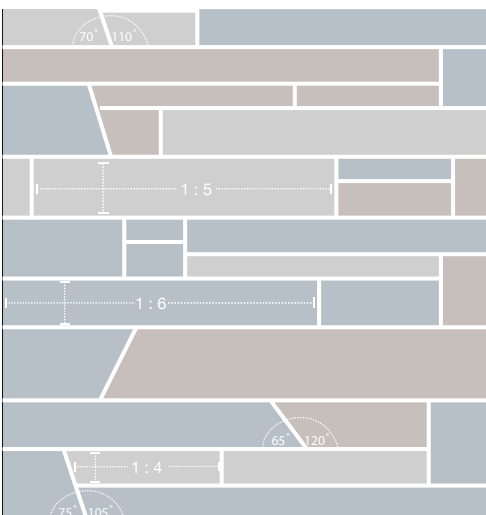
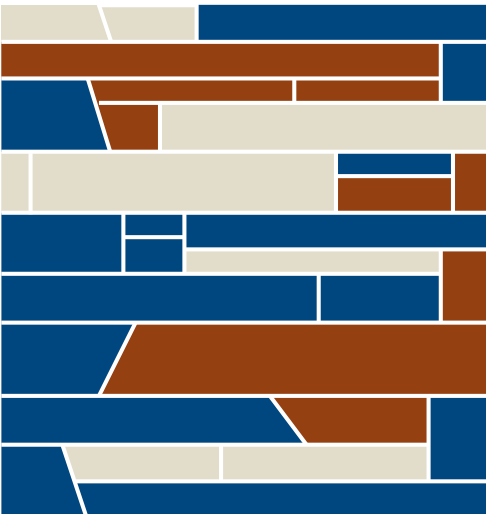


Duke UNIVERSITY

A044010

DUKE STONE



GENERAL STANDARDS

The decision to accept or reject a wall sample will be based on the following criteria: the stone's shape, its size (dimensional proportions), jointing, as well as the mixing of the stone sizes and color in the wall sample. Quarry Master Dacus's Chapel is the benchmark for all of Duke stone; however, context must also be emphasized for all projects.

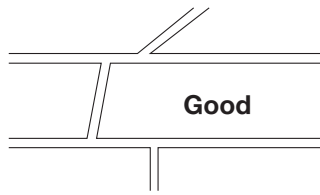
DUKE CHAPEL COLOR PALETTE

50% Blues, 33% Reds, and 17% Grays

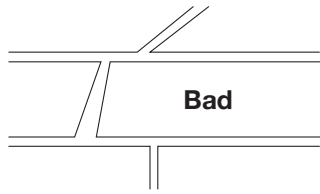
The stone has seven primary colors and seventeen different shades of color. Therefore, the colors (most referred to as either gray, blue, or red) should be equally mixed as a patchwork through the face of the wall.

STONE PROPORTIONS AND SIZE

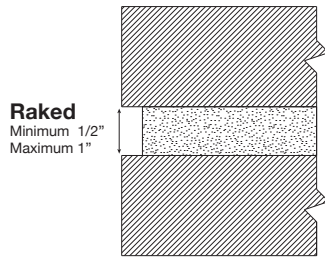
Each stone size is governed by height to width proportions that may be either: 1 to 4, 1 to 5, or 1 to 6 (height to base). Also the vertical rise (height) of any stone should not be more than 6 inches. Therefore a stone's width (its base) is dependent upon its height. When the stone is laid as a veneer wall it should have a depth of 10" or greater.



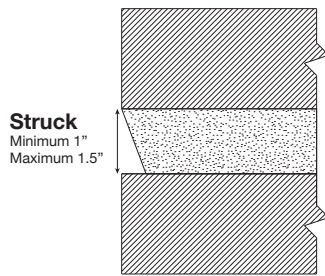
Good



Bad

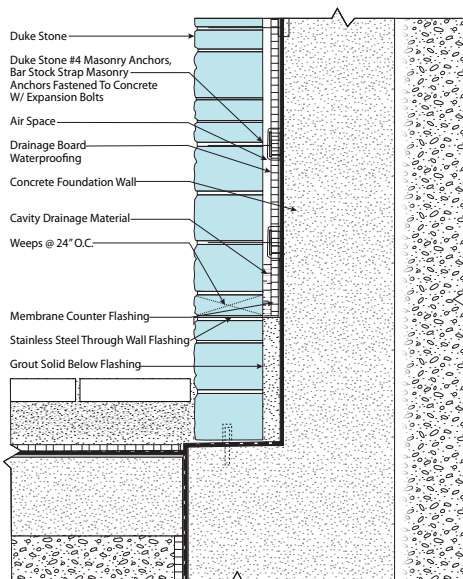


Raked
Minimum 1/2"
Maximum 1"



Struck
Minimum 1"
Maximum 1.5"

Care must be given to keeping the stone's face clean regarding mortar. Mortar dust left on the stone will bond to the face and never come clean. Examples of this problem can be found on the original stone work as well as new. Attempts to remove or clean the face are fruitless.



Technical drawing of the Duke Stone retaining wall was taken from the Event Pavilion's Construction Documents Issued November 2012

STONE SHAPE

Each stone shall be rectilinear in shape. The stone's top and bottom edges must be parallel. The right and left edges of the stone are not required to be at right angles to its base and top, but end angles greater than 25 degrees shall not be used. To achieve a more uniform surface, "hand-worked" stone faces are allowed (and sometimes and encouraged). The exposed ends of a cornerstone may be "hand-worked" to get a proper right angle face. Special corner conditions (i.e. those corners that are not a right angle) will require a "hand-worked" face to achieve the correct angle.

JOINTS AND POINTING

All joint edges shall be parallel. This requirement is especially important when jointing stones that have non-perpendicular ends (i.e. the end of a stone that is not at the right angle to its base). The traditional "struck joint" (as used on the original West Campus buildings) will have joints not smaller than 1" nor wider than 1 1/2". The "raked joint" (as seen in the Sarah P. Duke Gardens entry gate) will have joints not be smaller than 1/2" nor wider than 1".

SIZE MIX

The differing stone sizes should be equally mixed as a patchwork through the wall face. However, the largest and best-shaped stones should be saved for the outside corners.

MORTAR

Quarry Masters Dacus and Wagstaff used site-made mortar for previous campus projects. The recipe consists of 1 part Portland cement, 1/4 part lime, 3 parts damp loose sand, and a minimal amount of water. However, ready-mix mortar, i.e. Brixment Masonry Cement Type-S, contains the same ingredients and can be just as structurally sound in its consistency.