

GENERAL NOTES:

1. The scope of work for this project includes the removal and replacement of bridge deck expansion joints and spall repairs at eight bridges at various locations on Kauai.
2. The contractor is reminded of the requirements of Subsection 105.16 - Subcontracts.
3. The contractor's attention is directed to the following Sections of the Special Provisions: Subsection 107.06 - Contractor Duty Regarding Public Convenience; Subsection 104.11 - Utilities and Services; and Section 645 - Work Zone Traffic Control.
4. Any work specified in the contract but not listed separately in the proposal schedule shall be considered incidental to various items and shall not be paid separately.
5. The Contractor shall notify the Engineer in writing, through the e-construction platform, two (2) weeks prior to starting of his operations.
6. At the end of each day's work, the Contractor shall remove all equipment and other obstruction to permit free passage of public traffic and pedestrians.
7. All lanes shall be open to traffic during peak hours of 6:30 a.m. to 8:30 a.m., during afternoon peak hours from 3:30 p.m. to 6:30 p.m., and during off work hours. Only one lane of the highway shall be closed at any other time. Failure of the Contractor to open all lanes of traffic during the times specified above shall result in assessment of rental fees as specified in Section 108.09 - Rental Fees for Unauthorized Lane Closure or Occupancy.
- 7a. Lane closures are allowed as specified in Section 645 - Work Zone Traffic Control of the Special Provisions.
8. All workers within the State right-of-way who are exposed to either vehicles using the roadway or to construction equipment shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of ANS/I/SEA 107-2004. "Workers" is defined as people on foot whose duties place them with the State right-of-way, such as, but not limited to construction and maintenance forces, equipment operators, survey crews, utility crews, responders to incidents (e.g. EMT and Firemen), and law enforcements personnel directing traffic, investigating accidents, handling lane closures and obstructed roadways.

9. No material or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designated in writing and approved by the Engineer. Prior to start of work, the contractor shall obtain a permit to use the property within the highway right-of-way from the State Highways Division at telephone no. (808) 241-3000 or dot.hwyk.permits@hawaii.gov.
10. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
11. Prior to construction, the Contractor shall contact the various utility agencies for location of existing utilities within the project limits. The Contractor shall locate and protect all existing utilities whether or not shown on the plans. Any cost incurred by damages to existing utilities will be borne by the Contractor. Contractor shall request from One-Call Center, Ph./866-423-7278. The Contractor shall also call the County of Kauai, Department of Water, PH (808) 245-5400 and the Wastewater Division, Ph. (808) 241-6642 for toning waterlines and sewerlines respectively. The Contractor shall document this effort in the e-construction platform.
12. All works of toning, probing, hand digging, and all other means of utility verifications shall not be paid for separately, but shall be considered incidental to the various contract items.
13. The Contractor shall provide for access to and from all existing driveways, sidewalk and ADA access routes, and side streets and cross streets at all time. This work shall be considered incidental to the various contract items.
14. Existing drainage system will be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, and tools to maintain flow. This work shall be considered incidental to the various contract items.
15. The contractor, at his own expense, shall keep the project area and surrounding area free from dust nuisance.
16. Smooth riding connections shall be constructed at all limits of construction including the beginning and end of project, connecting approaches, side streets and driveways as shown on the plans, unless otherwise approved in writing by the Engineer.

17. The Contractor shall exercise extreme caution to preserve all existing right-of-way, centerline, as-built, construction, and NGS (horizontal and vertical in the NGS database) monuments located within the State of Hawaii right of way. If monuments are disturbed or destroyed, the Engineer shall be notified. Reconciliation to the Right-of-Way Baseline and/or a boundary study and determination may be required prior to re-installation of the disturbed or destroyed monuments. The Engineer shall be contacted for guidelines and procedures prior to construction.

A State of Hawaii Licensed Surveyor shall perform the location and staking of the reset monument. The DOT Standard Plans & Specifications, with the exception of NGS monuments which shall have a NGS approved "brass disk" marker, shall be referenced for the monument type and materials.

Any NGS vertical monuments that are deemed necessary for relocation due to construction shall follow the NGS benchmark reset procedures written by Curtis Smith dated September 2010 or newer. All work must be done by an electronic digital level that is acceptable by NGS for second-order class one or higher work. The surveyor must use two one-piece invar barcode rods with current certifications with struts with 15 lbs. turning plate or turtles; and/or turning pin with driving cap and temperature readings. Contact NGS prior to any work to ensure all equipment meets reset specifications. A State of Hawaii Licensed Surveyor shall perform the relocation. All work must be submitted both in electronic and hard copy formats to NGS and the Engineer.

All monument work shall be considered incidental to this project, unless noted otherwise.

18. No sections where guardrail has been removed shall be left unattended at the end of each work day. Open sections shall be shielded by Portable Concrete Barrier, unless otherwise approved by the Engineer. For Portable Concrete Barrier details, refer to Standard Plans TE-42 and TE-43, Furnishing, installing, and maintaining of these devices shall be considered incidental to the various contract items and will not be paid separately.
19. Removal and disposal of existing structures or elements that are required to be removed to accomplish the work, but are not listed in the proposal schedule or shown on the contract plans shall be considered incidental to the various contract items and will not be paid separately.
20. All saw cutting work and removal shall be considered incidental to the various contract items and will not be paid separately.

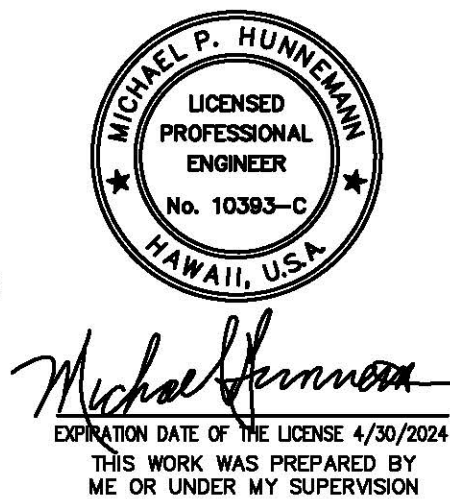
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.4	41

21. The Contractor, at his own expense shall hydro-mulch and maintain per Section 641 - Hydro-Mulch Seeding of the HDOT Standard Specification all areas disturbed by his operations.
22. Earth swale shall be graded to drain. Graded swales and shoulder shall be grassed. This work shall be considered incidental to the various contract items.
23. Trimming and dressing of shoulder, sidewalk and bus turnout shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable materials as shown on the plans and/or as directed by the Engineer. Suitable materials shall include materials from roadway excavation, including topsoil and base material therefrom, and if necessary, additional materials from borrow outside the limits of the right of way. Asphalt concrete removed from cold planning, reconstruction and roadway excavation shall not be used for dressing of shoulders, sidewalk or bus turnout. This work shall be considered incidental to the various contract items.

Additional notes pertaining to paving scope

24. Prior to paving operations, the Contractor shall be responsible for locating, preserving and marking all utilities and Highway facilities that will require adjustments to the new finished pavement grade. Additionally, the Contractor shall submit to the Engineer a list of all items, including water, drainage, sewer, electrical, telephone and cable utilities to be adjusted to the new finished grade.
25. The exact locations and limits or areas to be excavated, reconstructed and cold planed shall be determined in the field by the Engineer.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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6/9/23	1 - Revised Note
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION GENERAL NOTES -1 MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	
C-1 SHEET No. 4 OF 41 SHEETS	

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26. All asphalt concrete materials from cold planning, reconstruction and roadway excavation operations shall become the property of the Contractor. The Contractor shall remove and dispose these materials and shall be considered incidental to the various contract items. The Contractor shall provide the Solid Waste Disclosure notice to the HDOT Engineer.

27. At the end of each day's paving operation, temporary pavement markers and striping shall be in place prior to leaving the site.

28. After completion of resurfacing, the Contractor and the Engineer will test for, and determine ponding areas (i.e. low spots within the resurfaced area). It shall be the responsibility of the Contractor to correct and resurface and/or repair all such ponding areas.

Additional notes pertaining to grading scope

29. Slope protection should be established as soon as cut or fill slope is completed to reduce erosion potential.

30. No Contractor shall perform any grading work operations to cause rocks, soil, or debris in any form to fall, slide or flow onto adjoining properties, streets, or natural watercourse.

31. No Grading work shall be done on Saturdays, Sundays and Holidays, unless otherwise approved by the Engineer.

32. Temporary measures to control erosion and other pollutants shall be placed before any earth moving phase of the grading is initiated. Temporary erosion control shall not be removed before permanent erosion controls are in place and established. Temporary erosion control procedures shall be submitted to the Engineer for review and approval. This work shall be considered incidental to the various contract items and will not be paid separately.

33. A Grading Permit is required from the County "Department of Public Works" for the disposal of wasted excavated materials. Disposal site shall comply with the County's Sediment and Erosion Control Ordinances No. 808. This work shall be considered incidental to the various contract items and will not be paid separately.

34. No material or equipment shall be stored within County right-of-way, unless otherwise approved by the County and Engineer.

35. A Road Permit is required from the County "Department of Public Works" for the construction and warning sign installation within County right-of-way. Three (3) sets of the approved plans shall be submitted at the time when the Road Permit is applied for. Additionally, the applicant will need to provide Certificate of Liability Insurance naming the County as additionally insured. This work shall be considered incidental to the various contract items and will not be paid separately.

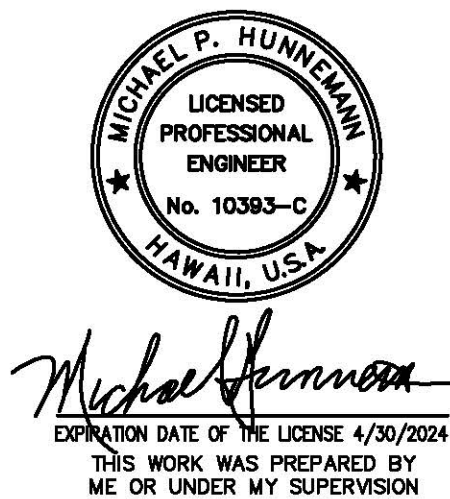
1 36. The Contractor shall obtain a Department of Health Noise Variance permit, and submit a copy to the Engineer, before beginning night work.

ABBREVIATIONS

A.C.	Asphalt Concrete	Min	Minimum
BC	Bottom of Curb	Misc	Miscellaneous
Blvd.	Boulevard	M.P.	Mile Post
Bot	Bottom	MPH	Miles Per Hour
Btwn	Between	N/A	Not Applicable
CL	Centerline	No. or #	Number
CJ	Construction Joint	N.I.C.	Not In Contract
Cir.	Circular	NTS	Not To Scale
Clr	Clear	O.C.	On Center
Conc	Concrete	O.D.	Outside Diameter
Cont	Continuous	Opng	Opening
Dbl	Double	Rad	Radius
Dia (D)	Diameter	Pav't	Pavement
Dwg	Drawing	PL or PL	Plate
Ea	Each	Ref	Reference
E.F.	Each Face	Reinf.	Reinforcing
Elev or El	Elevation	Req'd	Required
Eq	Equal	R.O.W.	Right-of-Way
E.W.	Each Way	SF	Square Feet
Exist or (E)	Existing	Sht	Sheet
Fin	Finish	Sp	Spaces or Spacing
Ft	Foot or Feet	Sta.	Station
Ftg	Footing	Temp	Temporary
Gnd	Ground	Thru	Through
Grd	Grade	Typ	Typical
Horiz	Horizontal	UNO	Unless Noted Otherwise
Ht	Height	Vert	Vertical
Hwy	Highway		
Max	Maximum		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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6/9/23	1 - Added Note
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION GENERAL NOTES - 2 MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	
C-1A	SHEET No. 5 OF 41 SHEETS

ADD.5

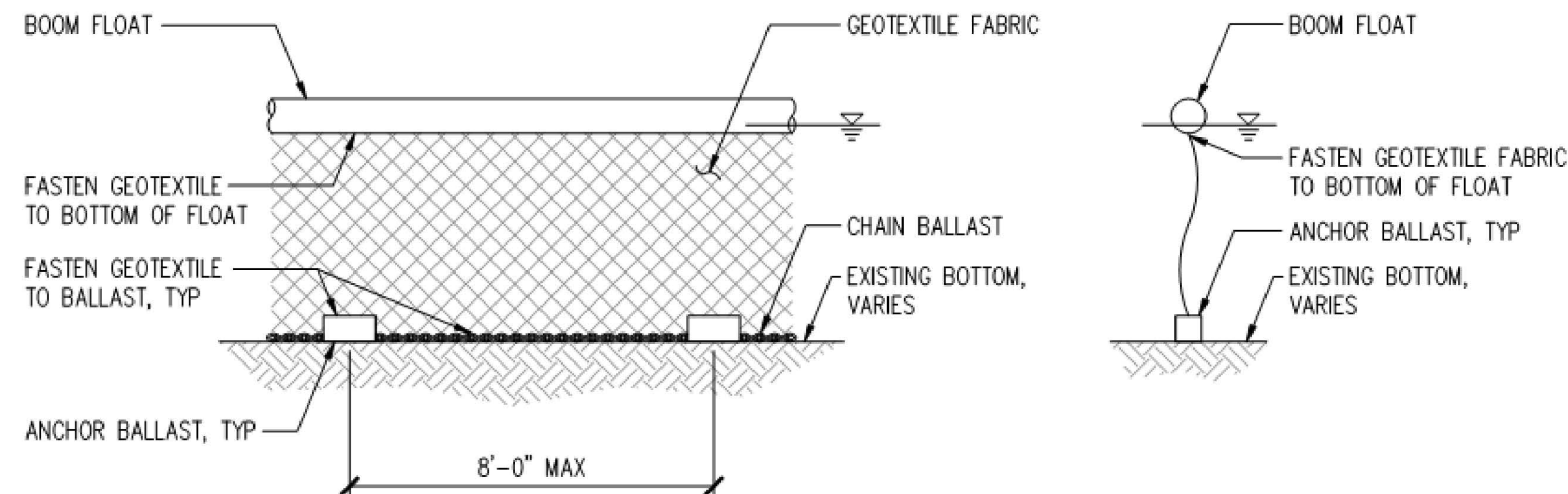
Water Pollution And Erosion Control
Notes (Continued) (State)

GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES (CONT'D.):

4. Spill Control Plan
- Post a spill prevention plan to include measures to prevent and clean up each spill.
 - The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area and in the office trailer onsite.
 - Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.
 - Keep materials and equipment necessary for spill cleanup in the material storage area onsite.
 - Clean up all spills immediately after discovery.
 - Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
 - Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size.

