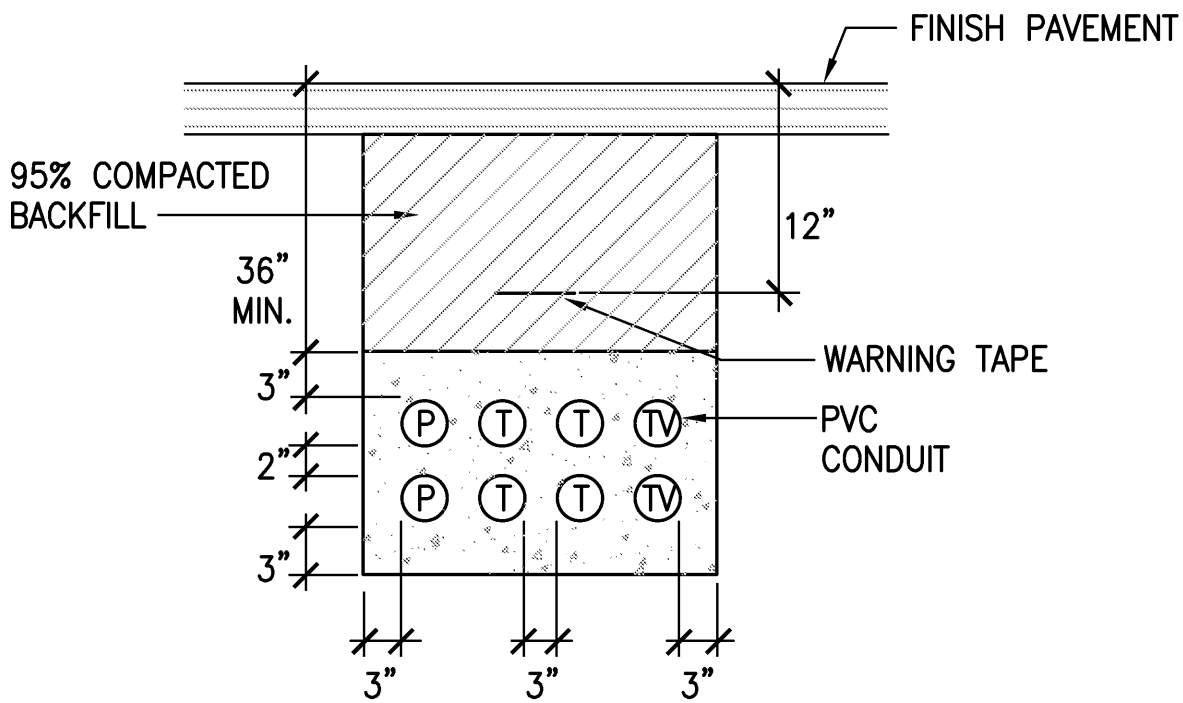
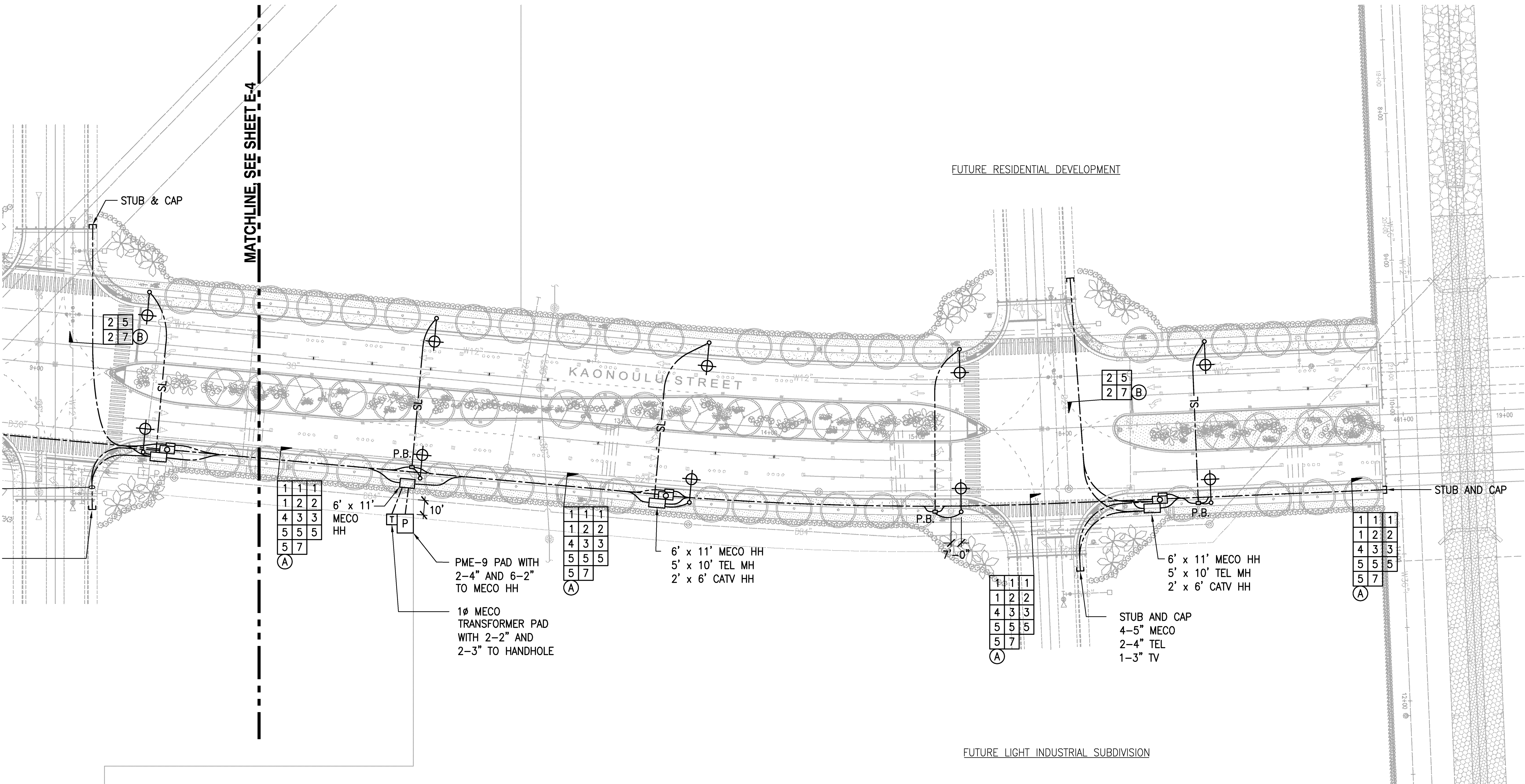
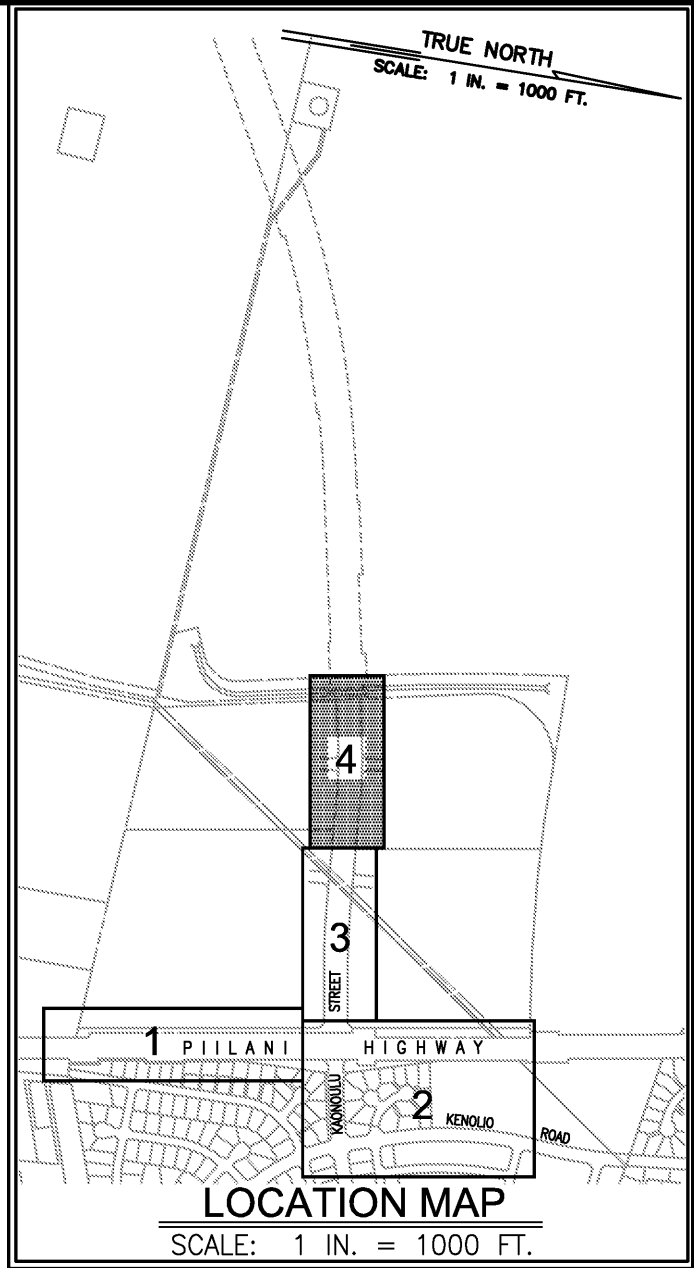
DUCT DETAIL A
NOT TO SCALE



DUCT DETAIL B
NOT TO SCALE

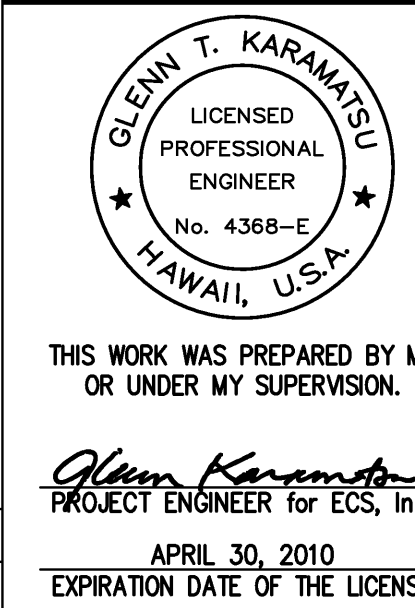
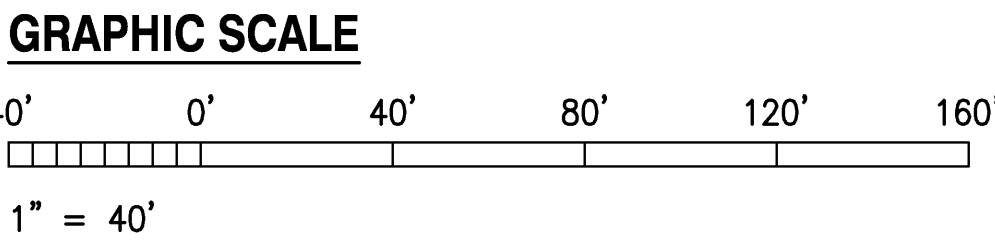


