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### WASH RECYCLING AS IT SHOULD BE

**Tuesday 25<sup>th</sup> August 2015 2015, Dungannon, N.Ireland** – Construction and demolition waste management specialists R Collard Ltd have opened a new state of the art aggregate washing plant at its recycling facility in Eversley, Hampshire, UK.

The new washing plant, designed and supplied by Terex Washing Systems (TWS) incorporates the very latest technology to enhance the quality and efficiency of the recycling process at the facility. The installation was specified and project managed by TWS distributor in England & Wales, Duo Plc.



Capable of throughputs up to 120 TPH, with annual production capacity of around 250,000 tonnes, the system will provide a local source of high-grade recycled aggregate products 12 months of the year to enhance the efficiency and environmental performance of regional construction and civil engineering developments in the South of England.

Collard's founder and managing director, Robert Collard commented: "Transport is a major factor in the cost of aggregate so our investment in this plant is a direct response to increasing demand for high quality, affordable recycled product in our catchment area throughout the South East England. The refinements to the technology involved will enable us to process more wastes than we collect from local sites and create a truly closed-loop recycling system for construction waste in the South of England."

Terex Washing Systems recycling processes transform construction and civil engineering wastes into clean, homogenous recycled products by removing lightweight and deleterious contaminants and extracting silt and clay which can bind otherwise commercially viable aggregates together. Material processed at the site will be used in a broad range of construction projects.



The plant boasts a number of innovative new features including:

- Hydrocyclone technology producing high-grade coarse sand product with <2% silt content
- Integrated sorting systems removing non-mineral contaminants, to a much greater extent than conventional dry systems, enabling more wastes to be used as feedstock
- The plant can operate all year round due to a new feeder system which processes cohesive material even when its moisture content changes
- Fully adjustable and modular components enable bespoke products to be generated

The wash plant set up at R. Collard's is an innovative, effective and coherent approach for the Recycled Aggregates Industry. It constitutes Scalping (Warrior 1400), Aggregate Rinsing & Sand Washing

(AggreSand™ 165 3D2S), Aggregate Scrubbing & Sizing (AggreScrub™ 150) and water treatment and recycling (Thickener and Filterpress).



The process starts with a Warrior™ 1400 heavy duty scalping unit, particularly suited to claggy and clay contaminated / high soil content feeds. This unit removes excess oversize before passing the bulk of material to the subsequent washing equipment. The Warrior™ includes a magnet to capture ferrous metals, specifically located to allow ferrous metals to be extracted in free fall before transfer to the AggreSand™.





The AggreSand™ incorporates a 16x5 3 deck screen producing clean 50mm + oversize for subsequent crushing and delivering the mid and bottom deck outputs to its partnering AggreScrub™ 150 for subsequent attrition and sizing. The feed material contains high root content which is effectively removed by the AggreScrub™. The flotation capabilities of the AggreScrub™ are ideal for addressing the variable contaminants found in recycled aggregate sources such as paper, wood and light plastics. These contaminants together with most of the water and liberated sand particles are passed from the rear of the AggreScrub™ to the integrated trash screen. This step recovers the lightweight contaminants as a waste and allows the water and sand to be collected.



In addition to flotation the AggreScrub's other key purpose is heavy attrition to liberate adherent clays, producing clean organic-free aggregates for a wide range of construction requirements. A 12x5 part rinser integrated within the AggreScrub™ modular chassis provides the final product splits requested by Collards.

Underflows from the trash screen & the aggregate sizing screen are collected and pumped back to the AggreSand™ to recover any saleable fine material and ensure maximum efficiency of water management.



The 120tph sand plant integrated within the AggreSand™ produces two high quality sands from the recycled feed material, suitable for concrete, pipe bedding and general construction requirements. Sand and water from the AggreSand™ screen together with return water and fines from the AggreScrub™ is recovered via the integrated hydrocyclones, producing coarse and fine sand fractions. These are dewatered by the system to ~12% m.c. providing clean and ready to handle material stockpiles.

All dirty water gravity flows from the AggreSand's™ cyclones to the congruent water management system. This phase includes an 8m rake thickener with polyelectrolyte (flocculant) dosing controlled on a batch basis with automated monitoring. Suspended solids coagulate and sink to the bottom of the thickener and are drawn to the central outlet by the constantly rotating rakes. This thickened mud is pumped to a large

homogenizing sludge buffer tank while clean recycled water overflows from the thickener to a storage tank. A high frequency screen featuring a fine steel mesh is installed between the thickener and the water tank, removing any residual organics and floatable contaminants such as polystyrene balls.

Sludge from the homogenizing buffer tank is delivered to the 150 plate (2mx1.5m) filter press via powerful double centrifugal pump, delivering sludge to the press at up to 16 Bar pressure. This effectively reduces waste output to a highly compressed, low moisture content by product which can be easily handled / removed from site.



This thickener and filter press combination recycles 90% of the water used in the plant which in turn allows the complete system to operate with only 30m<sup>3</sup>/hr water, provided by the 2.5" mains supply.

Terex Washing Systems washing plant brings an advanced, effective and efficient approach to the Recycled Aggregates Industry, incorporating the very latest technology to enhance the quality and efficiency of the recycling process whilst significantly reducing the cost, fuel consumption and carbon footprint of supplying recycled aggregate to a number of key developments in the UK.

To find out more on the this particular washing systems or to discuss your specific washing requirements, contact us at [TWS.Sales@terex.com](mailto:TWS.Sales@terex.com) or visit our dedicated website which provides an overview of the full product offering at [www.terex.com/washing](http://www.terex.com/washing)

**About Terex**



# NEWS RELEASE

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