PERMIT REQUIREMENTS:

- If a National Pollutant Discharge Elimination System (NPDES) Permit is required for Construction Activities of one acre or more, submit to the Engineer six sets of the Water Pollution and Erosion Control Submittals as detailed in Subsection 209.03 of the specifications. The Contractor's attention is directed to the applicable NPDES Permit documents on the bid package compact disc.
- If an NPDES Permit for Construction Dewatering is required, the Contractor shall be responsible to obtain the Permit from the Department of Health, Clean Water Branch.
- Comply with all applicable State and Federal Permit conditions. Permits may include but are not limited to the following:
 - NPDES Permit for Construction Activities
 - NPDES Permit for Construction Dewatering
 - NPDES Permit for Hydrotesting Waters
 - Water Quality Certification
 - Stream Channel Alteration Permit
 - Section 404 Army Corps of Engineer Permit



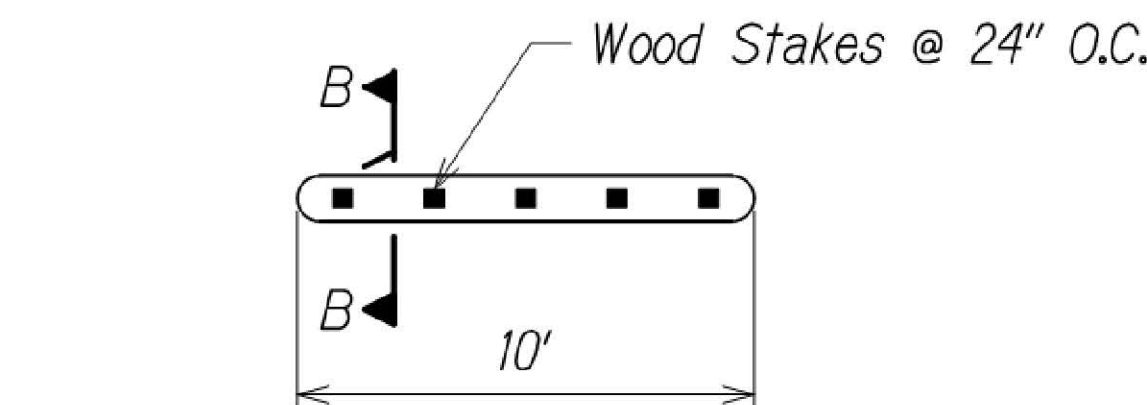
ELEVATION

SECTION

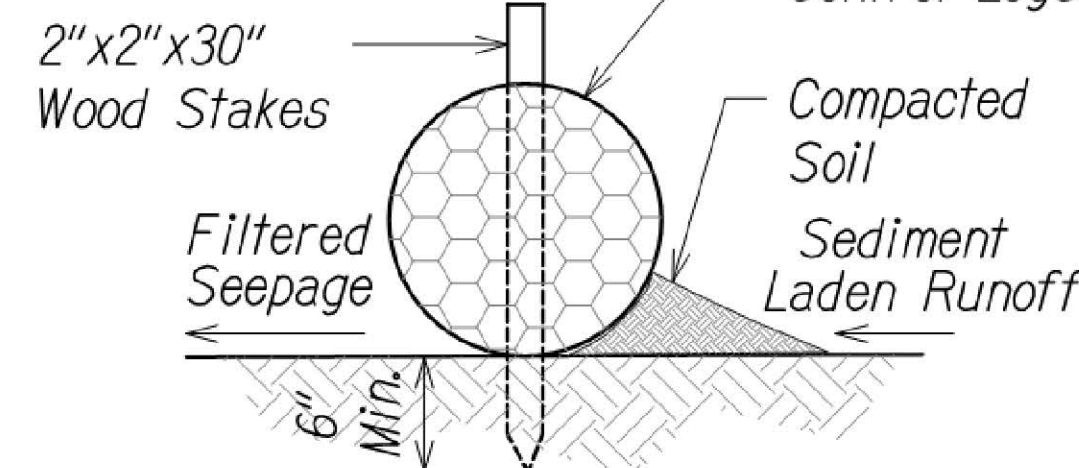
SILT CURTAIN DETAIL

1
C-1d

Not to Scale



PLAN



SECTION "B"

NOTES:

- Stake sediment logs in place with 2"x2"x30" wood stakes space no less than 24" apart unless otherwise noted. Drive stakes into ground a minimum of 6".
- Staking shall be installed per manufacturer's recommendations.
- Minimum overlap of sediment control logs shall be 2' on the horizontal plane.
- Install sediment control logs directly on ground making sure bottom of log is in full contact with ground. Tamp soil backfill against upstream side of log to assure storm water is forced flow through log rather than under it.

SEDIMENT LOG DETAIL

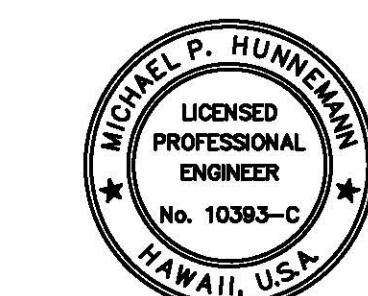
2
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.8	41

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ORIGINAL PLAN	No.
NOTE BOOK	



Michael P. Hunneman
EXPIRATION DATE OF THE LICENSE 4/30/2024
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

6/9/23	1 - Added Details
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION BMP AND ENVIRONMENTAL NOTES - 2 MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	
C-1D	SHEET No. 8 OF 41 SHEETS

ADD.8

Structural General Notes:

General:


- A. Workmanship and materials shall conform to the following design specifications:
1. AASHTO LFRD bridge design specifications, 9th edition, 2020 including all interim revisions.
 2. State of Hawaii, Department of Transportation, Highways Division, Design Criteria for Bridges and Structures, August 8, 2014 as amended by HWY-DB 2.5098, changes to Design Criteria for Bridges and Structures, January 8, 2018.
 3. AASHTO Manual for Assessing Safety Hardware, 2nd edition, 2016.
 4. Hawaii Standard Specifications for Road and Bridge construction (2005 edition) and special provisions.
- B. The contractor shall compare all the contract documents with each other and report in writing to the engineer all inconsistencies and omissions.
- C. The contractor shall take field measurements and verify field conditions and shall compare such field measurements and conditions with the drawings before commencing work. Report in writing to the engineer all inconsistencies and omissions.
- D. The contractor shall be responsible for coordinating the work of all trades.
- E. The contractor shall be responsible for means and methods of construction, workmanship and job safety.
- F. The contractor shall provide temporary shoring and bracing as required for stability of structural members and systems. The contractor is responsible for the design of the shoring.
- G. Construction loading shall not exceed design live load unless special shoring is provided. Permitted construction loads shall be properly reduced in areas where the structure has not attained full design strength.
- H. The contractor shall be responsible for protection of the adjacent properties, structures, streets and utilities during the construction period. Any damaged or deteriorated property shall be restored to the condition prior to the beginning of work or better at no cost to the county.
- I. Details noted as typical on the structural drawings shall apply in all conditions unless specifically shown or noted otherwise.
- J. Elevations and details of the existing bridges and other miscellaneous structures as shown on these plans are based on as-built drawings. The contractor shall be responsible for verifying all existing elevations and existing structure details and shall notify the engineer in writing of any discrepancies for further action.
- K. Except as noted otherwise, all vertical dimensions are measured plumb.

Reinforcing steel:

- A. Deformed and plain carbon steel bars for concrete reinforcement shall meet the requirements of AASHTO M31m/M31-19, Grade 60 (ASTM A615/ A615M-16, Grade 60); and shall be epoxy coated according to ASTM A775, unless otherwise noted.
- B. The welding of reinforcing steel shall be in accordance with the structural welding code-reinforcing steel AWS D1.4.
- C. Clear concrete cover for reinforcing bars shall be as follows, unless otherwise noted:
1. Footing, walls, etc, cast against earth ----- 3"
 2. Exterior concrete other than above ----- 2"
 3. Bridge deck
 - Top reinforcement ----- 2 1/2"
 - Bottom reinforcement ----- 1 1/2"measured to the closest part of the bars.
- D. At the time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings which may adversely affect bond strength.
- E. Minimum clear spacing between parallel bars shall be one and one-half (1 1/2") times the diameter of the larger bar (for non-bundled bars), but in no case shall the clear distance between the bars be less than one and one-half (1 1/2") times the maximum coarse aggregate size.
- F. All dimensions relating to reinforcing bars (E.G. Spacing of bars etc.) are to centers of bars unless noted otherwise.
- G. Reinforcing steel shall be spliced only where indicated on plans. Provide lap splice length per typical details and schedule, unless otherwise noted.
- H. Mechanical splice connectors shall develop, in tension, 125 percent of the specified minimum yield strength of reinforcing bars.
- I. Stagger all splices where possible.
- J. Bar bends and hook shall be "standard hooks" in accordance with typical details.
- K. Minimum reinforcement bend diameters shall comply with AASHTO 5.10.2.3.

Existing concrete:

- A. Verify location of existing reinforcement with an electromagnetic rebar locator before drilling holes into existing concrete. Holes may need to be adjusted to avoid existing reinforcement.
- B. Contractor shall not damage, cut or drill through existing reinforcing that is to remain and as noted on plans. If reinforcing is damaged, the contractor shall inform the engineer immediately and shall be responsible for repairing the damage at contractor's sole expense and to the satisfaction of the engineer.
- C. All holes which need to be abandoned due to the presence of reinforcing, shall be filled with non-shrink grout.
- D. The contractor will not be paid for the holes which need to be filled and abandoned. The engineer shall review and approve all relocated holes prior to installing dowels.
- E. All drilled holes for anchors shall be brushed to remove loose material then cleaned with compressed air, prior to injecting the epoxy.

- F. Anchoring adhesive shall be a two-component 100% solids epoxy based system supplied in manufacturer's standard side-by-side cartridge and dispensed through a static-mixing nozzle supplied by the manufacturer. Epoxy shall meet the minimum requirements of ASTM C-881 specification for type IV, Grade 3, Class C and must develop a minimum of 12,650 psi compressive yield strength after 7 day cure. Epoxy must have a heat deflection temperature of a minimum 136 deg. F (58 deg. C).  Epoxy shall be formulated for optimum performance in both cracked and uncracked concrete (Simpson Set-XP or approved equal).

Surface preparation notes for spall repairs:

- A. Deteriorated concrete shall be removed down to sound substrate, or to the specified depth as noted in the spall repair details. Sawcut all edges minimum of 3/4" deep, no feathering of patching material is allowed. Avoid cutting any reinforcing steel when sawcutting. The exposed concrete shall be roughened to a 1/8" amplitude and shall be cleaned and free of laitance, dust and other bond inhibiting materials.
- B. All reinforcing steel damaged due to the contractor's operations shall be repaired by the contractor at his/her expense and to the satisfaction of the engineer.
- C. All loose, soft, honey-combed, disintegrated concrete, plus 3/4 inch minimum depth of concrete beyond the back face of the rebar within the spall area shall be removed.
- D. After completion of the removal operation, the engineer will resound the areas to ensure that only sound concrete remains.
- E. Cleaning shall precede application of the patching material by not more than 24 hours.

Polymer modified patching mortar:

- A. Patching mortar shall be a polymer modified mortar, have high abrasion resistance and shall be suitable for horizontal, vertical and overhead surfaces. The minimum bond strength provided by the patching mortar shall be 2,000 psi after 28 days (ASTM C-882). Refer to manufacturer's specifications for preparation and application guidance.

Curing:

- A. As per ACI recommendations for portland cement concrete, curing is required. Follow the manufacturer's recommendation for curing material and procedure.


