WHAT IS CLAIMED IS:

1. A dredged soil sorting system (100) for the utilization of reclamation soil, wherein the dredged soil sorting system comprises:

a hydro cyclone (30) having:

an inflow portion (31) for allowing inflow of dredged soil;

a fine soil outflow portion (33) for allowing outflow of fine soil, wherein the dredged soil is inflowed through the inflow portion (31) of the hydro cyclone and the inflowed dredged soil is sorted and separated into sand and fine soil, thereby allowing outflow of the fine soil;

a sand outflow portion (34) for allowing outflow of sand;

a sand transfer portion (70) for transferring sorted and separated sand to a ground required to be reclamated; and

a fine soil transfer portion (80) for transferring sorted and separated fine soil to the ground required to be reclamated,

wherein

the dredged soil has a fine soil content of 10% by mass or more,

the fine soil has an average grain size of 0.06mm or less, and

the dredged soil sorting system further comprises:

a transfer pump (10) for pumping dredged soil from seabed and transferring the dredged soil to the inflow portion of the hydro cyclone;

a measurement portion for measuring a fine soil content in outflowed sand, wherein the measurement portion is disposed to the sand outflow portion of the hydro cyclone; and

a control portion for controlling at least one of an opening ratio of the sand outflow portion, a flow rate of dredged soil flowed into the hydro cyclone and a pressure of dredged

soil flowed into the hydro cyclone, on the basis of values measured in the measurement portion, thereby allowing controlling a fine soil content of the sand outflowed through the sand outflow portion to be 10% or less.

2. The dredged soil sorting system for the utilization of reclamation soil of claim 1, wherein

the dredged soil has a fine soil content of 15 to 30% by mass.

3. The dredged soil sorting system of claim 1, wherein

the dredged soil sorting system further comprises a screen (20) for installation between the transfer pump and the hydro cyclone, wherein the screen is configured for allowing removing gravel or foreign substances from the dredged soil.

4. The dredged soil sorting system of claim 3, wherein

the dredged soil sorting system further comprises an inflow pump (32) for transferring the dredged soil to the inflow portion of the hydro cyclone.

5. The dredged soil sorting system of claim 3, wherein the dredged soil sorting system comprises:

a first stage hydro cyclone (40) having an inflow portion (41) which allows inflow of dredged soil, a fine soil outflow portion (42) and which sorts and separates the inflowed dredged soil, allowing outflow of fine soil, a first sand outflow portion (43) which allows outflow of sand containing 10% fine soil by mass or less, and a second sand outflow portion (44) which allows outflow of sand containing more than 10% fine soil by mass; and

a second stage hydro cyclone (50) having: a fine soil outflow portion (53) which allows inflow of sand containing more than 10% fine soil by mass and outflowed from the second sand outflow portion (44) of the first stage hydro cyclone (40) and which sorts and separates the inflowed sand, allowing outflow of fine soil, and a sand outflow portion (54) which allows outflow of sand containing 10% fine soil by mass or less, wherein

the sand transfer portion (70) transfers sand having a fine soil content of 10% or less outflowed through the first sand outflow portion (43) of the first stage hydro cyclone (40) and sand having a fine soil content of 10% or less outflowed through the sand outflow portion (54) of the second stage hydro cyclone (50) to ground required to be reclamated,

the fine soil transfer portion (80) transfers fine soil outflowed through the fine soil outflow portion (42) of the first stage hydro cyclone (40), and fine soil outflowed through the fine soil outflow portion (53) of the second stage hydro cyclone (50) to ground required to be reclamated.

6. The dredged soil sorting system of claim 1, wherein

the dredged soil sorting system further comprises a coagulation portion (60) for coagulating the sorted and separated fine soil separated from the hydro cyclone and transferring the coagulated fine soil to the fine soil transfer portion.

