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Caring For Your Retaining Walls

Retaining walls, like everything else on your property, require care and maintenance. With any newly built retaining wall, there are maintenance aspects that are important to watch for after the wall is completed. Allan Block walls will need far less care than other types of retaining wall products, but there are some key factors to watch for.

Site Grading

Site grading is the shaping and recontouring of land in order to prepare it for site development. In turn this process means soil and backfills are placed behind and sometimes below the wall for compaction during construction, leading to extra settling after the wall is completed. **It is crucial to inspect the wall each spring for any unusual or excessive settling and save your wall from a potentially large problem.**

Every newly built retaining wall needs to be designed to route water around the wall infrastructure itself. Water can impact soil underneath a retaining wall and can begin to compress or subside causing the wall to settle. If the retaining wall settles enough, the entire wall can fail. Settlement occurs when the weight of the retaining wall's structure exceeds the bear capacity of the soil.

Once an area behind the wall begins to settle, water builds up and makes that area deeper. When a low spot is neglected behind a wall, each new rainfall will collect water at that spot and work its way down behind the wall. If the area behind the wall is flat, this can have the effect of creating a "swimming pool" above the wall making soil soft and mushy. A wall that wasn't designed or engineered to hold up the added weight could lead to a blow-out. Prevent this problem by inspecting your wall each spring and identifying any low spots and areas that have settled. Pull back the landscape mulch or sod on the surface and add enough new fill to bring the ground back to its proper level. When you consistently fill these trouble spots, you can ensure a lifetime of performance from your retaining wall.



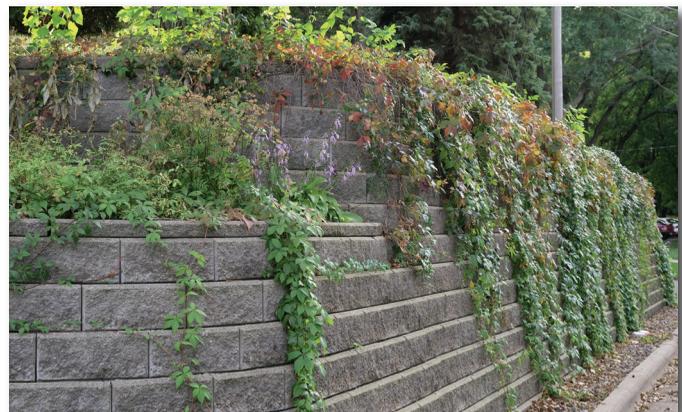
Some other key things to focus on when grading and leveling the site is:

- Establish final grade with a positive gradient away from the wall structure.
- Gradients must divert sources of concentrated surface flow, such as parking lots away from the wall.
- Structures such as ditches, drainage swales, and catch basins need to be implemented to manage concentrations of surface runoff.

Surface Treatments

Another common maintenance problem with retaining walls is the lack of proper surface treatments. Once a new retaining wall is completed, the surface areas surrounding the walls that were disturbed during construction are typically finished with some type of landscape treatment. This might include paving, landscape plantings, mulch, sod or seed for turf, or some type of ground cover. Often overlooked as part of the total wall design, these surface treatments provide an important function for the wall. They capture, control and route the water from each rainfall.

These surface treatments will need to be checked each spring until they are completely established. Walk the site carefully and look for areas that aren't in proper condition. Replace bad sod, re-seed bare areas, work with the ground covers to encourage growth and coverage. Look for areas of erosion, ruts and channels on the surface, and re-landscape as necessary. A little bit of work each spring with the areas surrounding your retain-



ing wall will prevent major erosion from becoming a problem and will also enhance the landscape of your Allan Block wall.

Weed Growth

Even though it appears miniscule, small weeds on the face of stackable block retaining walls can pose a threat to the wall durability over time. Allowed to stay in place with no care, one weed can multiply into a veritable forest, and eventually can expand, create gaps and shifts along the wall. As you're picking weeds biweekly, check for those signs of movement or shifting along your retaining wall. Even the smallest shift can indicate a potential problem and the need for repair. If you notice movement, contact a trusted retaining wall contractor. If hand picking isn't your forte, spray the wall with weed killer annually to keep it weed free.



Salt Spray

In northern climates, Allan Block is produced with a concrete mix design that is resistant to the harsh effects of the freeze-thaw winter cycles. However, in regions that are more coastal and warmer in climate, the salt spray eats away, discolors/darkens and eventually damages or destroys the blocks and capstones quality.

Avoid using salt deicers on your Allan Block wall unless completely necessary, and if so contact your local building materials outlet for a deicer that doesn't harm concrete.

Instead of salt spray, defer to clear protective sealers. Using a heavy spray application is recommended to seal with back rolling to ensure the sealing is forced into all cracks and crevices. Back rolling in both vertical and horizontal directions will ensure that all joints and low spots are sealed.

Wall Inspection/Performance

With many millions of square feet of Allan Block sold and installed, we can confidently say our walls are made to last a long time. The concrete units are designed and produced to handle tough winter weather and hot summers with no rotting or decaying. To keep the wall in peak performance, we recommend inspecting your retaining walls four times throughout the year and especially after the wet seasons.

