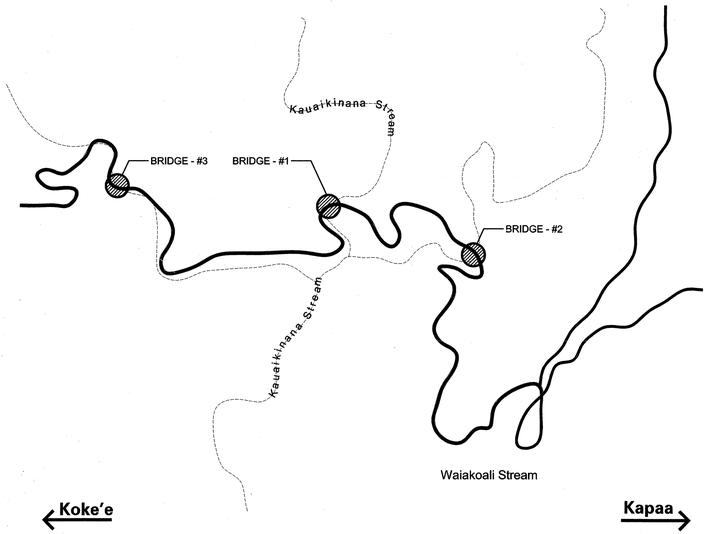


LOCATION MAP

NORTH

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION

FOR

DIVISION OF FORESTRY AND WILDLIFE

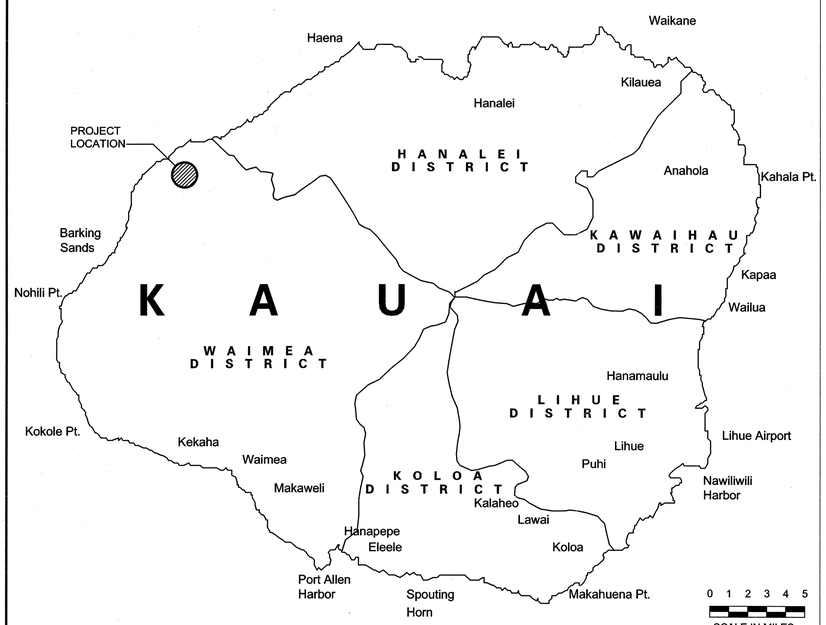
JOB NO. D01CK62A

CAMP 10 ACCESS ROAD BRIDGES

WAIMEA, KAUAI, HAWAII

TMK: (4) 1-4-001:013

CAMP 10 ACCESS ROAD BRIDGE JOB NO. D01CK62A



VICINITY MAP

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APPROVED: DATE: 4/18/16

DAVID G. SMITH
ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE
DEPARTMENT OF LAND AND NATURAL RESOURCES

APPROVED: DATE: 4/26/16

CARTY S. CHANG, P.E.
CHIEF ENGINEER
ENGINEERING DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES

DRAWING NO.
T-1

GENERAL CONSTRUCTION NOTES:

1. ALL CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION", DATED 1994 AND THE "STANDARD PLANS", DATED 1986, AS AMENDED, OF THE HIGHWAYS DIVISION, DEPARTMENT OF TRANSPORTATION, AND THE CONSTRUCTION DRAWINGS AND DETAILED SPECIFICATIONS PREPARED FOR THIS PROJECT.
2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES WHETHER SHOWN ON THE PLANS OR NOT, AND SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SAME IN THE EVENT OF DAMAGES DUE TO HIS CONSTRUCTION PRACTICES.
3. CONTRACTOR SHALL PROTECT TREES AND SHRUBS NOT CALLED FOR REMOVAL ON THE DRAWINGS AND MAKE PROVISIONS TO RESTORE AND/OR REPLACE DAMAGED TREES AT HIS OWN EXPENSE.
4. NO CONSTRUCTION EQUIPMENT SHALL BE PARKED WITHIN THE ROAD IN SUCH MANNER THAT THE EQUIPMENT WILL OBSTRUCT THE NORMAL MOVEMENT AND SIGHT DISTANCE OF THE DRIVING MOTORIST, EXCEPT DURING ACTUAL WORKING HOURS.
5. EXCEPT DURING ACTUAL WORKING HOURS, ALL SIGNS THAT DO NOT PERTAIN TO THE CONSTRUCTION ACTIVITY SUCH AS "MEN WORKING" AND "FLAGMAN AHEAD" SHALL BE COVERED OR LAID DOWN. HOWEVER, ALL SIGNS NECESSARY FOR THE SAFETY OF THE PUBLIC SHALL BE MAINTAINED.
6. THE CONTRACTOR SHALL EMPLOY A HAWAII REGISTERED PROFESSIONAL SURVEYOR TO PERFORM ALL CONSTRUCTION STAKEOUTS, THE COST OF WHICH SHALL BE BORNE BY THE CONTRACTOR.
7. THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR, AND PAY FOR ALL TEMPORARY UTILITIES REQUIRED FOR HIS WORK.
8. SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS AND MOUNDS, OR REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATION OF CHARCOAL OR SHELLS BE ENCOUNTERED DURING CONSTRUCTION WORK. WORK SHALL CEASE IN THE IMMEDIATE VICINITY OF THE FIND AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION (243-5169), WHICH WILL ASSES THE SIGNIFICANCE OF THE FIND AND RECOMMEND AN APPROPRIATE MITIGATION MEASURE IF NECESSARY.
9. THE CONTRACTOR SHALL VERIFY THE ROAD CONDITIONS ALONG CAMP 10 ACCESS ROAD, WHICH INCLUDE BUT NOT LIMITED TO SURFACE CONDITION, ROAD WIDTH, SLOPE, RADIUS OF TURNS, POTENTIAL OBSTRUCTIONS DUE TO TREE LIMBS, ETC. TO ENSURE ABILITY TO DELIVER MATERIAL AND EQUIPMENT TO SITE
10. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL TRANSPORT ALL EQUIPMENT AND MATERIAL TO AND FROM THE SITE AND SHALL BE RESPONSIBLE TO NOT NEGATIVELY IMPACT EXISTING FLORA AND FAUNA.
11. THE CONTRACTOR, AT THIS OWN EXPENSE, WILL BE ALLOWED TO FILL MUDDY AREAS ON THE ROAD WITH IMPORTED GRANULAR MATERIAL TO IMPROVE TRAVEL BY TRUCKS AND EQUIPMENT.
12. THE CONTRACTOR SHALL STOP PRIVATELY OWNED VEHICLES (POV) FOR THE GENERAL PUBLIC AT THE TOP OF CAMP 10 ACCESS ROAD ENTRANCE. CONTRACTOR SHALL NOT BE IMPACTED BY POV VEHICULAR TRAFFIC DURING CONSTRUCTION.
13. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN TRAFFIC ALONG CAMP 10 ACCESS ROAD THROUGHOUT THE ENTIRE CONSTRUCTION.

PUBLIC HEALTH SAFETY AND CONVENIENCE NOTES:

1. CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND REMOVAL OF ALL SILT AND DEBRIS GENERATED BY HIS WORK AND DEPOSITED AND ACCUMULATED WITHIN DOWN STREAM WATERWAYS, DITCHES AND DRAIN PIPES AND ON PUBLIC AND PRIVATE ROADWAYS. THE CONTRACTOR AGREES TO REIMBURSE THE COUNTY OF KAUAI AND/OR STATE OF HAWAII FOR ALL COSTS EXPENDED IN PERFORMANCE OF THE ABOVE WORK IF REQUIRED FOR PUBLIC HEALTH AND SAFETY, OR MADE NECESSARY BY NON-PERFORMANCE BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL SUBMIT A NOISE POLLUTION CONTROL PLAN WHEN APPLYING FOR A CONSTRUCTION PERMIT.

GRADING NOTES:

1. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE SOILS REPORT "GEOTECHNICAL INVESTIGATION, CAMP 10 ACCESS ROAD BRIDGE REPAIRS, DEPARTMENT OF LAND AND NATURAL RESOURCES, DIVISION OF FORESTRY AND WILDLIFE, KAUAI, HAWAII" DATED SEPTEMBER 15, 2015 BY HIRATA AND ASSOCIATES, INC.
2. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREAS FREE FROM DUST NUISANCES. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND THE KAUAI CONTY CODE.
3. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER POLLUTION CONTROL AND WATER QUALITY STANDARD CONTAINED IN THE PUBLIC HEALTH REGULATIONS, STATE DEPARTMENT OF HEALTH, AND THE COUNTY GRADING ORDINANCE.
4. ALL SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED. CONTRACTOR SHALL GRASS AND MAINTAIN ALL EXPOSED SLOPES SUCH THAT 60% COVERAGE WILL BE ACHIEVED WITHIN 30 DAYS AND 85% COVERAGE WILL BE ACHIEVED WITHIN 60 DAYS AFTER PALNTING.
5. CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROVED SITE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF THE LOCATION OF DISPOSAL SITES. THE DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
6. ALL EXPOSED SLOPES SHALL BE PROTECTED WITH TEMPORARY DIVERSIONS, BERMS, AND SWALES AT THE TOP OF THE SLOPES.
7. TOPOGRAPHIC SURVEY MAP PREPARED BY CONTROL POINT SURVEYING, INC. DATED 21 AUG. 2015.

EROSION CONTROL NOTES AND BEST MANAGEMENT PRACTICES (BMPS):

TEMPORARY MEASURES – THE FOLLOWING MEASURES SHALL BE TAKEN TO CONTROL EROSION DURING THE CONSTRUCTION PERIOD:

1. MINIMIZED TIME OF CONSTRUCTION.
2. RETAIN EXISTING GROUND COVER UNTIL LATEST DATE TO COMPLETE CONSTRUCTION.
3. EARLY CONSTRUCTION OF DRAINAGE CONTROL FEATURES.
4. STATION WATER TRUCK ON SITE DURING CONSTRUCTION PERIOD TO PROVIDE FOR IMMEDIATE SPRINKLING, AS NEEDED, IN ACTIVE CONSTRUCTION ZONES (WEEKENDS AND HOLIDAYS INCLUDED).
5. USE TEMPORARY BERMS AND CUT-OFF DITCHES, WHERE NEEDED, FOR CONTROL OF EROSION.
6. GRADED AREAS SHALL BE THROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND ON WEEKENDS.
7. ALL CUT AND FILL SLOPES SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED.

PERMANENT EROSION CONTROL MEASURES

1. PERMANENT DRAINAGE SYSTEMS (SEE PLANS AND SPECIFICATIONS)
2. A.C. PAVEMENT, CONCRETE PAVEMENT, AND CONC./CRM WALLS.
3. THE CONTRACTOR SHALL GRASS ALL EXPOSED AREAS THAT HAVE BEEN CONSTRUCTED TO FINAL GRADES IMMEDIATELY UPON COMPLETION. THE CONTRACTOR SHALL IMMEDIATELY MAINTAIN THE GRASSED AREAS UNTIL THE COMPLETION OF THE PROJECT.

DUST NUISANCE

1. CONTRACTOR AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL CONFORM WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH, AND THE COUNTY OF KAUAI.
2. THE CONTRACTOR SHALL PROVIDE DUST CONTROL WITH SPRINKLERS, AND/OR WATERWAGONS AS NECESSARY, WEEKENDS, AND HOLIDAYS INCLUDED. ALL GRADED AREAS SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESPONDING TO DUST COMPLAINTS AND WILL PROVIDE ADDITIONAL MITIGATION MEASURES AS NECESSARY.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

COREY M. MATSUOKA
LICENSED PROFESSIONAL ENGINEER
NO. 10330-C
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE
EXP. DATE: 04/30/16

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

NOTES

DESIGNED: CC | SUBMITTED:
DRAWN: EL | DATE: APRIL 4, 2016
CHECKED: CM | SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER | APR 2 6 2016 DATE
DRAWING NO. C-1.1

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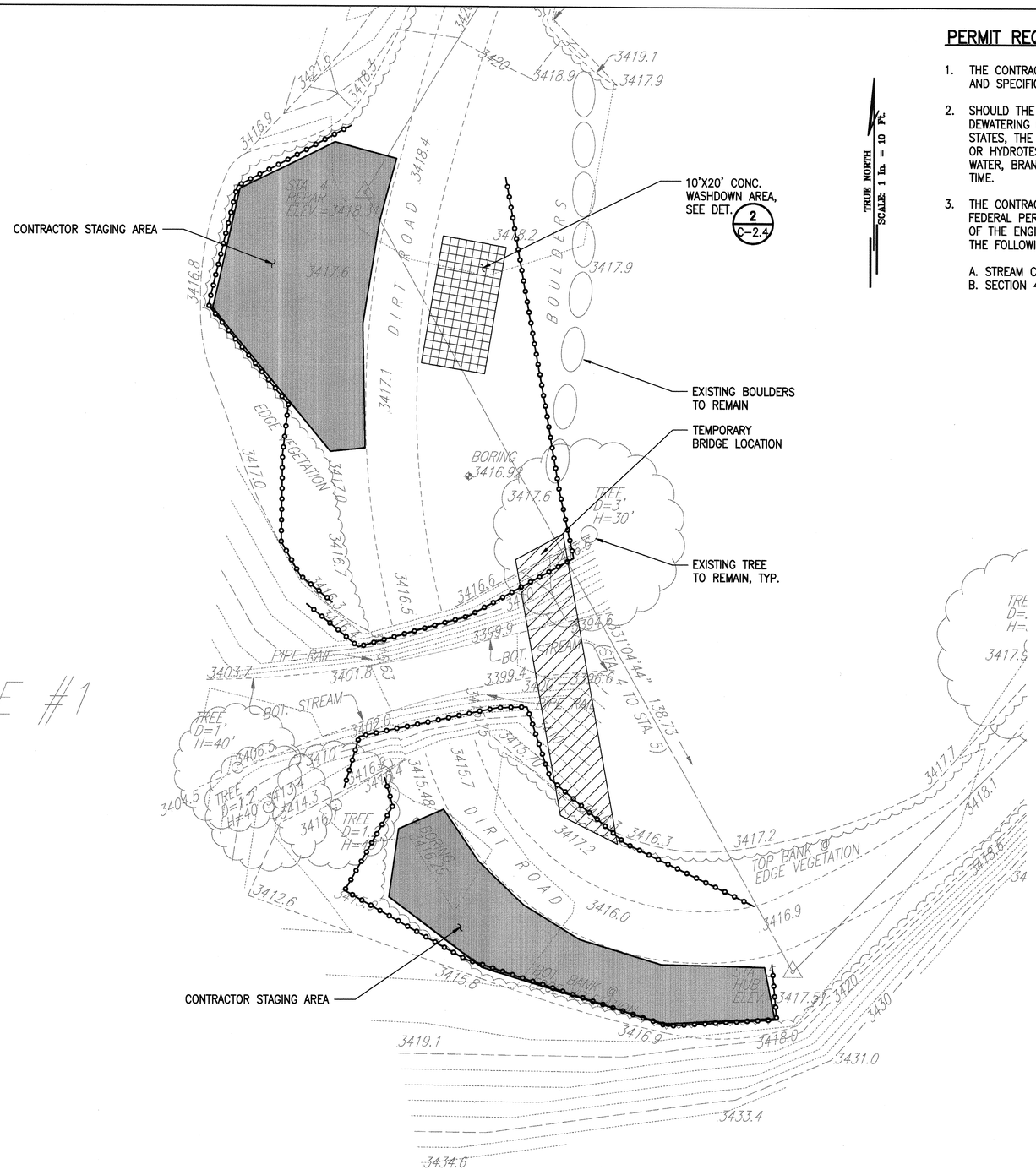

