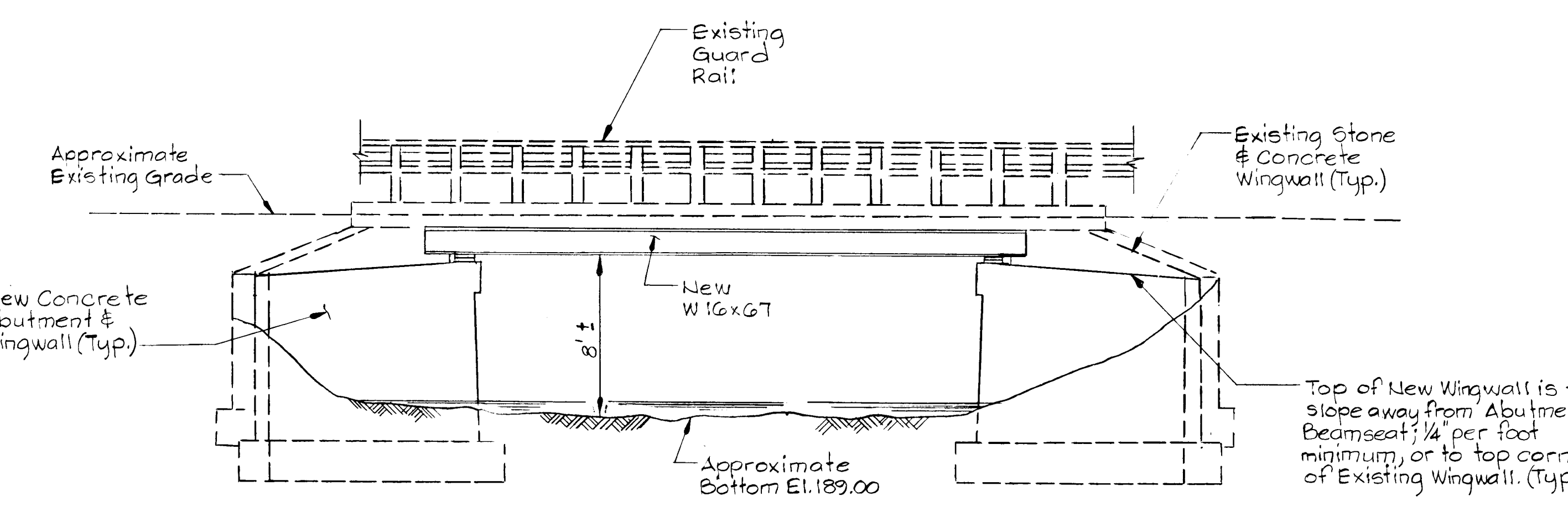
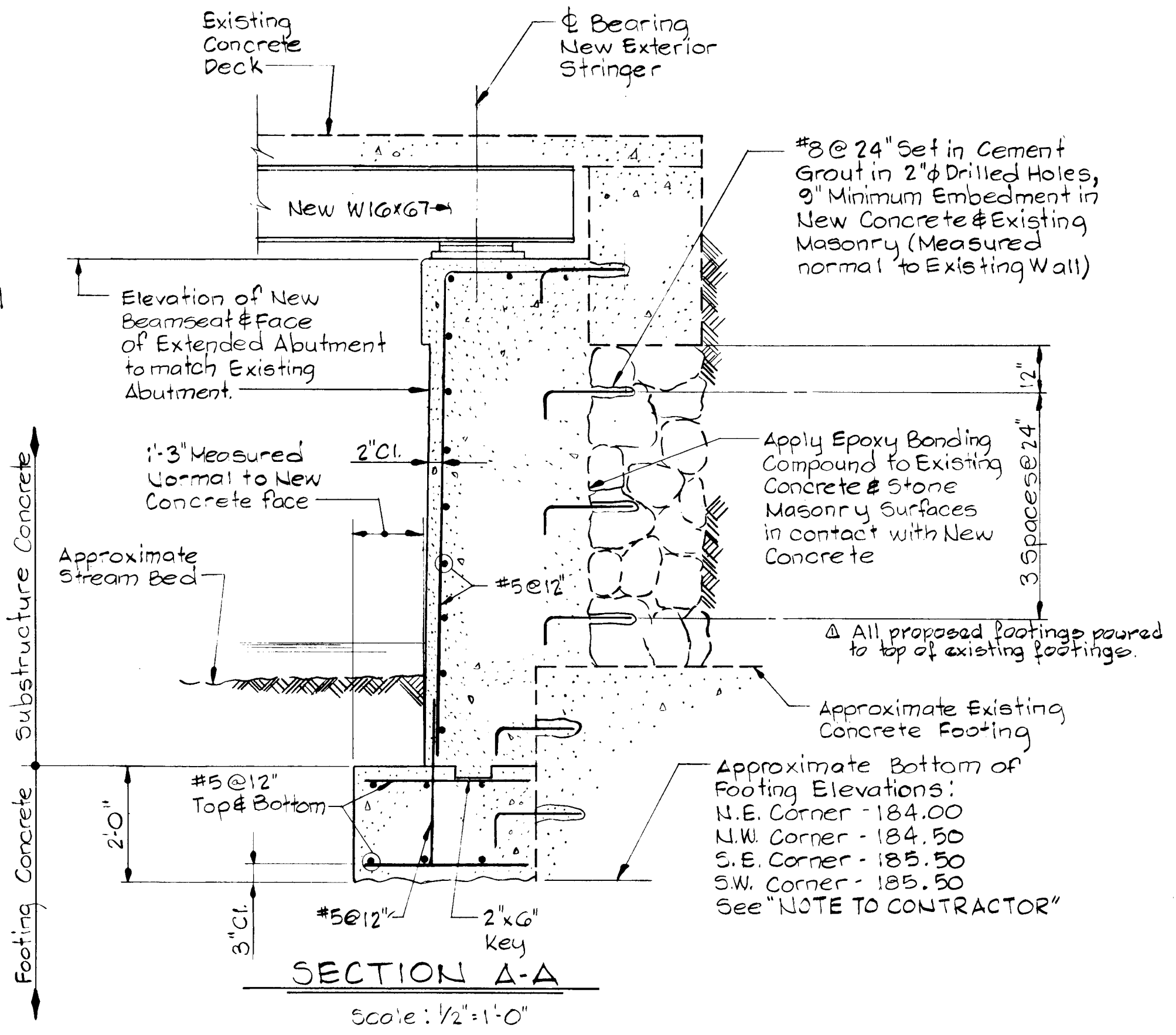


PLAN  
Scale: 3/16" = 1'-0"



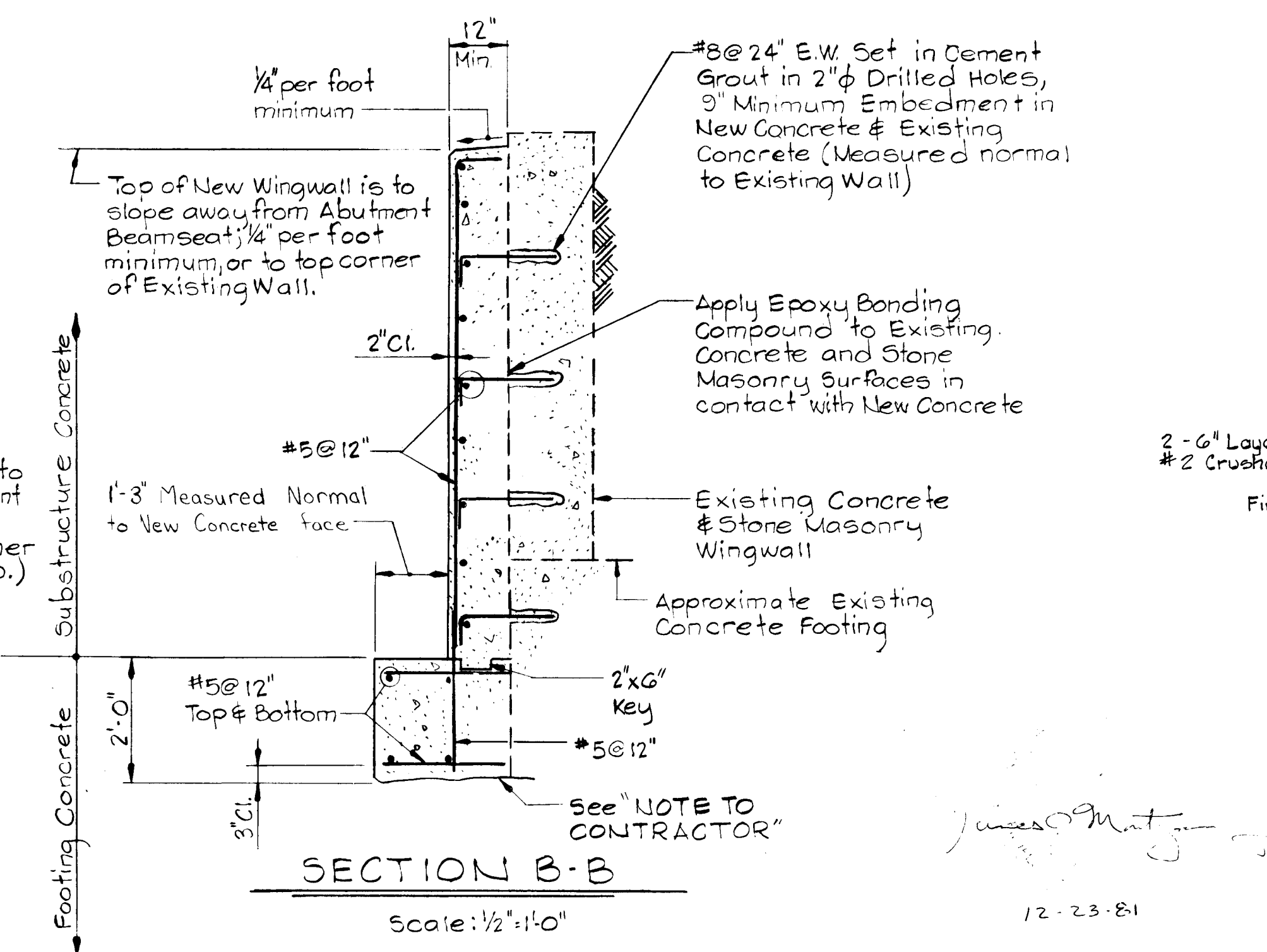
ELEVATION  
Scale: 3/16" = 1'-0"



