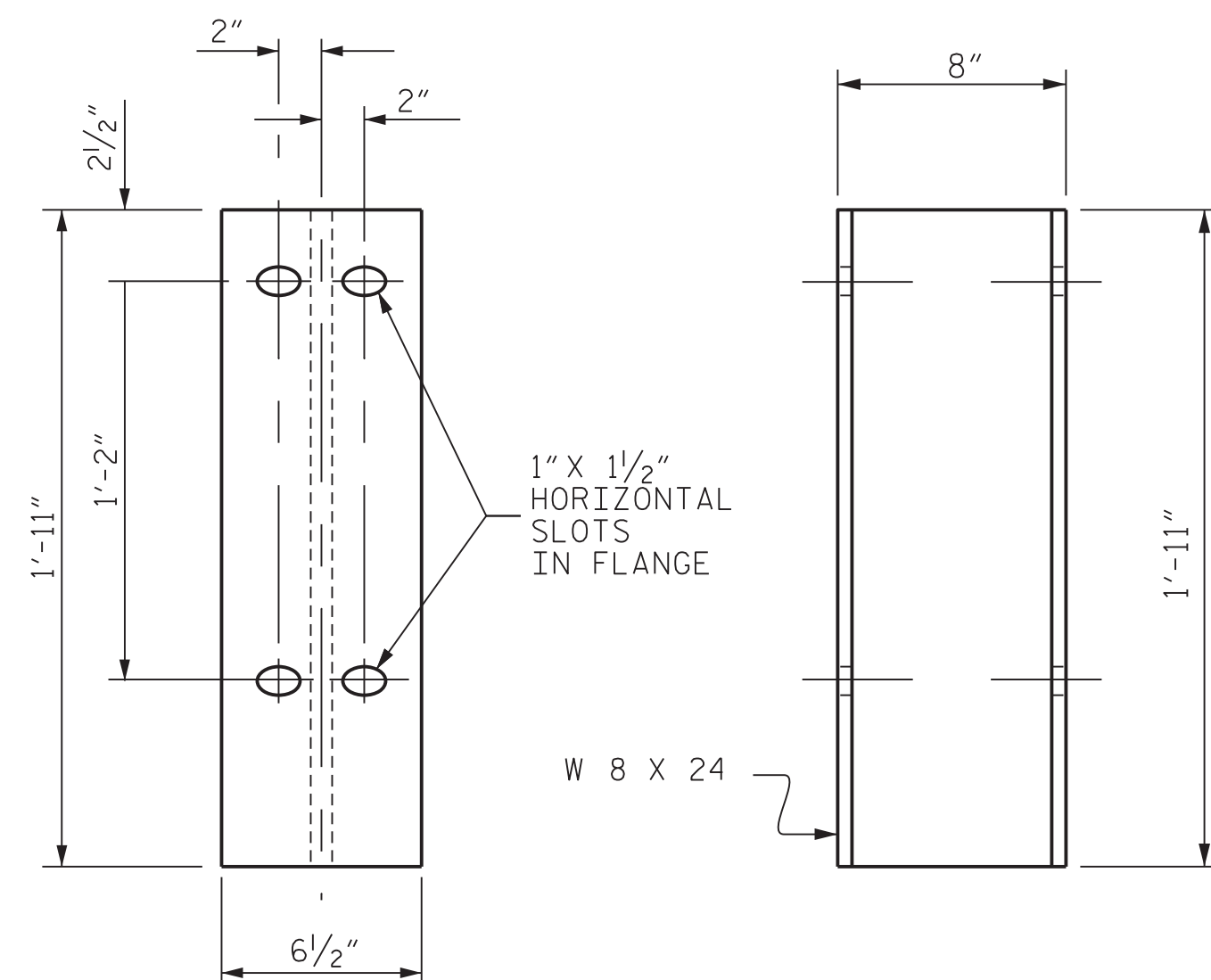
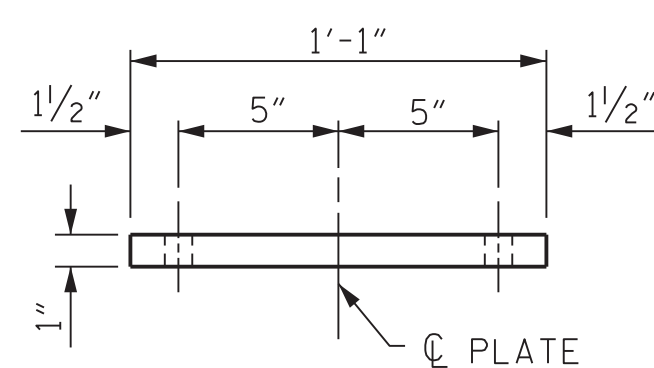


