FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	25	46

PLANT NOTES:

1. Contractor shall field verify all plant quantities and dimensions prior to installation. Contractor shall determine quantities of plant materials to be provided. In all cases, Contractor shall install plant material on all areas affected by construction.

2. Contractor shall be responsible for locating and protecting existing utilities.

3. Prior to excavating for tree, shrub, or ground cover planting pits, all tree and shrub planting locations shall be staked out by Contractor for acceptance by Engineer. Do not plant until ground has been prepared and site is neat, orderly, and the Engineer accepts site for planting.

4. Notify Engineer of any discrepancies in plant locations.

5. Notify Engineer 30 days prior to planting operations for acceptance of all plant material at place of growth. All plant material not accepted by the Engineer will be subject to rejection.

6. The Engineer will inspect plants at the place of growth and after delivery to the project.

7. Plants shall meet size indicated. Plants shall be straight and uniformly shaped, unless unique or special characteristics are specified, and shall be undamaged, sound, 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.

8. 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 or the 'Federal Noxious Weed List' as defined in Title 7 of the Code of Federal Regulations (CFR), parts 360 and 361.

9. All tree work must adhere to American National Standard Institute (or ANSI) - a300 Tree Care Standards and ANSI-z133 safety standards for tree work. Work shall be contracted to arborists that has been certified in good standings as an ISA certified arborist for at least 5 years to assure that tree work is performed properly and trees are not damaged by practices such as topping, flush cuts, over-thinning, or climbing with spikes. Contractor shall submit a copy of the ISA arborist certification of good standing of 5 years to the Engineer minimum 7 days prior to tree pruning. The cost for arborist services shall be considered incidental to Specification Section 619.

10. For the duration of construction within the drip line of trees to remain there must be: no changes, alterations or disturbance to the grade by adding fill, excavating or scraping except as noted on plans; no storage of construction material or equipment; no stockpiling of any construction material or any excavated material no disposal of any liquids (E.G. Concrete slurry, gas, oil, paint); no vehicular traffic, equipment or excessive pedestrian 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; and no cleaning of equipment or material under the canopy of any tree or group of trees to remain. For slopes flatter than 3H:1V, till top six-inches of soil to evenly incorporate fertilizer and amendments. For slopes steeper than 3H:1V, no tilling is required.

11. Representative samples of soil from project site shall be submitted to Crop Nutrient Solutions Inc., the University of Hawaii Agricultural Extension Service or laboratory acceptable to the Engineer for analysis of required soil amendments. Test results and fertilization schedule shall be presented to the Engineer for review and acceptance before placing planting soil or amending existing soil. Uniformly distribute fertilizer and amendments over planting areas as recommended by the soil analysis report.

12. Guy wires, flagging, stakes, windbreakers, etc. shall be maintained and replaced if necessary by the Contractor until the shrub is able to stand by itself. The Contractor shall remove and dispose of these items at the end of plant establishment period.

13. Any planting that obstructs sight distance, signs or traffic lights shall be relocated or removed as determined by the Engineer.

14. Provide water for all plant material for the duration of the project, including plant establishment period. Water trees, shrubs, ground cover and all grassed areas. Water for planting shall not cause erosion damage to the slopes. The Contractor shall be responsible for repairing any damage cause by the watering of plants. The Contractor shall gradually decrease the amount of water being provided to the plant material 8 weeks prior to final acceptance of plantings.

15. Temporary irrigation shall be provided and installed by the Contractor for the duration of the project. Refer to Specification Sections 619.03(N), 641.03(E) and 641.03(F). Temporary irrigation system shall be considered incidental to Specification Sections 619 - Planting and 641 - Hydro-Mulch Seeding.

16. Contractor shall be responsible for weeding throughout the 9-month plant establishment period. Refer to Specifications Section 619 - Planting.

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

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.
4/30/16
EXP. DATE
This work was prepared by me or under my supervision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE NOTES

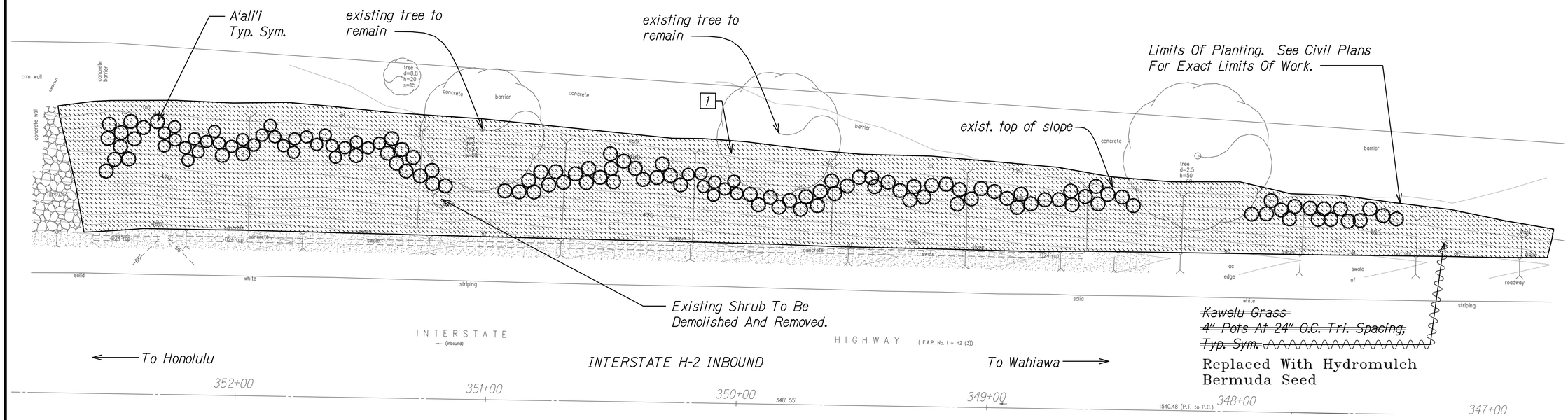
CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-0-04-15M

Scale: None Date: May 2015

SHEET No. LP-01 OF 12 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	26	46



PLANT SCHEDULE PID 445

SHRUBS	BOTANICAL NAME	COMMON NAME
○	*Dodonea viscosa*	*A'ali'i*

GROUND COVER	BOTANICAL NAME	COMMON NAME
	~~*Eragrostis variabilis*~~	~~*Kawelu Grass*~~

HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME
	Cynodon dactylon Lolium multiflorum	Common Bermuda Grass Annual Rye Grass

REFERENCE NOTES SCHEDULE PID 445

SYMBOL	DESCRIPTION
1	*Install erosion control matting on slopes greater than 3H:1V (see Civil plans). Install per manufacturer's instructions and recommendations. See Civil plans for details and project limits.*

LEGEND FOR AS-BUILT POSTINGS	
~~∿∿∿~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

NORTH

0 20 40 60 feet

SCALE: 1" = 20'

LANDSCAPE PLANTING PLAN PID 445
Scale: 1" = 20'-0"

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

RUSSELL Y.J. CHUNG
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4/30/16
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

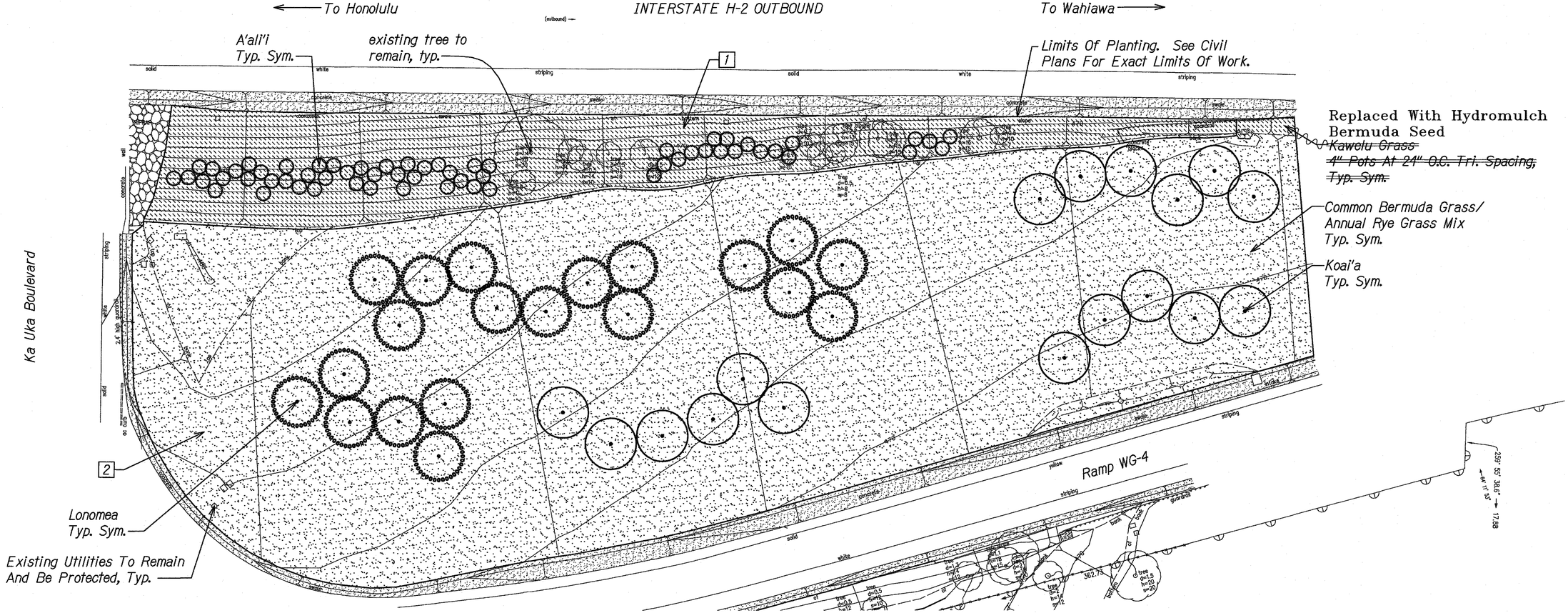
LANDSCAPE PLANTING PLAN PID 445

CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-O-04-15M
Scale: 1" = 20'-0" *Date: May 2015*

SHEET No. *LP-02* OF *12* SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-04-15M	2015	27	46



PLANT SCHEDULE PID 230

TREES	BOTANICAL NAME	COMMON NAME
	Acacia koaia	Koai'a
	Sapindus oahuensis	Lonomea
SHRUBS	**BOTANICAL NAME**	**COMMON NAME**
	Dodonea viscosa	A'ali'i
GROUND COVER	**BOTANICAL NAME**	**COMMON NAME**
	~~Eragrostis variabilis~~	~~Kawelu Grass~~
HYDRO-MULCHING	**BOTANICAL NAME**	**COMMON NAME**
	Cynodon dactylon Lolium multiflorum	Common Bermuda Grass Annual Rye Grass

REFERENCE NOTES SCHEDULE PID 230

SYMBOL	DESCRIPTION
1	Install erosion control matting on slopes greater than 3H:1V (see Civil plans). Install per manufacturer's instructions and recommendations. See Civil plans for details and project limits.
2	Provide and incorporate 2" layer soil amendments to existing soil. Incorporate additional amendments as recommended by soil analysis. See specifications for additional soil preparation procedures.

LANDSCAPE PLANTING PLAN PID 230

Scale: 1" = 20'-0"

NORTH

0 20 40 60 feet

SCALE: 1" = 20'

LEGEND FOR AS-BUILT POSTINGS	
∿∿∿	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

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4/30/16
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN PID 230

