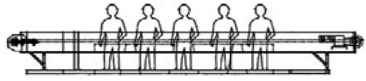


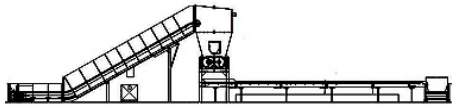
SSI Shredding Systems, Inc.

Electronics Scrap Processing System



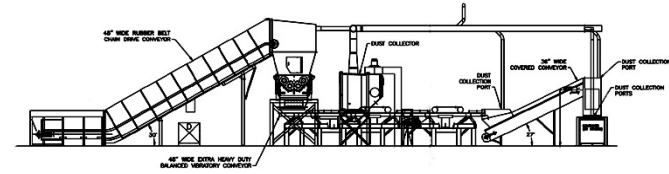
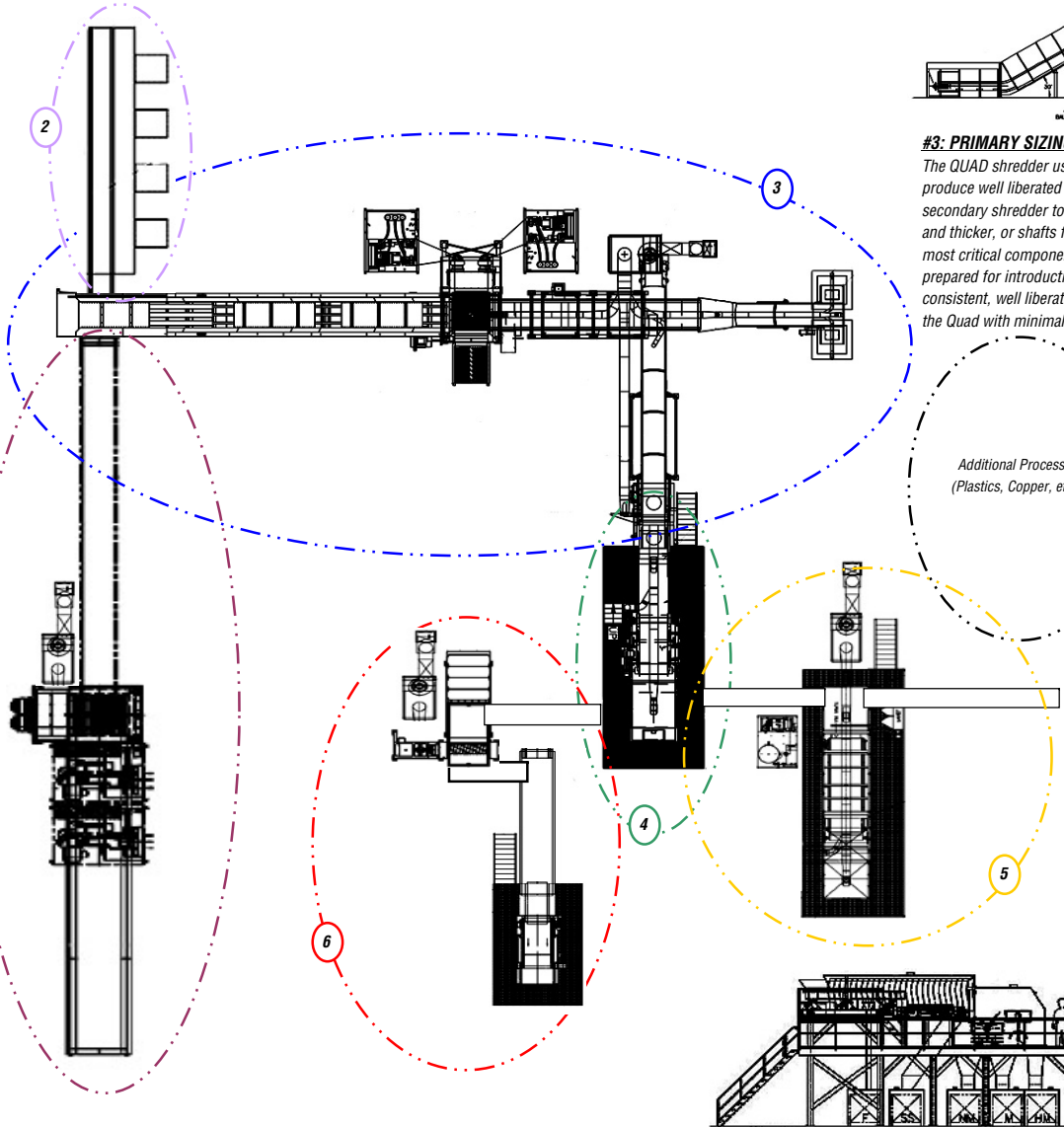
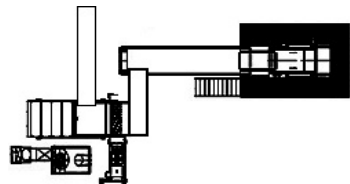
#2: DE-MANUFACTURING STATION:

Many processors employ de-manufacturing stations to allow for removal of high value components, heavy metals prior to shredding, hazardous materials (batteries, mercury switches, CRT glass in some cases, etc). SSI suggests setting this up near the primary sizing system so that materials to be shredded can be automatically transferred to the shredder after being placed onto a conveyor that is located right behind the de-manufacturing work bench.



#1: PRIMARY SHREDDING SYSTEM:

Primary shredding systems increase processing capabilities by enabling bulk loading of material as well as capability to process heavy metal pieces (like servers, cabinets, copy machines, office printers, etc.) with little or no front-end demanufacturing. They also allow for the use of smaller screens on the downstream primary sizing system. SSI offers primary shredding systems with both dual-shear and Quad shredders. The Dual-Shear is less expensive but requires heavy metals to be hand sorted prior to the sizing system. The QUAD produces smaller materials that can be automatically sorted, but it's more expensive.



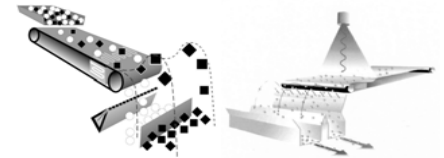
#3: PRIMARY SIZING SYSTEM with FERROUS REMOVAL:

The QUAD shredder used in this part of the system can be equipped as a stand-alone machine, to produce well liberated materials that are sized to approximately 2", or it can be used as a secondary shredder to make 1 1/2" material. In either case, heavy ferrous metals (i.e. 1/4" plate and thicker, or shafts from large printers) must be removed prior to shredding. This system is the most critical component in an automated recovery system because it is where the materials are prepared for introduction to the sorting equipment. Materials need to be processed to a small, consistent, well liberated state by this machine and the ferrous metals need to be removed after the Quad with minimal cross-contamination.

Additional Processes
(Plastics, Copper, etc.)

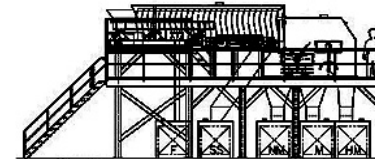
Additional Processes:

Some SSI customers also employ conventional wire chopping systems to process insulated wire and cords. These are available as integrated systems from other manufacturers. These are commonly used systems that have been around for many years. Some SSI customers also employ balers to bale up thermoplastic housings (primarily from CRTs and TVs) since they are commonly demanufacturing those materials to remove the glass anyway. Further plastics processing equipment is also something to consider depending on your markets



#5: Non-Metallic Sorting Systems:

Equipment used in these systems may change depending on whether you're going for conductive materials like stainless or copper wire, or non conductive materials such as plastics or glass. There are ISS sorters, Optical Sorters (NIR / Camera or CMYK), or X-ray sorters to discuss depending on your needs and future plans.



#4: EDDY CURRENT EXPANSION MODULE:

When combined with our primary sizing system, these two system components become our "Basic Metals Recovery System". The Basic Metals Recovery System is the most commonly used configuration of equipment among SSI customers. The materials seem to be sorted to the point where they can be sold at reasonable market prices and also the capital expenditure for this system seems to be at a point where many medium sized processors can justify it. Generally speaking, you'll need to be at a point where you are receiving at least 4-5 truckloads of material per week that needs to be shredded before you can evaluate this system as a potential addition to your processing operations.

#6: "Midlings" Refinement Systems:

These systems can be used to further reduce (shred) and then separate the precious metals mixture coming off of the primary eddy current. Typical output sizing is 5/8" minus and then the materials are sorted via high frequency eddy current to get the rest of the aluminum fragments and non-populated circuit board mixture away from the high grade metals fraction. It is possible at this point to introduce the high grade metals fraction into an accelerator mill to produce 40 mesh minus, then run the output metals through a density sorting table and electrostatic system to recover various metal streams by density, although only one SSI customer has found this additional process to be worth pursuing.