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Inland Lake Harvester, Inc. was established in 1984 in Burlington WI. We are a family owned and operated business for the last 35 years providing heavy duty aquatic weed harvesting equipment to clients around the globe. Starting our business as a contract harvester company we understand that reliability and ease of maintenance are the #1 factors for any aquatic weed harvester program. Our harvesters are built with this in mind and most of the components are readily available at your local farm implement store intentionally for low cost and easy maintenance.

We provide a two (2) day on-site training program at the time of delivery. Our warranty is a full two (2) year / 2000 hour warranty for the Kubota Engine and Parker Hydraulics. We also provide a 10 year warranty for the super structure.

Inland Lake Harvester will deliver the equipment within 90 - 120 days from date of signed contract and receipt of deposit. Inland Lake Harvester requires a 1/3 deposit with the signed contract, 1/3 progress payment at half way manufacturing and final payment at the completion of manufacturing before delivery.

Inland Lake Harvester's proposal to furnish and deliver for the Wind Lake Management District:

One (1) ILH450 Harvester w/hydraulically controlled flip up paddle wheels	$143,070.00
One (1) ILHTC Trailer Conveyor	$ 35,600.00

Optional Items that can be added to the ILH450 are the following:

Hydraulic Wash Down Pump:	$1,827.96
Auto Greasing System (Manual):	$3,750.00
GPSTrimble CFX750 DIS Display w/Antenna	$4,353.00

ILH450 Harvester

Approximate Dimensions:

Shipping Length:	40'	Operational Length:	40'
Shipping Width:	10'	Operational Width:	15' 2"
Shipping Height (on trailer):	11' 10"	Operational Height:	8' 8.5"
Shipping Weight:	14,620 lbs		

FLOTATION BARGE

- HULL & CONSTRUCTION: The barge is constructed with 11-gauge stainless steel welded as a solid steel framework. Internal support structures are complete top to bottom sealed bulkhead placed at 24" on center throughout the barge with incorporated angle framing.
  All deck load bearing areas are reinforced with a solid formed framework bulkhead with a ¼" stainless steel plate welded into the deck. All construction of Inland Lake Harvester hulls is 100% stainless steel throughout. There are NO mixed metals in our construction.

- REINFORCEMENT STRUT: Barge sidewalls are formed and constructed with an indented reinforcement strut measuring approximately 4" tall and extending the entire length of the barge.

- BOTTOM PROTECTION: Replaceable 3 1/2" x 3 1/2" polyethylene runners are installed on the bottom to protect the bottom and to guide the barge on and off the trailer.

- COMPARTMENTS: The hull has 12 airtight and watertight compartments that are fully tested. Each compartment has a 1" inspection plug on the starboard side of the deck and a 1" drain plug on the lower starboard side.

- OUTFITTING: There are four (4) lifting eyes located near the outside corners of the barge. There will be twelve (12) anti-skid grip-tape on the port and starboard sides of the deck.

- BOW: The bow of the hull is configured in a slant wave breaking design to lessen resistance and enhance stability. The clevis tow/pull ring will be mounted on the front and rear of the hull for winching the unit onto the trailer.

- DIMENSIONS: Barge dimensions will measure:

  Length: 24'
  Width: 10'
  Height: 28"

- DRAFT REQUIREMENTS:

  Empty: 12"
  Fully Loaded: 18"

#1CONVEYOR: CUTTING & COLLECTION HEAD

- CONSTRUCTION: The cutting and collection head will consist of a bow mounted structural pivot frame supporting the pickup/loading conveyor. The conveyor bed will be made of structural steel with sidewall pans engineered and designed to create suction and reduce shock wave. Inland Lake Harvester's unibody designed cutter head is built for durability and structural rigidity.

- FUNCTION: The cutting and collection head will serve to simultaneously cut aquatic plants and collect floating vegetation and debris. Then transfer that material from the water into the storage hold container. Plants and refuse will be brought on board by means of hydraulically powered conveyor belts traveling at 85' to 100' per minute. Vessel will include a valve at the operator console that allows the operator to disengage the cutters and operate the pickup conveyor only.

  The cutting and collection head is capable of rising out of the water by 12" and lowered to a maximum of 6'. Elevation and adjustment is accomplished by means of two (2) single acting hydraulic cylinders.