7. The dredged soil sorting system of claim 1, wherein

the ground required to be reclamated includes a sand replacement layer, an embankment, a lower reclamation layer and an upper reclamation layer,

the fine soil transfer portion transfers the fine soil to the lower reclamation layer of the ground required to be reclamated, and the sand transfer portion transfers the sand to the sand replacement layer, the embankment and the upper reclamation layer.

8. The dredged soil sorting system of claim 7, wherein

the sorting system is installed on an embankment,

the sand transfer portion utilizes the sand as a sand replacement layer, an embankment and an upper reclamation layer, and the fine soil transfer portion utilizes the fine soil as a lower reclamation layer of the ground required to be reclamated.

9. The dredged soil sorting system of claim 7, wherein

the sorting system is installed on a barge,

the sand transfer portion transfers the sand to a sand replacement layer, an embankment and an upper reclamation layer, and the fine soil transfer portion transfers the fine soil to a barge for transportation or a settler.

10. A method for the utilization of reclamation soil using a dredged soil sorting system (100) comprising steps of:

pumping dredged soil having a fine soil content of 10% by mass or more from seabed by a transfer pump;

removing gravel and foreign substances from the dredged soil through a screen;

allowing inflow of the dredged soil through an inflow portion of a hydro cyclone for sorting and separating the inflowed dredged soil into sand and fine soil;

outflowing the sorted and separated fine soil through a fine soil outflow portion;

outflowing the sorted and separated sand having a fine soil content of 10% or less through a sand outflow portion;

coagulating the sorted and separated fine soil outflowed through the fine soil outflow portion in a coagulation portion and outflowing coagulated fine soil;

transferring the sorted and separated sand having a fine soil content of 10% or less to a sand replacement layer, an embankment and an upper reclamation layer through a sand transfer portion and utilizing the sorted and separated sand having a fine soil content of 10% or less as reclamation soil; and

transferring the coagulated fine soil to a barge for transportation or a settler through a fine soil transfer portion and utilizing the coagulated fine soil as reclamation soil.

11. The method of claim 10, wherein

the method comprises steps of:

outflowing the sorted and separated fine soil through a fine soil outflow portion of a first stage hydro cyclone; wherein the hydro cyclone of claim 10 is the first stage hydro cyclone

outflowing the sorted and separated sand containing 10% fine soil by mass or less through a first sand outflow portion of the first stage hydro cyclone;

outflowing the sorted and separated sand containing more than 10% fine soil by mass through a second sand outflow portion of the first stage hydro cyclone; and

inflowing the outflowed sand containing more than 10% fine soil by mass, from the second sand flow output portion of the first stage cyclone, to a second stage hydro cyclone for further sorting and separating of the inflowed sand so as to allow outflowing of fine soil through a fine soil outflow portion of the second stage hydro cyclone and outflowing the sand containing 10% fine soil by mass or less through a sand outflow portion of the second stage hydro cyclone.

12. The method of claim 10 further comprising steps of:

measuring a content of fine soil contained in outflowed sand by a measurement portion disposed to the sand outflow portion of the hydro cyclone; and

controlling, through a control portion, a fine soil content of sand outflowed through the sand outflow portion to be 10% or less by regulating at least one of an opening ratio of the sand outflow portion, a flow rate of the dredged soil flowed into the hydro cyclone, and a pressure of the dredged soil flowed into the hydro cyclone, on the basis of values measured in the measurement portion.

13. The method of claim 11, wherein the method comprises the steps of:

transferring sand having a fine soil content of 10% or less outflowed through the first sand outflow portion of the first stage hydro cyclone and sand having a fine soil content of 10% or less outflowed through the sand outflow portion of the second stage hydro cyclone to the sand replacement layer, the embankment and the upper reclamation layer through the sand transfer portion; and

transferring fine soil outflowed through the fine soil outflow portion of the first stage hydro cyclone, and fine soil outflowed through the fine soil outflow portion of the second stage hydro cyclone to the coagulation portion.