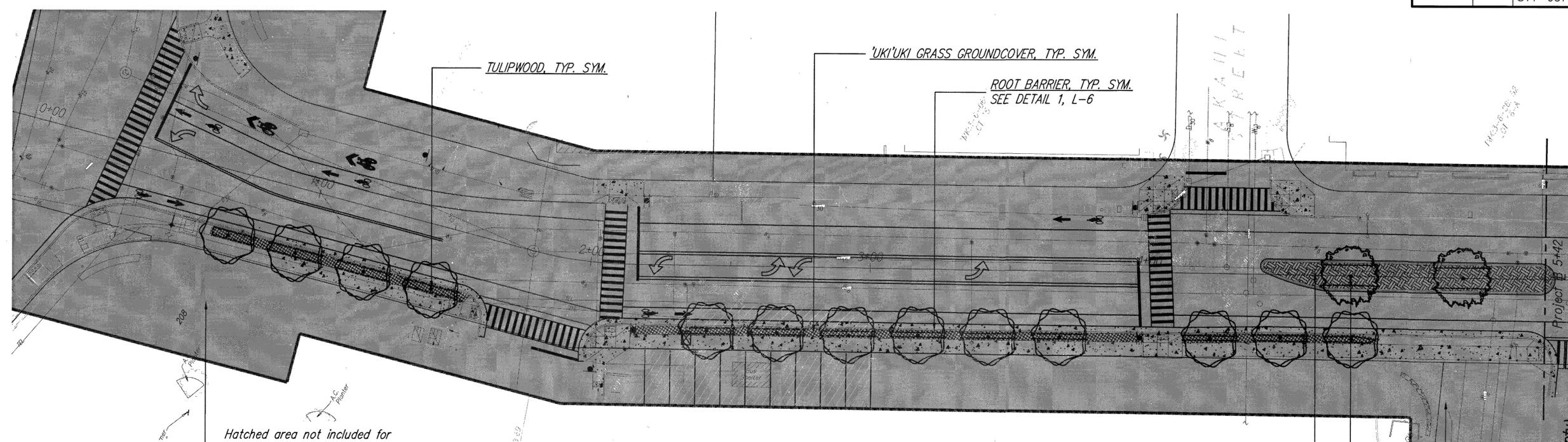


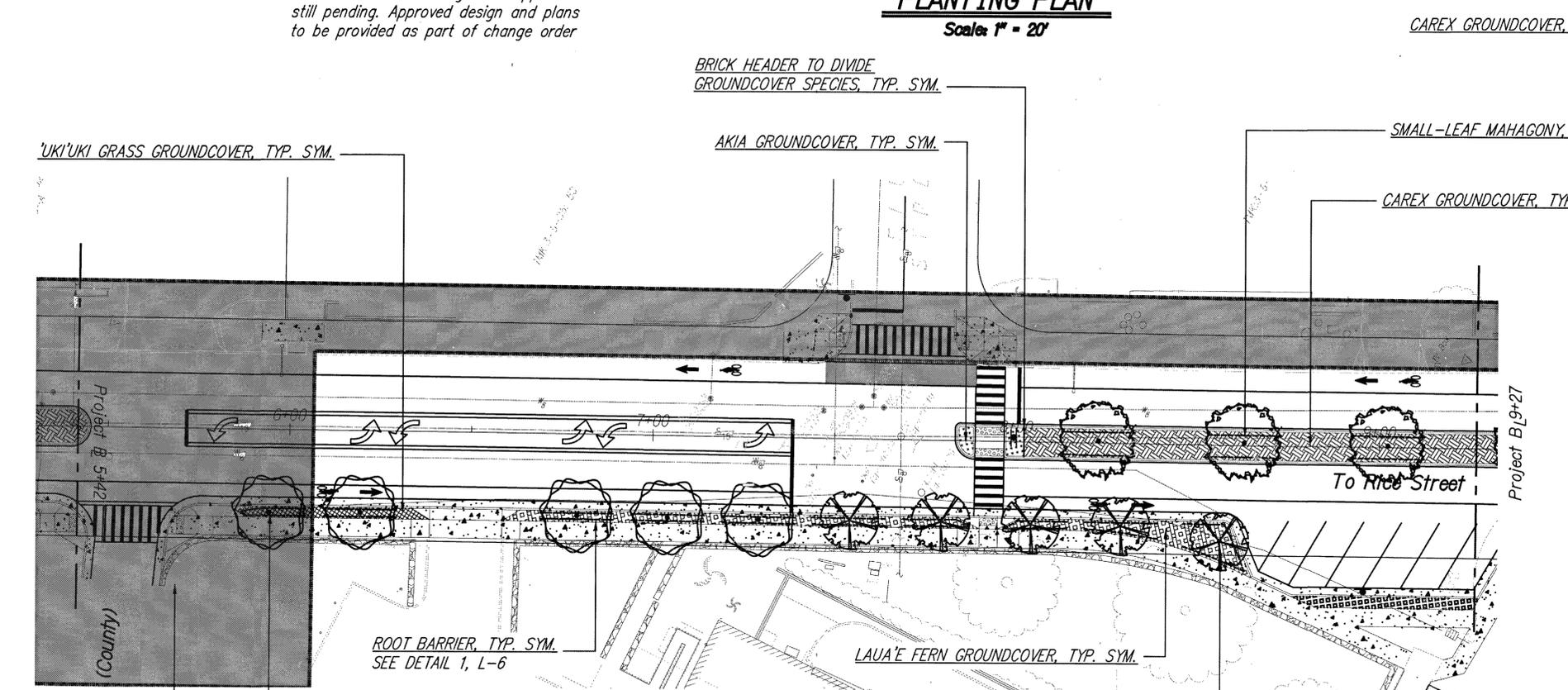
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	121	145



PLANTING PLAN
Scale: 1" = 20'

Hatched area not included for construction. Final Design and Approval is still pending. Approved design and plans to be provided as part of change order

Hatched area not included for construction. Final Design and Approval is still pending. Approved design and plans to be provided as part of change order



PLANTING PLAN
Scale: 1" = 20'

Hatched area not included for construction. Final Design and Approval is still pending. Approved design and plans to be provided as part of change order

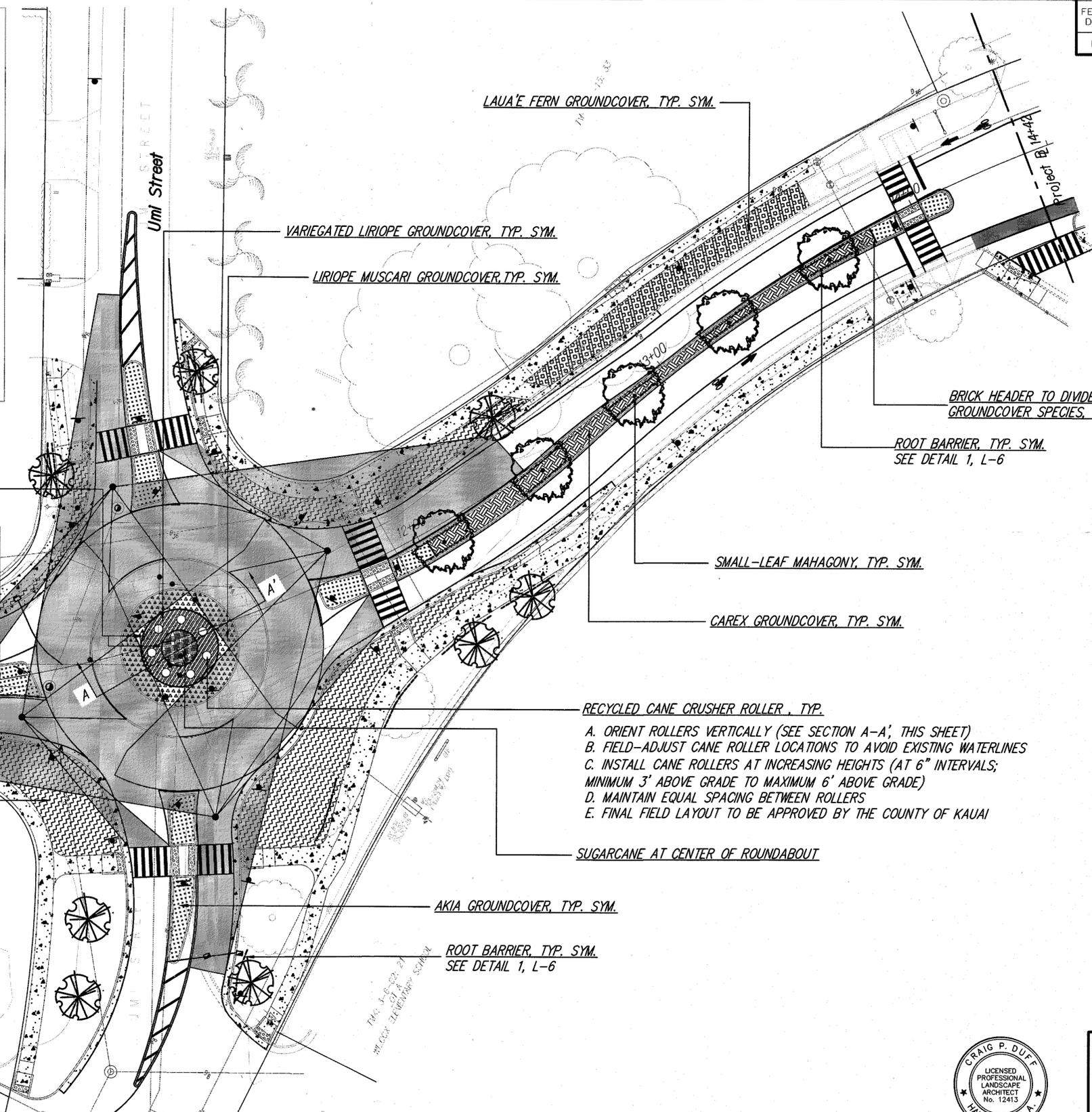
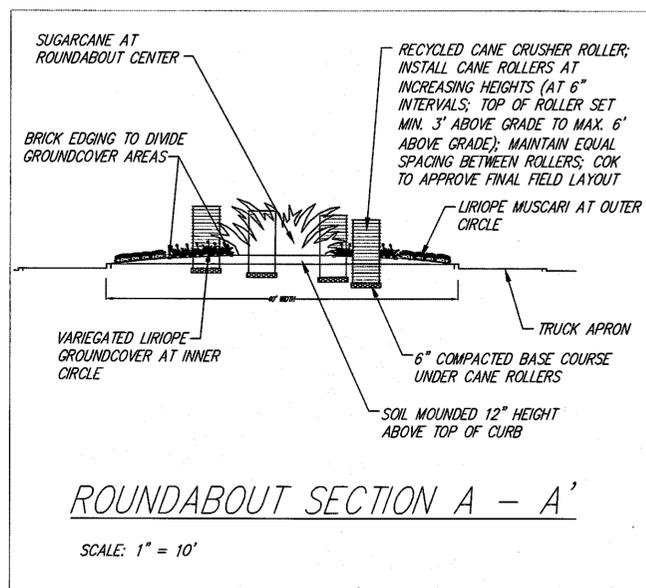
DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED: *[Signature]* 11-21-14
COUNTY ENGINEER DATE



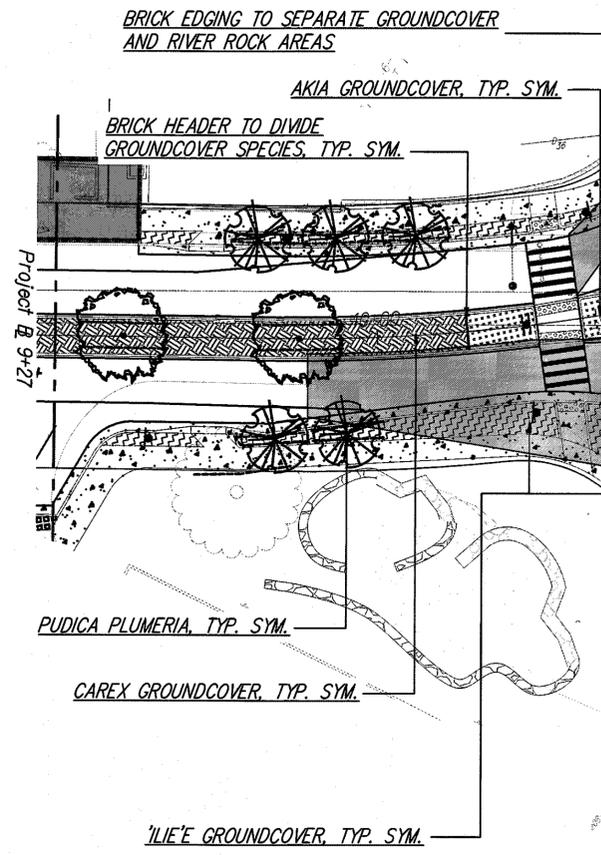
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
[Signature]
SIGNATURE APRIL 30, 2016 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANTING PLAN - 1
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: Sept 12, 2014
SHEET No. 121 OF 145 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	122	145



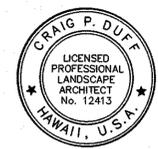
TRUE NORTH
SCALE: 1" = 20'



- RECYCLED CANE CRUSHER ROLLER, TYP.**
- ORIENT ROLLERS VERTICALLY (SEE SECTION A-A', THIS SHEET)
 - FIELD-ADJUST CANE ROLLER LOCATIONS TO AVOID EXISTING WATERLINES
 - INSTALL CANE ROLLERS AT INCREASING HEIGHTS (AT 6" INTERVALS; MINIMUM 3' ABOVE GRADE TO MAXIMUM 6' ABOVE GRADE)
 - MAINTAIN EQUAL SPACING BETWEEN ROLLERS
 - FINAL FIELD LAYOUT TO BE APPROVED BY THE COUNTY OF KAUAI
- SUGARCANE AT CENTER OF ROUNDABOUT**

PLANTING PLAN
Scale: 1" = 20'

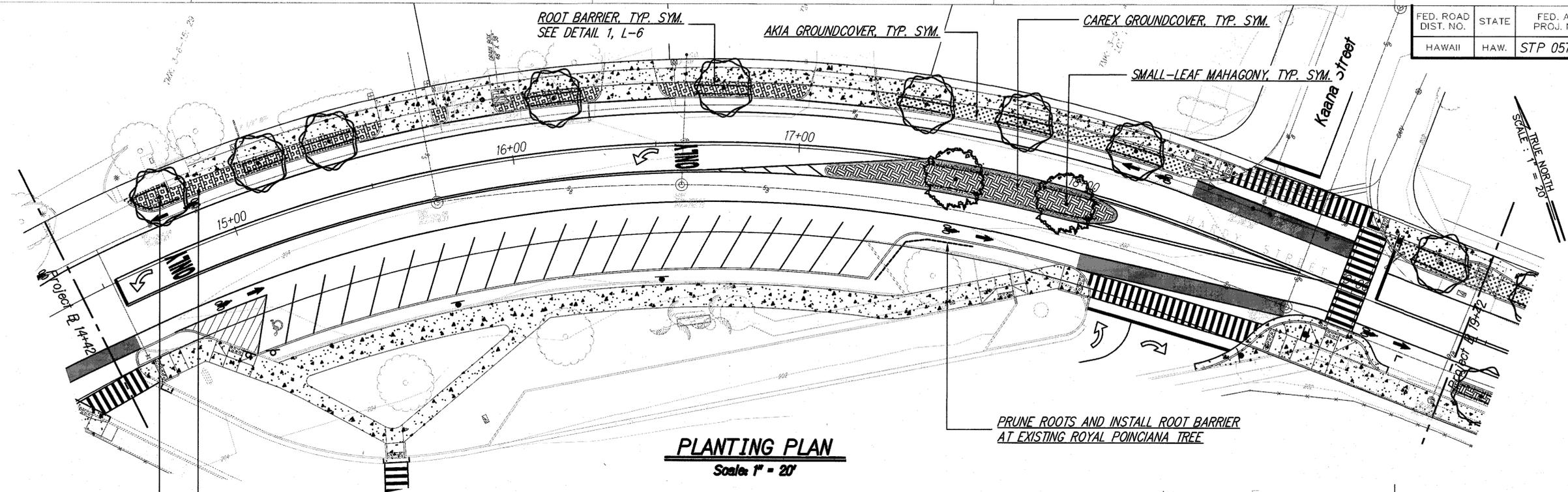
DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
[Signature]
COUNTY ENGINEER
DATE: 11-24-14



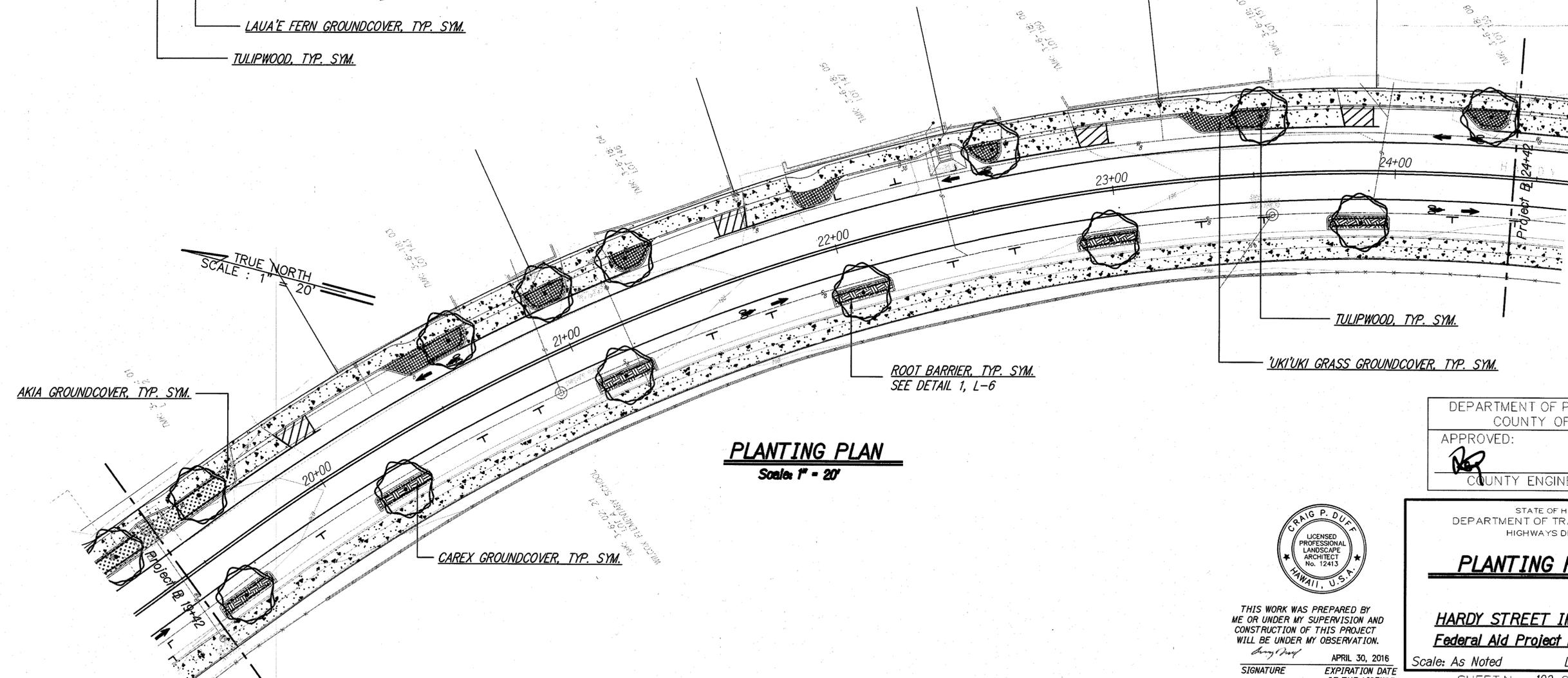
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Signature: *[Signature]*
APRIL 30, 2016
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANTING PLAN - 2
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: Sept 12, 2014
SHEET No. 122 OF 145 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	123	145



PLANTING PLAN
Scale: 1" = 20'



PLANTING PLAN
Scale: 1" = 20'

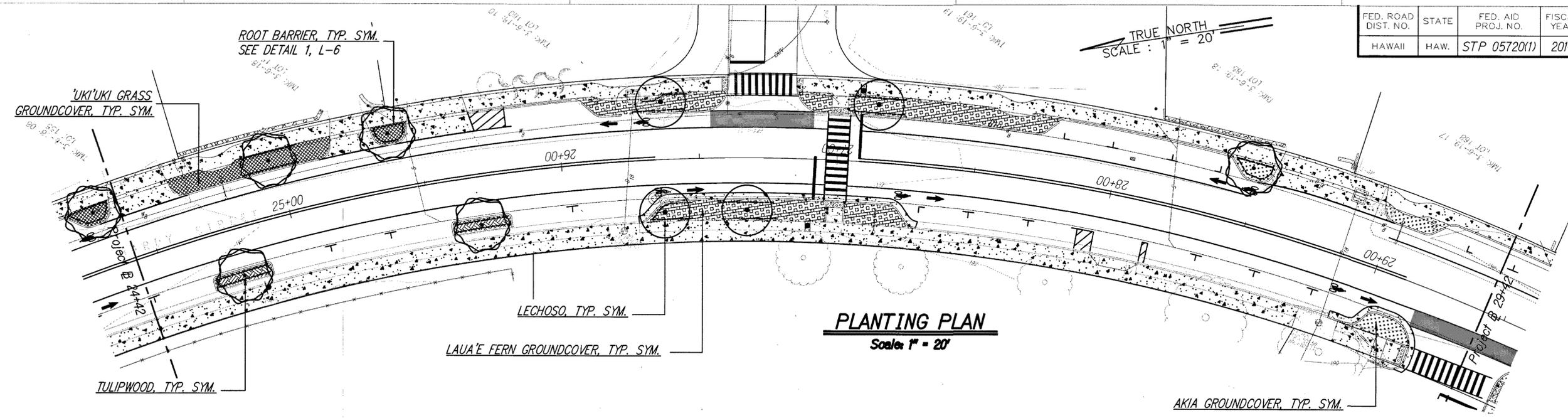
DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED: *[Signature]* 11/21/14
COUNTY ENGINEER DATE



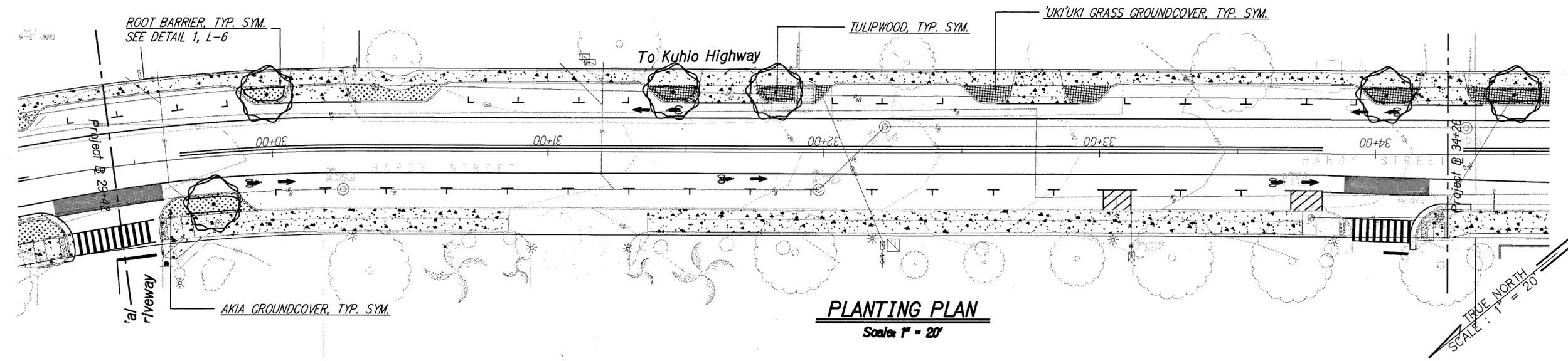
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SIGNATURE APRIL 30, 2016 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANTING PLAN - 3
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: Sept 12, 2014
SHEET No. 123 OF 145 SHEETS

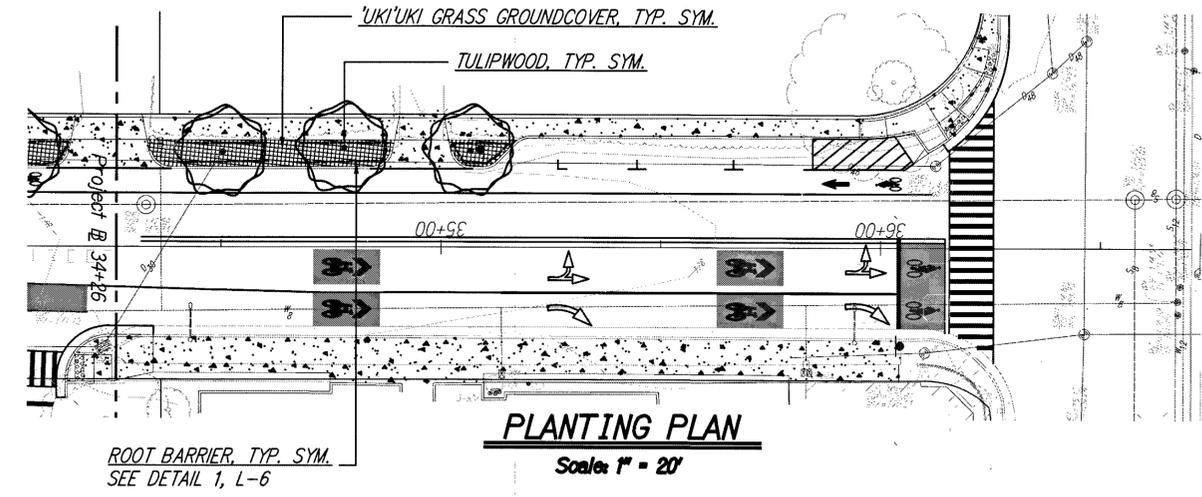
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	124	145



PLANTING PLAN
Scale: 1" = 20'



PLANTING PLAN
Scale: 1" = 20'



PLANTING PLAN
Scale: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED: *[Signature]*
COUNTY ENGINEER DATE: 11-21-14



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SIGNATURE APRIL 30, 2016 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANTING PLAN - 4
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: Sept 12, 2014
SHEET No. 124 OF 145 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	125	145

GENERAL LANDSCAPE NOTES

- The Landscape Contractor shall grade planting beds, as required, to provide positive drainage and promote optimum plant growth.
- The plant material schedule is presented for the convenience of the Landscape Contractor. In the event of a discrepancy between the plan and the plant key, the plan shall prevail.
- All tree and shrub locations shown on the plans are approximate and subject to change. Tree and shrub locations shall be flagged in the field and approved by the Landscape Architect and Officer-in-charge prior to planting.
- There shall be no additions, deletions or substitutions without the written approval of the Landscape Architect and Officer-in-charge.
- The Landscape Contractor will be responsible for the collection, removal, and proper disposal of any and all debris generated during the installation of this project.
- Unless otherwise noted on these plans, contractor shall conform to the following documents in the State 2005 Standard Specifications for Roads and Bridge Construction, for all landscape-related materials and installation, as well as Special Provisions included in the contract documents:
Section 617 - Planting Soil
Section 619 - Planting
- Plants shall meet size indicated by minimum height and spread. Plants shall be straight and uniformly shaped, unless unique or special characteristics are specified, and shall be undamaged, healthy, vigorous and free of disease and insect infestation. Plants not conforming to these requirements on delivery to the project and at the end of the plant establishment period will be rejected.
- Landscape Contractor shall coordinate all work with related contractors and with the general construction of the project in order not to impede the progress of the work of others or the contractor's own work.
- Contractor shall be solely responsible for the complete removal and damages resulting from planting any plant species listed on the Hawaii Department of Agriculture "Noxious Weed Rules" as defined in the statute, Hawaii Administrative rules 4:68:1.
- For the duration of construction within the drip line of trees to remain there must be: no changes, alterations, or disturbance to the grade, except as noted on the plans; no storage of construction material or equipment; no stockpiling of any construction material or any excavated material; no disposal of any liquids; no vehicular traffic or equipment traffic; no attachment of any wires, ropes, lights, or any other such attachment other than those of protective nature to any tree to be preserved; no cleaning equipment or material under the canopy of any tree or group of trees to remain.
- Landscape contractor shall field adjust locations of plant material as necessary to avoid damage to existing underground utilities and/or existing above ground elements. All changes required shall be completed at the contractor's expense and shall be coordinated with the Officer-in-charge and the Landscape Architect.
- Stake trees immediately after planting as indicated in the contract documents. If staking is not required by the contract documents, stake trees if necessary because of abnormal wind conditions or if trees do not retain an upright position throughout the contract duration, or as directed by the county.
- Contractor shall grass all areas within the project limits disturbed by construction activities with Common Bermuda grass seed. At the contractor's option, direct seeding method will be acceptable, but must meet the maintenance and coverage requirements of the contract documents.