DUCT DETAIL C
NOT TO SCALE

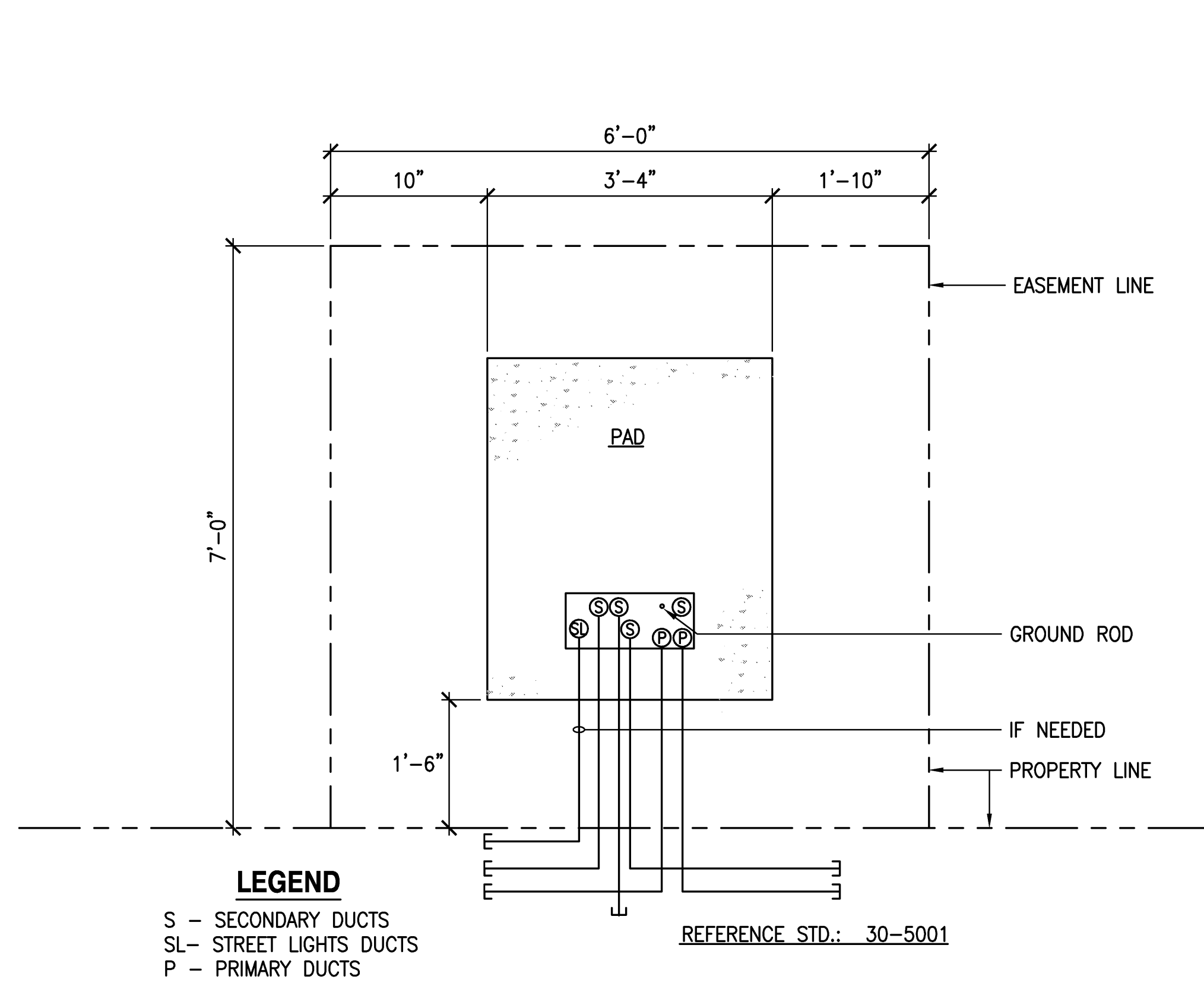


DUCT DETAIL D
NOT TO SCALE

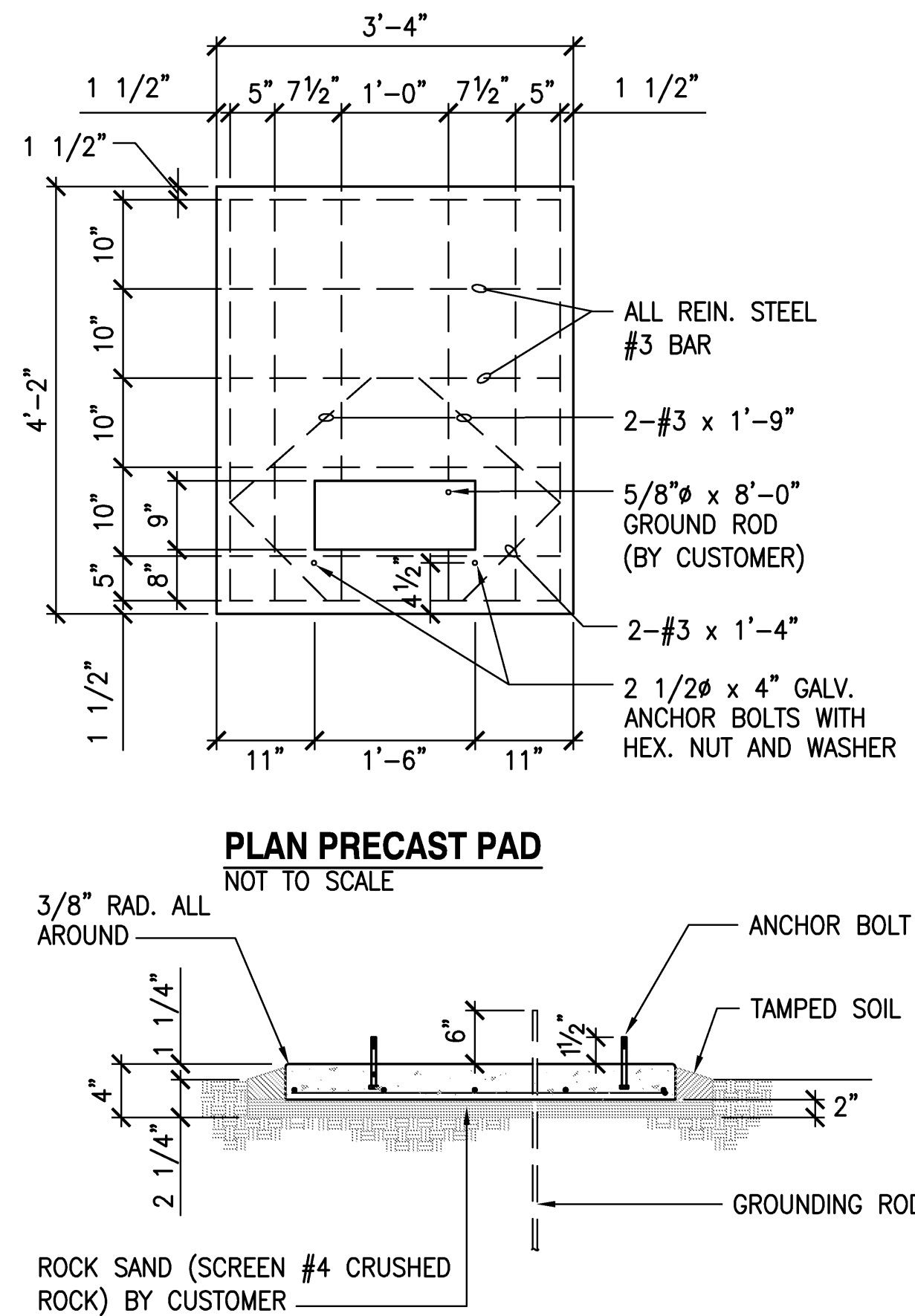
PARTIAL ELECTRICAL SITE PLAN - 4
SCALE: 1" = 40'



WARREN S. UNEMORI ENGINEERING, INC. CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS WELLS STREET PROFESSIONAL CENTER, SUITE 403 2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793	
KAONOULU MARKET PLACE T.M.K.: (2) 2-2-02 : Por. of Par. 15 and 3-9-01 : 16 KIHEI, MAUI, HAWAII	
TITLE: PARTIAL ELECTRICAL SITE PLAN - 4	
DESIGNED BY: GK	CHECKED BY: GK
DRAWN BY: CS	APPROVED BY: GK
JOB NUMBER: 04010.10	
DATE: 12-26-08	
SCALE: AS NOTED	
SHEET: E-5	
OF SHEETS	



1 **TRANSFORMER PAD/CONDUIT LAYOUT**
NOT TO SCALE

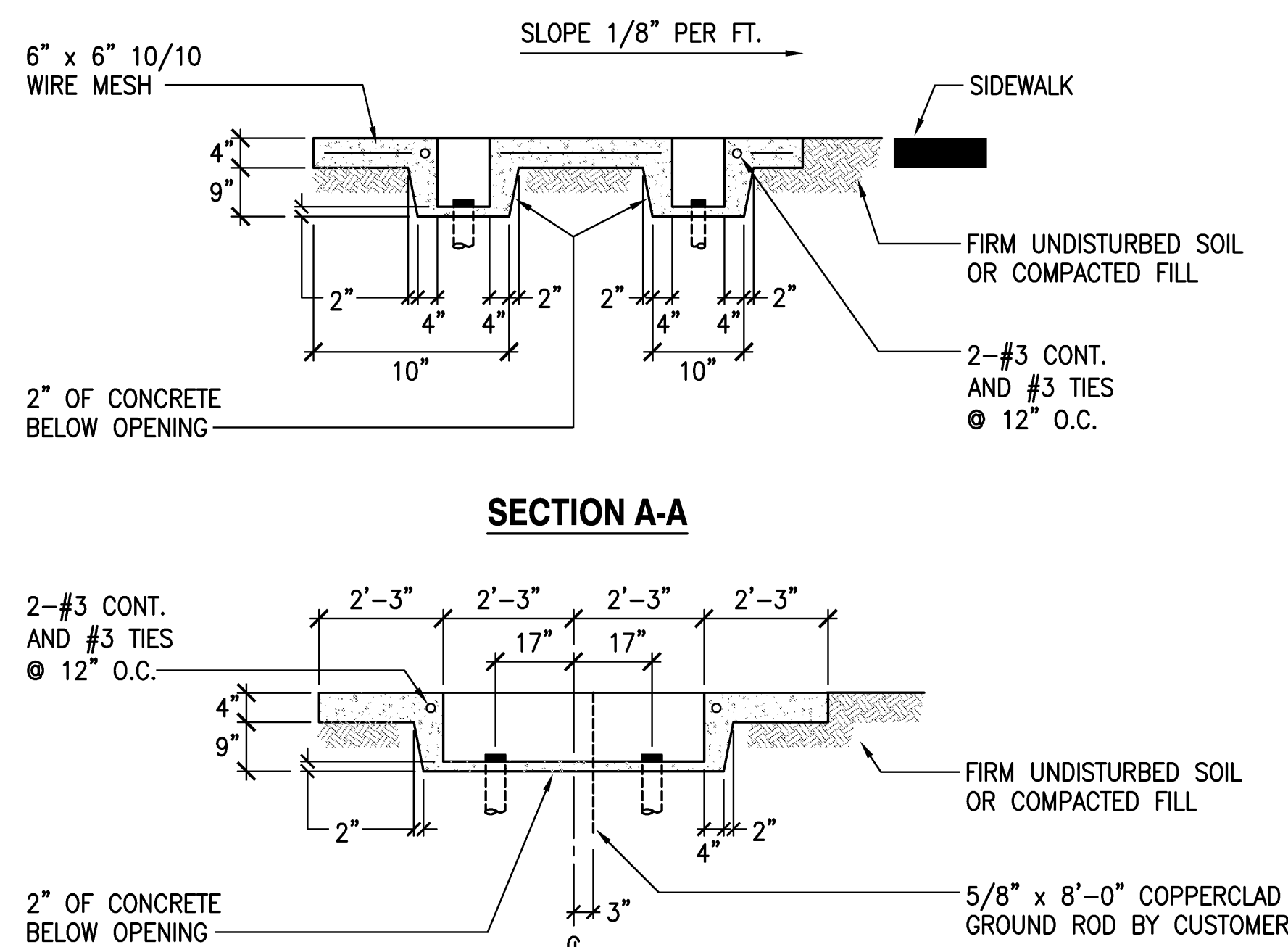
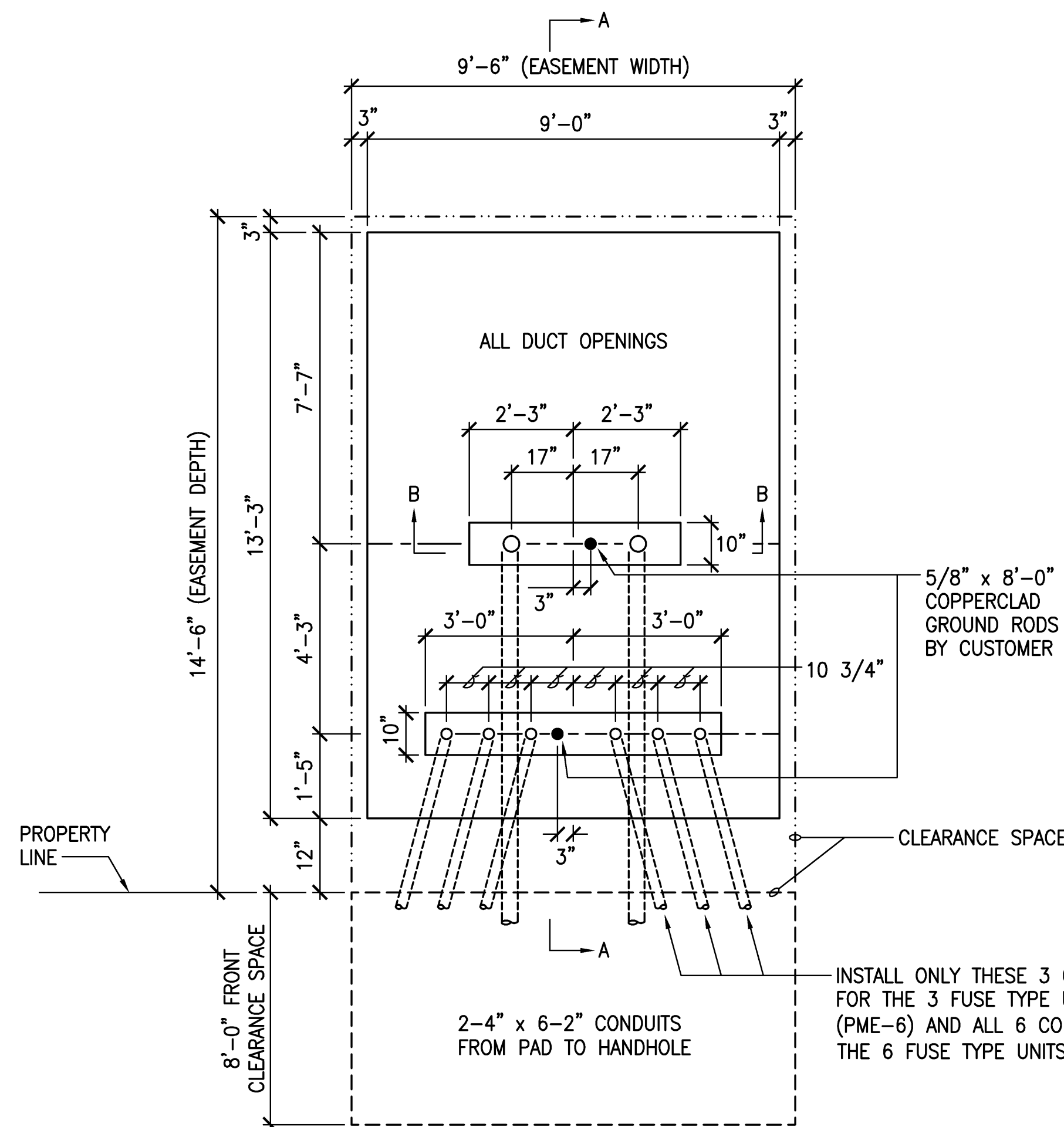


ELEVATION
NOT TO SCALE

TRANSFORMER PAD NOTES:

1. COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 3,000 P.S.I. AT 28 DAYS
2. TOP OF PAD SHALL BE SMOOTH, TRUE, LEVEL AND OTHER EXPOSED SURFACES SHALL BE SMOOTH AND FREE FROM DEFECTS.
3. CONCRETE SHALL BE CURED BY APPROVED METHOD (ASTM A15)
4. REINFORCING BARS SHALL BE CLEAN DEFORMED BARS.
5. PRECAST PAD MADE BY AMERON, MAUI.
6. ALL ITEMS SHALL BE FURNISHED IN PLACE COMPLETE BY CUSTOMER.
7. PAD SITE SHALL BE GRADED AND COMPACTED. COMPACTION SHALL MEET THE REQUIREMENTS OF THE COUNTY OF MAUI "STANDARD SPECIFICATIONS FOR COMPACTING SIDEWALK AREA." THE HIGHER FRONT OR SIDEWALK CORNER SHALL MATCH THE ADJACENT SIDEWALK GRADE. SLOPE SHALL BE TOWARDS THE SIDEWALK OR ROAD, NOT EXCEEDING 1/2" PER FOOT.
8. AREA SURROUNDING THE TRANSFORMER SITE SHALL BE SUFFICIENTLY GRADED OR A SUITABLE RETAINING WALL BUILT TO PREVENT FUTURE FILLING IN THE LOT.
9. AN AREA 3'-8" X 4'-6" AND 2" DEEP SHALL BE EXCAVATED AFTER COMPACTION. THIS AREA SHALL BE FILLED WITH THE 2" BASE MATERIAL AND COMPACTED (SEE ELEVATION).

