



South Carolina  
Department of Transportation

955 Park Street  
Post Office Box 191  
Columbia, South Carolina 29202-0191

Office of the Director  
(803) 737-1302 ♦ Fax (803) 737-2038

Deputy Director of Engineering  
(803) 737-1314 ♦ Fax (803) 737-2038

Deputy Director of Finance and Administration  
(803) 737-1240 ♦ Fax (803) 737-1719

Deputy Director of Mass Transit  
(803) 737-1280 ♦ Fax (803) 737-1862

February 16, 1996

## INSTRUCTIONAL BULLETIN NO. 96-3

**SUBJECT:** Benchmark Notations  
**EFFECTIVE DATE:** February 15, 1996  
**SUPERSEDES:** None  
**RE:** None

Benchmark elevations noted on the profiles in the plans are obtained from one of two datums or are assumed by the survey crew. The datums are either the National Geodetic Vertical Datum - 1929 (NGVD-29) or the North American Vertical Datum - 1988 (NAVD-88). The NAVD-88, published for use in 1991, is generally the vertical datum of choice; but on older surveys, the NGVD-29, generally referred to as mean sea level was the only datum available.

The datum used on a project is provided in the survey notes. This datum is requested to be placed in the benchmark reference notes directly after the given elevation. Examples of benchmark descriptions are shown below:

B.M. #1 NAIL IN POWER POLE  
22' LT. OF STA. 6 + 50 RD. S-45 ELEV. = 200.00 (ASSUMED)

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B.M. #1 NAIL IN POWER POLE  
22' LT. OF STA. 6 + 50 RD. S-45 ELEV. = 270.71 (NGVD-29)

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B.M. #1 NAIL IN POWER POLE  
22' LT. OF STA. 6 + 50 RD. S-45 ELEV. = 269.85 (NAVD-88)