Multiple lifts:

- A. Follow the manufacturer's limitations for maximum thickness for application of patching mortar. If the required thickness of a repair is greater than the single application limit, multiple lifts are required. Large, unconfined or overhead repairs may also require multiple lifts. If successive lifts are to be applied, roughen the surface of the previous lift and apply subsequent lifts within the time period, both as recommended by the manufacturer.



Michael P. Hunneman
EXPIRATION DATE OF THE LICENSE 4/30/2024
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.9	41

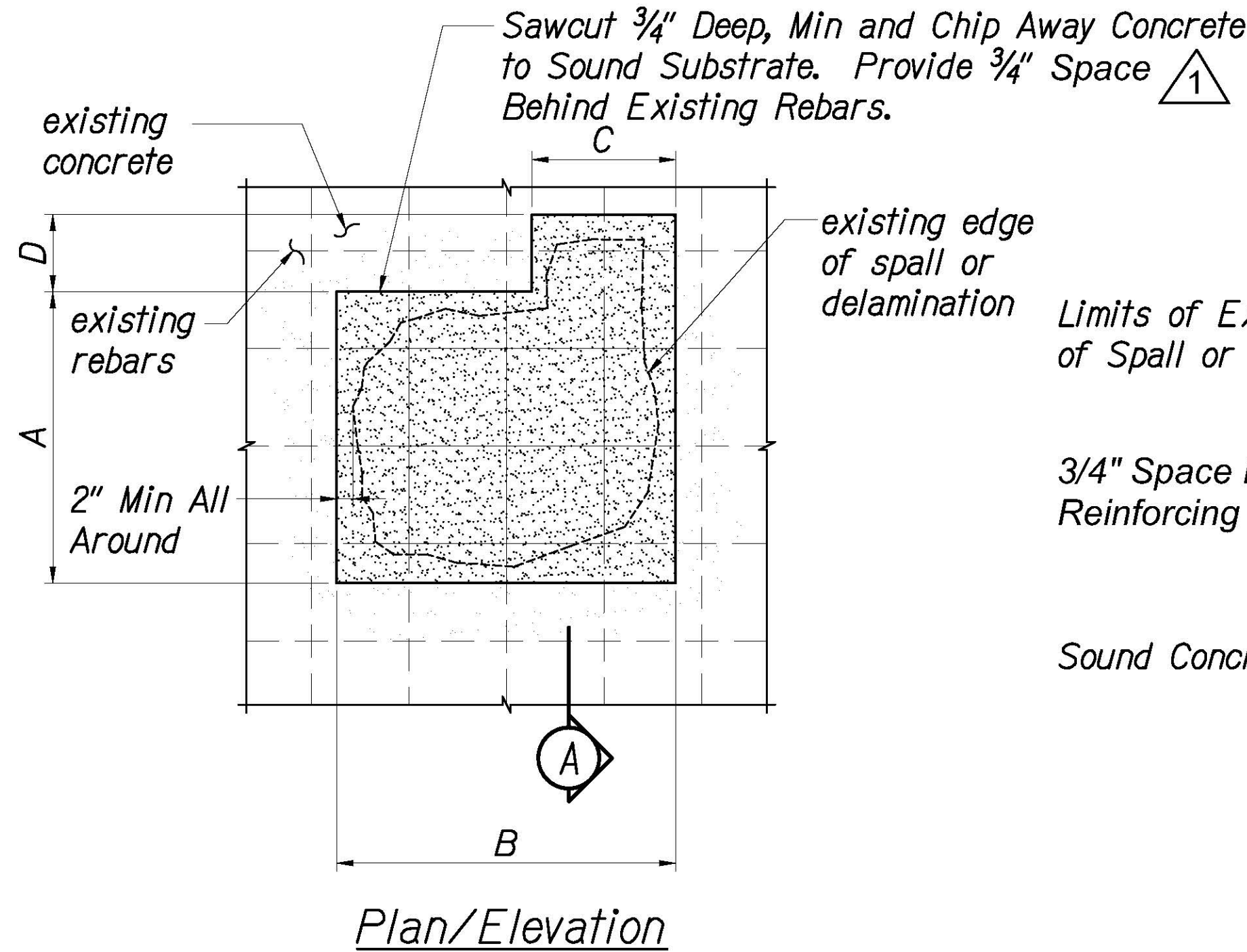
6/9/23	 - Revised Note
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION STRUCTURAL GENERAL NOTES MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M	
Scale: As Shown	Date: May 2023
C-1E	SHEET No. 9 OF 41 SHEETS

ADD.9

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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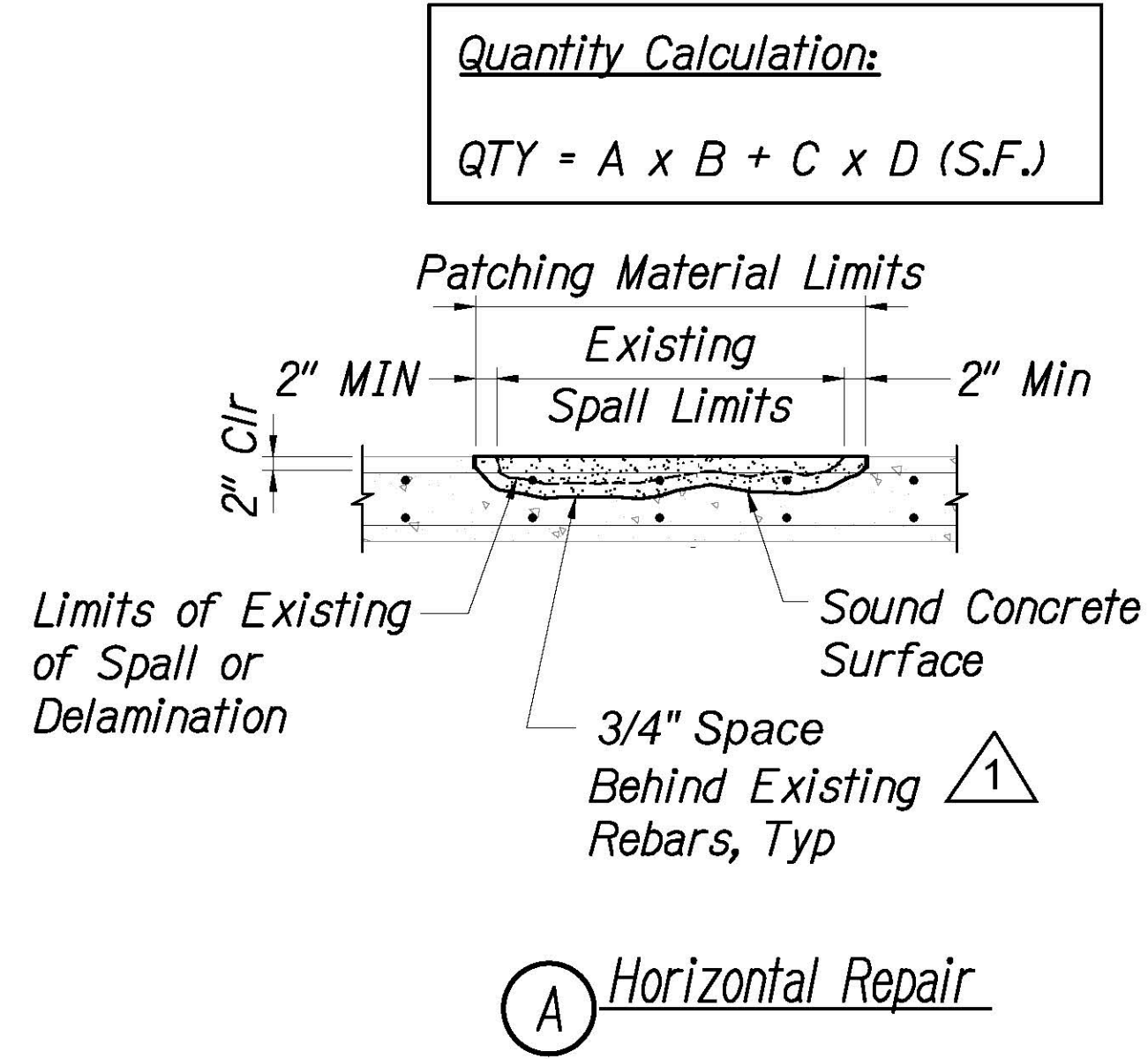
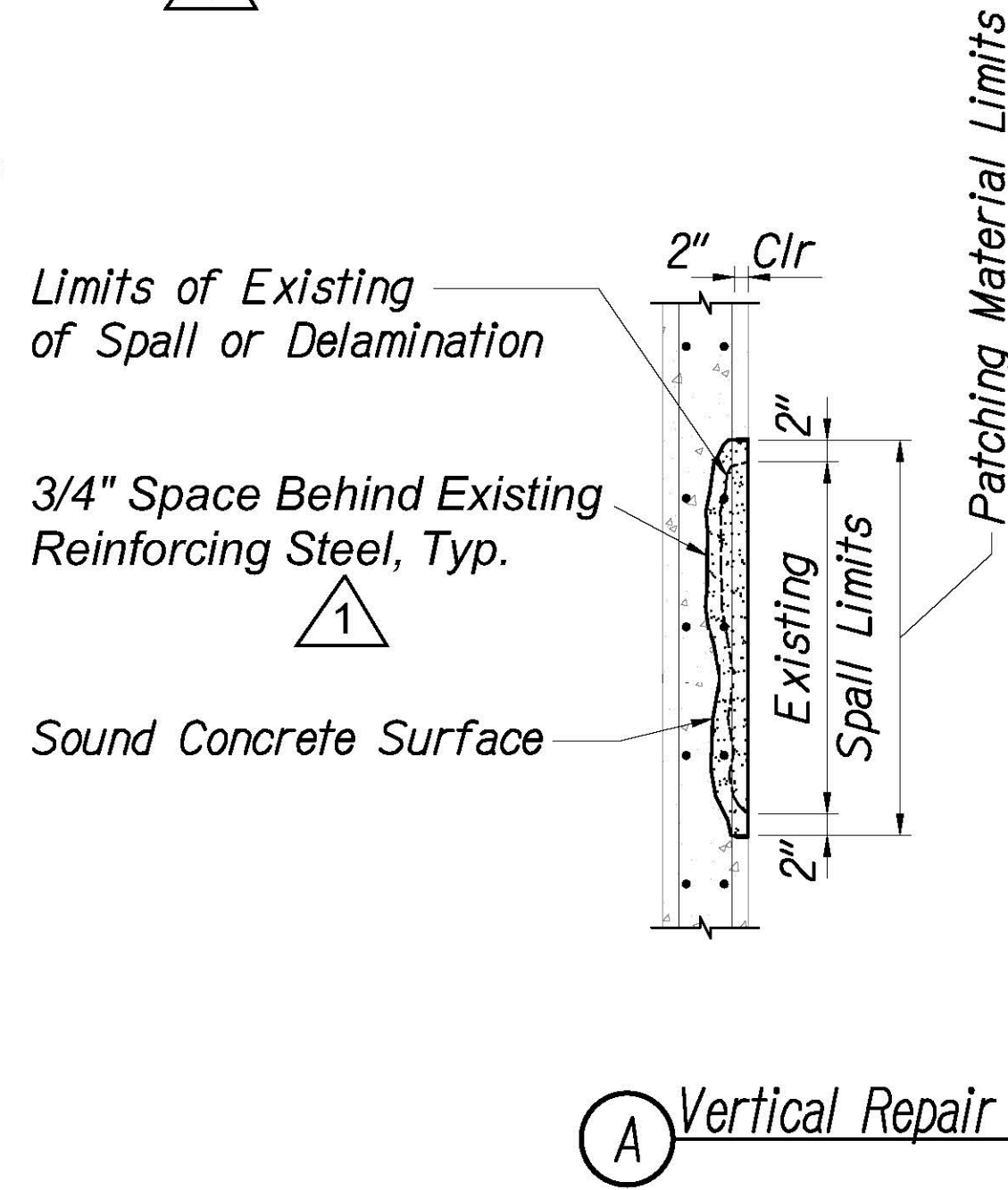
REPAIR NOTES:

1. Remove loose or delaminated concrete above corroded reinforcing steel. Remove all loose corrosion buildup from exposed rebars.
2. Once initial removal are made, proceed with undercutting of all exposed corroded bars.
- 1 Provide 3/4 inch clearance between exposed rebars and surrounding concrete or 1/4 inch larger than the largest aggregate in repair material, whichever is greater.
3. Concrete removals shall extend along the bars to locations along the bar free of bond inhibiting corrosion, and where the bar is well bonded to surrounding concrete.
4. If non-corroded reinforcing steel is exposed during the undercutting process, care shall be taken not to damage the bar's bond to surrounding concrete. If bond between bar and concrete is broken, undercutting of the bar shall be required.
5. Any reinforcement which is loose shall be secured in place by tying to other secured bars or by other approved methods.
6. Repair spall using polymer modified concrete per manufacturer's recommendation. Finish should match pattern of existing concrete surface.