1 **CONCRETE PAD FOR PADMOUNT TRANSFORMER**
E-6 NOT TO SCALE

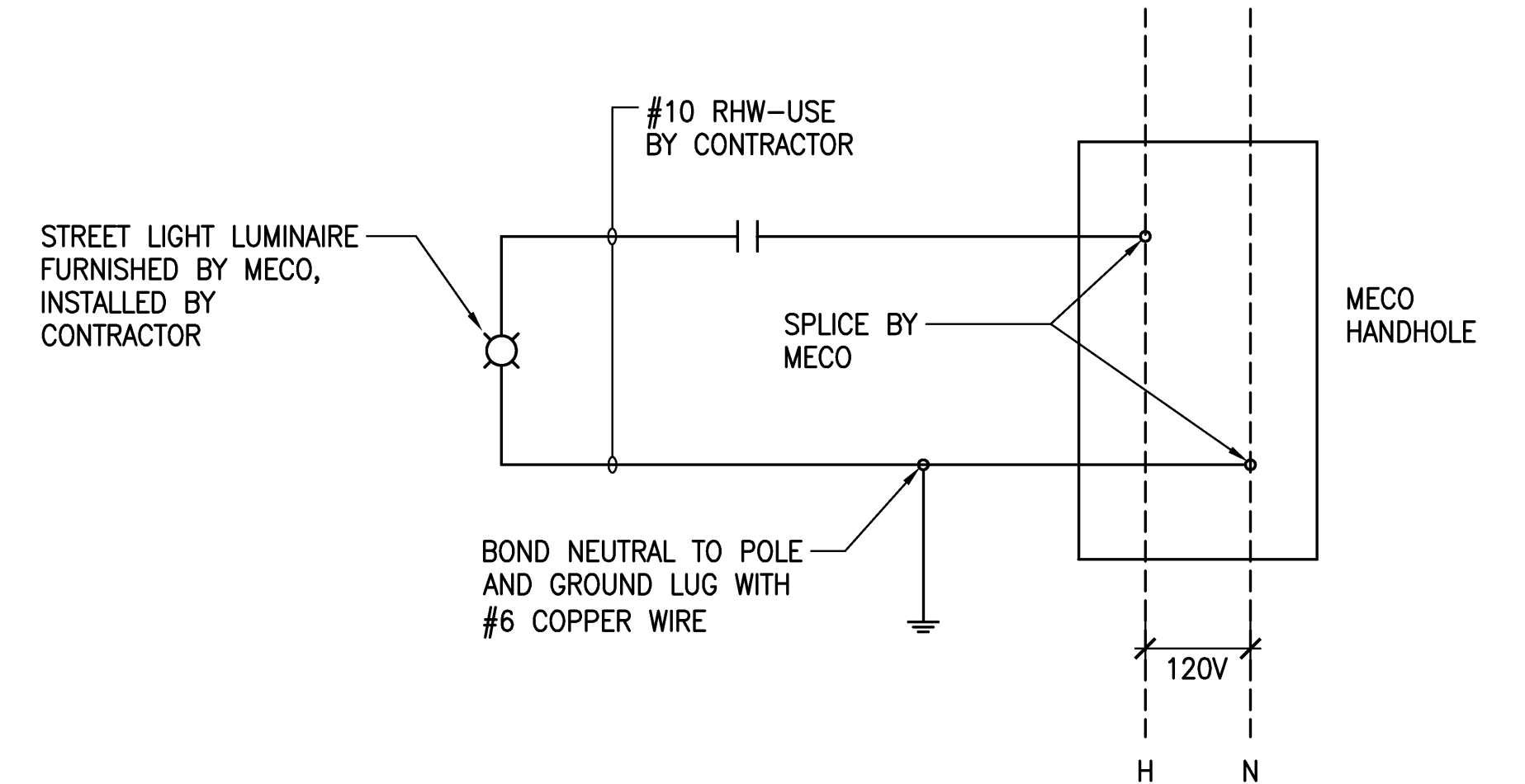


SECTION B-B

PME PAD NOTES

1. CONCRETE COMPRESSIVE STRENGTH: 3000 P.S.I. IN 28 DAYS
2. REINFORCING: CLEAN AND NEW ROUND DEFORMED BARS AND 6x6/10x10 WIRE MESH
3. TOP OF CONCRETE PAD TO BE SMOOTH AND TRUE. OTHER EXPOSED SURFACES TO BE SMOOTH AND FREE FROM DEFECTS SIDEWALK FINISH AS PER COUNTY OF MAUI SPECIFICATIONS

2 **PME-6 & PME-9 PAD**
E-6 N.T.S.



STREET LIGHT WIRING DIAGRAM FOR TYPE III TRAFFIC SIGNAL STANDARD

3 **E-6**
N.T.S.

LETTER	DESCRIPTION	DATE

GLENN T. KARAMATSU
LICENSED PROFESSIONAL ENGINEER
No. 4368-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Glenn T. Karamatsu
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2010
EXPIRATION DATE OF THE LICENSE

WARREN S. UNEMORI ENGINEERING, INC.
CIVIL & STRUCTURAL ENGINEERS/LAND SURVEYORS
WELLS STREET PROFESSIONAL CENTER, SUITE 403
2145 WELLS STREET, WAILUKU, MAUI, HAWAII 96793

KAONOULU MARKET PLACE
T.M.K.: (2) 2-2-02 : Por. of Par. 15 and 3-9-01 : 16
KIHEI, MAUI, HAWAII

TITLE: MISCELLANEOUS DETAILS

DESIGNED BY: GK	CHECKED BY: GK	JOB NUMBER: 04010.10	E-6 SHEET OF SHEETS
DRAWN BY: CS	APPROVED BY: GK	DATE: 11-5-08	
SCALE: AS NOTED			



NOT TO SCALE



NOT TO SCALE

NOTE:
CONTRACTOR SHALL
PROVIDE SHOP
DRAWING SHOWING
EQUIPMENT LAYOUT
FOR APPROVAL.



- 1 INSTRUMENT ENCLOSURE, SEE DETAILS.
- 2 LEVEL TRANSMITTER/RECORDER, NEMA 4X JUNCTION BOX VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS, ADD NEMA 4X JUNCTION BOX AS REQUIRED..
- 3 PHOTO-VOLTAIC PANEL AND ANTENNA ON TANK, VERIFY EXACT LOCATION, SEE DETAIL.
- 4 FLOW METER AND VALVE CONNECTIONS, COORDINATE EXACT LOCATION WITH CIVIL AND VERIFY CONNECTION REQUIREMENTS, ADD NEMA 4X JUNCTION BOX AS REQUIRED.

SCALE: 1" = 20'-0"

TYPE "A" - BEACH SAND, EARTH, OR EARTH AND GRAVEL. IF EARTH AND GRAVEL, THE MAXIMUM ROCK SHALL BE 1" AND THE MIXTURE SHALL CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES.

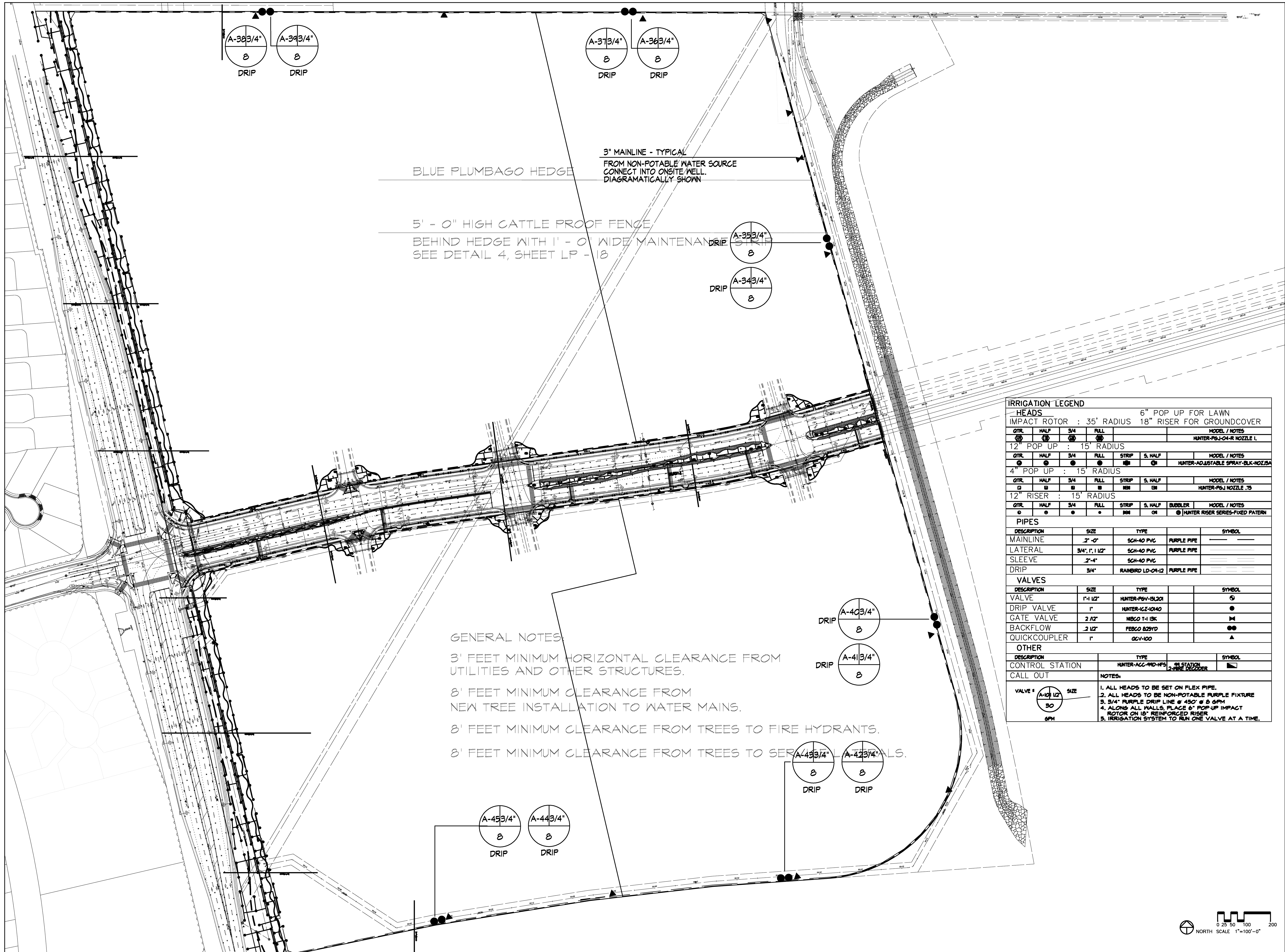
TYPE "B" - BEACH SAND, EARTH, OR EARTH AND GRAVEL. IF EARTH AND GRAVEL, THE MIXTURE MUST PASS A 1/2" MESH SCREEN AND CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES. CORAL OR CORAL WASTE WILL NOT BE ACCEPTABLE.



TYPICAL DUCT SECTION THRU DRIVEWAY



28085-E1



BLUE PLUMBAGO HEDGE

5' - 0" HIGH CATTLE PROOF FENCE
BEHIND HEDGE WITH 1' - 0" WIDE MAINTENANCE STRIP
SEE DETAIL 4, SHEET LP - 18

3" MAINLINE - TYPICAL
FROM NON-POTABLE WATER SOURCE
CONNECT INTO ON-SITE WELL
DIAGRAMMATICALLY SHOWN

GENERAL NOTES:

3' FEET MINIMUM HORIZONTAL CLEARANCE FROM
UTILITIES AND OTHER STRUCTURES.

8' FEET MINIMUM CLEARANCE FROM
NEW TREE INSTALLATION TO WATER MAINS.

8' FEET MINIMUM CLEARANCE FROM TREES TO FIRE HYDRANTS.

8' FEET MINIMUM CLEARANCE FROM TREES TO SERVICE LATERALS.