PLANTING NOTES:

- TYPICAL LANDSCAPE TREATMENT FOR ALL PLANTING AREAS:**
 - All plant materials shall comply with suggested/recommended plant material in the Lihue Town Core Urban Design Plan; final plant palette to be approved by County of Kauai.
 - Ensure plant material choice and placement does not impeded sight distance for pedestrians and drivers.
 - Install 6" topsoil layer and 1" layer soil amendments for all areas.
 - Avoid all utility conflicts.
- TYPICAL LANDSCAPE TREATMENT FOR MEDIAN WIDTHS BETWEEN 3'-0" AND 10'-0":**
 - Single row of Large canopy trees (25 gallon container size, 1.5"-2.5" caliper, 6'-8' overall height.). Space trees between 35'-40' on center with minimum 20' of root control barrier on each side of tree to protect curb and roadway. Provide additional root control barrier to protect underground utilities within median areas.
 - Provide native or non-invasive accent groundcover(s); 4" pot size, spaced at 18" o.c. (+/- 10% variance). Use triangular spacing.
 - Mound center of median 12"-18" high.
- TYPICAL LANDSCAPE TREATMENT FOR SIDEWALK PLANTING STRIPS:**
 - Single row of Medium canopy trees (25 gallon container size, 1.5"-2.5" caliper, 5'-6' overall height.). Space trees between 25'-30' on center with minimum 20' of root control barrier on each side of tree to protect sidewalk and roadway. Provide additional root control barrier to protect underground utilities within planting strips.
 - Provide native or non-invasive accent groundcover(s); 4" pot size, spaced at 18" o.c. (+/- 10% variance). Use triangular spacing.
 - All other areas shall be grassed. Grass shall be Common Bermudagrass and installed as seed.
- TYPICAL LANDSCAPE TREATMENT FOR SPLITTER ISLANDS NEAR ROUNDABOUT:**
 - Mixture of native or non-invasive accent shrubs (5 gal.) concentrated centrally in planter so as not to impede vehicular/pedestrian sight distances.
 - Provide native or non-invasive accent groundcover(s); 4" pot size, spaced at 18" o.c. (+/- 10% variance). Use triangular spacing.
 - Ensure plant material choice and placement does not impede sight distance for pedestrians and drivers.
- CONCRETE PLANTERS/POTS:**
 - Contractor shall provide and install precast concrete planters/pots in locations indicated on the plan sheets (minimum 24" height).
 - Planters/pots shall include waterproofing (if necessary per manufacturers' recommendations), drainage, commercial potting mix, and ornamental planting sufficient to completely fill planter (minimum 3 gal. size). Connect to permanent irrigation system.

FERTILIZATION NOTES

1. **SHRUBS AND TREES:** All shrubs and trees shall be fertilized with "Agriform" 20-10-5 planting tablets at time of installation and prior to completion of pit backfilling. Tablets shall be placed uniformly around the root mass at a depth that is between the middle and bottom of the root mass.

APPLICATION RATE FOR SHRUBS:

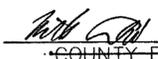
1 Gallon can:	1 - 21 gram tablet
3 Gallon can:	2 - 21 gram tablets
5 Gallon can:	3 - 21 gram tablets
7 Gallon can:	4 - 21 gram tablets

APPLICATION RATE FOR TREES:
3 - 21 gram tablets each 1/2" of caliper

2. **GROUNDCOVER AREAS:** All groundcover areas shall receive fertilization with a time release fertilizer; apply as per manufacturer's specifications, soil test reports, and any special considerations for the particular species installed.

DEPARTMENT OF WATER NOTES

- AS SPECIFIED BY THE OFFICER IN CHARGE, WHERE TREES ARE TO BE INSTALLED IN VICINITY OF D.O.W. POTABLE WATER MAINS, PROVIDE 5 FEET MINIMUM CLEARANCE TO THE OUTERMOST EDGE OF THE TRUNK OF THE TREES. INSTALL ROOT BARRIER AROUND TREES.
- PROVIDE 18" MINIMUM VERTICAL CLEARANCE BETWEEN IRRIGATION LINES AND D.O.W. POTABLE WATER MAINS.
- INSTALL WARNING TAPE OVER ALL IRRIGATION LINES WHICH CROSS D.O.W. POTABLE WATER LINES.
- ALL SECTIONS OF WATER MAIN THAT REQUIRE REINFORCED CONCRETE JACKETS SHALL BE DUCTILE IRON PIPE WITH DUCTILE IRON FITTINGS.

DEPARTMENT OF WATER COUNTY OF KAUAI	
APPROVED:	
	9/24/14
COUNTY ENGINEER	DATE
MANAGER AND CHIEF ENGINEER DEPT. OF WATER	

DEPARTMENT OF PUBLIC WORKS COUNTY OF KAUAI	
APPROVED:	
	11-24-14
COUNTY ENGINEER	DATE



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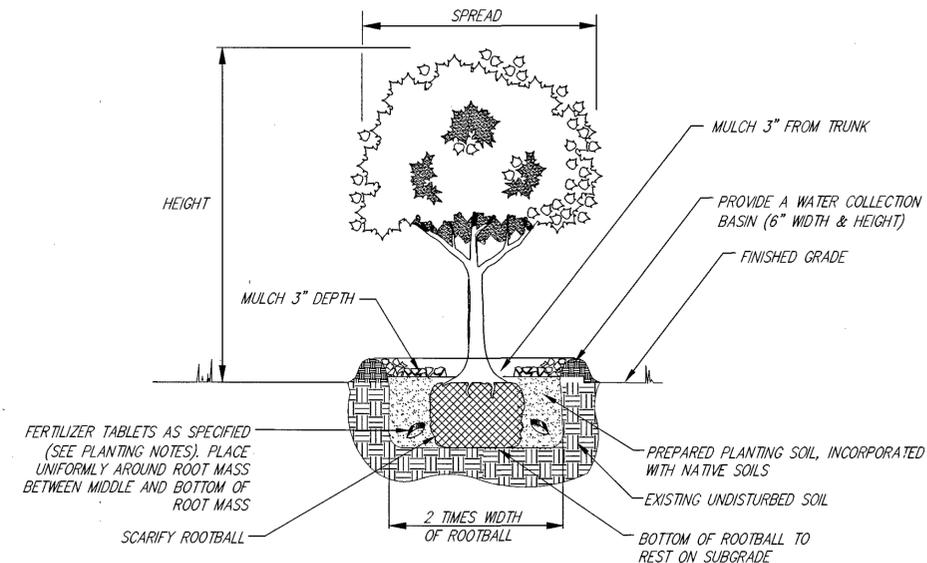
SIGNATURE APRIL 30, 2016
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
PLANTING PLAN - 5	
PLANTING NOTES	
HARDY STREET IMPROVEMENTS	
Federal Aid Project No. STP 05720(1)	
Scale: As Noted	Date: Sept 12, 2014
SHEET No. 125 OF 145 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	126	145

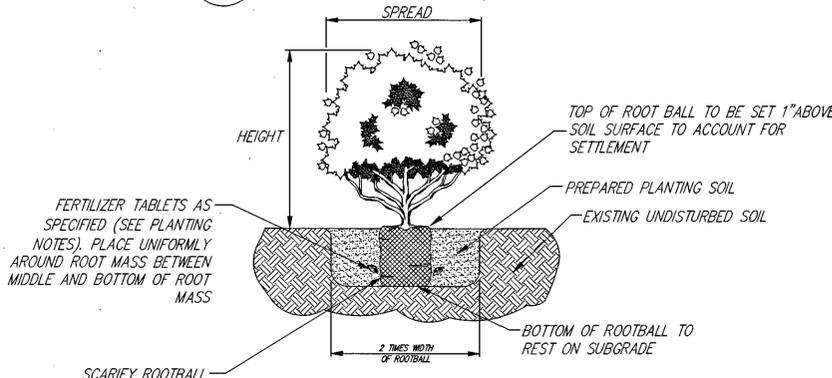
PLANT SCHEDULE						
SYMBOL	QTY	UNIT	COMMON NAME	SCIENTIFIC NAME	SIZE	COMMENTS
	5	EACH	SMALL-LEAF OHIA LEHUA	METROSIDEROS POLYMORPHA	25 GALLON	5'-6" OA HT., 1.5"-2.5" CALIPER, FOR SIDEWALK PLANTER AREAS
	14	EACH	SMALL-LEAF MAHAGONI	SWIETENIA MAHAGONI	25 GALLON	6'-8" OA HT., 1.5"-2.5" CALIPER, FOR MEDIAN PLANTER AREAS
	54	EACH	TULIPWOOD	HARPULLIA PENDULA	25 GALLON	6'-8" OA HT., 1.5"-2.5" CALIPER, FOR SIDEWALK PLANTER AREAS
	13	EACH	PUDICA PLUMERIA	PLUMERIA PUDICA	25 GALLON	5' OA HT., 1.5"-2.5" CALIPER, FOR SIDEWALK PLANTER AREAS AT ROUNDABOUT INTERSECTION
	4	EACH	LECHOSO	STEMMADENIA LITORALIS	25 GALLON	6'-8" OA HT., 1.5"-2.5" CALIPER, FOR SIDEWALK PLANTER AREAS
	400	SQ.FT.	VARIEGATED LIRIOPE	LIRIOPE MUSCARI 'VARIEGATA'	1 GALLON	8" HEIGHT, 6" SPREAD; TRIANGULAR SPACING TO BE 18" O.C. +/- 10% VARIANCE
	660	SQ.FT.	GREEN LIRIOPE	LIRIOPE MUSCARI	1 GALLON	8" HEIGHT, 6" SPREAD; TRIANGULAR SPACING TO BE 18" O.C. +/- 10% VARIANCE
	4860	SQ.FT.	CAREX	CAREX WAHUENSIS	4" POT	8" HEIGHT, 6" SPREAD; TRIANGULAR SPACING TO BE 18" O.C. +/- 10% VARIANCE
	3308	SQ.FT.	UKUKU GRASS	DIANELLA SANDWICENSIS	4" POT	8" HEIGHT, 6" SPREAD; TRIANGULAR SPACING TO BE 18" O.C. +/- 10% VARIANCE
	4278	SQ.FT.	ILIEE	PLUMBAGO ZEYLANICA	4" POT	8" HEIGHT, 6" SPREAD; TRIANGULAR SPACING TO BE 18" O.C. +/- 10% VARIANCE
	3000	SQ.FT.	AKIA	AKIA UVA-URSA	4" POT	8" HEIGHT, 6" SPREAD; TRIANGULAR SPACING TO BE 18" O.C. +/- 10% VARIANCE
	4019	SQ.FT.	LAUAE FERN	PHYMATOSORUS GROSSUS	4" POT	4" HEIGHT, 4" SPREAD; TRIANGULAR SPACING TO BE 18" O.C. +/- 10% VARIANCE
	106	SQ.FT.	SUGARCANE	SACCHARUM SP.	1 GALLON	18" HEIGHT; TRIANGULAR SPACING TO BE 24" O.C. +/- 10% VARIANCE; REFER TO PLAN AND SECTION ON SHEET L-02

MISCELLANEOUS SCHEDULE				
QTY	DESCRIPTION	UNIT	SIZE	COMMENTS
3240	BIOBARRIER ROOT BARRIER	LN.FT.	19" DEPTH	FOR ALL NEW TREES WITHIN 5' OF PAVEMENT AND EXISTING TREES WITHIN 5' OF NEW PAVEMENT
360	PLANTING SOIL	CUBIC YARD	6" DEPTH	6" LAYER OVER ALL PLANTING AREAS
60	ORGANIC SOIL AMENDMENT	CUBIC YARD	1" DEPTH	1" LAYER OVER ALL PLANTING AREAS
150	BRICK EDGING	LN.FT.	6"-12" DIA.	SEE DETAIL 2, THIS SHEET
7.5	RIVER ROCK	CUBIC YARD	6" DEPTH	FOR ROUNDABOUT FEATURE, REFER TO PLAN AND SECTION ON SHEET L-02
7	RECYCLED CANE ROLLER	EACH	3' DIA. X 7' HT.	FOR ROUNDABOUT FEATURE, REFER TO PLAN AND SECTION ON SHEET L-02

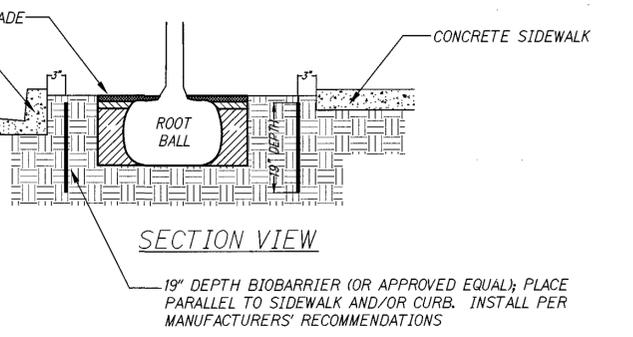
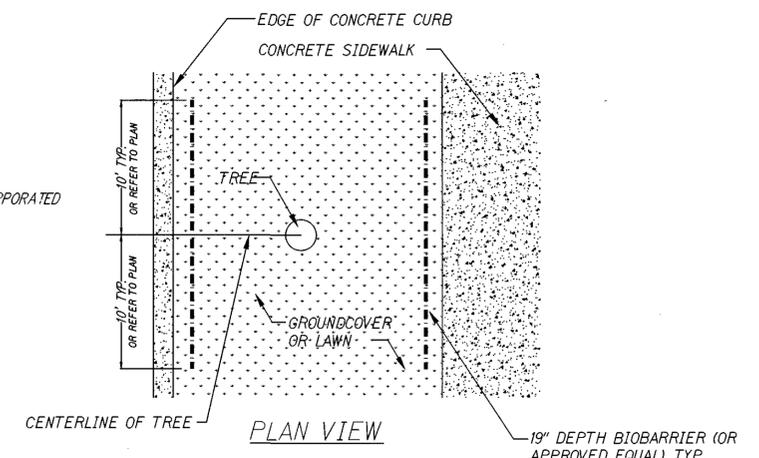


- NOTES:
1. REMOVE ALL STRAPS, ROPES, WIRE, &/OR STRINGS USED TO LIFT THE ROOTBALL.
 2. TOP OF ROOTBALL TO BE SET LEVEL WITH SURROUNDING FINISH GRADE.
 3. PROVIDE STAKING AS NEEDED, OR AS DIRECTED BY THE COUNTY.
 4. TREE LOCATIONS TO BE LAID OUT IN THE FIELD AFTER SIDEWALK LAYOUT IS COMPLETED BUT BEFORE SIDEWALK IS POURED; TREE LOCATIONS WILL ENSURE THAT THERE IS 5' OF HORIZONTAL CLEARANCE BETWEEN TREE TRUNK AND EXISTING POTABLE WATERLINES.

4 TREE PLANTING DETAIL
L-06 NOT TO SCALE

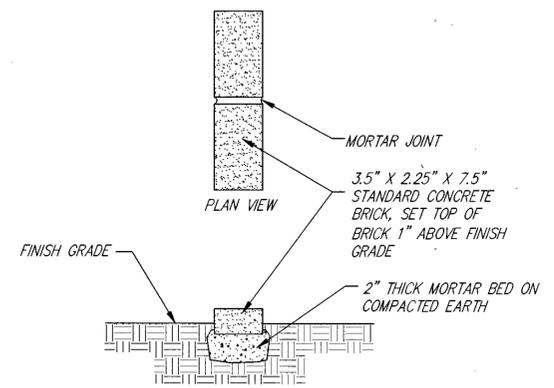


3 SHRUB & GROUNDCOVER PLANTING DETAIL
L-06 NOT TO SCALE

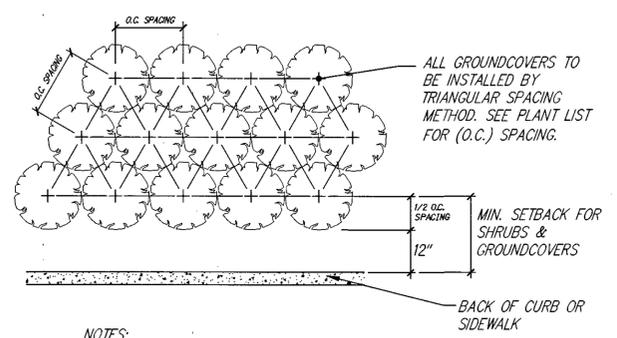


- NOTES:
1. SEE PLAN FOR ROOT BARRIER LOCATIONS
 2. TOP OF ROOT BARRIER TO BE INSTALLED FLUSH WITH GRADE
 3. ROOT BARRIERS SHOULD BE INSTALLED FOR ANY TREE WITHIN FIVE FEET OF A PAVED SURFACE

1 ROOT BARRIER DETAIL
L-06 NOT TO SCALE



5 BRICK EDGING DETAIL
L-06 NOT TO SCALE



- NOTES:
1. ON-CENTER SPACING IS APPROXIMATE; PLANTS TO BE INSTALLED WITHIN +/- 10% VARIANCE ON LISTED SPACING (SEE PLANT LEGEND, THIS SHEET)

2 GROUNDCOVER SPACING DETAIL
L-06 NOT TO SCALE

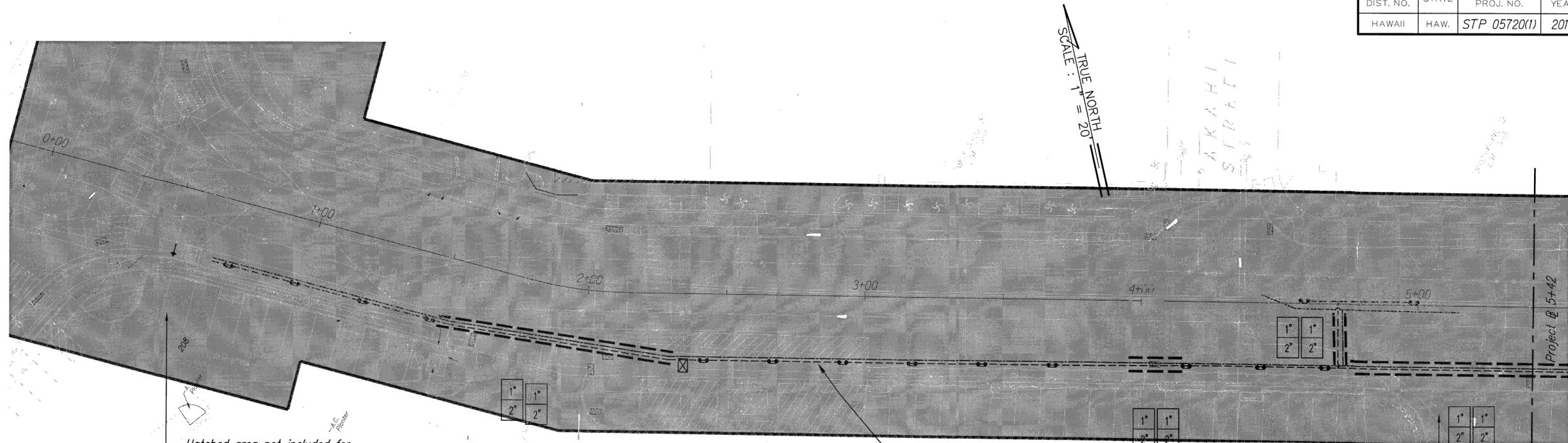


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Signature: *Craig P. Duff*
APRIL 30, 2016
EXPIRATION DATE OF THE LICENSE

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED: *[Signature]*
COUNTY ENGINEER DATE: 11-21-14

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANTING PLAN - 6
PLANT LEGEND & DETAILS
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: Sept 12, 2014
SHEET No. 126 OF 145 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	127	145

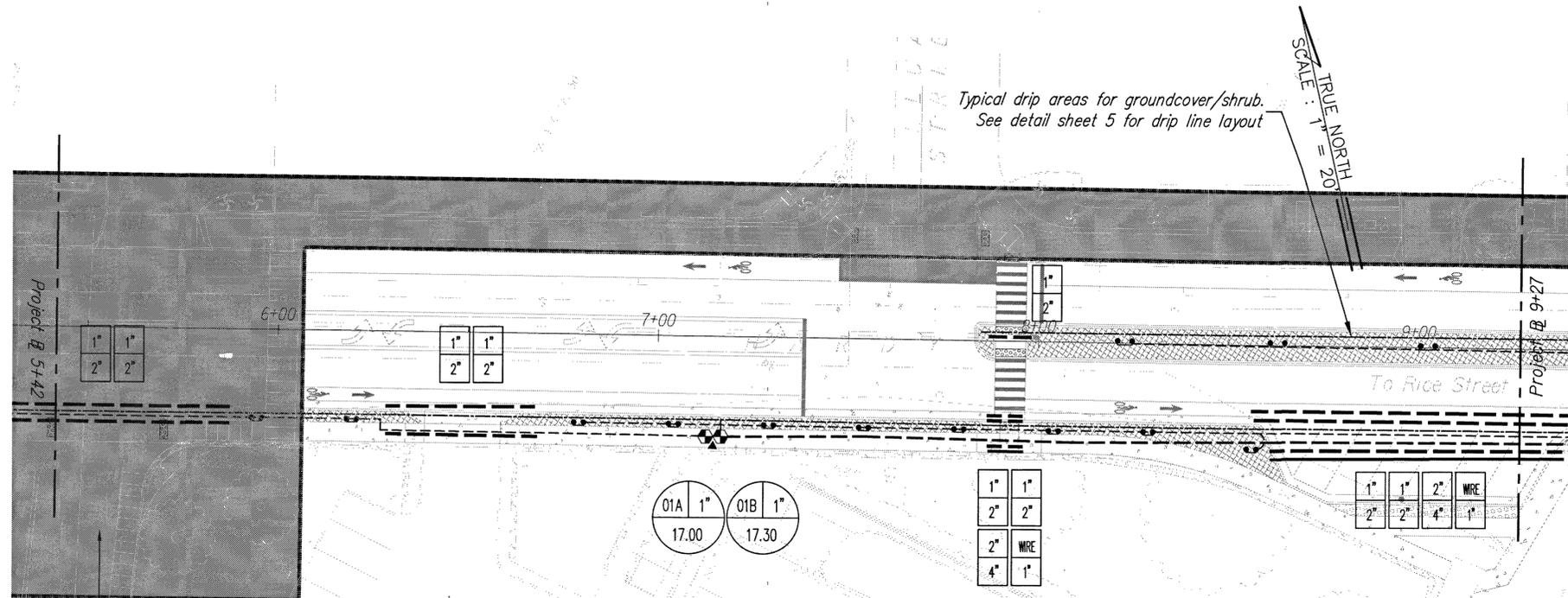


Hatched area not included for construction. Final Design and Approval is still pending. Approved design and plans to be provided as part of change order

IRRIGATION PLAN
Scale: 1" = 20'

Typical drip areas for groundcover/shrub. See detail sheet 5 for drip line layout

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Typical drip areas for groundcover/shrub. See detail sheet 5 for drip line layout

IRRIGATION PLAN NOTES:

Irrigation system shown is diagrammatic and subject to minor adjustments due to unanticipated field conditions. PVC Lateral and main lines shall be installed in planting areas, except where sleeves indicate crossings through paved surfaces. Valves shall be installed in the vicinity of the locations shown and shall be set within planting areas. Valves shall be placed for accessible service and use. Avoid conflicts with plantings, utilities and architectural elements.