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

**NOTE TO CONTRACTOR**

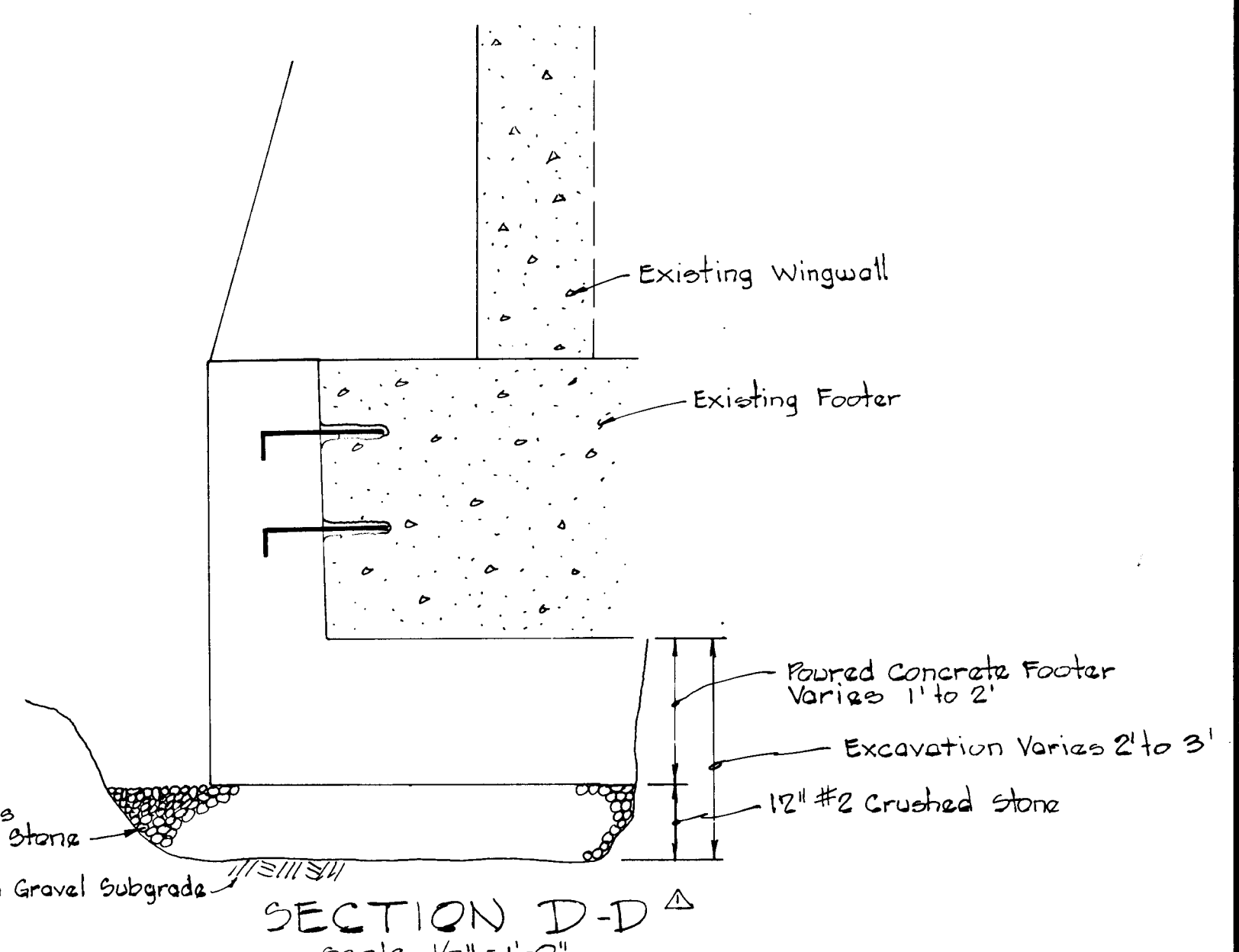
The Footings are to be founded on solid rock. Elevations shown are approximate and are given as an aid to the Contractor. Contractor to provide a level bearing area for New Footings. Foundation areas shall be inspected and approved by the Engineer prior to the placement of Footing Concrete.



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

**GENERAL NOTES**

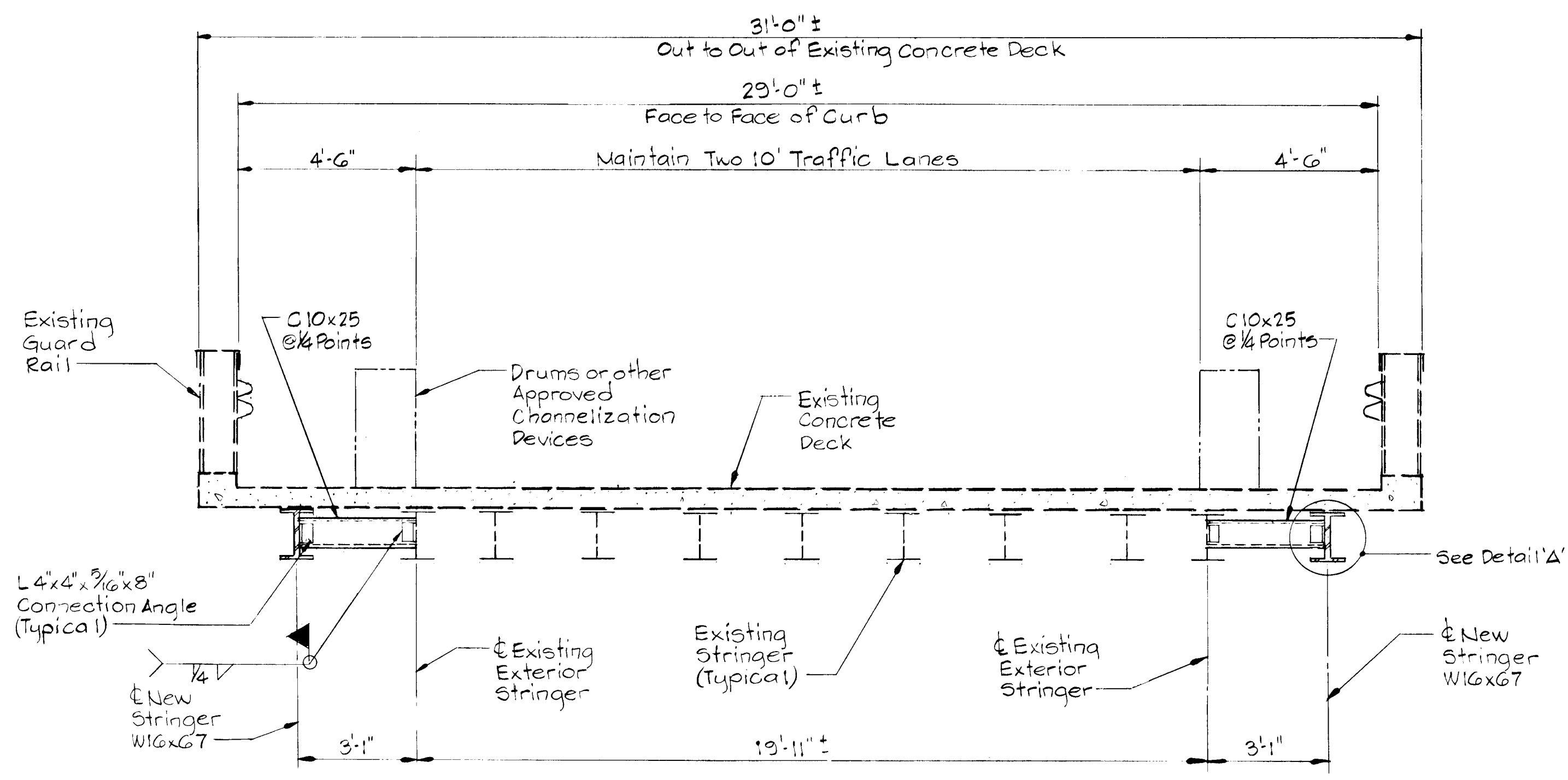
- Specifications: Howard County Standard Specifications for Construction approved December 1, 1980.
- A.A.S.H.T.O. Standard Specifications for Highway Bridges dated 1977 for design including 1978, 1979 and 1980 Interim Specifications.
- Concrete Design: Service Load Design Method  $f_c = 1,200$  psi.
- Reinforcing Steel Design:  $f_s = 24,000$  p.s.i.
- Loading: HS-20
- Concrete: Concrete shall be mix No. 3, 3,500 p.s.i.
- Chamfer: All exposed corners of concrete shall be chamfered  $3/4 \times 3/4$ " with milled chamfer strips.
- Reinforcing Steel: Reinforcing steel shall conform to A.S.T.M. Designation A-615 Grade 40. All splices shall be lapped a minimum of 30 bar diameters unless otherwise noted. Minimum cover for any bar shall be 2" unless otherwise noted.
- Dimensions: All dimensions affected by the geometrics, and/or location of existing structure are to be checked in the field by the Contractor, before any construction is done; and before any reinforcing steel, etc., is ordered or fabricated. It shall be the responsibility of the Contractor to supply the Engineer with all field dimensions required to check detail shop drawings.
- Structural Steel: Structural steel shall be ASTM Designation A-36 Steel.
- Epoxy Bonding Compound: All existing concrete and stone masonry that will be in contact with new concrete shall be coated with an epoxy bonding compound approved by the Engineer.



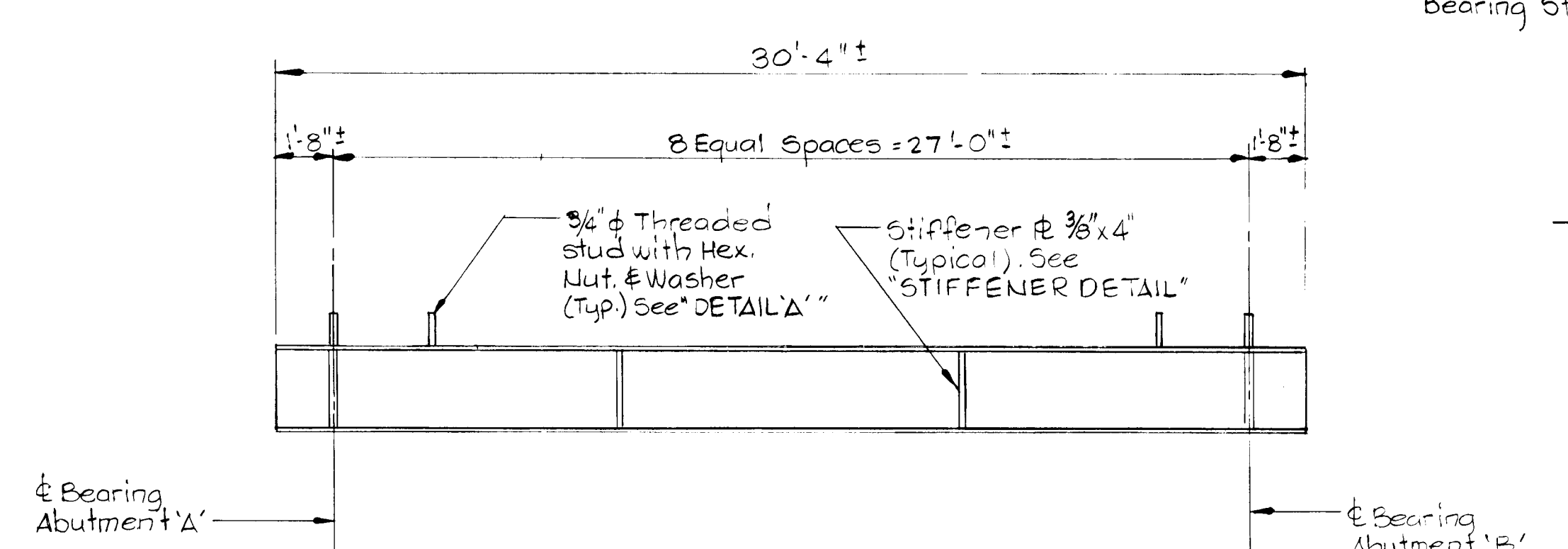
SECTION D-D  
Scale: 1/2" = 1'-0"

REVISIONS	HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS	
	OWEN BROWN ROAD OVER LITTLE PATUXENT RIVER	
	REHABILITATION PLANS CAPITAL PROJECT NO. B-3809-G	
	SCALE AS SHOWN	DATE SEPT, 1981 CONTRACT HO-71
DESIGNED BY: B.H.B.	DRAWN BY: M.A.L.	
CHECKED BY: J.O.M.	C135A201	
AS-BUILT 2-10-83		

