Surveyors Package

South Carolina Coastal Council

Baseline and Setback Line Coordinates

Little Capers Island

August 1991

Introduction

The 1990 Beachfront Management Act (BMA) defines the method by which the South Carolina Coastal Council's beachfront jurisdiction is established. The BMA requires that all shorelines be classified as inlet zones or standard zones. Inlet zones are further subdivided into stabilized inlet zones or unstabilized inlet zones.

In unstabilized inlet zones, the baseline is located at the most landward position of the shoreline in the last 40 years, unless a detailed scientific study shows the shoreline is unlikely to return to its former position.

In standard zones and stabilized inlet zones, the baseline falls at the crest of the primary oceanfront dune. If there is no primary dune, the baseline is established based on the volume of sand at each survey monument.

The position of the setback line is determined by the local long-term erosion rate. In erosional areas, the setback line is located landward of the baseline a distance equal to 40 times the annual erosion rate. In stable or accretional areas, the setback line is located 20 feet landward of the baseline.

All baselines and setback lines in the state became final on July 3, 1991. They will not be changed before July 1998, unless Coastal Council moves the baseline following a successful renourishment project or a successful appeal of the line position. All lines will be revised between July 1998 and July 2000.

Section 48-39-330 of the Beachfront Management Act is as follows.

> Section 48-39-330. Thirty days after the initial adoption by the Council of setback lines, a contract of sale or transfer of real

property located in whole or in part seaward of the setback line or the jurisdictional line must contain a disclosure statement that the property is or may be affected by the setback line, baseline, and the seaward corners of all habitable structures referenced to the South Carolina State Plane Coordinate System (N. A. D. - 1983), and include the local erosion rate most recently made available by the Council for that particular standard zone or inlet zone, as applicable. Language reasonably calculated to call attention to the existence of baselines, setback lines, jurisdictional lines, and the seaward corners of all habitable structures, and the erosion rate, complies with this section.

Consequently, surveyors have been called upon to transfer the beach lines established by the Coastal Council to individual property plats. The Coastal Council has undertaken several steps to facilitate this task. They are discussed in the following paragraphs.

Orthophotographs

Orthophotographs, which are rectified aerial photographs, have been made for all developed beaches in South Carolina. These maps are at a scale of 1"=100' and have the beach lines clearly marked on them. These maps are to National Map Accuracy Standards. Ninety percent (90%) of all planimetric features are plotted so that their positions on the finished map are accurate to within on fortieth (1/40th) of an inch (2.5 feet) of their true coordinate positions; and none of the features are displaced on the finished maps by more than one twentieth (1/20th) of an inch (5 feet) from their true coordinate positions. The grid ticks are accurate to within one one-hundredth of an inch

(1 foot) of their true coordinate positions. The State Plane Coordinate System (NAD 1983) is used to reference the positions of the images and jurisdictional lines. Grid ticks appear on the maps located at 500' intervals along the north-south and east-west axes of the projection. The Coastal Council has established a series of surveying and beach profiling monuments in the field, and these have been accurately represented on the orthophotographs. Appendix 1 contains an index of all orthophotographs covering this area.

Stable-base copies of the maps are located in the appropriate Coastal Council office and municipal or county office. Copies of the orthophotographs can be obtained from Duncan-Parnell Blueprint, Inc., 3150 Montague Avenue, Charleston, SC 29411, phone 803-744-6033, for a fee.

Digitized Lines

Coastal Council has digitized the baseline and setback line (where it exceeds 20 feet) for all developed islands and beaches in the state. Digitized points were taken every few feet in places where the line curves. Digitized points were taken every 100-150 feet in places where the line is straight. These digital line coordinates, listed as northings and eastings in international feet, 1983 NAD state plane grid, are provided to avoid having to scale off the orthophotographs, or to avoid having different groups obtain slightly different coordinates when digitizing the same baseline. The listing in Appendix 2 gives line coordinates for this area.