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IRRIGATION PLAN
Scale: 1" = 20'

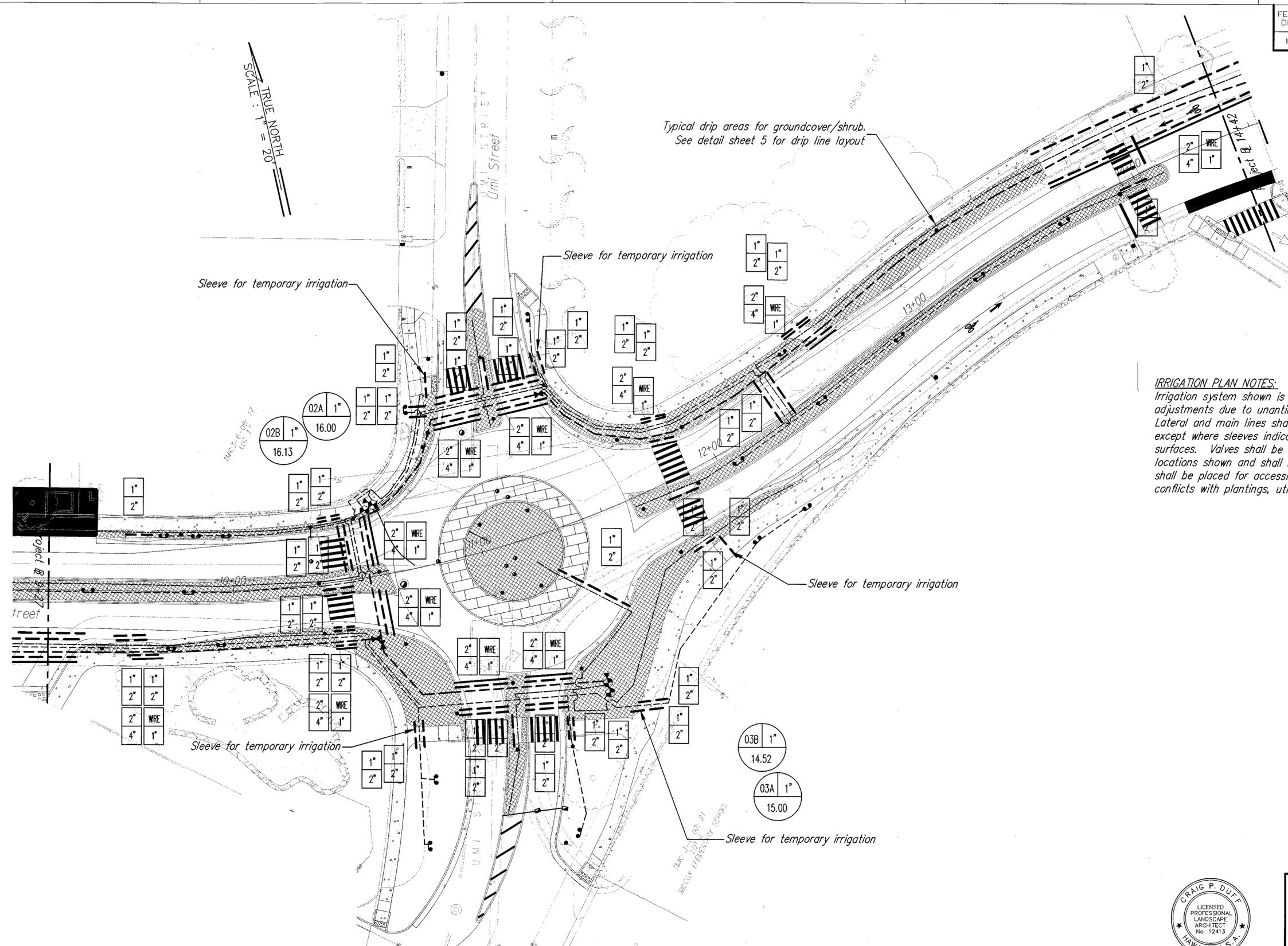
DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
[Signature]
COUNTY ENGINEER
DATE: 11-24-17



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SIGNATURE
APRIL 30, 2016
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
IRRIGATION PLANS - 1
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: SEPT 12, 2014
SHEET No. 127 OF 145 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	128	145



IRRIGATION PLAN NOTES:
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IRRIGATION PLAN
 Scale: 1" = 20'

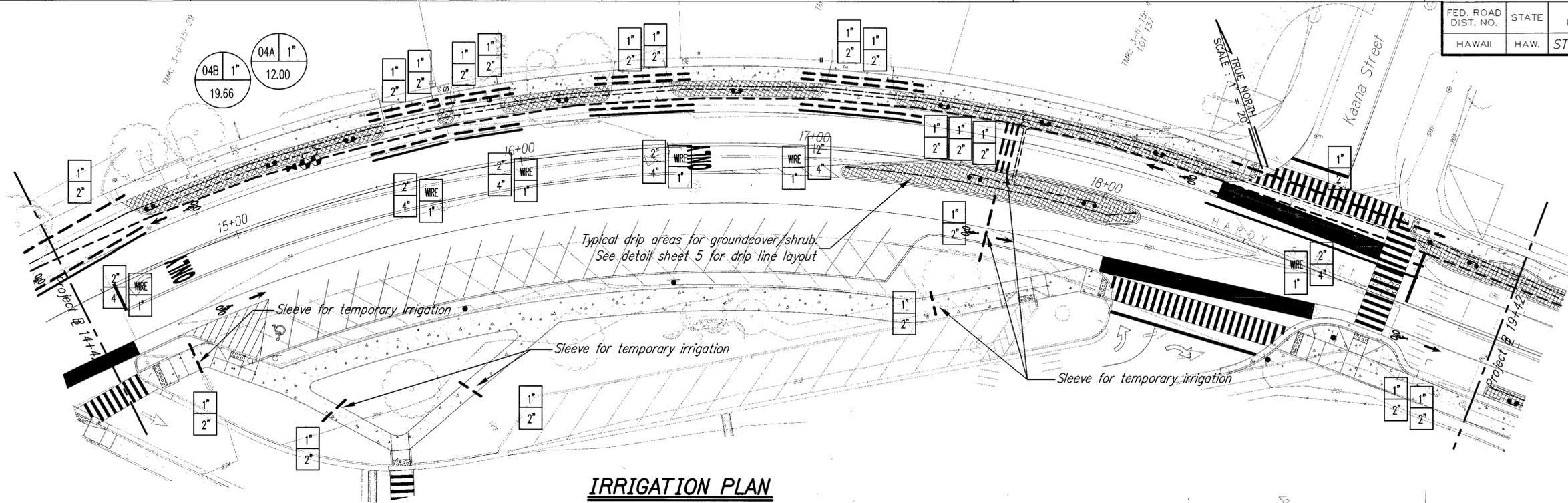
DEPARTMENT OF PUBLIC WORKS
 COUNTY OF KAUAI
 APPROVED:
 [Signature] COUNTY ENGINEER
 [Date] DATE



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 APRIL 30, 2016
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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
IRRIGATION PLAN - 2
HARDY STREET IMPROVEMENTS
 Federal Aid Project No. STP 05720(1)
 Scale: As Noted Date: SEPT 12, 2014
 SHEET No. 128 OF 145 SHEETS

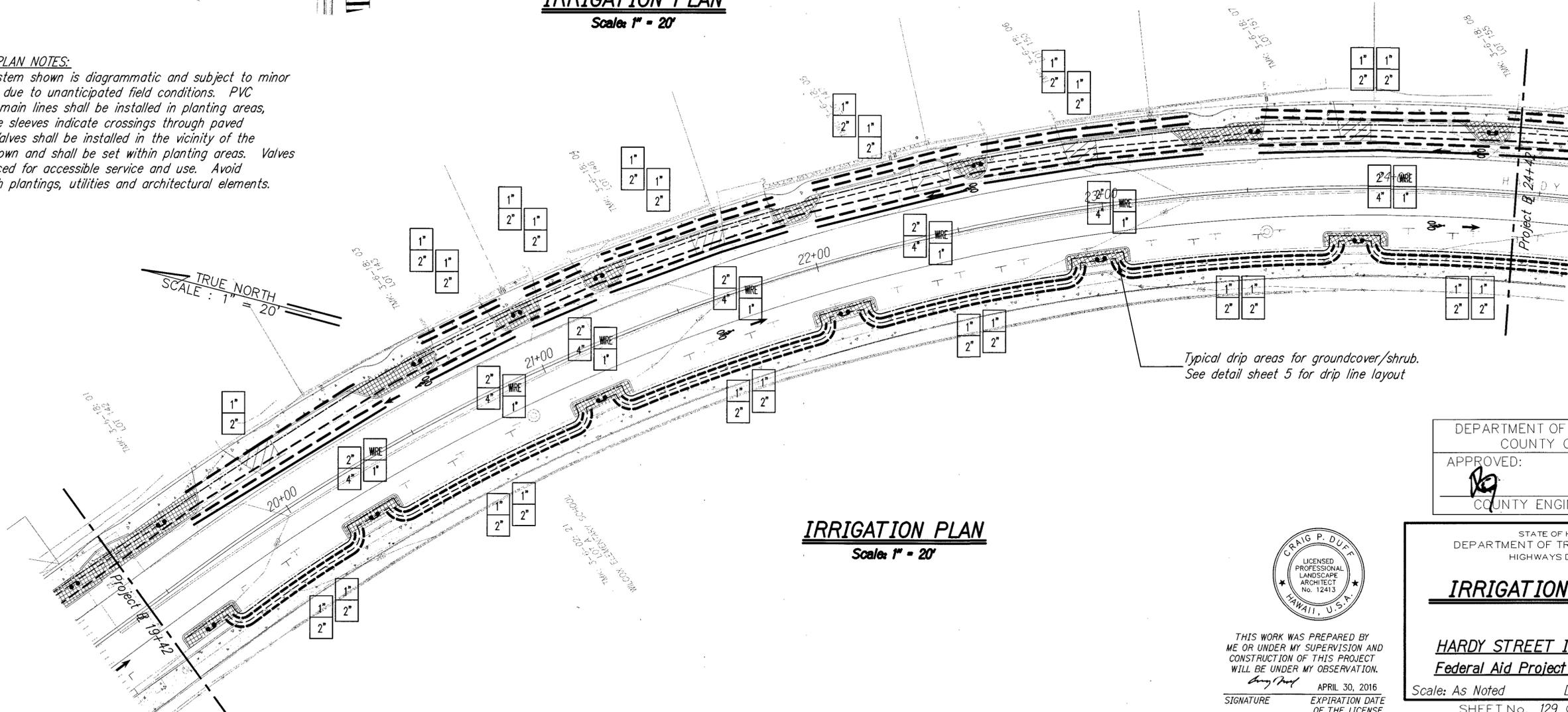
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	129	145



IRRIGATION PLAN
Scale: 1" = 20'

IRRIGATION PLAN NOTES:

Irrigation system shown is diagrammatic and subject to minor adjustments due to unanticipated field conditions. PVC Lateral and main lines shall be installed in planting areas, except where sleeves indicate crossings through paved surfaces. Valves shall be installed in the vicinity of the locations shown and shall be set within planting areas. Valves shall be placed for accessible service and use. Avoid conflicts with plantings, utilities and architectural elements.



IRRIGATION PLAN
Scale: 1" = 20'

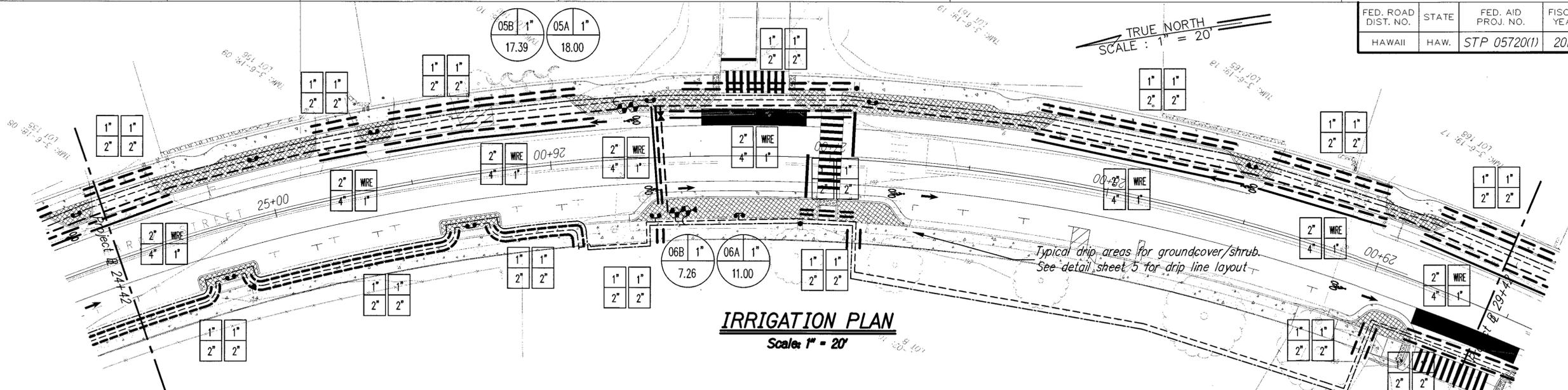
DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:
[Signature]
COUNTY ENGINEER DATE



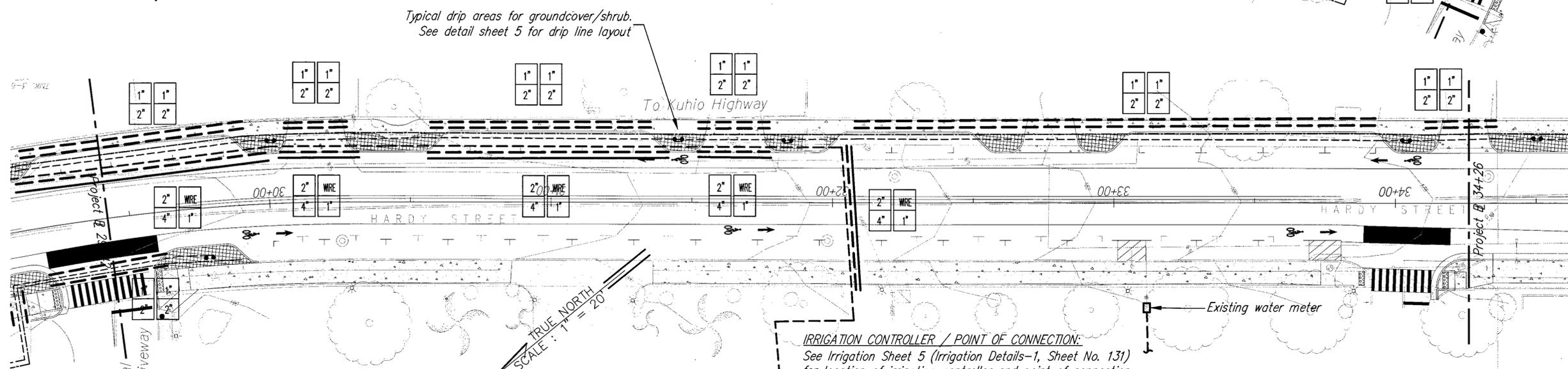
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
[Signature]
SIGNATURE APRIL 30, 2016 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
IRRIGATION PLAN - 3
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: SEPT 12, 2014
SHEET No. 129 OF 145 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	130	145

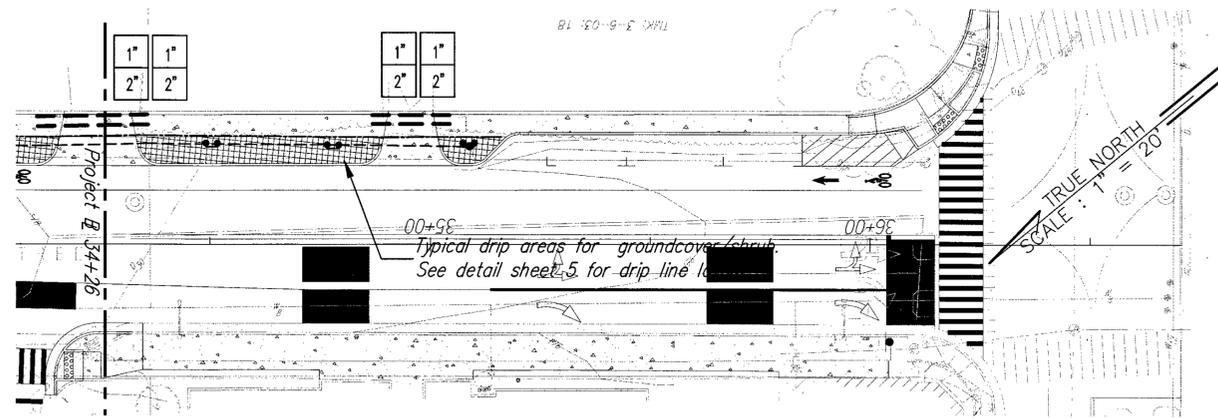


IRRIGATION PLAN
Scale: 1" = 20'



IRRIGATION CONTROLLER / POINT OF CONNECTION:
See Irrigation Sheet 5 (Irrigation Details-1, Sheet No. 131) for location of irrigation controller and point of connection

IRRIGATION PLAN
Scale: 1" = 20'



IRRIGATION PLAN
Scale: 1" = 20'

IRRIGATION PLAN NOTES:
Irrigation system shown is diagrammatic and subject to minor adjustments due to unanticipated field conditions. PVC Lateral and main lines shall be installed in planting areas, except where sleeves indicate crossings through paved surfaces. Valves shall be installed in the vicinity of the locations shown and shall be set within planting areas. Valves shall be placed for accessible service and use. Avoid conflicts with plantings, utilities and architectural elements.

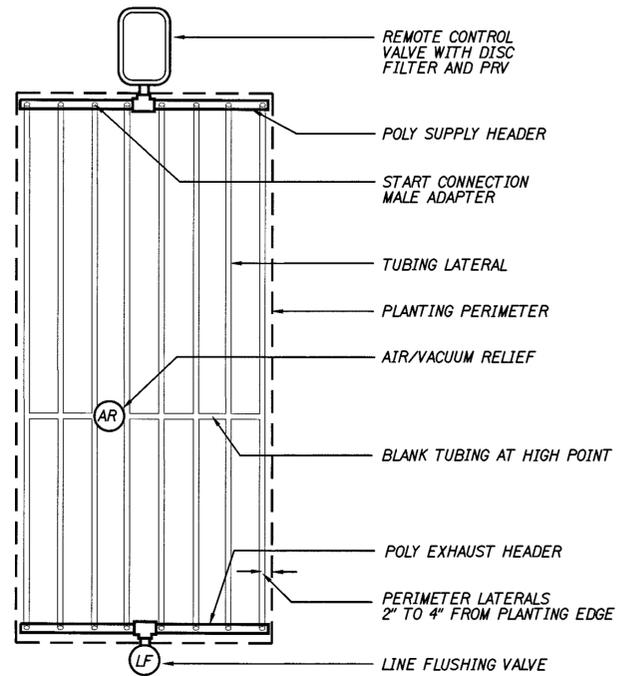


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Signature: *Craig P. Duff*
APRIL 30, 2016
EXPIRATION DATE OF THE LICENSE

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED: *[Signature]*
COUNTY ENGINEER DATE: 11/21/14

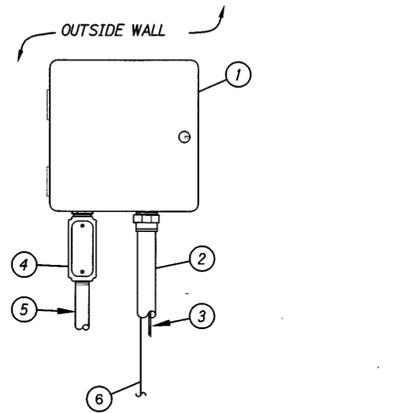
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
IRRIGATION PLAN - 4
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: SEPT 12, 2014
SHEET No. 130 OF 145 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	131	145



DRIP LINE END FEED LAYOUT, TYP.

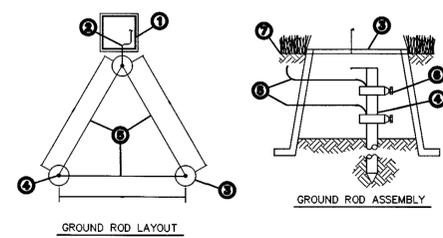
NO SCALE



- ① OUTDOOR WALL MOUNT CONTROLLER IN LOCKING STAINLESS STEEL CABINET WITH NEMA 3R RATING
- ② 1-1/2" PVC SCH 40 CONDUIT
- ③ WIRES TO REMOTE CONTROL VALVES
- ④ JUNCTION BOX
- ⑤ 1" PVC SCH 40 CONDUIT TO POWER SUPPLY
- ⑥ BARE COPPER WIRE (#10 AWG MIN.); CONNECT TO GROUNDING BUSS IN CONTROLLER CABINET AND ROUTE TO GROUND ROD. PATH TO GROUND ROD SHOULD BE AS STRAIGHT AS POSSIBLE.

OUTDOOR WALL MOUNT CONTROLLER

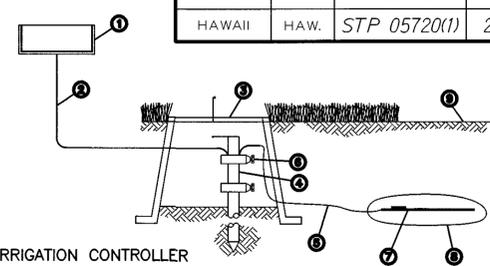
NO SCALE



- ① IRRIGATION CONTROLLER
- ② SOLID BARE COPPER WIRE (#10 AWG) FROM GROUNDING ROD TO CONTROLLER. MAKE WIRE AS SHORT AND STRAIGHT AS POSSIBLE
- ③ COVER GROUNDING ROD WITH 10-INCH ROUND VALVE BOX AS SHOWN
- ④ 5/8-INCH X 8 FT COPPER CLAD GROUNDING ROD OR GROUNDING PLATE. INSTALL RODS IN SOIL IN A TRIANGULAR PATTERN SPACED A MINIMUM OF 16 FT APART FROM EACH OTHER. GROUNDING GRID TO HAVE A RESISTANCE OF TEN (10) OHMS OR LESS
- ⑤ BARE COPPER WIRE (#10 AWG MIN.) BETWEEN GROUNDING RODS
- ⑥ GROUND ROD CLAMP OR WELDS
- ⑦ FINISH GRADE

CONTROLLER GROUNDING ROD DETAIL

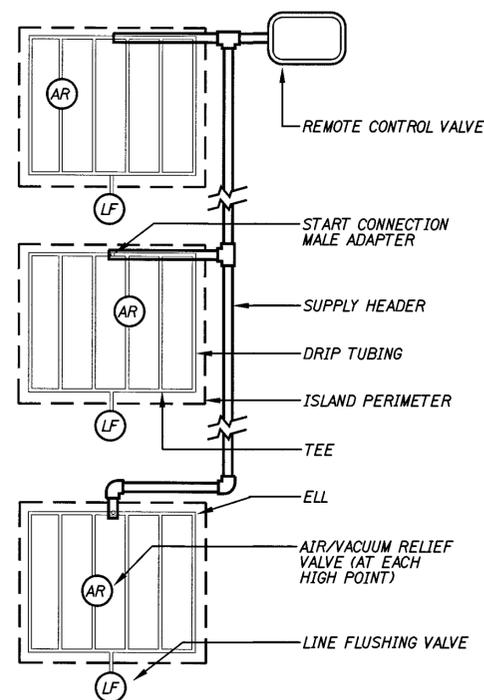
NO SCALE



- ① IRRIGATION CONTROLLER
- ② SOLID BARE COPPER WIRE (#10 AWG) FROM GROUNDING ROD TO CONTROLLER. MAKE WIRE AS SHORT AND STRAIGHT AS POSSIBLE
- ③ COVER GROUNDING ROD WITH 10-INCH ROUND VALVE BOX AS SHOWN
- ④ 5/8-INCH X 10 FT COPPER CLAD GROUNDING ROD OR GROUNDING PLATE. INSTALL RODS IN SOIL IN A TRIANGULAR PATTERN SPACED A MINIMUM OF 16 FT APART FROM EACH OTHER. GROUNDING GRID TO HAVE A RESISTANCE OF TEN (10) OHMS OR LESS
- ⑤ BARE COPPER WIRE (#6 AWG MIN.) BETWEEN GROUNDING ROD AND GROUNDING PLATE
- ⑥ GROUND ROD CLAMP OR WELDS
- ⑦ COPPER GROUNDING PLATE
- ⑧ GROUND ENHANCEMENT MATERIAL (IF REQUIRED)
- ⑨ FINISH GRADE

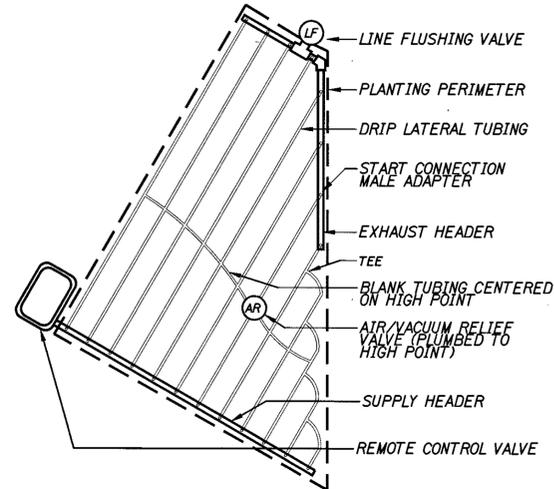
CONTROLLER GROUNDING PLATE DETAIL

NO SCALE



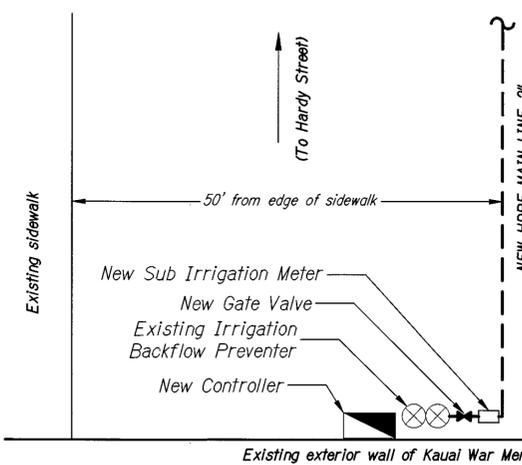
MULTIPLE ISLAND LAYOUT, TYP.