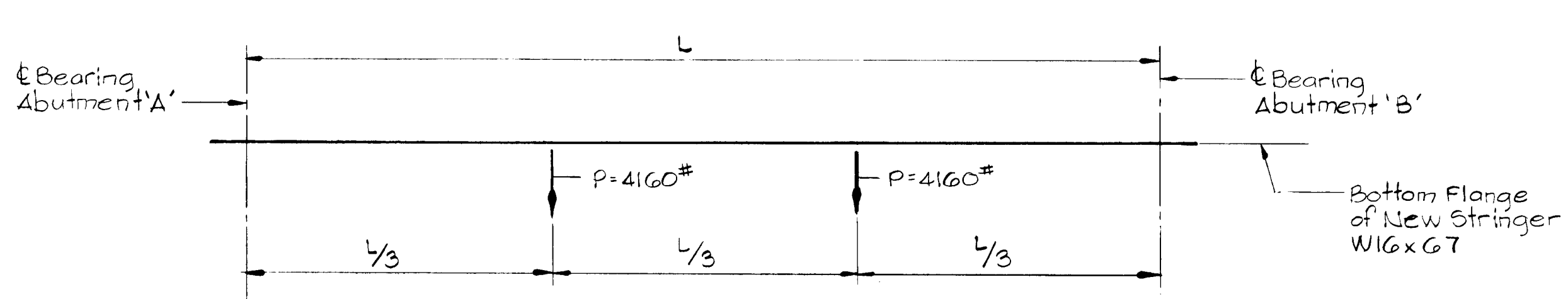
APPROVED: CHIEF, DIVISION OF ROADS, BRIDGES & STORMDRAINS <i>Elizabeth Anderson Collier</i> DATE 12/29/81	APPROVED: CHIEF, BUREAU OF ENGINEERING <i>William B. Riley</i> DATE 12-30-81	APPROVED: DIRECTOR, DEPARTMENT OF PUBLIC WORKS <i>John F. Miller</i> DATE 1-4-82	DUFFY, MONTGOMERY & ASSOCIATES ENGINEERS BALTIMORE, MARYLAND
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**DECK SECTION**  
Scale: 3/8" = 1'-0"

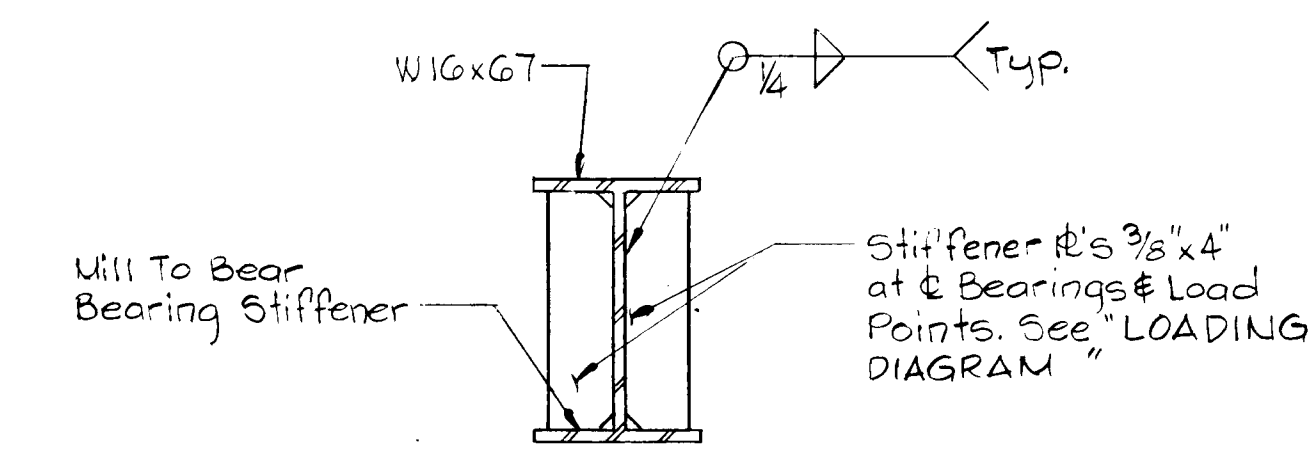


**ELEVATION**



**LOADING DIAGRAM**

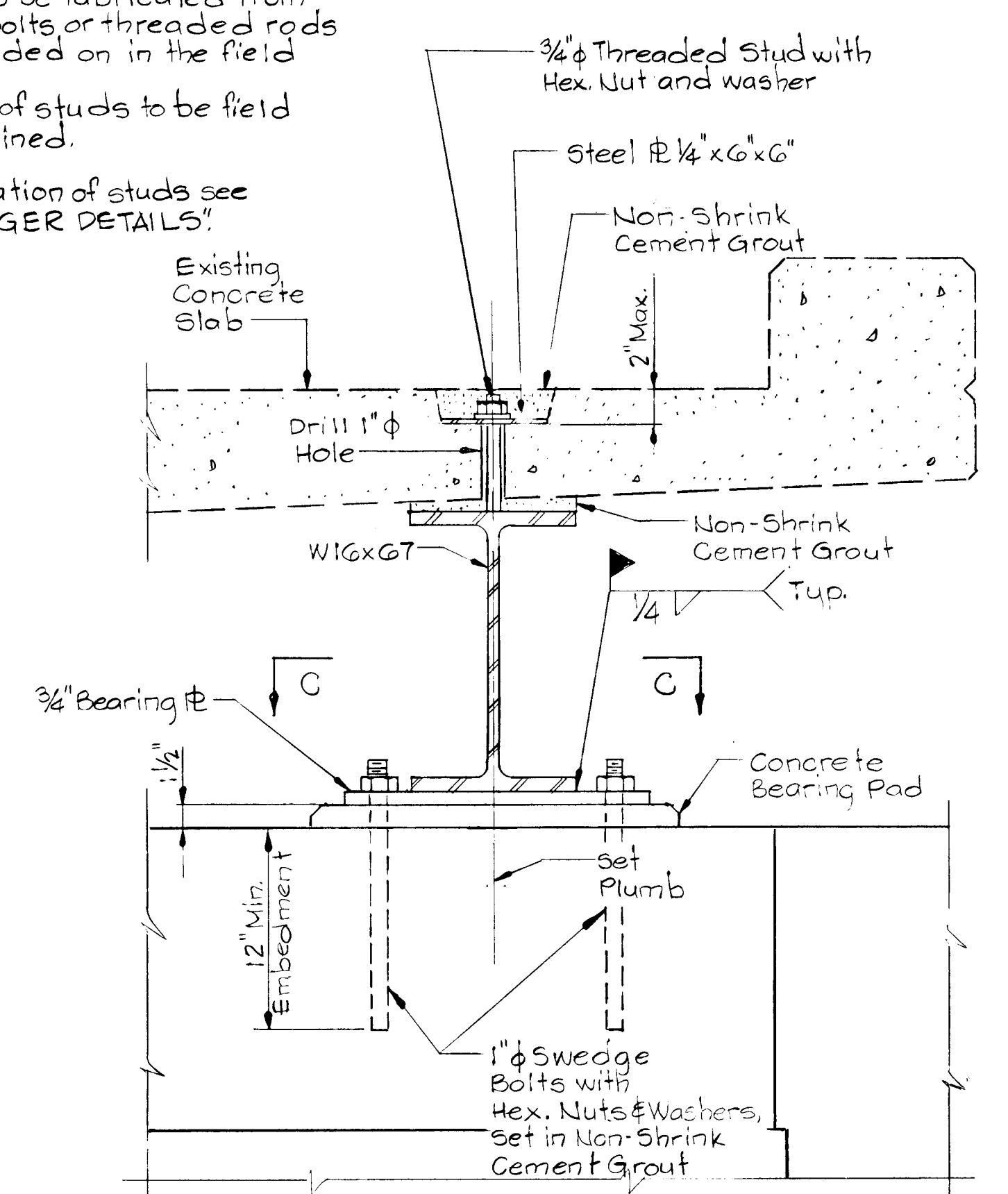
**STRINGER DETAILS**  
Not to Scale



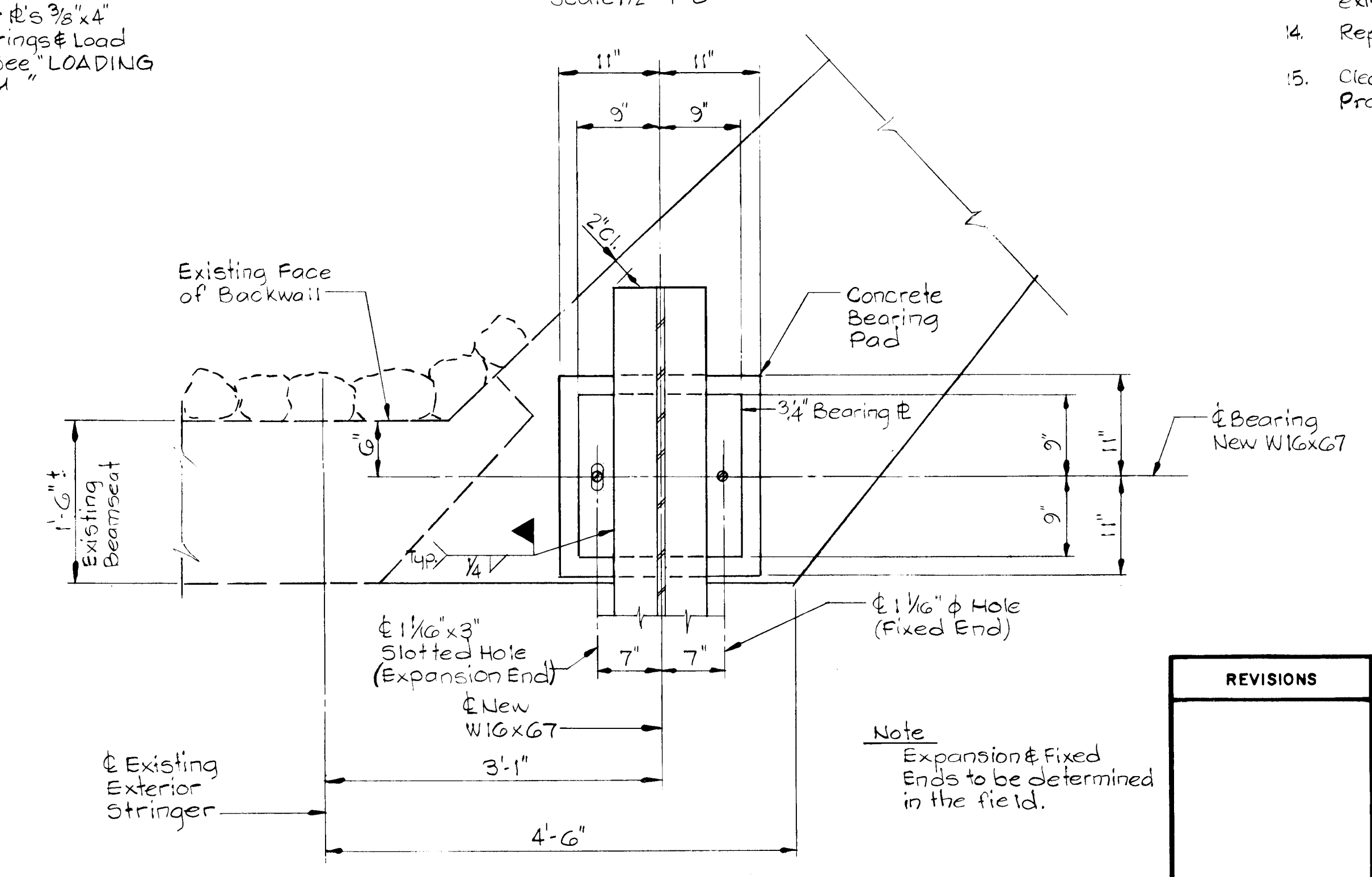
**STIFFENER DETAIL**  
Scale: 1" = 1'-0"

**Notes:**

1. Studs to be fabricated from A-307 Bolts or threaded rods and welded on in the field
2. Length of studs to be field determined.
3. For location of studs see "STRINGER DETAILS"