IRRIGATION LEGEND

HEADS		6" POP UP FOR LAWN	
IMPACT ROTOR : 35' RADIUS		18" RISER FOR GROUNDCOVER	
QTR	HALF	3/4	FULL
1	2	3	4
12" POP UP : 15' RADIUS		HUNTER-PSJ-04-R NOZZLE 1	
QTR	HALF	3/4	FULL
1	2	3	4
4" POP UP : 15' RADIUS		HUNTER-ADJUSTABLE SPRAY-BLK-NOZZLE 1	
QTR	HALF	3/4	FULL
1	2	3	4
12" RISER : 15' RADIUS		HUNTER-PSJ NOZZLE 1	
QTR	HALF	3/4	FULL
1	2	3	4
PIPES		BUBBLER	
DESCRIPTION		SIZE	
MAINLINE		2" - 0"	
LATERAL		3/4", 1", 1 1/2"	
SLEEVE		2" - 4"	
DRIPI		3/4"	
VALVES		HUNTER-PSJ-04-R NOZZLE 1	
DESCRIPTION		SIZE	
VALVE		1" - 1 1/2"	
DRIPI VALVE		1"	
GATE VALVE		2 1/2"	
BACKFLOW		2 1/2"	
QUICKCOUPLER		1"	
OTHER		HUNTER-PSJ-04-R NOZZLE 1	
DESCRIPTION		TYPE	
CONTROL STATION		HUNTER-ACC-4HD-4FS	
CALL OUT		NOTES:	
VALVE #		SIZE	
A-101		1 1/2"	
GPM		30	
1. ALL HEADS TO BE SET ON FLEX PIPE.		2. ALL HEADS TO BE NON-POTABLE PURPLE FIXTURE	
3. 3/4" PURPLE DRIPI LINE @ 450' @ 8 GPM		4. ALONG ALL WALLS, PLACE 6" POP-UP IMPACT	
5. IRRIGATION SYSTEM TO RUN ONE VALVE AT A TIME.		6. ROTOR ON 18" REINFORCED RISER	

Maxwell Design Group, Inc.
Landscape Architecture and Planning
Maui, Hawaii
2670 WAI WAI PLACE
Kihei, Maui, HI 96753
PH: 808-891-0629
FX: 808-891-1869
MP: 808-281-3800
Email: mdghawaii@hawaii.rr.com
www.landscapearchitect.net

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[Signature]
SIGNATURE

KAONOULU MARKET PLACE
Kihei, Maui, Hawaii
(2) 2-2-02 Por of 15 and (2) 3-9-01:16

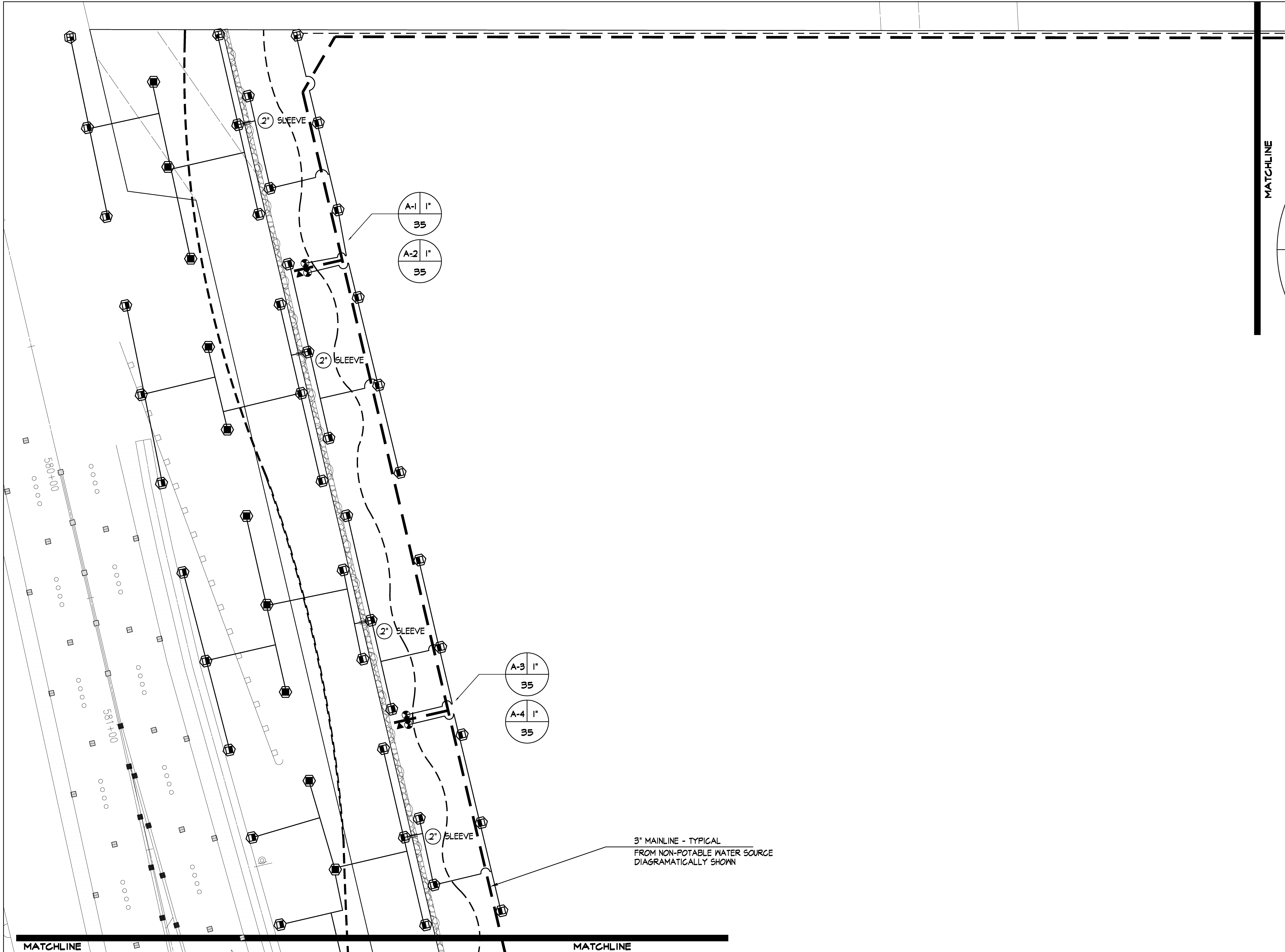
Sheet Title
Landscape Irrigation Plan
Sheet Layout

NO.	DESCRIPTION	DATE	BY
1	DWS Comments	11/4/2008	MDG
2	DWS Comments	12/17/2008	MDG
3			
4			
5			
6			
7			
8			
9			
10			

JOB NUMBER	DATE
2775	1 May 2006
PROJECT DIRECTOR	DESIGNED BY
BPM	JCW
DRAWN BY	CHECKED BY
JCW	JCW/BPM
CAD FILE	
x 2775-i	


Scale: 1" = 0' = 100'

Sheet Number
LI - Site
- of -





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Maui, Hawaii
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Kihei, Maui, HI 96753
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[Signature]
SIGNATURE

KAONO'ULU MARKET PLACE

Kihei, Maui, Hawaii

(2) 2-2-02 For of 15 and (2) 3-9-01:16

Sheet Title
Landscape Irrigation Plan
Area 1
-

REVISIONS			
NO	DESCRIPTION	DATE	BY
1	DWS Comments	11/4/2008	MDG
2	DWS Comments	12/17/2008	MDG
3			
4			
5			
6			
7			
8			
9			
10			

JOB NUMBER
2775

DATE
1 May 2006

PROJECT DIRECTOR
BPM

DESIGNED BY
JCW

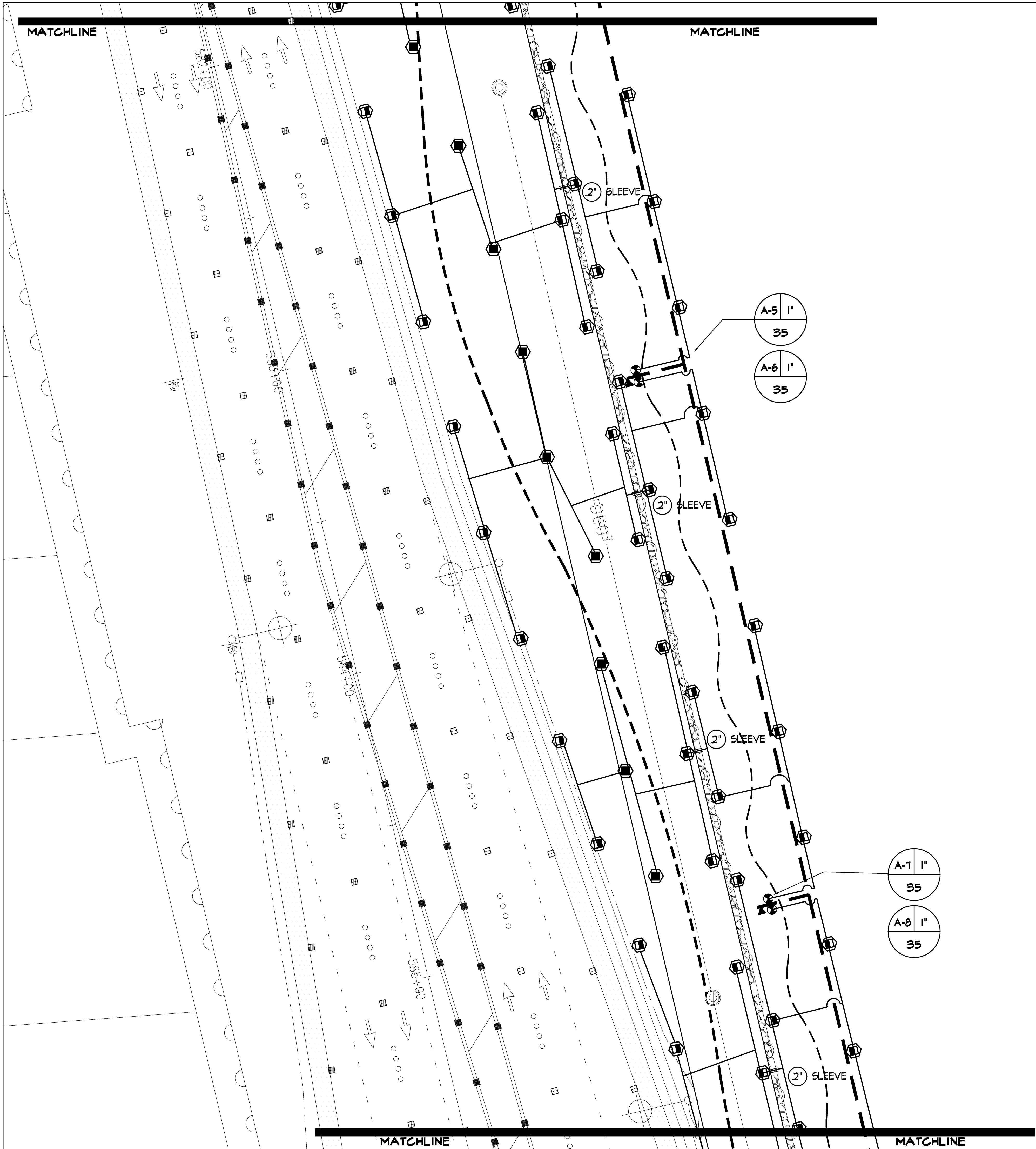
DRAWN BY
JCW

CHECKED BY
JCW/BPM

CAD FILE
x2775-i

Scale: 1/16"=1'-0"

Sheet Number
LI - 1
- - of -






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Landscape Architecture and Planning

Maui, Hawaii

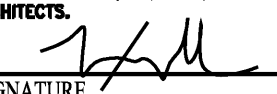
2670 WAI WAI PLACE
Kihei, Maui, HI 96753

PH: 808-891-0629
FX: 808-891-1869
MP: 808-281-3800
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SIGNATURE 

KAONOULU MARKET PLACE

Kihei, Maui, Hawaii

(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Sheet Title

Landscape Irrigation Plan
Area 2

NO	DESCRIPTION	DATE	BY
1	DWS Comments	11/4/2008	MDG
2	DWS Comments	12/17/2008	MDG
3			
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JOB NUMBER 2775 DATE 1 May 2006

PROJECT DIRECTOR BPM DESIGNED BY JCW

DRAWN BY JCW CHECKED BY JCW/BPM

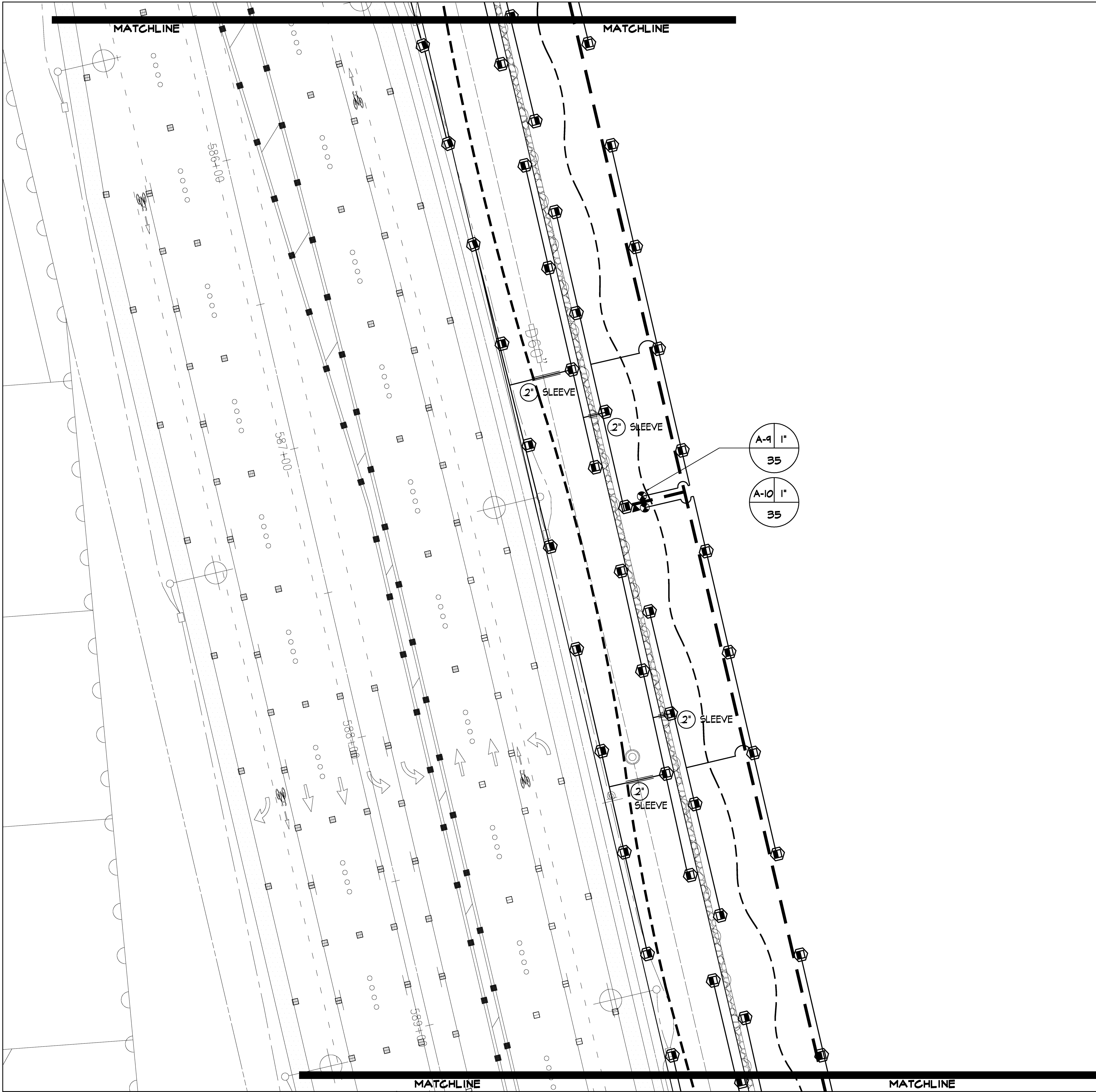
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Sheet Number

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Landscape Architecture and Planning

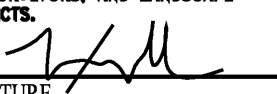
Maui, Hawaii

2670 WAI WAI PLACE
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KAONOULU MARKET PLACE

Kihei, Maui, Hawaii

(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Sheet Title

Landscape Irrigation Plan
Area 3

REVISIONS	NO	DESCRIPTION	DATE	BY
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Δ	DWS	Comments	12/17/2006	MDG
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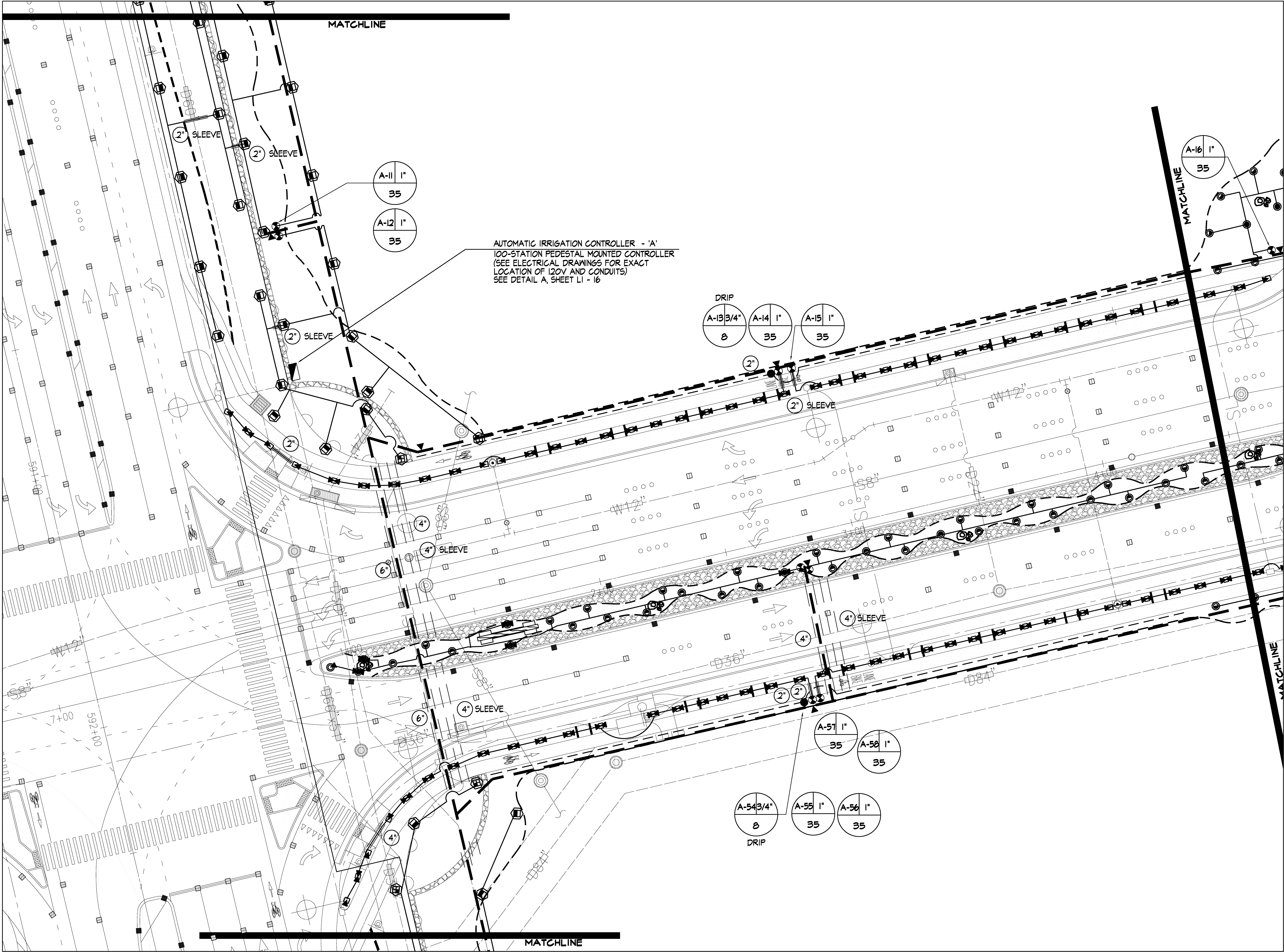
JOB NUMBER	DATE
2775	1 May 2006
PROJECT DIRECTOR	DESIGNED BY
BPM	JCW
DRAWN BY	CHECKED BY
JCW	JCW/BPM
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x2775-i	

Scale: 1/16"=1'-0"

Sheet Number

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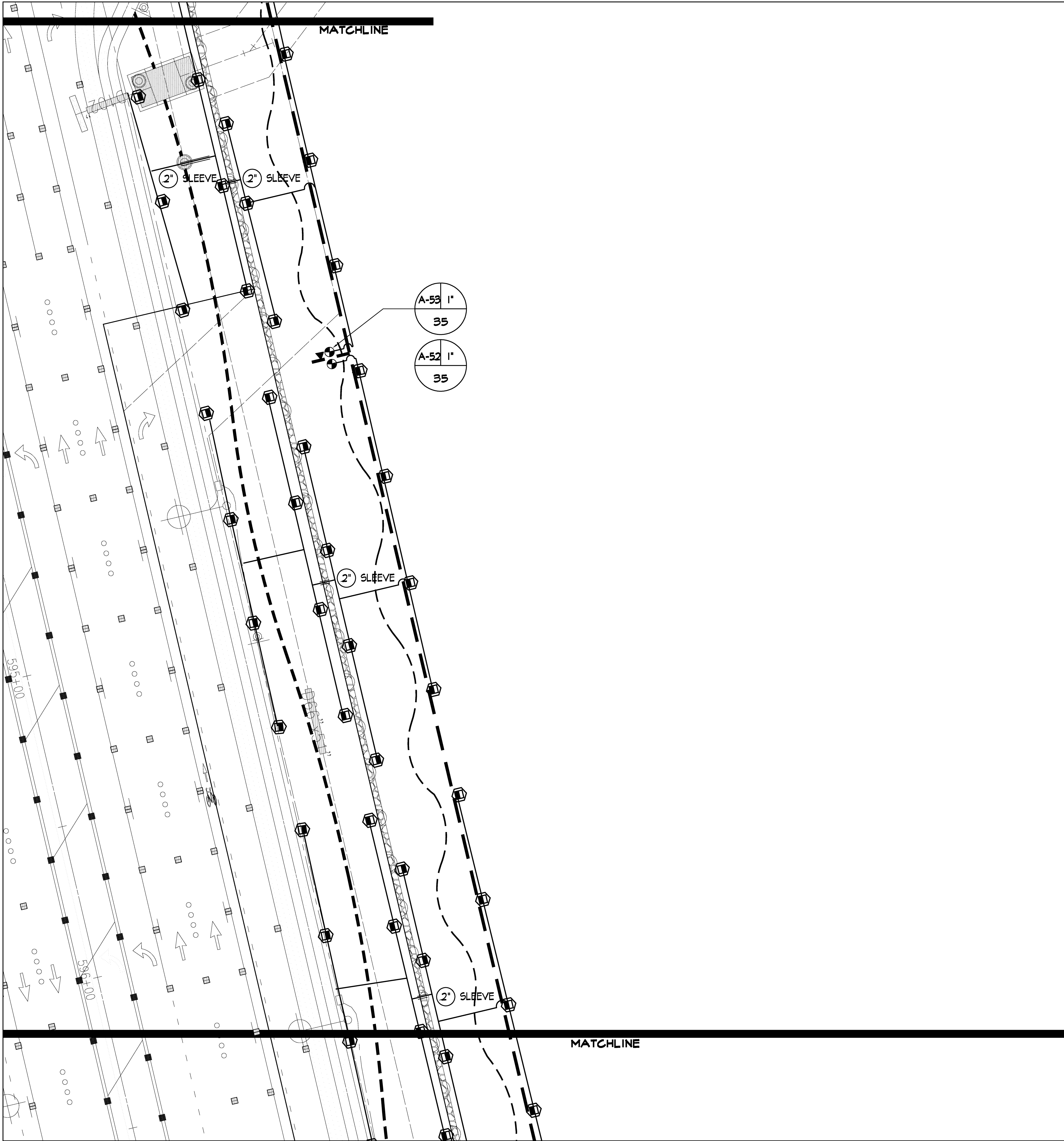


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LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. LA 8901
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SIGNATURE

KAONOULU MARKET PLACE
Kihei, Maui, Hawaii
(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Sheet Title			
Landscape Irrigation Plan			
Area 4			
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2	DWS Comments	12/17/2008	MDG
JOB NUMBER		DATE	
2775		1 May 2006	
PROJECT DIRECTOR		DESIGNED BY	
BPM		JCW	
DRAWN BY		CHECKED BY	
JCW		JCW/BPM	
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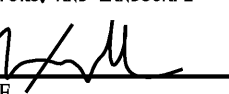
Maui, Hawaii

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SIGNATURE 

KAONOULU MARKET PLACE

Kihei, Maui, Hawaii

(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Sheet Title

Landscape Irrigation Plan
Area 5

NO	DESCRIPTION	DATE	BY
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JOB NUMBER	DATE
2775	1 May 2006

PROJECT DIRECTOR	DESIGNED BY
BPM	JCW

DRAWN BY	CHECKED BY
JCW	JCW/BPM

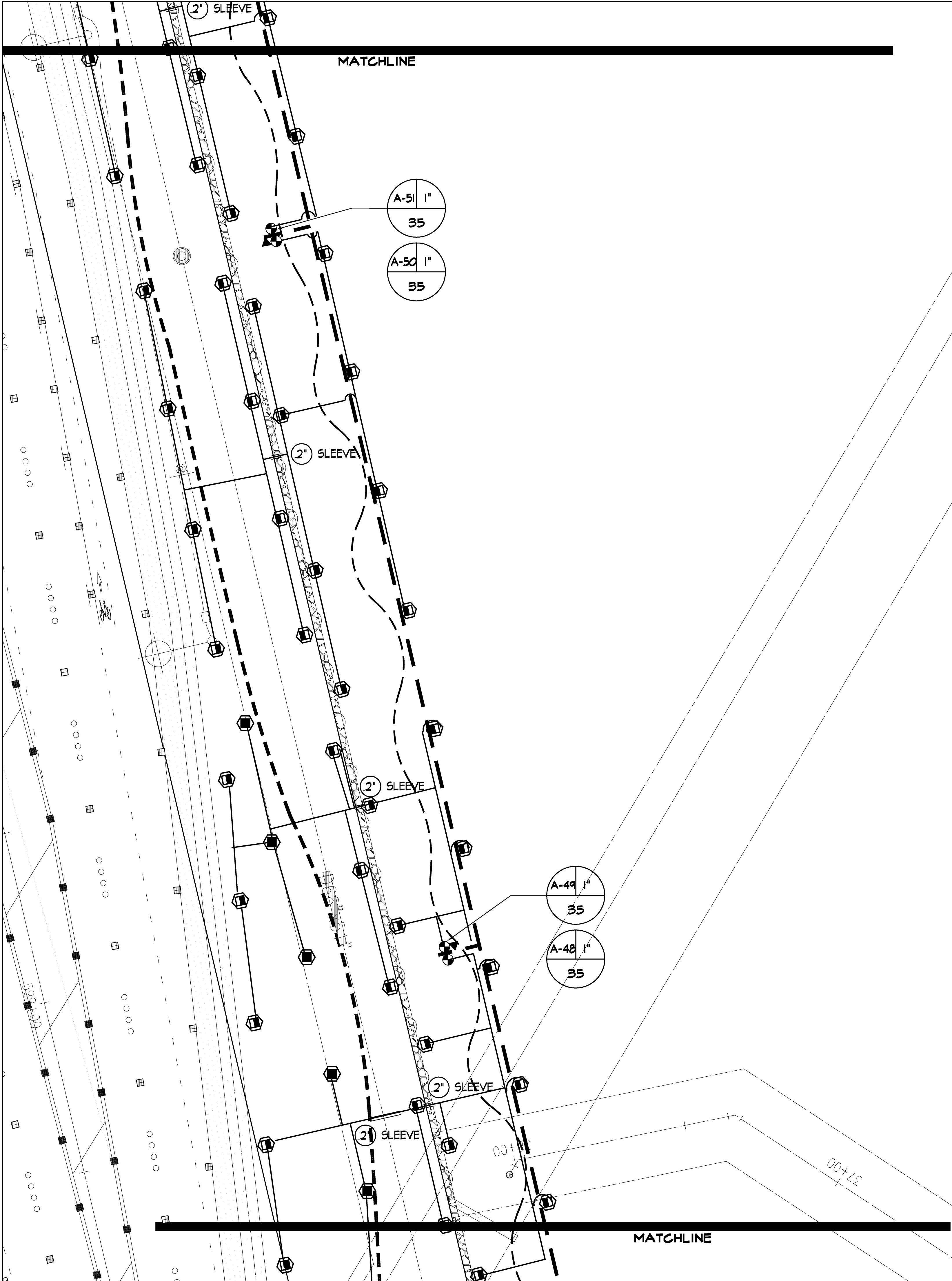
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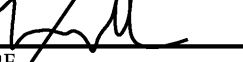
Maxwell Design Group, Inc.
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2670 WAI WAI PLACE
Kihei, Maui, HI 96753
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SIGNATURE 