Beach Survey Monuments

In 1987 Coastal Council installed a network of beach survey monuments along most of South Carolina's shoreline. These monuments were all tied

horizontally to the 1983 NAD state plane grid and vertically to 1929 NGVD. Many of these monuments between Kiawah Island and North Myrtle Beach were destroyed by Hurricane Hugo. All destroyed monuments have since been replaced by the National Geodetic Survey. The replacement monuments generally were installed along the same shore-perpendicular transect but father landward, so they would be more likely to survive the next hurricane. It is extremely important to remember that these new monuments have NOT been set in the same location as the original monument. Replacement monuments have been stamped "B". For example, destroyed monument "4220" has been replaced with "4220 B". Descriptions, coordinates and elevations for all monuments in this area are located in Appendix 3.

In some cases the monument coordinates are given in meters. To convert to international feet, use the following conversion: meters divided by 0.3048 equals international feet.

Local Erosion Rates

The Coastal Council has conducted studies of the long-term erosion rates at all survey monument locations in the state. These rates were used to establish the location of the setback line, and must also be given on individual plats. In erosional areas the exact rate of erosion was determined. In many stable or accretional areas, the exact rate of accretion was not determined, and the shoreline change rate was given as "S/A", meaning "stable or accretional". Local rates for the area covered by this report are given in Appendix 4.

Plat Review Requirements

In order to receive a permit from the SCCC for many activities in the

setback, the applicant must submit a plat in state plane coordinates with particular information relating to the beach lines on it. Also, if a surveyor wishes to submit a plat for review by staff with regard to the beach lines, this same information must be presented. The following is a list of the required information.

1. Monument(s) used to reference survey;
2. Coordinate points from SCCC tabulated information used to establish lines;
3. Coordinates of property corners;
4. Coordinates of most seaward corners of any habitable structures on the property;
5. Distance between seaward structure corners and baseline and setback line;
6. Footprint of all structures on the property including swimming pools, septic tanks and erosion control structures;
7. Location of the crest and trough of the primary oceanfront sand dune;
8. Local erosion rate.

Appendix 1

This appendix contains an index of all orthophotographs covering this area.

Sheet Number	Geographic Coverage	Zone	Monument Numbers
	LITTLE CAPERS ISLAND, BEAUFORT COUNTY		
184	Entire Island	Iu	None

Appendix 2

This appendix contains a listing of South Carolina Coastal Council jurisdictional line coordinates, given as northings and eastings in international feet referenced to the 1983 NAD state plane grid. Baseline coordinates are given, and where the setback line exceeds the minimal 20 foot distance, setback coordinates are given also.

For areas where the baseline is curved or irregular, there is a listing for each orthophotograph. For areas where the baseline is a straight line between beach survey monuments, one listing contains all coordinate information for the area, with monument locations shown on the printout. In order to make easiest use of these coordinate listings it is helpful to know what orthophotograph your property is located on, or what beach survey monuments it is located between. Appendix 1 may provide some useful locational information.

SOUTH CAROLINA COASTAL COUNCIL BASELINE COORDINATES
STATE PLANE GRID, 1983 NAD, INTERNATIONAL FEET
CURRENT AS OF JULY 1991
LITTLE CAPERS ISLAND
ORTHOPHOTO SHEET 184

NORTHING	EASTING
161863.80	2134591.00
161858.80	2134625.00
161854.20	2134664.00
161857.90	2134707.00
161864.10	2134737.00
161870.80	2134763.00
161885.70	2134797.00
161903.20	2134823.00
161931.40	2134842.00
161958.10	2134860.00
161989.60	2134875.00
162016.30	2134884.00
162035.10	2134894.00

SOUTH CAROLINA COASTAL COUNCIL SETBACK LINE COORDINATES
STATE PLANE GRID, 1983 NAD, INTERNATIONAL FEET
CURRENT AS OF JULY 1991
LITTLE CAPERS ISLAND
ORTHOPHOTO SHEET 184

NORTHING	EASTING
162442.80	2133856.00
162484.50	2133913.00
162545.90	2133995.00
162600.20	2134074.00
162657.30	2134158.00
162692.10	2134208.00
162734.20	2134265.00
162780.10	2134328.00
162828.10	2134389.00
162865.40	2134441.00
162890.40	2134478.00
162913.00	2134509.00

Appendix 4

This appendix contains shoreline change rates for this area. Where used, S/A denotes a stable or accretional shoreline with no quantified rate. A negative number indicates erosion, while a positive number indicates accretion. Units are feet/yr.

LITTLE CAPERS ISLAND

The erosion rate on Little Capers Island is -25 ft/yr.