NO SCALE



IRREGULAR AREA LAYOUT, TYP.

NO SCALE



IRRIGATION CONTROLLER AND POINT-OF-CONNECTION PLAN LOCATION

NO SCALE

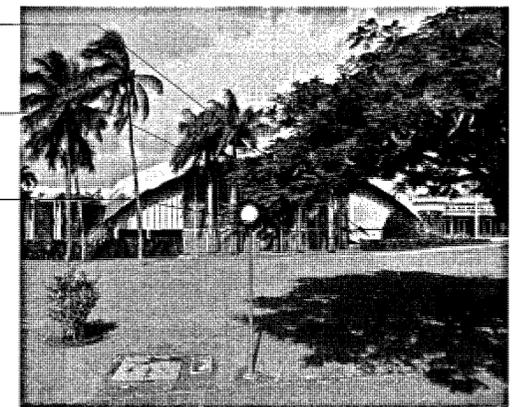
IRRIGATION CONTROLLER NOTES:
Irrigation controller shall be installed in a NEMA 3R rated stainless steel enclosure. Controller and enclosure shall be wall-mounted on east face of War Memorial Convention Hall. Coordinate with electrical contractor to provide AC power to controller. Controller to be grounded according to manufacturer's specifications.

IRRIGATION POINT OF CONNECTION NOTES:
Connect downstream of existing irrigation backflow preventer. Provide gate valve and irrigation sub-meter. Irrigation mainline to begin after new sub-meter.

Proposed Location and power source for New Controller

Existing Irrigation Backflow Preventer Location

Rain Sensor to be mounted on existing rock wall



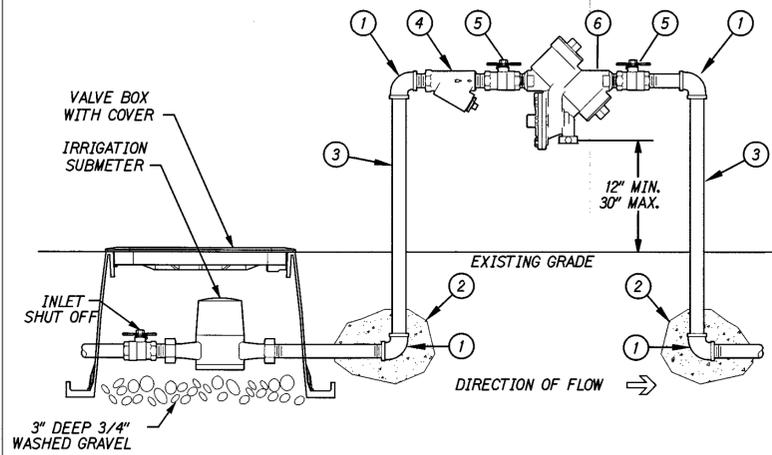
DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED: *[Signature]* 11-24-14
COUNTY ENGINEER DATE



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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
IRRIGATION DETAILS - 1
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: SEPT 12, 2014
SHEET No. 131 OF 145 SHEETS

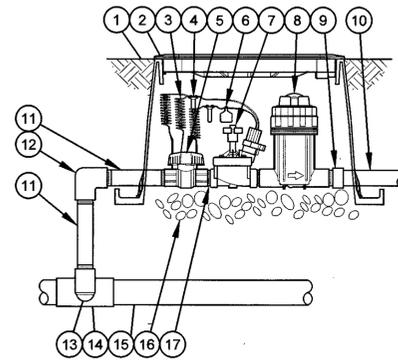
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	132	145



- 1 COPPER ELL, 1"
- 2 CONCRETE THRUST BLOCK
- 3 TYPE K COPPER PIPE, 1"
- 4 100 MESH BRASS WYE FILTER, 1"
- 5 BRASS BALL VALVE, 1"
- 6 REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, 1"

SUBMETER AND BACKFLOW PREVENTER

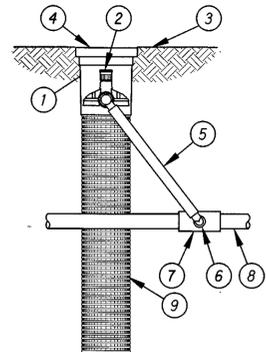
NO SCALE



- 1 FINISH GRADE/TOP OF MULCH
- 2 VALVE BOX WITH COVER
- 3 30" LENGTH OF WIRE, COILED
- 4 WATERPROOF CONNECTION
- 5 1" PVC BALL VALVE
- 6 ID TAG
- 7 REMOTE CONTROL VALVE
- 8 CHECK BASKET FILTER
- 9 PVC SCH 40 FEMALE ADAPTOR
- 10 PVC SCH 200 LATERAL PIPE
- 11 PVC SCH 80 NIPPLE
- 12 PVC SCH 40 ELL
- 13 PVC SCH 80 NIPPLE / SCH 40 ELL
- 14 PVC SCH 40 TEE OR ELL
- 15 MAINLINE PIPE
- 16 3" DEEP 3/4" WASHED GRAVEL
- 17 PVC SCH 80 NIPPLE, CLOSE

DRIP VALVE WITH FILTER

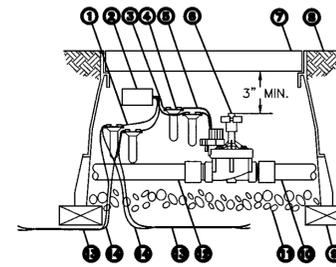
NO SCALE



- 1 ROOT WATERING SYSTEM
- 2 0.50 GPM BUBBLER
- 3 FINISH GRADE
- 4 4" LOCKING GRATE
- 5 POLY SWING ASSEMBLY
- 6 1/2" MALE NPT INLET
- 7 PVC SCH 40 TEE / ELL
- 8 PVC LATERAL PIPE
- 9 4" X 36" RIGID BASKET WEAVE CANISTER

ROOT ZONE WATERING SYSTEM

NO SCALE



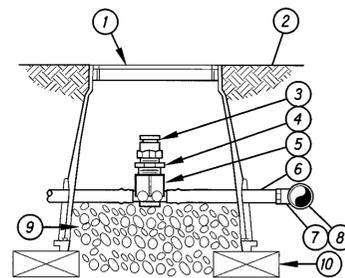
- 1 BLUE WIRE FROM FIELD DECODER (1 OF 2)
- 2 FIELD DECODER
- 3 WHITE WIRE FROM FIELD DECODER (1 OF 2)
- 4 WIRE CONNECTOR
- 5 SOLENOID WIRE (1 OF 2)
- 6 REMOTE CONTROL VALVE
- 7 VALVE BOX WITH COVER
- 8 FINISH GRADE
- 9 BRICK (1 OF 2)
- 10 PVC MAINLINE PIPE
- 11 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 12 PVC LATERAL PIPE
- 13 TWO-WIRE CABLE TO NEXT DEVICE (FIELD DECODER, SENSOR DECODER, LINE SURGE PROTECTOR OR ESP-LXD CONTROLLER)
- 14 COMMUNICATION WIRE TO NEXT DEVICE (FIELD DECODER, SENSOR DECODER, LINE SURGE PROTECTOR OR ESP-LXD CONTROLLER)

NOTES:

1. PLACE 3 FEET OF EXTRA WIRE IN EVERY VALVE BOX FOR EASIER SERVICING.

FIELD DECODER-VALVE CONNECTION DETAIL

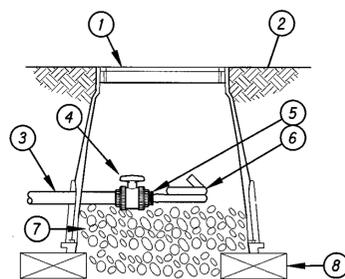
NO SCALE



- 1 7" ROUND VALVE ENCLOSURE AND COVER FINISH GRADE
- 2 1/2" AIR RELIEF VALVE
- 3 1/2" X 3/4" PVC REDUCER BUSHING
- 4 BARB X FEMALE THREAD CONNECTOR
- 5 1/2" BLANK DRIPLINE TUBING
- 6 BARB X MALE THREAD CONNECTOR
- 7 TEE CONNECTED TO HEADER PIPE
- 8 3" DEEP 3/4" WASHED GRAVEL
- 9 BRICK (1 OF 2)
- 10

AIR RELIEF VALVE

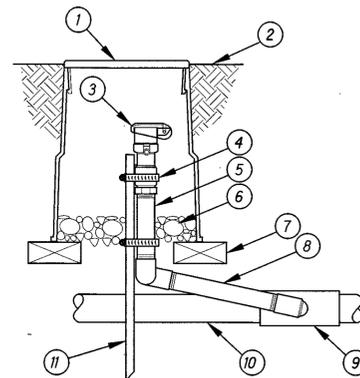
NO SCALE



- 1 7" ROUND VALVE ENCLOSURE AND COVER
- 2 FINISH GRADE
- 3 DRIP MANIFOLD PIPE
- 4 PVC 1" X 3/4" BALL VALVE
- 5 EASY FIT MALE X BARB ADAPTER
- 6 BLANK DRIP LINE
- 7 3" DEEP 3/4" WASHED GRAVEL
- 8 BRICK (1 OF 2)

FLUSH VALVE

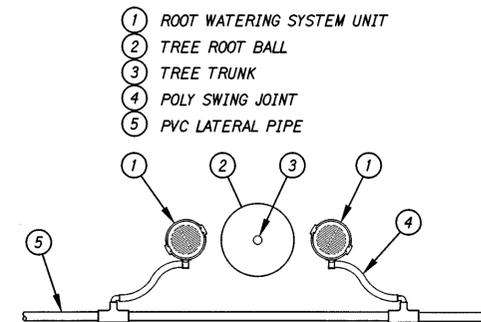
NO SCALE



- 1 10" ROUND VALVE ENCLOSURE AND COVER
- 2 FINISH GRADE
- 3 QUICK COUPLING VALVE
- 4 STAINLESS STEEL HOSE CLAMP
- 5 PVC SCH 80 NIPPLE
- 6 3" DEEP 3/4" WASHED GRAVEL
- 7 BRICK (TYP. OF 3)
- 8 PVC TRIPLE SWING ASSEMBLY
- 9 PVC SCH 40 TEE / ELL
- 10 PVC SCH 40 MAIN LINE
- 11 #4 REBAR (12" MIN. HEIGHT)

QUICK COUPLING VALVE

NO SCALE



- 1 ROOT WATERING SYSTEM UNIT
- 2 TREE ROOT BALL
- 3 TREE TRUNK
- 4 POLY SWING JOINT
- 5 PVC LATERAL PIPE

ROOT WATERING SYSTEM NOTES:
Detail at left shows space between rootball and Root Watering System (RWS) units for clarity. Install RWS units adjacent to rootball.

ROOT WATERING SYSTEM LAYOUT, TYP.

NO SCALE

DEPARTMENT OF PUBLIC WORKS COUNTY OF KAUAI	
APPROVED:	
	11/21/14 DATE
COUNTY ENGINEER	



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Signature:
APRIL 30, 2016
EXPIRATION DATE OF THE LICENSE

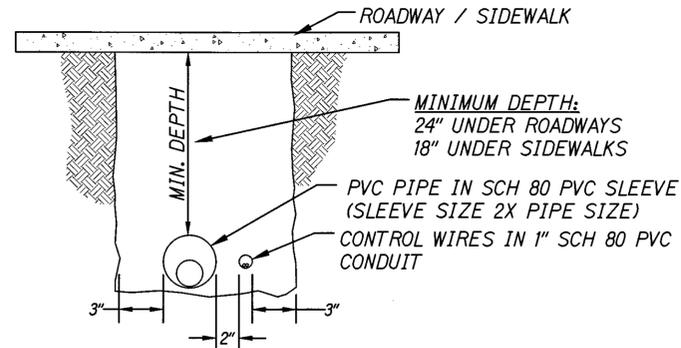
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
IRRIGATION DETAILS - 2	
HARDY STREET IMPROVEMENTS Federal Aid Project No. STP 05720(1)	
Scale: As Noted	Date: SEPT 12, 2014
SHEET No. 132 OF 145 SHEETS	

SLEEVE / CONDUIT NOTES:

Extend sleeve into landscape area 12" minimum.

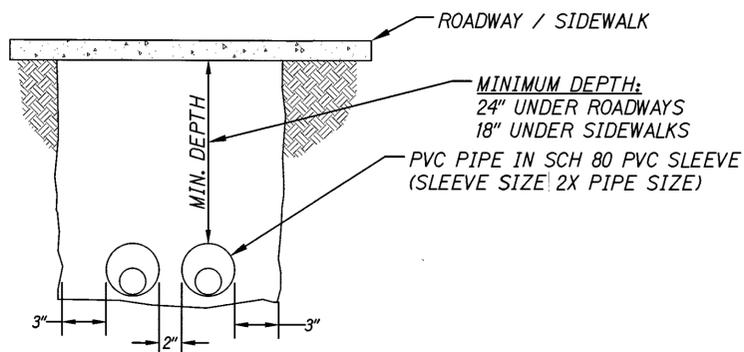
Backfill material shall be free of debris, vegetation, and stones larger than 2" in diameter.

Backfill shall be compacted to required specifications of road or sidewalk



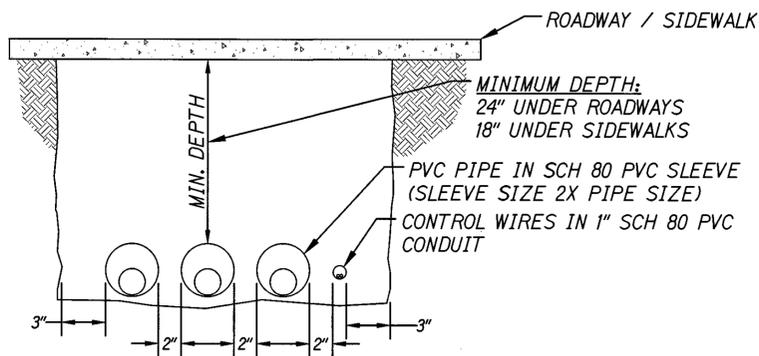
SINGLE SLEEVE UNDER HARD SURFACE

NO SCALE



TWO SLEEVES UNDER HARD SURFACE

NO SCALE



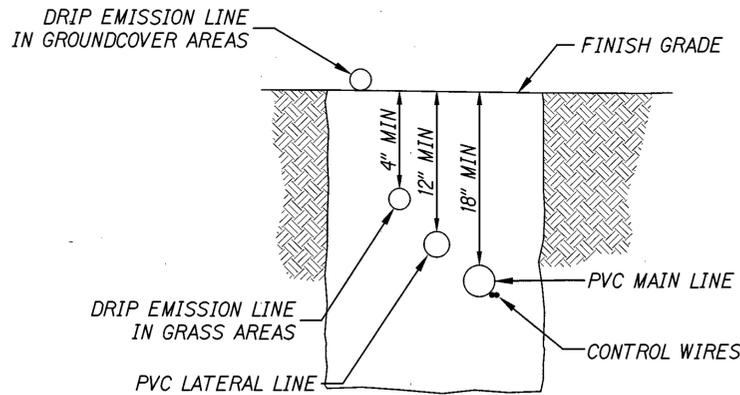
THREE SLEEVES UNDER HARD SURFACE

NO SCALE

TRENCHING NOTES:

Backfill material shall be free of debris, vegetation, and stones larger than 2" in diameter.

Provide min. 2" clearance between pipes, and min. 3" clearance from edge of trench.



TRENCH DEPTH (OPEN AREA), TYP.

NO SCALE

IRRIGATION SCHEDULE:

CONTROLLER: RAIN BIRD ESP-LXD DECODER CONTROLLER IN NEMA 3R STAINLESS STEEL ENCLOSURE. CONTROLLER TO BE INSTALLED WITH RAIN SENSOR MODEL *RSD-BEX, TO BE MOUNTED ON NEARBY ROCK WALL; SEE SHEET 131 FOR LOCATION

REMOTE CONTROL VALVE: RAIN BIRD X CZ-100-PRB-COM KIT

GATE VALVE: NIBCO T-113, 2"

QUICK COUPLER: RAIN BIRD 3/4" 33-DLRC

TREE WATERING SYSTEM: RAIN BIRD ROOT WATERING SYSTEM RWS-B-1402

LAWN DRIP LINE: NETAFIM TECHLINE CV TLCV6-18XX BELOW GRADE

GROUNDCOVER/SHRUB DRIP LINE: NETAFIM TECHLINE CV TLCV6-18XX AT GRADE

MAIN LINE: HIGH DENSITY POLYETHYLENE (HDPE) DR 11, 2"

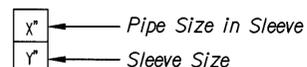
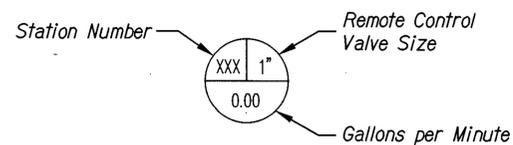
LATERAL LINE (LAWNS & GROUNDCOVER/SHRUBS): HDPE SIDR 15, 1"

LATERAL LINE (TREES): HDPE SIDR 15, 1"

CONDUIT: SCHEDULE 80 PVC, 1"

SLEEVE: SCHEDULE 80 PVC, (SEE PLANS FOR SIZES)

SLEEVE: HDPE SDR 9, 2" (WITH HDPE SIDR 15 LATERAL INSIDE, 1")



GENERAL IRRIGATION NOTES:

Contractor shall provide and install a permanent automatic irrigation system for all new planting areas and pots. The automatic irrigation system shall include, but not be limited to, automatic irrigation controller in Nema 3R stainless steel vandal-resistant enclosure, water sub-meter, reduced pressure backflow preventer, shut-off valves, filtration, remote control valves, remote control valve wiring, drip emitters, rain sensors, flush valves, control wire, conduits and pipe sleeving at all roadway and sidewalk crossings, and distribution piping.

Contractor shall provide and install subsurface drip irrigation system for all new shrub, groundcover, and turf plantings. The drip system shall consist of tubing with inline drip emitters uniformly spaced at 18" on center. The tubing shall be clearly designed and specified for subsurface installation with unique features which inhibit clogging by soil or debris.

Contractor shall provide and install a deep-watering bubbler system for all new trees. Provide a minimum of two deep-watering bubbler devices for each new tree. Bubbler devices shall be zoned separately from groundcover drip zones.

Contractor shall ensure all planting areas receive adequate irrigation coverage to ensure proper plant growth.

See sheet No. 131 for location of irrigation point of connection, irrigation sub-meter, and automatic irrigation controller.

The contractor shall ensure the decoder is spliced to the valve inside a valve box. If multi-station decoders are used, locate all valves connected to the multi-station decoder in the same valve box; if this is not feasible the valve boxes should be installed immediately adjacent to each other.

The automatic irrigation controller shall be grounded to the maximum ohm rating as recommended by the manufacturer. The contractor shall provide proper grounding/surge/lightning protection on two-wire path at intervals recommended by the manufacturer recommendations. Wire splices shall be done in a valve box. In all cases, the two-wire path shall not deviate from the mainline path.

Wherever possible, Contractor shall follow the Best Management Practices (BMPs)

The contractor shall be responsible for continued maintenance of the irrigation system for 12-months after final acceptance.

IRRIGATION SCHEDULE			
STATION NUMBER	PLANT TYPE	VALVE SIZE	GALLONS/MINUTE
01A	Trees	1"	17.00
02A	Trees	1"	16.00
03A	Trees	1"	15.00
04A	Trees	1"	12.00
05A	Trees	1"	18.00
06A	Trees	1"	11.00
01B	Groundcovers/Shrubs	1"	17.30
02B	Groundcovers/Shrubs	1"	16.13
03B	Groundcovers/Shrubs	1"	14.52
04B	Groundcovers/Shrubs	1"	19.66
05B	Groundcovers/Shrubs	1"	17.39
06B	Groundcovers/Shrubs	1"	7.26

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED:

COUNTY ENGINEER DATE 11-21-14



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Signature:
APRIL 30, 2016
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**IRRIGATION DETAILS,
SCHEDULE, & NOTES**
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: SEPT 12, 2014
SHEET No. 133 OF 145 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		145

HAWAIIAN TELCOM NOTES

GENERAL NOTES:

1. All work on utility facilities shall be in strict accordance with specifications and requirements of Hawaiian Telcom for the facilities within their jurisdiction.
2. The Contractor shall closely coordinate all work with Hawaiian Telcom. The Contractor shall notify Hawaiian Telcom's inspector or designated representative a minimum of 3 days prior to excavation, bracing or backfilling of Hawaiian Telcom's structures or facilities. The Hawaiian Telcom inspectors are: Rick Ramones, tel. 651-2260.

CONDUIT NOTES:

1. Unless otherwise indicated, all conduits, sweeps, couplings, adapters, and bell ends shall be Schedule 40 PVC. PVC 2" and 4" DB conduits meeting GTE specification GTS-8342 may be substituted in concrete encasement application.
2. All trenches and pullboxes must be inspected by Hawaiian Telcom prior to backfilling and concrete-encasing operations.
3. All conduits shall be cleaned and be free from objectionable materials with its ends adequately covered until Hawaiian Telcom installs its cable facilities.
4. All street crossings shall be encased in a concrete jacket, which shall extend a minimum of 12 inches outside of edge of pavement.
5. Minimum clearances between electrical and telephone conduits shall be 12 inches horizontally and 6 inches vertically; however, if concrete-encased, a 3 inch clearance may be utilized in both directions.
6. Conduits for utility boxes to the individual lots shall be considered incidental to their respective main duct lines. Said conduits shall be 2" PVC unless otherwise indicated.
7. Contractor shall maintain 18" minimum separation between water pipe main (6" min. separation for service laterals) and top of direct buried utility ducts at intersection of water pipe lines and direct buried utility ducts. When utility ducts are concrete-encased at intersection of water pipe and utility ducts, an 18" minimum separation between water pipe main (6" min. separation for service laterals) and top of concrete-encased utility ducts shall be maintained. Stones, rocks, etc. shall not be used with backfill material, only select materials shall be used as backfill material. When in parallel, Department of Water requires 8 ft. horizontal clearance between HTCO conduits and waterlines.
8. A 4" wide warning tape orange in color with a black imprinted message "WARNING - STOP DIGGING - CALL HAWAIIAN TELCOM, COMMUNICATIONS CABLE BURIED BELOW, FAILURE TO COMPLY COULD RESULT IN LEGAL ACTION" shall be placed 12" below the surface over the duct or concrete jacket for the entire length of duct installations. See HTCO standard drawing 34028. Recommended tape is manufactured by THOR Enterprises, Inc., Sun Prairie, WI 53590 (1-800-827-8467) part numbers DTOGTE-41 (1000'), and DTOGTE-46 (6000').
9. After the ducts are installed, a mandrel not less than 12" long and having a diameter of 1/4" less than the inside diameter of the 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. Main duct runs, except riser ducts and cross-connect pedestal ducts, should be constructed with no more than 20 foot radius curves unless indicated otherwise or approved by the Hawaiian Telcom inspector. A flexible mandrel having a diameter of 1/4" less than the inside diameter will be utilized on 2" duct runs. After which, a brush with stiff bristles shall be pulled through.
10. Install NEPTCO W1800P muletape in all new ducts after testing. The NEPTCO muletape is available in 3,000', 6,500', and 10,000' reels. The NEPTCO muletape is prelubricated and printed with sequential footage marking. Using the NEPTCO muletape, the Contractor shall measure at least one duct of a common duct run. The distance shall be marked on the record prints and submitted to the Hawaiian Telcom inspector for record keeping.