KAONOULU MARKET PLACE

Kihei, Maui, Hawaii

(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Sheet Title
Landscape Irrigation Plan
Area 6

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JOB NUMBER 2775 DATE 1 May 2006

PROJECT DIRECTOR BPM DESIGNED BY JCW

DRAWN BY JCW CHECKED BY JCW/BPM

CAD FILE x2775-i

Scale: 1/16"=1'-0"

Sheet Number

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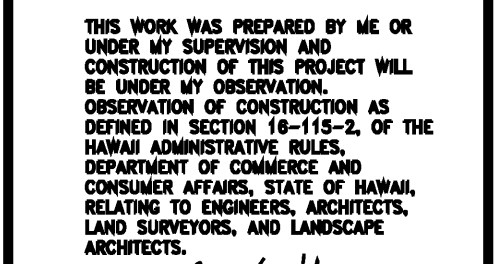
of



Maui, Hawaii

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Kihei, Maui, Hawaii

(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Landscape Irrigation Plan
Area 7

Scale: 1/16"=1'-0"

LI-7

- - of -



Maui, Hawaii

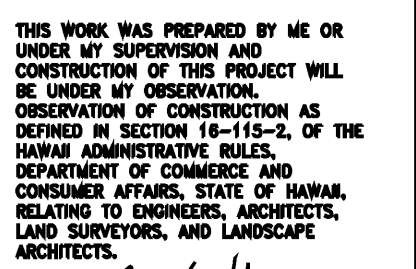
670 WAI WAI PLACE

PH. 000 001 0600

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Kihel, Maui, Hawaii

(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Sheet Title

Landscape Irrigation Plan Area 8

REVISIONS			
NO	DESCRIPTION	DATE	BY
1	DWS Comments	11/4/2008	MDG
2	DWS Comments	12/17/2008	MDG

JOB NUMBER	DATE
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PROJECT DIRECTOR	DESIGNED BY
BPM	JCW

DRAWN BY	CHECKED BY
CW	JCW/BPM

AD FILE
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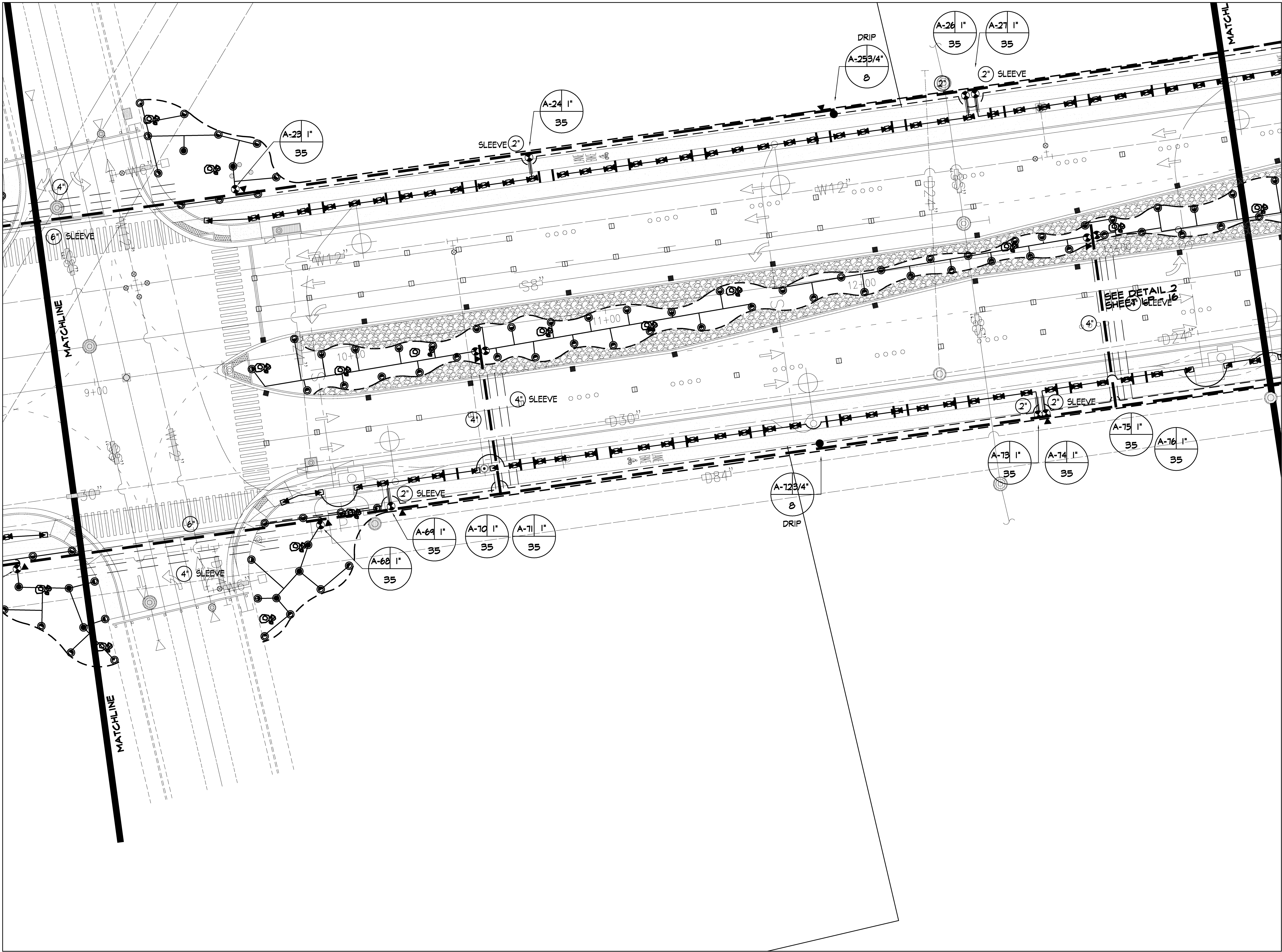
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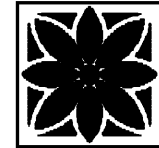
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Sheet Number


LI - 8

- of -





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SIGNATURE

KAONOULU MARKET PLACE

Kihei, Maui, Hawaii

(2) 2-2-02 Por of 1:5 and (2) 3-9-01:16

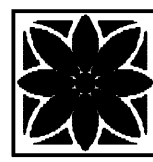
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Area 9

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JOB NUMBER 2775	DATE 1 May 2006
PROJECT DIRECTOR BPM	DESIGNED BY JCW
DRAWN BY JCW	CHECKED BY JCW/BPM
CAD FILE x2775-i	

Scale: 1/16"=1'-0"

Sheet Number
LI - 9
- - of -



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ARCHITECTS.

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KAONOULU MARKET PLACE

Kihei, Maui, Hawaii

(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Sheet Title
Landscape Irrigation Plan
Area 10

REVISIONS			
NO	DESCRIPTION	DATE	BY
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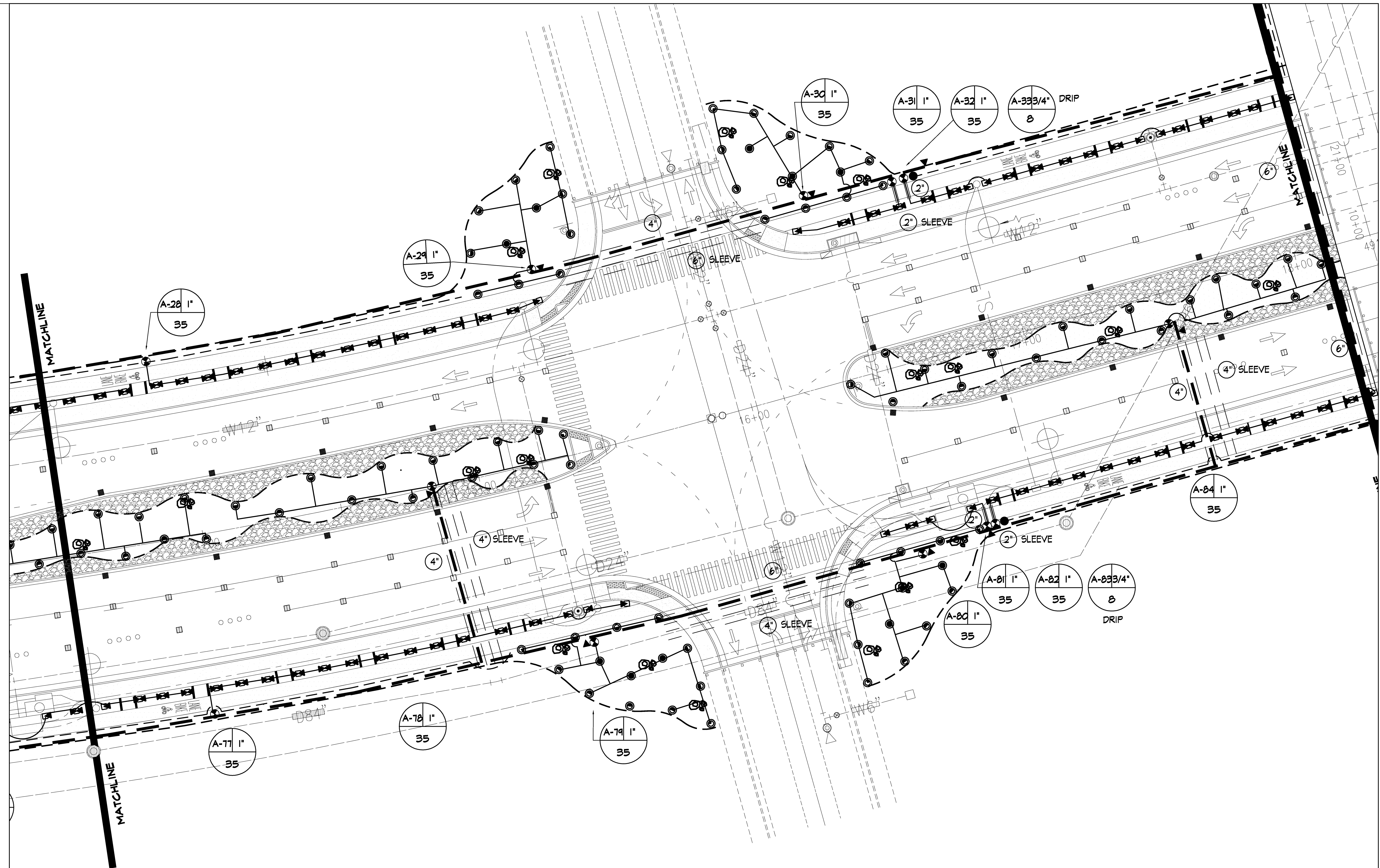
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DATE
1 May 2006
PROJECT DIRECTOR
BPM
DESIGNED BY
JCW
DRAWN BY
JCW
CHECKED BY
JCW/BPM
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Sheet Number

LI - 10

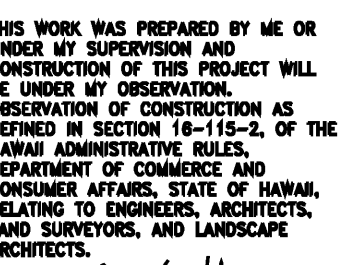
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KAONOULU MARKET PLACE

Kihei, Maui, Hawaii

(2) 2-2-02 Por of 15 and (2) 3-9-01:16

Sheet Title

Landscape Irrigation Plan Sheet Layout

REVISIONS			
NO	DESCRIPTION	DATE	BY
1	DWS Comments	11/4/2008	MDG
2	DWS Comments	12/17/2008	MDG

