

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-77M	1977	2	3

GENERAL NOTES

REPAIR NOTES :

- Face of exist. concrete
Hatched area denotes approx. damaged area from which loose or unsound concrete has been partially removed.
Limits of conc. removal or conc. patch (see detail this sheet). Apply bonding agent immediately before placing mortar or concrete.
- All deteriorated, damaged, cracked, spalled, honeycombed concrete or concrete over rusted reinforcing bars shall be removed as shown and repaired with hand placed mortar or shotcrete. The Engineer shall determine all areas to be repaired and the limit of repair at each area.
- Note "A" - Where exposed reinforcing bars occur, provide minimum 2" concrete cover at reinforcement. See specifications for welded wire fabric requirements.
- Reinforcing bars that have rusted more than 25% of their original cross sectional area shall be strengthened as shown on Repair Splice Detail this sheet.

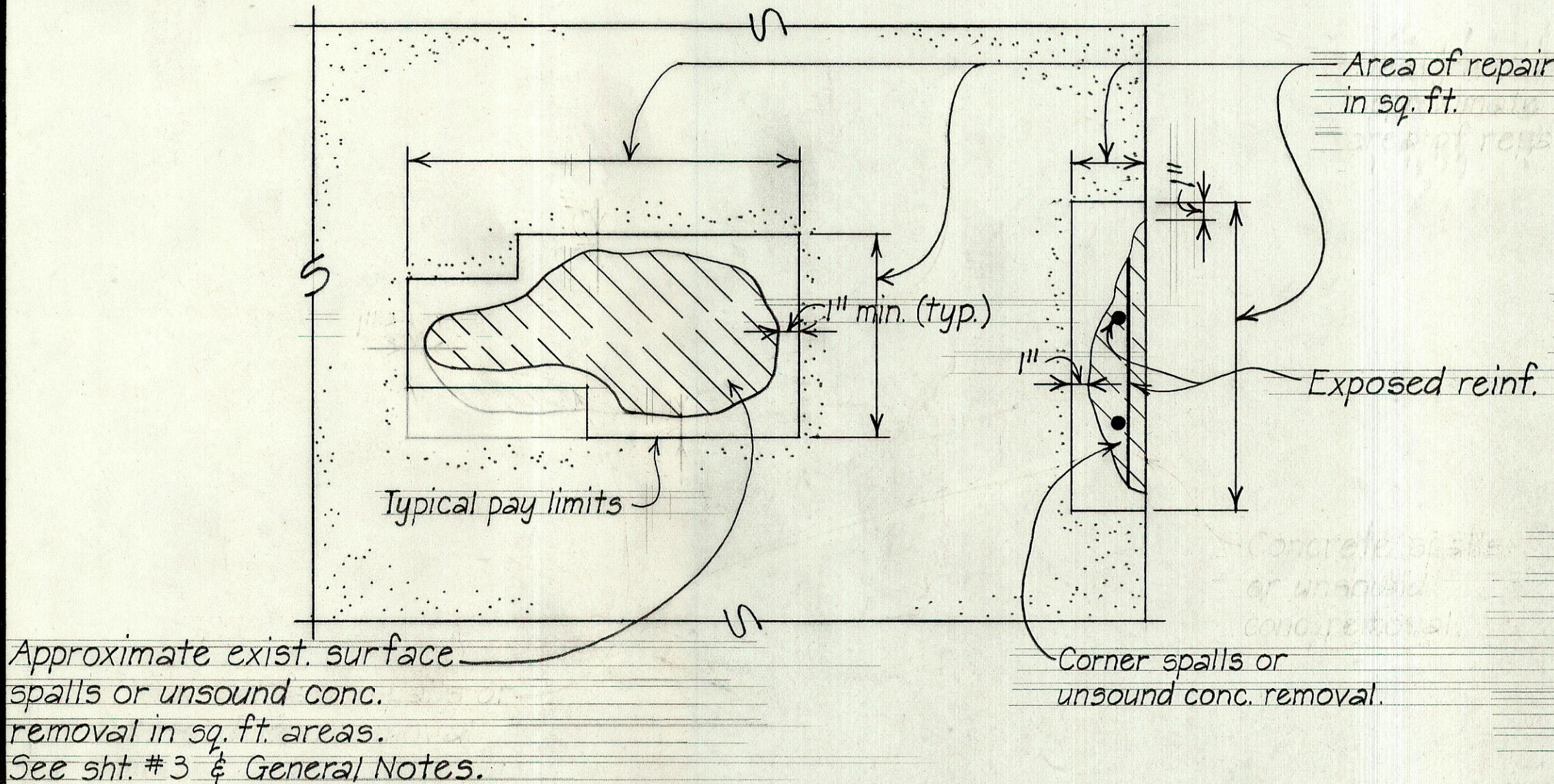
- INCIDENTAL ITEMS :** The following items shall be considered incidental to the various pay items of repairs & shall not be paid for separately.
- Expansion bolts & other miscellaneous hardware including hot-dipped galvanizing and welded wire fabric.
 - Cleaning of all exposed, corroded reinforcing steel to sound metal.
 - Reinforcing bars of repair splice for strengthening corroded bars.
 - Removal and disposal of sand to an approximate distance of 6'-0" from the underside of the bridge in order that the Contractor can adequately place the mortar to the satisfaction of the Engineer.
 - Daily removal & disposal of all debris from the construction site.