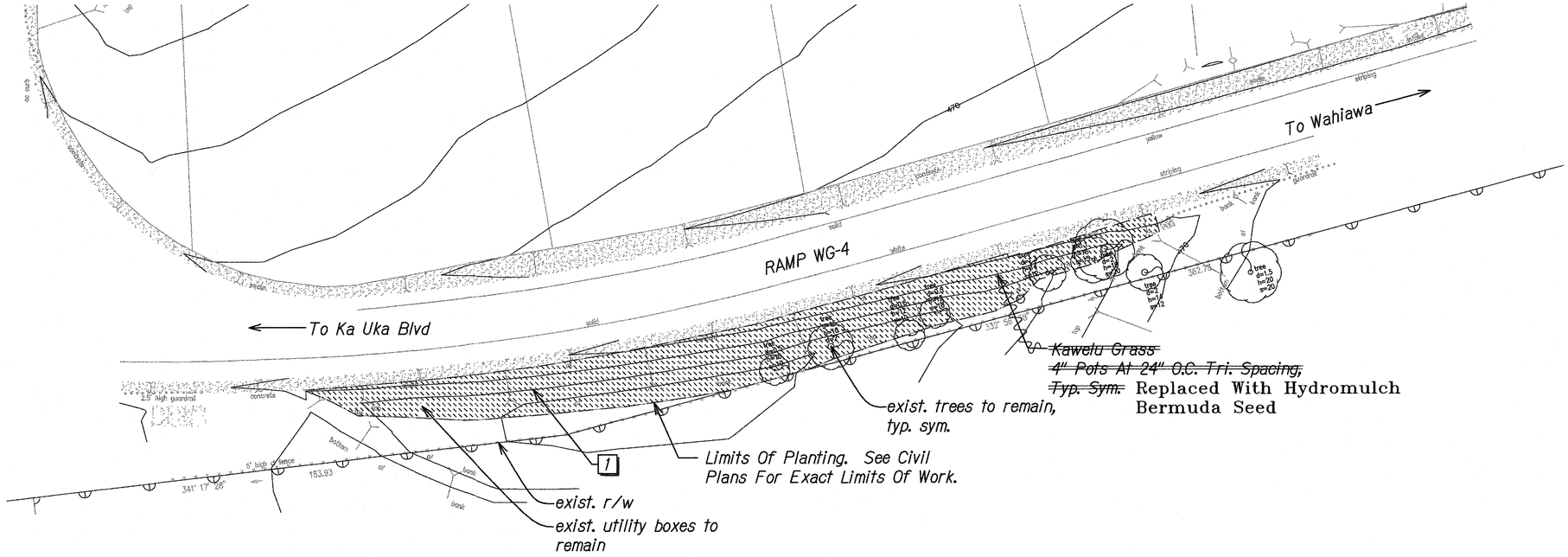
CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-0-04-15M
Scale: 1" = 20'-0" Date: May 2015

SHEET No. LP-03 OF 12 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-04-15M	2015	28	46



PLANT SCHEDULE PID 241

GROUND COVER	BOTANICAL NAME	COMMON NAME
	~~Eragrostis variabilis~~	~~Kawelu Grass~~
HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME
	Cynodon dactylon	Common Bermuda Grass
	Lolium multiflorum	Annual Rye Grass

REFERENCE NOTES SCHEDULE PID 241

SYMBOL	DESCRIPTION
1	Install erosion control matting on slopes greater than 3H:1V (see Civil plans). Install per manufacturer's instructions and recommendations. See Civil plans for details and project limits.

NORTH

0 20 40 60 feet

SCALE: 1" = 20'

LANDSCAPE PLANTING PLAN PID 241

Scale: 1" = 20'-0"

LEGEND FOR AS-BUILT POSTINGS	
~~wavy~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

RUSSELL Y.J. CHUNG
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4/30/16
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN
PID 241

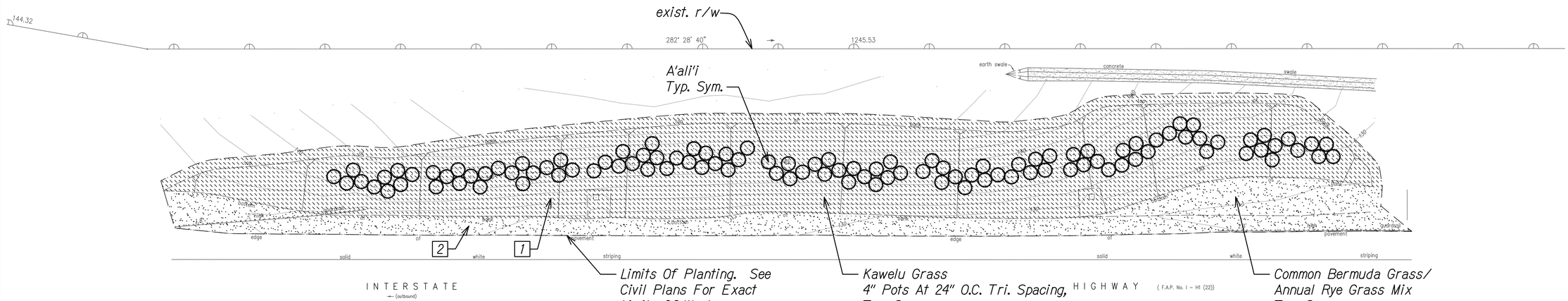
CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-0-04-15M
Scale: 1" = 20'-0" Date: May 2015

SHEET No. LP-04 OF 12 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	29	46



PLANT SCHEDULE PID 57

SHRUBS	BOTANICAL NAME	COMMON NAME
○	*Dodonea viscosa*	*A'ali'i*

GROUND COVER	BOTANICAL NAME	COMMON NAME
▨	*Eragrostis variabilis*	*Kawelu Grass*

HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME
▨	*Cynodon dactylon* *Lolium multiflorum*	*Common Bermuda Grass* *Annual Rye Grass*

REFERENCE NOTES SCHEDULE PID 57

SYMBOL	DESCRIPTION
1	*Install erosion control matting on slopes greater than 3H:1V (see Civil plans). Install per manufacturer's instructions and recommendations. See Civil plans for details and project limits.*
2	*Provide and incorporate 2" layer soil amendments to existing soil. Incorporate additional amendments as recommended by soil analysis. See specifications for additional soil preparation procedures.*

NORTH

0 20 40 60 feet

SCALE: 1" = 20'

LANDSCAPE PLANTING PLAN PID 57

Scale: 1" = 20'-0"