PULLBOX NOTES:

1. All type 435TB (2' X 4') & 435TB6 (2' X 6') pullboxes shall be constructed with a 12" base and a minimum of two 8" precast sections. All covers shall be of the slip not type. (Refer to HTCO standard drawings 34056 and 34078.)
2. At no time shall cement mortar, wood, or any other material be used between pre-cast sections. Leveling or raising of pullboxes shall be done at the brickwork section using cement mortar. The permanent installation of wooden wedges to level or raise the precast sections shall not be permitted.
3. All conduits shall enter boxes at 90 degree angle and flush to the wall with flared or junior end bells to prevent cable damage.
4. The 435TB pullbox base shall be placed on a minimum of 3" of #3 crushed rock backfill.
5. The Contractor shall furnish and install #4 bare copper ground wire (direct burial) from all transformer pad ground rods to the nearest Hawaiian Telcom pullbox, as specified in HTCO standard drawing 34045. Install one 5/8" X 8' ground rod in all other Hawaiian Telcom pullboxes, except in the type 436T meter boxes (12" X 20"). Ground rods are to extend 4" above the finished pullbox/handhole floor (grade) and be located 4" from the pullbox corner.
6. Extend Schedule 40 conduits 2" to 6" above finish floor in equipment room.
7. All Type I handholes, 435TB and 435TB6 boxes shall be constructed with covers of the slip not type. (Refer to HTCO standard drawing 34029.)

APPROVED: N/A KAWAII ISLAND UTILITY COOP. DATE	APPROVED: Jann Dor 10/17/14 HAWAIIAN TELCOM DATE	APPROVED: C. B. B. 10/23/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE
--	--	--

DEPARTMENT OF WATER
COUNTY OF KAUAI

APPROVED:

[Signature]
MANAGER & CHIEF
ENGINEER DEPT. OF WATER

9/24/14
DATE



EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

ELECTRICAL NOTES

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: September, 2014

SHEET No. 1 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X

KIUC NOTES

UNDERGROUND CONSTRUCTION NOTES AND

REQUIREMENTS:

1. These notes are not intended to be used in place of the Service Installation Manual, please refer to Service Installation Manual for all service issues.
2. Contractor shall contact Kaua'i Island Utility Cooperative's ("KIUC") Construction Coordinator/Inspector prior to start of work on KIUC facilities and for scheduling site inspections. [Westside: 246-2323; Eastside: 822-4995]
3. Contractor shall contact KIUC's Distribution Engineer @ 246-2373 for design approvals, standard detail drawings, and any items not addressed in these notes or drawings.
4. All contractors entering KIUC facilities must be approved by KIUC and must have proper licensing and insurance coverage. Contact KIUC Legal Coordinator @ 246-4369 for details.
5. All trenches and pullboxes must be inspected by KIUC prior to backfilling and concrete-encasing operations. For detailed trenching and backfilling requirements refer to KIUC's Service Installation Manual.
6. The Contractor shall provide a Poly-Line 200 lb. test line or equivalent as a pulling wire in all 1", 2", 3" & 4" conduits. In 5" and 6" conduits, the contractor shall install NEPTCO WP1800 muletape as a pulling line.
7. All conduits, pullboxes, handholes, & manholes shall be cleaned and free from objectionable materials. Conduit ends shall be adequately covered until the conductor is installed by the electric company. (Covers shall be Carlon Plug with Pull Tab series P258 equivalent or better)
8. For all conduit other than services, refer to conduit schedule on drawings.
9. For all services where the conductor is 3/0 or less, the distance from KIUC's handhole and Customer's meter is less than 125 feet, and not crossing any driveways or roads, the conduit shall be 2 inch Schedule 40 PVC. For services greater than 125 feet but less than 150', contact KIUC planner for field verification and underground service requirements. Any deviations will require KIUC written approval.
10. Primary and Secondary conduits for new line extensions shall be Schedule 40 PVC. (Carlon P#C Duct Type DB equivalent or better.) Under driveways and roadways, the conduits shall be encased in a minimum of 3 inch concrete jacket extending 12" outside the edge of pavement.
11. Schedule 80 PVC conduit may be substituted for the concrete encased Schedule 40 PVC for service conduit only crossing under unpaved private driveways & roadways from KIUC pole/handhole to customer's meter. If concrete driveway will be built over service conduit immediately after conduit is installed, then Schedule 40 PVC may be used provided that it meets with Rule No. 21.
12. All primary and secondary conduits which are crossing state or county roadways shall be Schedule 40 PVC encased in a minimum 3 inch concrete jacket, which shall extend a minimum of 12 inches outside of the edge of pavement.
13. Electrical supply ducts, when installed near communication cables, shall be separated from communication duct systems and buried communication cables or conductors by not less than 3 inches of concrete or 12 inches of earth when paralleling or crossing.
14. Chairs shall be installed and spaced at a maximum of 5 feet separation when concrete encasing conduits.
15. All conduits shall enter boxes at a 90 degree angle, perpendicular and flush to the wall with bell ends to prevent cable damage.
16. 90 degree conduit bends shall be factory made with a minimum radius of 3 feet in trench runs.
17. Conduit bends exceeding 90 degrees will not be accepted.
18. A 36 inch minimum horizontal clearance shall be maintained when running KIUC conduits parallel to water & sewer lines. If clearance is less than 36 inches, KIUC conduit shall be concrete encased. When in parallel, Department of Water requires 8ft. horizontal clearance between KIUC conduits and waterlines.
19. No foreign pullboxes, handholes, manholes, concrete slabs/boxes, structures, etc. are to be installed over KIUC facilities with the exception of HTCO, CATV or waterline conduit crossings. Such crossing must be approved by KIUC's Service Assurance Department and KIUC conduit to be concrete encased. Concrete encasement must be minimum of 3 inch encasement and extend a minimum of 1 foot beyond crossing conduit or pipe.
20. Red marker tape to be placed 1 foot above electrical conduits in the trench during backfilling. (E-Z CODE WBT 6 inch wide 4 Mill polyethylene Protect-A-Line Warning Tape NA-0706 "ELECTRIC LINE" in red, equivalent or better)
21. Unless otherwise noted, the top of all conduits shall be at a depth of 24 inches.
22. All handholes, pullboxes, and manholes shall be Walker Industries type or approved equal. Contact KIUC prior to ordering underground boxes for vendor approval. Customer to submit manufacturer's shop drawings of all handholes and manholes for box sizes greater than 3'x5' for KIUC review and approval.
23. Typically, the top of all electrical utility boxes shall be 1 inch above finish grade, single phase transformer pads shall be 2 inches above finish grade and three phase transformer pads shall be 4 inches above finish grade unless otherwise noted. (Special conditions may apply to sidewalks, roadways, etc. See specific location notation.)
24. At no time shall cement mortar, wood or any other material be used between pre-cast sections of KIUC pullboxes, handholes, or manholes. The permanent installation of wooden wedges to level or raise the pre-cast sections shall not be permitted.
25. A minimum of 6 inches of #3 crushed rock backfill shall be placed loosely beneath the bottom section of handholes and pullboxes. Crushed rock or other foreign materials are not to be placed inside handholes and pullboxes.

CATV NOTES:

1. Follow all notes and specifications as Hawaiian Telcom
2. Pullbox lids shall be galvanized steel with non-slip surface and marked with: T.V. or CATV.
3. Standard pull line in all conduits shall be installed. (Pull line 200 lbs.)
4. Grounds are not required. Cable company shall install its own as they see necessary.
5. 18" X 36" pull box, refer to Hawaiian Telcom drawing #34024A (434T 18" X 36").

APPROVED:	APPROVED:	APPROVED:
<i>Paul Pomet</i> 6/26/14 KAUAI ISLAND UTILITY COOP. DATE	<i>James Stone</i> 6/19/14 HAWAIIAN TELCOM DATE	<i>Samuel K. Bulegala</i> 6/22/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE



EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED
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Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

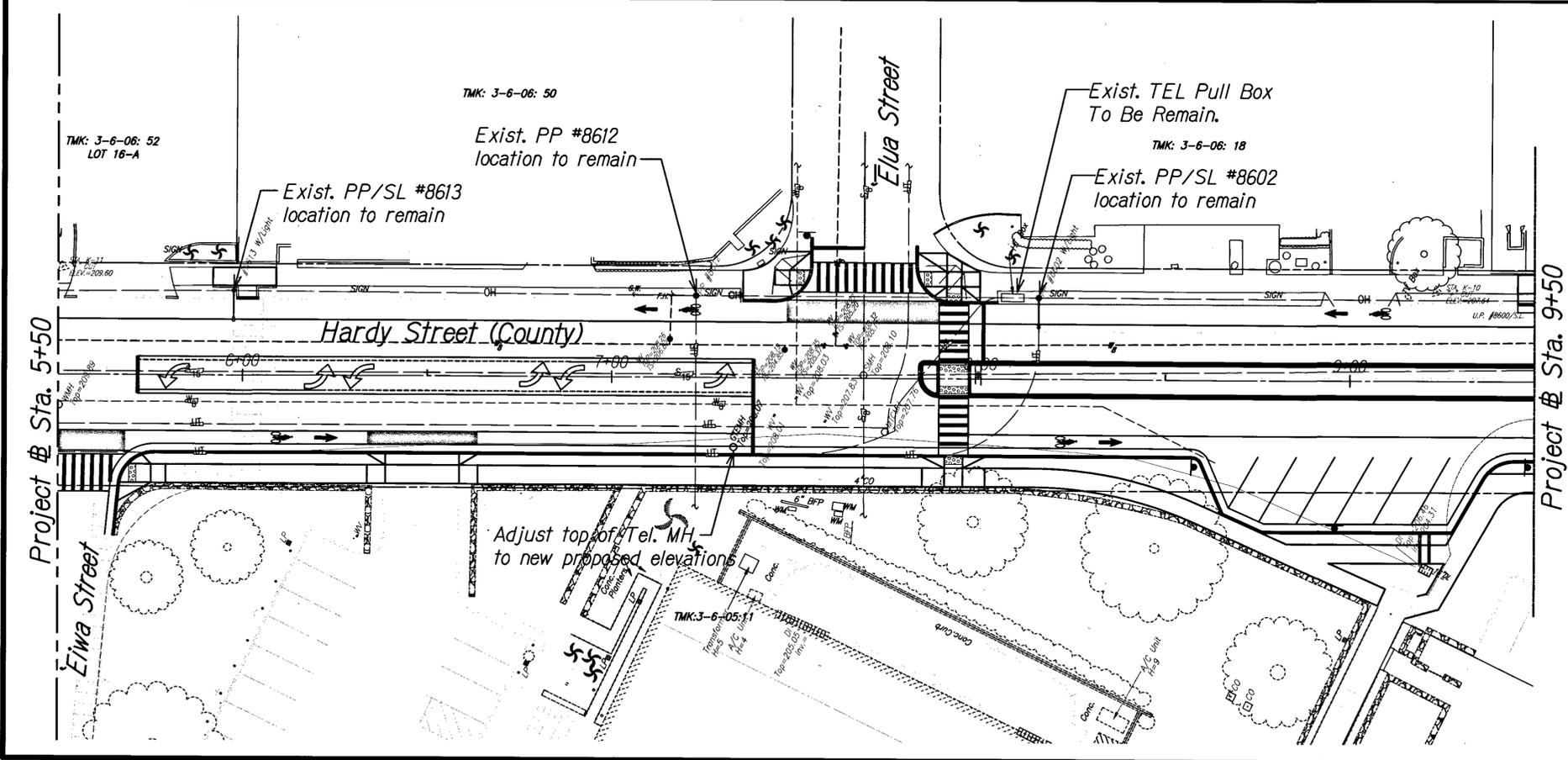
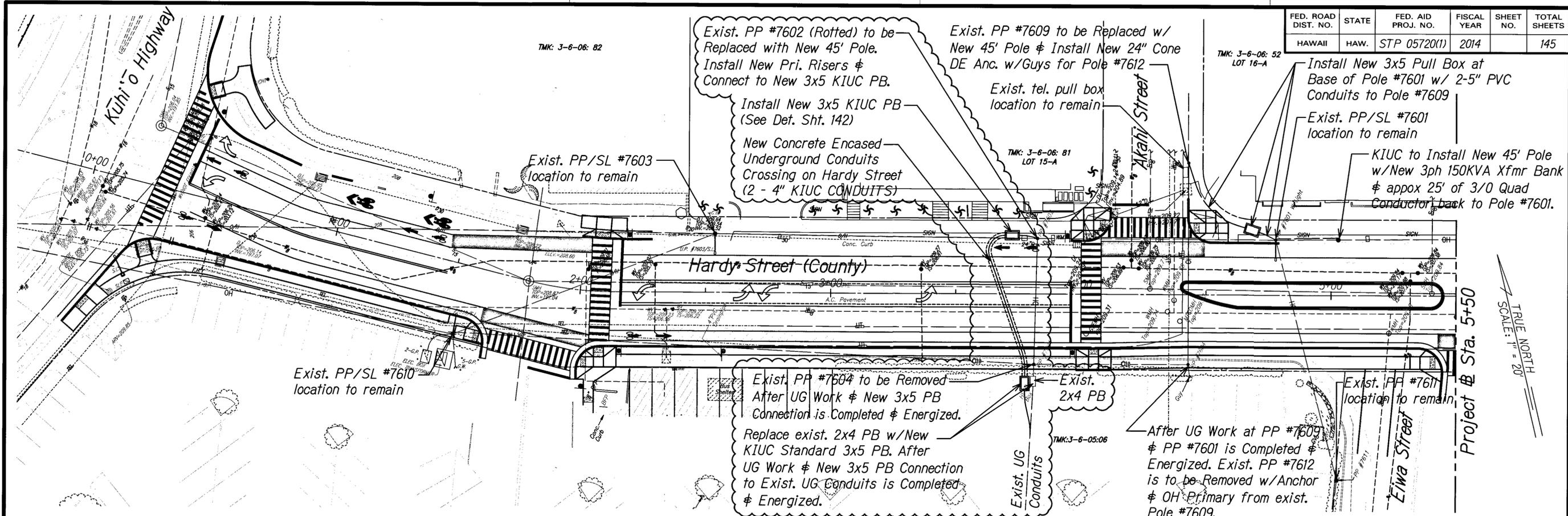
ELECTRICAL NOTES

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014

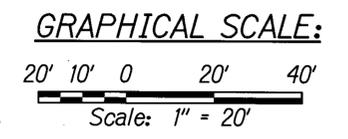
SHEET No. 2 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		145



DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI

APPROVED: *[Signature]* 11-21-14
COUNTY ENGINEER DATE



APPROVED:	APPROVED:	APPROVED:
<i>[Signature]</i> 9/3/14 KAUAI ISLAND UTILITY COOP. DATE	<i>[Signature]</i> 9/3/14 HAWAIIAN TELCO DATE	<i>[Signature]</i> 9/3/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE



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Page 7. Dad

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

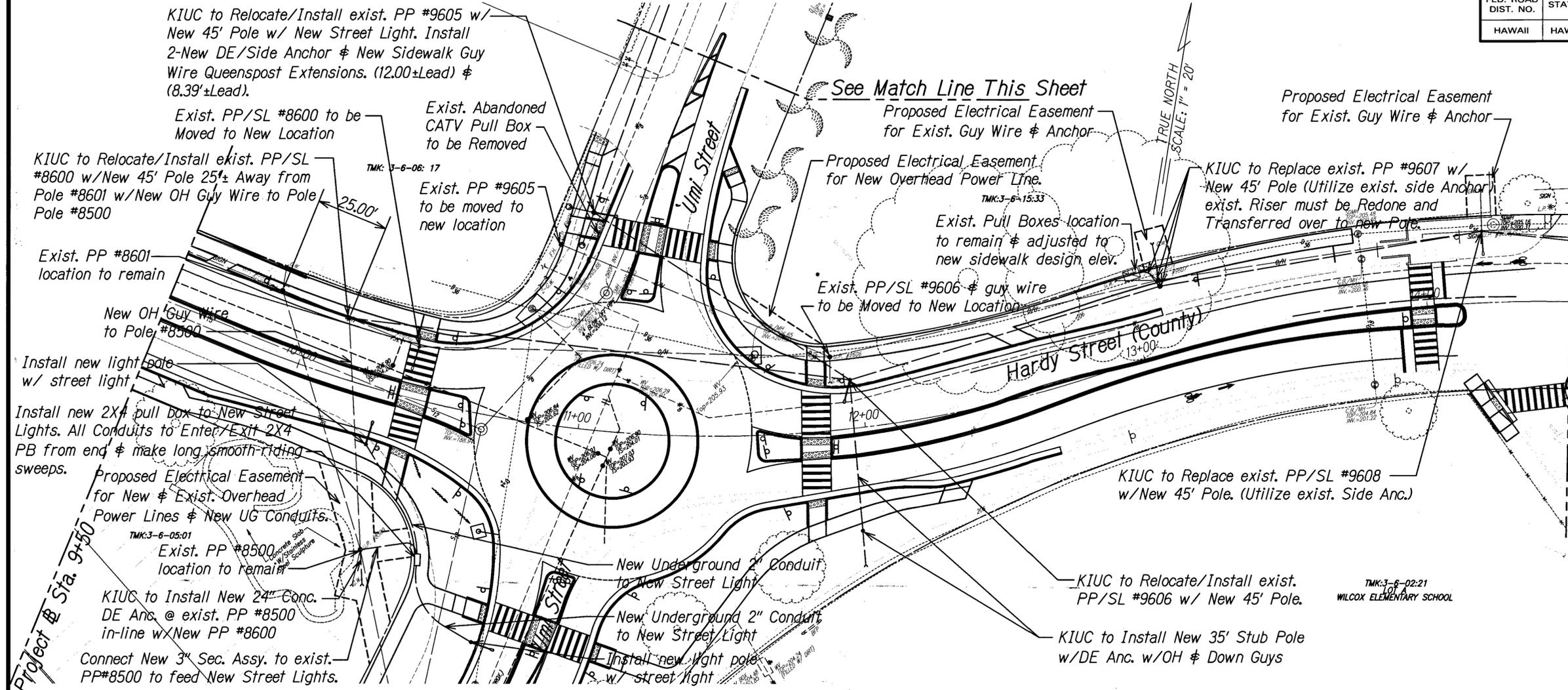
ELECTRICAL SITE PLAN ENLARGEMENT

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: August, 2014

SHEET No. 4 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X

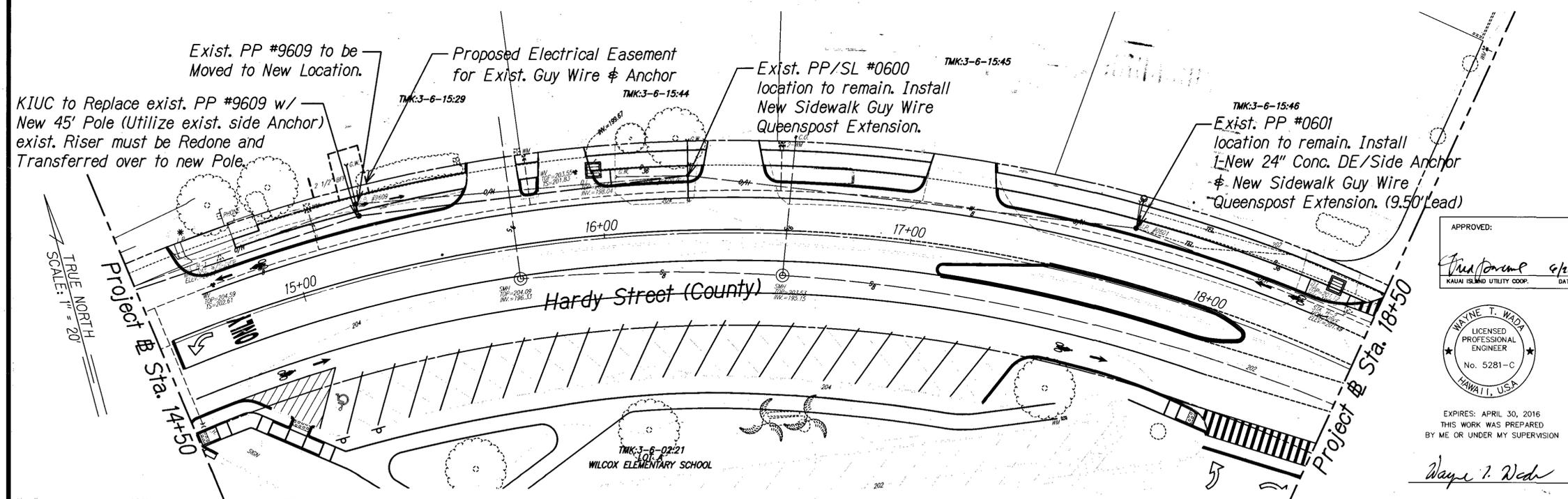


KIUC to Install 24" Conc. Sidewalk Anchor w/Guys for exist. PP #9604 to Pickup New Corner.

Exist. PP #9604 to Remain

Umi Street

See Match Line This Sheet



DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI

APPROVED: *[Signature]* 11/21/14
COUNTY ENGINEER DATE

GRAPHICAL SCALE:
20' 10' 0' 20' 40'
Scale: 1" = 20'

APPROVED: *[Signature]* 6/26/14 KAUAI ISLAND UTILITY COOP. DATE
APPROVED: *[Signature]* 6/19/14 HAWAIIAN TELCOM. DATE
APPROVED: *[Signature]* 6/22/14 OCEANIC TIME WARNER CABLE OF HAWAII. DATE



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Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

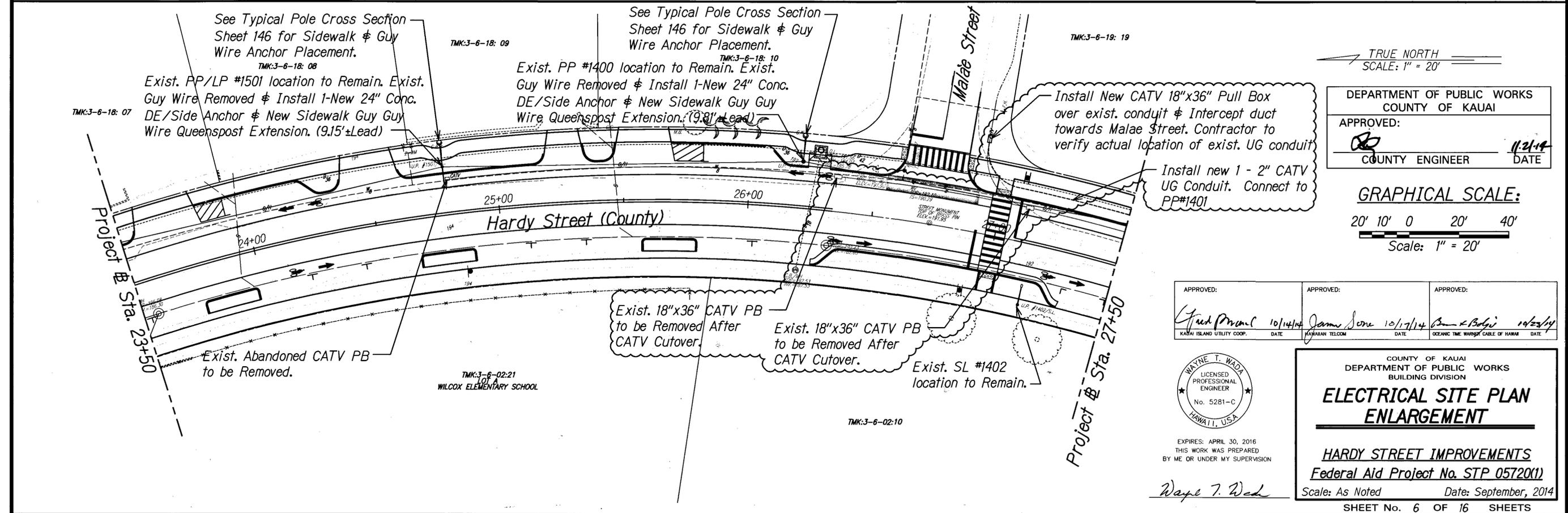
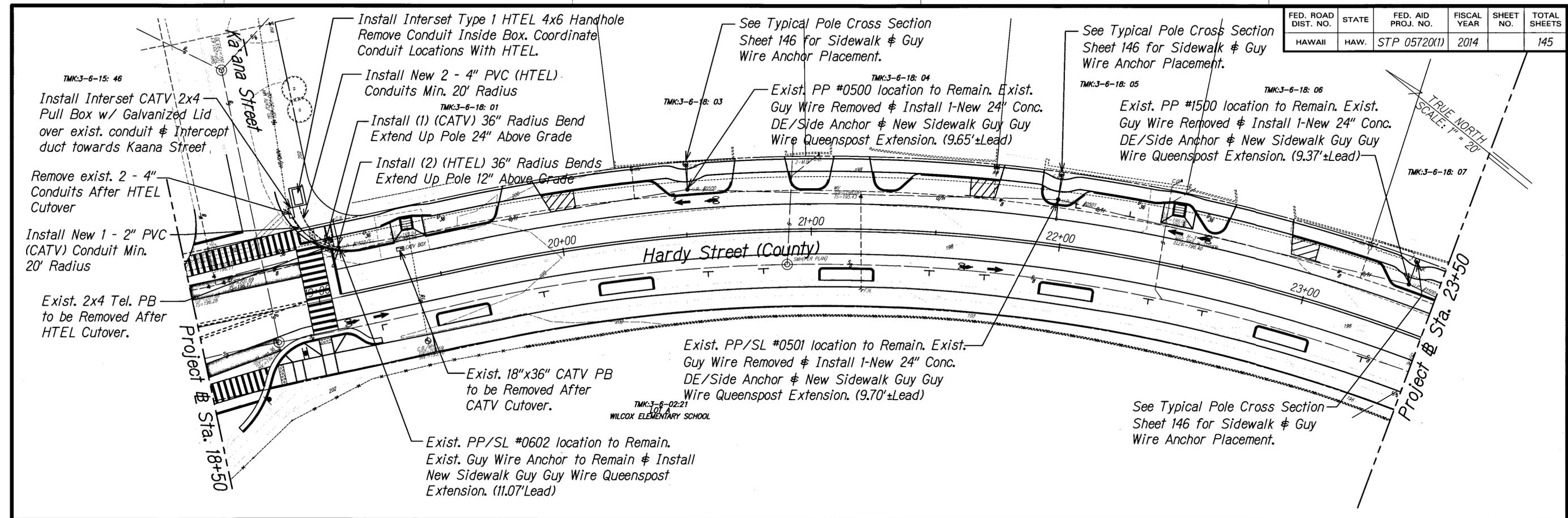
ELECTRICAL SITE PLAN ENLARGEMENT