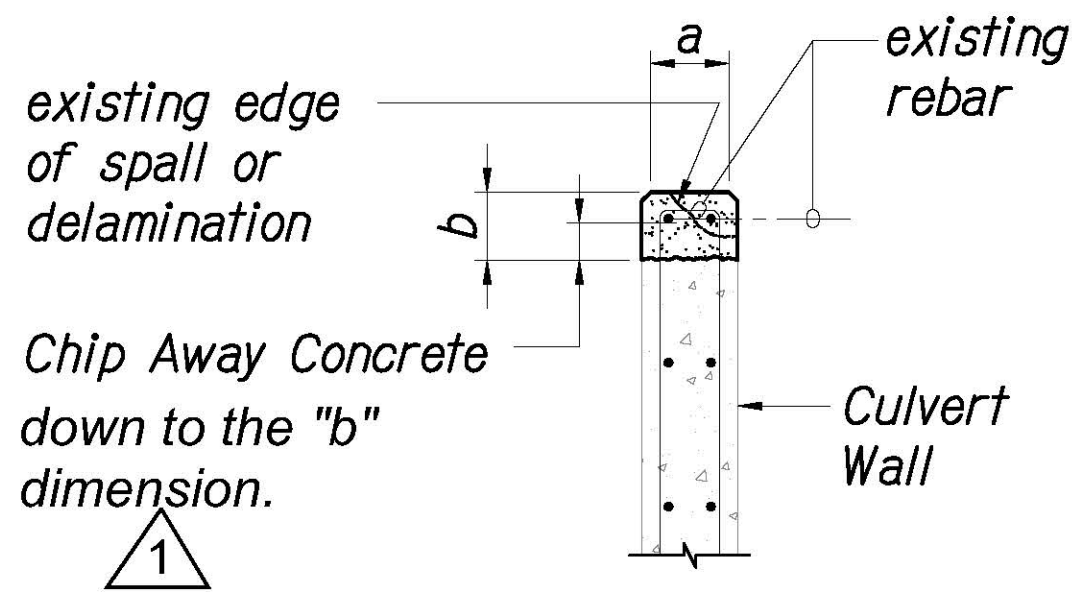


$$QTY. = (A+D) \times (B+C)$$

TYPE 1 SPALL REPAIR (S.F.) $\frac{1}{C-1b \mid C-1b}$
Not to Scale

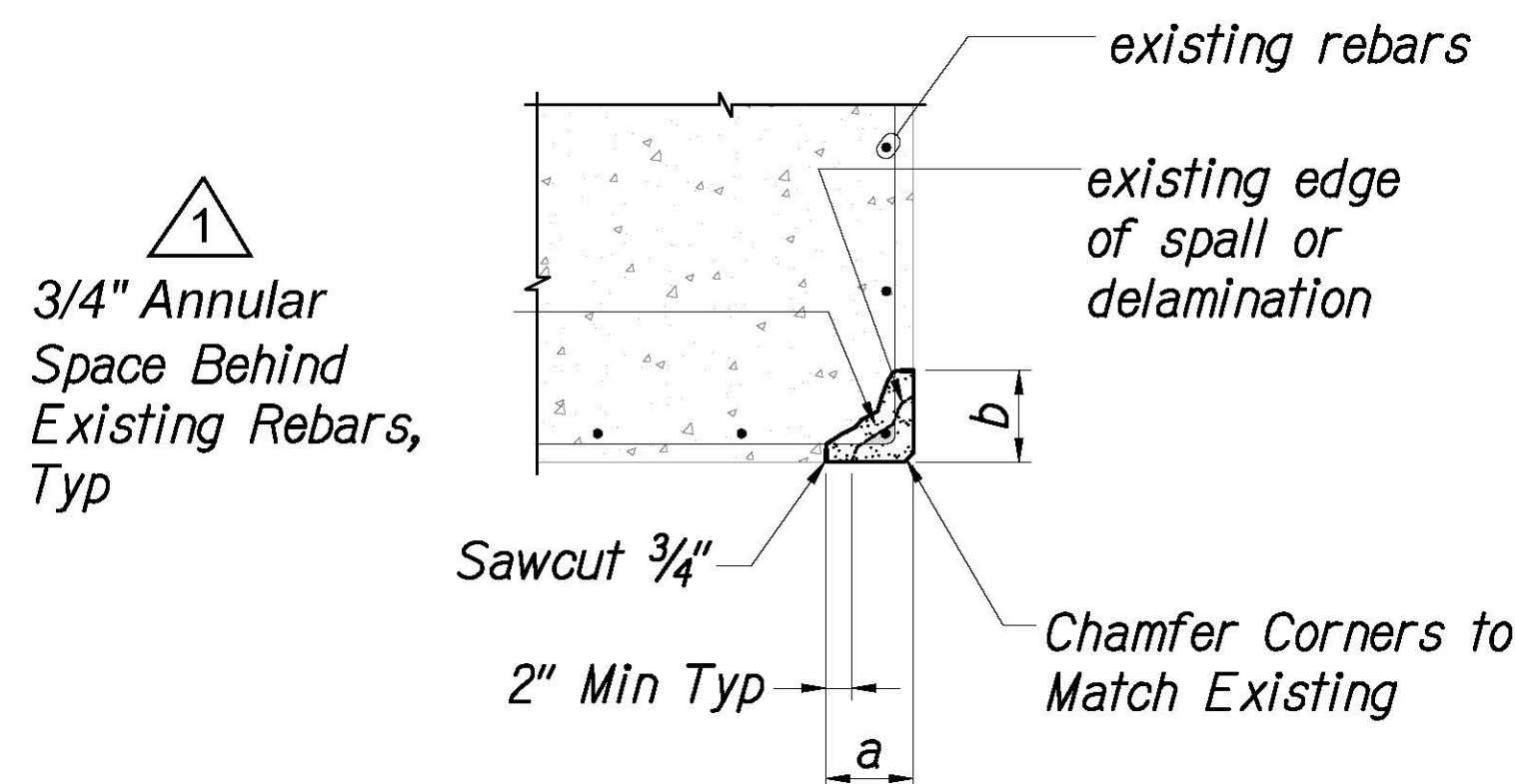


Quantity Calculation:
 $QTY = A \times B + C \times D$ (S.F.)



$$QTY. = (a+b) \times length$$

TYPE 2 SPALL REPAIR (S.F.) $\frac{2}{C-1b \mid C-1b}$
Not to Scale



$$QTY. = (a+b) \times length$$

TYPE 3 SPALL REPAIR (S.F.) $\frac{3}{C-1b \mid C-1b}$
Not to Scale

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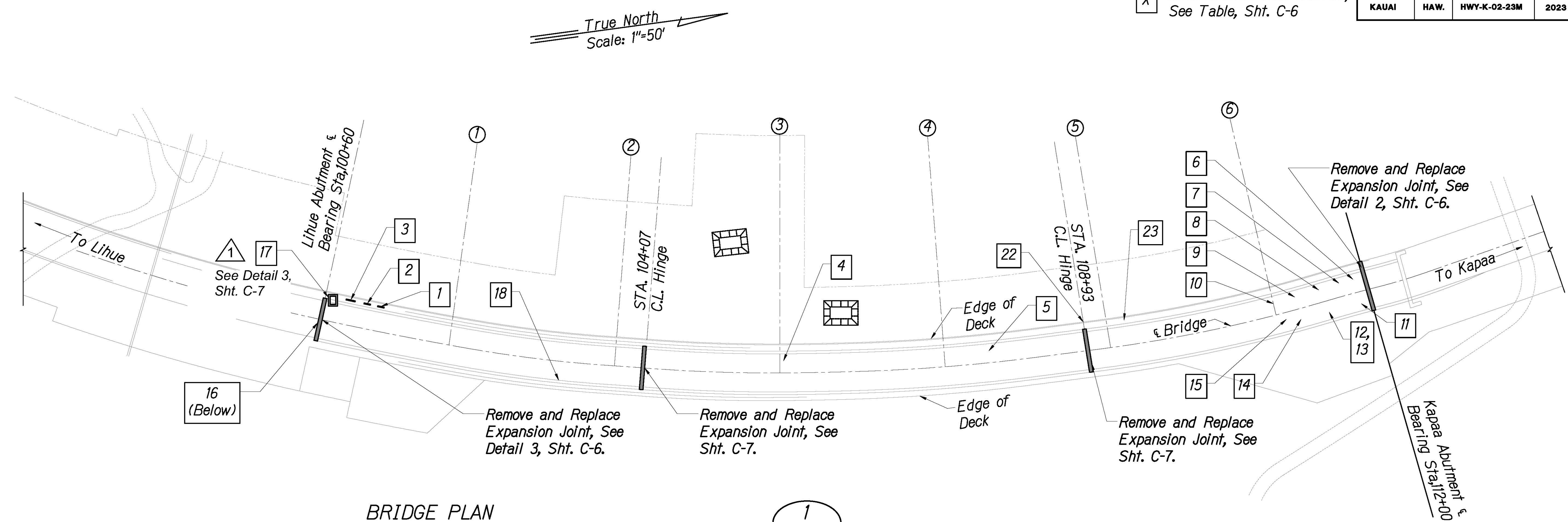


6/9/23	1 - Revised Notes
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TYPICAL SPALL REPAIR DETAILS MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	
C-1F	SHEET No. 10 OF 41 SHEETS

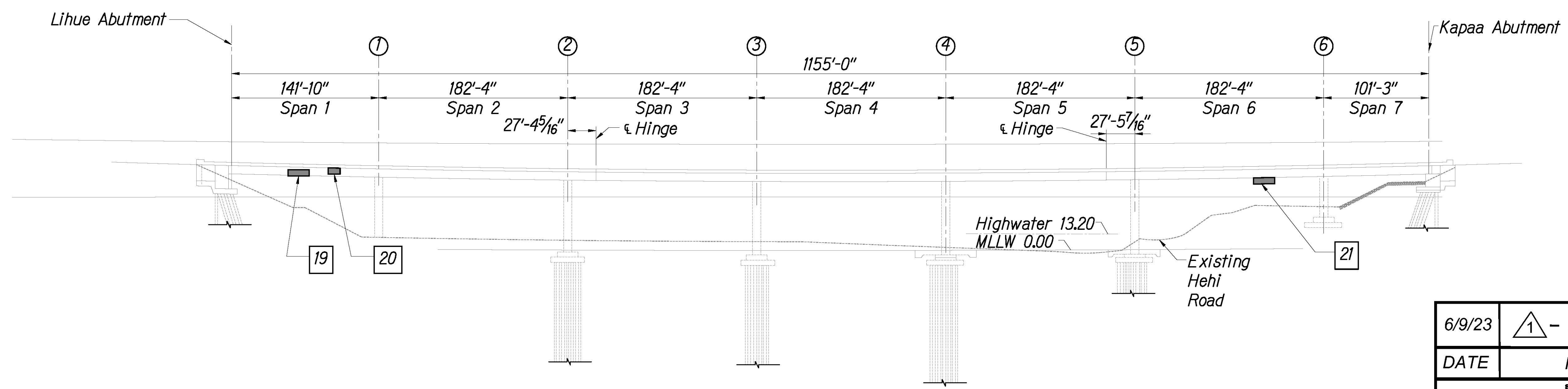
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LEGEND:
X Deterioration Item Number,
See Table, Sht. C-6

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.14	41



BRIDGE PLAN
Scale: 1" = 60'



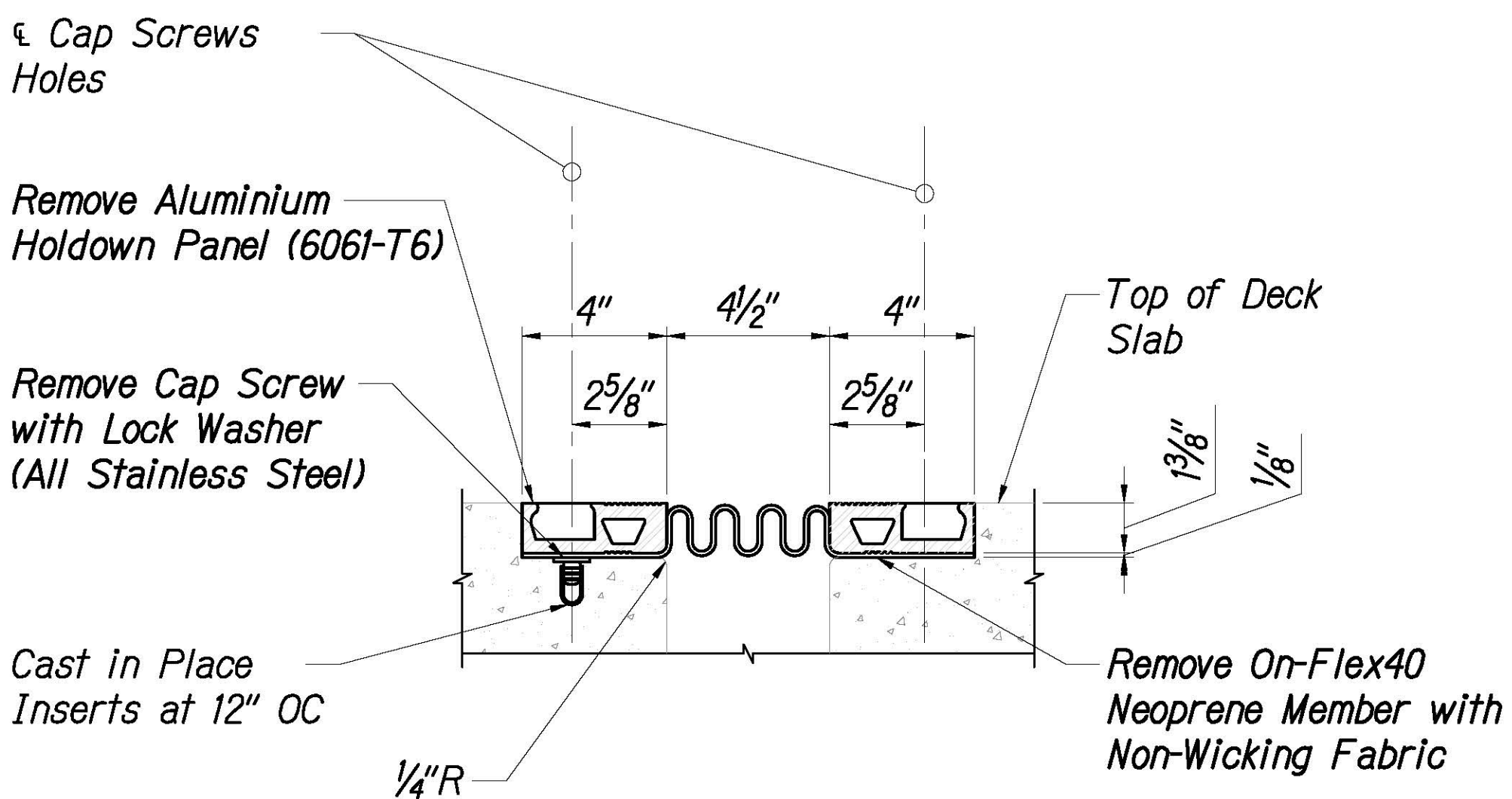
BRIDGE ELEVATION-DOWNSTREAM FACE
Scale: 1" = 60'