GENERAL :

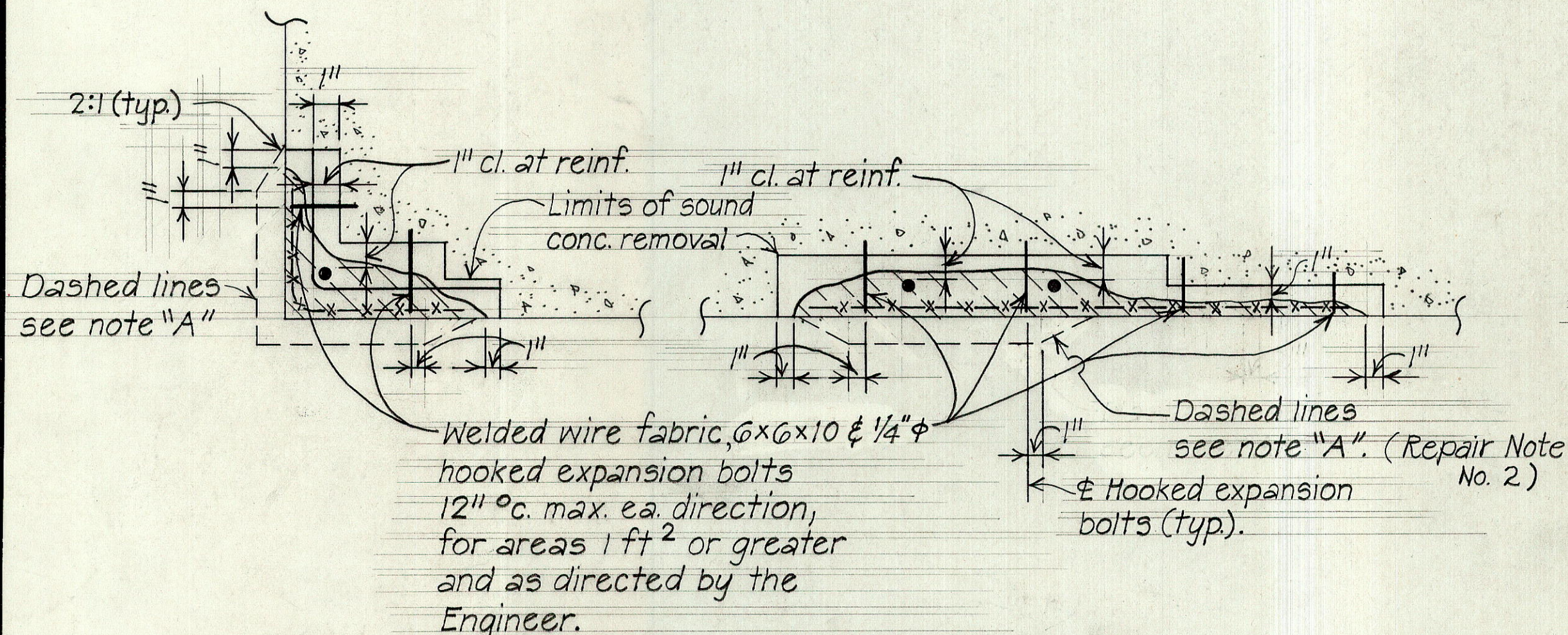
- All reinforcing steel to be ASTM A 615 Grade 40.
- All welding shall be done in accordance with the Reinforcing Steel Welding Code D12.1.
- Control of traffic - see Special Provisions sub-section 104.04.
- Repairs to the underside of slab shall be made in sections and sequences as shown on sht. #3.
- If spalls on the concrete piles are uncovered after the removal of sand (see Incidental Item no. 4), necessary repairs shall be done by the Contractor as directed by the Engineer. This work will be paid for separately at the same bid price of Item no. 676.06 "Repairs to bridge with shotcrete and/or hand-placed mortar".
- The Engineer shall determine whether pile repair shall be "Type I" or "Type II" by inspecting the extent of damage to each pile.
- Payments for repairs by square feet shall be measured by the average width and length as shown on the details.
- Payment for Traffic Control shall be considered incidental and shall not be paid for separately.