**DETAIL 'A'**  
Scale: 1/2" = 1'-0"



**SECTION C-C**  
Scale: 1" = 1'-0"

**Note**  
Expansion & Fixed Ends to be determined in the field.

**SEQUENCE OF CONSTRUCTION**

1. Erect signs, barricades, warning devices, etc., to safely channel traffic across the center of the structure, maintaining two 10' traffic lanes. See "Special Provisions"
2. Locate and drill holes in south side of existing concrete deck slab for attachment of new exterior stringer.
3. Locate and weld studs and stiffeners to new stringer.
4. Bolt stringer to underside of deck slab. Stringer to be drawn up snug to the deck and shall be plumb.
5. Construct new concrete abutments and wingwalls on south side of bridge to lines and grades shown on plans.
6. Set bearing plates and 1" swedge bolts.
7. When concrete has reached a minimum compressive strength of 3,000 p.s.i. as demonstrated by cylinder tests, loosen all stud nuts and lower stringer onto bearing plates. Weld stringer to bearing plates. Stud nuts to be loosened sufficiently, to allow stringer to deflect under its own dead load and the applied loads.
8. Apply 4160# loads to stringer at locations shown on "LOADING DIAGRAM".
9. Grout void between top flange and bottom of slab with non-shrink cement grout.
10. When grout has reached its full compressive strength in accordance with manufacturers recommendations, and as approved by the Engineer, remove applied loads.
11. Tighten all stud nuts snug to deck, and tighten bearing nuts.
12. Attach channel diaphragms.
13. Cut off studs flush to nuts and tack weld nuts. Fill holes in deck with non-shrink cement grout as required. Holes to be filled and finished in a workmanlike manner to maintain lines, grades, and appearance of existing deck slab.
14. Repeat steps 2 thru 14 for north side of structure.
15. Clean and paint steel in accordance with the Special Provisions.

**DUFFY, MONTGOMERY & ASSOCIATES**  
ENGINEERS  
BALTIMORE, MARYLAND

REVISIONS	HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS
	<b>OWEN BROWN ROAD OVER LITTLE PATUXENT RIVER REHABILITATION PLANS</b>
	CAPITAL PROJECT NO. B-3809-G
	SCALE AS SHOWN DATE SEPT, 1981 CONTRACT HO-71
	DESIGNED BY: B.H.B. DRAWN BY: M.A.L. CHECKED BY: J.O.M.

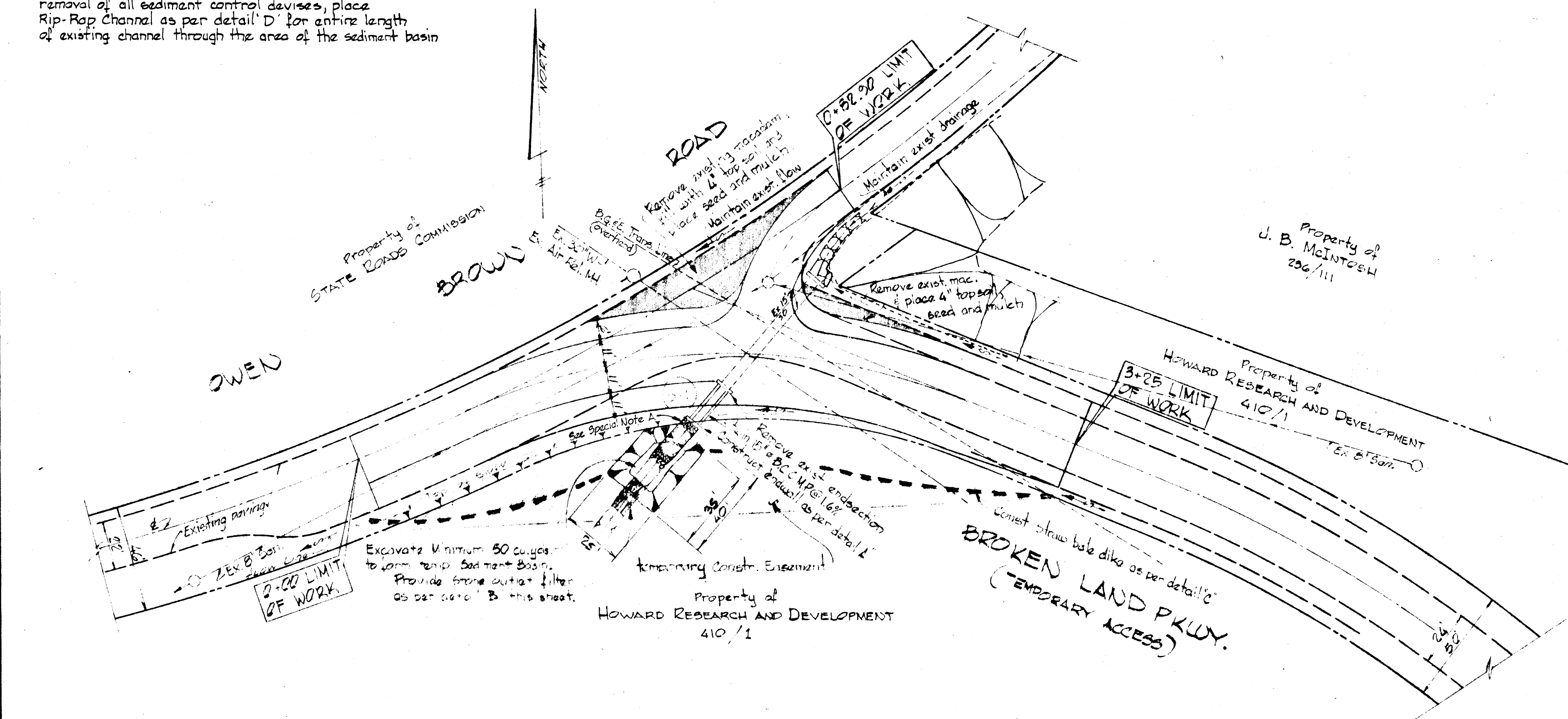


**SPECIAL NOTE "A"**

After stabilization of disturbed areas and removal of all sediment control devices, place Rip-Rap Channel as per detail 'D' for entire length of existing channel through the area of the sediment basin.

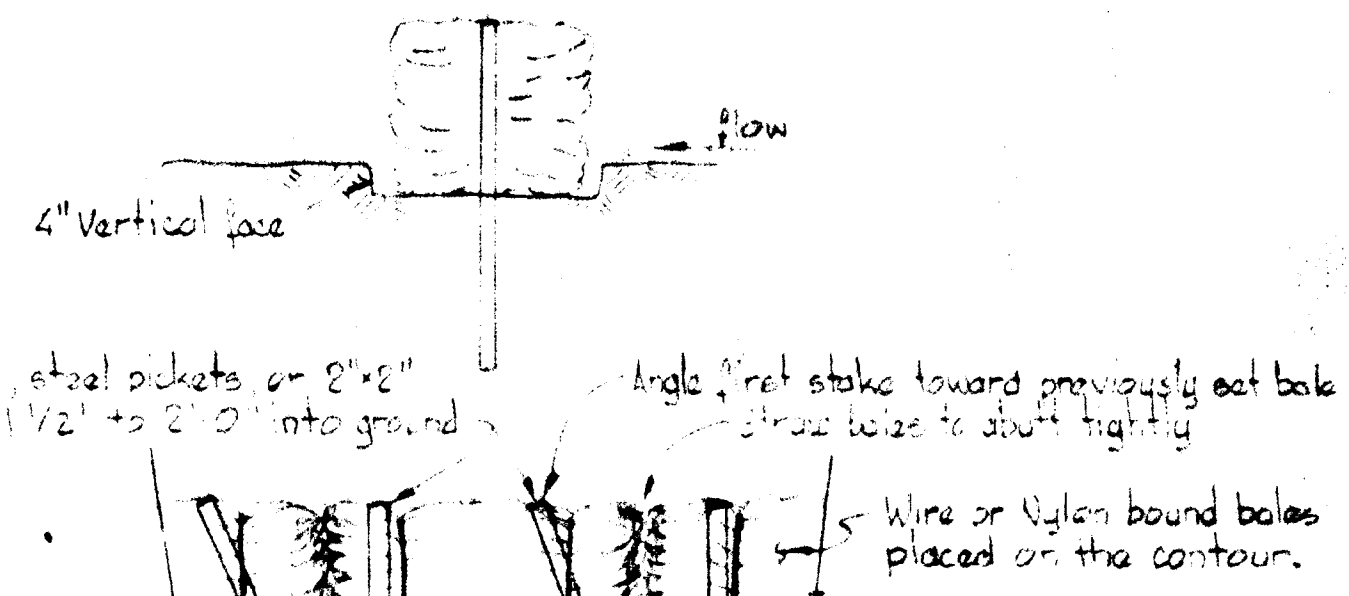
**SEDIMENT CONTROL NOTES**

1. Obtain grading permit
2. The Ho. Co. Bureau of Inspections, Licenses & Permits shall be given 24 hrs. notice prior to grading.
3. All slopes shall be max. 3:1
4. Excess material shall be stockpiled in areas as directed or approved by the Engineer in the field, and shall be stabilized in accordance with the Howard Soil Conservation Districts Standard Specifications.
5. All sediment and erosion control measures will be installed and stabilized according to this plan prior to any other grading, clearing or disturbance of the existing surface of the site. See Note No. 8 for stabilization except seed to be Annual Rye @ 1.4 lbs/1000 s.f.
6. All sediment control practices to conform to the "Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas" and shall be adjusted to meet actual field conditions.
7. Stabilization of disturbed ground to be done as soon after construction as possible.
8. All grading to be treated in accordance with the following:
  - A. Seed - certified 85% germination applied at the rate of 3 lbs/1000 s.f. Mixture - 40% Kentucky Blue, 20% chewing Fescue, 20% Kentucky 91 and 20% Annual Rye.
  - B. Fertilizer - 10-10-10 applied at a rate of 23 lbs/1000 s.f. Ground Agricul. Lime or Dolomitic Lime applied at a rate of 46 lbs/1000 s.f.
  - C. Mulch - Weed free grain straw applied at a rate of 46 lbs/1000 s.f. Mulch shall be secured to the ground by any approved method i.e.; asphalt tack, chemical binders, etc...
  - D. Sod - All sod used shall be Maryland State Certified.
9. All Sediment Control Structures are to remain in place until permission for removal is obtained from the Bureau of Inspections and Permits.
10. On-site Inspection and Maintenance of all Sediment Control Measures including cleanout of Sediment Traps and Dikes, and proper establishment of all planned vegetative measures will be the responsibility of the Contractor on a day to day basis.
11. It will be the contractors responsibility to provide additional Sediment and Erosion Control Devices, at his own expense, to protect existing stabilized areas as directed or required.
12. The Contractor shall keep all roadways free of sediment deposits left from Traffic leaving construction site.