BRIDGE #1

EROSION CONTROL AND DEMOLITION PLAN – BRIDGE #1

SCALE: 1" = 10'

PERMIT REQUIREMENTS:

1. THE CONTRACTOR SHALL FOLLOW THE BMP PROVIDED IN THE PLANS AND SPECIFICATIONS.
2. SHOULD THE CONTRACTOR ELECT TO DISCHARGE EFFLUENT FROM DEWATERING OR HYDROTESTING ACTIVITIES INTO WATERS OF THE UNITED STATES, THE CONTRACTOR SHALL OBTAIN A NPDES ACTIVITY DEWATERING OR HYDROTESTING PERMIT FROM THE DEPARTMENT OF HEALTH, CLEAN WATER, BRANCH, AT HIS EXPENSE WITH NO ADJUSTMENT TO CONTRACT TIME.
3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL PERMIT CONDITIONS. PERMITS ARE LOCATED AT THE OFFICE OF THE ENGINEER. PERMITS MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

   A. STREAM CHANNEL ALTERATION PERMIT
   B. SECTION 404 ARMY CORPS OF ENGINEER PERMIT

BMP NOTES:

1. NO CONSTRUCTION WORK WITHIN THE STREAM BED OR BANKS SHALL ALLOWED.
2. THE CONTRACTOR SHALL FOLLOW THE BMP PROVIDED. ANY DEVIATIONS FROM THESE BMP SHALL BE AT CONTRACTOR'S COST AND NO ADDITIONAL WORKDAYS SHALL BE ADDED.
3. EXCAVATED MATERIAL SHALL BE HAULED OFF SITE FOR DISPOSAL. ROCK CRUSHING IS NOT ALLOWED ONSITE.
4. FILL MATERIAL FOR SANDBAGS SHALL BE CLEANED GRANULAR MATERIAL.
5. RUNOFF COLLECTED WITHIN CONTAINED AREAS SHALL NOT BE ALLOWED TO FLOW INTO STREAM CHANNEL OR ANY STATE WATERS.
6. TREATED WOOD MATERIAL IS NOT PERMITTED FOR FORMS AND SHORING WITHIN THE STREAM CHANNEL.
7. BMP'S ARE REQUIRED FOR CONCRETE POUR AT FOOTINGS.
8. BMP'S ARE REQUIRED FOR CONTRACTOR'S STOCKPILE AND STAGING AREAS.
9. SANDBAGS SHALL BE USED FOR DEMOLITION AND REMOVAL OF BRIDGE AND DURING CONSTRUCTION OF NEW BRIDGE ABUTMENTS. SANDBAGS SHALL BE REMOVED AFTER GROUND DISTURBANCE FOR NEW BRIDGE ABUTMENTS ARE COMPLETED.
10. CONTRACTOR TO FIELD VERIFY ORDINARY HIGH WATER LEVEL AND NOTIFY ENGINEER.
11. DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
12. CONTRACTOR SHALL SUBMIT FOR APPROVAL PROPOSED BMPS TO PROTECT THE STREAM FROM DEBRIS AND WASTES ASSOCIATED WITH STRUCTURE DEMOLITION AND/OR REMOVAL.
    SUCH BMPS MAY INCLUDE:
    A. THE USE OF ATTACHMENTS ON CONSTRUCTION EQUIPMENT SUCH AS BACKHOES TO CATCH DEBRIS FROM SMALL DEMOLITION OPERATIONS.
    B. THE USE OF COVERS OR PLATFORMS TO COLLECT DEBRIS.
16. CONSTRUCTION VEHICLES AND EQUIPMENT SHALL BE WASHED DOWN WITH WATER PRIOR TO EXITING FROM PROJECT SITE. WATER SHALL NOT BE DISCHARGED INTO THE STREAM.
17. FRESH CONCRETE SHALL BE PREVENTED FROM ENTERING THE STREAM DURING ALL CONCRETING WORK. CONCRETE SHALL NOT OVERFLOW FORMWORK. FORMWORK AND JOINTS SHALL BE SEALED AGAINST CONCRETE LEAKAGE.
18. NO DEBRIS SHALL BE ALLOWED TO ENTER THE STREAM.

LEGEND

COMPOST FILTER SOCK SEE DET. 1 C-2.4

GRAPHIC SCALE:

10' 5' 0 10' 20'

SCALE: 1" = 10'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

COREY M. MATSUOKA
LICENSED PROFESSIONAL ENGINEER
NO. 10330-C
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE
EXP. DATE: 04/30/16

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

EROSION CONTROL AND
DEMOLITION PLAN - BRIDGE #1

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 26 2016 DATE

DRAWING NO. C-2.1

JOB NO. D01CK62A SHEET NO. 3 OF 32 SHEETS

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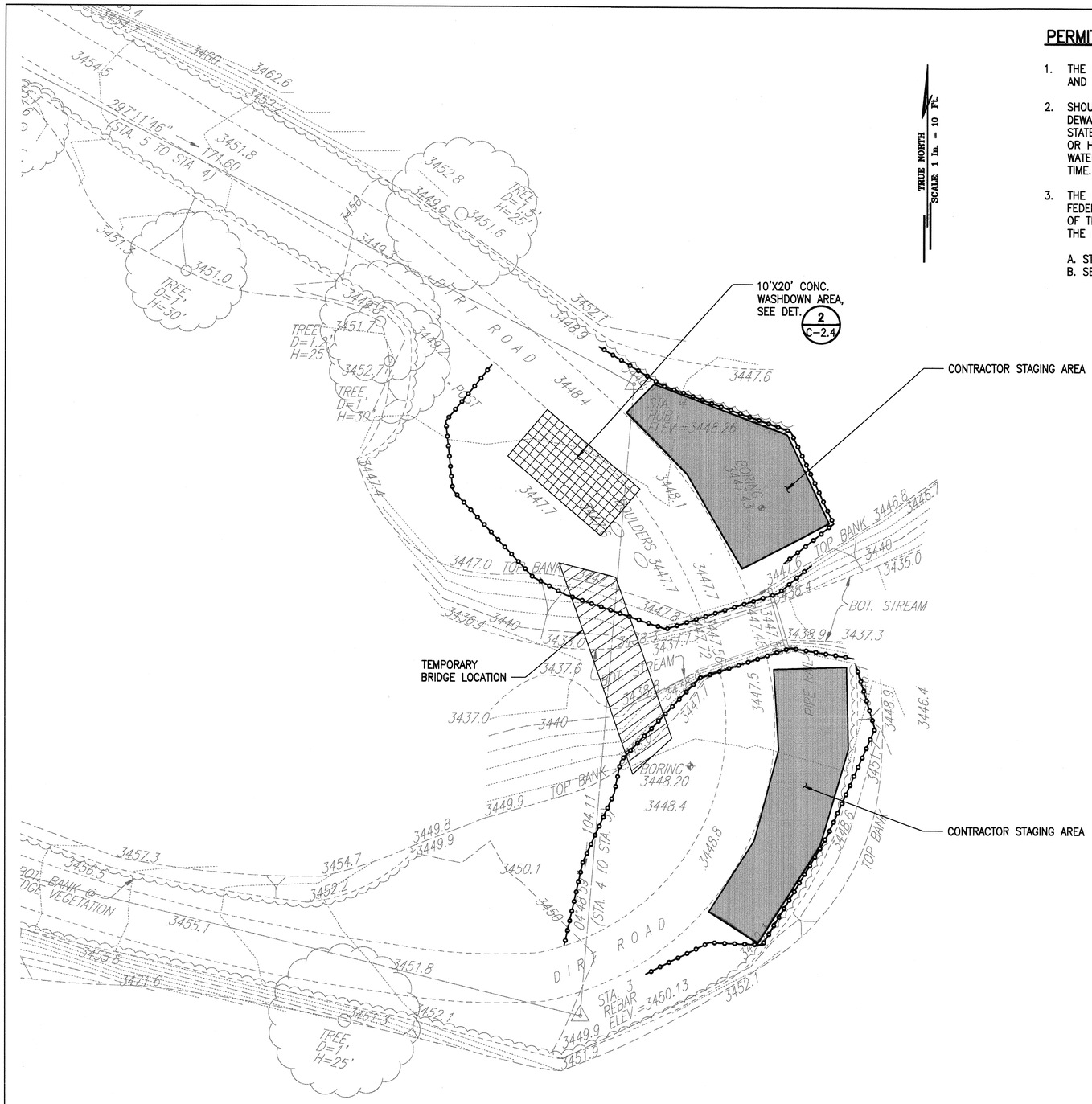

EROSION CONTROL AND DEMOLITION PLAN – BRIDGE #2

SCALE: 1" = 10'

PERMIT REQUIREMENTS:

1. THE CONTRACTOR SHALL FOLLOW THE BMP PROVIDED IN THE PLANS AND SPECIFICATIONS.
2. SHOULD THE CONTRACTOR ELECT TO DISCHARGE EFFLUENT FROM DEWATERING OR HYDROTESTING ACTIVITIES INTO WATERS OF THE UNITED STATES, THE CONTRACTOR SHALL OBTAIN A NPDES ACTIVITY DEWATERING OR HYDROTESTING PERMIT FROM THE DEPARTMENT OF HEALTH, CLEAN WATER, BRANCH, AT HIS EXPENSE WITH NO ADJUSTMENT TO CONTRACT TIME.
3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL PERMIT CONDITIONS. PERMITS ARE LOCATED AT THE OFFICE OF THE ENGINEER. PERMITS MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

   A. STREAM CHANNEL ALTERATION PERMIT
   B. SECTION 404 ARMY CORPS OF ENGINEER PERMIT

BMP NOTES:

1. NO CONSTRUCTION WORK WITHIN THE STREAM BED OR BANKS SHALL ALLOWED.
2. THE CONTRACTOR SHALL FOLLOW THE BMP PROVIDED. ANY DEVIATIONS FROM THESE BMP SHALL BE AT CONTRACTOR'S COST AND NO ADDITIONAL WORKDAYS SHALL BE ADDED.
3. EXCAVATED MATERIAL SHALL BE HAULED OFF SITE FOR DISPOSAL. ROCK CRUSHING IS NOT ALLOWED ONSITE.
4. FILL MATERIAL FOR SANDBAGS SHALL BE CLEANED GRANULAR MATERIAL.
5. RUNOFF COLLECTED WITHIN CONTAINED AREAS SHALL NOT BE ALLOWED TO FLOW INTO STREAM CHANNEL OR ANY STATE WATERS.
6. TREATED WOOD MATERIAL IS NOT PERMITTED FOR FORMS AND SHORING WITHIN THE STREAM CHANNEL.
7. BMP'S ARE REQUIRED FOR CONCRETE POUR AT FOOTINGS.
8. BMP'S ARE REQUIRED FOR CONTRACTOR'S STOCKPILE AND STAGING AREAS.
9. SANDBAGS SHALL BE USED FOR DEMOLITION AND REMOVAL OF BRIDGE AND DURING CONSTRUCTION OF NEW BRIDGE ABUTMENTS. SANDBAGS SHALL BE REMOVED AFTER GROUND DISTURBANCE FOR NEW BRIDGE ABUTMENTS ARE COMPLETED.
10. CONTRACTOR TO FIELD VERIFY ORDINARY HIGH WATER LEVEL AND NOTIFY ENGINEER.
11. DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
12. CONTRACTOR SHALL SUBMIT FOR APPROVAL PROPOSED BMPS TO PROTECT THE STREAM FROM DEBRIS AND WASTES ASSOCIATED WITH STRUCTURE DEMOLITION AND/OR REMOVAL.
    SUCH BMPS MAY INCLUDE:
    A. THE USE OF ATTACHMENTS ON CONSTRUCTION EQUIPMENT SUCH AS BACKHOES TO CATCH DEBRIS FROM SMALL DEMOLITION OPERATIONS.
    B. THE USE OF COVERS OR PLATFORMS TO COLLECT DEBRIS.
16. CONSTRUCTION VEHICLES AND EQUIPMENT SHALL BE WASHED DOWN WITH WATER PRIOR TO EXITING FROM PROJECT SITE. WATER SHALL NOT BE DISCHARGED INTO THE STREAM.
17. FRESH CONCRETE SHALL BE PREVENTED FROM ENTERING THE STREAM DURING ALL CONCRETING WORK. CONCRETE SHALL NOT OVERFLOW FORMWORK. FORMWORK AND JOINTS SHALL BE SEALED AGAINST CONCRETE LEAKAGE.
18. NO DEBRIS SHALL BE ALLOWED TO ENTER THE STREAM.

LEGEND

COMPOST FILTER SOCK SEE DET. 1 C-2.4

GRAPHIC SCALE:

10' 5' 0 10' 20'

SCALE: 1" = 10'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

CORREY M. MATSUOKA
LICENSED PROFESSIONAL ENGINEER
NO. 10330-C
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE
EXP. DATE: 04/30/16

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

EROSION CONTROL AND
DEMOLITION PLAN - BRIDGE #2

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 26 2016 DATE
	DRAWING NO. C-2.2

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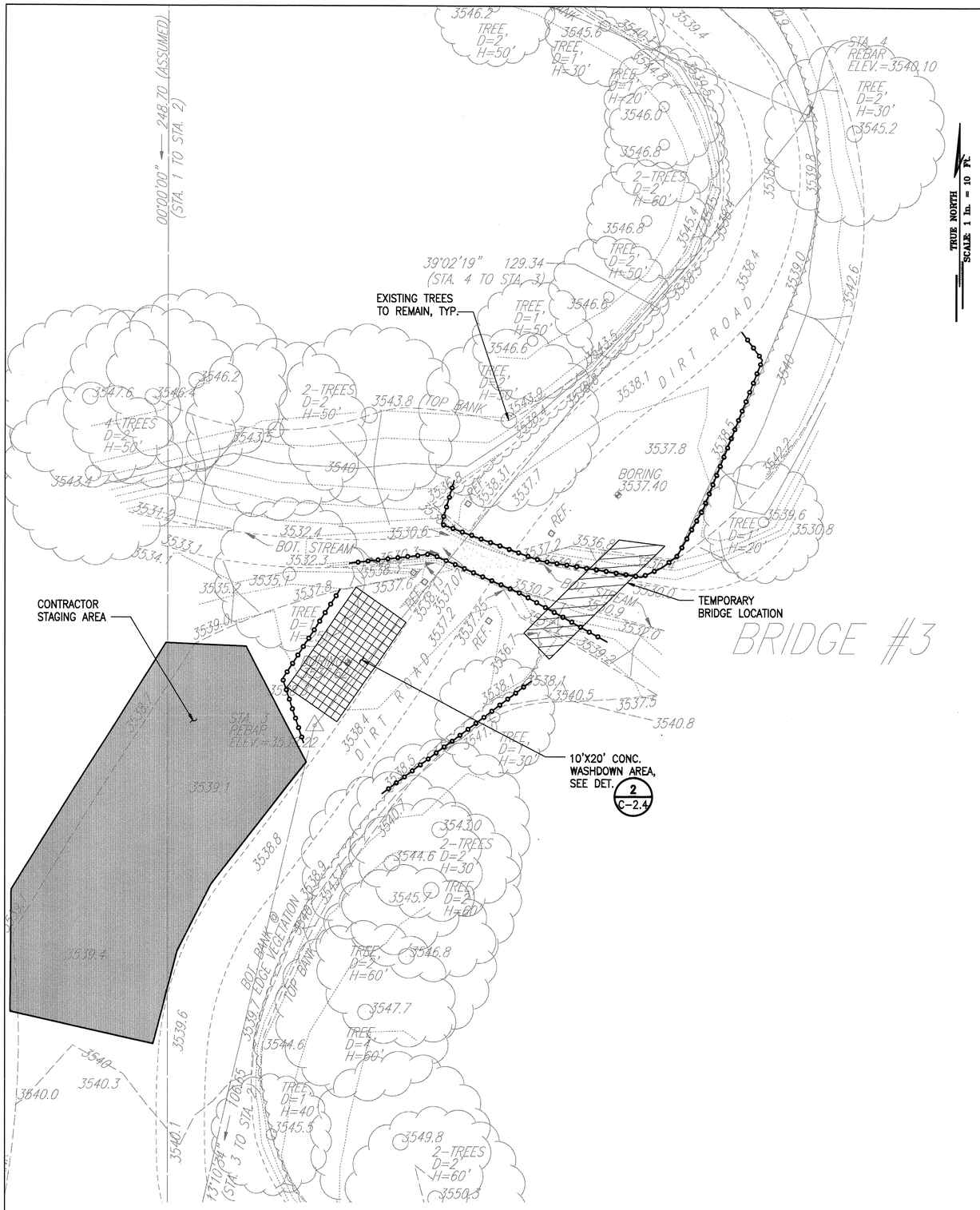