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

MICHAEL P. HUNTER
LICENSED PROFESSIONAL ENGINEER
No. 10393-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

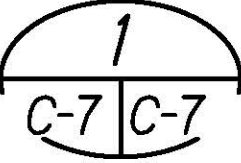
6/9/23	1 - Added Weld Information
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION HANAMAULU RIVER (VIADUCT) BRIDGE MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.17	41

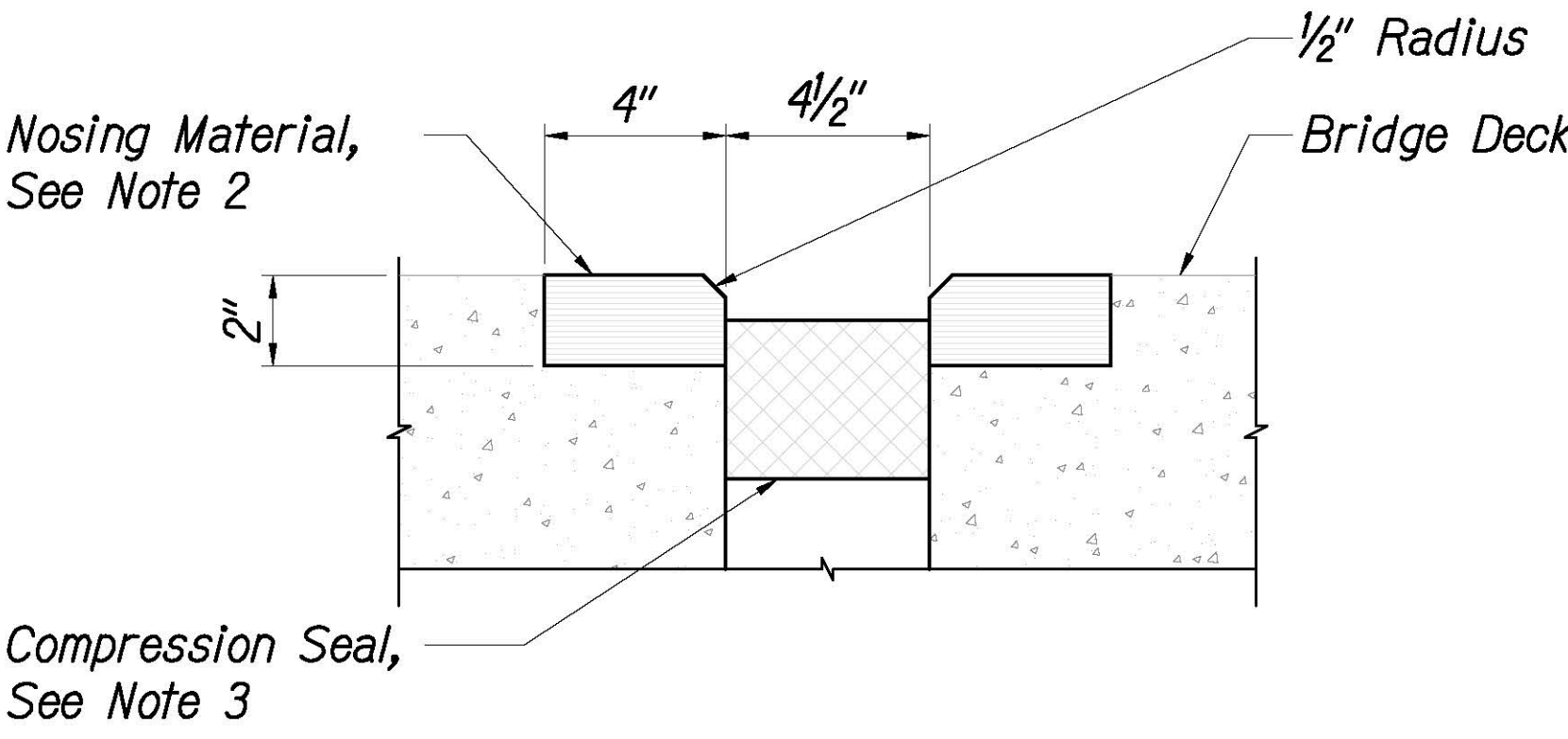


DEMOLITION OF EXISTING ON-FLEX JOINT DETAIL

Scale: 3' = 1'-0"

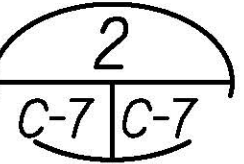


- Notes:**
1. Remove existing joint assembly. Cut or remove cap screws to be flush with the bottom of the nosing cavity. Clean surfaces of concrete thoroughly of all dirt, oil, dust, adhesive, and all other bond-inhibiting materials. The contractor shall clean down to hard and sound concrete. The contractor shall verify the joint opening and the nosing cavity sizes.
 2. Nosing material:
 - a. Prime nosing cavity according to manufacturer's specifications.
 - b. Form and install new nosing material. Ensure that the leading edge of the nosing material is tooled to have a 1/2" radius.
 - c. The nosing material shall be a 2-component polyurethane resin, mixed with silica-free sand and 4 lbs. Of chopped fiberglass, or 11% fiberglass by weight. The nosing material shall have a the following minimum physical properties:
 - i. Compressive strength of 4000 psi, min. (ASTM D695)
 - ii. Adhesion bond strength of 400 psi (ASTM D7234)
 - iii. Tensile strength and elongation of 450 psi, 8% min. (ASTM D638).
 - d. A pre-approved nosing material is Emcrete. All proposed alternatives shall have the minimum physical properties listed above, including the requirement for fiber reinforcement.
 3. Compression seal:
 - i. Contractor shall measure the exact width of the joint gap before ordering new compression joint material.
 - j. The compression joint seal shall conform to ASTM D8138-18, and shall be one of the following or approved equal:
 - i. Delastic preformed polychloroprene compression seal
 - k. Use custom transitions or heat weld at all splices and turns in the compression joint material. All splices shall be water-tight.
 - l. Follow closely the manufacturers specifications for cleaning and installation, including adhesive.
 4. All products noted above include the minimum performance requirements for their intended use, and are included for contractor's reference. Alternate products may be proposed for substitution. Submit all substitution requests to the engineer for approval.

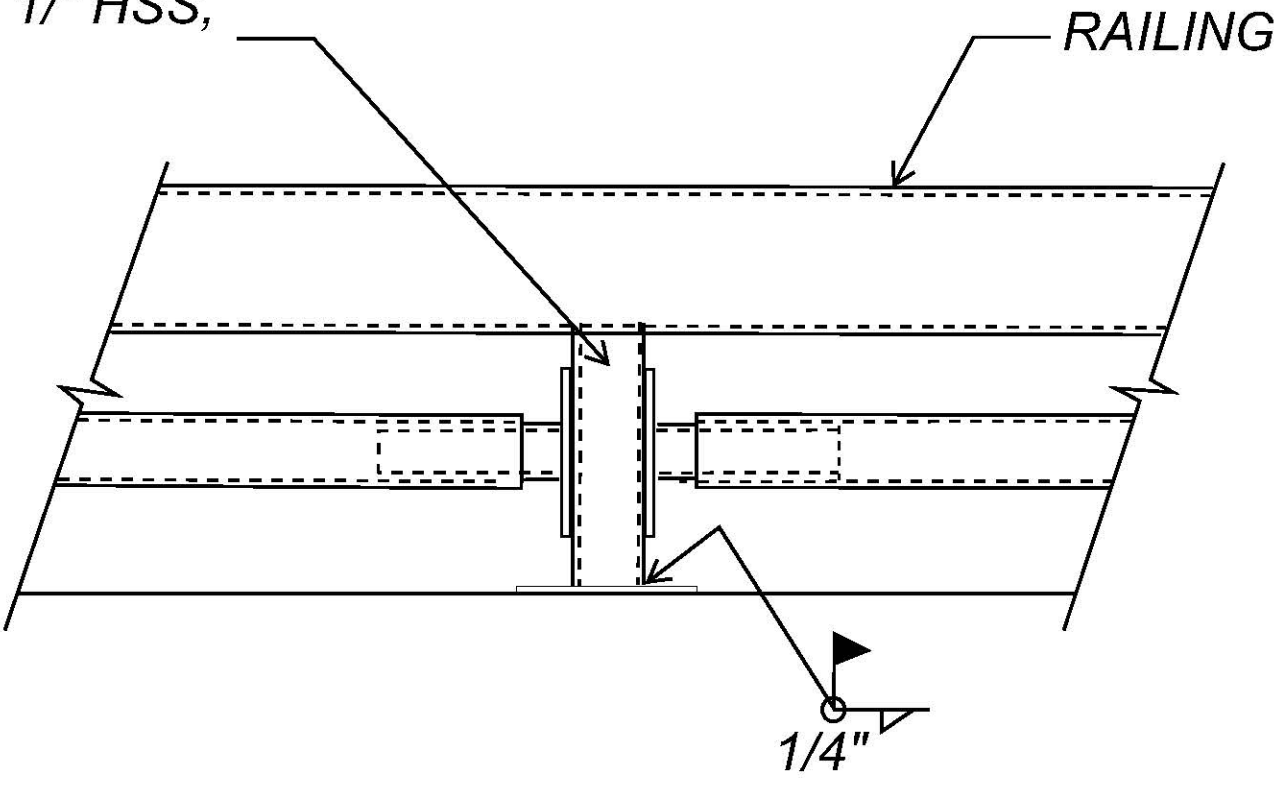


JOINT REPAIR DETAIL

Scale: 3' = 1'-0"

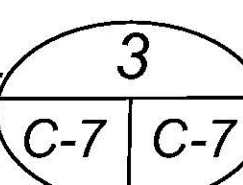


POST, 3" X 3" X 1/1" HSS, ALUMINUM

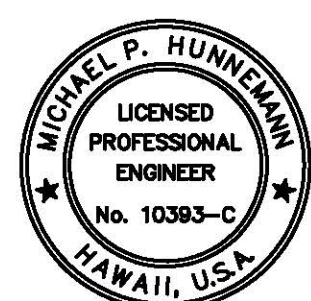


RAILING POST REPAIR DETAIL

1 1/2" = 1'-0"



- REPAIR NOTES:**
1. Remove existing cracked weld before welding.