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN PID 57

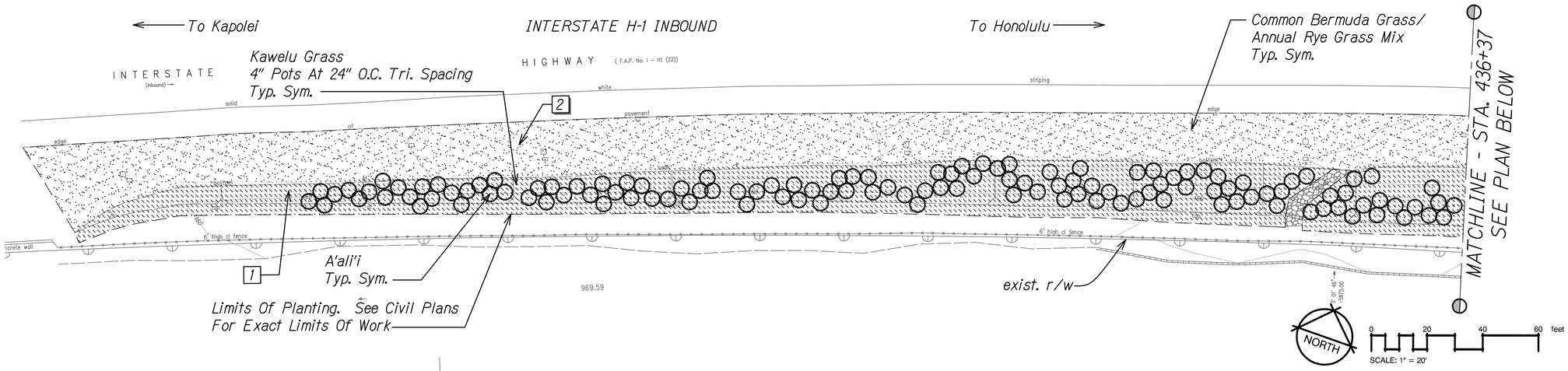
CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-O-04-15M

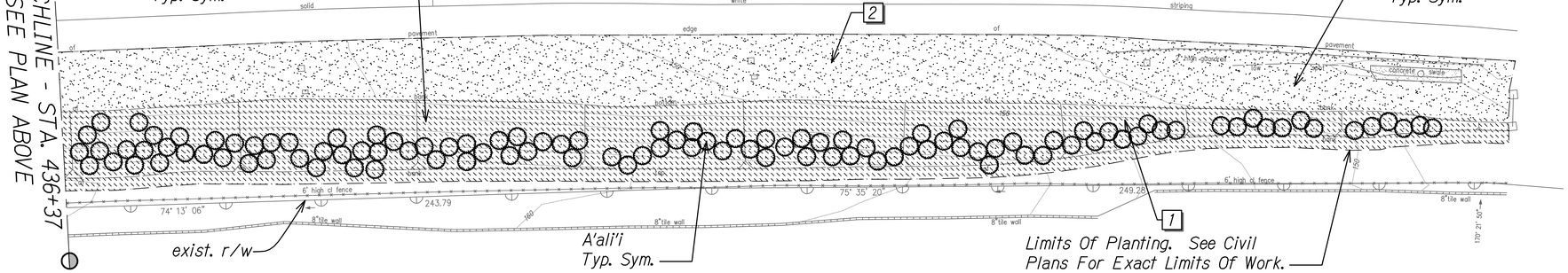
Scale: 1" = 20'-0" Date: May 2015

SHEET No. LP-05 OF 12 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	30	46





PLANT SCHEDULE PID 110

TREES	BOTANICAL NAME	COMMON NAME
○	*Dodonea viscosa*	*A'ali'i*

GROUND COVER	BOTANICAL NAME	COMMON NAME
▨	*Eragrostis variabilis*	*Kawelu Grass*

HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME
⁘	*Cynodon dactylon* *Lolium multiflorum*	*Common Bermuda Grass* *Annual Rye Grass*

REFERENCE NOTES SCHEDULE PID 110

SYMBOL	DESCRIPTION
1	*Install erosion control matting on slopes greater than 3H:1V (see Civil plans. Install per manufacturer's instructions and recommendations. See Civil plans for details and project limits.*
2	*Provide and incorporate 2" layer soil amendments to existing soil. Incorporate additional amendments as recommended by soil analysis. See specifications for additional soil preparation procedures.*

LANDSCAPE PLANTING PLAN PID 110

Scale: 1" = 20'-0"

ORIGINAL PLAN — NOTE BOOK — SURVEY PLOTTED BY — DRAWN BY — TRACED BY — DESIGNED BY — QUANTITIES BY — CHECKED BY — DATE

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No. 6076
HAWAII, U.S.A.
4/30/16
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