EROSION CONTROL AND DEMOLITION PLAN – BRIDGE #3

SCALE: 1" = 10'

PERMIT REQUIREMENTS:

1. THE CONTRACTOR SHALL FOLLOW THE BMP PROVIDED IN THE PLANS AND SPECIFICATIONS.
2. SHOULD THE CONTRACTOR ELECT TO DISCHARGE EFFLUENT FROM DEWATERING OR HYDROTESTING ACTIVITIES INTO WATERS OF THE UNITED STATES, THE CONTRACTOR SHALL OBTAIN A NPDES ACTIVITY DEWATERING OR HYDROTESTING PERMIT FROM THE DEPARTMENT OF HEALTH, CLEAN WATER, BRANCH, AT HIS EXPENSE WITH NO ADJUSTMENT TO CONTRACT TIME.
3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL PERMIT CONDITIONS. PERMITS ARE LOCATED AT THE OFFICE OF THE ENGINEER. PERMITS MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

   A. STREAM CHANNEL ALTERATION PERMIT
   B. SECTION 404 ARMY CORPS OF ENGINEER PERMIT

BMP NOTES:

1. NO CONSTRUCTION WORK WITHIN THE STREAM BED OR BANKS SHALL ALLOWED.
2. THE CONTRACTOR SHALL FOLLOW THE BMP PROVIDED. ANY DEVIATIONS FROM THESE BMP SHALL BE AT CONTRACTOR'S COST AND NO ADDITIONAL WORKDAYS SHALL BE ADDED.
3. EXCAVATED MATERIAL SHALL BE HAULED OFF SITE FOR DISPOSAL. ROCK CRUSHING IS NOT ALLOWED ONSITE.
4. FILL MATERIAL FOR SANDBAGS SHALL BE CLEANED GRANULAR MATERIAL.
5. RUNOFF COLLECTED WITHIN CONTAINED AREAS SHALL NOT BE ALLOWED TO FLOW INTO STREAM CHANNEL OR ANY STATE WATERS.
6. TREATED WOOD MATERIAL IS NOT PERMITTED FOR FORMS AND SHORING WITHIN THE STREAM CHANNEL.
7. BMP'S ARE REQUIRED FOR CONCRETE POUR AT FOOTINGS.
8. BMP'S ARE REQUIRED FOR CONTRACTOR'S STOCKPILE AND STAGING AREAS.
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10. CONTRACTOR TO FIELD VERIFY ORDINARY HIGH WATER LEVEL AND NOTIFY ENGINEER.
11. DISTURBED AREAS SHALL BE RESTORED TO PRE–CONSTRUCTION CONDITION.
12. CONTRACTOR SHALL SUBMIT FOR APPROVAL PROPOSED BMPS TO PROTECT THE STREAM FROM DEBRIS AND WASTES ASSOCIATED WITH STRUCTURE DEMOLITION AND/OR REMOVAL.
    SUCH BMPS MAY INCLUDE:
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    B. THE USE OF COVERS OR PLATFORMS TO COLLECT DEBRIS.
16. CONSTRUCTION VEHICLES AND EQUIPMENT SHALL BE WASHED DOWN WITH WATER PRIOR TO EXITING FROM PROJECT SITE. WATER SHALL NOT BE DISCHARGED INTO THE STREAM.
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18. NO DEBRIS SHALL BE ALLOWED TO ENTER THE STREAM.

LEGEND

COMPOST FILTER SOCK SEE DET. 1 C-2.4

GRAPHIC SCALE:

10' 5' 0 10' 20'

SCALE: 1" = 10'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

COREY M. MATSUOKA LICENSED PROFESSIONAL ENGINEER NO. 10330-C HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE
EXP. DATE: 04/30/16

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

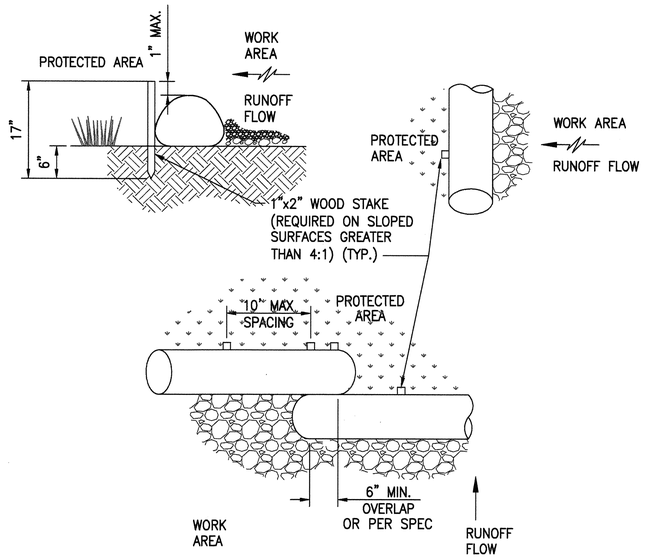
CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

EROSION CONTROL AND
DEMOLITION PLAN - BRIDGE #3

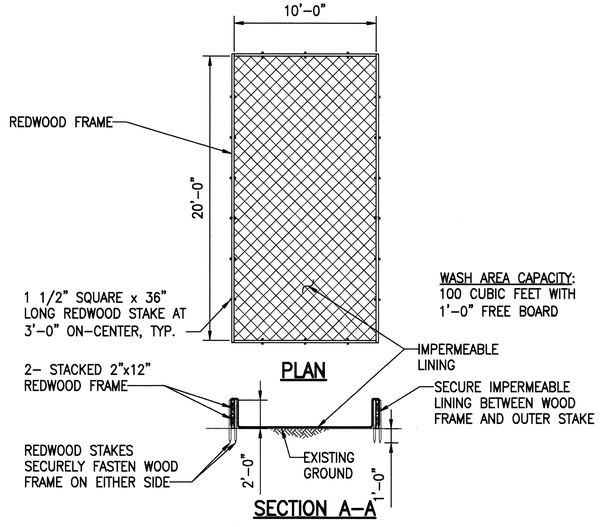
DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 2 6 2016 DATE

DRAWING NO. C-2.3

W:_CIVIL 3D PROJECTS\2015_077.000 DLNR CAMP 10 ACCESS RD\01 CIVIL DRAWINGS\BRIDGE 3 PNP.DWG 01/07/16 17:22 CTC



1 COMPOST FILTER SOCK
C-2.4 NOT TO SCALE



CONCRETE WASHDOWN NOTE:

1. THE CONCRETE WASH WATER WILL NOT BE ALLOWED TO OVERFLOW, AND WILL EITHER BE DISPOSED OF INTO AN APPROVED FACILITY IMMEDIATELY AFTER WASHING OPERATIONS, OR ALLOWED TO EVAPORATE AND THE REMAINDER REMOVED REGULARLY AND DISPOSED INTO AN APPROVED FACILITY TO AVOID BUILDUP OF CONCRETE MATERIAL WITHIN THE WASH AREA.

2 CONCRETE WASHDOWN DETAIL
C-2.4 NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

COREY M. MATSUOKA
LICENSED PROFESSIONAL ENGINEER
NO. 10330-C
HAWAII USA

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SIGNATURE
EXP. DATE: 04/30/16

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

EROSION CONTROL DETAILS

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 26 2016 DATE
	DRAWING NO. C-2.4

JOB NO. D01CK62A SHEET NO. 6 OF 32 SHEETS

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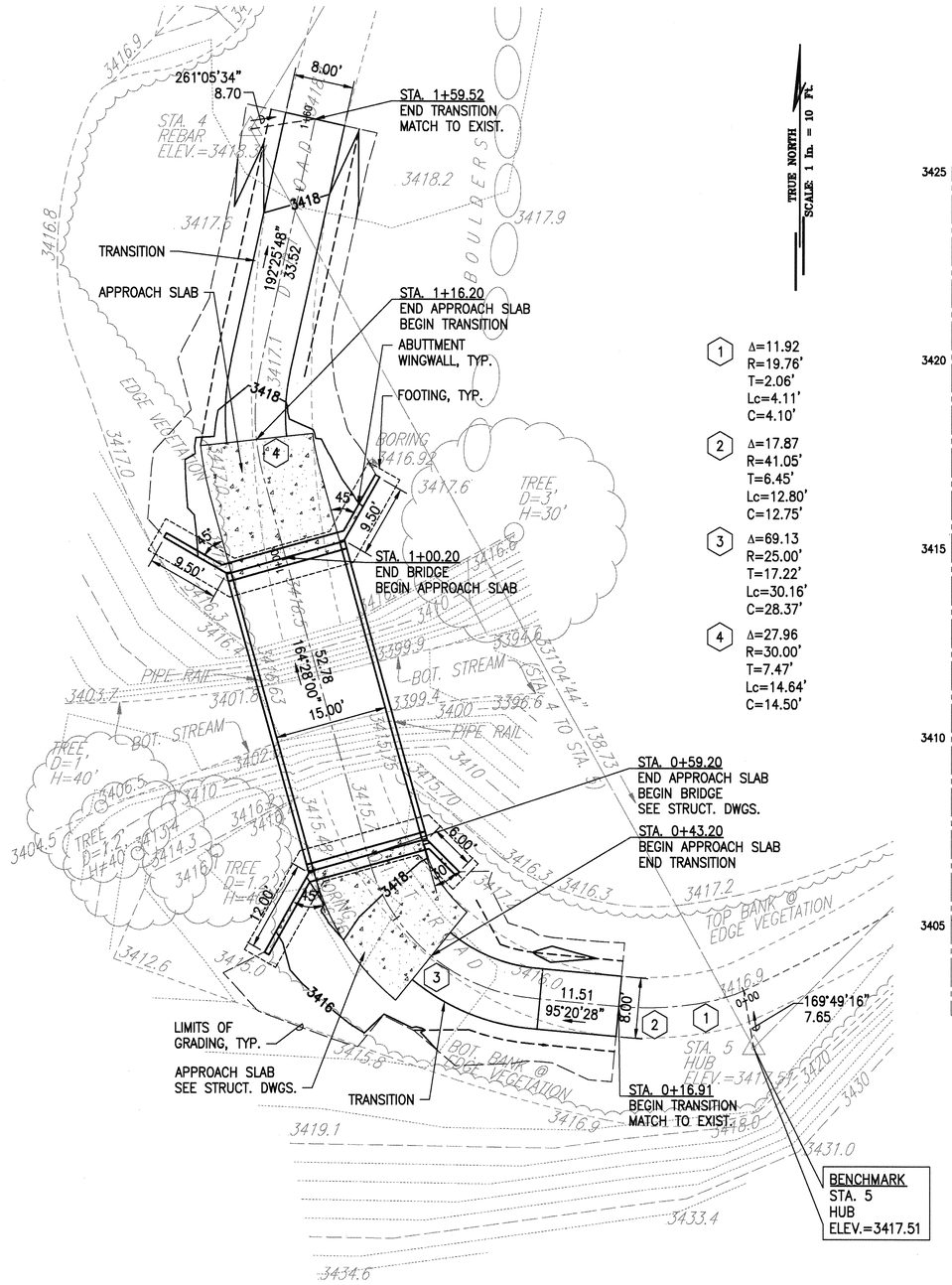
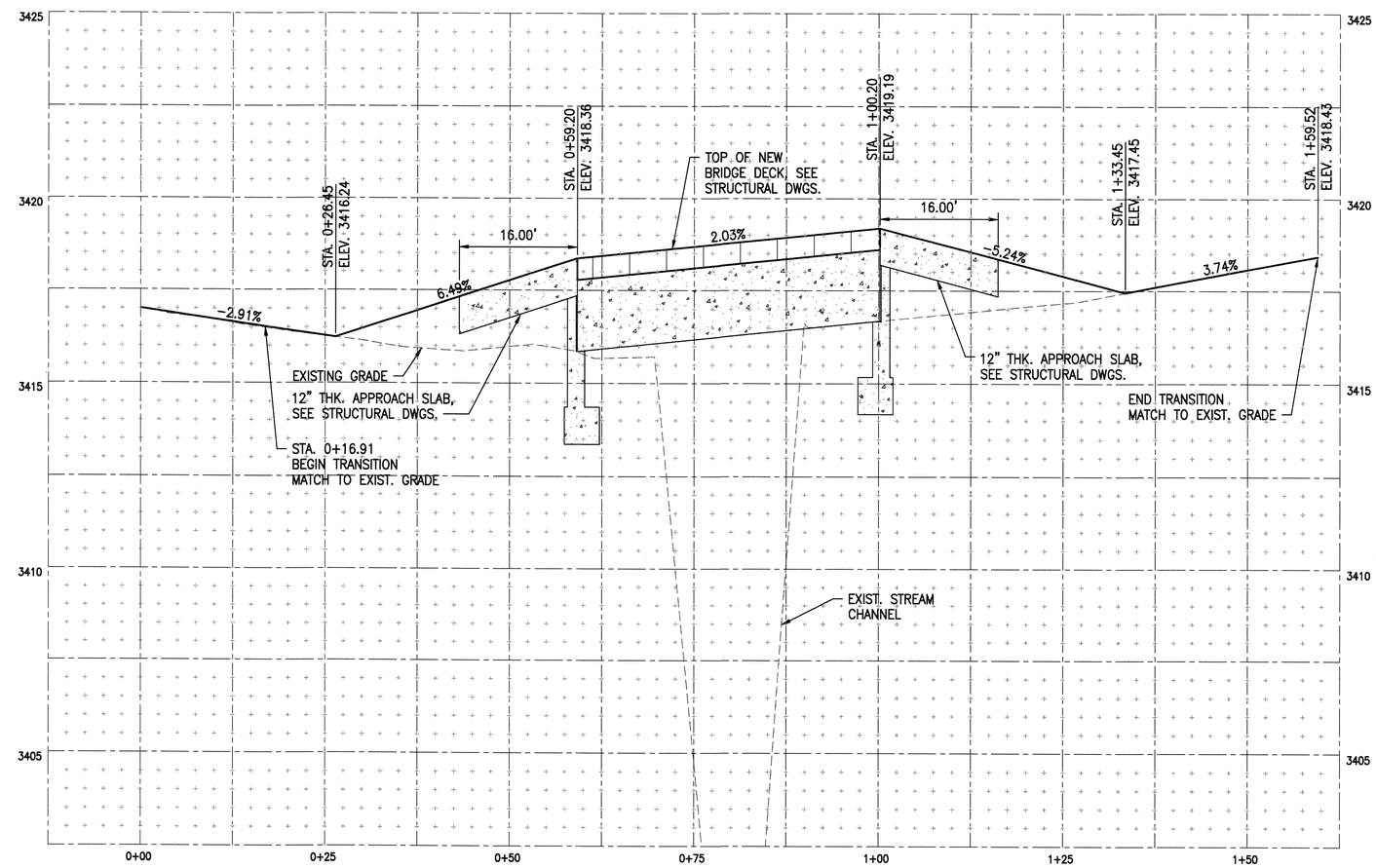


PLAN – BRIDGE #1

SCALE: 1" = 10'



PROFILE – BRIDGE #1

SCALE: HORIZ 1" = 10'
VERT 1" = 2'