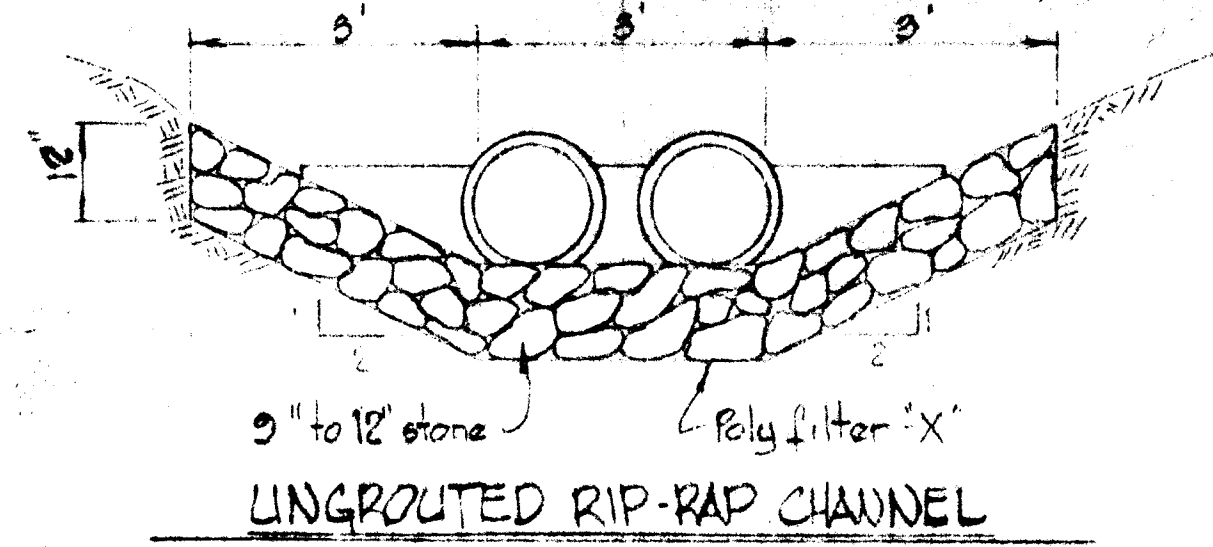


**CONSTRUCTION SEQUENCE**

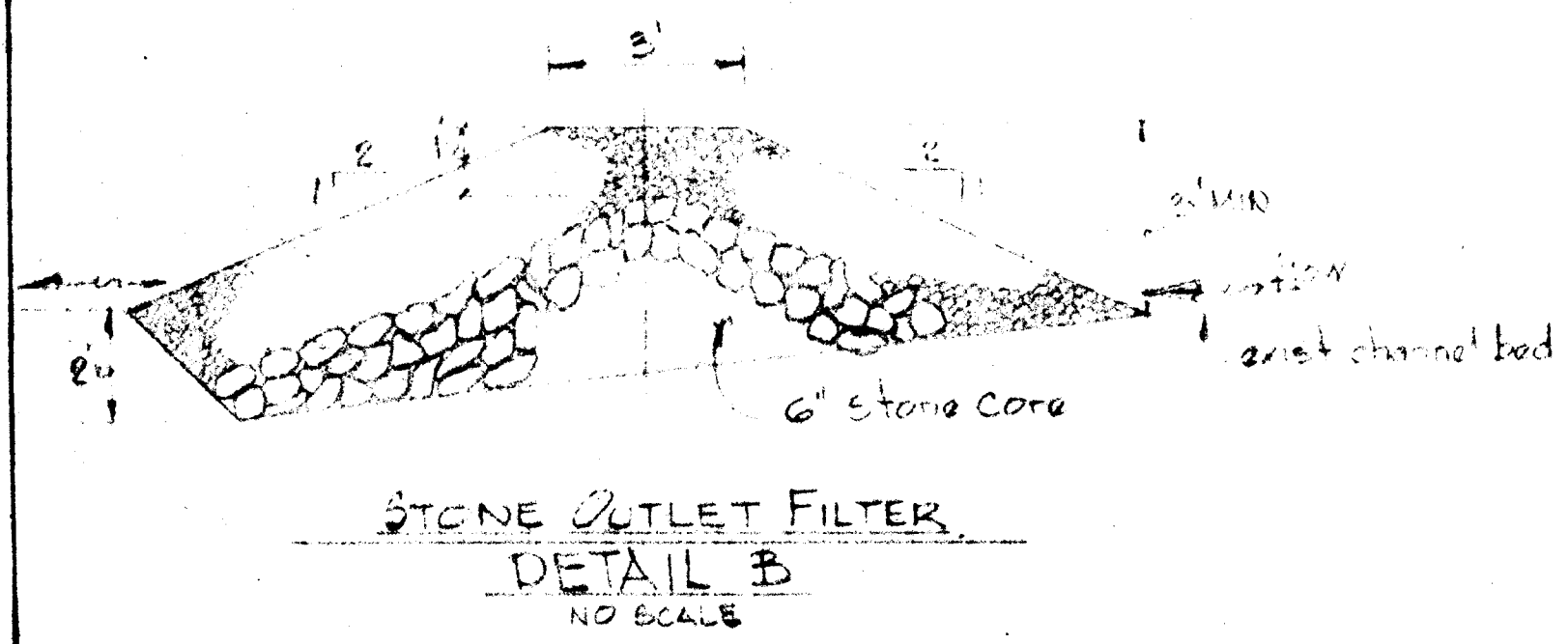
1. Construct straw bale dike and sediment trap as indicated on the plan and as shown in the appropriate details.
2. Remove existing curb and extend twin 15" dia B.C.C.M.P.s as shown on the plan and profile.
3. Remove and relocate existing guardrail and misc. sign posts etc. as directed in the field by the Engineer.
4. Establish thru-traffic detour route to avoid traffic volume. (to be done by Howard County Department of Public Works)
5. Maintain 2-10' wide traffic lanes by use of channelization and flagmen along north edge while southern lanes are brought to grade.
6. Maintain 2-10' lanes over new, southern lanes while northern lanes are brought to grade.
7. After construction along Broken Land Pkwy - Clean Owen Brown Road, locate close Owen Brown Road (North) and construct 12" interior curb.
8. Stabilize all disturbed areas as noted or directed.
9. Remove Sediment Control Devices.
10. Set 20" L.F. of Rip-Rap in existing channel as noted on the plan and profile, and as per detail 'D'.



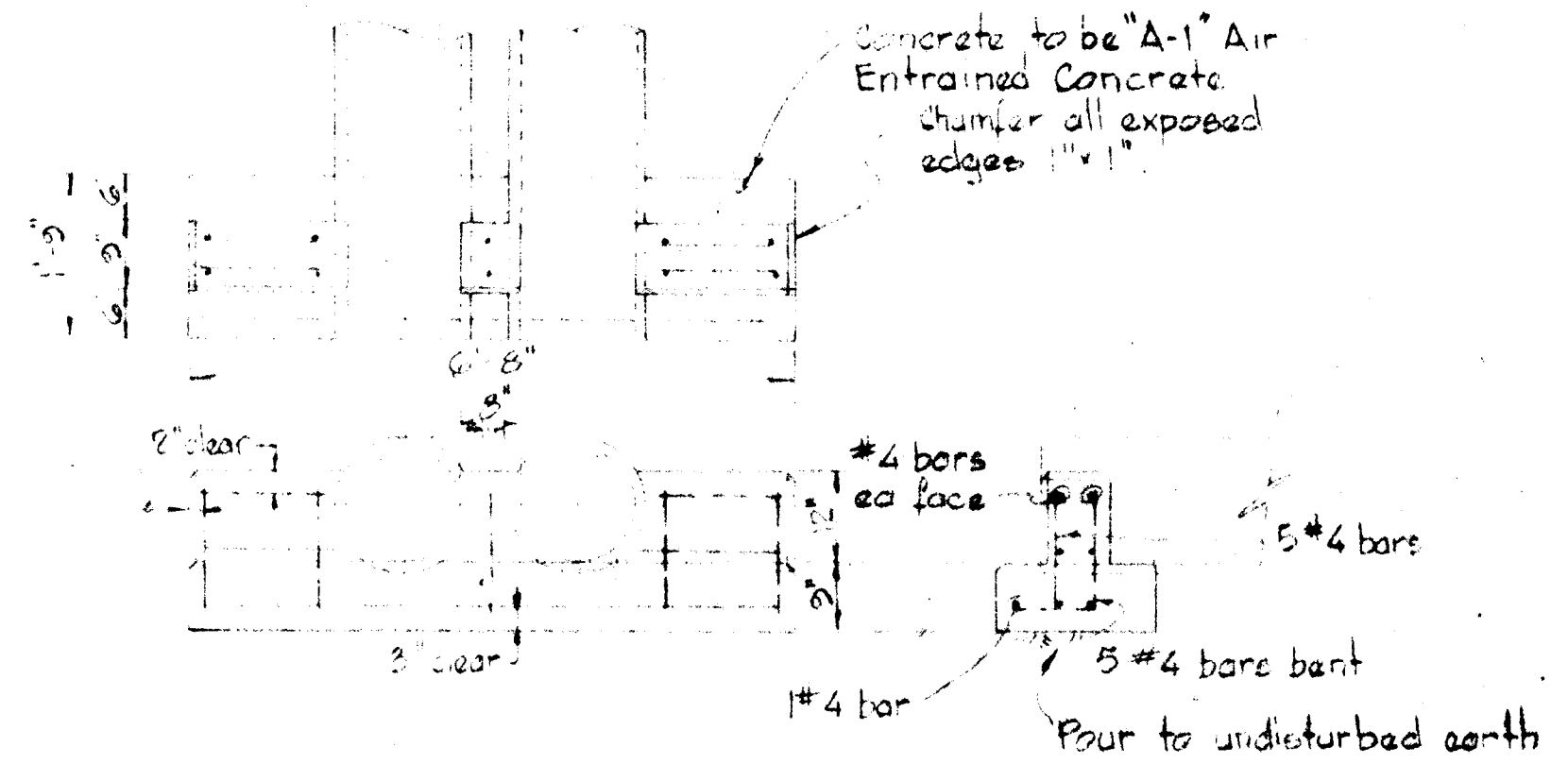
Note: 1) Inspection shall be frequent and repair or replacement shall be made promptly as needed.  
2) Bales shall be removed when they have served their usefulness so as not to impede return flow.



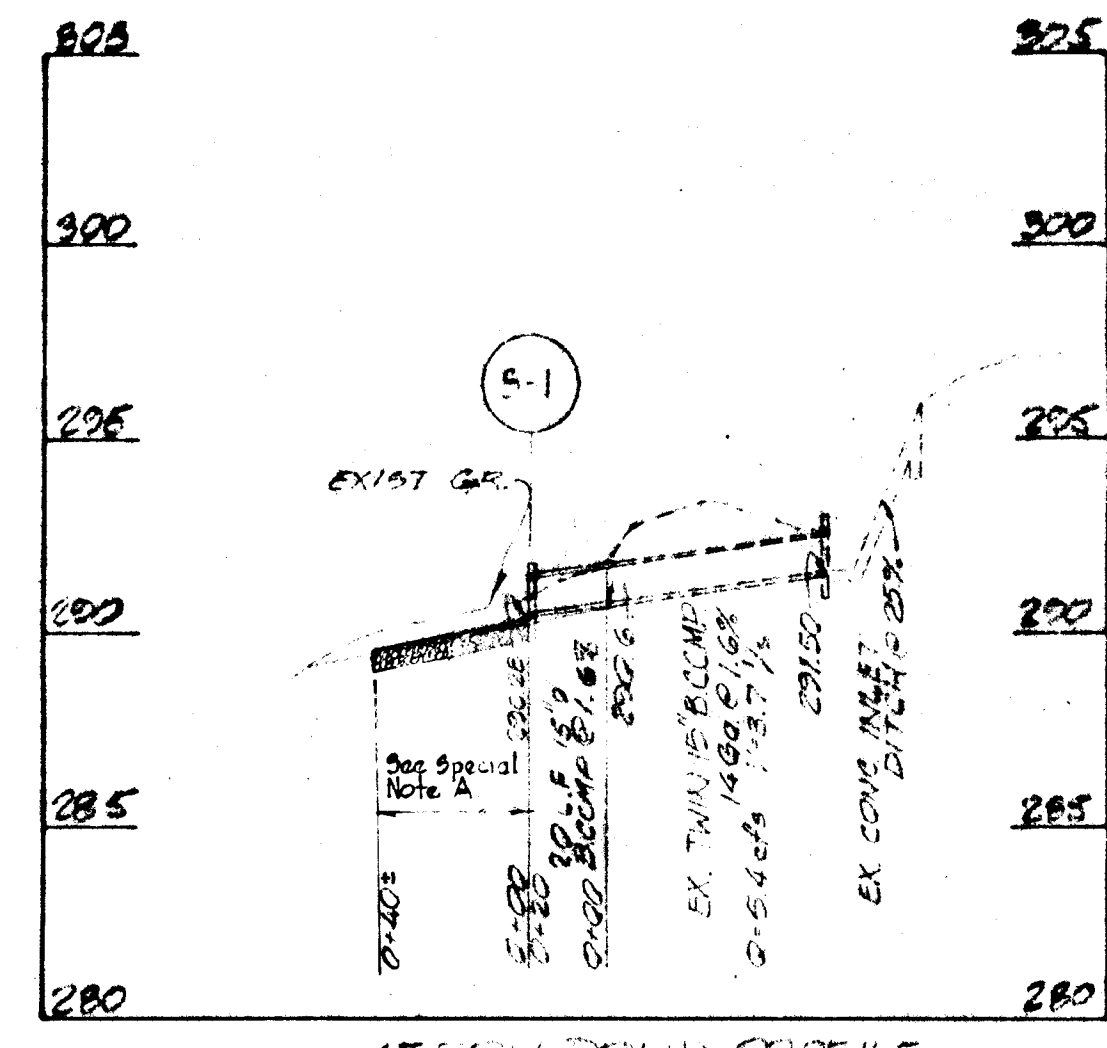
DETAIL D  
Scale: 1/2" = 1'-0"