SYMBOLS & ABBREVIATIONS

- S.S. - Surface spall (Concrete)
- C.S. - Corner spall (Concrete)
- M.P. - Mile Point
- s.f. - Square feet



PLAN OR ELEVATION



AT CORNER

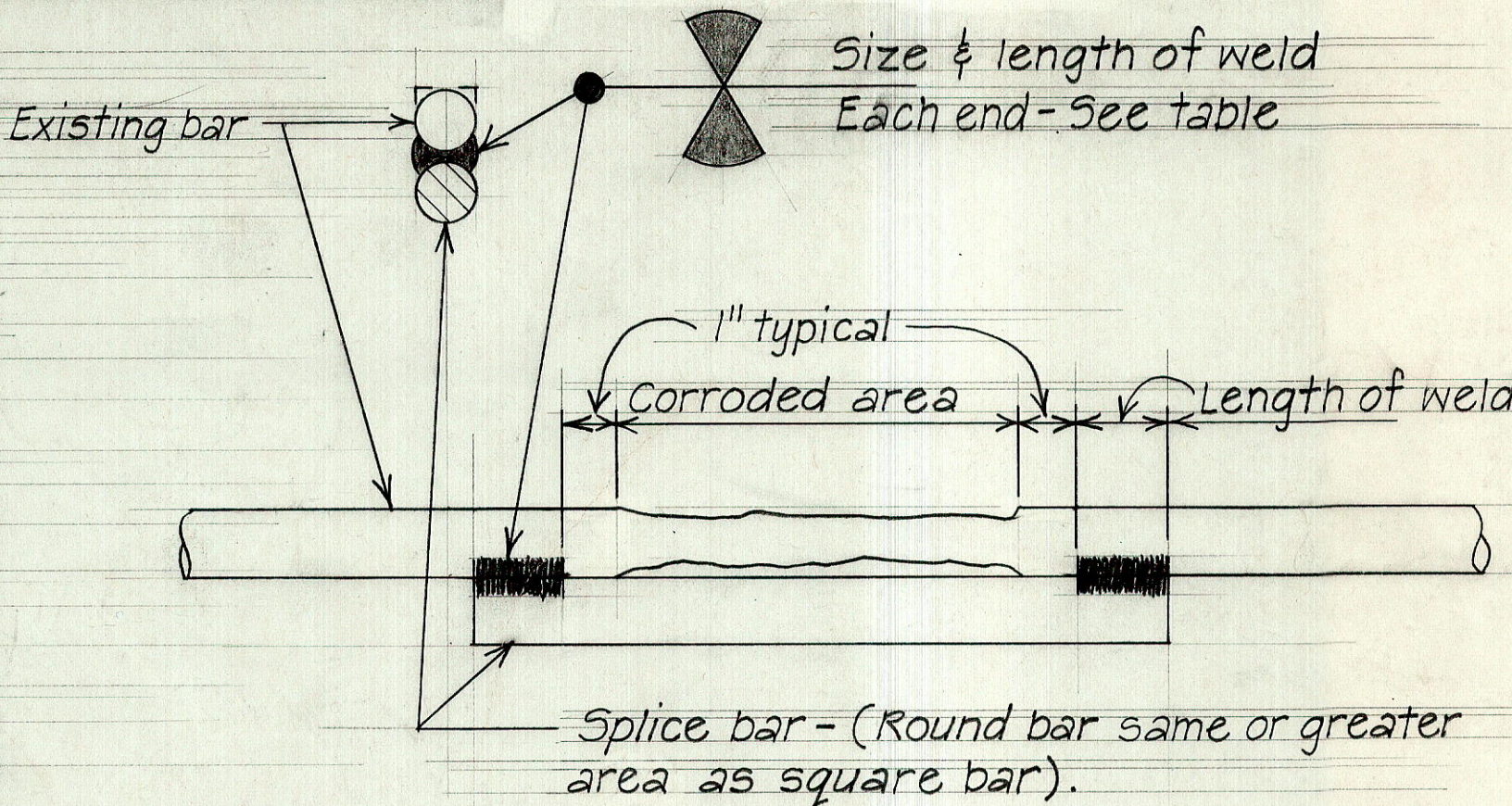
AT SURFACE

TYPICAL SECTIONS

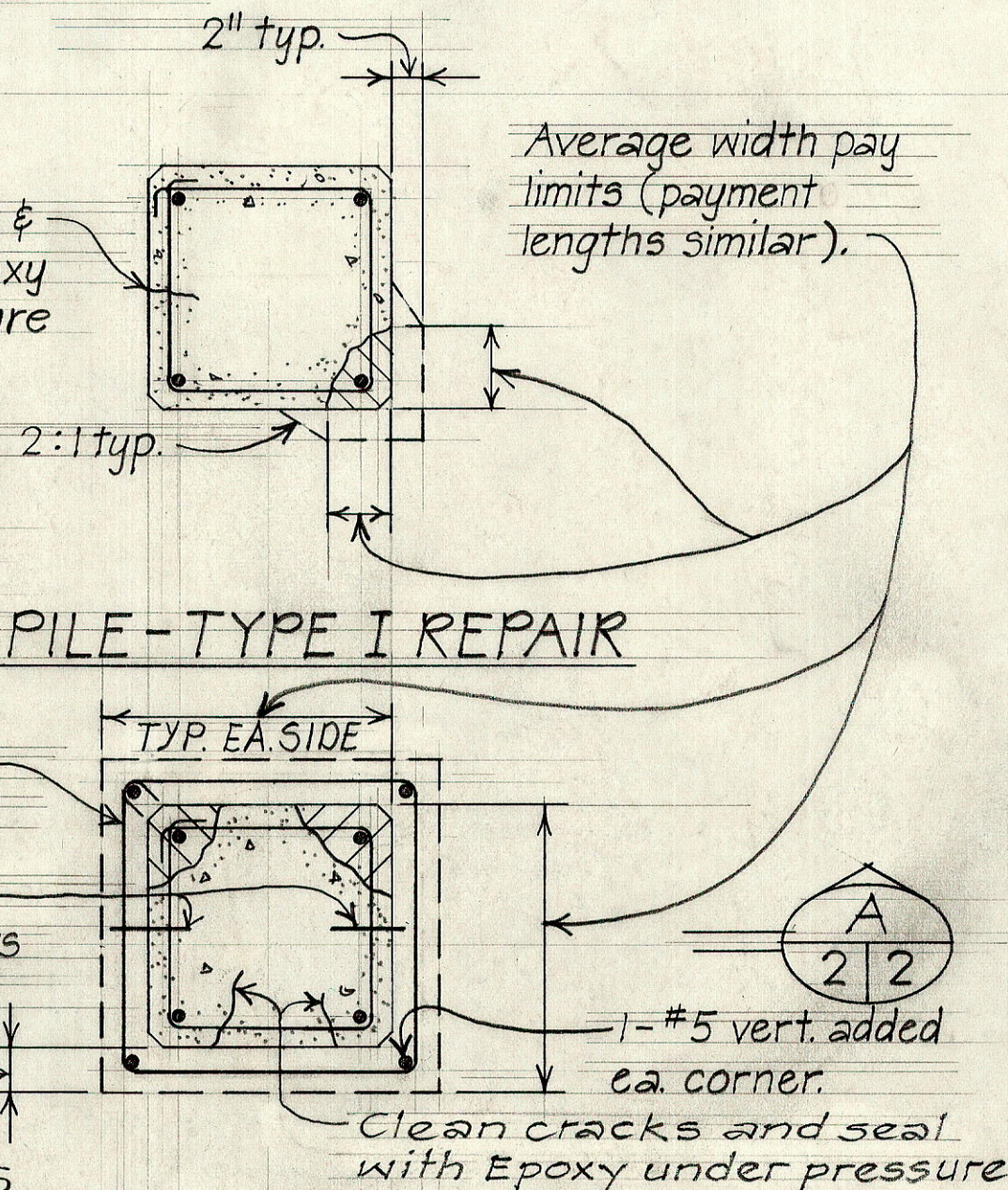