GRAPHIC SCALE:

10' 5' 0 10' 20'
SCALE: 1" = 10'

2' 1' 0 2' 4'
SCALE: 1" = 2'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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LICENSED PROFESSIONAL ENGINEER
NO. 10330-C
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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

PLAN AND PROFILE - BRIDGE #1

DESIGNED: CC	SUBMITTED:
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CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 2 6 2016 DATE
	DRAWING NO. C-3.1

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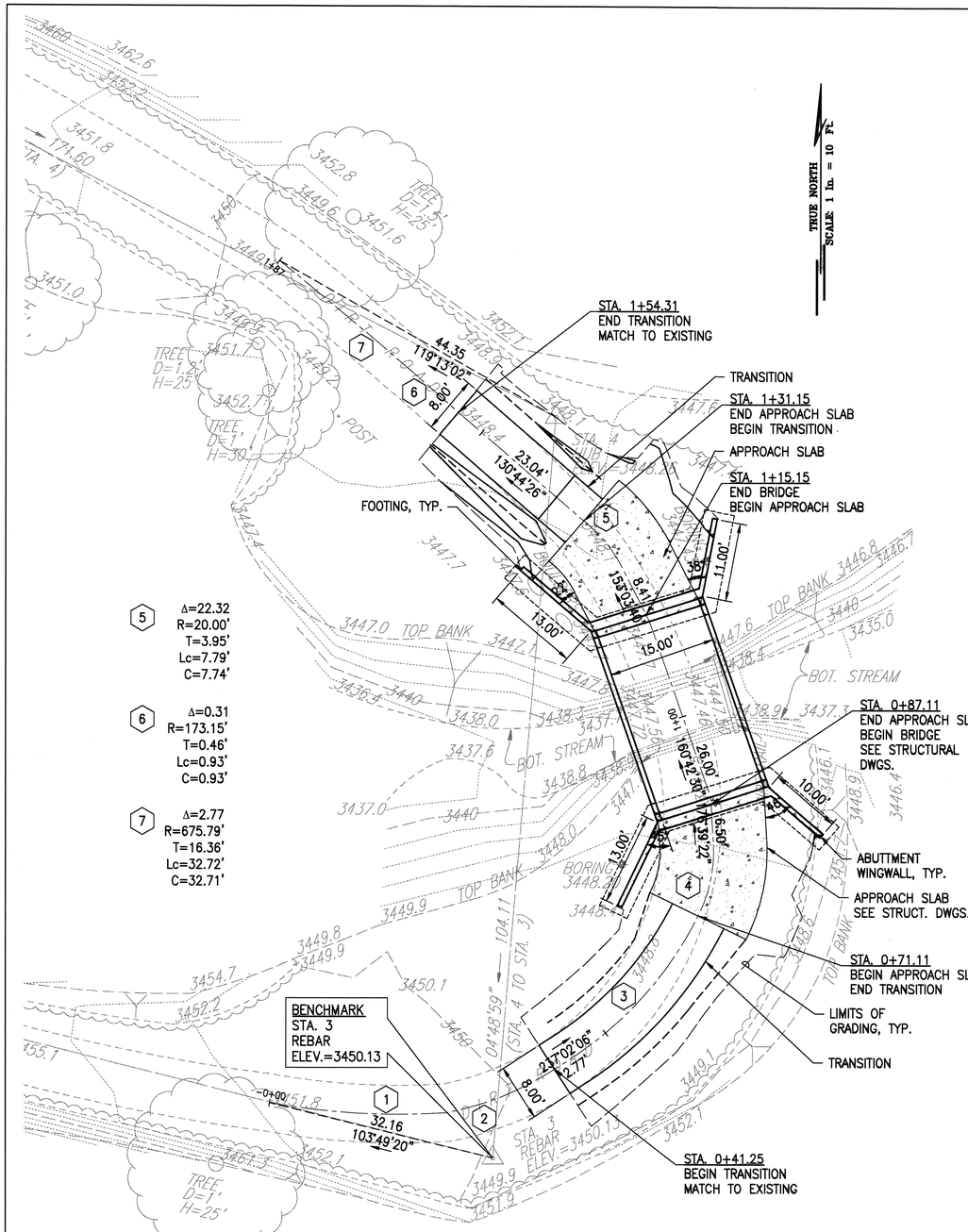
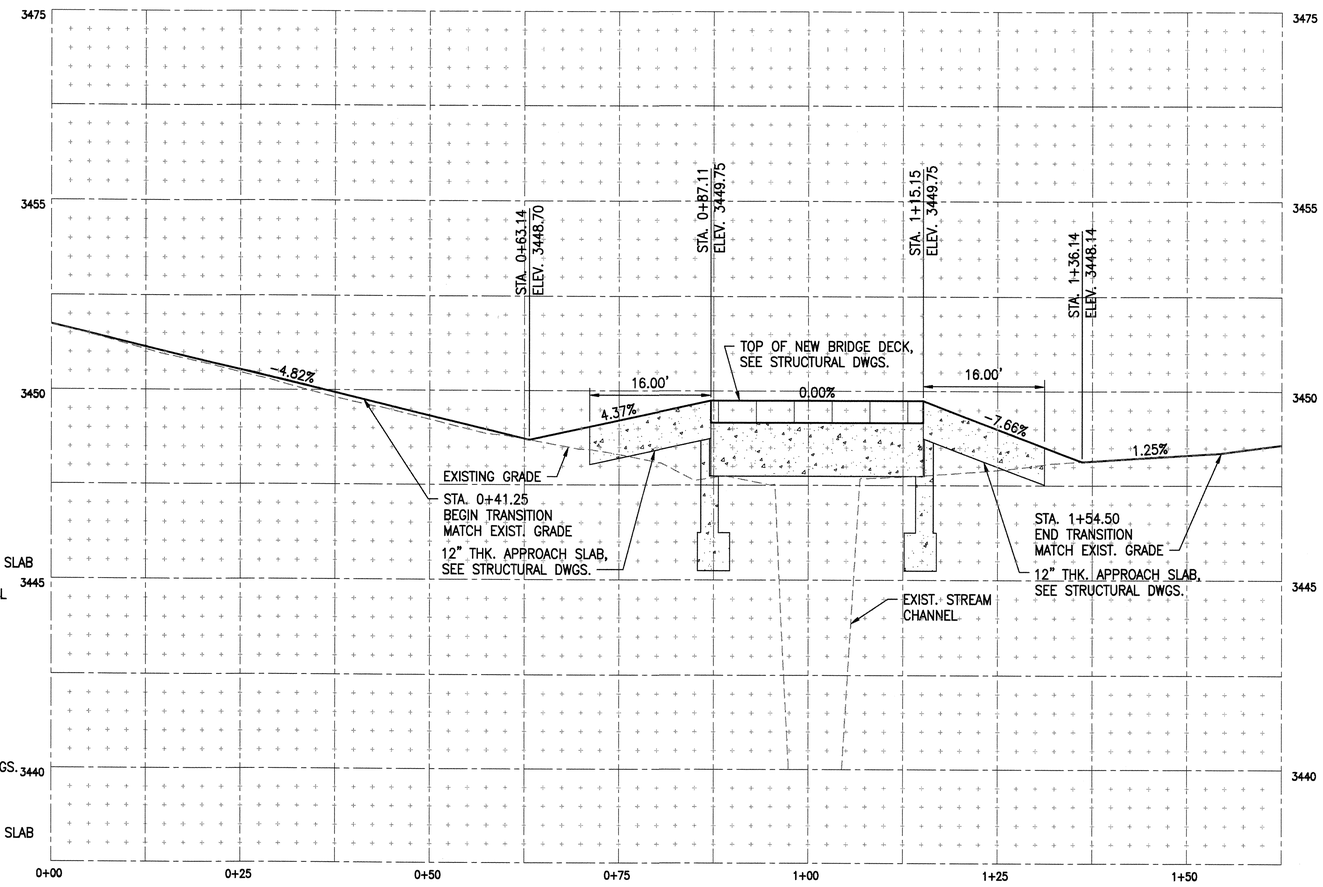


PLAN – BRIDGE #2

SCALE: 1" = 10'



PROFILE – BRIDGE #2

SCALE: HORIZ 1" = 10'
VERT 1" = 2'

GRAPHIC SCALE:

10' 5' 0 10' 20'
SCALE: 1" = 10'

2' 1' 0 2' 4'
SCALE: 1" = 2'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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EXP. DATE: 04/30/16

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

PLAN AND PROFILE - BRIDGE #2

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 26 2016 DATE

DRAWING NO. C-3.2

JOB NO. D01CK62A SHEET NO. 8 OF 32 SHEETS

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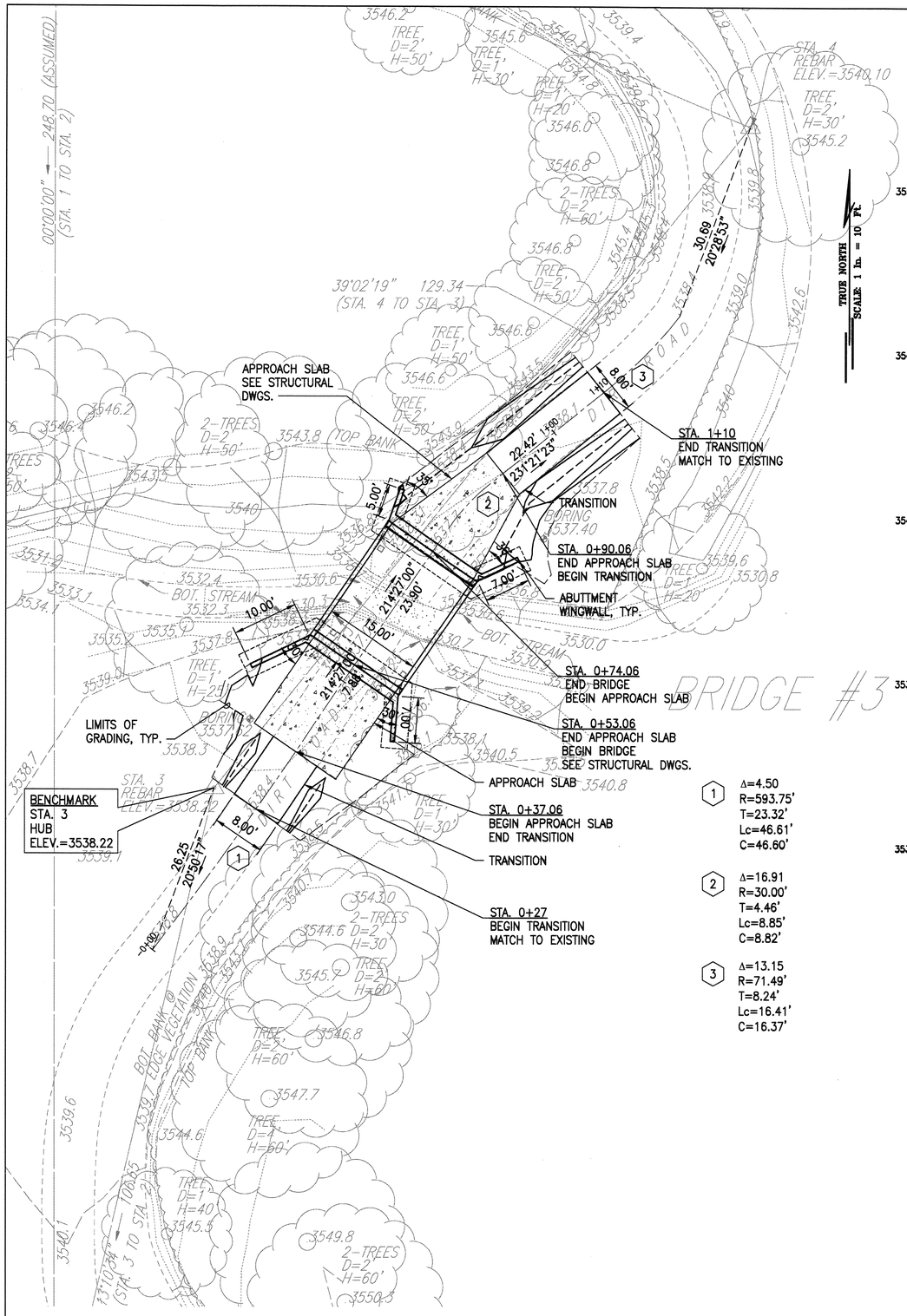


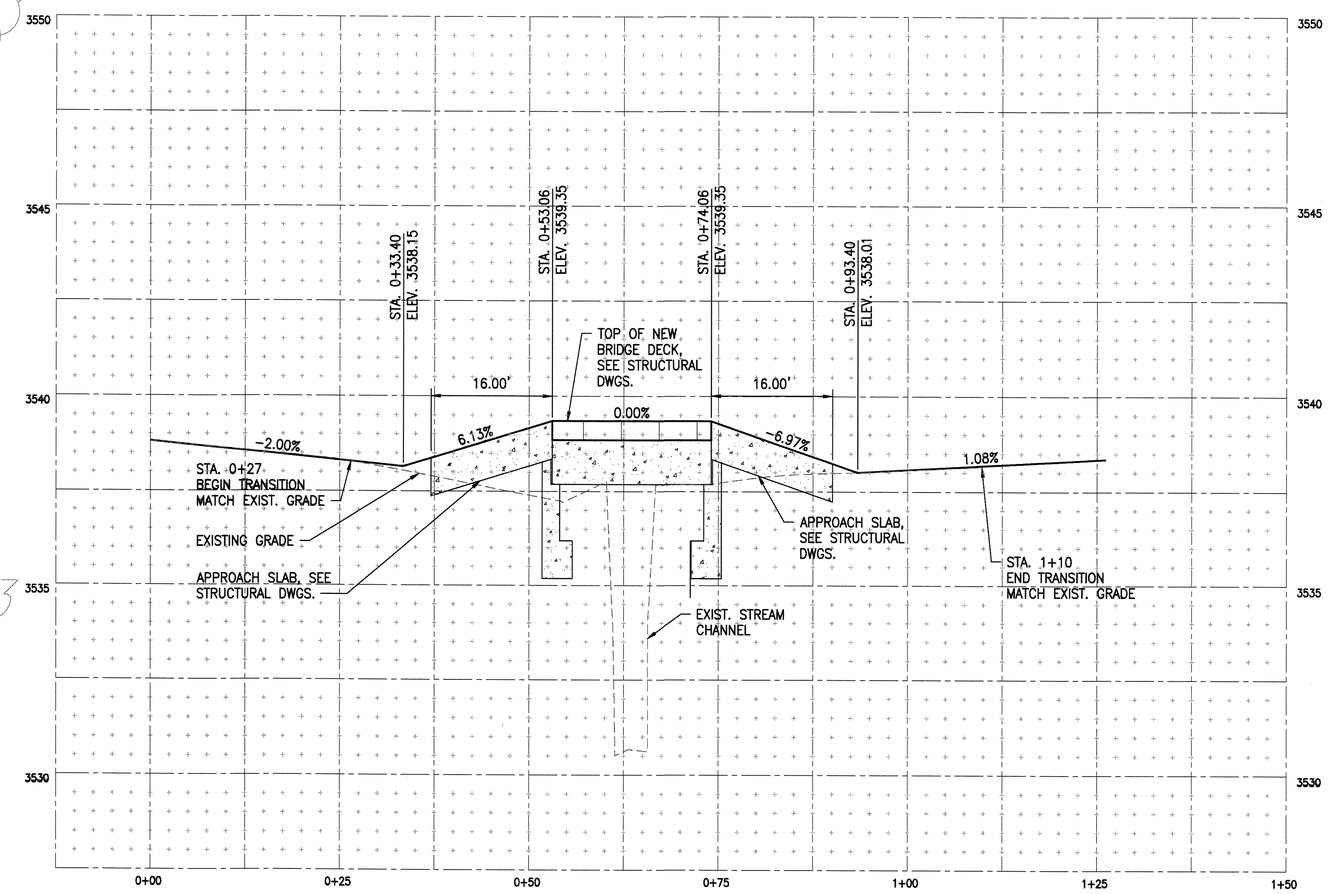
1 Δ=4.50
R=593.75'
T=23.32'
Lc=46.61'
C=46.60'

2 Δ=16.91
R=30.00'
T=4.46'
Lc=8.85'
C=8.82'

3 Δ=13.15
R=71.49'
T=8.24'
Lc=16.41'
C=16.37'

PLAN – BRIDGE #3

SCALE: 1" = 10'



PROFILE – BRIDGE #3

SCALE: HORIZ 1" = 10'
VERT 1" = 2'

GRAPHIC SCALE:

10' 5' 0 10' 20'
SCALE: 1" = 10'

2' 1' 0 2' 4'
SCALE: 1" = 2'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

PLAN AND PROFILE - BRIDGE #3

DESIGNED: CC	SUBMITTED:
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APPROVED: CHIEF ENGINEER	DATE

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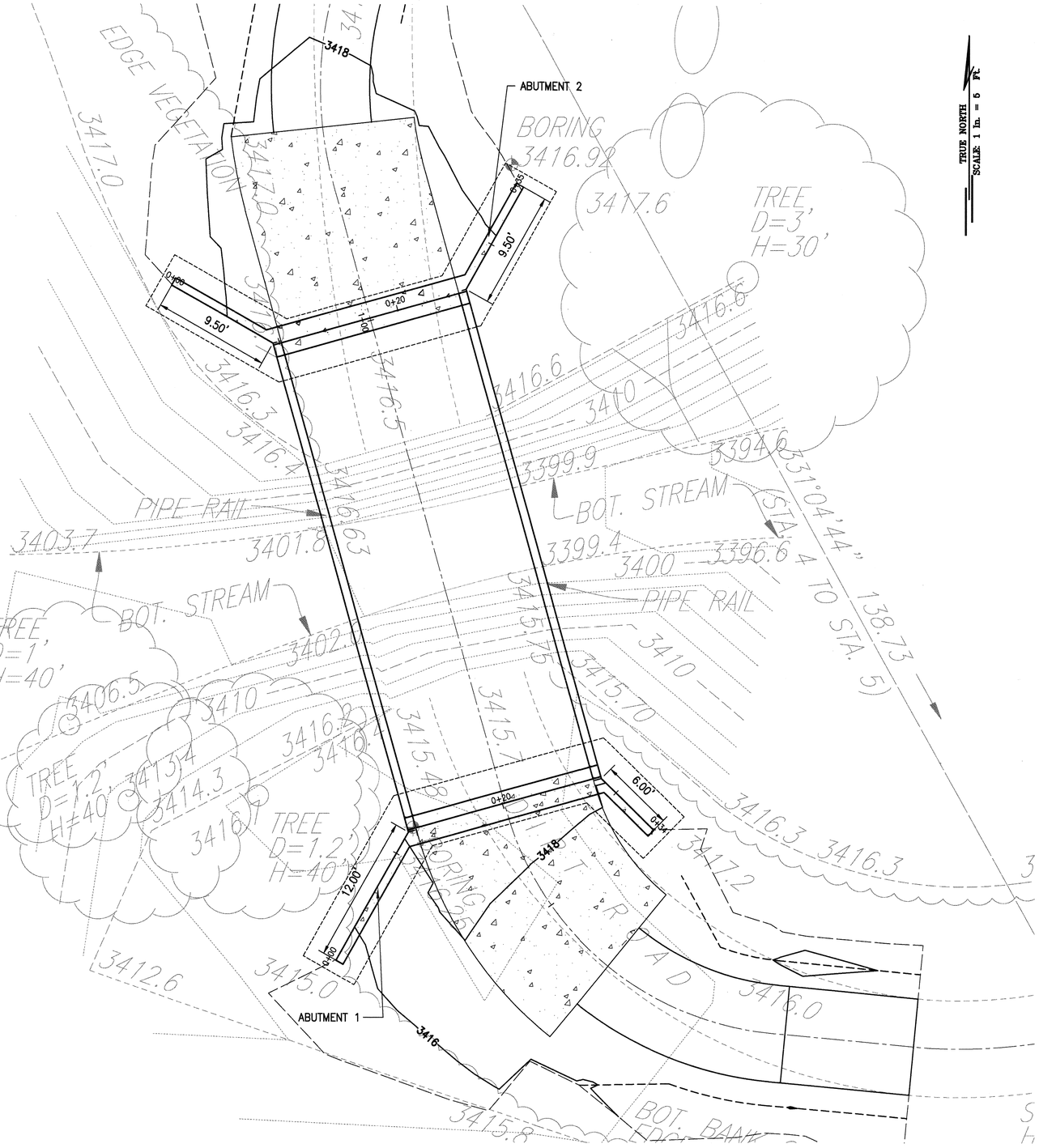
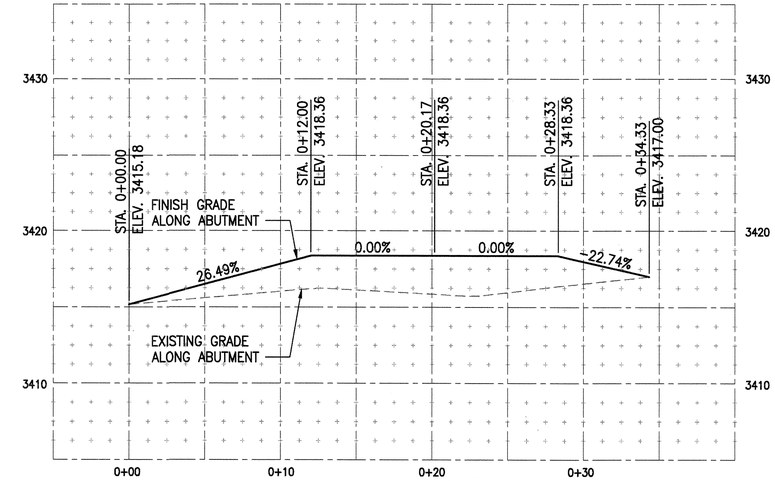


PLAN – BRIDGE #1

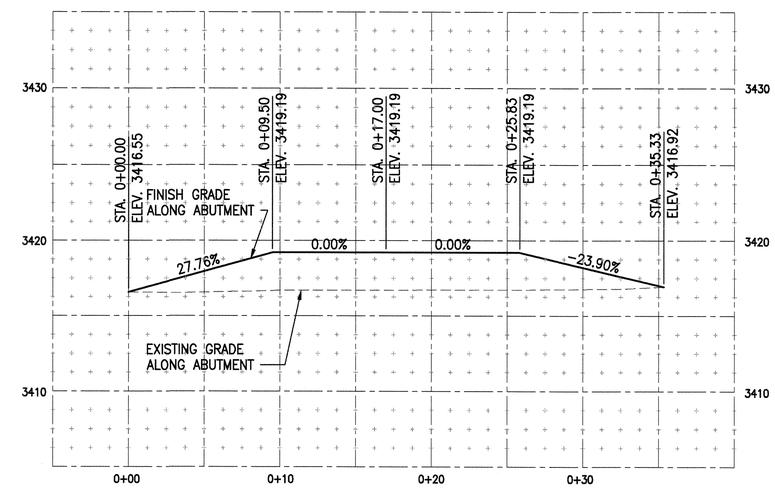
SCALE: 1" = 5'

TRUE NORTH
SCALE: 1 IN. = 5 FT.



PROFILE – BRIDGE #1 ABUTMENT 1

SCALE: HORIZ 1" = 5'
VERT 1" = 5'



PROFILE – BRIDGE #1 ABUTMENT 2

SCALE: HORIZ 1" = 5'
VERT 1" = 5'

GRAPHIC SCALE:

5' 0 5' 10'

SCALE: 1" = 5'

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NO. 10330-C
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STATE OF HAWAII
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ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

ABUTMENT PLAN AND PROFILES - BRIDGE #1

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
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APPROVED: CHIEF ENGINEER	APR 2 6 2016 DATE

DRAWING NO. C-4.1

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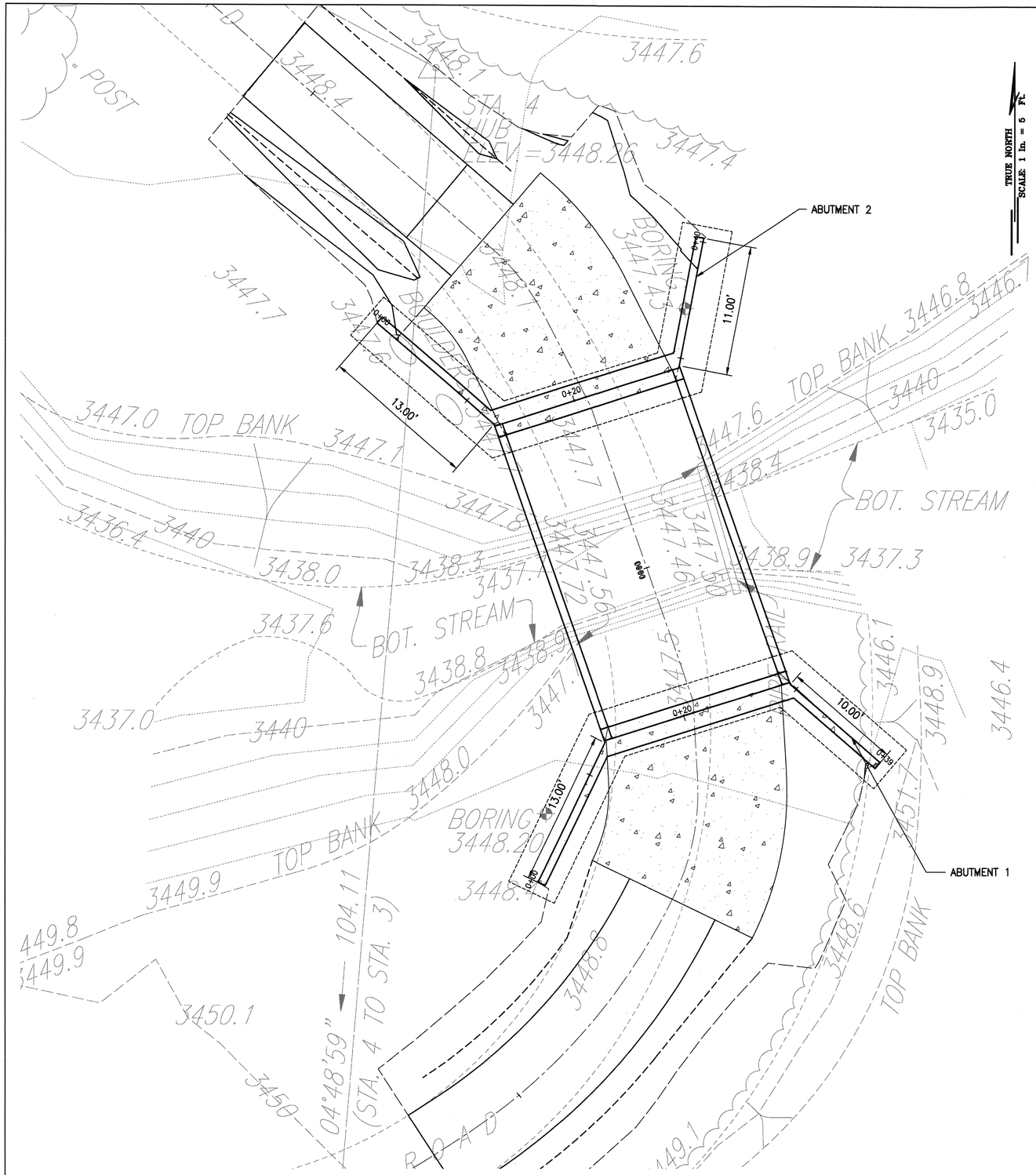
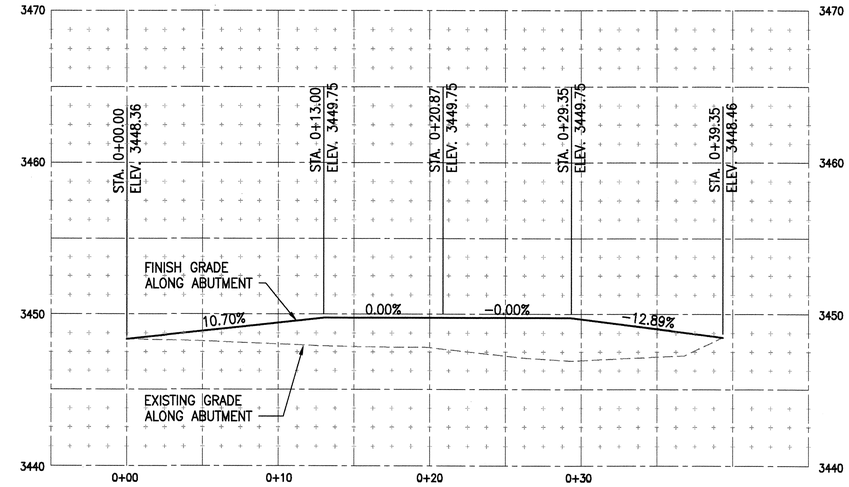


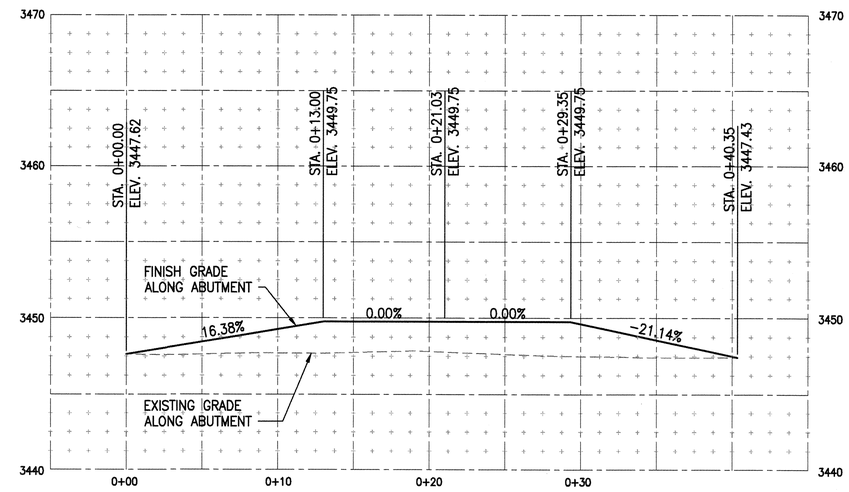
PLAN – BRIDGE #2

SCALE: 1" = 5'



PROFILE – BRIDGE #2 ABUTMENT 1

SCALE: HORIZ 1" = 5'
VERT 1" = 5'



PROFILE – BRIDGE #2 ABUTMENT 2

SCALE: HORIZ 1" = 5'
VERT 1" = 5'

GRAPHIC SCALE:

5' 0 5' 10'

SCALE: 1" = 5'

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CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

ABUTMENT PLAN AND PROFILES - BRIDGE #2

DESIGNED: CC	SUBMITTED:
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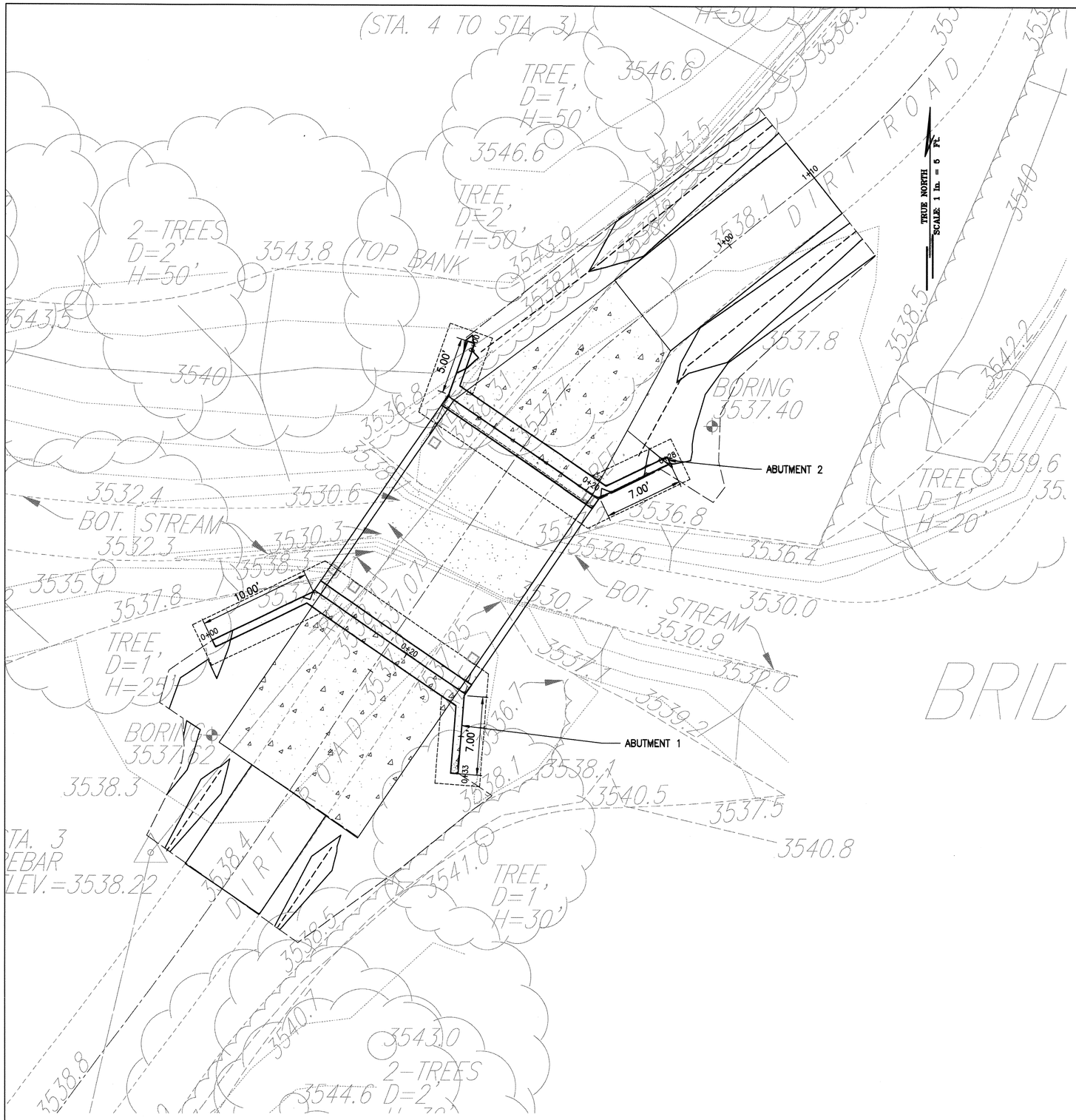
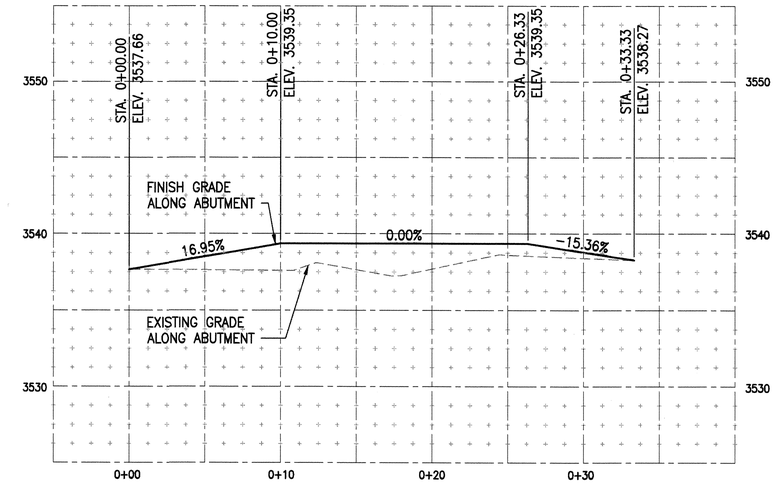


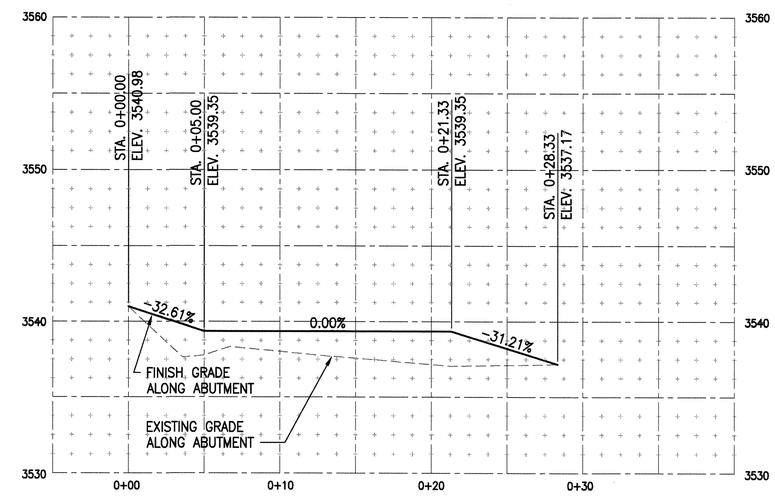
PLAN – BRIDGE #3

SCALE: 1" = 5'



PROFILE – BRIDGE #3 ABUTMENT 1

SCALE: HORIZ 1" = 5'
VERT 1" = 5'



PROFILE – BRIDGE #3 ABUTMENT 2

SCALE: HORIZ 1" = 5'
VERT 1" = 5'

GRAPHIC SCALE:

5' 0 5' 10'

SCALE: 1" = 5'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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COREY MATSUOKA
SIGNATURE
EXP. DATE: 04/30/16

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

ABUTMENT PLAN AND PROFILES - BRIDGE #3

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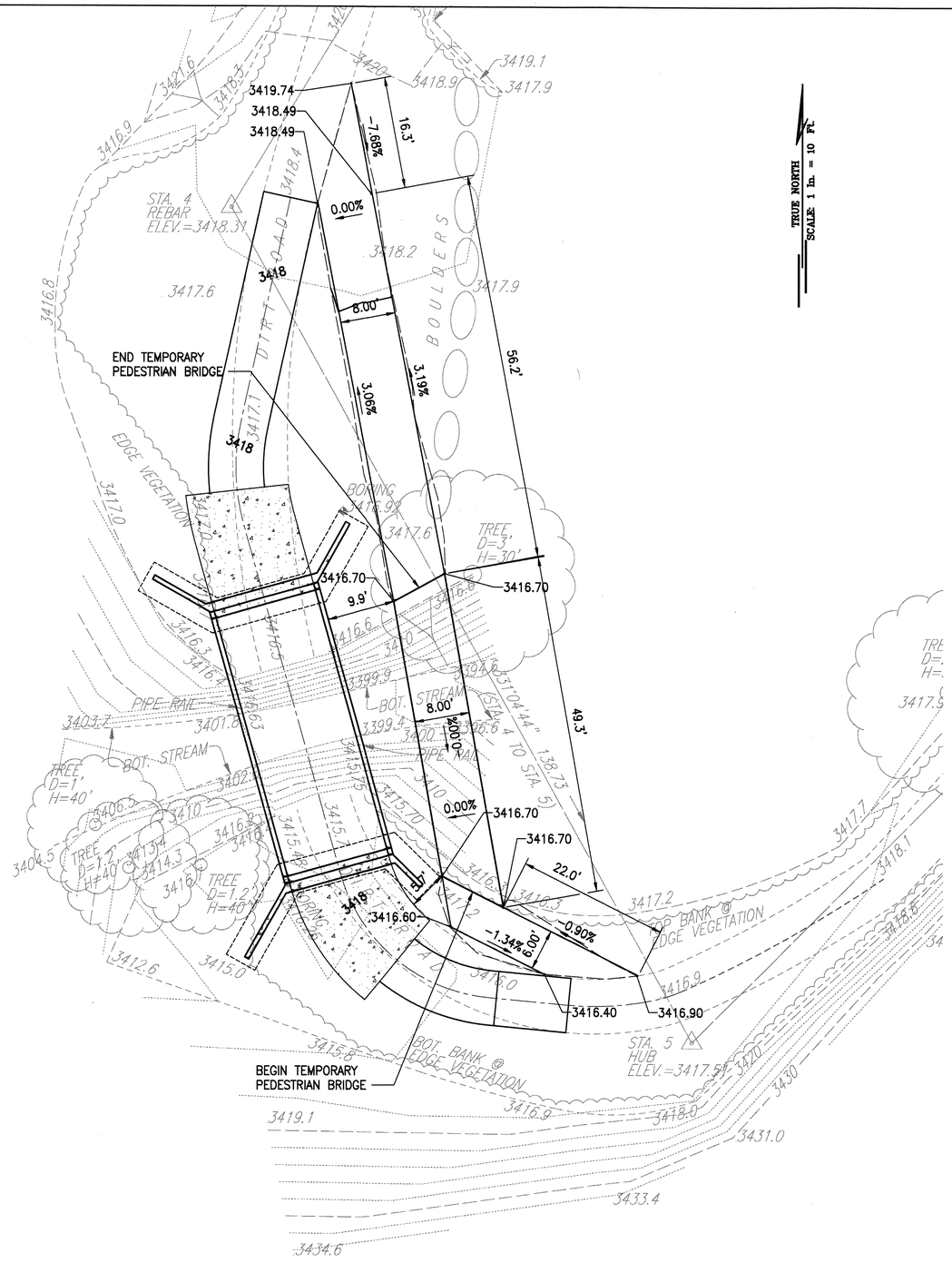

TEMPORARY PEDESTRIAN GRADING PLAN – BRIDGE #1

SCALE: 1" = 10'

GRAPHIC SCALE:

10' 5' 0 10' 20'

SCALE: 1" = 10'

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ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

TEMPORARY PEDESTRIAN
GRADING PLAN - BRIDGE #1

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DRAWING NO. C-5.1

JOB NO. D01CK62A SHEET NO. 13 OF 32 SHEETS

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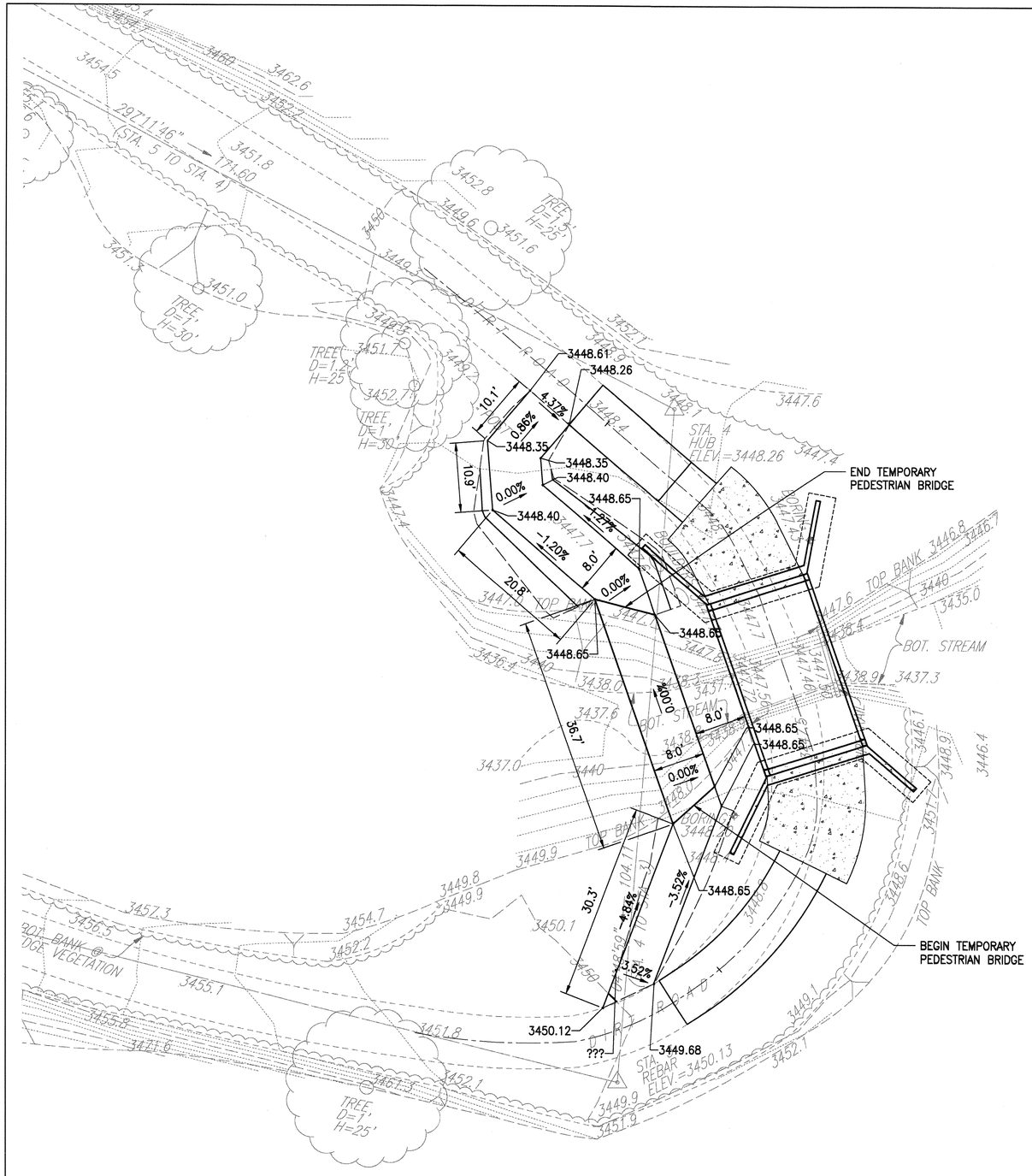

TEMPORARY PEDESTRIAN GRADING PLAN – BRIDGE #2

SCALE: 1" = 10'

GRAPHIC SCALE:

10' 5' 0 10' 20'

SCALE: 1" = 10'

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ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

TEMPORARY PEDESTRIAN
GRADING PLAN - BRIDGE #2

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 2 6 2016 DATE

DRAWING NO. C-5.2

JOB NO. D01CK62A SHEET NO. 14 OF 32 SHEETS

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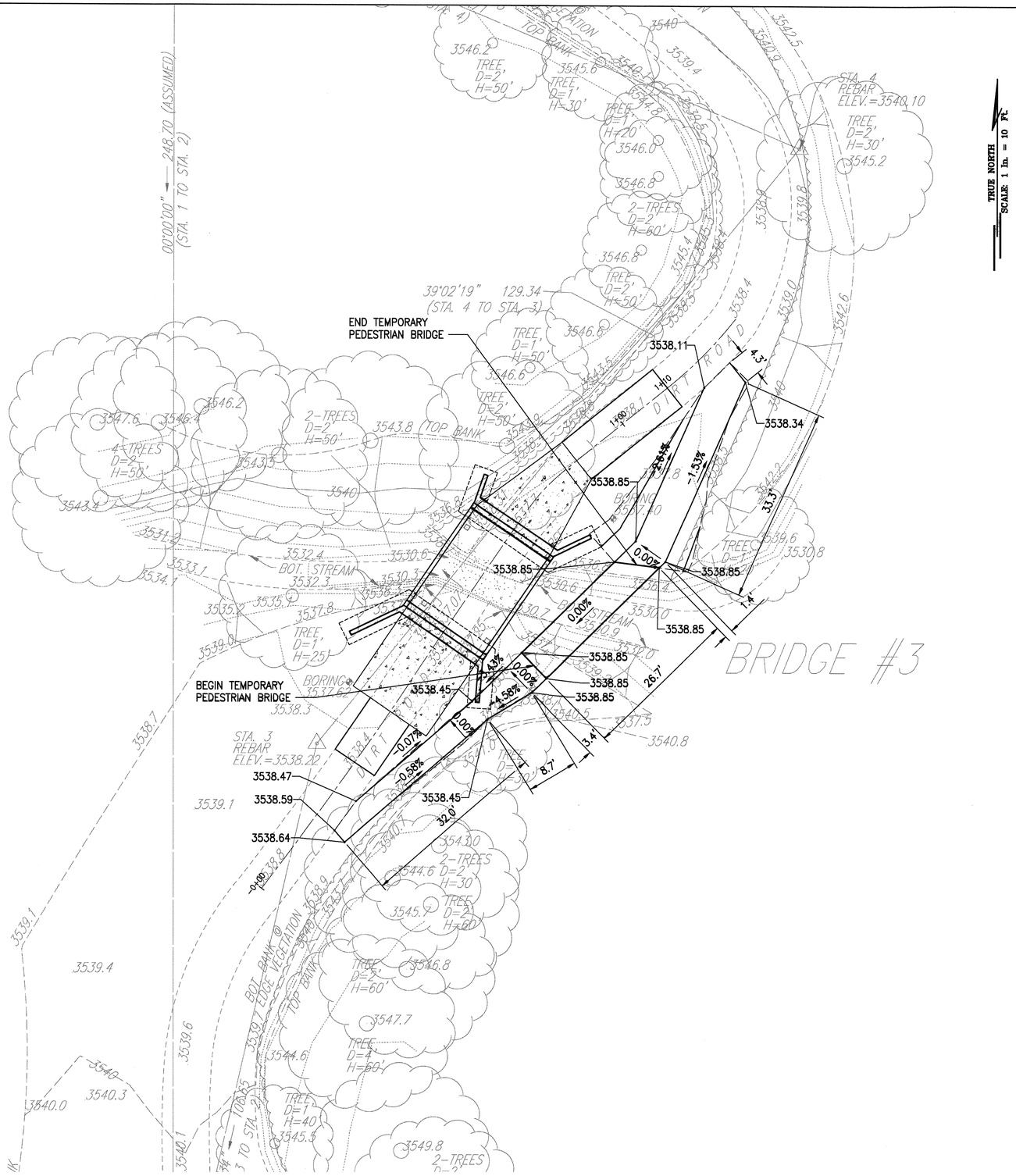

TEMPORARY PEDESTRIAN GRADING PLAN – BRIDGE #3

SCALE: 1" = 10'

GRAPHIC SCALE:

10' 5' 0 10' 20'

SCALE: 1" = 10'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

TEMPORARY PEDESTRIAN
GRADING PLAN - BRIDGE #3

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APPROVED: CHIEF ENGINEER	APR 26 2016 DATE
	DRAWING NO. C-5.3

JOB NO. D01CK62A SHEET NO. 15 OF 32 SHEETS

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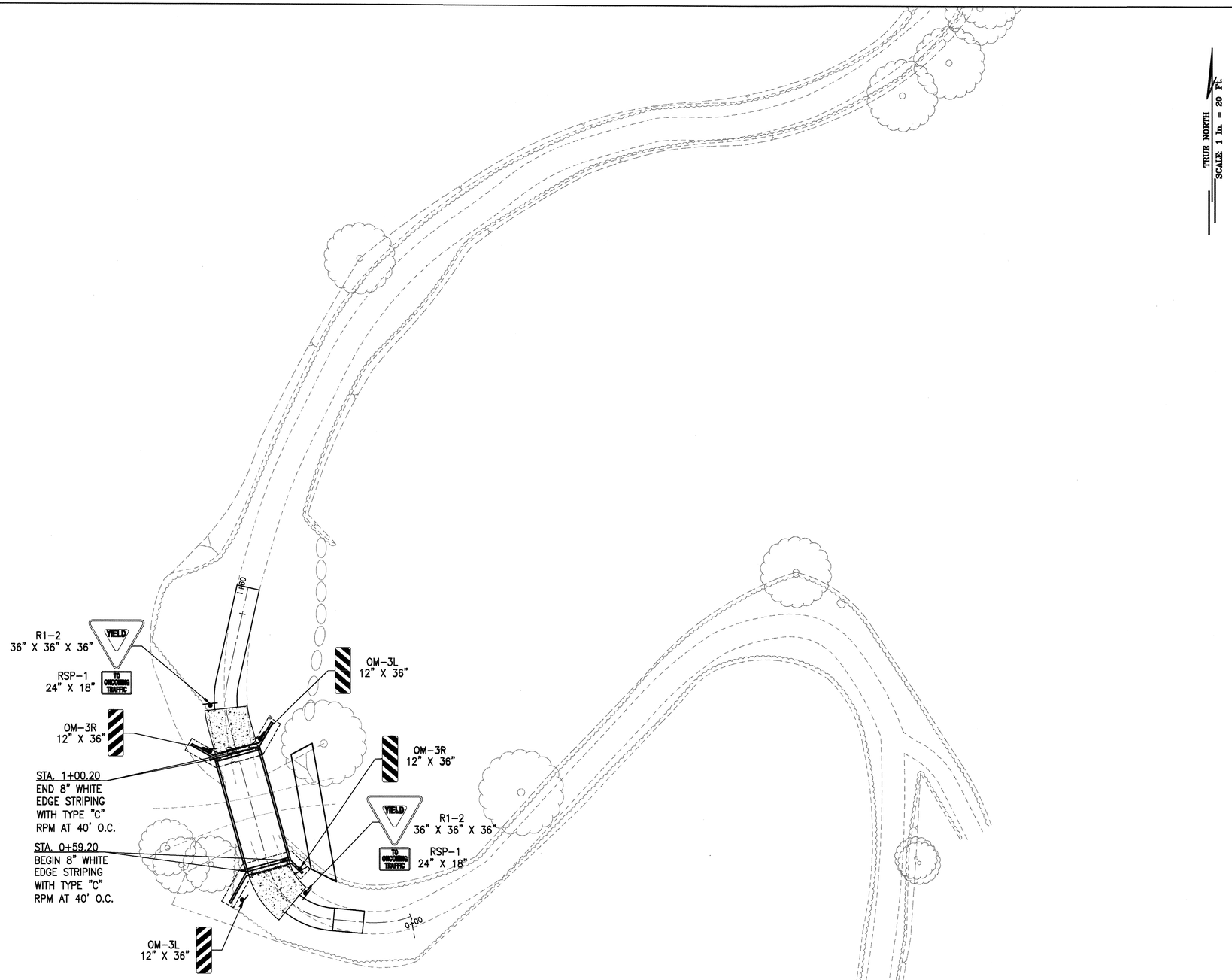

SIGNING AND STRIPING PLAN - BRIDGE #1

SCALE: 1" = 20'

NOTES:

1. LAYOUT OF PAVEMENT MARKINGS AND STRIPINGS SHALL BE DONE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ANY INSTALLATION WORK.
2. FINAL LOCATION OF ALL SIGNS AND REFLECTORS SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY INSTALLATION WORK. ALL SIGNS/REFLECTOR MARKERS WITH STEEL POSTS UNLESS NOTED.
3. ALL EXISTING SIGNS OUTSIDE OF THE PROJECT AREA, WHETHER SHOWN OR NOT ON THE PLANS SHALL REMAIN AS POSTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. REMOVAL AND DISPOSAL OF SIGNS AS ORDERED BY THE ENGINEER SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.

GRAPHIC SCALE:

20' 10' 0 20' 40'

SCALE: 1" = 20'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

CORBY M. MATSUOKA
LICENSED PROFESSIONAL ENGINEER
NO. 10330-C
HAWAII USA

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

SIGNING AND STRIPING
PLAN - BRIDGE #1

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
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APPROVED: CHIEF ENGINEER	APR 26 2016 DATE

DRAWING NO. C-6.1

JOB NO. D01CK62A SHEET NO. 16 OF 32 SHEETS

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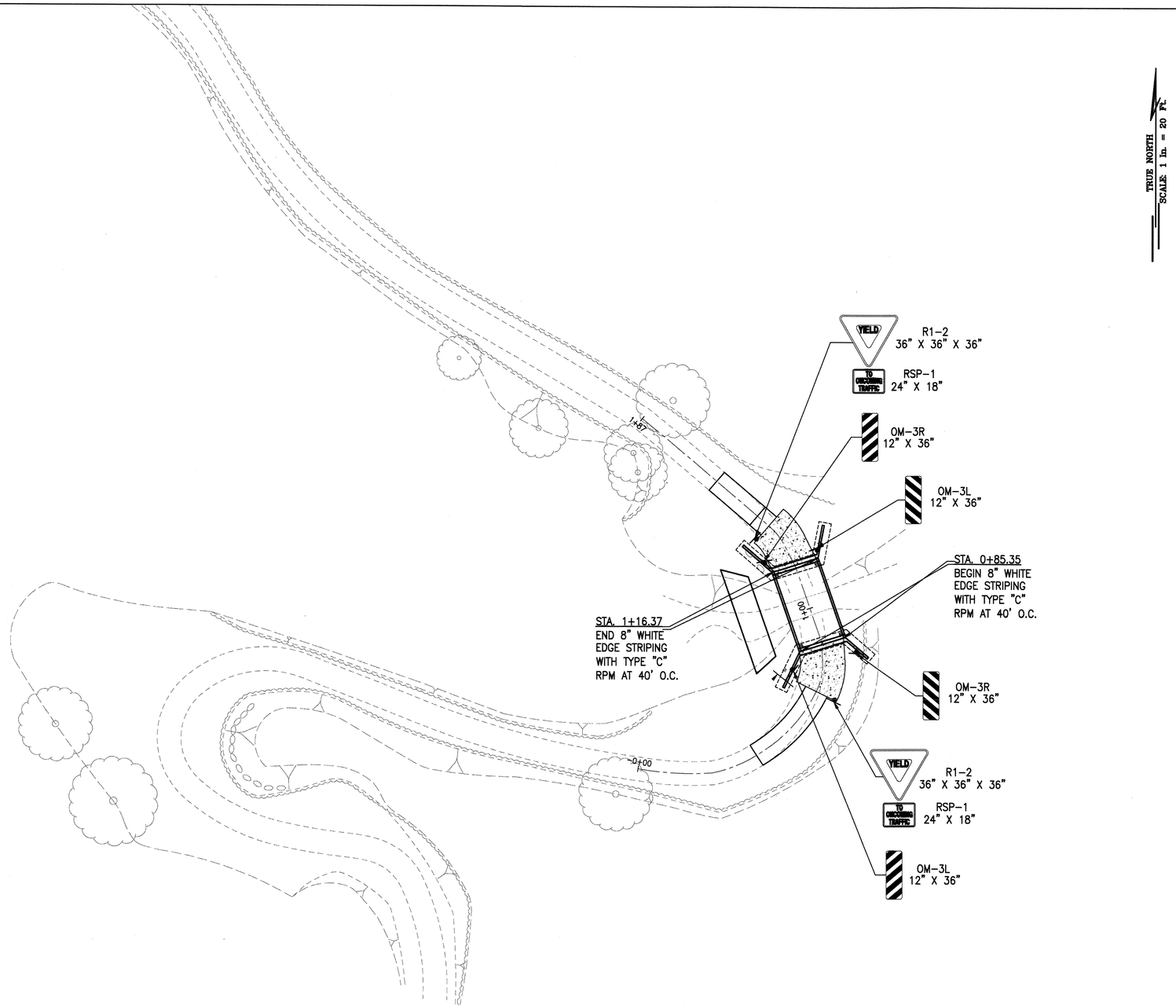

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SIGNING AND STRIPING PLAN – BRIDGE #2

SCALE: 1" = 20'

GRAPHIC SCALE:

20' 10' 0 20' 40'

SCALE: 1" = 20'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

COREY M. MATSUOKA
LICENSED PROFESSIONAL ENGINEER
NO. 10330-C
HAWAII USA

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SIGNATURE
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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

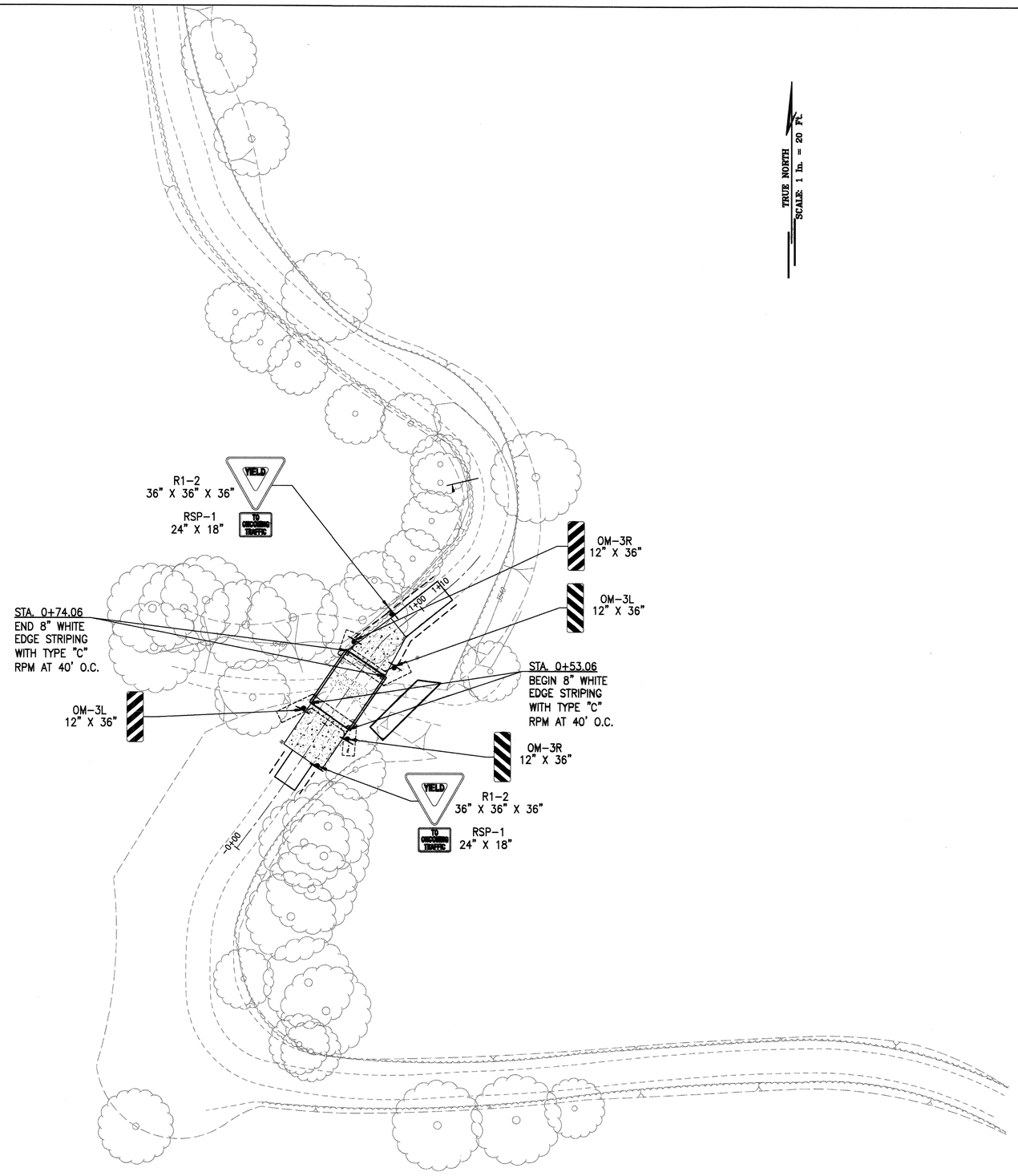
SIGNING AND STRIPING
PLAN - BRIDGE #2

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 2 6 2016 DATE

DRAWING NO. C-6.2

JOB NO. D01CK62A SHEET NO. 17 OF 32 SHEETS

W:_CIVIL 3D PROJECTS\2015_077.000 DLNR CAMP 10 ACCESS RD\01 CIVIL DRAWINGS\SIGNING AND STRIPING PLAN BRIDGE 2.DWG 02/29/16 16:27 CTC



SIGNING AND STRIPING PLAN – BRIDGE #3

SCALE: 1" = 20'

NOTES:

1. LAYOUT OF PAVEMENT MARKINGS AND STRIPINGS SHALL BE DONE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ANY INSTALLATION WORK.
2. FINAL LOCATION OF ALL SIGNS AND REFLECTORS SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY INSTALLATION WORK. ALL SIGNS/REFLECTOR MARKERS WITH STEEL POSTS UNLESS NOTED.
3. ALL EXISTING SIGNS OUTSIDE OF THE PROJECT AREA, WHETHER SHOWN OR NOT ON THE PLANS SHALL REMAIN AS POSTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. REMOVAL AND DISPOSAL OF SIGNS AS ORDERED BY THE ENGINEER SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.