DETAIL B  
NO SCALE



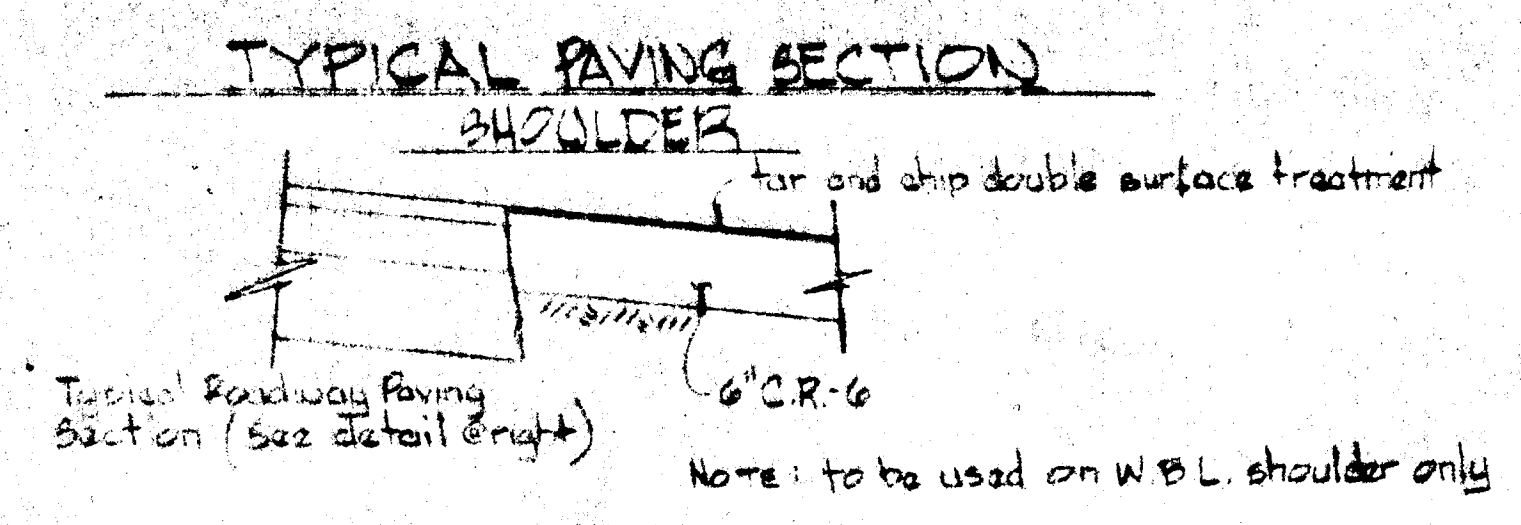
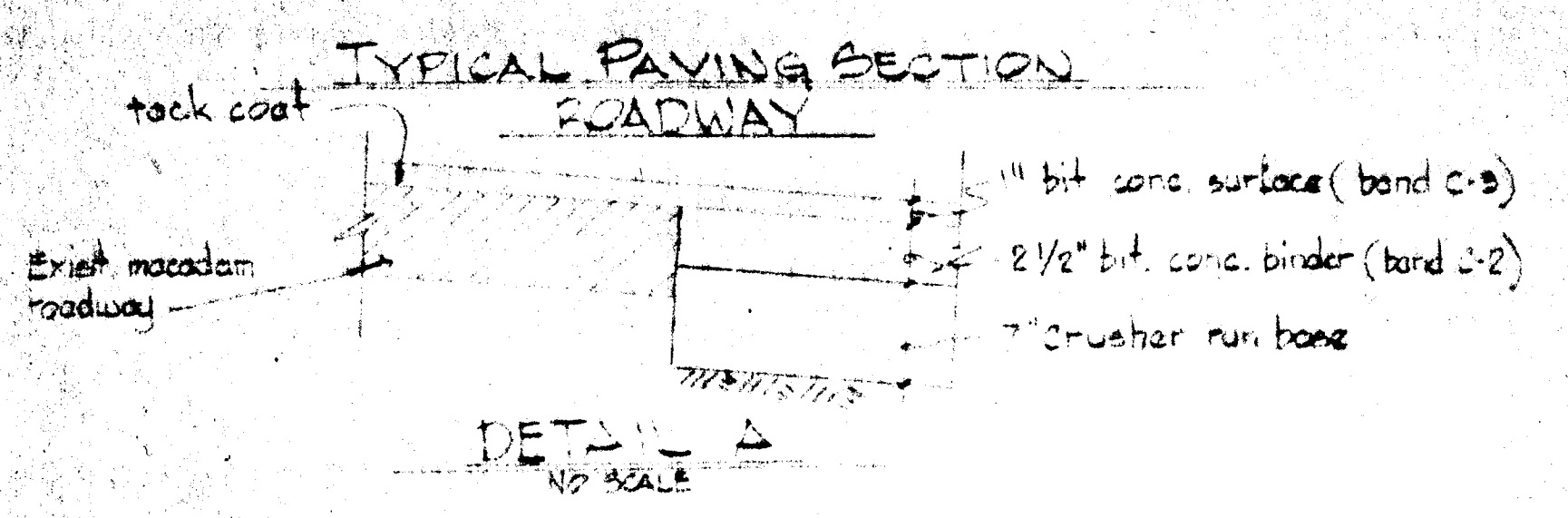
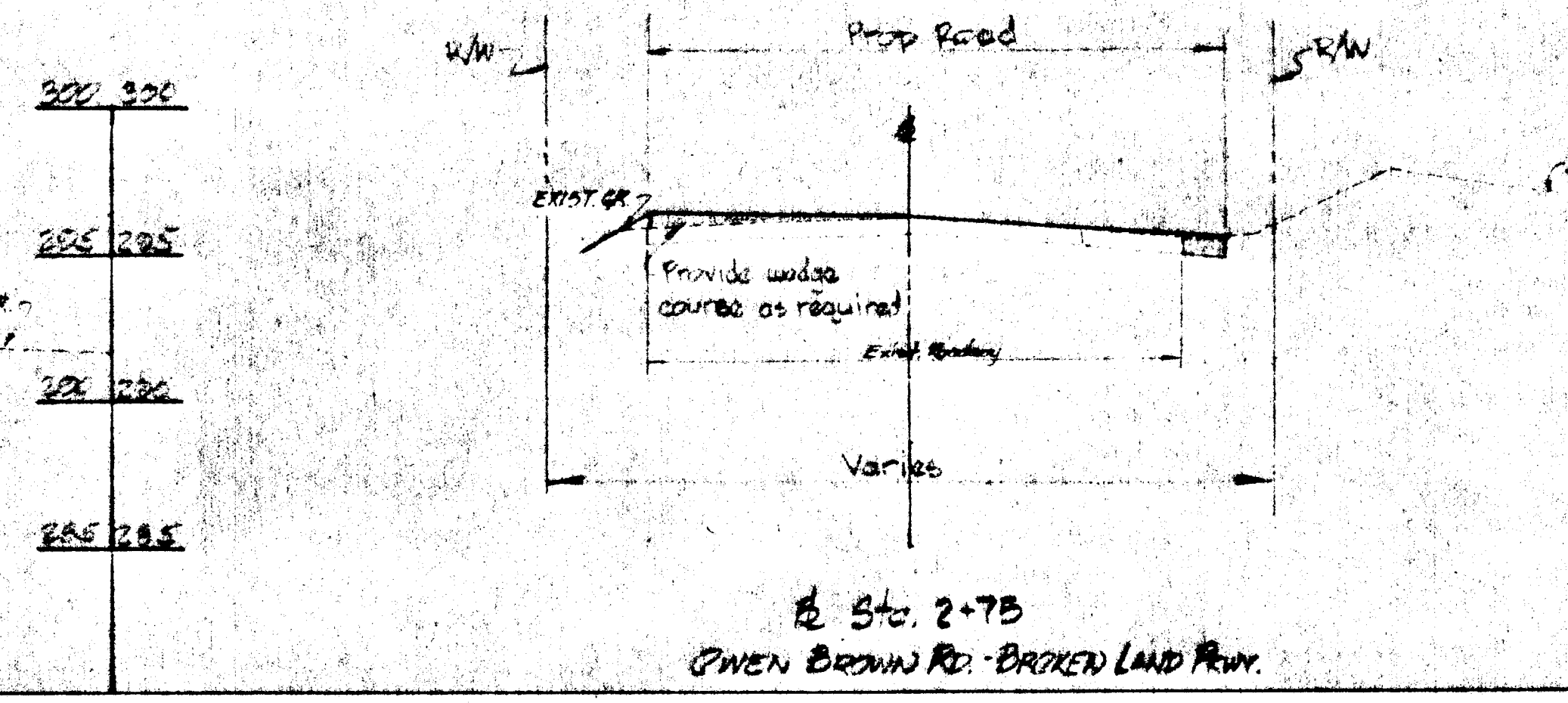
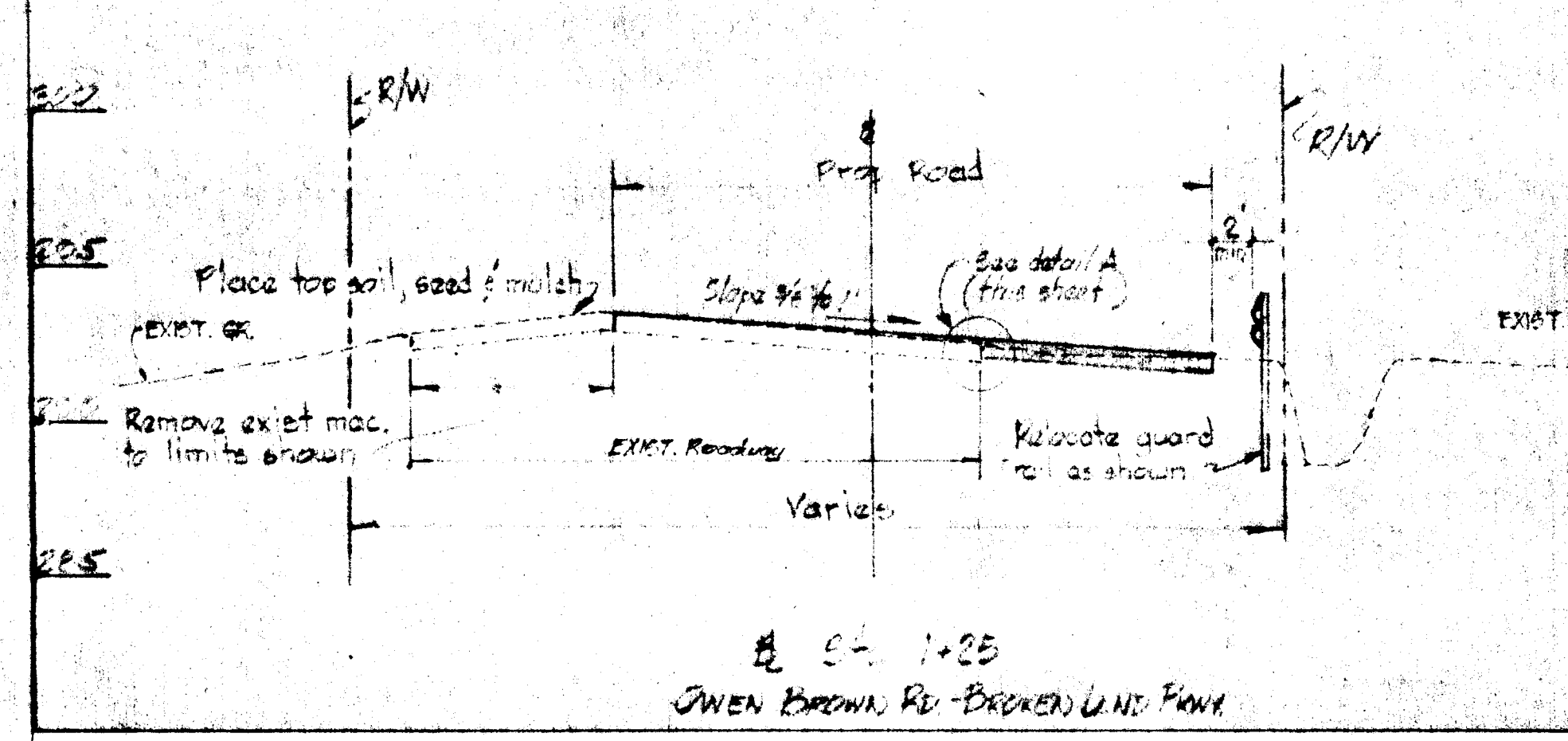
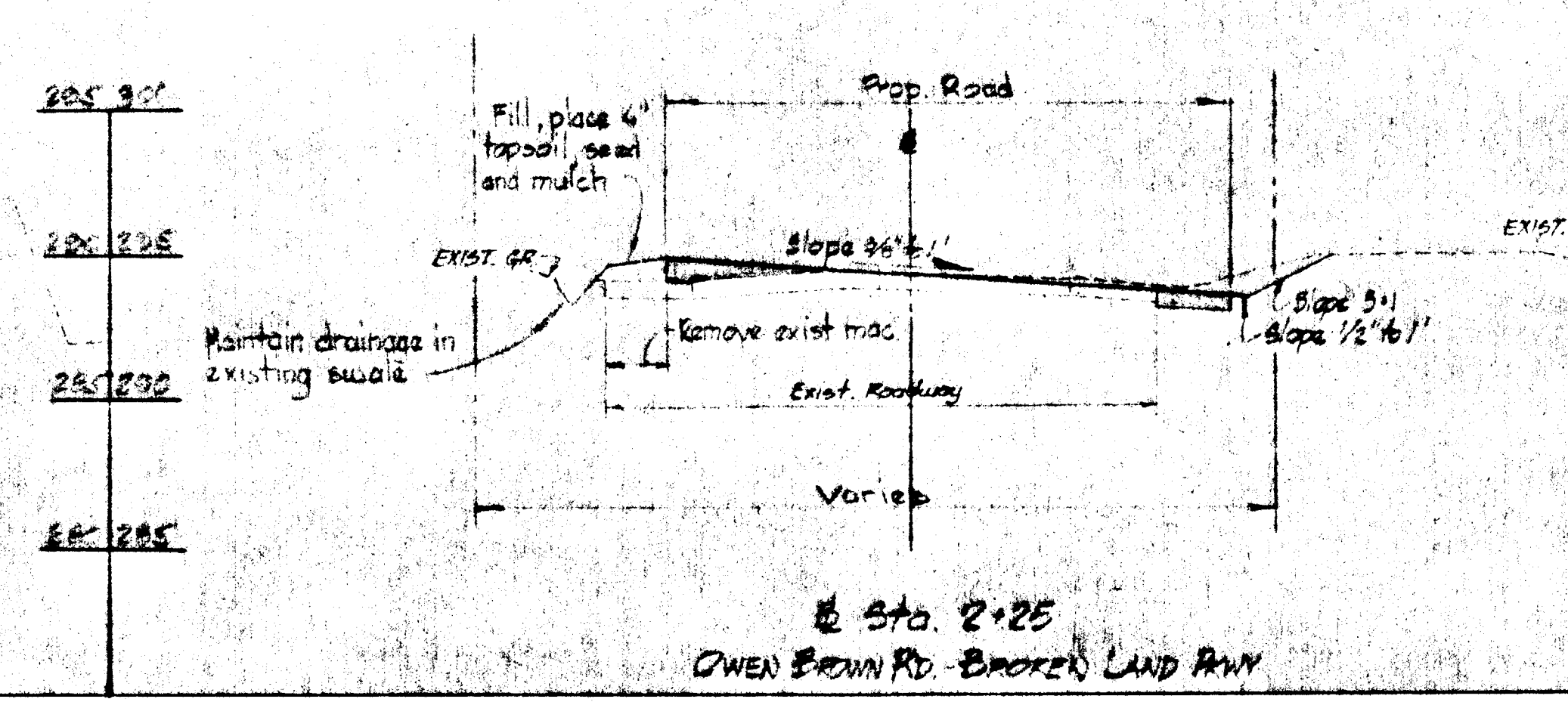