ELEVATION

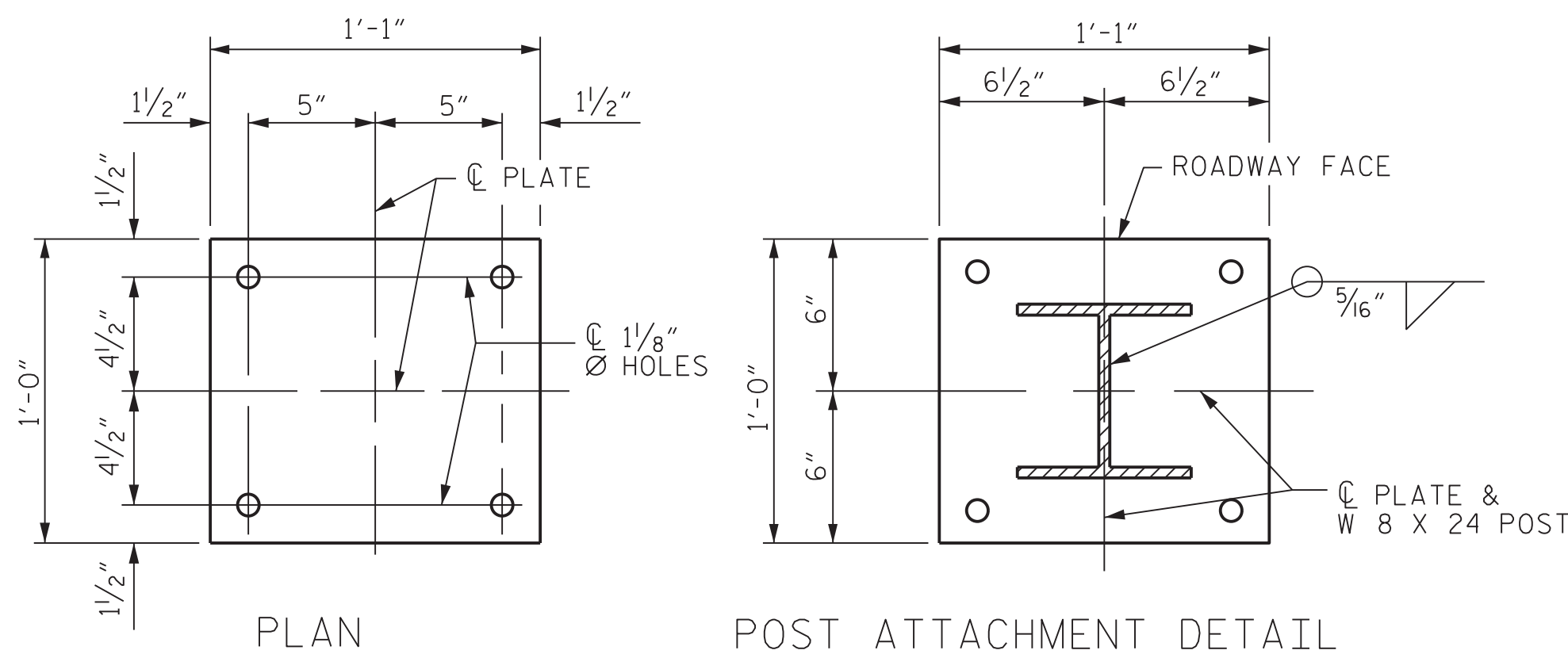


FRONT ELEVATION SIDE ELEVATION

DETAILS OF POST

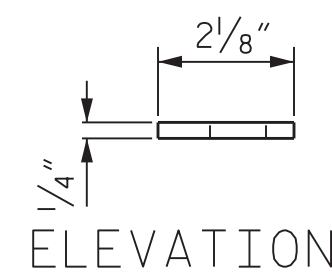


FRONT ELEVATION

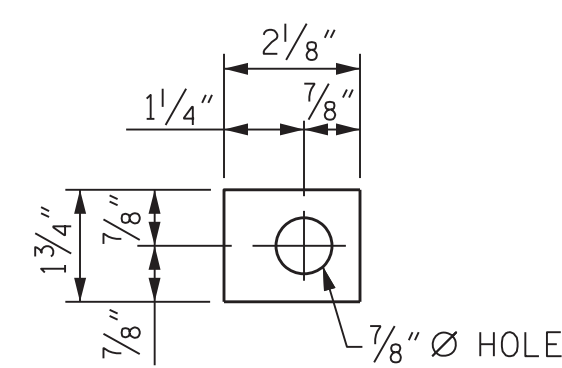


PLAN POST ATTACHMENT DETAIL

POST BASE DETAILS

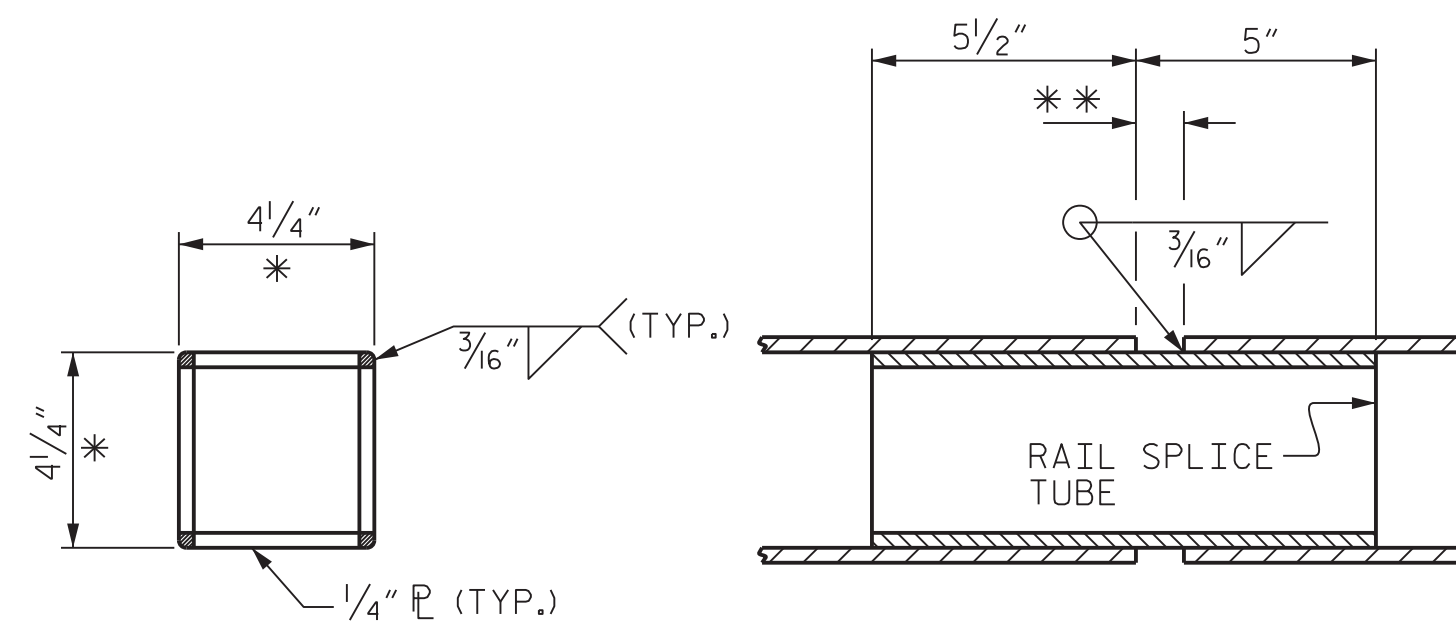


ELEVATION



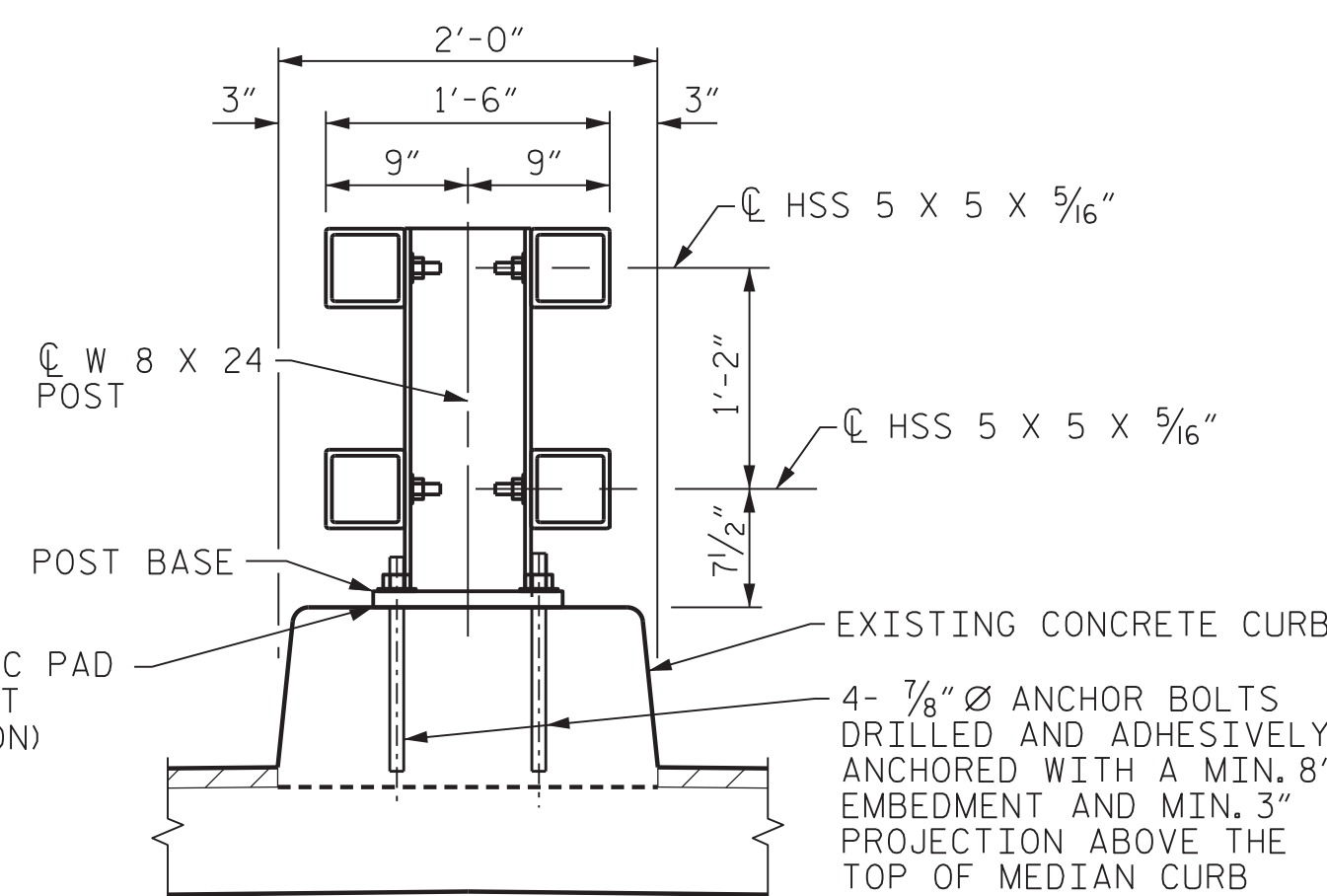
PLAN

PLATE WASHER



RAIL SPLICE DETAILS

- \* - DIMENSION AFTER GRINDING RADIUS ON CORNERS TO MATCH INSIDE OF METAL RAIL. GRIND ALL EDGES PRIOR TO GALVANIZING TO ASSURE FIT.
- \*\* - 1" FOR SPLICES NOT AT EXPANSION JOINTS.  
1/2" FOR SPLICES AT EXPANSION JOINTS.



SECTION THRU RAIL

NOTES

METAL RAIL SHALL BE GALVANIZED STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL NOTES AND THE FOLLOWING SPECIFICATIONS. ALUMINUM RAIL WILL NOT BE AN OPTION.

GALVANIZED STEEL RAILS

MATERIAL AND GALVANIZING ARE TO CONFORM TO THE FOLLOWING SPECIFICATIONS:

POST, POST BASES, SHIMS, RAIL SPLICE TUBES AND OTHER RAIL COMPONENTS: AASHTO M270 GRADE 36 STRUCTURAL STEEL-GALVANIZED TO AASHTO M111.

