



# MURATA™

RETAINING WALL SYSTEM



PRODUCT SUPPLEMENT

[muratawall.com](http://muratawall.com)





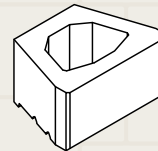
Murata Wall™ Olympian Blend

2 • MURATA WALL™

# Murata™ Retaining Wall System

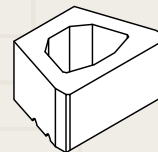
   Special installation procedure required. For more details, see full manual or go to [muratawall.com](http://muratawall.com)

We are pleased to announce the arrival of the Murata™ retaining wall system to our family of products. Murata™ is a modular retaining block which utilizes a rear alignment tab for easy assembly. It has a tight, crisp surface finish with strong straight lines and dramatic color blending. The complete system includes some unique corner blocks, which allow you to create columns and posts, along with dedicated step and post caps. Its high compressive strength gives it a high strength-to-weight ratio, as well as excellent color retention.



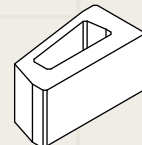
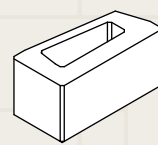
rear tab detail

**MS4020** Standard  
400x295x200mm • 15.75x11.61x7.87"



no rear tab

**MV4020** Variable  
400x295x200mm • 15.75x11.61x7.87"



**MA4020** Angolo (sold as pair)  
400x200x200mm • 15.75x7.87x7.87"



**MURATA™**  
RETAINING WALL SYSTEM



Cambridge Blend



Olympian Blend

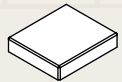


**ZERO WALL FAILURES**

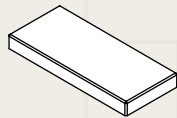


Murata™ Cappello caps are designed to work with the Murata™ retaining wall system. However, they also make a beautiful cap for any of our other wall systems. For instance, Murata™ Cappello 600x600mm column cap fits perfectly on a 20" Chateau Wall™ column.

**Wall Caps**

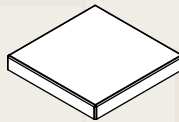


**MC4035** Cappello  
400x350x80mm • 15.75x13.78x3.15"

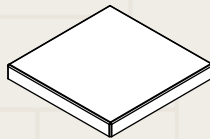


**MC8035** Cappello  
800x350x80mm • 31.5x13.78x3.15"

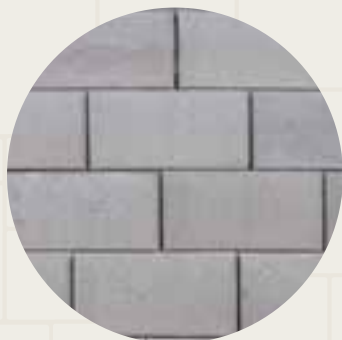
**Column Caps**



**MC6060** Cappello  
600x600x80mm • 23.62x23.62x3.15"



**MC7070** Cappello  
700x700x80mm • 27.56x27.56x3.15"



**Pewter**



**Charcoal**  
(only available in Murata™ Cappello)



**Desert Tan**  
(only available in Murata™ Cappello)

Murata™ Retaining Wall System from Western Interlock. (US Patents Pending)

*Paving Stone and Retaining Wall Systems Made for the Northwest.*

# Murata™ Battered Wall Installation

The Murata™ retaining wall system's advantages are that it is made with hollow dry cast units that can be carried without special equipment. The self-aligning tabs allow for highly accurate and quick installation. When the blocks are installed, the hollow cells are filled with select granular fill<sup>1</sup> which then results in a heavier in-place block to resist soil forces.

The initial cost of the Murata™ retaining wall system is competitive with other wall systems and is significantly less than most conventional concrete walls. The lasting aesthetics and structural durability of the concrete Murata™ retaining wall system makes it a cost-effective solution when life-cycle costs are considered.

## INSTALLATION:

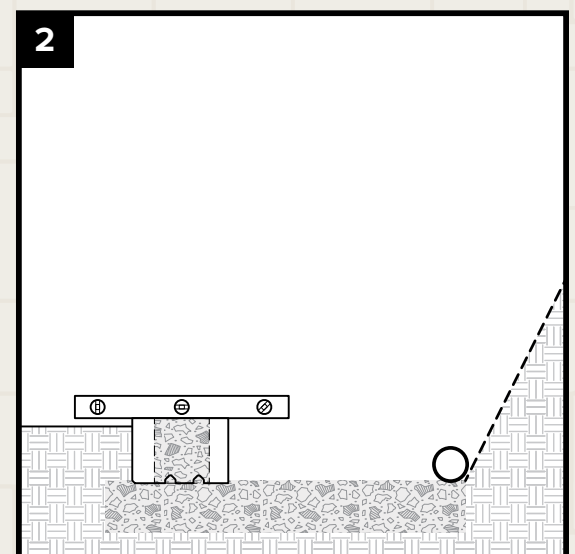
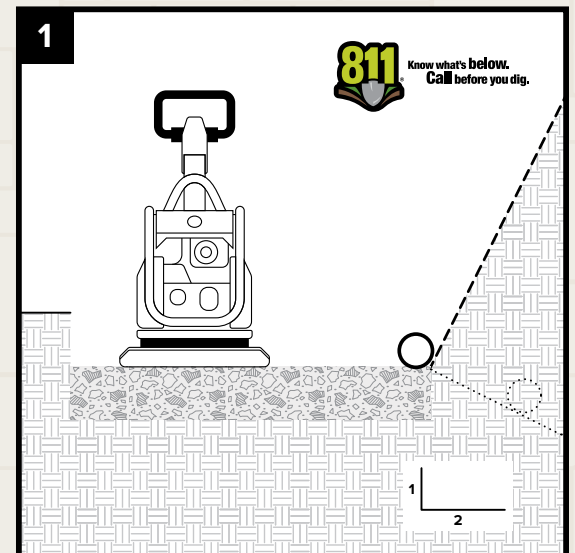
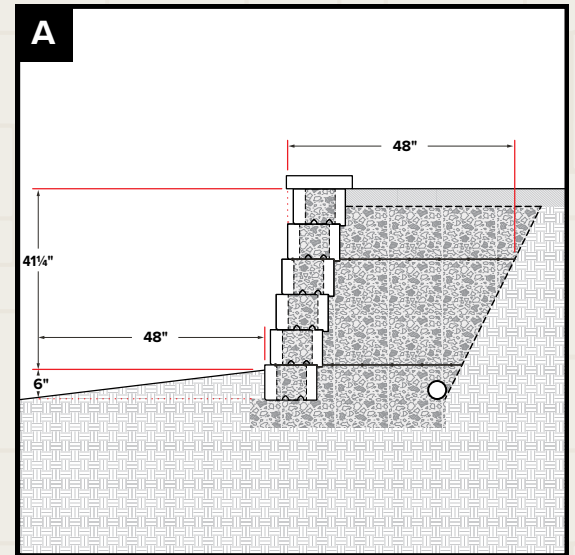
### 1. Wall Design Considerations

Before using Murata™ to build a wall, the following design considerations must be made (*Diagram A*):

- For a typical landscape wall the total wall height must not exceed 48" (1.2 m).
- If a toe slope is present, the bottom of the wall should not be above the finished grade at a distance of 48" (1.2 m) in front of the wall.
- The embedment height needs to be a minimum of 6" (152mm) below the ground surface.
- The length of the reinforcing geogrid needs to be a minimum of 48". Geogrid length is measured from the face of the wall.

### 2. Excavation and Preparing the Base

Check the location of existing structures and utilities before starting the excavation. Excavate the soil in the location where the retaining wall is to be constructed, assuring at least 48" of space on the rear side of the wall for gravel backfill<sup>1</sup>. Dig a trench for the leveling base that is at least 24" wide by 12" deep. Fill the trench with select granular fill<sup>1</sup> to a depth of 6" (150mm) and compact well with a plate compactor or jumping jack in 2" lifts, making sure that each layer is level. The plate compactor must weigh at least 250lbs. (*Diagram 1*) Install a minimum of a 4" perforated drain pipe in the rear of the excavation. Make sure that the drain pipe is sloped at a minimum 0.5% and empty to daylight at 50' maximum intervals, draining into a storm sewer or along a slope below the reinforced soil mass. Widen the excavation as required to maintain drain slope (*See diagram 1*).



<sup>1</sup> Select granular fill must meet the ODOT ¾"-0 or ⅝"-0 WSDOT specification. More details available upon request.

### 3. Positioning the Bottom Course

Set the bottom course of block, utilizing the Murata™ Variable block, at the desired position on top of the prepared select granular fill<sup>1</sup> leveling base. Using a large rubber mallet and a level, adjust the block until it is level, end to end, front to back, and in full contact with the leveling base (*Diagram 2*). Set the adjacent blocks in the same manner, using a string line or a level to keep long runs straight and flat; ensuring that there is no space between adjacent blocks.

### 4. Backfilling and Geogrid

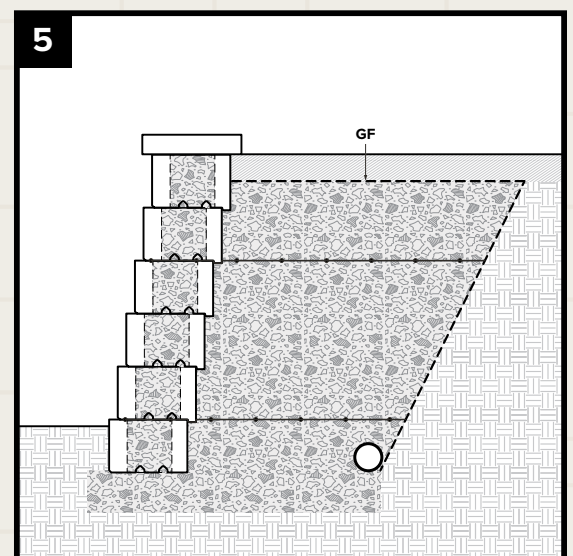
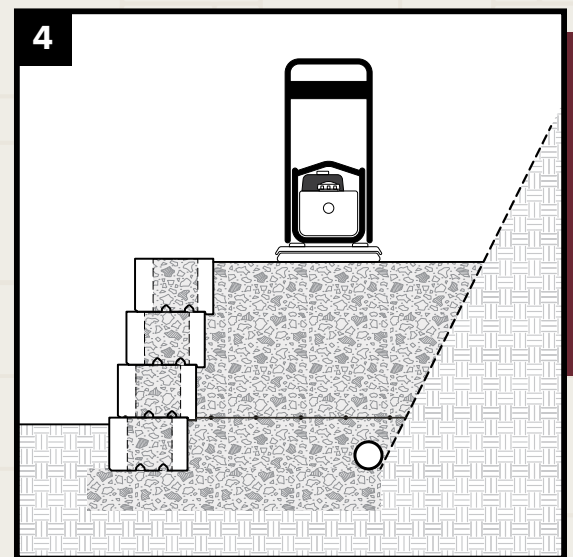
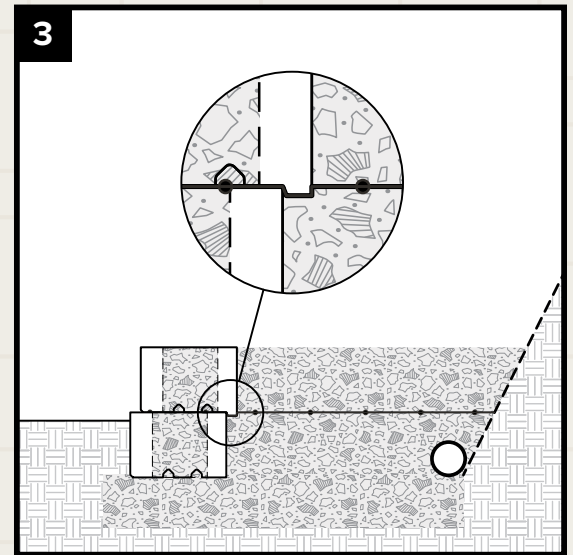
Place a layer of non-woven geotextile filter (TerraTex® N06 or equivalent) against the rear wall of the excavation, starting at the top of the leveling base and extending up to the top of the excavation. Do not install the geotextile filter below the structural foundation. Make sure that there is enough filter fabric to lay over the top of the backfill to keep topsoil from filtering down. Completely fill the block cavity and backfill with select granular fill<sup>1</sup> in maximum lifts of 4". Compact both thoroughly using lightweight compaction equipment that will not disrupt the stability or batter of the wall. Before setting the next course, cover the previous course of blocks and the backfill gravel with geogrid (StrataGrid® SG 350 or equivalent). Pay attention to the geogrid's reinforcement direction and make sure that it is perpendicular to the wall face. The minimum reinforcing length of the geogrid is 48" (*Diagram A*) and must be continuous. Splicing of the geogrid in the main reinforcing direction is not permitted. Follow geogrid manufacturer's guidelines for overlap requirements.

### 5. Subsequent Courses

Lay the next course of blocks and fill block cores with compacted select granular fill<sup>1</sup> to lock in place, making sure to wrap the geogrid slightly around the lip of the block (*Diagram 3*). A running bond pattern is the preferred method of block placement. The center of the current course should align with the seam between two blocks on the lower course. For optimum strength, maintain light tension on the geogrid by using stakes or pins. Place all the remaining courses backfilling the wall every 8" (one block height), and placing a reinforcing geogrid as outlined in Step 4 (*Diagram 4*).

### 6. Finishing the Wall

Set the top course and backfill to within 3" of the top. Fold the filter fabric (GF) over the top of the backfill. Finish backfill area with topsoil to the finished grade (*Diagram 5*). The top course or cap can either be held in place with an approved flexible adhesive (Flex-Bond SB20 or equivalent). Murata™ walls can be capped with the Murata™ MC4035 or MC8035 Cappello caps. Columns can be capped with either the MC6060 or MC7070 Cappello caps.



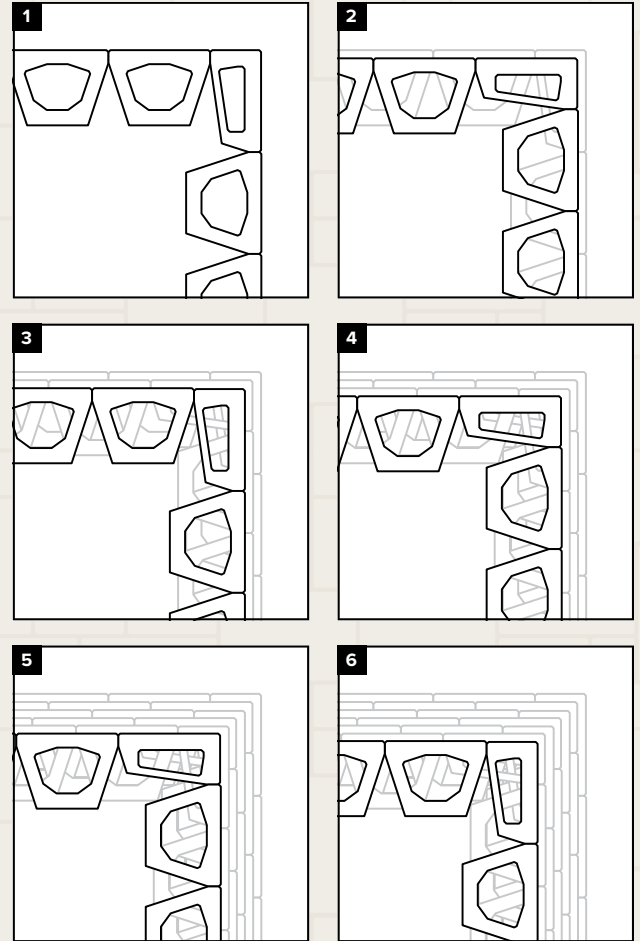
# Murata™ Alternative Installations

## CORNER INSTALLATION:

### 1. Right Angle Corner Considerations

Construction of a right angle corner in Murata™ wall is the same as a battered wall (*pages 4-5*) with the following exceptions:

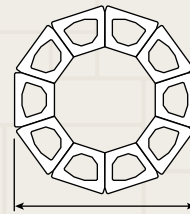
- Use the Murata™ MA4020 Angolo. It does not have the alignment tab on the rear, which allows the block to be stacked vertically. Because the alignment tab is not present on the Murata™ MV4020 Angolo, care must be taken to ensure the alignment of the blocks in each course.
- Murata™ Angolo blocks are also right and left handed. Care must be taken that the correct hand is utilized in each course. To ensure that the blocks are being laid correctly, always make sure that the bevel is facing down. This makes it impossible to mix up the right and left hand blocks.
- After the first course is laid and the select granular fill is compacted, follow the instructions outlined in section 1:a above.
- To maintain block stagger in a wall, it may become necessary to incorporate cut blocks or Murata™ MA4020 Angolo as half blocks. These blocks should be placed into the wall away from the corners for maximum strength.



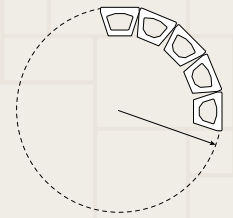
### 2. Radius Corner Considerations

Construction of a radiused corner in Murata™ wall is the same as a battered wall (*pages 4-5*) with the following exceptions:

- Starting with too tight of a radius on the bottom course can result in complications as the wall rises, especially in a battered wall application. Make sure to maintain at least the minimum specified radius.
- As the courses rise, it may be necessary to cut blocks to maintain the block stagger. These cut blocks should be placed into the straight portion of the wall for maximum strength.



**Minimum Outside Diameter**  
Ø 1341.41mm • 52.812"



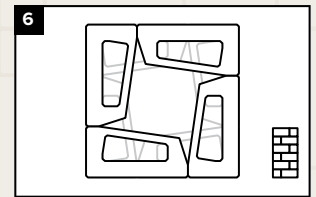
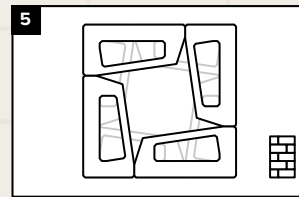
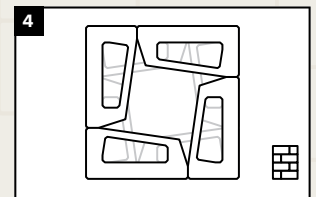
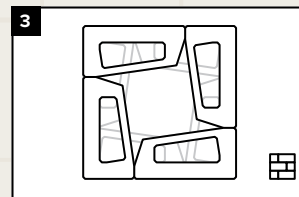
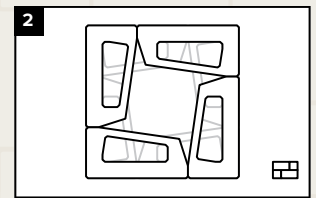
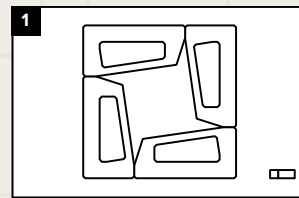
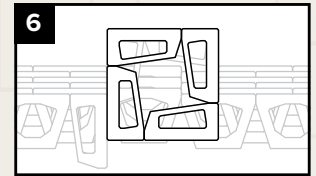
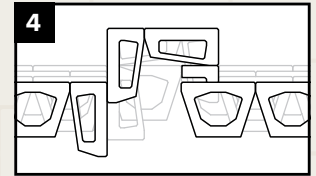
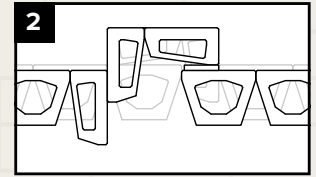
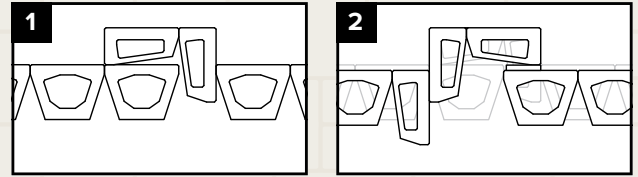
**Minimum Outside  
Corner Radius for  
Base Course**  
r 1063mm • 41.875"

<sup>1</sup> Select granular fill must meet the ODOT ¾"-0 or ⅝"-0 WSDOT specification. More details available upon request.

**WALL POST/COLUMN INSTALLATION:**
**3. Wall Post/Column Considerations**

Construction of a Murata™ column follows the same methods as a battered wall (*pages 4-5*) with the following exceptions:

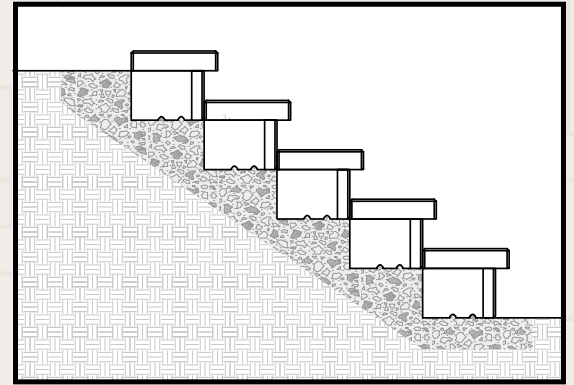
- a) Murata™ MA4020 Angolo blocks are sold as right and left pairs only, individual blocks are not sold separately.
- b) Because the alignment tab is not present on the Murata™ MA4020 Angolo, care must be taken to ensure the alignment of the blocks in each course.
- c) A note on the handedness of the Murata MA4020: Each course of a corner or a column must be made up of blocks with the same handedness (right or left). It is not required that each course be the opposite of the course before it, but it is preferred. To ensure that the blocks are being laid correctly, always make sure that the bevel on the face of the block is facing down. This makes it impossible to mix up the right and left hand blocks.
- d) After the first course is laid and the select granular fill is compacted, thoroughly sweep off any dust and remaining material from the first course. Apply continuous closed  $\frac{1}{8}$ " bead of approved adhesive (Flex-Bond SB20 or equivalent) around the filled cells of the first course. Set the next course on top of the adhesive, making sure that the bevels are always facing down. Adjust the course for levelness and alignment. Continue building the wall as outlined in steps 4 and 5 on page 5, cleaning and gluing each subsequent course.
- e) To obtain maximum column strength, fill the column cavities with concrete with a  $\frac{3}{8}$ " or finer aggregate, such as bagged concrete.



## 1. Step Considerations

Construction of Murata™ steps are the same as a battered wall (pages 4-5) with the following exceptions:

- a) Use Murata™ MV4020 Variable blocks to construct steps. The tabless design makes it easier to level the step.
- b) When constructing the step treads, use a combination of Murata™ MC4035 Cappello and/or MC8035 Cappello caps depending on the step width.
- c) Make sure that there is at least 5" of gravel beneath the blocks. If extra stability is desired, the block cores can be filled with concrete. Filled blocks have the added benefit of 39% more area for gluing the step treads down.
- d) Always try to maintain a slight forward slope to aid in drainage. Any rearward slope will cause puddling on the step tread.
- e) Depending on local step height code or customer preference, it may be necessary to drop each course of block down  $\frac{3}{8}$ - $\frac{1}{2}$ ". For commercial applications, it will be necessary to drop each course a minimum of  $\frac{7}{8}$ ".



Integrated columns



Versatile trapezoidal shape



*Paving Stone & Retaining Wall Systems Made for the Northwest.*

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