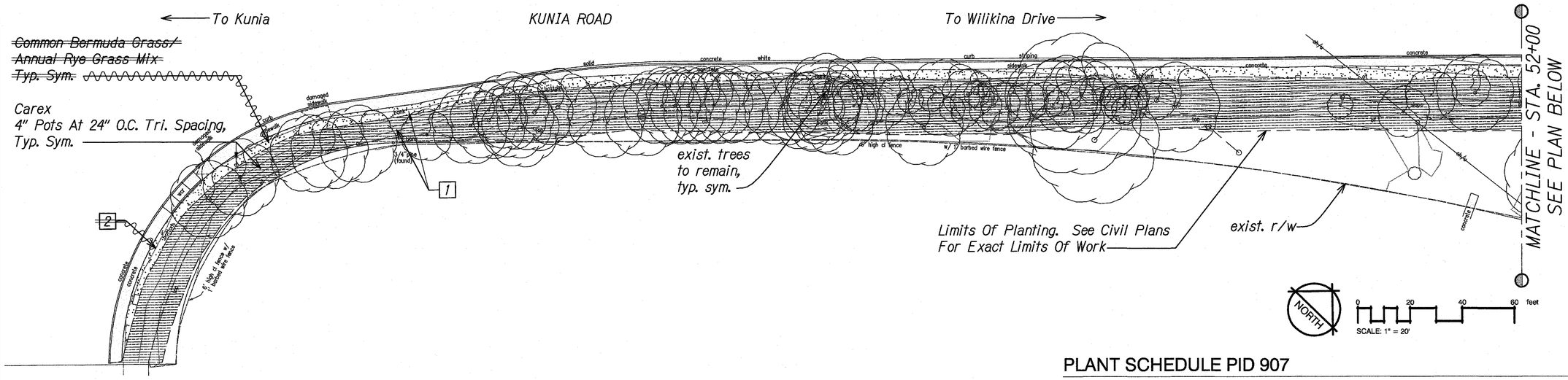
LANDSCAPE PLANTING PLAN PID 110

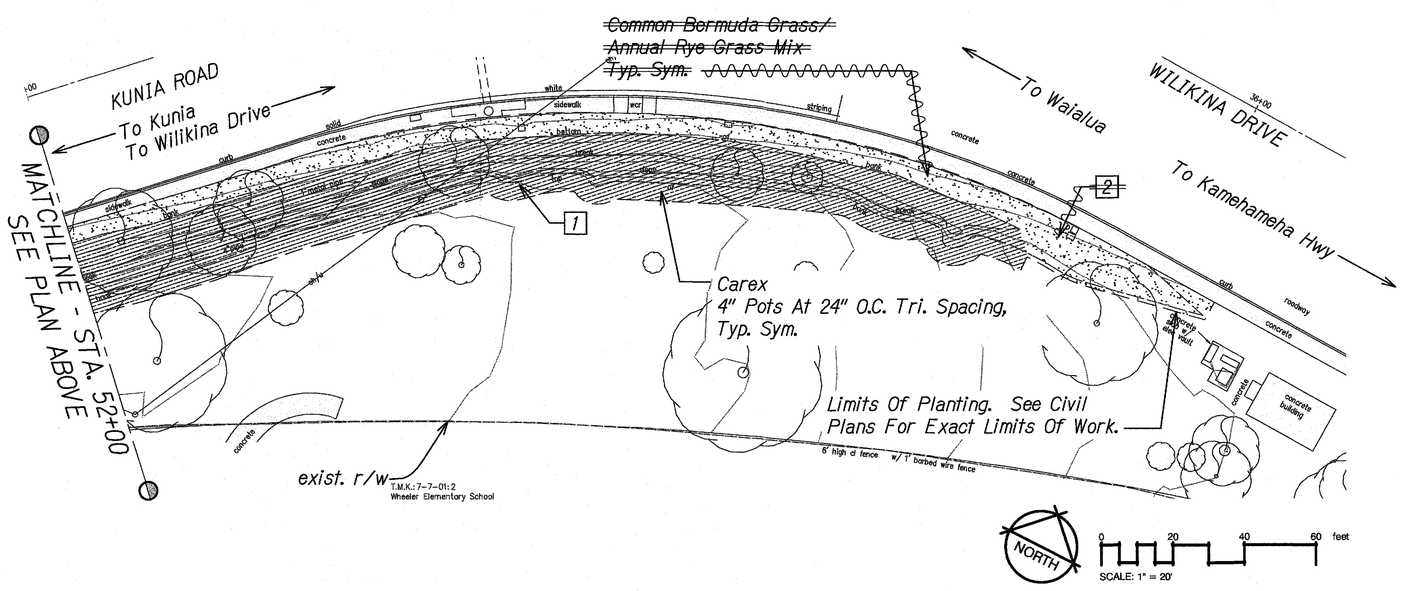
CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-O-04-15M
Scale: 1" = 20'-0" Date: May 2015

SHEET No. LP-06 OF 12 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	31	46





PLANT SCHEDULE PID 907

GROUND COVER	BOTANICAL NAME	COMMON NAME
	Carex wahuensis	Carex

HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME
	~~Cynodon dactylon~~ ~~Lolium multiflorum~~	~~Common Bermuda Grass~~ ~~Annual Rye Grass~~ Geobinder Only

REFERENCE NOTES SCHEDULE PID 907

SYMBOL	DESCRIPTION
1	Install erosion control matting on slopes greater than 3H:1V (see Civil plans). Install per manufacturer's instructions and recommendations. See Civil plans for details and project limits.
~~2~~	~~Provide and incorporate 2" layer soil amendments to existing soil. Incorporate additional amendments as recommended by soil analysis. See specifications for additional soil preparation procedures.~~

LEGEND FOR AS-BUILT POSTINGS	
~~Squiggly line~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

LANDSCAPE PLANTING PLAN PID 907
Scale: 1" = 20'-0"

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RUSSELL Y.J. CHUNG
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No. 6076
HAWAII, U.S.A.
4/30/16
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN PID 907

CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-O-04-15M
Scale: 1" = 20'-0" Date: May 2015

SHEET No. LP-07 OF 12 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	32	46

TREE PROTECTION ZONE:

1. *All trees identified on the plans to be protected. All trees 24" caliper or greater (as measured at 4½ feet height) shall be protected. If trees other than those designated for removal are damaged beyond survival condition as determined by the Engineer, the Contractor shall remove such trees and replace with a tree of the same species and size and maintain for the duration of the construction or 12 months whichever is greater at no cost to the State.*

2. *The recommended tree protection zone should be located at the outer drip line of the canopy of the tree. However, the minimum protection zone around a tree should be at least 10 feet from the external surface of the tree's trunk. For all palms, the minimum protection zone should be at least 10 feet from the external surface of the palm's trunk. Fence location may be adjusted as directed by the Engineer.*

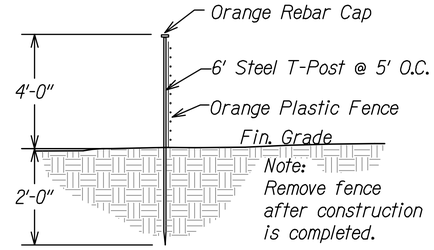
3. *All underground utilities and irrigation lines should be routed outside of the tree protection zone. If utilities must traverse the tree protection zone, they shall be tunneled or bored at a depth of 4 feet or greater within the tree protection zone.*

4. *All protected trees shall be listed on the demolition, landscape, grading and utilities plans. If there is a discrepancy with all plans, Contractor shall contact Engineer immediately.*

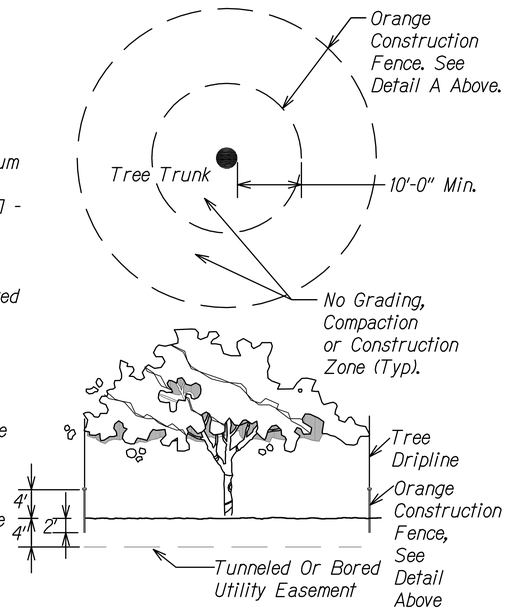
5. *Protective fences shall be erected around trees identified on plan to remain and/or trees with a trunk diameter greater than 24 inches (as measured at a height of 4 ½ feet.) Protective fence shall be 4 feet high orange plastic mesh or approved equivalent supported on steel T-post a minimum of 6 feet long. Protective fence shall surround tree at a minimum of 10 feet from tree trunk with steel T-post at a minimum of 5 feet on center. Fence shall be installed prior to any demolition work and shall remain in place until site work is completed. Signs shall be posted on all four sides to read "TREE PROTECTION ZONE [TPZ] - NO GRADE CHANGE, STORAGE OR EQUIPMENT PERMITTED WITHIN TPZ."*

6. *For the duration of construction within the drip line of the trees to remain there must be:*
   - *No changes, alteration or disturbance to the grade by adding fill, excavating or scraping except as noted on plans;*
   - *No storage on construction materials or equipment;*
   - *No stockpiling of any construction materials or excavated materials;*
   - *No disposal of any liquids (e.g. concrete slurry, gas, oil, paint);*
   - *No vehicular traffic, equipment er excessive pedestrian traffic;*
   - *No attachment of any wires, ropes, lights or any other such attachment other than those of a protective nature to any tree to be preserved; and*
   - *No cleaning of equipment or material under the canopy of any tree or group of trees to be preserved*

7. *Auger tunneling, not trenching, shall be used where possible for utility placement within the drip line of the tree. If trenching is necessary it shall be hand dug within the drip line of the tree.*



DETAIL A - ORANGE CONSTRUCTION FENCE
NOT TO SCALE



TREE PROTECTION — 1 / LP-08 LP-08

Scale: Not to Scale

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NOTE BOOK | NO.

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RUSSELL Y.J. CHUNG
No. 6076
HAWAII, U.S.A.
4/30/16
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE DETAILS

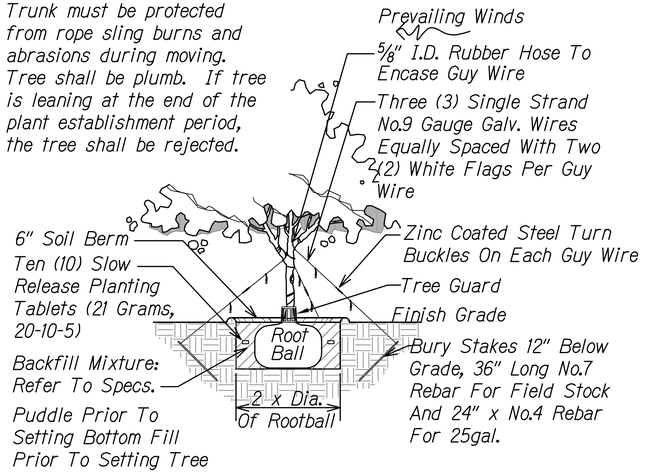
CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-O-04-15M
Scale: As Shown Date: May 2015

SHEET No. LP-08 OF 12 SHEETS

"AS-BUILT"

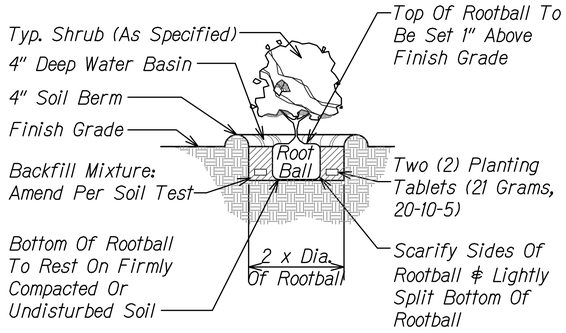
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	33	46

Note:
Trunk must be protected from rope sling burns and abrasions during moving. Tree shall be plumb. If tree is leaning at the end of the plant establishment period, the tree shall be rejected.



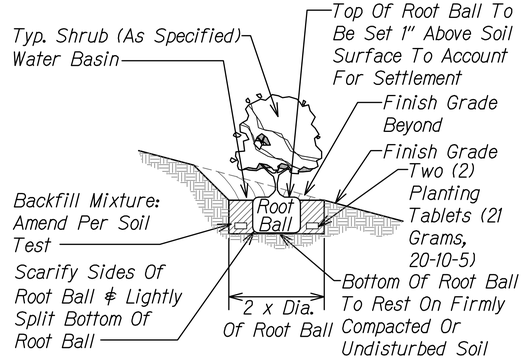
TREE PLANTING AND GUYING — 1 LP-09|LP-09
Scale: Not to Scale

Notes:
1. Single stem shrubs shall be plumb. If shrub is leaning at the end of the plant establishment period, it shall be replaced at the contractor's expense.
2. Immediately after planting, water heavily to ensure soil settles around roots.



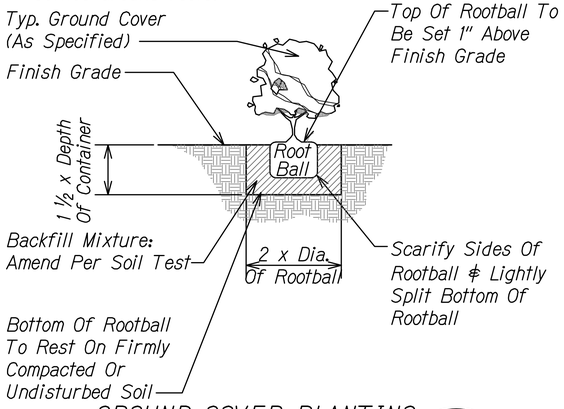
SHRUB PLANTING — 2 LP-09|LP-09
Scale: Not to Scale

Notes:
1. Single stem shrubs shall be plumb. If shrub Is leaning at the end of the plant establishment period, it shall be replaced at the contractor's expense.
2. Immediately after planting, water heavily to ensure soil settles around roots.



SHRUB PLANTING ON SLOPE — 3 LP-09|LP-09
Scale: Not to Scale

Notes:
1. Ground covers shall be plumb. If ground cover is leaning at the end of the plant establishment period, it shall be replaced at the contractor's expense.
2. Immediately after planting, water heavily to ensure soil settles around roots.