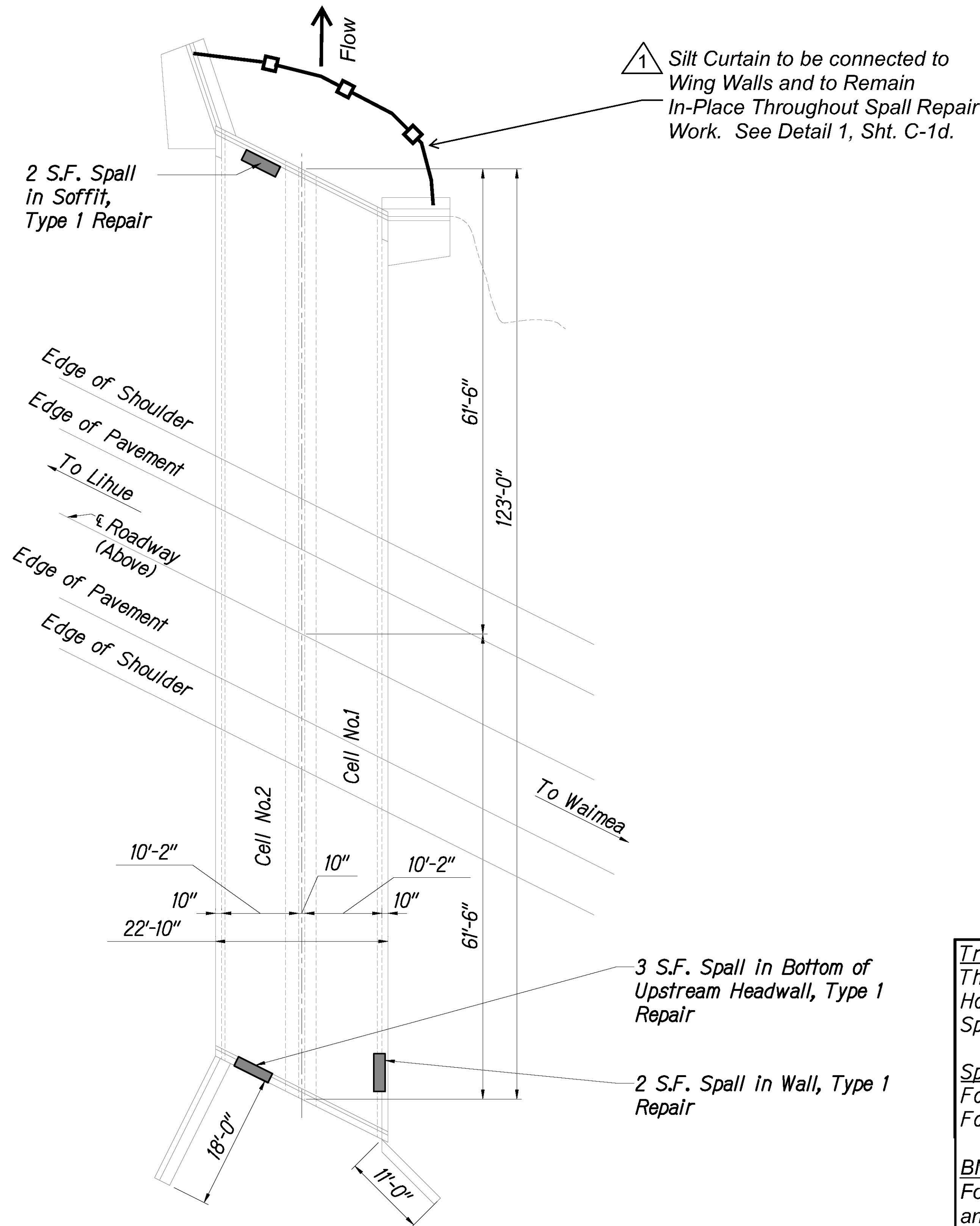


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6/9/23	1 - Added Detail
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION JOINT REPAIR DETAILS AND NOTES MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	
C-7	SHEET No. 17 OF 41 SHEETS

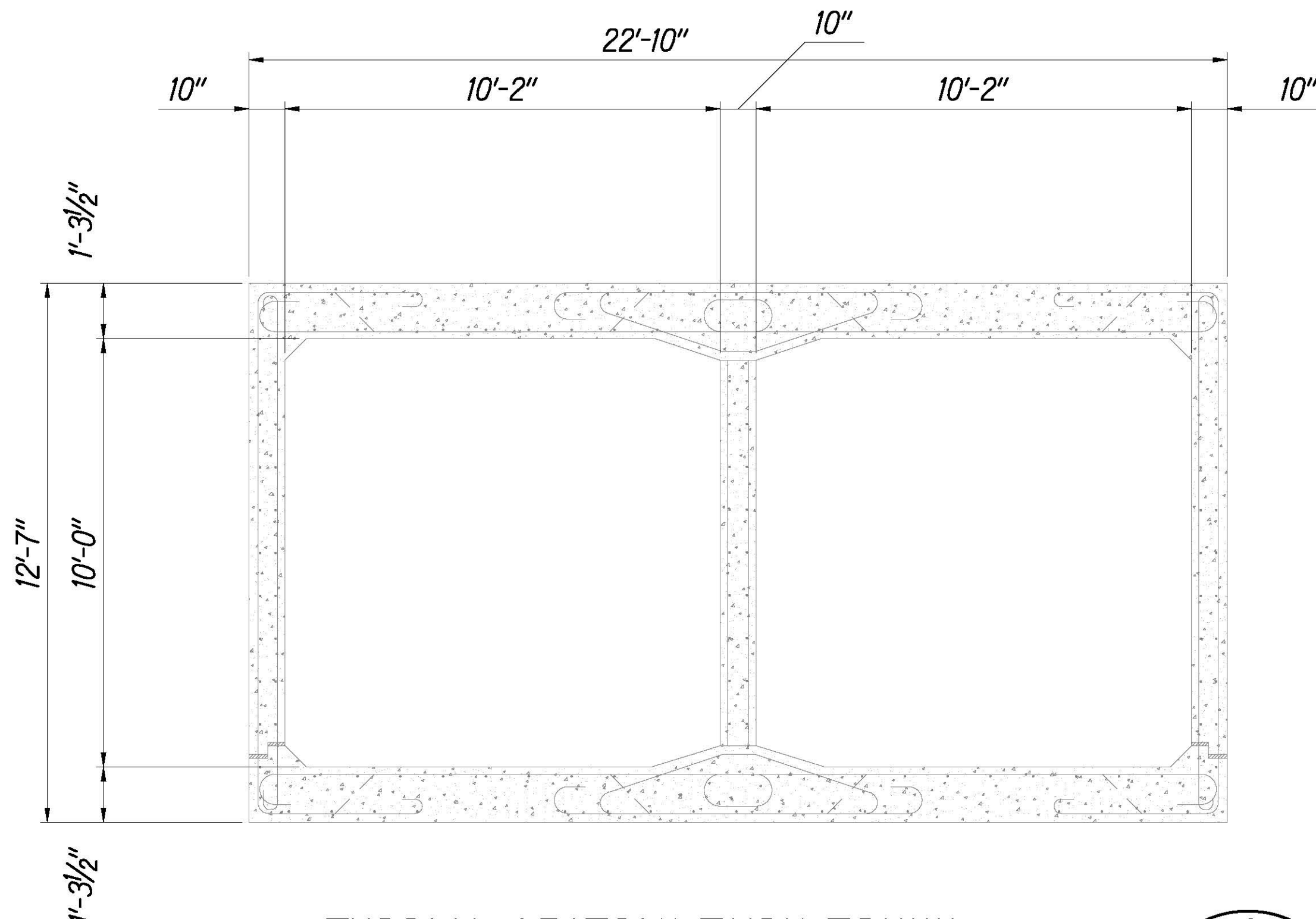
ADD.17

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.18	41



LAYOUT PLAN
Scale: 1" = 10'-0"

1
C-8 | C-8



TYPICAL SECTION THRU TRUNK
Scale: 3/8" = 1'-0"

2
C-8 | C-8

Traffic Control:
The Contractor is Allowed to Place Traffic Controls for One Hour or Less at a Time. Refer to HDOT Standard Specification Section 645 for Applicable Traffic Control Plan.

Spall Repairs:
For Spall Repair Notes, See Sheet C-1E.
For Spall Repair Details, See Sheet C-1F.

BMP's:
For Water Pollution and Erosion Control Notes, See Sht. C-1c and Sht. C-1d.
For BMP Details, See Sht. C-1d.

