SUMMARY

[0004a] According to a first aspect of the present invention, there is provided a system for processing debris, the system comprising:

a plurality of bins capable of receiving debris, each bin comprising:

a base assembly having a base that is configured for selective movement about and between an open position and a closed position, and an actuator operatively coupled to the base and operable to effect selective movement of the base about and between the open position and the closed position; and

a plurality of walls coupled to and extending upwardly from the base, wherein the plurality of walls and the base cooperate to define an interior space;

a downstream conveyor assembly configured to deliver debris toward the plurality of bins, wherein the downstream conveyor assembly has a top surface that is positioned in communication with at least one wall of each bin of the plurality of bins to facilitate delivery of debris into the interior space of each bin,

wherein as the base of each bin moves from the closed position toward the open position, the base is configured to dispense debris from the interior space of the bin through the base.

[0004b] According to a second aspect of the present invention, there is provided a method of processing debris, comprising:

positioning a plurality of bins along a downstream conveyor assembly having a top surface, each bin comprising a base assembly having a base that is configured for selective movement about and between an open position and a closed position, and an actuator operatively coupled to the base and operable to effect selective movement of the base about and between the open position and the closed position, and a plurality of walls coupled to and extending upwardly from the base, wherein the plurality of walls and the base cooperate to define an interior space, and wherein the top surface of the downstream conveyor is positioned in communication with at least one wall of each bin of the plurality of bins to facilitate delivery of debris into the interior space of each bin;

transporting debris along the top surface of the downstream conveyor assembly relative to a conveyor axis;

selectively moving the debris into at least one bin of the plurality of bins;

activating the actuator to effect movement of the base of the at least one bin from the closed position toward the open position; and

unloading debris from the at least one bin into at least one container positioned below the at least one bin and configured to receive the debris that is unloaded from the at least one bin.

[0004c] According to a third aspect of the present invention, there is provided a debris bin, comprising:

a base assembly comprising:

a base that is configured for selective movement about and between an open position and a closed position, and

an actuator operatively coupled to the base and operable to effect selective movement of the base about and between the open position and the closed position; and

a plurality of walls coupled to and extending upwardly from the base, wherein the plurality of walls and the base cooperate to define an interior space,

wherein as the base of each bin moves from the closed position toward the open position, the base is configured to dispense debris from the interior space of the bin through the base.

[0005] Described herein, in various aspects, is a system for processing debris. The system can have at least one cart, a lifting apparatus, and a first conveyor assembly (e.g., an upstream conveyor assembly). Each cart can have a base, a plurality of wheels extending downwardly from the base relative to a vertical axis, and a plurality of walls extending upwardly from the base. The walls and the base of each cart can cooperate to define a debris-receiving space. The lifting apparatus can have at least one arm assembly configured to engage a portion of the base of a respective cart of the at least one cart when the cart is in a resting position. Following engagement between the at least one arm assembly and the cart, the at least one arm assembly of the lifting apparatus can be selectively rotatable relative to a rotational axis to move the cart about and between the resting position and an unloading position. The cart can reach the unloading position following rotational movement of the at least one arm assembly of the lifting apparatus along an arcuate path having an arc length ranging from about 130 degrees to about 170 degrees. The first conveyor assembly can be configured to receive debris from the at least one cart when the at least one cart is in the unloading position.

[0006] The system can further comprise a plurality of bins capable of receiving debris. Each bin can have a base assembly having a base that can be configured for selective movement about and between an open position and a closed position, and an actuator that can be operatively coupled to the base and operable to effect selective movement of the base about and between the open position and the closed position. Each bin of the plurality of bins can have a plurality of walls coupled to and extending upwardly from the base. The plurality of walls and the base can cooperate to define an interior space. The system can further include a downstream conveyor assembly configured to deliver debris toward the plurality of bins. The downstream conveyor assembly can have a top surface that is positioned in communication with at least one wall of each bin of the plurality of bins to facilitate delivery of debris into the interior space of each bin.

As the base of each bin moves from the closed position toward the open position, the base can be configured to dispense debris from the interior space of the bin through the base.

[0007] Also described herein, in additional aspects, is a method for processing debris. The method can include providing at least one cart to a jobsite, transporting the at least one cart from the jobsite to a debris processing facility, and effecting engagement between at least one arm assembly of a lifting apparatus and a first cart of the at least one cart. Each cart can