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014

SHEET No. 5 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014	145	145



TRUE NORTH
SCALE: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED: *[Signature]* 11/21/14
COUNTY ENGINEER DATE

GRAPHICAL SCALE:
20' 10' 0 20' 40'
Scale: 1" = 20'

APPROVED:	APPROVED:	APPROVED:
<i>[Signature]</i> 10/14/14 KAWAII ISLAND UTILITY COOP. DATE	<i>[Signature]</i> 10/17/14 KAWAIIAN TELCO DATE	<i>[Signature]</i> 10/23/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE



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Wayne T. Wada

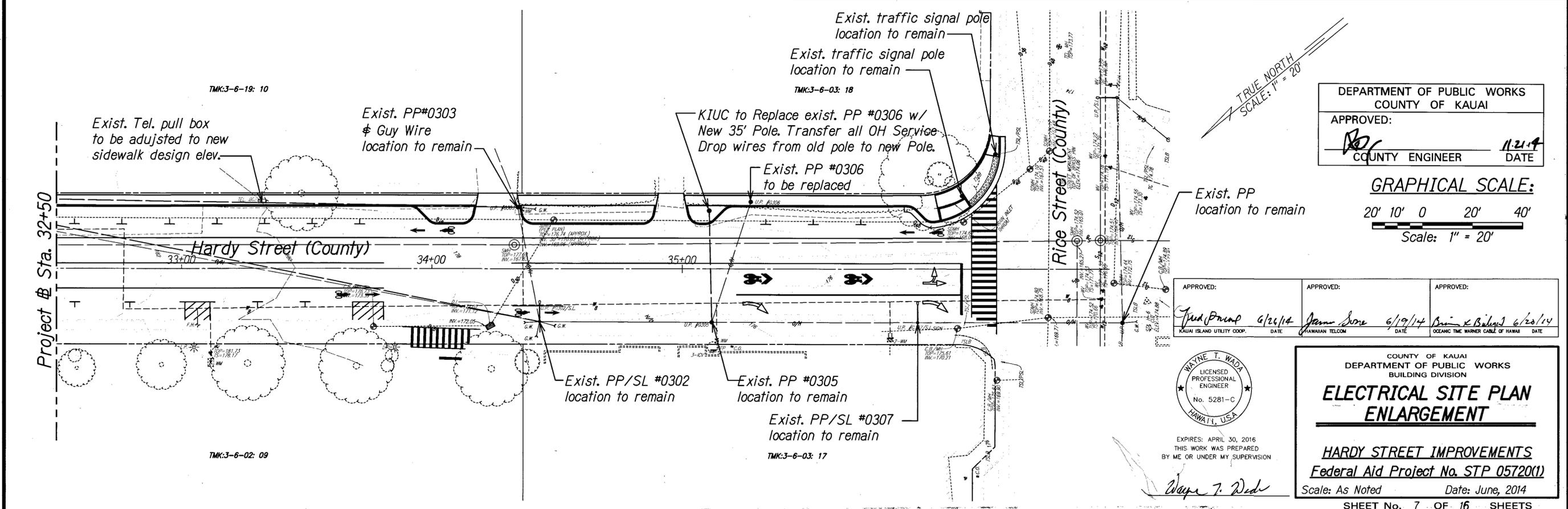
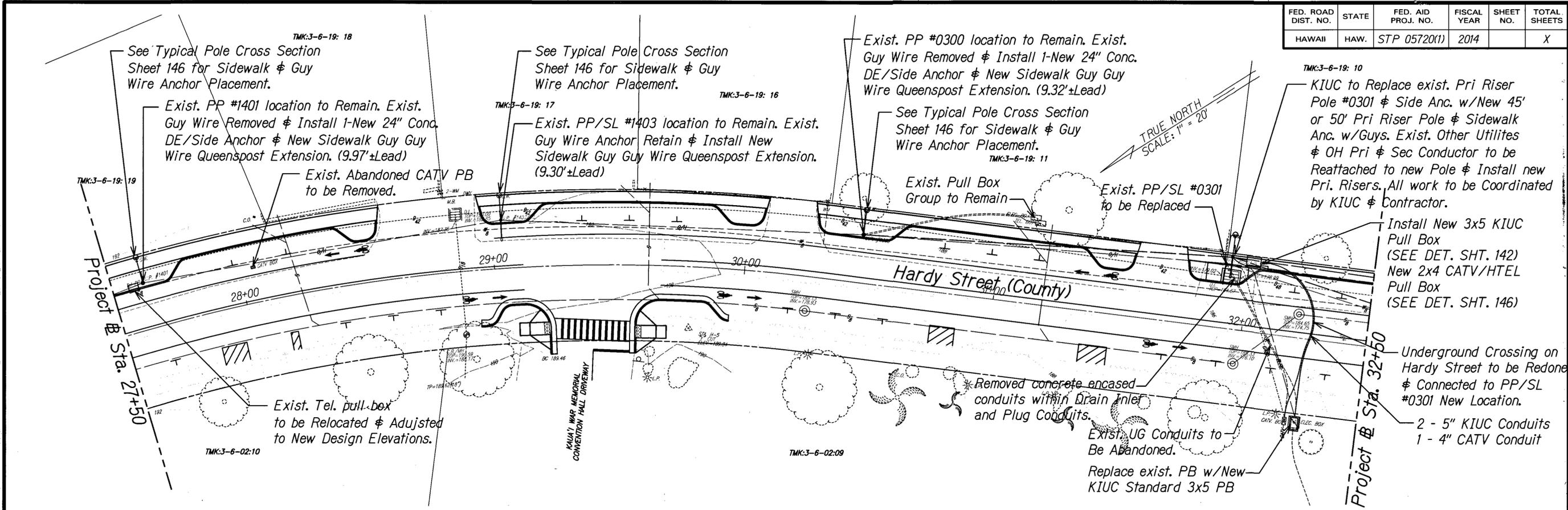
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

**ELECTRICAL SITE PLAN
ENLARGEMENT**

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: September, 2014

SHEET No. 6 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X



DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
APPROVED: *[Signature]* 11-21-14
COUNTY ENGINEER DATE

GRAPHICAL SCALE:
20' 10' 0 20' 40'
Scale: 1" = 20'

APPROVED: <i>[Signature]</i> 6/26/14 KAUAI ISLAND UTILITY COOP. DATE	APPROVED: <i>[Signature]</i> 6/19/14 HAWAIIAN TELCOM DATE	APPROVED: <i>[Signature]</i> 6/20/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE
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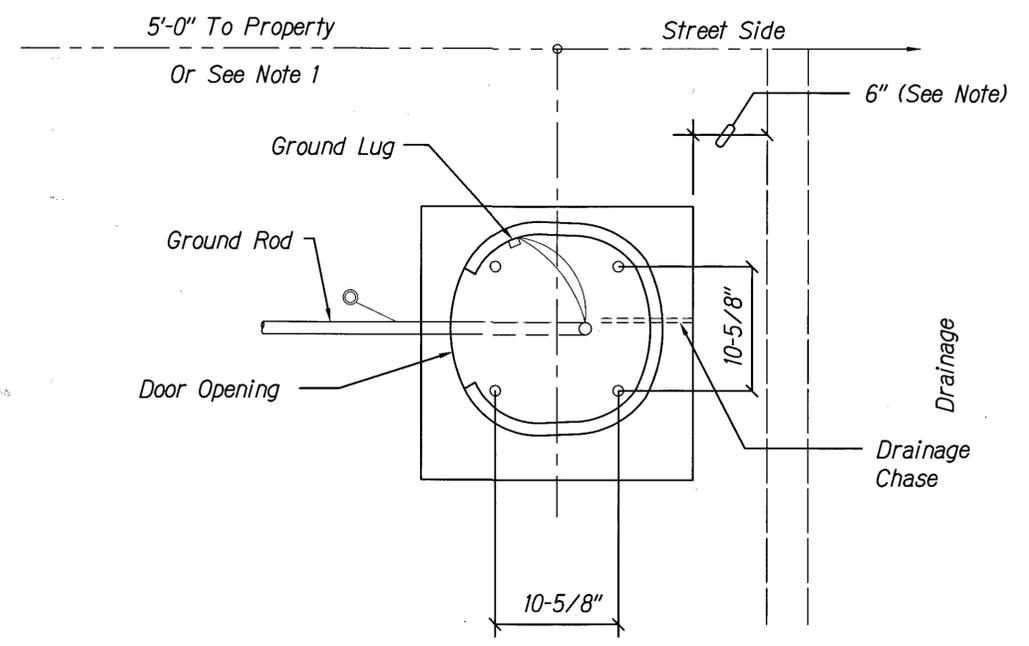
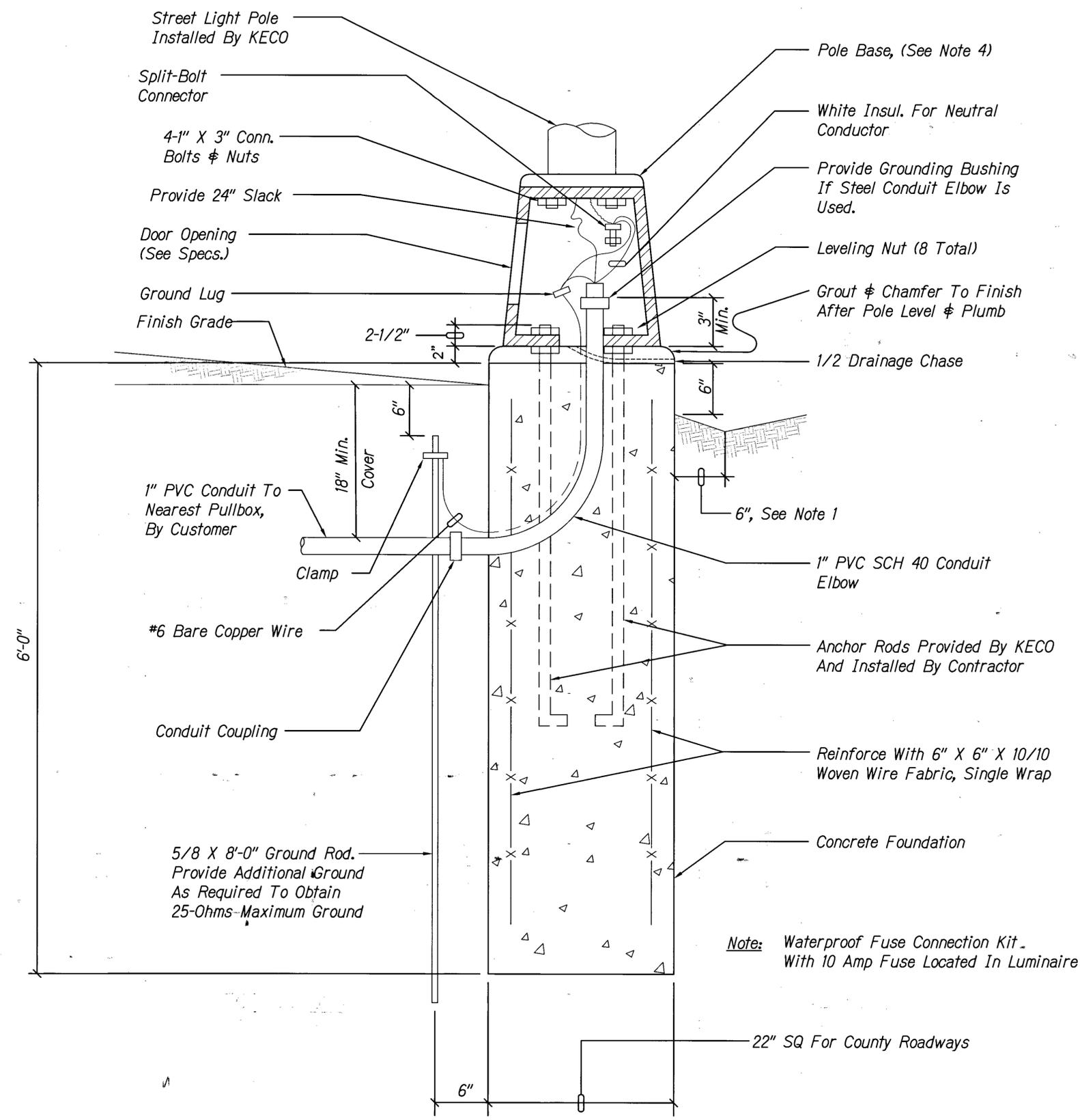


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[Signature] Wayne T. Wadz

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION
ELECTRICAL SITE PLAN ENLARGEMENT
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: June, 2014
SHEET No. 7 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X



PLAN AT BASE

NOTES:

- Concrete Foundation To Be 6" Away From Curbing. This Applies To Streets With Curb And Gutter Construction.
- Concrete Foundation: 3000 PSI (28-Days Compressive Strength)
- Anchor Rods: To Be Supplied By KECO, Unless Noted On Construction Drawings.
- Pole Base: To Be Provided By KECO And Installed By The Contractor.
- Foundation: To Be Constructed By The Contractor.

Note: Waterproof Fuse Connection Kit With 10 Amp Fuse Located In Luminaire

APPROVED: <i>Fred [Signature]</i> 6/26/14 KAUAI ISLAND UTILITY COOP. DATE	APPROVED: <i>[Signature]</i> 6/19/14 HAWAIIAN TELCOM DATE	APPROVED: <i>[Signature]</i> 6/20/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE
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Wayne T. Wade

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

ELECTRICAL DETAILS

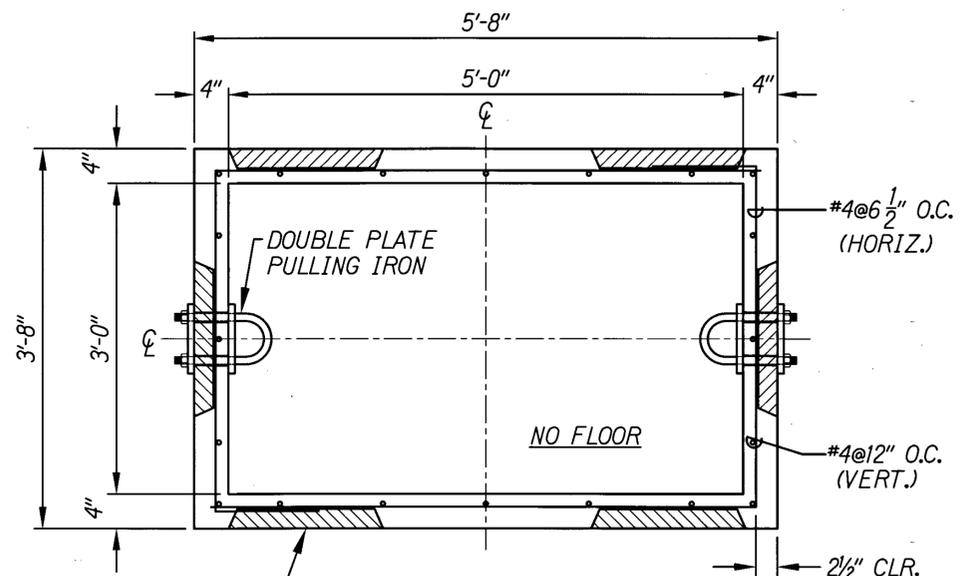
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014

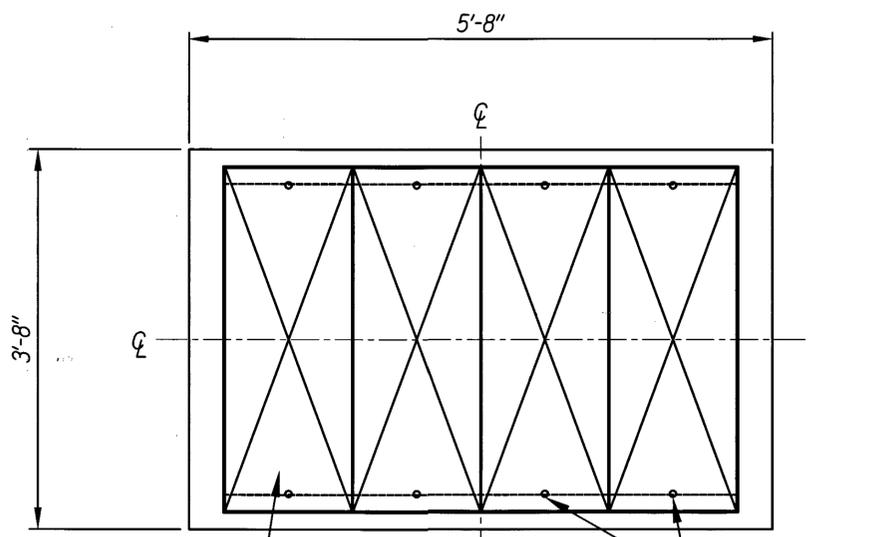
STREET LIGHT BASE DETAIL

NTS

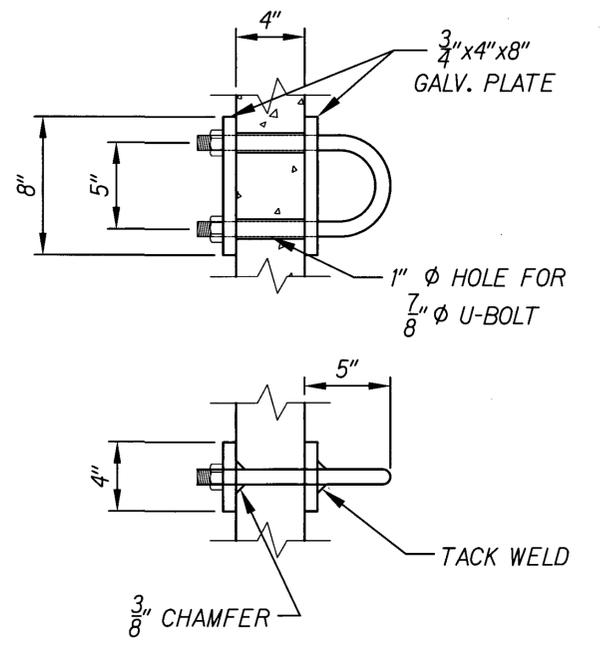
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X



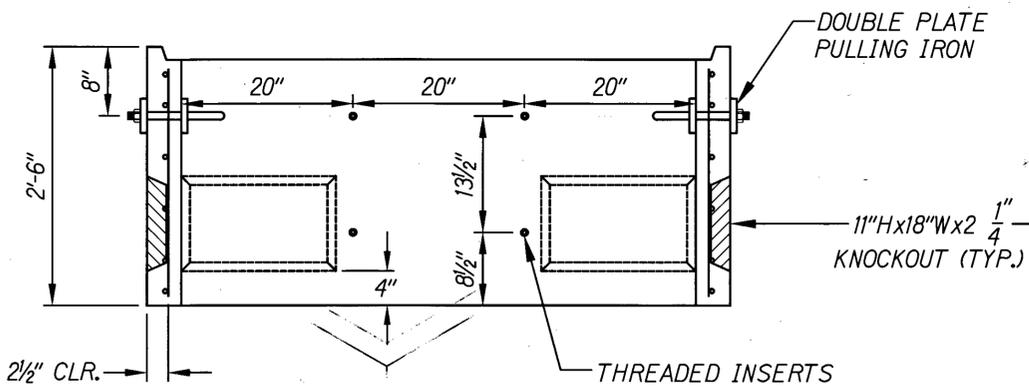
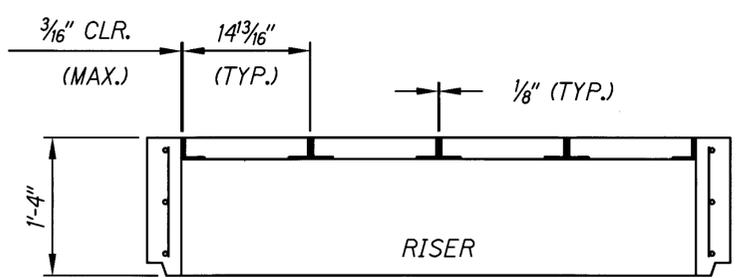
WALL PLAN
SCALE: 1/2"=1'-0"



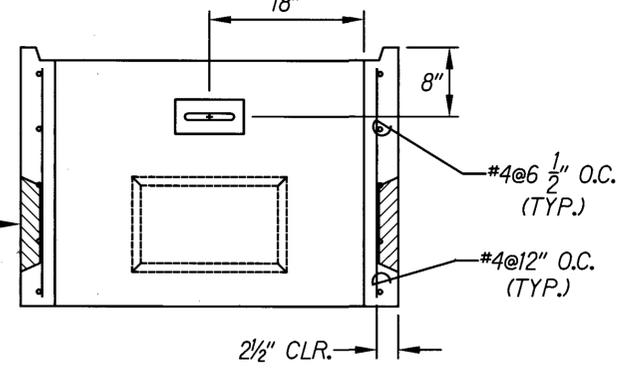
COVER PLAN
SCALE: 1/2"=1'-0"



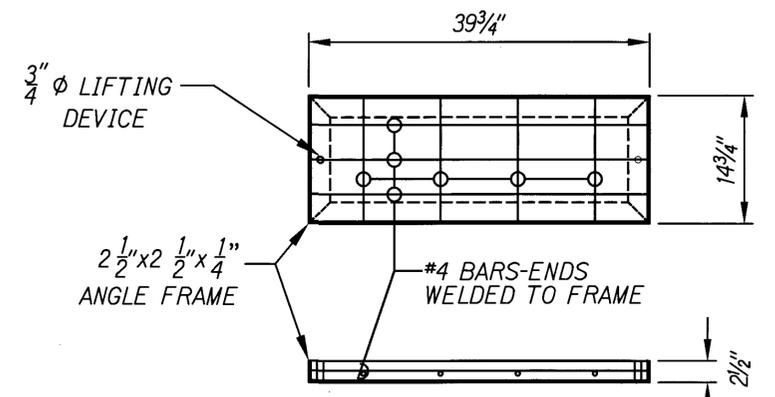
PULLING IRON DETAILS
SCALE: 1"=1'-0"



SECTION "A-A"
SCALE: 1/2"=1'-0"



SECTION "B-B"
SCALE: 1/2"=1'-0"



CONCRETE COVER DETAILS
SCALE: 1/2"=1'-0"

Walker Industries, Ltd.
P.O. BOX 1568 KAHULUI, HI 96733
Ph: (808) 877-3430 Fax: (808) 871-7282

3'-0" x 5'-0" HANDHOLE

APPROVED:	APPROVED:	APPROVED:
<i>Frederic...</i>	<i>...</i>	<i>...</i>
KAUAI ISLAND UTILITY COOP. DATE	HAWAIIAN TELCOM DATE	OCEANIC TIME WARNER CABLE OF HAWAII DATE



EXPIRES: APRIL 30, 2016
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Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

ELECTRICAL DETAILS

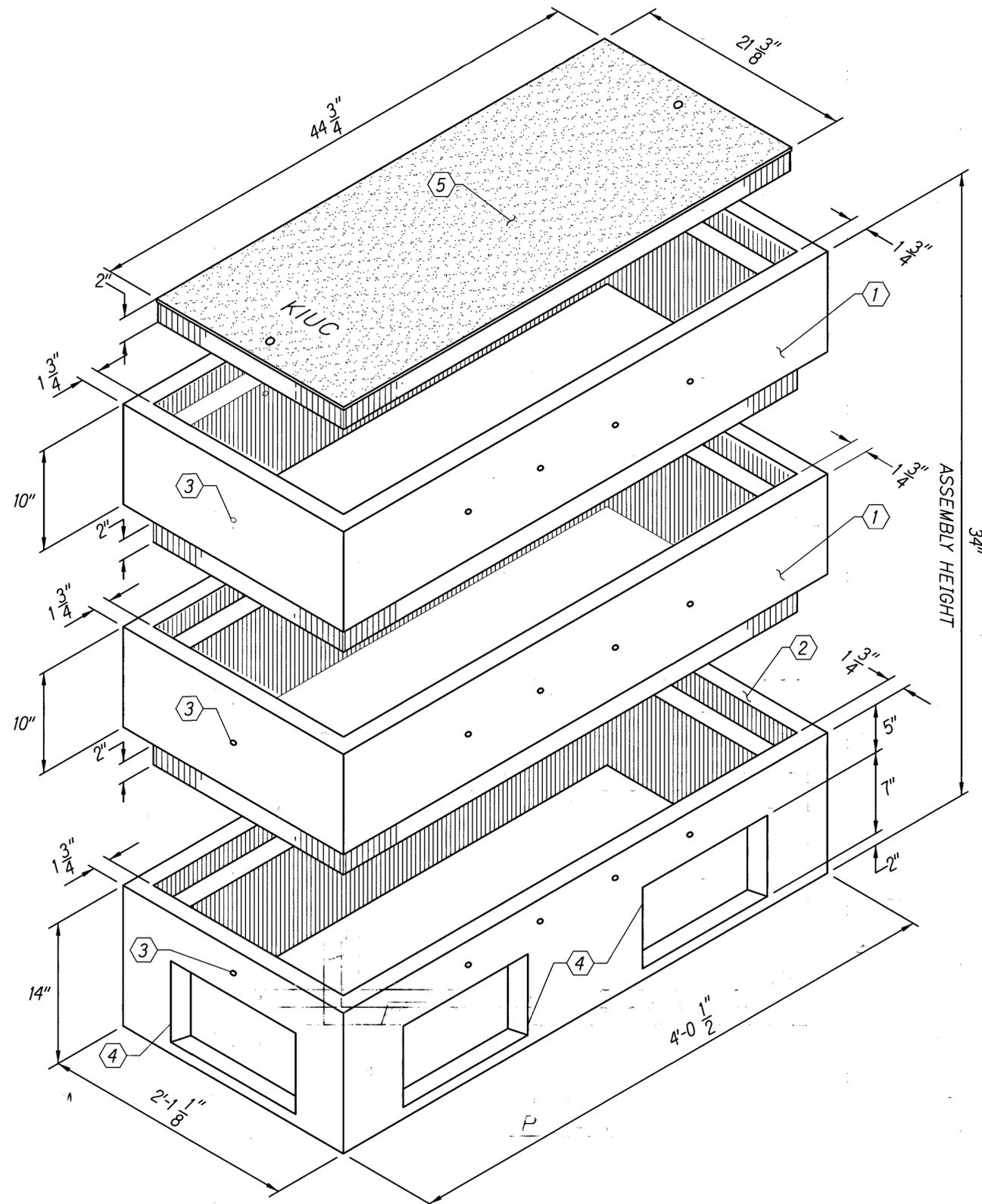
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014

SHEET No. 9 OF 16 SHEETS

TYPE 30-2005 KIUC 2' x 4' HANDHOLE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X



NOTES:

- HANDHOLE DESIGNED IN ACCORDANCE WITH KIUC STANDARDS USING 4,000 PSI COMPRESSIVE STRENGTH CONCRETE AND 60,000 PSI YIELD STRENGTH ASTM A-615 STEEL REINFORCEMENT PER CALCS.
- ALL CONCRETE AND REINFORCED CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE AMERICAN CONCRETE INSTITUTE'S BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-87).
- HANDHOLE TO BE PLACED ON A 6" BASE ON FIRM/COMPACTED BACKFILL OR ON UNDISTURBED SOIL.
- PRODUCT TO BE STENCILED:
WALKER INDUSTRIES
DATE OF POUR
PRODUCT MARK NO.