TYPICAL REPAIRS AT CONCRETE SPALLS

No Scale

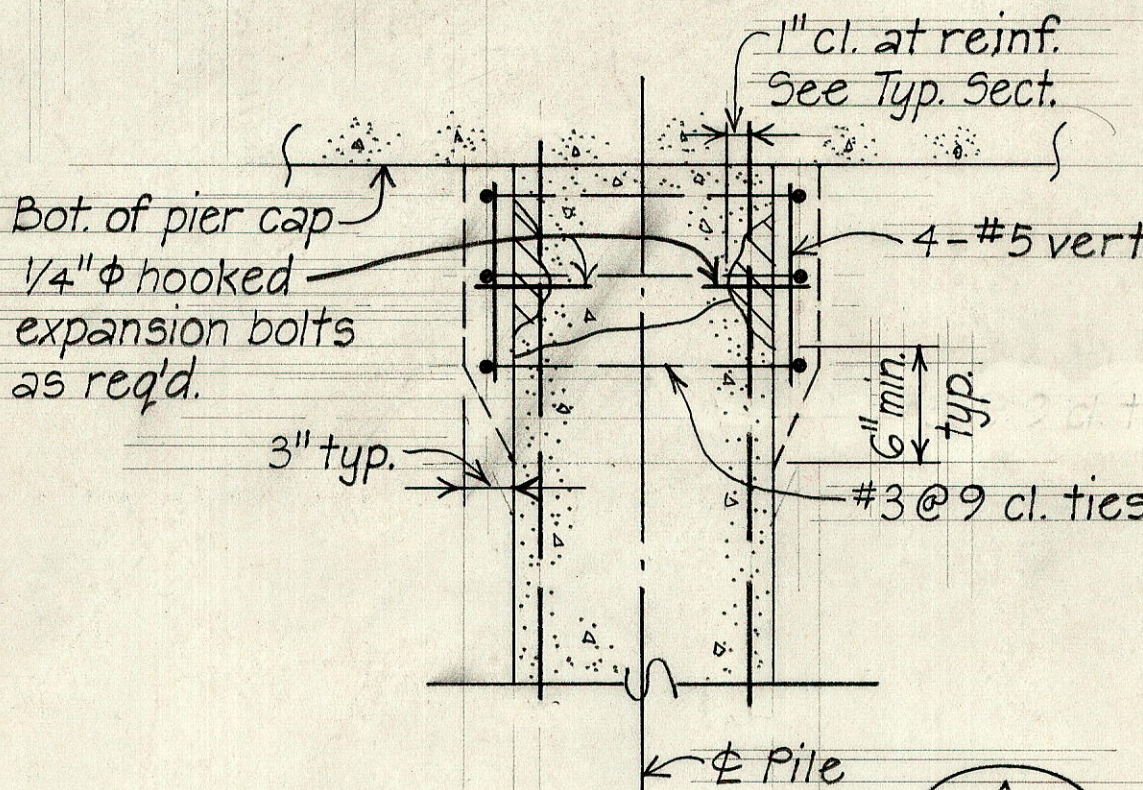
SPlice BAR WELD SCHEDULE		
SIZE OF BAR	SIZE OF WELD	LENGTH OF WELD
1/4" ϕ	1/8"	1 1/2"
1/2" $\square$	1/4"	1 1/2"
3/4" $\square$	1/4"	3"
7/8" $\square$	5/16"	3 1/2"
1 1/8" $\square$	3/8"	4"



TYPICAL REINF. BAR REPAIR SPLICE DETAIL No Scale



PILE - TYPE II REPAIR



SECTION

PILE REPAIR

No scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REPAIRS TO WAIMANANA BRIDGE

Proj. No. 83C-01-77M
Scale: As noted Date: April 1977
SHEET No. 2 OF 3 SHEETS