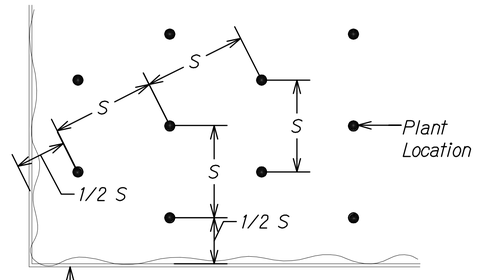


GROUND COVER PLANTING — 4 LP-09|LP-09
Scale: Not to Scale

Hydro-Mulch:
Shall Be Specifically Processed Fiber Containing No Growth Or Germination Inhibiting Factors. It Shall Be Such That After Addition And Agitation In The Hydraulic Equipment With Seeds, Fertilizer, Water, Geobinders, And Other Additives Not Detrimental To Plant Growth The Fibers Will Form A Homogeneous Slurry When Hydraulically Sprayed On The Soil. The Fibers Shall Form A Blotter-like Ground Cover Which Readily Absorbs Water And Allows Infiltration. Complete Coverage Of The Surface Shall Be Attained.

HYDRO-MULCHING DETAIL — 5 LP-09|LP-09
Scale: Not to Scale

Note:
1. S = Spacing, (refer to plant list for spacing)
2. Use spacing layout for shrubs, groundcovers, and annuals



TRIANGULAR SPACING — 6 LP-09|LP-09
Scale: Not to Scale

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

RUSSELL Y.J. CHUNG
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. 6076
HAWAII, U.S.A.
4/30/16
EXP. DATE
This work was prepared by me or under my supervision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE DETAILS

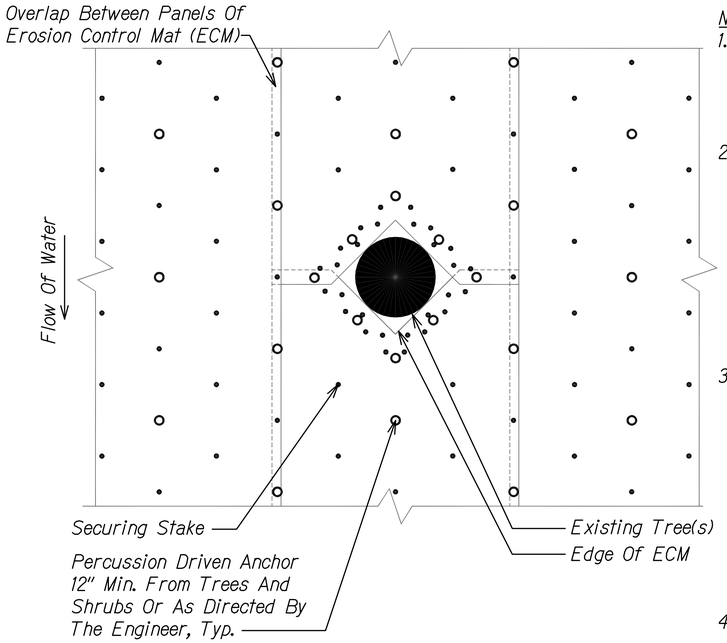
CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-O-04-15M

Scale: As Shown Date: May 2015

SHEET No. LP-09 OF 12 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	34	46



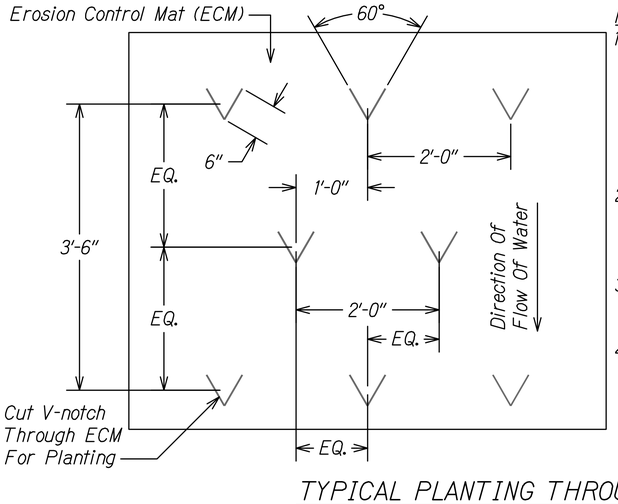
Notes:

1. Contractor Shall Join Overlapping Sections Of Erosion Control Mat (ECM) Using Methods Approved Or Recommended By The ECM Manufacturer.
2. Contractor Shall Shall Create An Opening Around The Circumference Of Each Existing Tree To Ensure ECM Maintains Direct Contact With The Ground Surface. For Densely Growing Trees, ECM Openings May Be Created To Encompass Multiple Trees. Contractor Shall Create Opening In ECM Using Methods Approved Or Recommended By The Manufacturer.
3. Contractor Shall Secure ECM With Combination Of Stakes And Percussion Anchors. Stake Placement May Require Modification In The Field Due To Root Location, Trunk Structure, Or Other Obstacles. Contractor Shall Install Additional Stakes And/Or Anchors To Ensure ECM Maintains Direct Contact With Ground Surface. Refer To Erosion Control Plans For Stake And Anchor Placement.
4. When Placing Matting Between Clusters Of Existing Trees, Contractor May Install ECM Around Cluster If Spacing Between Trees Is 12 Inches Or Less With Engineer's Approval. Contractor Shall Plant Ground Cover Where Space Permits Between Trees Or As Directed By The Engineer.