Take a few minutes to check out the wall. Begin by looking for any movement in the wall from the previous season. If drainage or erosion problems are not corrected, wall movement will occur. At the sign of any significant forward movement or rotation, contact a professional contractor or qualified engineer. Here are some construction tolerances to be aware of:

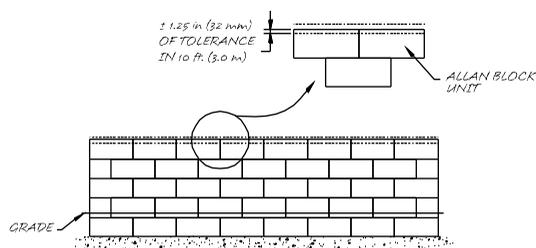
Vertical Control - ± 1.25 in (32 mm) max. over 10 ft (3 m) distance.

Horizontal Location Control - straight lines ± 1.25 in (32 mm) over a 10 ft (3 m) distance.

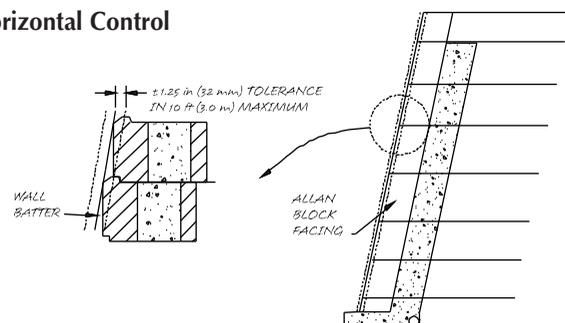
Rotation - from established plan wall batter : $\pm 2.0^\circ$

If a soft spot was not properly compacted at the wall base, you could see some minor settling of the wall. Minor settling will not hurt the structural integrity of the wall. However, if this happens you may consider unstacking the blocks in that area, raise the settled spot at the wall base and re-stack the blocks.

Vertical Control



Horizontal Control



Graffiti on Retaining Walls

Graffiti is a part of the retaining wall world and is most times unavoidable. When you become a target of this vandalism, here is what you can do:

- Invest in products that will prevent spray paint from adhering to the surface of the wall. We suggest clear drying, water-based silicone emulsion products that are also a waterproof and a safe option for Allan Block walls. It is water-based and will not alter the block's natural appearance.
- A very effective method of removal is power washing. There are several products available you can spray the maleficence away, but we recommend applying any multi surface graffiti removers that doesn't not darken or alter the color of the wall.
- Seek out products containing little to no harsh solvents within their compounds, apply and reap the benefits of same day re-protection.

Efflorescence

Efflorescence is a white and chalky natural salt-based by-product of the concrete manufacturing that is many times unavoidable in the process. This substance is a deposit of salt which forms if water is present on retaining walls and other building surfaces; it gives off an appearance like structures are grimy and not well kept. When a retaining wall is constructed from any form of masonry block, brick, or concrete, it is at risk for moisture migrating through the cracks on the walls. Usually harmless in appearance, it can be a warning sign that there is a structural issue present, or some form of preventative maintenance is needed.

Removing efflorescence:

- Pressurized water will help dissolve efflorescence on your retaining wall, but what's more vital is that you clean immediately when the efflorescence has appeared. When so, dry off the surface completely after the wash; if moisture remains the efflorescence is likely to return since it is a byproduct of hardened concrete.
- Another solution would be household vinegar as it's effective in eradicating the build-up. Simply dilute white vinegar and apply to the surface with a sponge or a spray bottle. Allow to sit on the surface for a few minutes and then wipe fully dry. This is a less harmful solution than using harsh chemicals.
- Lastly, seek out efflorescence cleaners that are detergent and surfactant-based removers designed to penetrate and remove the white powder from the concrete and masonry surfaces.

Proper Wall Penetrations

With both commercial and residential sites, it's encouraged to have penetration in your retaining wall – especially on sites near water applications or sitting on lower elevations. One of the benefits of using an Allan Block penetration system is how flexible in size and shape it can be to accommodate your specific site conditions. Wall penetrations as shown below should do the following:

- Ensure support for surrounding wall structure to minimize movement and provide the stability Allan Block retaining walls are known for.
- Be sized appropriately for the intended use, whether that is a simple drainpipe or large culvert allowing pedestrian traffic access.

Support can be provided with no external assistance for small pipes by simply cutting the wall facing to fit the opening. For larger openings, stability is achieved by building supporting bond beams directly into the wall facing or by a fully reinforced concrete headwalls for larger openings. Each type of external assistance is to add stability into the wall as well as into the pipe structure.



Cleaning/Treating

A retaining wall can be a beautiful addition to your yard, but it's important to keep it clean and looking new.

- Remove any debris existing on the wall.
- Use hose or pressure washer to wet the wall; this will loosen all the built-up grime on the wall face.
- Apply a cleaner; use a pressure washer with a detergent attachment for best results.
- Scrub the blocks down using a stiff bristled brush; you will need some elbow grease.
- Use hose to rinse off cleanser and detergent; you don't want to leave lasting streaks.
- Let your wall dry; this may take a few hours up to a day if its cloudy or the wall is shade covered.
- Final check of the wall to ensure it turned out properly.



Fortunately, as just mentioned cleaning your retaining wall is not a difficult procedure but nevertheless incredibly vital to increase the value of your property and enhance the appearance of the overall site landscape.

Follow these simple maintenance steps to ensure a lifetime of performance from your Allan Block Retaining Wall.

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