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



6/9/23	1 - Added Details
DATE	REVISION

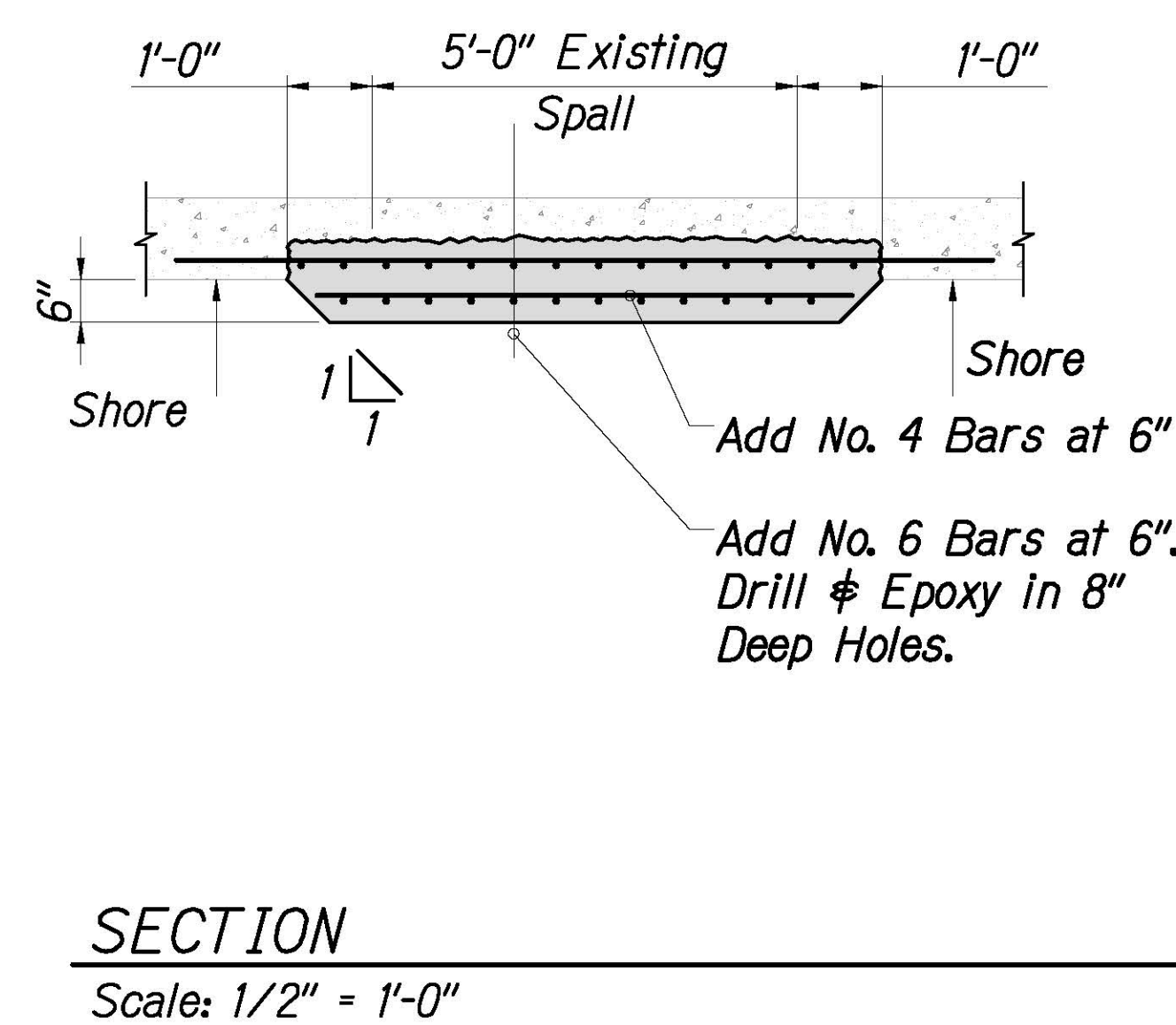
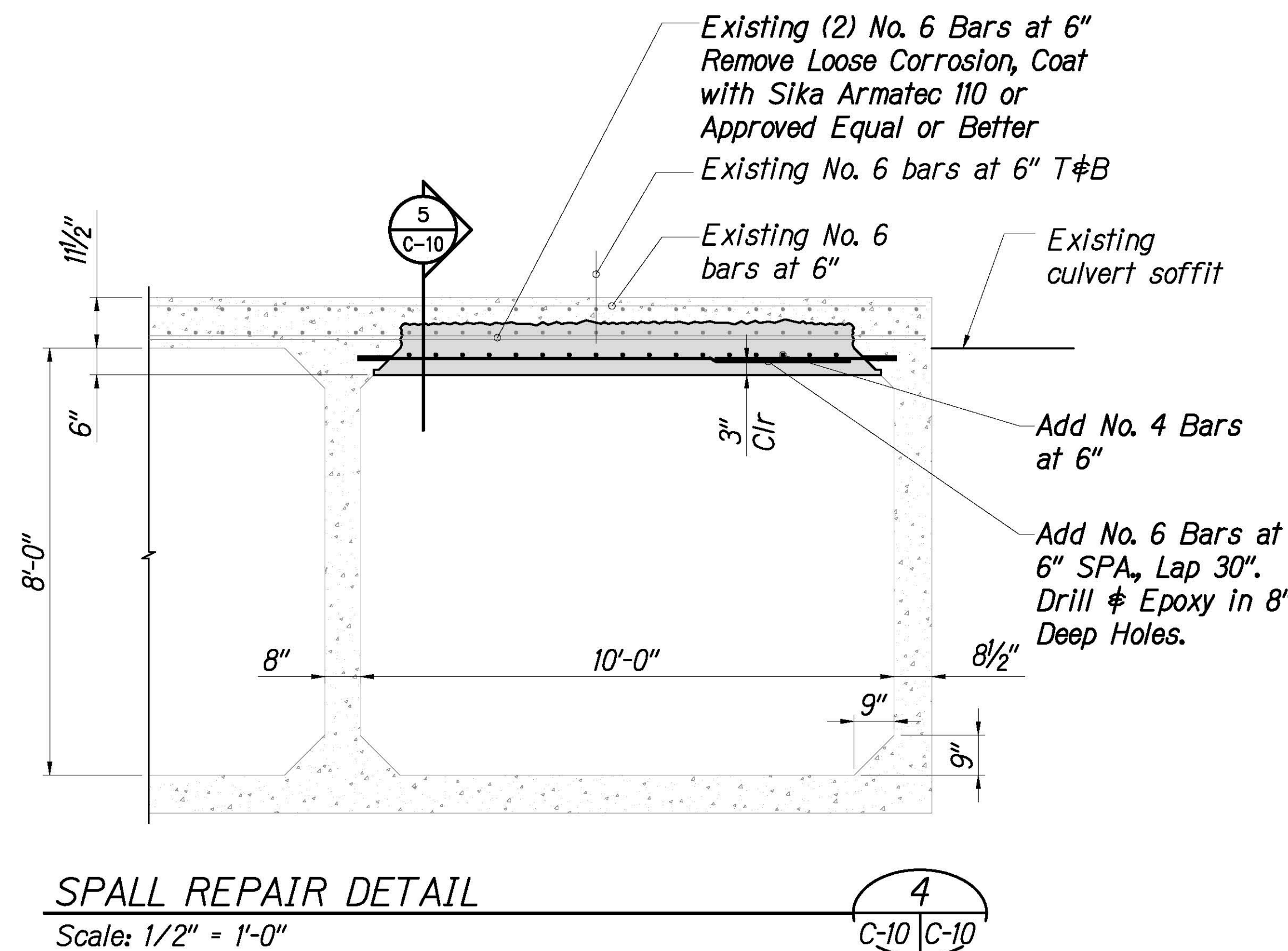
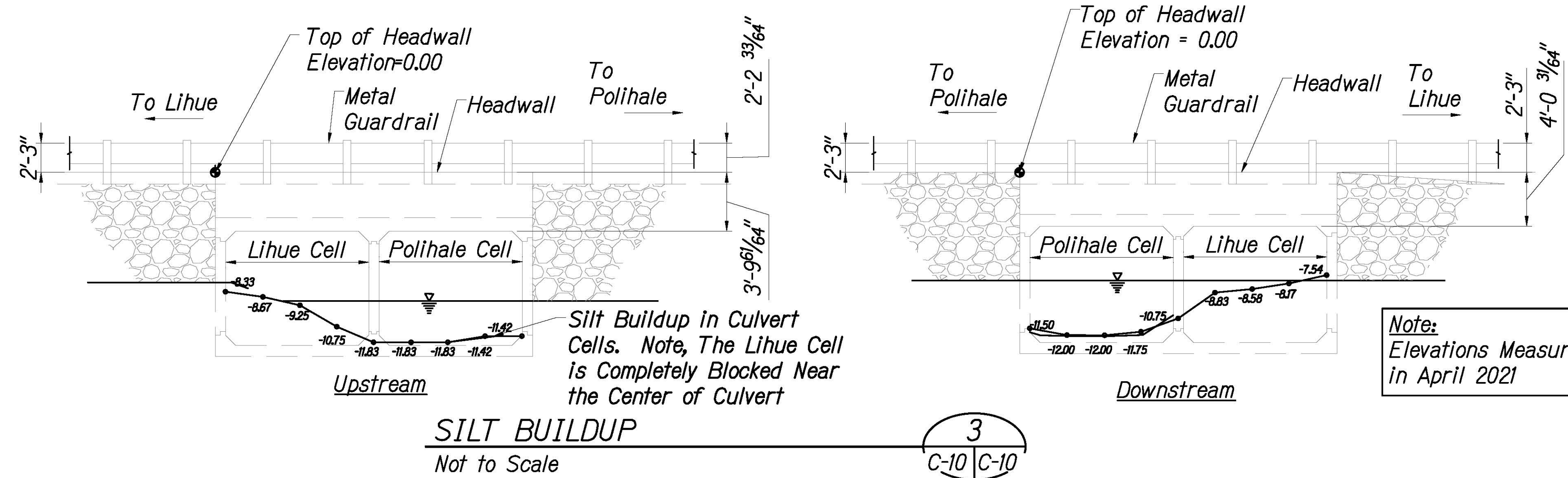
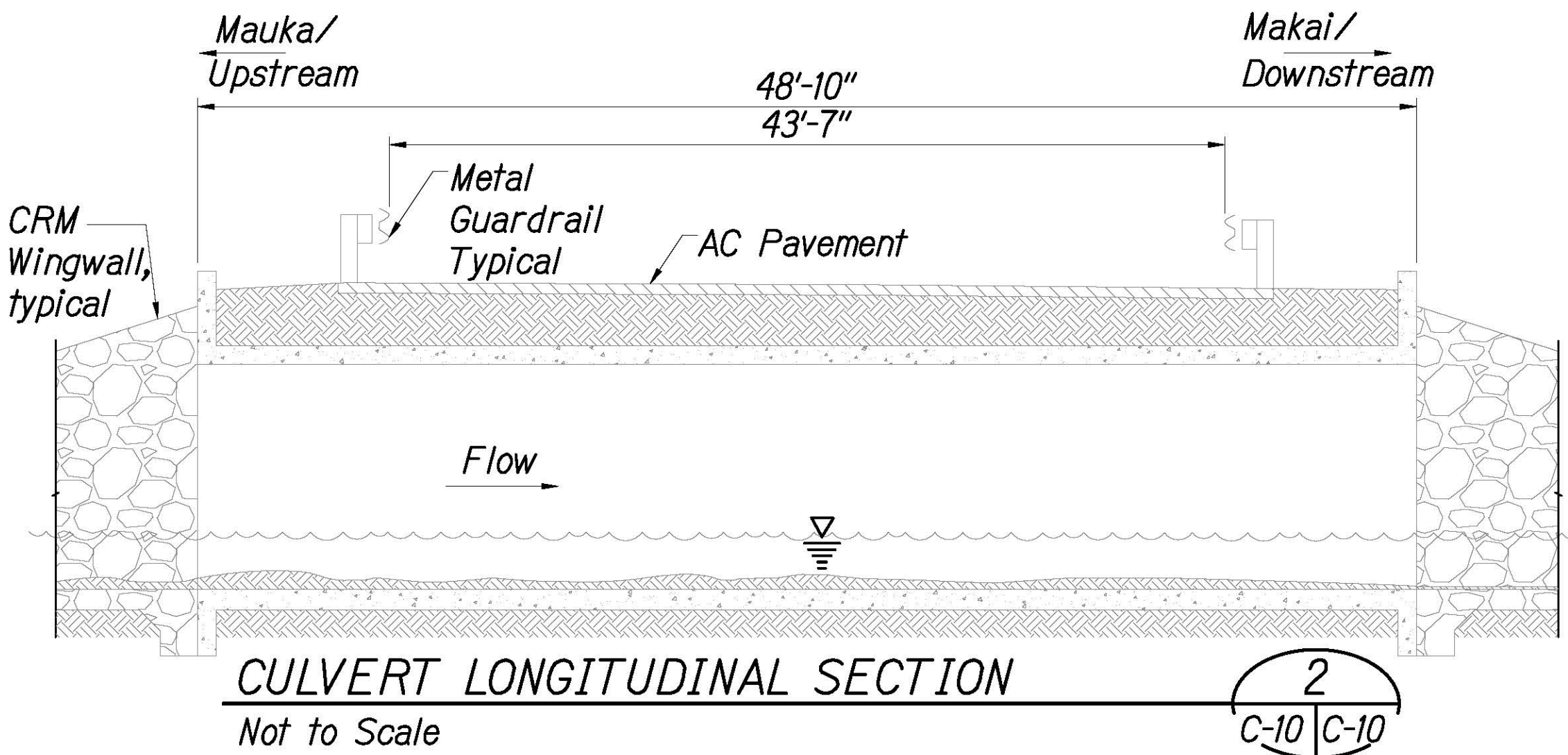
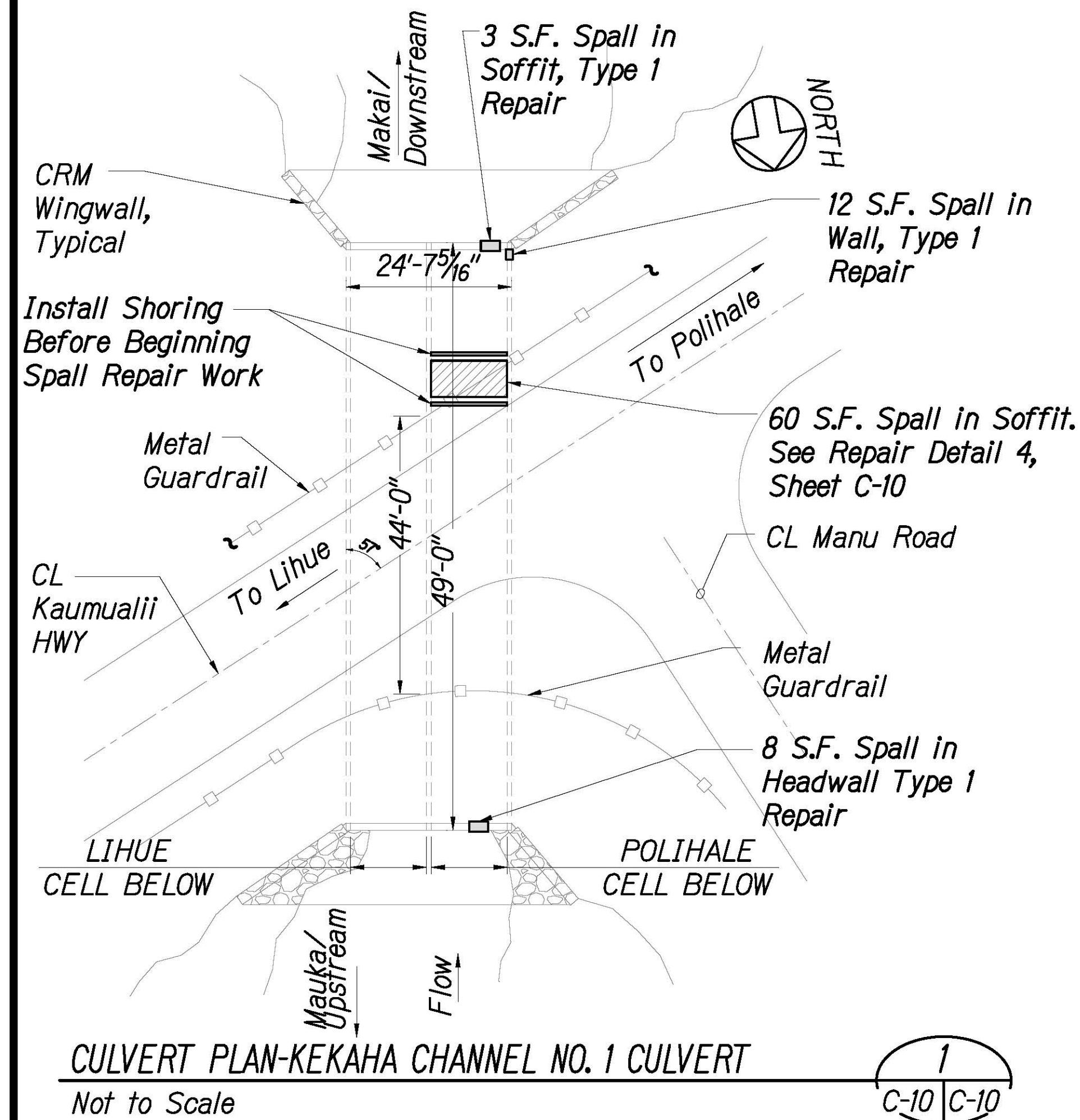
STATE OF HAWAII
HIGHWAYS DIVISION
**HOINAKAUNALEHUA
STREAM BRIDGE**
MINOR BRIDGE REPAIRS AT
VARIOUS LOCATIONS, PART 1
KAUAI, HAWAII
PROJECT NO. HWY-K-02-23M
Scale: As Shown Date: May 2023

C-8 SHEET No. 18 OF 41 SHEETS

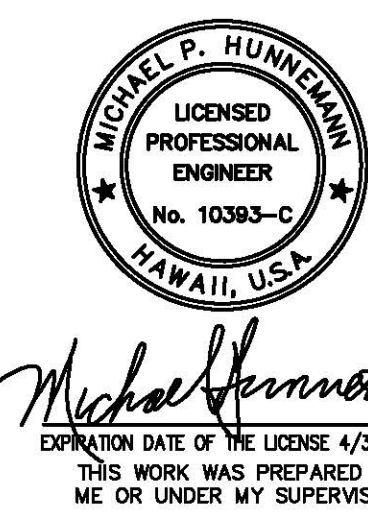
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.20	41

Traffic Control:
No Work on the 60 S.F. Spall in the Culvert Soffit shall Occur with Traffic Passing Overhead. Shift Traffic in the Mauka Direction. Refer to HDOT Standard Specification Section 645 for Applicable Traffic Control Plan.