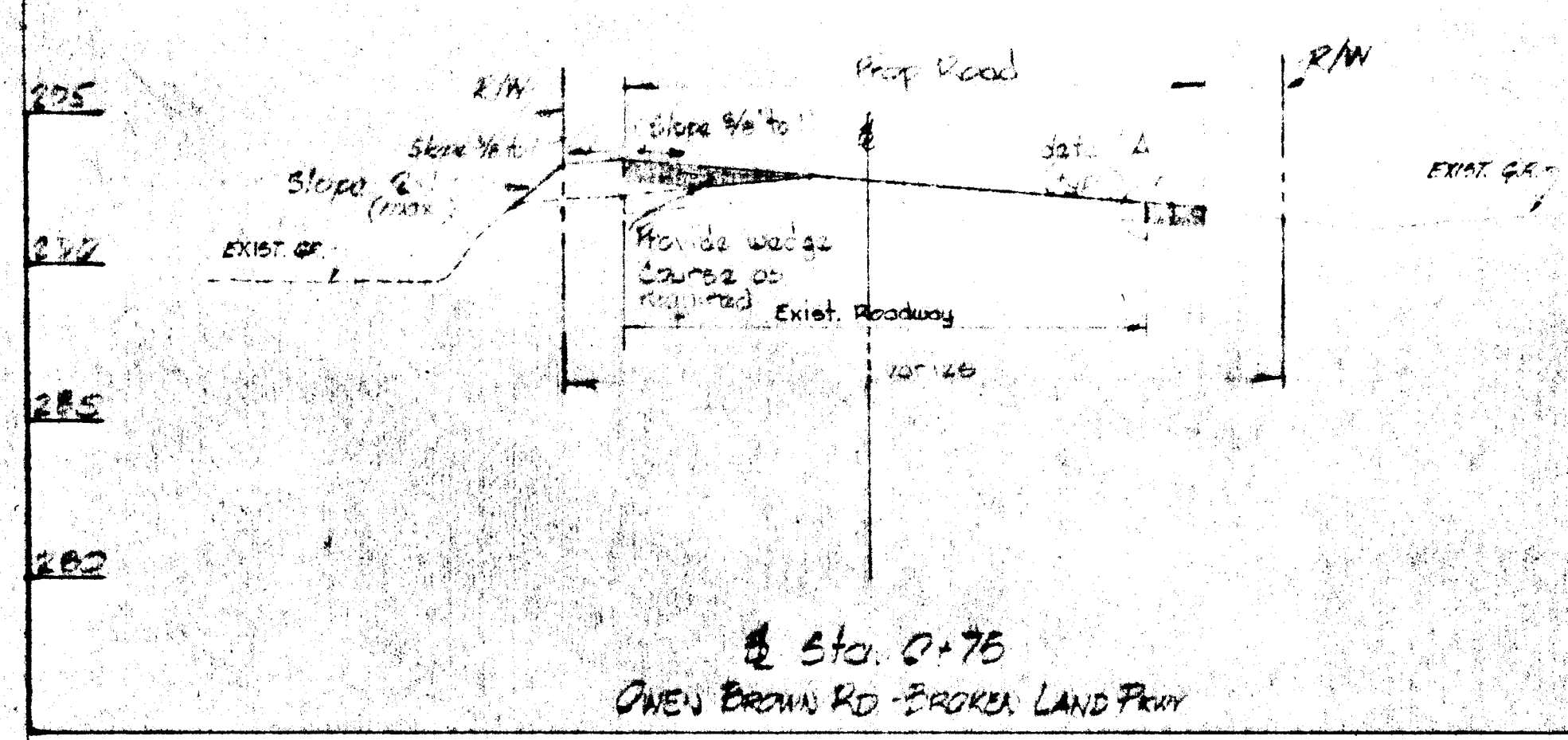
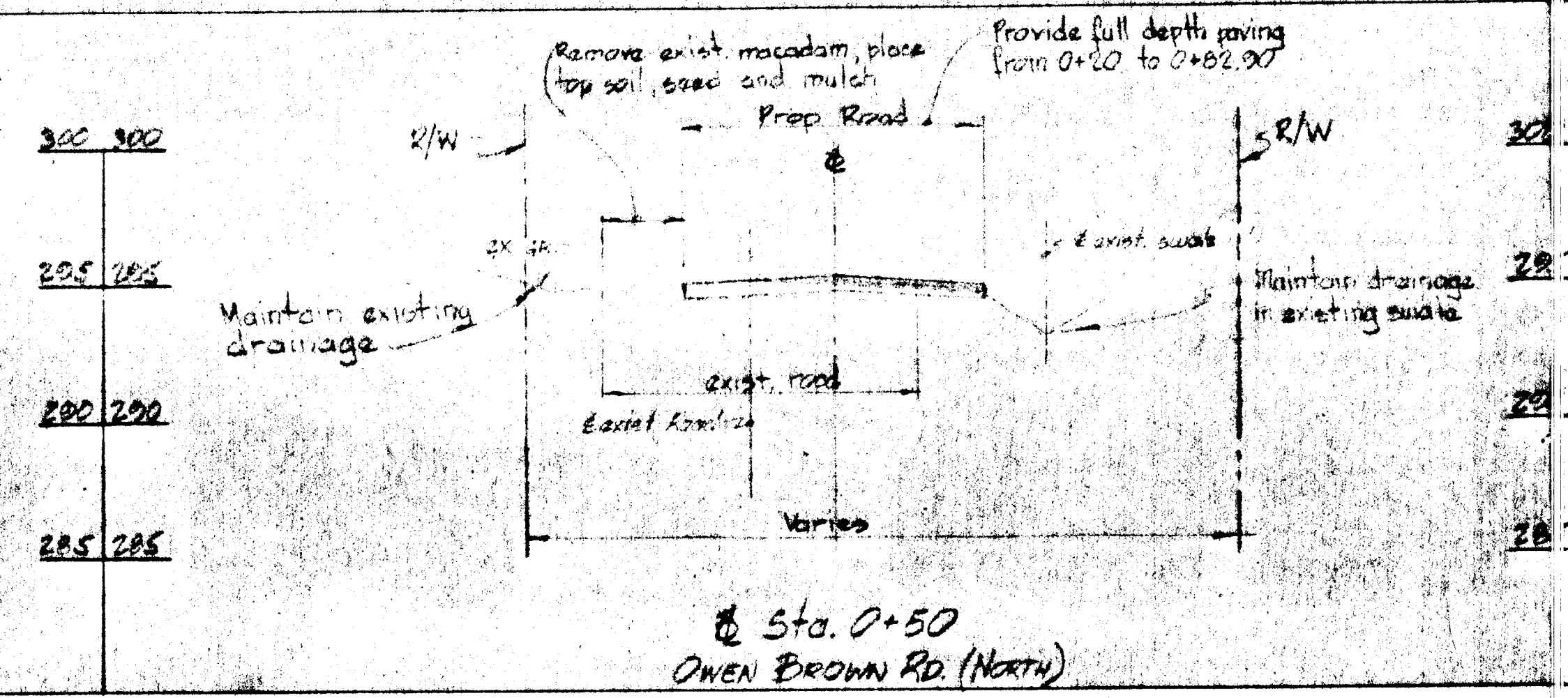
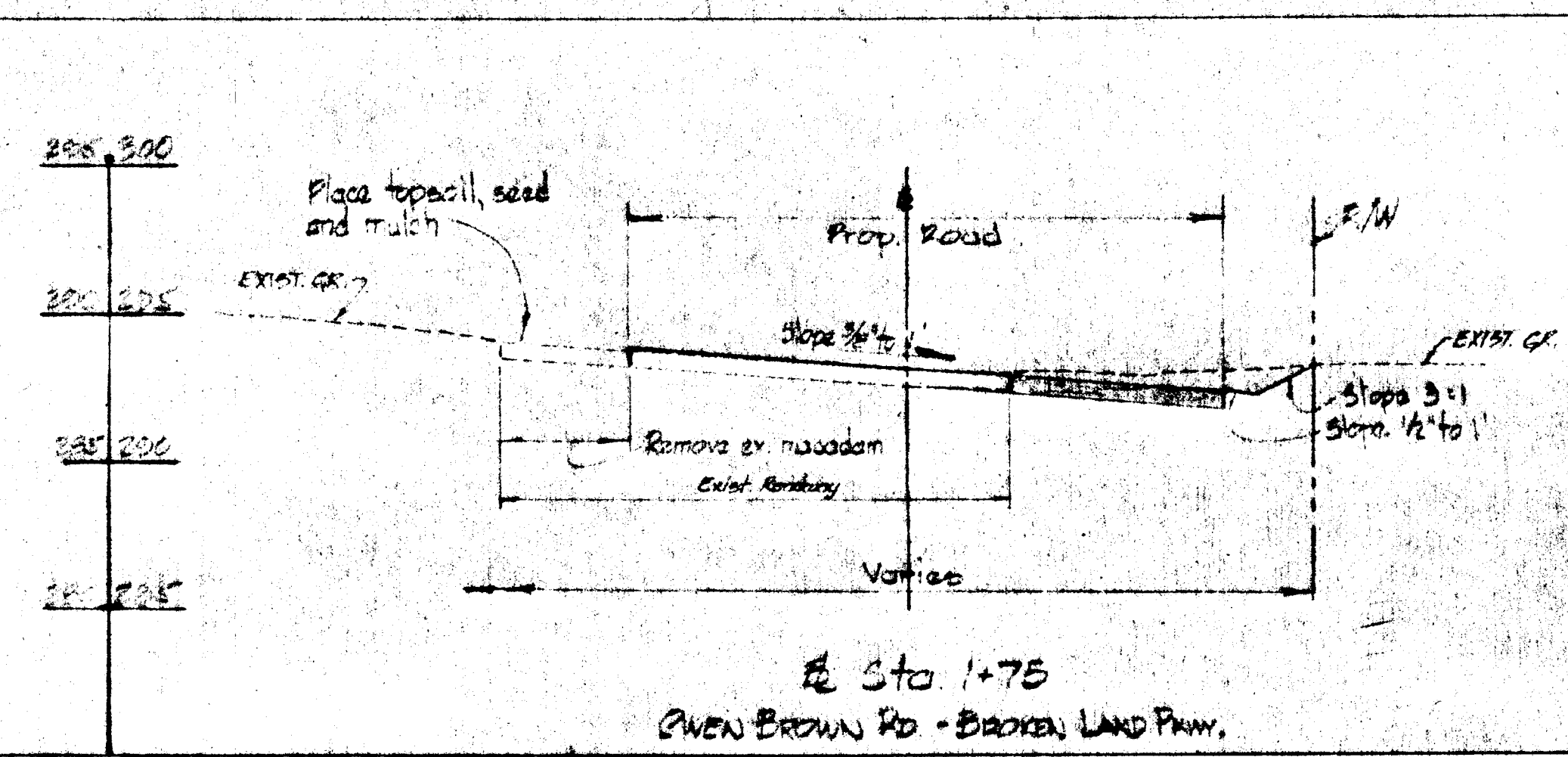
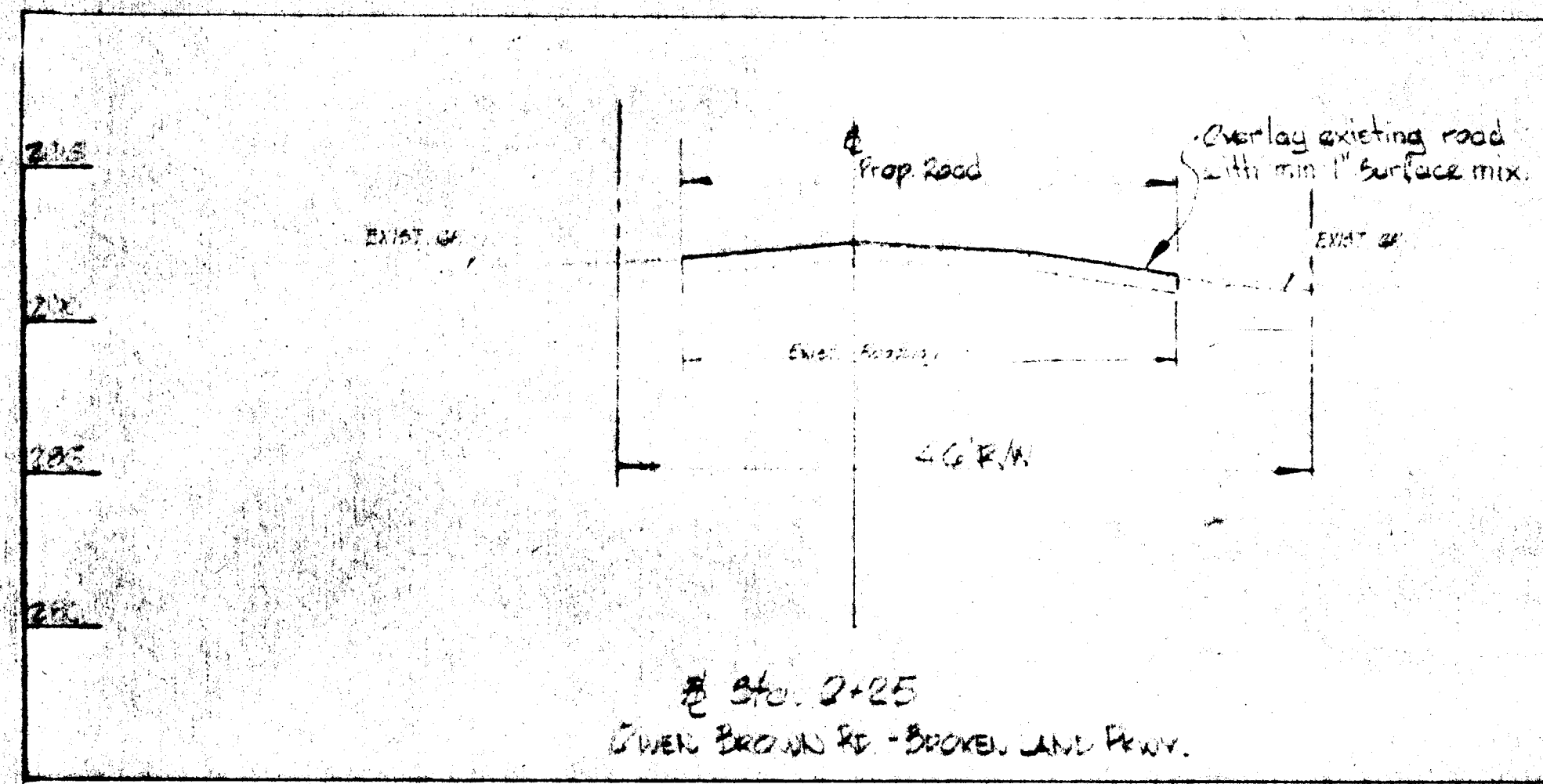
DETAIL A  
SCALE: 1/2" = 1'-0"