THE FOLLOWING MATERIALS TO BE SHIPPED WITH EACH HANDHOLE:

ORDERING INFORMATION:

2'x4'x34" KIUC FOR ASSEMBLY AS SHOWN.
APPROVED FOR KIUC SPECS.
TOTAL WEIGHT OF ASSEMBLY SHOWN IS 1230#.

1. TOP SECTION. WT. 400#.
2. BOTTOM SECTION W/KNOCKOUTS. WT. 430#.
3. 1/2" x 4" LIFTING HOLE (CONTR. TO GROUT SOLID AFTER PLACEMENT OF SECTION).
4. CONDUIT OPENING KNOCKOUT.
5. CONCRETE COVER, REFER TO HECO DWG. NO. 11312.

Walker Industries, Ltd.
P.O. BOX 1568 KAHULUI, HI. 96733
Ph. (808) 877-3430 Fax: (808) 871-7282

2'x4'x34" KIUC

APPROVED: <i>Frank P. Jones</i> 6/20/14 KAUAI ISLAND UTILITY COOP. DATE	APPROVED: <i>James P. ...</i> 6/19/14 HAWAIIAN TELCOM DATE	APPROVED: <i>...</i> 6/20/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE
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Wayne T. Wadi

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

ELECTRICAL DETAILS

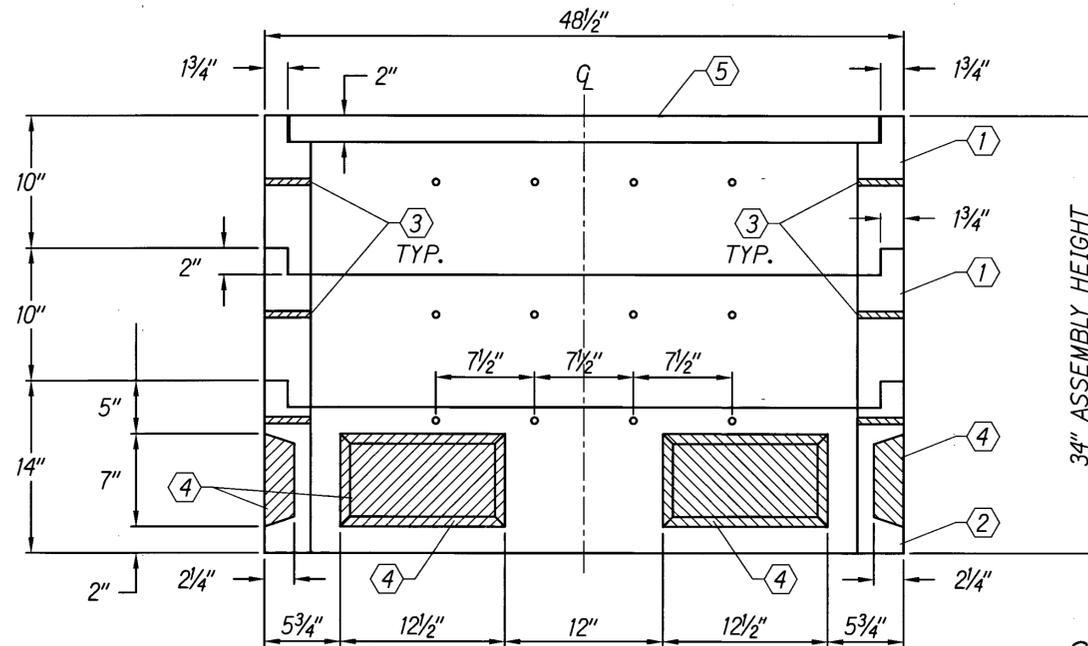
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014

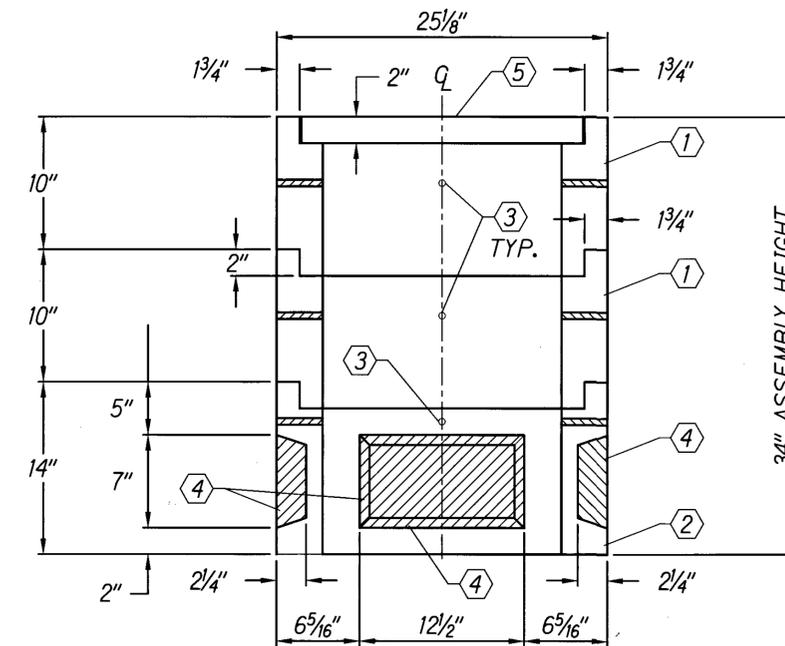
SHEET No. 10 OF 16 SHEETS

TYPE 30-2005 KIUC 2' x 4' HANDHOLE

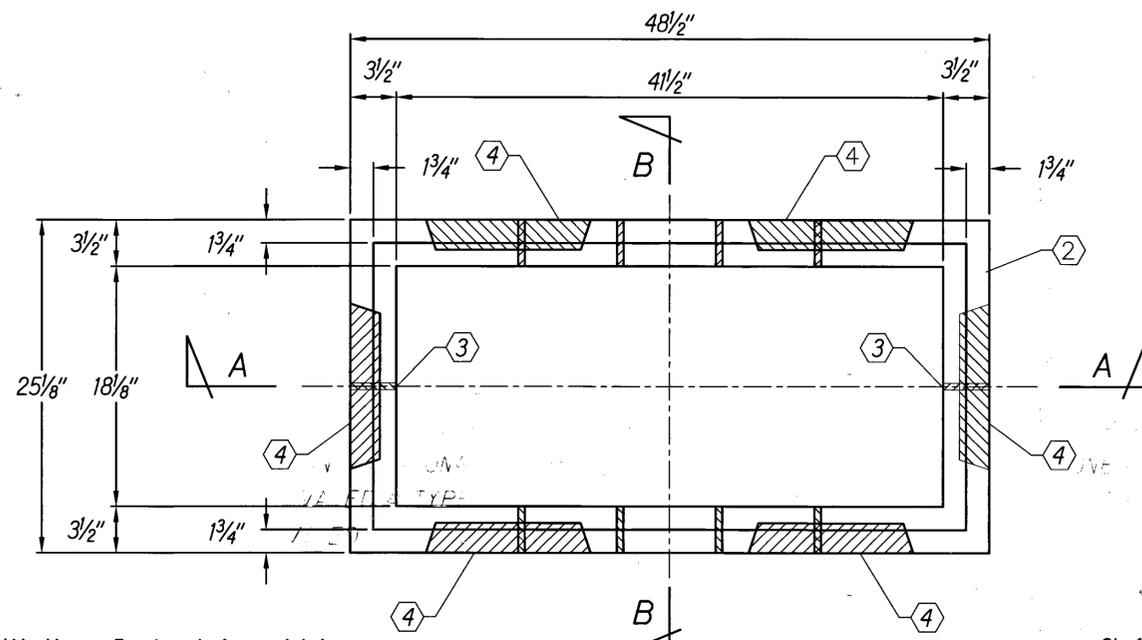
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X



SECTION "A-A"



SECTION "B-B"



P L A N

2'x4'x34" KIUC

Walker Industries, Ltd.
 P.O. BOX 1568 KAHULUI, HI. 96733
 Ph. (808) 877-3430 Fax: (808) 871-7282

APPROVED:	APPROVED:	APPROVED:
<i>Fred Popp</i> 6/26/14 KAUAI ISLAND UTILITY COOP. DATE	<i>Jessie Sore</i> 6/19/14 HAWAIIAN TELCOM DATE	<i>Brian K. Buley</i> 6/20/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE



EXPIRES: APRIL 30, 2016
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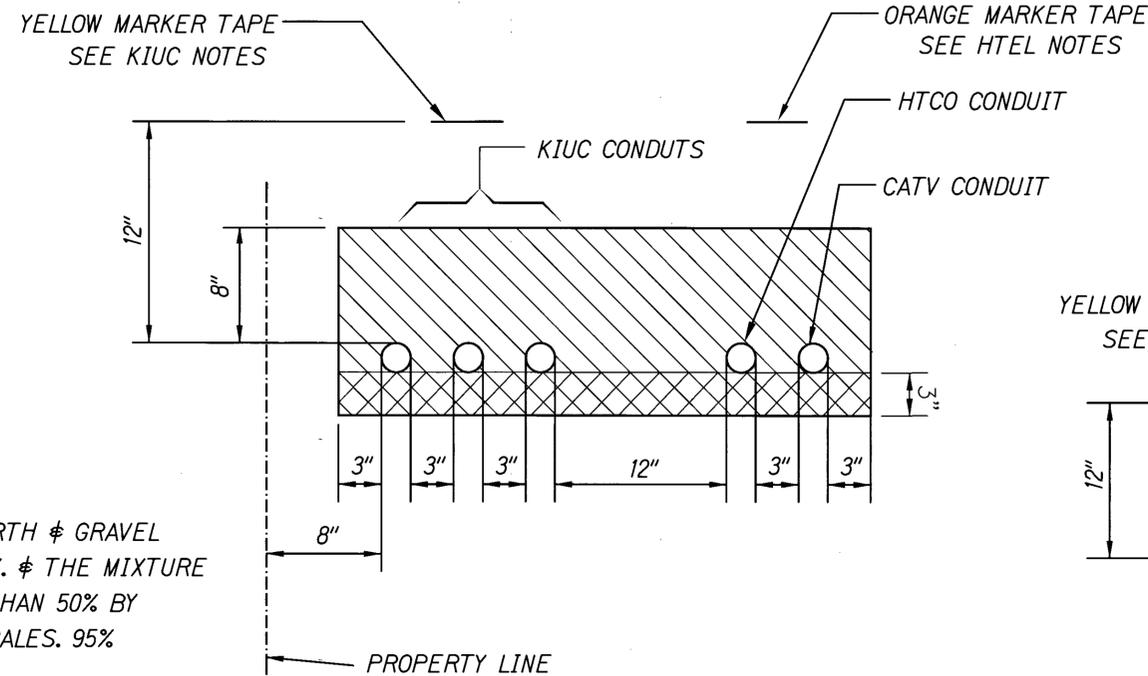
Wayne T. Wadz

COUNTY OF KAUAI
 DEPARTMENT OF PUBLIC WORKS
 BUILDING DIVISION

ELECTRICAL DETAILS

HARDY STREET IMPROVEMENTS
 Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014



BACKFILL NOTES:



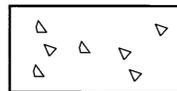
TYPE "A" BACKFILL - EARTH & GRAVEL
ROCK SIZE TO BE 1" MAX. & THE MIXTURE
TO CONTAIN NOT MORE THAN 50% BY
VOLUME OF ROCK PARTICALES. 95%
COMPACTION



TYPE "B" BACKFILL - EARTH & GRAVEL
MIXTURE MUST PASS A 1/2" MESH
SCREEN & CONTAIN NOT MORE THAN
20% BY VOLUME OF ROCK PARTICALES.
95% COMPACTION.



NOTE: IF NORMAL MATERIAL AT
BOTTOM OF TRENCH IS NOT TYPE
"B", AN ADDITIONAL 3" SHALL BE
EXCAVATED & TYPE "B" BACKFILL
PROVIDED

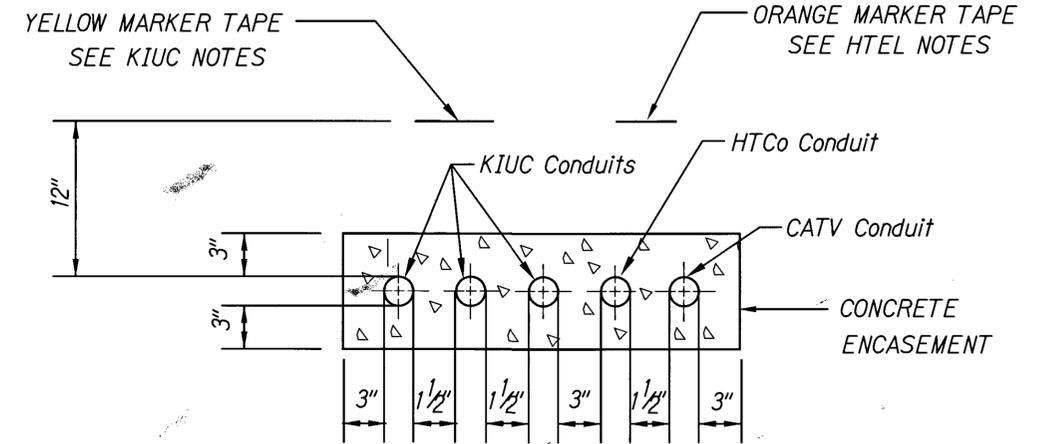


CONCRETE - 3" ENCASEMENT,
3000 psi COMPRESSIVE STRENGTH
AT 28 DAYS.

NOTE: SEE PLAN FOR CONDUIT SIZE, QUANTITY & TYPE

TYPICAL TRENCH SECTION

NTS



NOTE: SEE PLAN FOR CONDUIT SIZE, QUANTITY & TYPE

TYP. CONC. ENCASEMENT DET.

NTS

NOTES FOR WATER FACILITIES CROSSING

1. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATION OF THE EXISTING WATER FACILITIES PRIOR TO TRENCHING. EXCAVATION AROUND EXISTING WATER FACILITIES SHALL BE DONE BY HAND.
2. MATERIAL USED FOR BACKFILLING AT THE WATER FACILITIES CROSSINGS SHALL NOT CONTAIN ANY STONES, ROCKS, OR OTHER SIMILAR MATERIAL AND SHALL NOT CONTAIN VEGETABLE MATTER OR DEBRIS OR ANY KIND. NO "ADOBE" OR SIMILAR MATERIAL SHALL BE USED.
3. PROVIDE CONCRETE ENCASEMENT FOR THE CONDUITS AT ALL WATERLINE, SERVICE LATERAL, AND FIRE HYDRANT CROSSINGS. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF WATER AT LEAST 24-HOURS PRIOR TO SCHEDULING BACKFILLING OPERATIONS AT THE WATER FACILITIES CROSSINGS.

APPROVED: <i>Wayne T. Wada</i> 6/26/14 KAWAII ISLAND UTILITY COOP. DATE	APPROVED: <i>James Sore</i> 6/19/14 HAWAIIAN TELCO. DATE	APPROVED: <i>Orin J. Balogh</i> 6/20/14 OCEANIC TIME WARNER CABLE OF HAWAII DATE
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EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

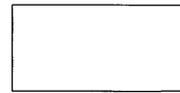
ELECTRICAL DETAILS

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014

SHEET No. 12 OF 16 SHEETS

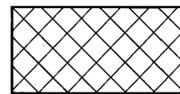
BACKFILL NOTES:



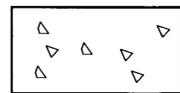
TYPE "A" BACKFILL - EARTH & GRAVEL ROCK SIZE TO BE 1" MAX. & THE MIXTURE TO CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION



TYPE "B" BACKFILL - EARTH & GRAVEL MIXTURE MUST PASS A 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.



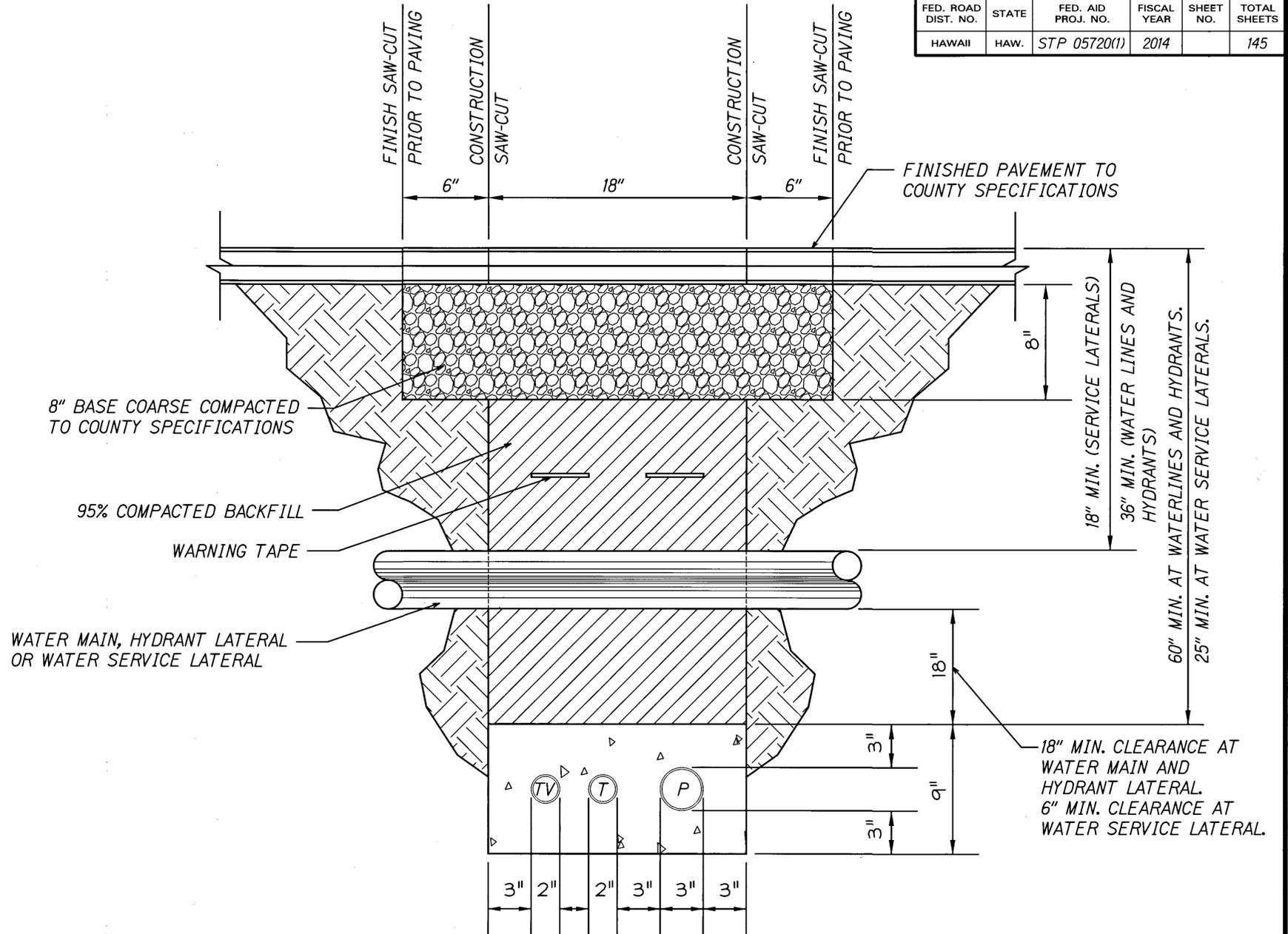
NOTE: IF NORMAL MATERIAL AT BOTTOM OF TRENCH IS NOT TYPE "B", AN ADDITIONAL 3" SHALL BE EXCAVATED & TYPE "B" BACKFILL PROVIDED



CONCRETE - 3" ENCASEMENT, 3000 psi COMPRESSIVE STRENGTH AT 28 DAYS.

WATER NOTES:

1. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATION OF THE EXISTING WATER FACILITIES PRIOR TO TRENCHING. EXCAVATION AROUND EXISTING WATER FACILITIES SHALL BE DONE BY HAND.
2. MATERIAL USED FOR BACKFILLING AT THE WATER FACILITIES CROSSINGS SHALL NOT CONTAIN ANY STONES, ROCKS, OR OTHER SIMILAR MATERIAL AND SHALL NOT CONTAIN VEGETABLE MATTER OR DEBRIS OR ANY KIND. NO "ADOBE" OR SIMILAR MATERIAL SHALL BE USED.
3. PROVIDE CONCRETE ENCASEMENT FOR THE CONDUITS AT ALL WATERLINE, SERVICE LATERAL, AND HYDRANT CROSSINGS. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF WATER AT LEAST 24-HOURS PRIOR TO SCHEDULING BACK FILLING OPERATIONS AT THE WATER FACILITIES CROSSINGS.