Clearing and Grubbing:
The Contractor Shall Remove All Vegetation Along the Upstream and Downstream Embankment. See Specification Section 201 for Limits of Clearing and Grubbing.



- Notes:** 1
- See Repair Notes, Sht. C-1.
 - For Epoxy Adhesive Specification, See Existing Concrete, Note F, Sht. C-1.
 - For Patching Material Specifications, See Sht. C-1.
 - Contractor shall not place fill, including sandbags, below the Mean Higher High Water Line. If the Contractor elects to do so the Contractor shall be responsible for obtaining an Army Corps Section 404 permit reviewed by the Engineer.
 - For Spall Repair Notes, See Sht. C-1E.
 - For Spall Repair Details, See Sht. C-1F.



6/9/23	1 - Added Notes
DATE	REVISION
STATE OF HAWAII HIGHWAYS DIVISION KEHAHA CHANNEL NO. 1 CULVERT MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	
C-10	SHEET No. 20 OF 41 SHEETS

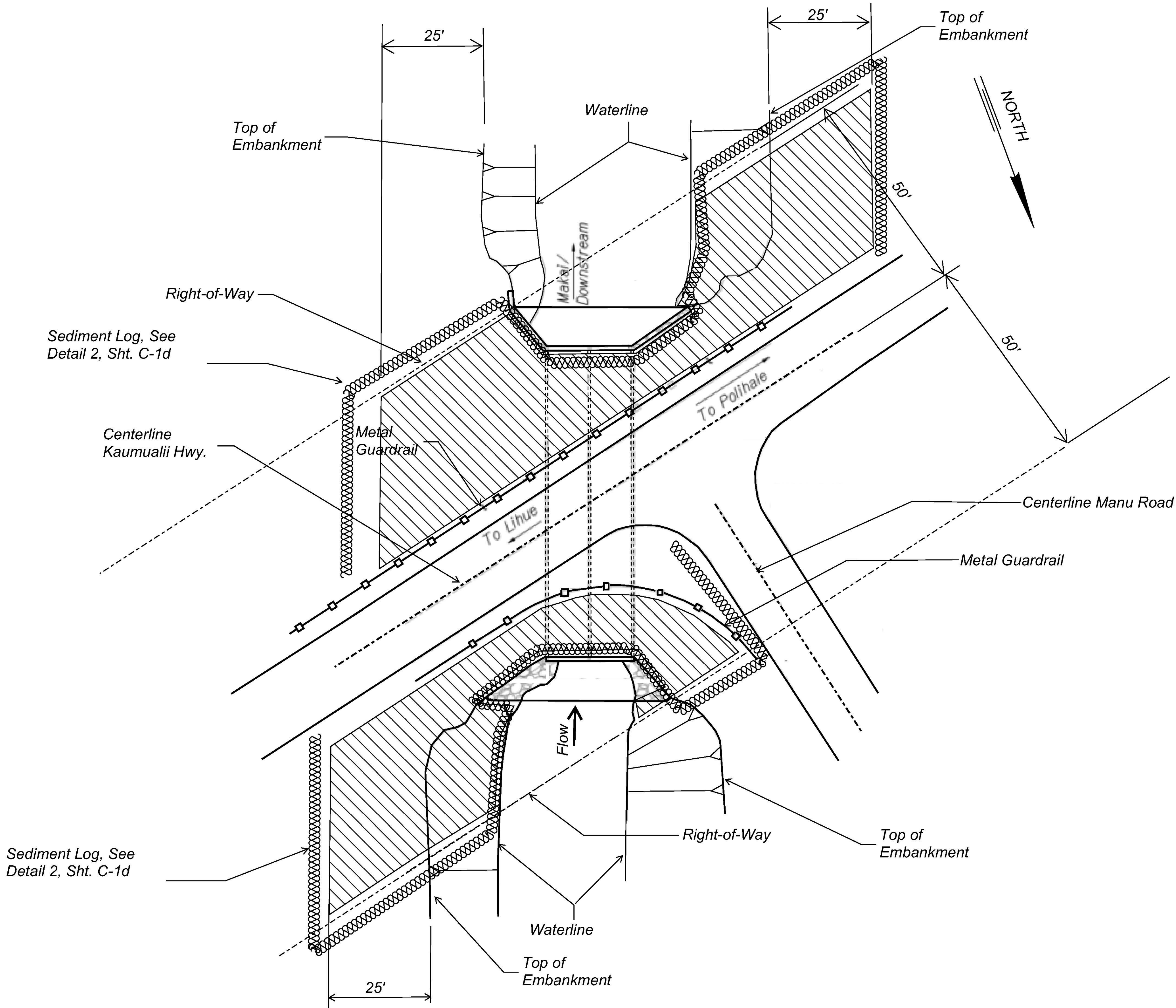
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.20S1	41

Clearing and Grubbing:
The Contractor Shall Remove All Vegetation Down to Existing Ground. Seeding or Planting of New Vegetation is Not Required. See Specification Section 201 Clearing and Grubbing for Additional Information.

LEGEND:

 Limits of Clearing and Grubbing

 Sediment Log



LIMITS OF CLEARING AND GRUBBING AND BMP PLAN

Not to Scale



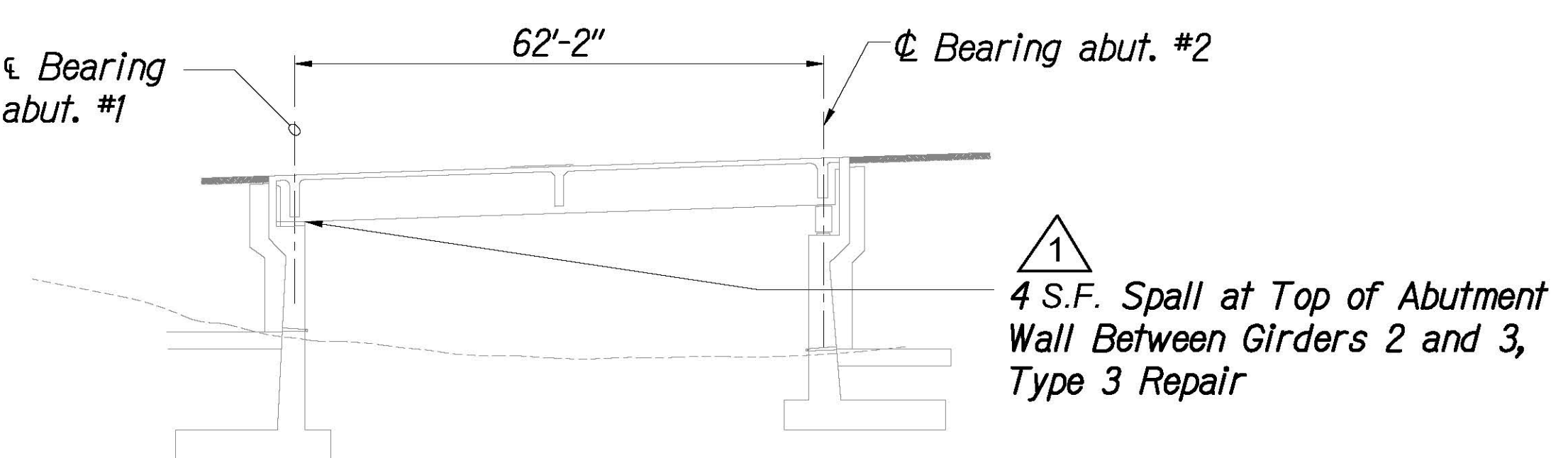
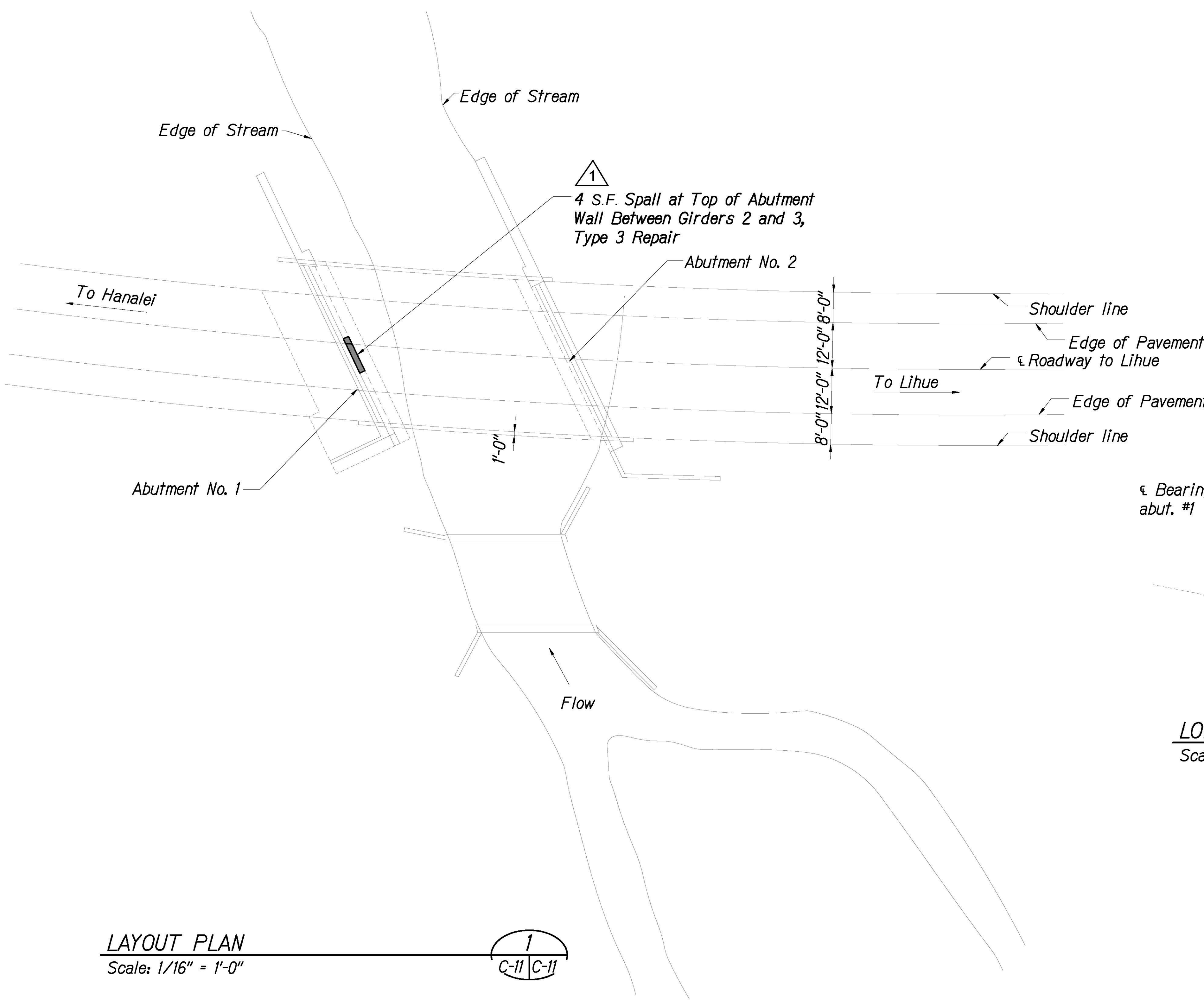
Michael P. Hunneman
EXPIRATION DATE OF THE LICENSE 4/30/2024
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**KEHAHA CHANNEL NO. 1
CULVERT**
MINOR BRIDGE REPAIRS AT
VARIOUS LOCATIONS, PART 1
KAUAI, HAWAII
PROJECT NO. HWY-K-02-23M
Scale: As Shown Date: May 2023
C-10 SHEET No. 20 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
KAUAI	HAW.	HWY-K-02-23M	2023	ADD.21	41

Traffic Control:
The Contractor is Allowed to Place Traffic Controls for One Hour or Less at a Time. Refer to HDOT Standard Specification Section 645 for Applicable Traffic Control Plan.

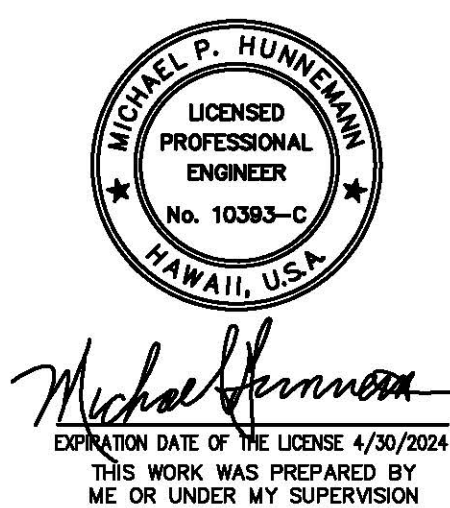
Spall Repairs:
For Spall Repair Notes, See Sheet C-1E.
For Spall Repair Details, See Sheet C-1F.



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

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

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



6/9/23	1 - Revised Spall Callout
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION PAPAA STREAM BRIDGE MINOR BRIDGE REPAIRS AT VARIOUS LOCATIONS, PART 1 KAUAI, HAWAII PROJECT NO. HWY-K-02-23M Scale: As Shown Date: May 2023	
C-11	SHEET No. 21 OF 41 SHEETS