THE CUT ENDS OF GALVANIZED STEEL RAILING, AFTER GRINDING SMOOTH SHALL BE GIVEN TWO COATS OF ZINC RICH PAINT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION MIL-P-26915 USAF TYPE 1, OR OF FEDERAL SPECIFICATIONS TT-P-641.

RAILS: ASTM A500 GRADE B - GALVANIZED TO AASHTO M111.

WELDED RAIL STUDS: ASTM A108-GALVANIZED TO AASHTO M232.

HIGH STRENGTH ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GRADE 105. HEAVY HEX NUTS SHALL CONFORM TO ASTM A563 DH, AND WASHERS TO ASTM F436, TYPE 1. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED TO AASHTO M232.

GENERAL NOTES

RAILING SHALL BE CONTINUOUS BETWEEN GUARD RAIL TRANSITIONS AT END OF BRIDGE AND LIFT SPAN OR BARRIER GATE. EACH JOINT IN RAIL LENGTH SHALL BE SPLICED AS DETAILED. PANEL LENGTHS OF RAIL SHALL BE ATTACHED TO A MINIMUM OF THREE POSTS.

CERTIFIED MILL REPORTS ARE REQUIRED FOR RAILS AND POSTS. SHOP INSPECTION IS NOT REQUIRED.

METAL RAIL POSTS SHALL BE SET NORMAL TO CURB GRADE.

CURVED RAIL USAGE: WHERE RAILS ARE TO BE USED ON BRIDGES ON HORIZONTAL AND/OR VERTICAL CURVATURE THE CONTRACTOR MAY, AT HIS OPTION, HAVE THE REQUIRED CURVATURE IN THE RAIL FORMED IN THE SHOP OR IN THE FIELD. IN EITHER EVENT, THE RAIL SHALL CONFORM WITHOUT BUCKLING OR KINKING TO THE REQUIRED CURVATURE IN A UNIFORM MANNER ACCEPTABLE TO THE ENGINEER.

TO ENSURE FUTURE IDENTIFICATION OF THE FABRICATOR, A PERMANENT IDENTIFYING MARK SHALL BE PLACED ON EACH POST. THE METHOD OF MARKING AND LOCATION SHALL BE SUCH THAT IT DOES NOT DETRACT FROM THE APPEARANCE OF THE POST, BUT REMAINS VISIBLE AFTER RAIL PLACEMENT.

SHIMS SHALL BE USED AS NECESSARY FOR POST ALIGNMENT.

THE RAIL SECTIONS SHALL BE ATTACHED TO THE POSTS BY TWO THREADED 3/4" Ø WELDED STUDS, PLATE WASHERS, LOCKWASHERS, AND NUTS.

CONTRACTOR SHALL ONLY REMOVE THE AMOUNT OF EXISTING BRIDGE RAILING THAT WILL BE REPLACED IN A SINGLE SHIFT. NO OPENINGS IN THE MEDIAN BARRIER RAILING ARE PERMITTED WHEN THE BRIDGE IS OPEN TO TRAFFIC.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS, FIELD TESTING IS REQUIRED. TEST THE FIRST 6 ANCHORS BEFORE INSTALLING THE REMAINING ANCHORS, THEN TEST 10% OF THE NUMBER IN EXCESS OF 60 ANCHORS TO A LOAD OF 3.5 KIPS.

FOR ADHESIVE ANCHORS, SEE SECTION 420-13 OF THE STANDARD SPECIFICATIONS.

FOR MODIFIED ALASKA BARRIER RAIL, SEE THE SPECIAL PROVISIONS.

PAY LENGTH 3034 LIN. FT.

PROJECT NO. 15BPR.15  
NEW HANOVER COUNTY

STATION: \_\_\_\_\_

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

MEDIAN BARRIER  
REPLACEMENT DETAILS



333 FAYETTEVILLE STREET, SUITE 505  
RALEIGH, NC 27601  
NC LICENSE NO. C-2979



DocuSigned by:  
Jason R Doughty  
5F73FA2DEA974E8..

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.  
S-30  
TOTAL SHEETS  
66

12/20/2017 4:00:05 PM 368202\_SMU\_BAR2\_640013.dgn

DESIGNED BY: J. BORUTA DATE: NOV 2017  
DRAWN BY: K. WHITE DATE: NOV 2017  
CHECKED BY: B. LOFLIN DATE: DEC 2017  
DESIGN ENGINEER OF RECORD: J. DOUGHTY DATE: DEC 2017

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED