

## Comparing Vertical Elevations MLLW vs NAVD88

A question that comes up occasionally is: "If the National Weather Service issues a Coastal Flood Warning that is calling for 7.0 feet above MLLW and when I purchased flood insurance for my home the first floor is listed at ten foot in elevation will the water be three feet below the floor?"

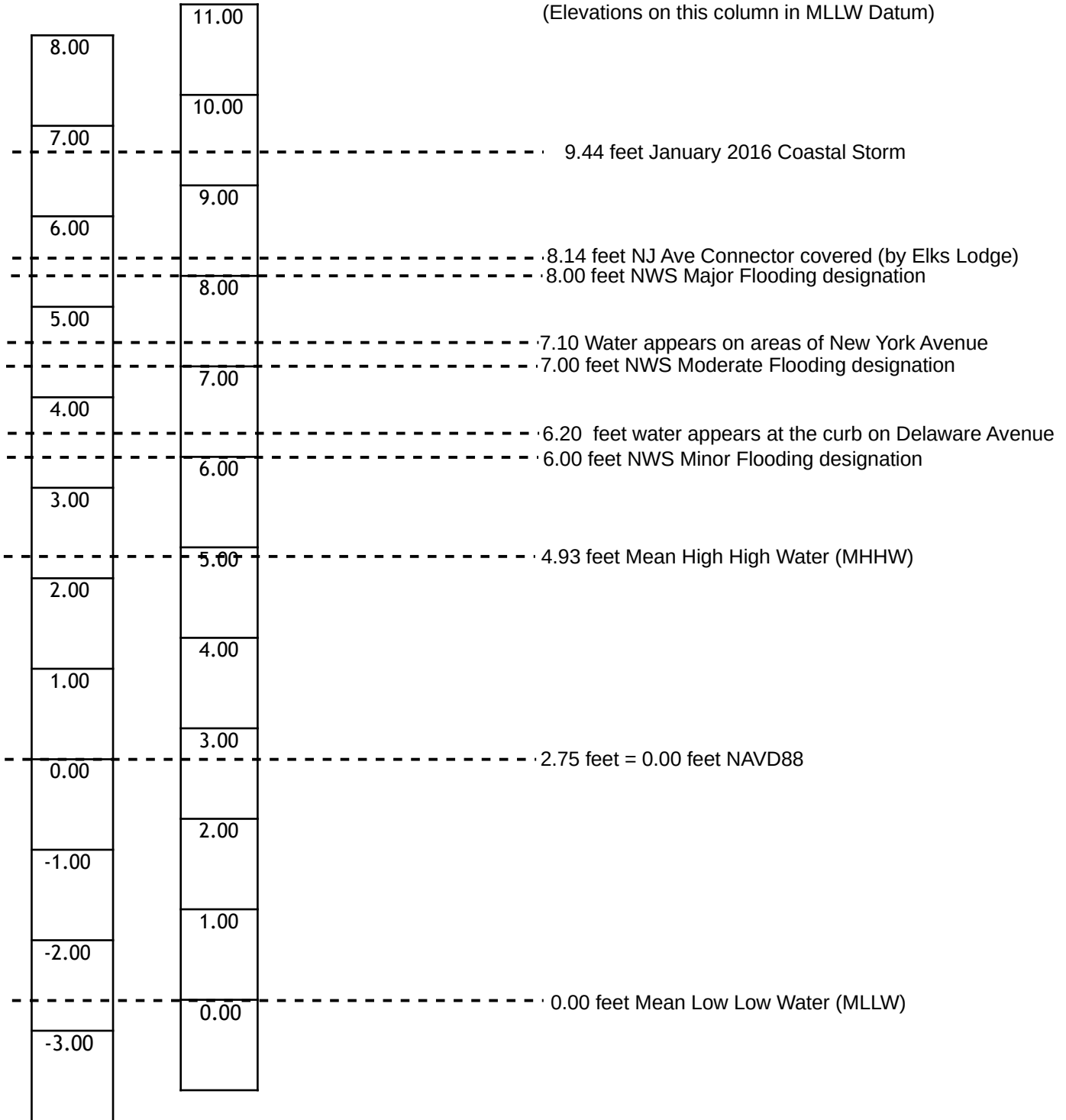
Before we get to the answer we should be aware when dealing with Tidal waters and Land there are two different datums (or points of reference) used. Land heights do not change and are measured using North American Vertical Datum 1988 or NAVD88 for short. Tide heights are different depending on the latitude of the location. That is why the tides rise and drop just over a foot in Florida and more than 14 feet in parts of Maine. The National Weather Service and boaters use a different datum (or reference point) that is used for tidal waters know as the Mean Lower Low Water (or MLLW) which is the average of the lower low water heights of each tidal day over a specific 19-year period of time. Now that we know that the tide height are different at every location in relationship to the land, we have to find the nearest National Geodetic Survey Benchmark which in our case is Benchmark #8535835. The Benchmark indicates that at zero feet in NAVD88 is equal to 2.75 feet MLLW. So to convert a MLLW height in our area to a NAVD88 height just subtract 2.75 feet or conversely to change a NAVD88 height to MLLW height you add 2.75 feet. Each town will have a different relationship and number to add/subtract from either MLLW or NAVD88, for example in Ocean City you use 2.06 feet and in Stone Harbor you use 2.66 feet.

Now for the answer - If your house's bottom floor elevation (on your flood elevation certificate) is 10 feet then for tidal water to enter your home the tide has to be 12.75 feet above MLLW. Back to the 7.0 feet MLLW flood tide doing a little calculating we find the tide would be equal to 4.25 feet NAVD88. Even though the water will not enter your house you have landscaping, crawl spaces, garages, storage sheds to be concerned about. You could measure down from your first floor level to figure out the ground level but for most properties the landscaping can easily rise a foot from the sidewalk to your foundation. Considering curb heights are roughly 6 inches lower than the side walk water in the gutters outside your house you might be well over a foot of water at the curb and still may not come into your yard. So it is important to learn the tide height every time we have street flooding and make note of how far it comes up on your property. See the Tide Elevation via Datum Reference Chart for more information.

# Tide Elevation via Datum Reference Chart

(Using NGS Tide Elevation Benchmark for Station 8535835  
and North Wildwood City Tide Gauge)

(Elevations on this column in MLLW Datum)



NAVD88 MLLWD