JOB NUMBER _____ DATE _____

PROJECT DIRECTOR	DESIGNED BY
BBM	ICW

DRAWN BY	CHECKED BY
ICW	ICW/BBM

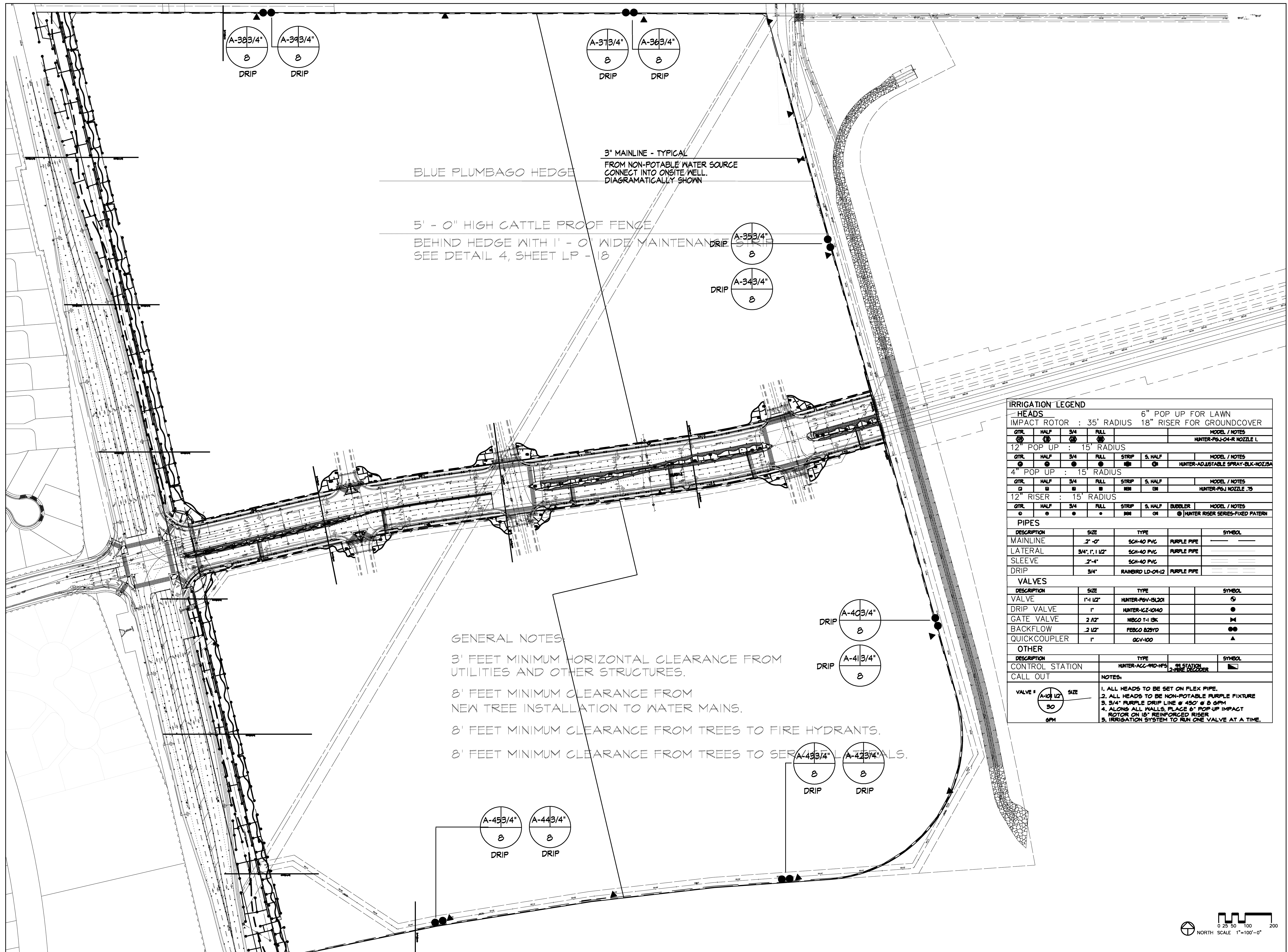
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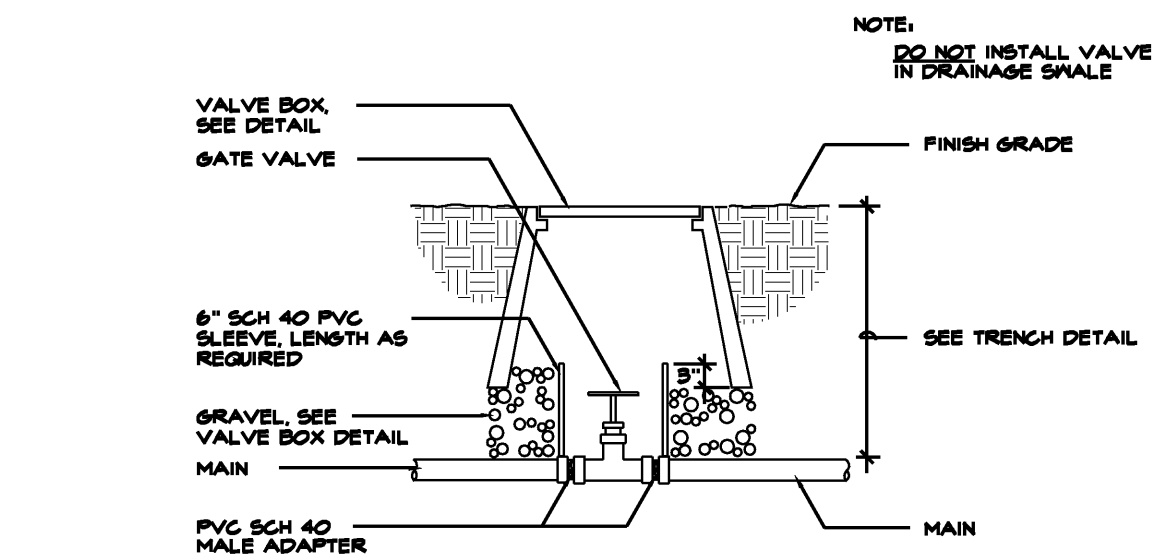
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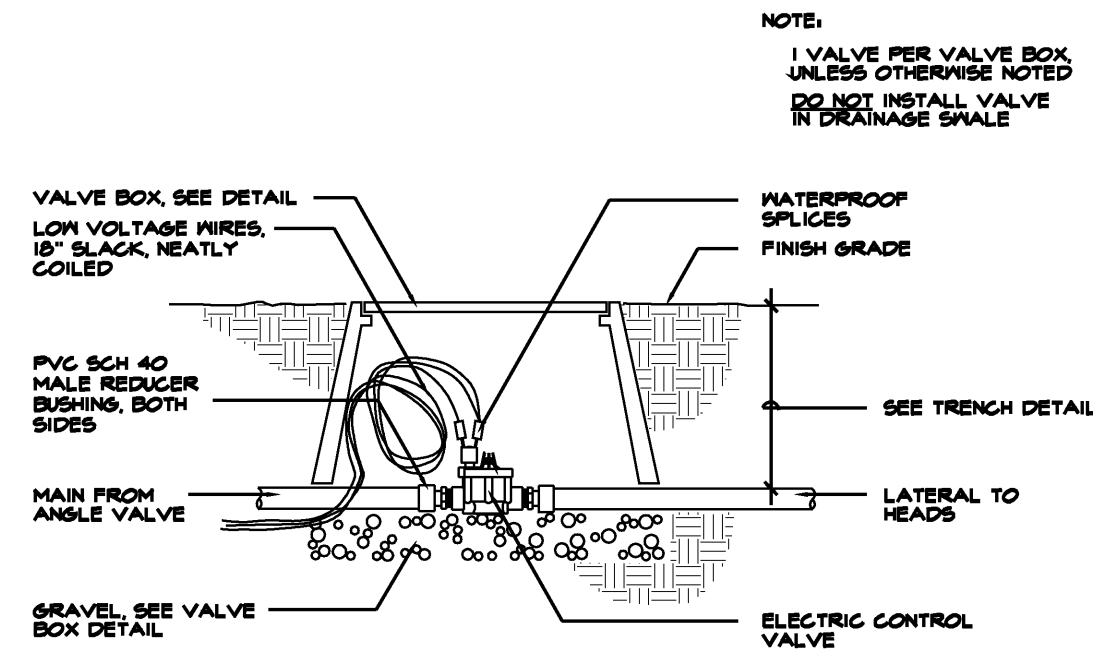
IRRIGATION NOTES

1. THIS PLAN IS DIAGRAMATIC. IRRIGATION SYSTEM IS SUBJECT TO FIELD ADJUSTMENTS DUE TO UNANTICIPATED SITE CONDITIONS. LOCATE ALL MAINLINES, LATERALS, VALVES AND SPRINKLER HEADS WITHIN PLANTING AREAS, UNLESS OTHERWISE NOTED. PLACE MAINLINE IN PLANTING AREAS WHERE NO SLEEVES ARE SHOWN. AVOID ANY CONFLICT BETWEEN UNDERGROUND UTILITIES, STRUCTURES AND PLANTINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES. BURY ALL IRRIGATION LINES UNDER PAVING 24" DEEP. IN PLANTING AREAS BURY PRESSURE MAINLINES 18" AND LATERAL LINES 10" DEEP.
2. THIS IRRIGATION SYSTEM WAS DESIGNED WITH A MINIMUM STATIC WATER PRESSURE OF 30 PSI AT THE POINT OF CONNECTION. NOTIFY THE PROJECT ENGINEER, IF WATER PRESSURE IS LESS THAN 30 PSI OR GREATER THAN 100 PSI.
3. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND OBSERVE ALL LOCAL CODES AND REGULATIONS. THE CONTRACTOR SHALL CONFIRM ALL SITE DIMENSIONS AND CONDITIONS, AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
4. CONTRACTOR IS TO COORDINATE THE INSTALLATION OF ALL SLEEVES, CONDUITS, MAINLINES AND LATERALS UNDER PAVEMENT AND TROUGH WALLS. CONTRACTOR SHALL ASSURE THAT THESE ITEMS ARE LAID PRIOR TO PLACEMENT OF PAVEMENT OR WALL STRUCTURES.
5. CONTRACTOR SHALL INSTALL IRRIGATION LINES, WIRES, VALVES AND HEADS PER SPECIFICATIONS. EXISTING GATE VALVES, POINT OF CONNECTION, ETC. ARE DERIVED FROM THE BEST AVAILABLE INFORMATION AND ON SITE INSPECTIONS. THE CONTRACTOR SHALL VERIFY THOSE POINTS OF CONNECTION NOTED AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.
6. LOCATE AND INSTALL ALL SPRINKLER HEADS 6" FROM SIDEWALKS, CURBS, DRIVEWAYS, BUILDINGS AND WALLS UNLESS NOTED OTHERWISE. FLEX TUBING SHALL BE INSTALLED ON ALL SPRINKLER HEADS ALONG SIDEWALKS, DRIVEWAYS AND PARKING SPACES. ADJUST ALL SPRINKLER HEADS AND FLOW CONTROL FOR MAXIMUM COVERAGE AND MINIMUM OVERTHROW AND MISTING. OPERATE ONLY ONE VALVE AT A TIME PER CONTROLLER.



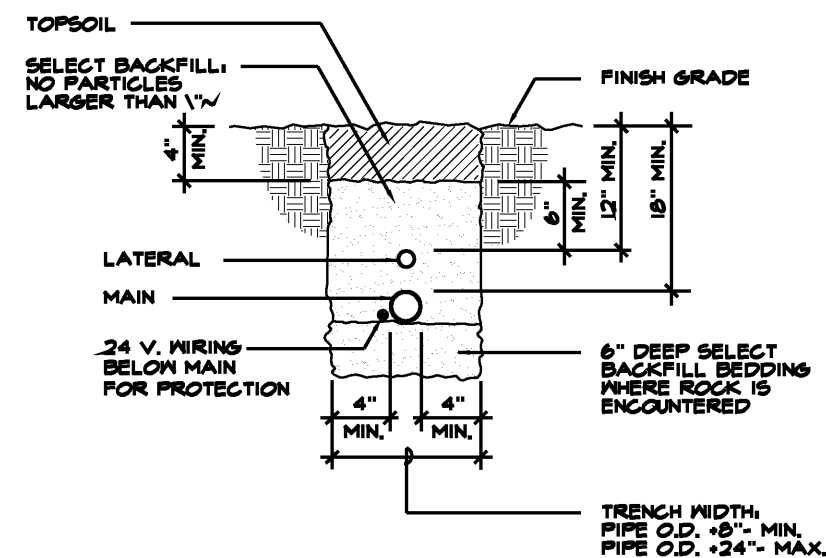
E GATE VALVE (3" AND SMALLER)

