SANAATCHI
INDUSTRIAL VISION GROUP

Sand Washing & Classification Line

Complete Turnkey Business Proposal

Made-in-China supplier reference: real sand washing & classification line equipment.

40-60 t/h	**0-5 mm**	**80-90%**	**10-18**
screened starter feed	**typical sand feed**	**target water recycle**	**entry workforce**

Prepared for investment planning in Afghanistan and regional export markets. Final specifications, pricing, civil works, and utility loads require supplier quotation and site survey.

Executive Summary

A medium-industrial wet-processing line upgrading screened natural or crushed sand by controlled feed, wet screening, attrition or log washing where clay requires it, wheel or spiral washing, hydrocyclone classification and fine-sand recovery, dewatering screening, separated product conveying, process-water clarification, sludge thickening/filter pressing, laboratory release and stockpiling.

Why this project fits Afghanistan

- Clean classified sand improves concrete consistency and reduces uncontrolled silt and clay.
- Fine-sand recovery protects saleable yield that a simple wheel washer may lose.
- Closed-loop water treatment is especially important where water is scarce.
- The plant must be tuned to the buyer's grading and fines specification, not merely to visual cleanliness.

Sanaatchi delivery scope

- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration	Select the line only after feed gradation, clay, silt, organic contamination, required fines and water availability are tested. For a low-capacity commercial start, screen 40-60 t/h with feed hopper, wet screen, one wheel or spiral washer, compact hydrocyclone and dewatering screen, product conveyor, settling/thickening and filter press. Recycle process water and control product moisture.

Manufacturing Process & Product Portfolio

Integrated process flow

Target products

Product	Typical specification	Primary market
Washed concrete sand	Buyer-defined grading, fines, clay, organic impurities, absorption and moisture	Ready-mix and precast concrete producers
Washed plaster or masonry sand	Separate finer grading and cleanliness specification	Mortar, plaster and block producers after trials

A washing unit does not automatically create specification sand. Feed variability, screen apertures, water balance, cyclone cut point and dewatering affect grading and fines. Acceptance measures wet and dry feed, saleable tonnes per hour, gradation, material below 75 microns, clay, organic impurities, moisture, fine-sand recovery, freshwater use and sludge-cake production.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Feed hopper and wet scalping screen	Meters sand and removes oversize/trash	40-60 t/h basis
2	Optional attrition scrubber	Breaks clay films from competent grains	Install only after feed test
3	Wheel or spiral washer	Washes and transports coarse sand	Matched to feed and water
4	Slurry pump and hydrocyclone	Classifies and recovers fine sand	Contract cut point
5	Dewatering screen	Reduces final free moisture	Polyurethane media
6	Product conveyors and lined chutes	Forms clean separated stockpiles	No cross-contamination
7	Clarifier/thickener and filter press	Recovers water and forms manageable sludge	Closed-loop design
8	Sand laboratory and moisture tools	Releases grading and cleanliness	Buyer standard methods

Equipment models are indicative and will be matched to the selected capacity, local raw-material tests, available utilities, and preferred automation level.

Reference Equipment Gallery

Made-in-China supplier reference: real sand washing & classification line equipment.

Made-in-China supplier reference: second real machine configuration for sand washing & classification line.

Images are supplier references for configuration discussion; final equipment appearance and model may differ.

Plant, Raw Materials & Utility Requirements

Raw materials

- Screened natural sand, gravel fines or crushed sand with permitted extraction source
- Clean makeup water and approved flocculant only where trials require it
- PU screen panels, cyclone liners, pump parts and washer wear components
- Fuel/lubricants, conveyor parts, sample bags and product labels

Utilities & infrastructure

- Three-phase power for pumps, screens, washer and filter press
- Reliable makeup-water source and lined process-water ponds/tanks
- Stable plant platform, drainage and contained dirty-water routes
- Loader access and separated product stockpiles
- Sludge-cake handling, testing and approved reuse/disposal

Quality, safety and environmental controls

- Sample feed grading, clay, silt and organics each production shift
- Control feed rate, water flow and cyclone pressure
- Check screen panels, pump/cyclone wear and washer condition
- Measure product grading, fines and moisture
- Reconcile water, fine-sand recovery and sludge mass
- Protect stockpiles from contamination and segregation

A final factory layout must reserve safe forklift routes, maintenance clearances, raw-material segregation, finished-goods storage, fire protection, ventilation, and future expansion space.

Indicative Investment & Implementation Plan

LOW-ENTRY CONFIGURATION

The lowest credible plant washes one tested feed into one main sand grade with compact fines recovery and full water recycling. Extraction equipment, land, stock and working capital are excluded.

Component	Indicative range	Notes
Feed, wet screen and washer	US$85k-220k	40-60 t/h basis
Cyclone, dewatering and product handling	US$65k-180k	Fines recovery and moisture control
Clarification, filter press and water circuit	US$75k-230k	Mandatory recycle scope
Civil works, freight, erection and spares	US$80k-230k	Ponds and wet installation
Indicative installed project total	US$305k-860k	Extraction fleet, land and working capital excluded

Implementation sequence

Phase 1	2-5 weeks	Confirm product specification, representative raw material, buyer, capacity, site and utilities
Phase 2	3-7 weeks	Run supplier trials with the buyer material and freeze the balanced machine, tooling and utility scope
Phase 3	8-22 weeks	Manufacture or refurbish, inspect, document and ship the contracted equipment
Phase 4	3-12 weeks	Install, commission, train operators and pass material-specific acceptance tests

Ranges are planning targets for a low-cost entry configuration, exclude land, and remain subject to confirmed capacity, supplier quotation, freight, duties, exchange rates and site conditions.

Next Steps & Contact Information

Recommended next steps

- Confirm target products, hourly output, and packaging formats
- Test representative raw materials and document quality requirements
- Complete site survey covering electricity, water, fuel, drainage, roads, and warehouse space
- Request comparable technical and commercial quotations from shortlisted suppliers
- Finalize financing, logistics, installation, training, and spare-parts plan

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Research and image references

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