

Appendix J

PLANT LAYOUT & SPECIFICATION



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Reading Recycling Facility

Process description

- 1. Material is pre-sorted with a material handler to remove any abnormal oversize material before being loaded into the feed hopper, which has variable belt speed to control the feed rate of material into the plant
- 2. Material is transported by a series of conveyor belts to a vibrating screen which uses special screen media to separate the material by size into the following fractions:
 - a. 0-10mm "fines"
 - b. 10-50mm "midsize"
 - c. 50-100mm "midsize"
 - d. >100mm "oversize"
- 3. 0-10mm fines are collected and transported by a series of conveyor belts to a storage bay, whilst passing beneath an over-band magnet which removes any ferrous metals present and discharges to a container
- 4. 10-50mm midsize fraction is transported by conveyor belt to air separation, whilst passing beneath an over-band magnet which removes any ferrous metals present and discharges to a container
- 5. 50-100mm midsize fraction is transported by conveyor belt to air separation, whilst passing beneath an over-band magnet which removes any ferrous metals present and discharges to a container
- 6. Parallel air separators remove any light materials from the 10-50mm and 50-100mm fractions respectively. The light fraction is blown from the material stream using an adjustable fan and separation drum and is collected in lights bay with mesh enclosure for containment
- 7. Heavy fractions from both air separators are collected and conveyed through a manual quality control station where operatives can remove any remaining heavy contaminants (e.g., dense wood etc) which is dropped via chutes into the storage bay beneath
- 8. After manual quality control the heavy fraction is fed onto an eddy current separator which uses a high-speed rotor with magnets to remove non-ferrous metal which is discharged to a container and clean heavy fraction drops to storage bay beneath
- 9. >100mm oversize material is conveyed from the vibrating screen through a 6 bay manual picking station, where operatives can sort out target materials and drop via chutes into storage bays beneath (for example wood, cardboard, plastic etc)
- 10. After manual sorting, material is conveyed beneath an over-band magnet to remove any ferrous metals present
- 11. As material drops off the end of the conveyor a blower removes any remaining light material via a chute into lights bay with mesh enclosure for containment and clean heavy fraction drops into storage bay