E. S. Eargle  
Road Design Engineer

# NGVD 29 vs NAVD 88

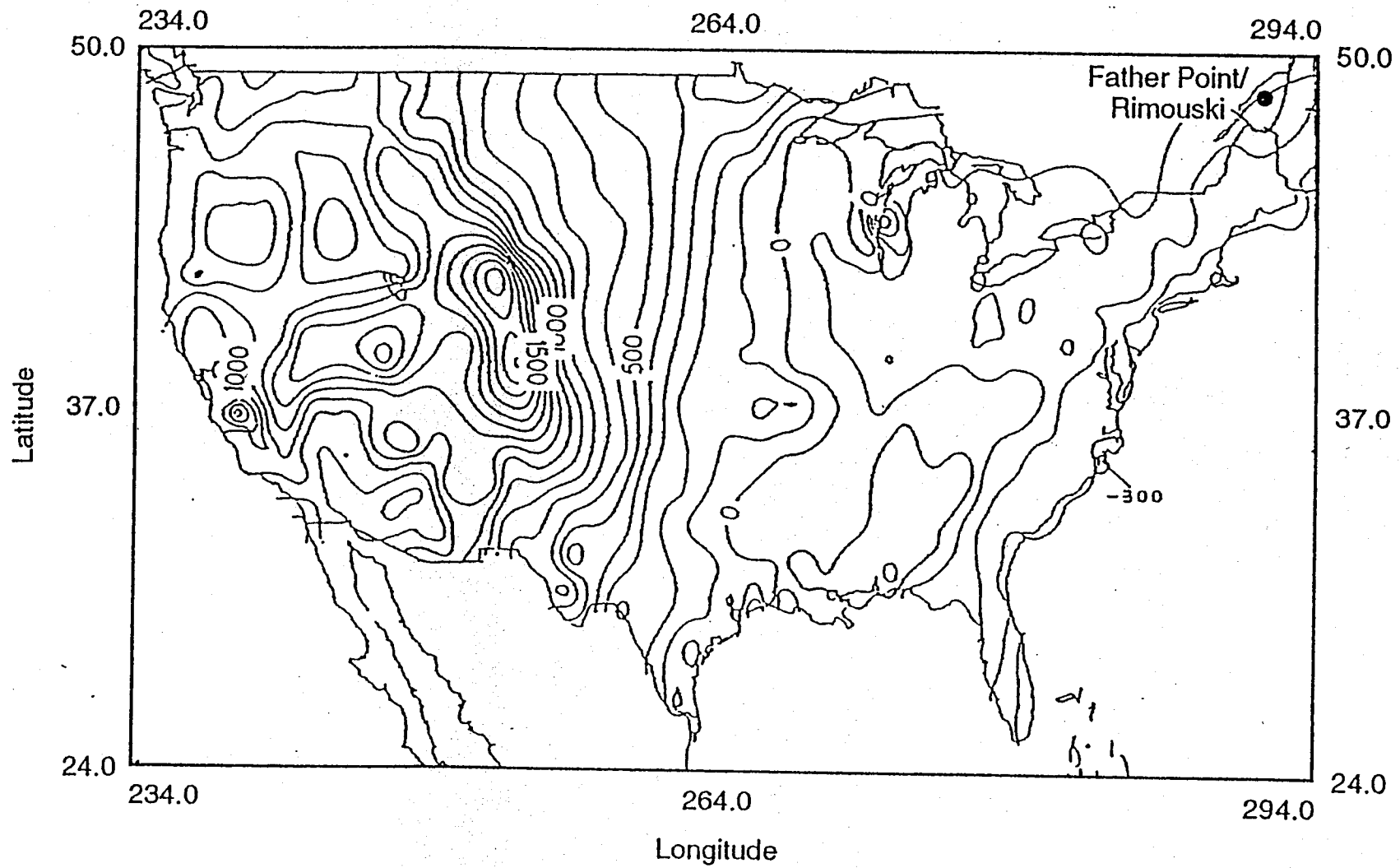
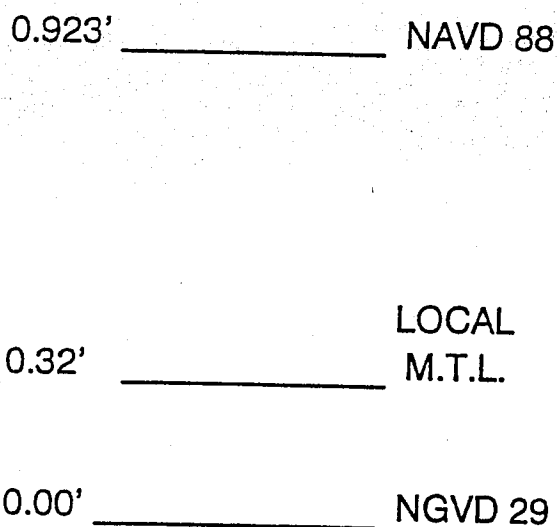
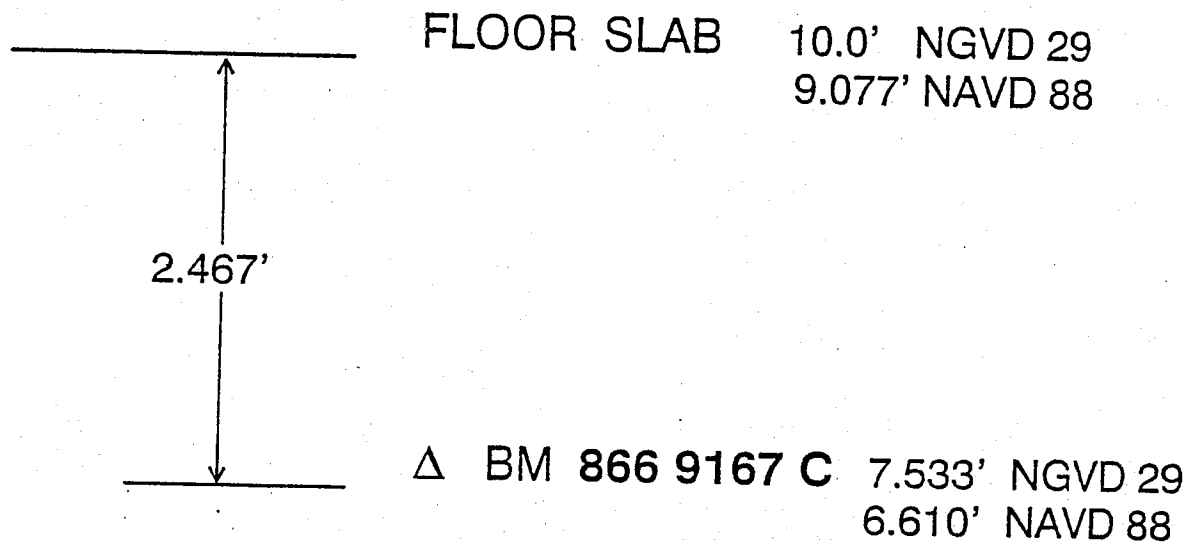


Figure 4. Contour map depicting height differences between NAVD 88 and NGVD 29 (units = mm).

# NGVD 29 - NAVD 88 - MTL RELATIONSHIP

## AT BM 866 - 9167 C (HILTON HEAD)



Relationship between Datums at station **866 9167 C**. This relationship will vary at each bench mark according to geographic location.

## PROBLEMS WITH USING NAVD 88 ELEVATIONS

- USGS TOPO SHEETS
  - Spot Elevations
  - Contours
- WATER BOUNDARY LINES DEFINED AS CONTOUR
- LOCAL TOPO MAPS
- INFRASTRUCTURE AS BUILTS
- FLOOD ZONE MAPS
- ELEVATION CERTIFICATES
- USGS BENCHMARKS NOT IN SYSTEM

## POSSIBLE SOLUTIONS

- VERTCON
- PUBLISH CONVERSION FACTOR ON USGS TOPO SHEET