TYPICAL ECM INSTALLATION AROUND EXISTING TREES

Scale: Not to Scale

1 LP-10 LP-10



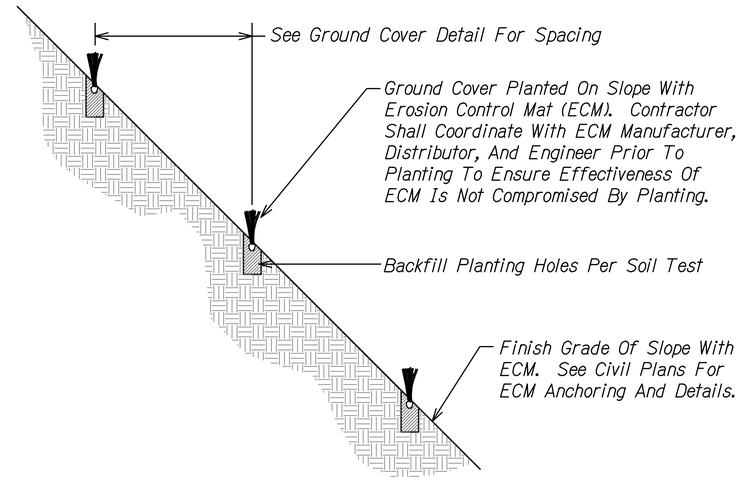
Notes:

1. Install Erosion Control Mat (ECM) In Accordance With The Contract Documents Or Per Manufacturer's Standard Guidelines for Trenching, Overlaps, And Stapling. Consult The ECM Manufacturer's Installation Guidelines For Full Installation Details.
2. Install The Live Plant Material Using A V-notch Design Approved Or Recommended By The ECM Manufacturer.
3. Contractor Shall Remove Soil Material From V-Shaped Opening For Planting Pit.
4. After Placing Tree, Shrub, Or Ground Cover In Planting Pit, Backfill Pit And Compact Soil. Secure ECM Flaps Back Down To The Soil With Securing Stakes Per ECM Manufacturer's Recommendations.

TYPICAL PLANTING THROUGH ECM

Scale: Not to Scale

2 LP-10 LP-10



TYPICAL SECTION

GROUND COVER PLANTING ON SLOPE

Scale: Not to Scale

3 LP-10 LP-10

ORIGINAL PLAN	SHEET PLOTTED BY	DATE
NOTE BOOK	SHEET SCANNED BY	
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	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	
NO.		

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LANDSCAPE DETAILS

CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-O-04-15M

Scale: As Shown Date: May 2015

SHEET No. LP-10 OF 12 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-O-04-15M	2015	35	46

PLANT SCHEDULE PID 445

SHRUBS	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
⊙	Dodonea viscosa	A'ali'i	1 Gal		

GROUND COVER	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
~~▨~~	~~Eragrostis variabilis~~	~~Kawelu Grass~~	~~4" Pot~~	~~24"~~	~~Triangular Spacing Ensure No Conflict With ECM Pins And Anchors~~

HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME		
▨	Cynodon dactylon	Common Bermuda Grass	Seed	
	Lolium multiflorum	Annual Rye Grass	Seed	

PLANT SCHEDULE PID 230

TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE
⊙	Acacia koaia	Koai'a	15 Gal	1" Cal	4'-6' Ht.
◉	Sapindus oahuensis	Lonomea	15 Gal	1" Cal	4'-6' Ht.

SHRUBS	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
⊙	Dodonea viscosa	A'ali'i	1 Gal		

GROUND COVER	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
~~▨~~	~~Eragrostis variabilis~~	~~Kawelu Grass~~	~~4" Pot~~	~~24"~~	~~Triangular Spacing Ensure No Conflict With ECM Pins And Anchors~~

HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME	CONT	REMARKS
▨	Cynodon dactylon	Common Bermuda Grass	Seed	See specs for grass seeding rate
	Lolium multiflorum	Annual Rye Grass	Seed	

PLANT SCHEDULE PID 241

GROUND COVER	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
~~▨~~	~~Eragrostis variabilis~~	~~Kawelu Grass~~	~~4" Pot~~	~~24"~~	~~Triangular Spacing Ensure No Conflict With ECM Pins And Anchors~~

HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME		
▨	Cynodon dactylon	Common Bermuda Grass	Seed	
	Lolium multiflorum	Annual Rye Grass	Seed	

PLANT SCHEDULE PID 57

SHRUBS	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
⊙	Dodonea viscosa	A'ali'i	1 Gal		

GROUND COVER	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
▨	Eragrostis varibilis	Kawelu Grass	4" Pot	24"	Triangular Spacing Ensure No Conflict With ECM Pins And Anchors

HYDRO-MULCHING	BOTANICAL NAME	COMMON NAME	CONT	REMARKS
▨	Cynodon dactylon	Common Bermuda Grass	Seed	See specs for grass seeding rate
	Lolium multiflorum	Annual Rye Grass	Seed	

LEGEND FOR AS-BUILT POSTINGS	
~~∿∿∿~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

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

RUSSELL Y.J. CHUNG
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No. 6076
HAWAII, U.S.A.

4/30/16
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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LANDSCAPE PLANT LIST

CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-O-04-15M

Scale: As Shown Date: May 2015

SHEET No. LP-11 OF 12 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-04-15M	2015	36	46

PLANT SCHEDULE PID 110

SHRUBS	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
⊙	*Dodonea viscosa*	*A'ali'i*	*1 Gal*		
GROUND COVER	**BOTANICAL NAME**	**COMMON NAME**	**CONT**	**O.C.**	**REMARKS**
▨	*Eragrostis variabilis*	*Kawelu Grass*	*4" Pot*	*24"*	*Triangular Spacing* *Ensure No Conflict With ECM Pins And Anchors*
HYDRO-MULCHING	**BOTANICAL NAME**	**COMMON NAME**	**CONT**		**REMARKS**
▩	*Cynodon dactylon* *Lolium multiflorum*	*Common Bermuda Grass* *Annual Rye Grass*	*Seed* *Seed*		*See specs for grass seeding rate*

PLANT SCHEDULE PID 907

GROUND COVER	BOTANICAL NAME	COMMON NAME	CONT	O.C.	REMARKS
▨	*Carex wahuensis*	*Carex*	*4" Pot*	*24"*	*Triangular Spacing* *Ensure No Conflict With ECM Pins And Anchors*
HYDRO-MULCHING	**BOTANICAL NAME**	**COMMON NAME**	**CONT**		**REMARKS**
▩	~~*Cynodon dactylon*~~ ~~*Lolium multiflorum*~~ None	~~*Common Bermuda Grass*~~ ~~*Annual Rye Grass*~~ Geobinder Only	~~*Seed*~~ ~~*Seed*~~ Fiber		~~*See specs for grass seeding rate*~~

LEGEND FOR AS-BUILT POSTINGS	
~~∿∿∿~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

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

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LANDSCAPE PLANT LIST

CENTRAL OAHU BEST MANAGEMENT PRACTICES
ERODED SLOPE REPAIRS, PHASE 1
Project No. HWY-0-04-15M
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SHEET No. LP-12 OF 12 SHEETS

"AS-BUILT"