STORM DRAIN PROFILE  
SCALE: 1/2" = 1'-0"

APPROVED: DIVISION OF ROADS, BRIDGES & STORM DRAIN		DATE
Elizabeth Anderson-Lelia		3/5/91
CHIEF, DIVISION OF ROADS, BRIDGES & STORM DRAIN		DATE
APPROVED: DEPARTMENT OF PUBLIC WORKS		DATE
Joseph F. Nunn		3-3-91
DIRECTOR OF PUBLIC WORKS		DATE
Rev. No.	Rev. Date	Revision Description
4	7/8/00	Removed St. Johns La. from Proposal. Area and developer.
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS ELLCOTT CITY, MARYLAND		
Project Title CAPITAL PROJECT T-B-7000 GEOMETRIC INTERSECTION IMPROVEMENTS SEDIMENT CONTROL/TRAFFIC CONTROL		
Project Area OWEN BROWN RD @ BROKEN LAND PKWY. 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
Des.	M. WILHELM	Date: MAY 15, 1990
Drawn	M. WILHELM	Scale: AS NOTED
Chkd	DAC/EAC	Sheet: 1 of 4
Approved:		
William E. Nalley - Chief		3-3-91
Bureau of Engineering		





APPROVED - DIVISION OF PUBLIC WORKS		DATE
APPROVED - DIVISION OF ROADS, BRIDGES & STORM DRAINS		DATE
Elizabeth Anderson Palia		3/3/81
CHIEF - DIVISION OF ROADS, BRIDGES & STORM DRAINS		DATE
APPROVED - DEPARTMENT OF PUBLIC WORKS		DATE
Wm. F. Nimmey		3-3-8
DIRECTOR OF PUBLIC WORKS		DATE
4	7/8/80	Removed St. Johns Ln. from Proposal
Rev. No.	Rev. Date	Revision Description
Owner and Developer		
HOWARD COUNTY		
DEPARTMENT OF PUBLIC WORKS		
ELLCOTT CITY, MARYLAND		
Project Title		
CAPITAL PROJECT T-B-7000		
GEOMETRIC INTERSECTION IMPROVEMENTS		
ROADWAY CROSS-SECTIONS		
Project Area		
OWEN BROWN RD. @ BROKEN LAND PKWY		
6TH. ELECTION DISTRICT		
HOWARD COUNTY, MARYLAND		
Des. M. WILHELM	Date. APR. 30, 1979	
Drawn M. WILHELM	Scale: AS NOTED	
Chkd. DAC/EAC	Sheet 3 of 4	
Approved:		
William E. Poley - Chief		3-3-81
Bureau of Engineering		DATE