NOT TO SCALE



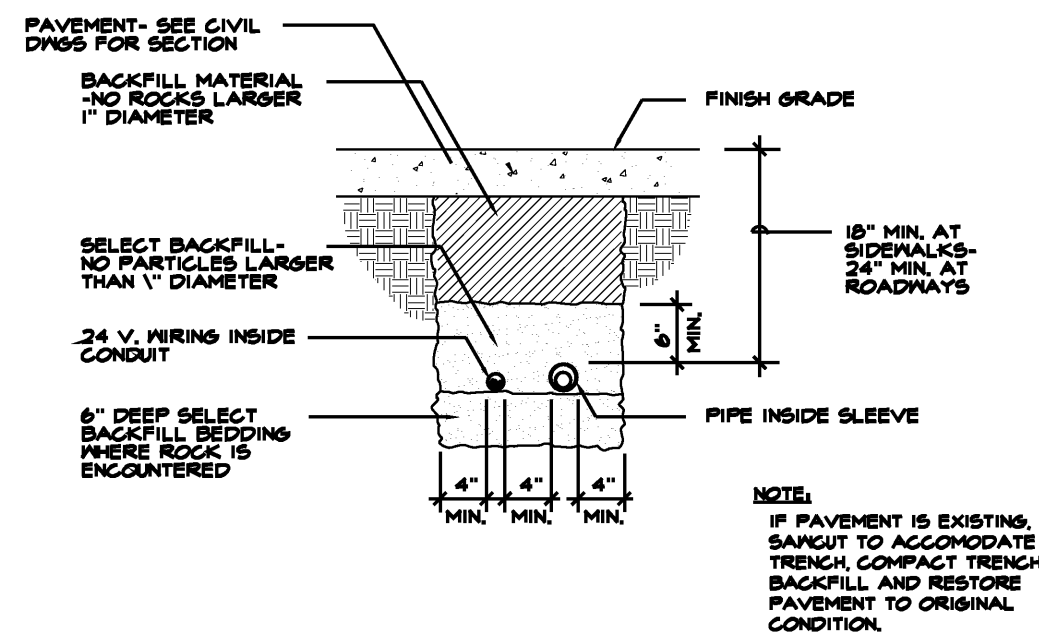
F CONTROL VALVE

NOT TO SCALE



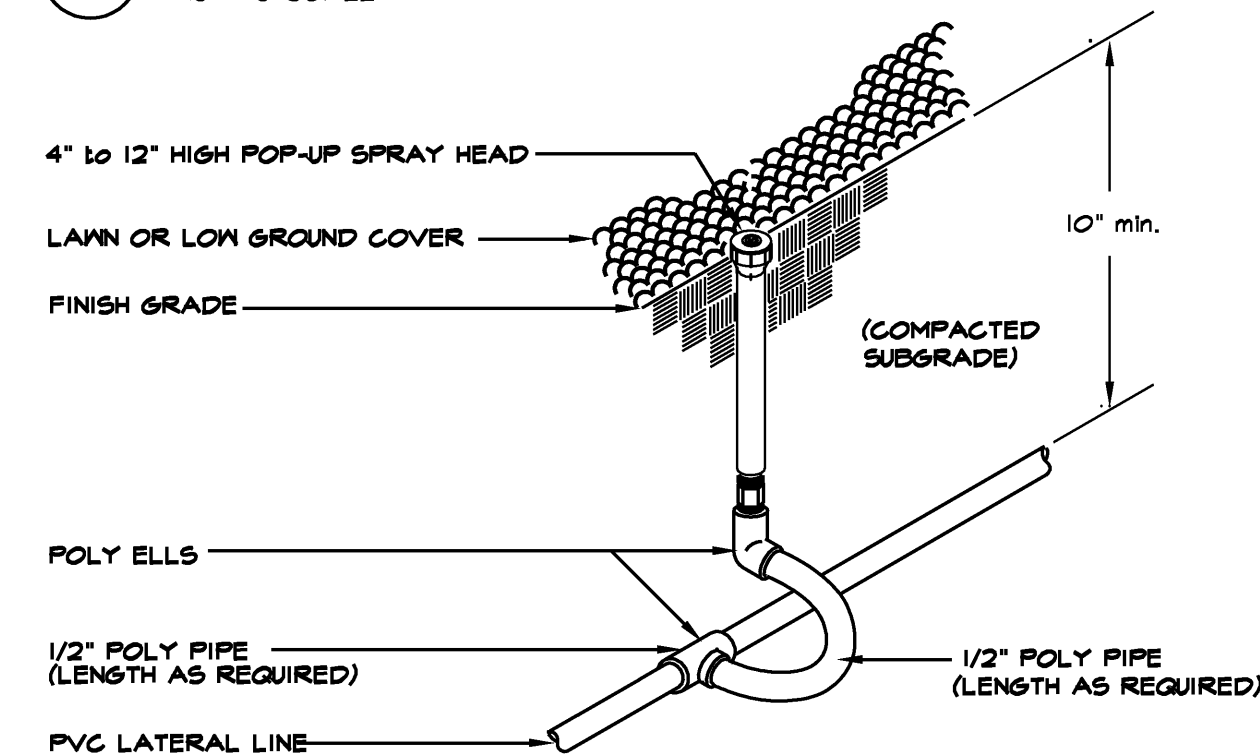
G PIPE TRENCH- PLANTING AREAS

NOT TO SCALE



H PIPE TRENCH- PAVED AREAS

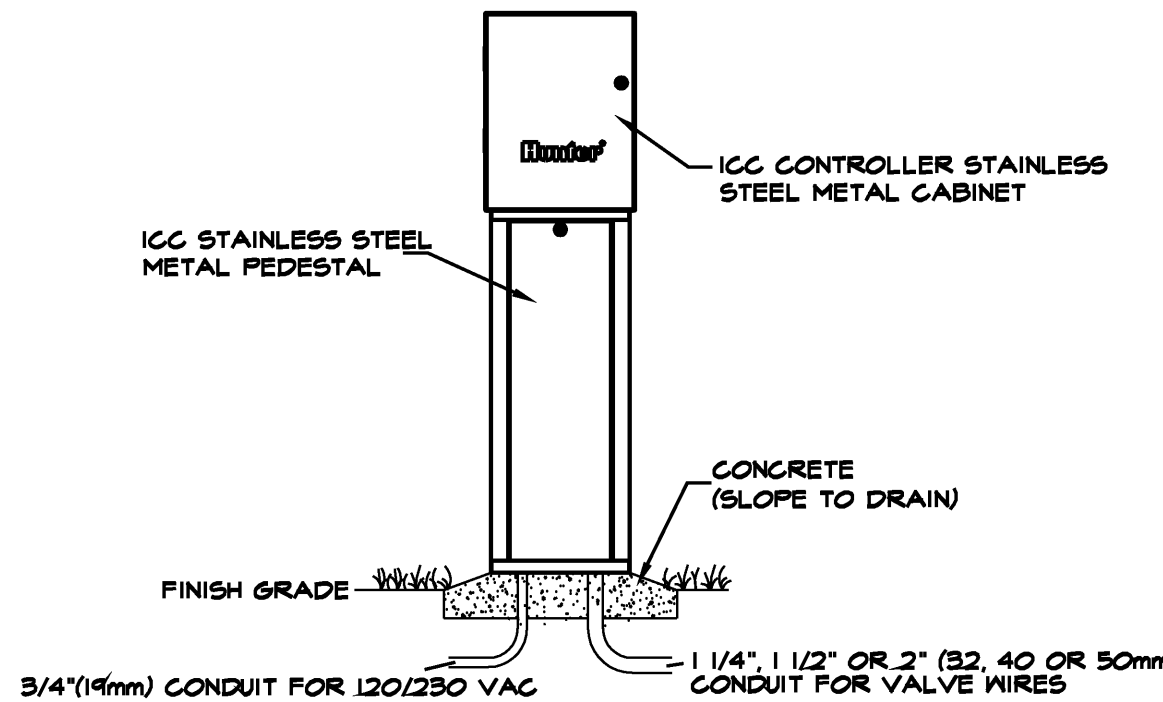
NOT TO SCALE



I LAWN OR HIGH POP-UP SPRAY DETAIL

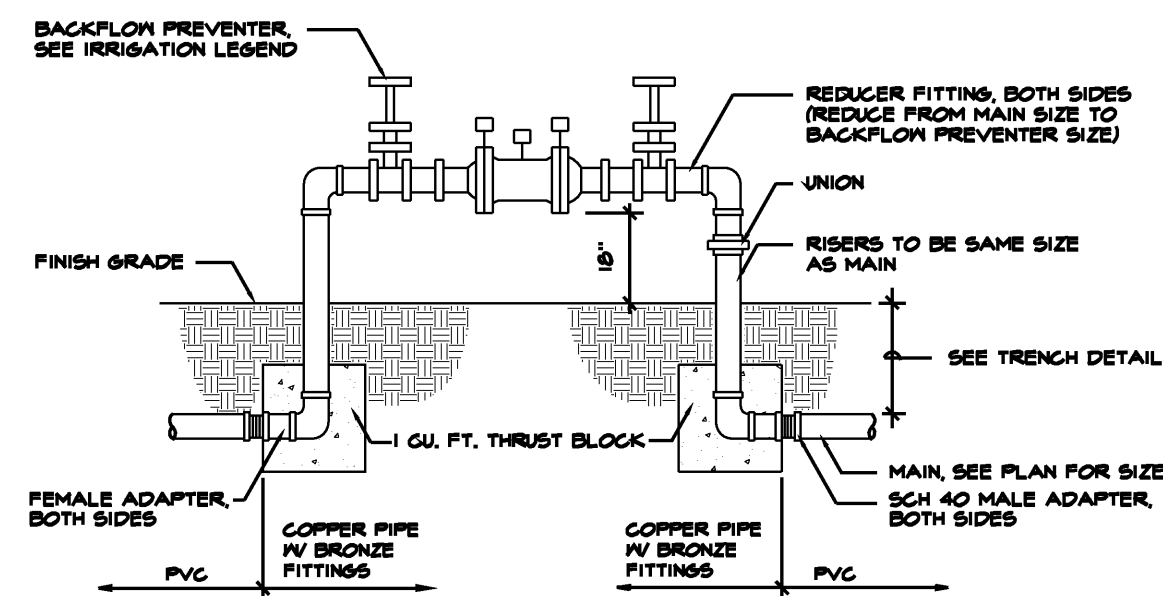
NOT TO SCALE

NOTE: INSTALL IRRIGATION CONTROLLER AT LOCATIONS SHOWN ON DRAWINGS AND ACCORDING TO MANUFACTURERS RECOMMENDATIONS



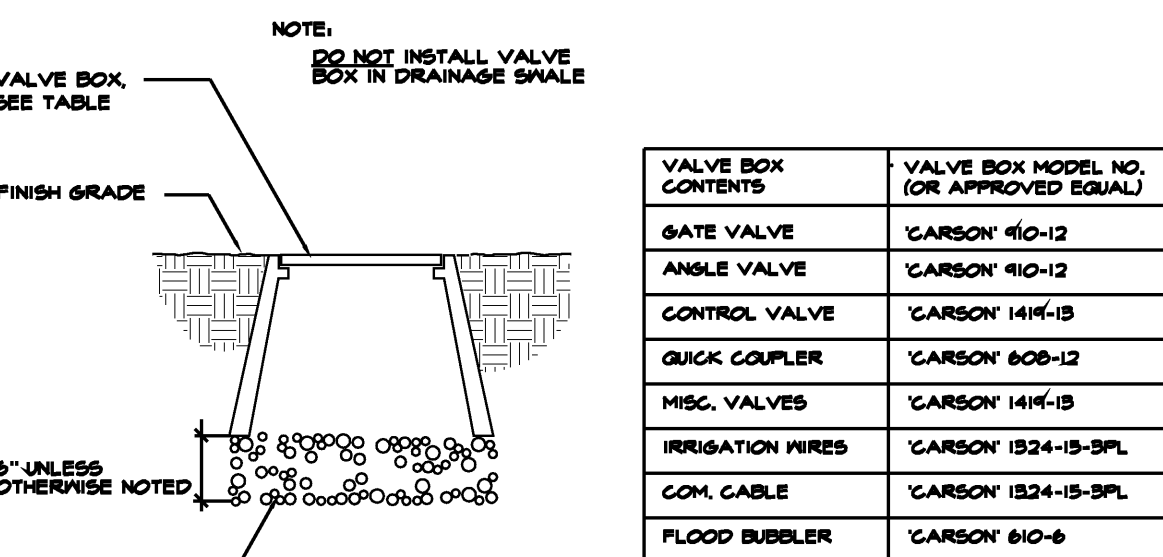
A Irrigation Controller

NOT TO SCALE



B BACKFLOW PREVENTER (2" & SMALLER)

NOT TO SCALE

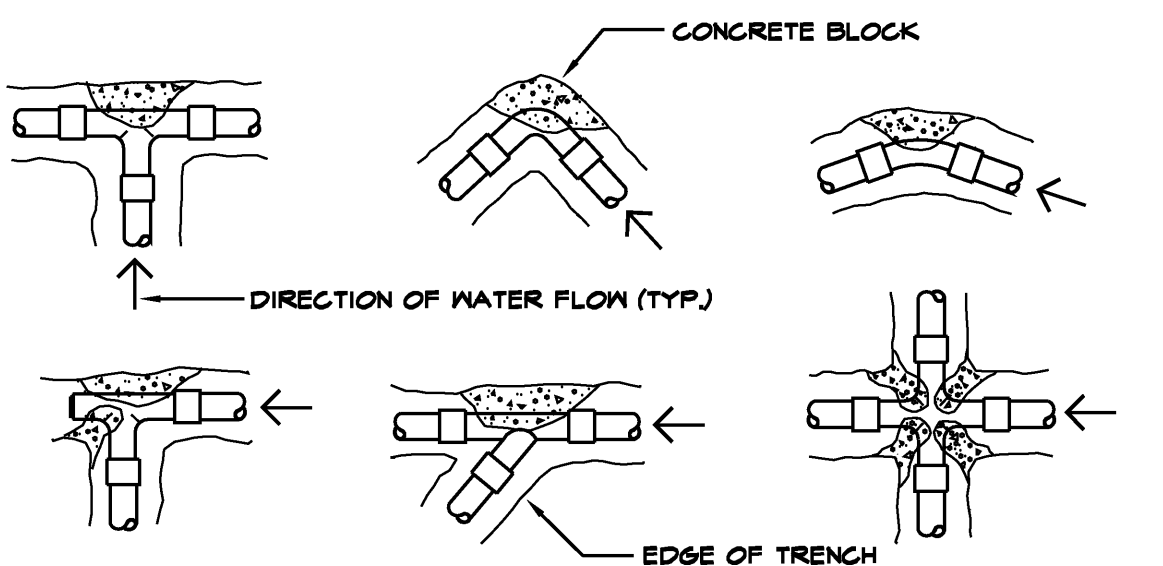


C VALVE BOX

NOT TO SCALE

THRUST BLOCK BEARING AREA (SQ. FT.)				
PIPE SIZE	1 1/4" - 2 1/2"	3"	4"	6"
TEES/ELLS	1.00	1.00	1.25	3.2
40 BENDS	1.00	1.25	2.00	4.5
45 BENDS	1.00	1.00	1.00	2.4

NOTE: INSTALL THRUST BLOCK AT ALL MAINLINE BENDS, TEES OR ELLS AS SHOWN BELOW. THRUST BLOCKS SHALL BE MINIMUM OF (1) CU. FT. RED-1-MIX CONCRETE OR 2500 PSI 28 DAY CONCRETE.



D THRUST BLOCK DETAIL

NOT TO SCALE

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No. LA 8901
HAWAII, U.S.A.
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SIGNATURE

KAONOLU MARKET PLACE

Kihei, Maui, Hawaii

TMK (2) 2-2-02 Por of 15 and (2) 3-9-01 : 16

Sheet Title

IRRIGATION
DETAIL

REVISIONS	NO.	DESCRIPTION	DATE	BY
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JOB NUMBER	DATE
2775	May 2006
PROJECT DIRECTOR	DESIGNED BY
JCW	JCW
DRAWN BY	CHECKED BY
JCW	BPM/JCW
CAD FILE	
x2775	

Scale: NTS

Sheet Number

LI - 12

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