DETAIL AT WATER FACILITIES CROSSING

NTS

DEPARTMENT OF WATER
COUNTY OF KAUAI
APPROVED: *[Signature]* 9/24/14
MANAGER & CHIEF ENGINEER DEPT. OF WATER

APPROVED: <i>[Signature]</i> KAIHI ISLAND UTILITY COOP. DATE	APPROVED: <i>[Signature]</i> 9/3/14 HAWAIIAN TELCOM DATE	APPROVED: <i>[Signature]</i> 9/5/14 OCEANIC TIME WARNER/CABLE OF HAWAII DATE
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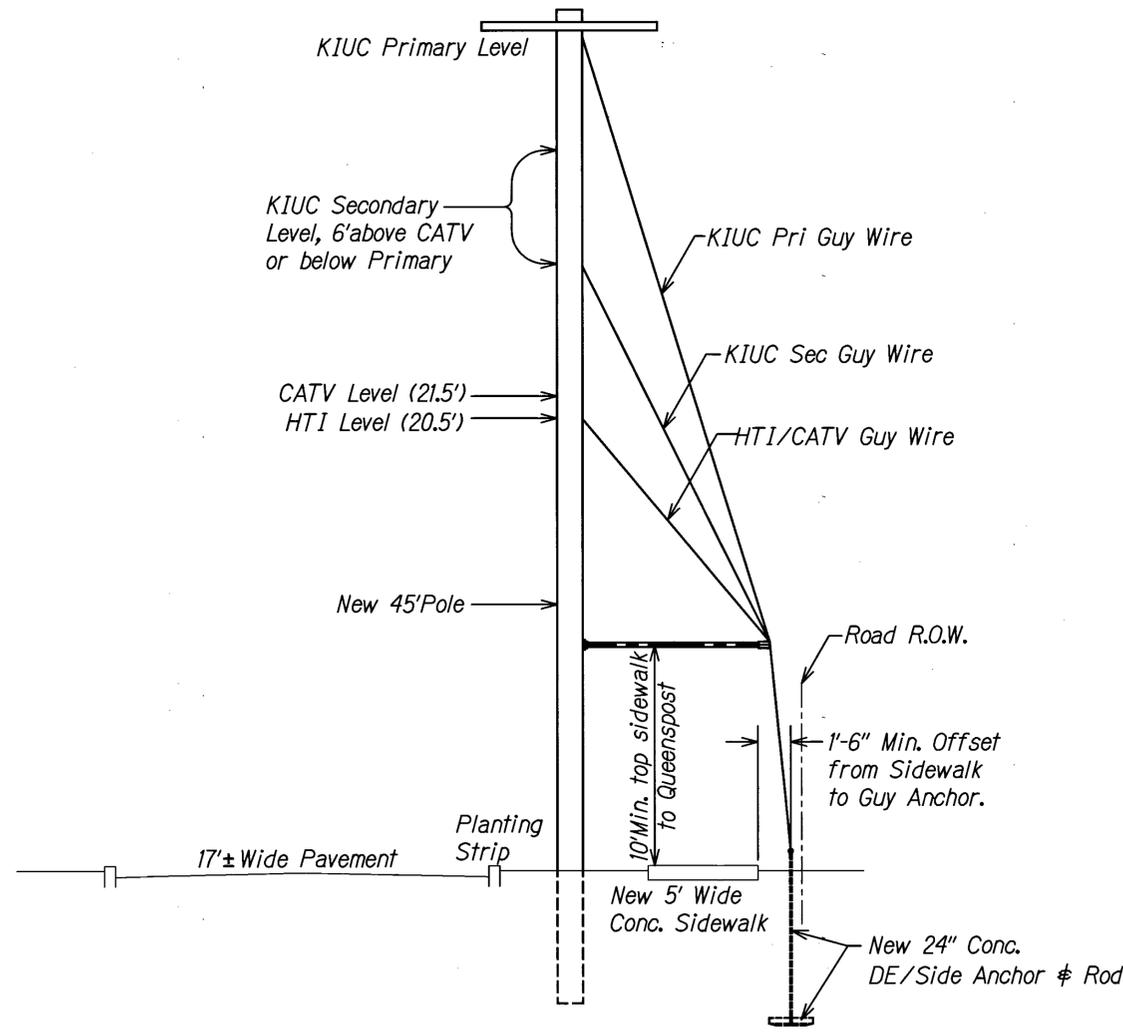


EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

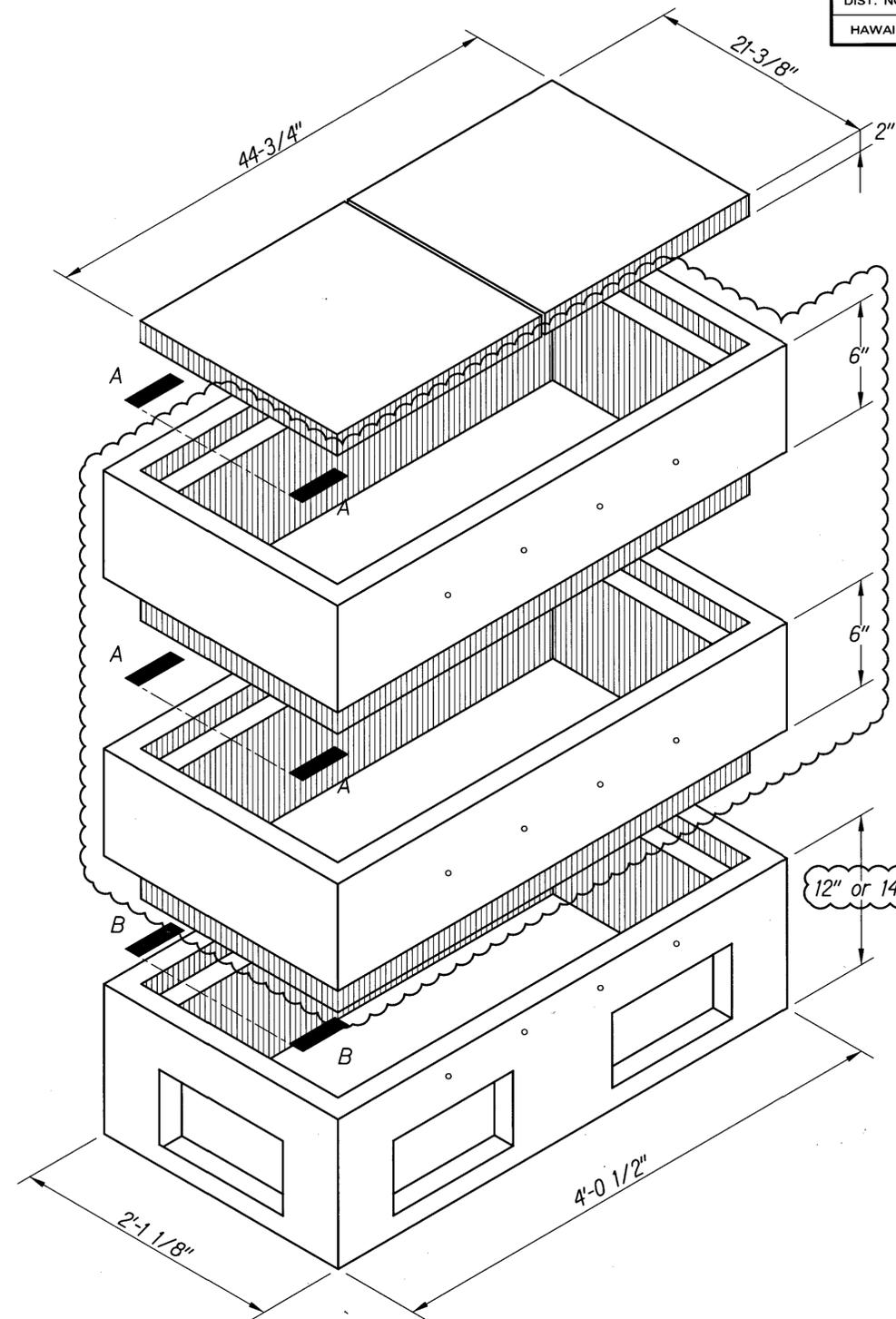
Wayne T. Wade

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION
ELECTRICAL DETAILS
HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)
Scale: As Noted Date: August, 2014

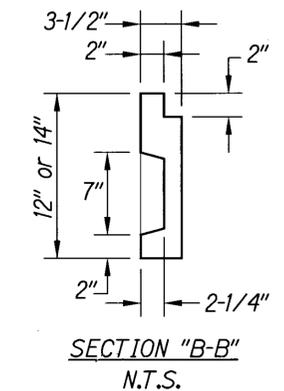
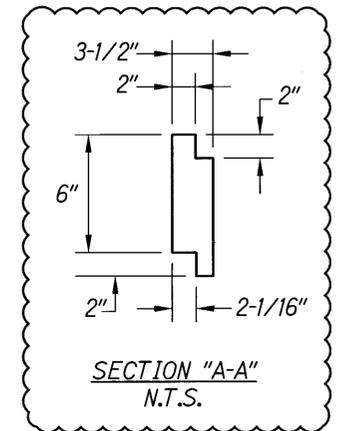
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		145



TYPICAL POLE CROSS SECTION
NTS



2' x 4' CATV PULLBOX ASSEMBLY
NOT TO SCALE



EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

APPROVED:	APPROVED:	APPROVED:
<i>[Signature]</i> 10/14/14 KAUAI ISLAND UTILITY COOP. DATE	<i>[Signature]</i> 10/17/14 HAWAIIAN TELCOM DATE	<i>[Signature]</i> 10/23/14 OCEANIC TIME WARNER-CABLE OF HAWAII DATE

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

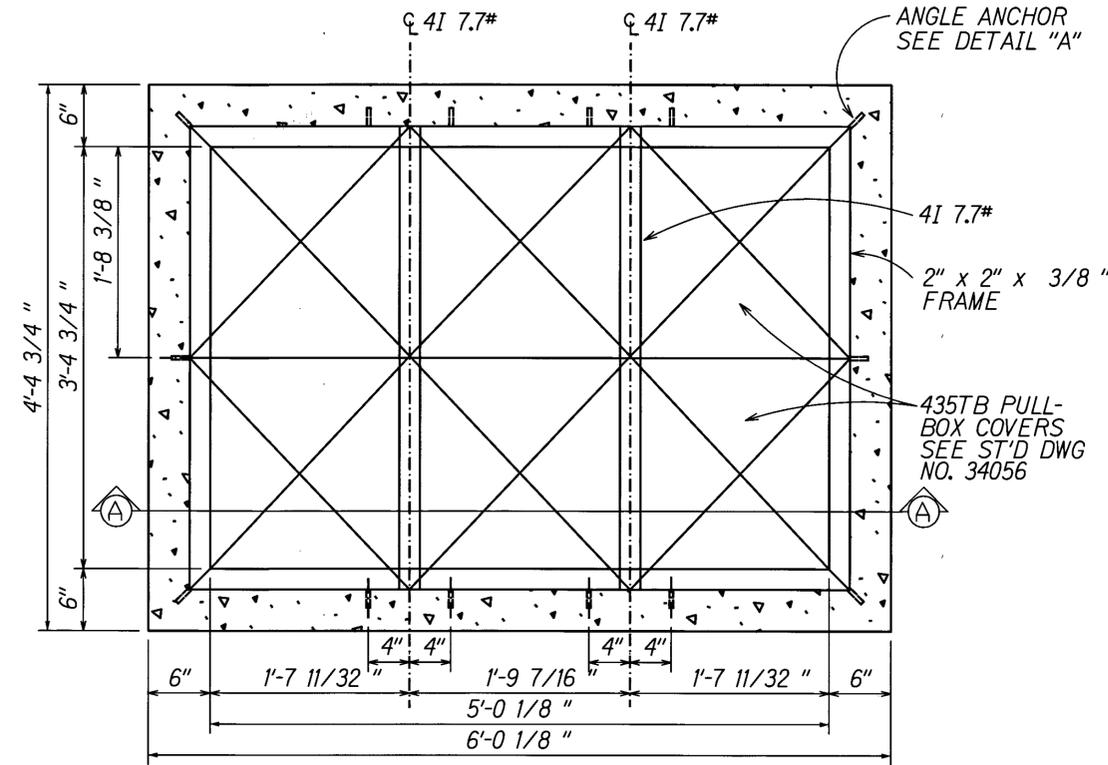
ELECTRICAL DETAILS

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

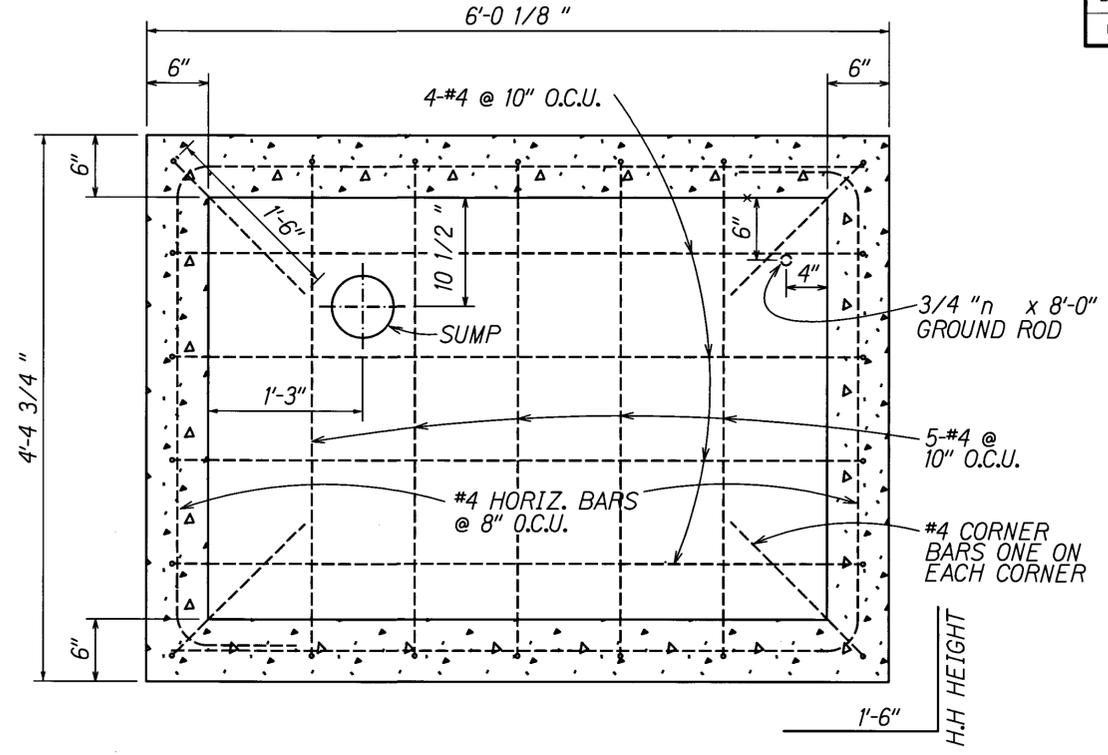
Scale: As Noted Date: September, 2014

SHEET No. 13 OF 16 SHEETS

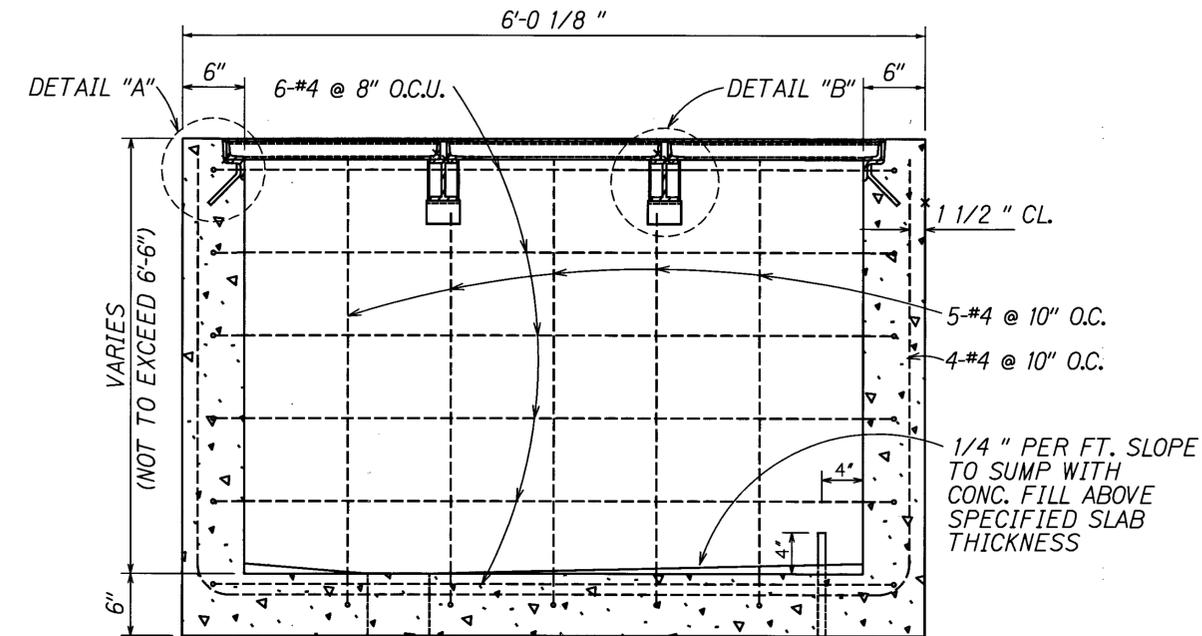
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X



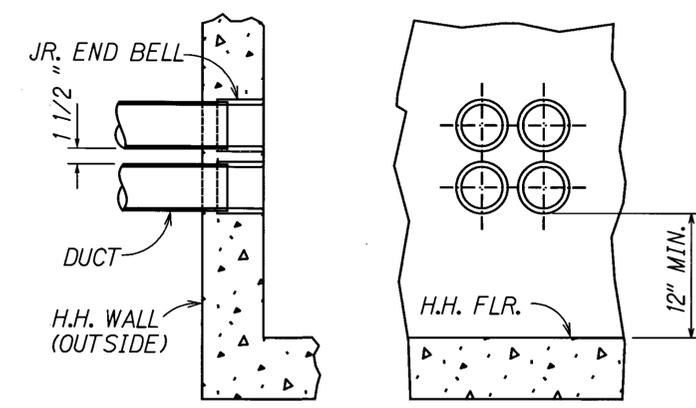
TOP PLAN (Cast-in-Place)



FLOOR PLAN (Cast-in-Place)



SECTION "A-A" (Cast-in-Place)
HANDHOLE TYPE #1
(3'-4 3/4" x 5'-0 1/8" INSIDE)



SIDE VIEW OR TOP PLAN FRONT VIEW

4 DUCTS
DUCT ENTRANCE DETAILS

APPROVED:	APPROVED:	APPROVED:
N/A	<i>Jamison</i> 6/19/14	<i>Bonnie K. Balog</i> 6/26/14
KAUAI ISLAND UTILITY COOP. DATE	HAWAIIAN TELCOM DATE	OCEANIC TIME WARNER CABLE/HAWAII DATE



EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

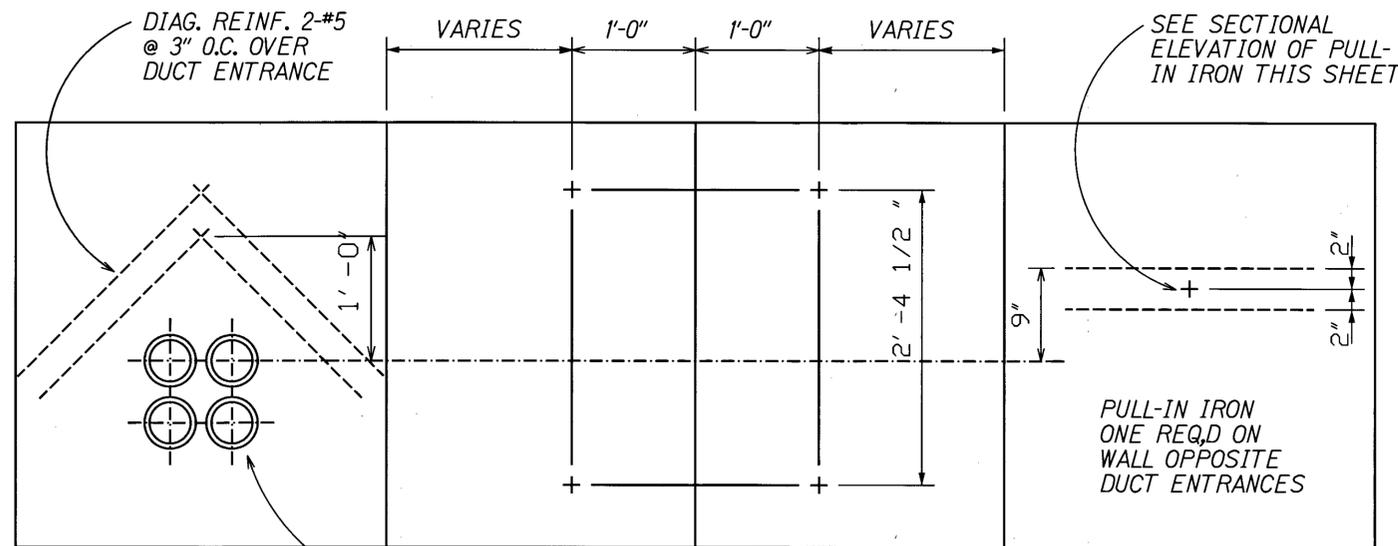
ELECTRICAL DETAILS

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014

HTEL STANDARD HANDHOLE TYPE 1
USING 435TB PULLBOX COVERS

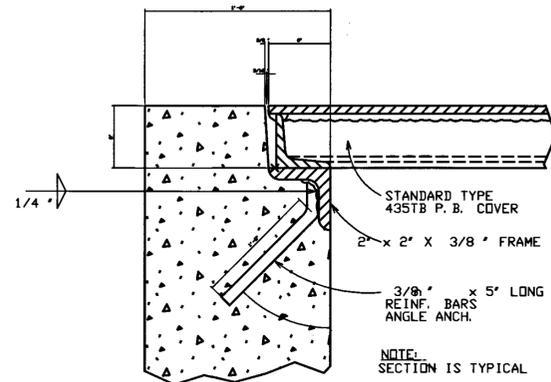
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP 05720(1)	2014		X



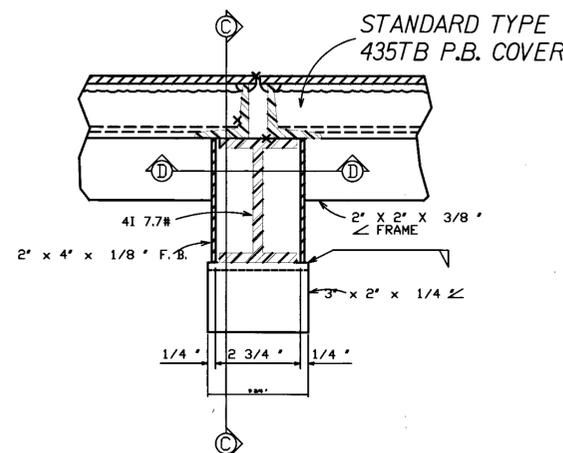
GENERAL NOTES

1. CONC FINISH : FLOORS-WOOD FLOATED FINISH-EXPOSED WALL SURFACES AND EDGES SMOOTH AND FREE FROM DEFECTS.
2. CONC. TO DEVELOP COMPRESSIVE STRENGTH-3000 P.S.I IN 28 DAYS.
3. STEEL WORK ALL STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
4. FOR DUCT LINE CONSTRUCTION STANDARDS, SEE STD. DWG NO.34028. THESE HANDHOLES ARE DESIGNED FOR INSTALLATION IN AREAS OTHER THAN ROADWAYS.
5. MAX LOADING FOR HANDHOLE W/435TB CHECKERED STEEL PLATE COVERS IS 4,300 LBS.
6. SECTION "B-B" IS A 2 SECTION PRECASTED HANDHOLE WHICH MAY BE USED IN PLACE OF SECTION "A-A" (TYPE #1 HANDHOLES). THE 2 SECTIONS SHALL BE BONDED WITH A MASTIC WHEN INSTALLED TO PREVENT WATER ENTRY.

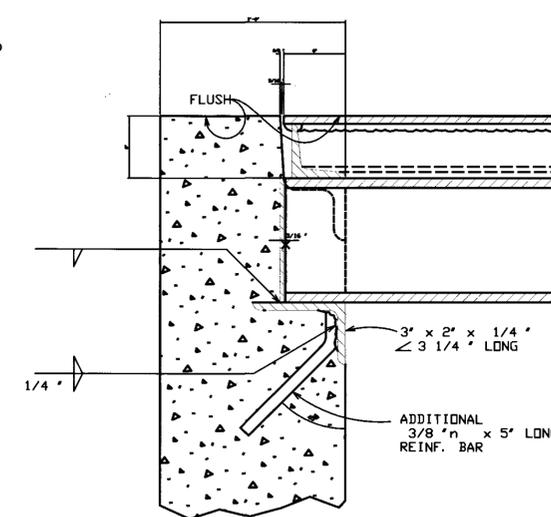
ELEVATION OF INSIDE WALLS - H.H. TYPE 1



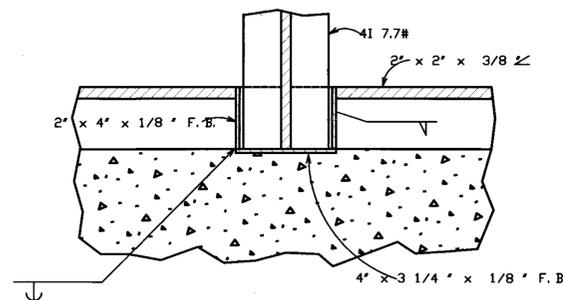
DETAIL "A"



DETAIL "B"



SECTION "C-C"



SECTION "D-D"

HTEL STANDARD HANDHOLE TYPE 1 USING 435TB PULLBOX COVERS

APPROVED:	APPROVED:	APPROVED:
N/A	<i>James Dore</i> 6/19/14	<i>Samuel K. Baker</i> 6/20/14
KAUAI ISLAND UTILITY COOP. DATE	HAWAIIAN TELCOM DATE	OCEANIC TIME WARNER CABLE OF HAWAII DATE



EXPIRES: APRIL 30, 2016
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
BUILDING DIVISION

ELECTRICAL DETAILS

HARDY STREET IMPROVEMENTS
Federal Aid Project No. STP 05720(1)

Scale: As Noted Date: June, 2014

SHEET No. 15 OF 16 SHEETS