GRAPHIC SCALE:

20' 10' 0 20' 40'

SCALE: 1" = 20'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

COREY M. MATSUOKA
LICENSED PROFESSIONAL ENGINEER
NO. 10330-C
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE
EXP. DATE: 04/30/16

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD
BRIDGE REPAIRS

SIGNING AND STRIPING
PLAN - BRIDGE #3

DESIGNED: CC	SUBMITTED:
DRAWN: EL	DATE: APRIL 4, 2016
CHECKED: CM	SCALE: AS SHOWN
APPROVED: CHIEF ENGINEER	APR 2 6 2016 DATE

DRAWING NO. C-6.3

JOB NO. D01CK62A SHEET NO. 18 OF 32 SHEETS

W:_CIVIL 3D PROJECTS\2015_077.000 DLNR CAMP 10 ACCESS RD\01 CIVIL DRAWINGS\SIGNING AND STRIPING PLAN BRIDGE 3.DWG 02/29/16 16:28 CTC

GENERAL NOTES

A. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS AND COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE DRAWINGS BEFORE COMMENCING THE WORK. REPORT IN WRITING TO THE ENGINEER ALL DISCREPANCIES OBSERVED.

B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.

C. CONSTRUCTION LOADING SHALL NOT EXCEED DESIGN LIVE LOAD UNLESS SPECIAL SHORING IS PROVIDED. ALLOWABLE LOADS SHALL BE REDUCED IN AREAS WHERE THE STRUCTURE HAS NOT ATTAINED ITS FULL DESIGN STRENGTH.

D. DETAILS NOTED AS TYPICAL ON STRUCTURAL DRAWINGS SHALL APPLY IN ALL CONDITIONS UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE.

E. MATERIALS AND WORKMANSHIP TO 2005 STATE OF HAWAII STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SPECIAL PROVISIONS UNLESS NOTED OTHERWISE.

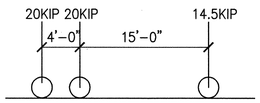
DESIGN CRITERIA

A. DEAD LOAD

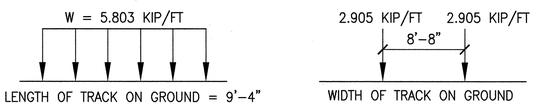
a. CONCRETE – 160 PCF

B. LIVE LOAD

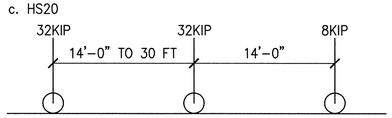
a. 4000 GALLON TANKER TRUCK



b. CATERPILLAR D6



c. HS20



C. SEISMIC LOADS

a. PEAK GROUND ACCELERATION, PGA = 0.055g, As = 0.088g
b. SEISMIC ZONE 1
c. IMPORTANCE CATEGORY = TYPICAL BRIDGE
d. SITE CLASS – D

D. PEDESTRIAN BRIDGE 90 PSF

REINFORCING STEEL

A. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60, UNLESS OTHERWISE NOTED.

B. MINIMUM CLEAR COVER MEASURED FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING BAR SHALL BE AS FOLLOWS, EXCEPT AS OTHERWISE NOTED:

a. ABUTMENTS, WINGWALLS = 2"
b. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
c. BRIDGE DECK: BOTTOM BARS = 1–1/2", TOP BARS = 2–1/2"
d. CLEAR COVER TO BEAM STIRRUPS = 1–1/2"

C. REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE HIGHWAY STRUCTURES UNLESS OTHERWISE NOTED.

D. SPLICE

a. REINFORCING STEEL SHALL BE SPLICED ONLY WHERE INDICATED ON PLANS. PROVIDE LAP SPLICE LENGTH PER AASHTO STANDARDS, UNLESS NOTED OTHERWISE.

b. MECHANICAL SPLICE CONNECTORS SHALL DEVELOP IN TENSION 125 PERCENT OF THE SPECIFIED MINIMUM YIELD STRENGTH OF REINFORCING BARS.

c. BAR BENDS AND HOOKS SHALL BE "STANDARD HOOKS" IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATION 6TH EDITION (2012).

E. MINIMUM CLEAR SPACING BETWEEN PARALLEL BARS SHALL BE 1–1/2 TIMES THE DIAMETER OF BARS (FOR NON BUNDLED BARS) BUT IN NO CASE SHALL THE CLEAR DISTANCE BETWEEN THE BARS BE LESS THAN 1 1/2 TIMES THE MAXIMUM SIZE OF THE COARSE AGGREGATE.

F. ALL DIMENSIONS RELATING TO REINFORCING BARS (E.G. SPACING OF BARS, ETC.) ARE TO CENTERS OF BARS, UNLESS OTHERWISE NOTED.

FOUNDATION

A. FOUNDATION DESIGN IS BASED UPON THE GEOTECHNICAL RECOMMENDATIONS BY HIRATA AND ASSOCIATES IN A REPORT TITLED "GEOTECHNICAL INVESTIGATION CAMP 10 ACCESS ROAD BRIDGE REPAIRS DEPARTMENT OF LAND AND NATURAL RESOURCES DIVISION OF FORESTRY AND WILDLIFE, KAUAI, HAWAII", DATED SEPTEMBER 15, 2015 WITH ADDENDUM 01, DATED FEBRUARY 2, 2016. THE DOCUMENT IS AVAILABLE FOR REVIEW AT THE OFFICE OF THE ENGINEER.

B. CONTRACTOR SHALL PROVIDE FOR DE–WATERING OF EXCAVATION FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE AS REQUIRED.

C. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEETING, AND SHORING NECESSARY TO PRESERVE EXCAVATIONS AND EARTH BANKS, AND ADJACENT STRUCTURES AND PROPERTY FROM DAMAGE.

D. EXCAVATIONS FOR FOOTINGS, ETC., SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACING THE CONCRETE AND REINFORCING. CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN EXCAVATION IS READY FOR INSPECTION.

E. EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE HAS ATTAINED FULL DESIGN STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL WALLS FROM LATERAL LOADS UNTIL BRIDGE SLAB IS COMPLETELY IN PLACE AND HAS ATTAINED FULL DESIGN STRENGTH.

F. ALLOWABLE SOIL BEARING PRESSURE IS 1500 PSF.

G. PRIOR TO PLACEMENT OF FILL, THE EXPOSED SUBGRADE FOR STRUCTURAL FOOTINGS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6", MOISTURE CONDITIONED TO 2% ABOVE OPTIMUM AND COMPACTED BETWEEN 90 – 95% COMPACTION PER ASTM D 1557, OR TO A MINIMUM OF 100% OF THE MAXIMUM WET DENSITY DETERMINED FOR THE SOIL AT THE IN–SITU MOISTURE CONTENT PER ASTM D 1557. MAINTAIN MOIST CONDITION OF THE EXPOSED CLAYEY SILT SUBGRADE PRIOR TO PLACEMENT OF FILL. IT MAY BE NECESSARY TO ADD WATER DURING GRADING OPERATIONS TO MAINTAIN MOISTURE CONTENT OF THE SUBGRADE.

H. IMPORTED STRUCTURAL FILL SHALL BE WELL GRADED, NON–EXPANSIVE GRANULAR MATERIAL. MAXIMUM PARTICLE SIZE SHALL BE 3" WITH BETWEEN 8% – 20% OF THE SOIL BY WEIGHT SHALL PASS THE #200 SIEVE. IN ADDITION, THE PLASTICITY INDEX OF THAT PORTION OF THE SOIL PASSING THE #40 SIEVE SHALL NOT BE GREATER THAN 10.

I. IMPORTED STRUCTURAL FILL SHALL HAVE A CBR EXPANSION VALUE NO GREATER THAN 1.0% AND A MINIMUM CBR VALUE OF 15% PER ASTM D 1883.

J. THE INITIAL 8–INCH LOOSE LIFT OF IMPORTED STRUCTURAL FILL UNDER FOOTINGS SHALL BE COMPACTED TO MINIMUM 90 % COMPACTION, AND REMAINING 8–INCH LOOSE LIFTS SHALL BE COMPACTED TO MINIMUM 95% COMPACTOR PER ASTM D 1557.

K. GRANULAR STRUCTURAL FILL SECTIONS SHALL BE CAPPED BY A MINIMUM OF 12 INCHES LOW PERMEABILITY SOIL, SUCH AS THE ONSITE CLAYEY SILT, COMPACTED IN LIFTS. THE LIFTS SHALL BE PLACED IN HORIZONTAL LIFTS LIMITED TO 8 INCHES LOOSE THICKNESS COMPACTED BETWEEN 90% TO 95%, OR TO A MINIMUM OF 100% OF THE MAXIMUM WET DENSITY FOR THE SOIL AT ITS IN–SITU MOISTURE CONTENT PER ASTM D 1557.

CONCRETE

A. CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF f'c = 4,000 PSI.

B. PRECAST CONCRETE BRIDGE DECK MINIMUM 28 DAY COMPRESSIVE STRENGTH OF f'c = 4,000 PSI.

C. PRECAST CONCRETE BRIDGE GIRDER MINIMUM 28 DAY COMPRESSIVE STRENGTH OF f'c = 5,000 PSI.

D. WATER CEMENT RATIO NOT TO EXCEED 0.45 FOR ALL CONCRETE.

E. ALL INSERTS, ANCHOR BOLTS, PLATES, ETC. EMBEDDED IN CONCRETE SHALL BE HOT–DIPPED GALVANIZED UNLESS NOTED OTHERWISE.

F. EXPANSION JOINT MATERIAL SHALL BE ASTM D1752 CLOSED CELL POLYVINYL CHLORIDE FOAM, RESILIENCY RECOVERY OF 95 PERCENT IF NOT COMPRESSED MORE THAN 50 PERCENT OF ORIGINAL THICKNESS.

CONSTRUCTION NOTES

A. EXCEPT AS OTHERWISE NOTED ALL VERTICAL DIMENSIONS ARE MEASURED PLUMB.

B. FOR CONCRETE FINISH SEE SPECIFICATIONS.

C. IN GENERAL, TOP OF CONCRETE DECK SLAB SHALL BE CONSTRUCTED TO FOLLOW THE ROADWAY VERTICAL AND HORIZONTAL CURVES.

D. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS.

E. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITY LINES AND NOTIFY THE RESPECTIVE OWNERS BEFORE COMMENCING WITH WORK.

F. UNLESS OTHERWISE NOTED, ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4" X 3/4".

G. THE CONTRACTOR TO TAKE ADEQUATE PRECAUTIONS TO PREVENT CONCRETE AND OTHER CONSTRUCTION DEBRIS FROM ENTERING THE STREAMS.

H. PAINT ON THE EXISTING BRIDGES IS TO BE ASSUMED TO CONTAIN LEAD BASED PAINT. CONTRACTOR TO ASSUME ABATEMENT IS REQUIRED. CONTRACTOR TO TEST FOR LEAD BASED PAINT AND INFORM THE ENGINEER OF THE TEST RESULTS. PROVIDE COST FOR LEAD ABATEMENT EFFORT. CONTRACT COST TO BE ADJUSTED SHOULD LEAD ABATEMENT NOT BE REQUIRED.

I. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF HIS PLANNED WORK SCHEDULE A MINIMUM OF 48 HOURS IN ADVANCE TO ALLOW FOR INSPECTION OF THE WORK.

PEDESTRIAN BRIDGE

A. CONTRACTOR IS RESPONSIBLE TO DESIGN AND CONSTRUCT TEMPORARY PEDESTRIAN BRIDGE AT EACH SITE TO ALLOW PEDESTRIAN ACCESS DURING CONSTRUCTION. THE CHOICE OF MATERIALS USED SHALL BE BY THE CONTRACTOR. DESIGN OF THE PEDESTRIAN BRIDGE SHALL CONFORM WITH AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, AND AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE MAXIMUM CLEAR OPENING BETWEEN HORIZONTAL; AND/OR VERTICAL ELEMENTS FOR THE LOWER 27" OF THE RAILING SHALL BE 4" INSTEAD OF 6" DIAMETER SPHERE CLEARANCE CRITERIA INDICATED IN THE AASHTO CODE.

B. CONTRACTOR TO COMPLETE DESIGN AND CONSTRUCT PEDESTRIAN BRIDGE AND ACCESS PATH PRIOR TO DEMOLITION OF THE EXISTING BRIDGE AT EACH LOCATION.

C. FOOTINGS AND EXCAVATION SHALL NOT EXTEND PAST THE TOP OF THE STREAM BANK.

D. THE PEDESTRIAN BRIDGE SHALL BE REMOVED AFTER CONSTRUCTION OF THE PERMANENT BRIDGE AND THE SITE RESTORED TO MATCH THE CONDITION PRIOR TO THE START OF THE WORK.

E. THE PEDESTRIAN BRIDGE SHALL BE THE PROPERTY OF THE CONTRACTOR AFTER CONSTRUCTION IS COMPLETED.

ABBREVIATION LIST:

Ø	DIAMETER
#	NUMBER OR POUND
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
A.B.	ANCHOR BOLT
A.C.	ASPHALT CONCRETE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
AZ.	AZIMUTH
BOT., BOTT.,	BOTTOM
C.J.	CONSTRUCTION JOINT
℄	CENTERLINE
C.G.	CENTER OF GRAVITY
C.G.S.	CENTER OF GRAVITY OF STEEL
CLR., CL.	CLEAR
CONC.	CONCRETE
CONT.	CONTINUOUS
C.Y.	CUBIC YARD
DBL.	DOUBLE
DET.	DETAIL
D.I.	DUCTILE IRON
DIA.	DIAMETER
DN.	DOWN
DWG.	DRAWING
E.F.	EACH FACE
E.J.	EXPANSION JOINT
ELEV., EL.	ELEVATION
EQ	EQUAL
E.W.	EACH WAY
EXP.	EXPANSION
F.B.	FLAT BAR
F.F.	FAR FACE
G	GIRDER
GALV.	GALVANIZED
G.J.	GROOVED JOINT
H	HEIGHT
HORIZ., H	HORIZONTAL
IN.	INCH
JT.	JOINT

K	KIPS
KSI	KIPS PER SQUARE INCH
LB., LBS	POUND, POUNDS
L.F.	LINEAR FEET
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
L.S.	LUMP SUM
MAX.	MAXIMUM
MIN.	MINIMUM
NO., #	NUMBER
N.F.	NEAR FACE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
PCF	POUNDS PER CUBIC FEET
PL., ℙ	PLATE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC.	POLYVINYL CHLORIDE
R, RAD.	RADIUS
REBAR.	REINFORCING BAR
REF.	REFERENCE
REINF.	REINFORCED, REINFORCING, REINFORCEMENT
R.O.W.	RIGHT OF WAY
SHT.	SHEET
SL.	SLOPE
STA.	STATION
STD.	STANDARD
STIRR.	STIRRUP
SYM., SYMM.	SYMMETRICAL
S.S.	STAINLESS STEEL
THK., TH.	THICK
TYP.	TYPICAL
VERT., V	VERTICAL
W/	WITH

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MYRON G. OKUBO
LICENSED PROFESSIONAL ENGINEER
NO. 4320-S
HAWAII U.S.A.

04/30/18
EXPIRATION DATE OF THE LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

CAMP 10 ACCESS ROAD BRIDGES
WAIMEA, KAUAI, HAWAII

GENERAL NOTES

DESIGNED: LM
SUBMITTED:
DRAWN: NS/LC
DATE: APRIL 4, 2016
CHECKED: MO
SCALE:
APPROVED:
CHIEF ENGINEER
APR 26 2016
DATE
DRAWING NO. S-1

JOB NO. D01CK62A