- CUTTER BARS: The cutting and collection head does consist of three (3) cutter bars, each having a 3" reciprocating stroke. The cutting blades will be serrated and plated. The horizontal cutter will be mounted across the lower front end of the pickup/loading conveyor frame. The two (2) vertical cutters will be attached to the unibody front end for rigidity. The cutter bars will be painted a safety yellow that will contrast will the rest of the machine for visibility.

  Bolt on style extension flares tend to damage easily and require more maintenance over the life of the harvester. Compartmentalized front ends are unacceptable. Inland Lake Harvester only manufactures a unibody front end.

- DIMENSIONS: The cutter bars will measure:

  Horizontal: 7', 8' or 9' (client's preference)
  Vertical: 6'

- DRIVE SYSTEM: Each of the cutter bars shall be powered by three (3) high torque hydraulic motors and 5/8" diameter pitman rods with 5/8" rod end bearings. The loading conveyor is driven by two (2) high torque hydraulic motors by means of positive chain drive couplings. Hydraulic motors are of sufficient capacity to continuously move a fully loaded

conveyor belt. A selector valve is used to isolate the cutters from the conveyor system.

Inland Lake Harvester only uses Parker Hydraulic motors with nitrate treated shafts for anti-corrosion. Two bolt with center pilot mount.

- IMPACT PROTECTION SYSTEM: The cutter head will incorporate a single pivot swing away impact protection system. Our design of the single pivot swing away system is the industry leader for impact protection and does not require dual impact protection.

- DRIVE SHAFT: Cutter head conveyor drive will be a bearing mounted shaft with a minimum of ten (10) drive sprockets. Conveyor is driven by ½" steel x thirteen (13) toothed machined sprockets welded to the shaft. Shoulders not required with Inland's design. Laser cut and precision timing of all teeth. All drive shafts are heavy duty 1 ½".

- IDLER SHAFT: Cutter head conveyor idler roller is a bearing mounted smooth tube shaft.

- TENSIONING DEVICES: Proper belt tension on the pickup conveyor is maintained with two (2) external telescoping threaded tensioning devices at the drive shaft.

- CONVEYOR MESH: Cutter head conveyor mesh is 1" x 1" window standard duty stainless steel flat wire belting. Conveyor bed is made up of two (3) 30" belts

#2 & #3 CONVEYOR: STORAGE HOLD CONTAINER

- CONSTRUCTION: The storage hold consists of two (2) separate structural steel frames with sidewall pans engineered and designed to allow for maximum water drainage. The storage hold conveyor design allows for a minimum of 1" clearance between the conveyor belting and the top side of the barge.

- #2 CONVEYOR DRIVE SYSTEM: The #2 storage hold conveyor is driven by two (2) high torque hydraulic motors by means of positive chain drive couplings. Hydraulic motors are of sufficient capacity to move a fully loaded conveyor belt. The #2 conveyor belt speed is fully adjustable.

- #3 CONVEYOR DRIVE SYSTEM: The #3 storage hold conveyor is driven by two (2) high torque hydraulic motors by means of positive chain drive coupling. Hydraulic motors are of sufficient capacity to move a fully loaded conveyor belt. The #3 conveyor belt speed is fully adjustable.

- STORAGE CAPACITY: The storage hold container is self-draining and has a capacity of 454 cubic feet.

- FUNCTION: In the operating mode the storage container is kept in a horizontal position. To unload, the discharge end is hydraulically raised to an inclined position.

  A brace/stop framework is used to prevent the #3 conveyor from being lowered to the absolute horizontal position. This framework assists when making the connection to the shore conveyor.

- DRIVE SHAFTS: Storage conveyor drives will be a bearing mounted shaft with a minimum of ten (10) drive sprockets. Conveyor is driven by ½" steel x thirteen (13) toothed machined sprockets welded to the shaft. Shoulders not required with Inland's design. Laser cut and precision timing of all teeth. All drive shafts are heavy duty 1 ½".

- IDLER SHAFT: Storage conveyor idler roller is a bearing mounted smooth tube shaft.

- TENSIONING DEVICES: Proper belt tension on the storage hold conveyors are maintained via external threaded tensioning devices on the bearing plates. The #2 conveyor tensioners are mounted at the idler shaft, #3 conveyor tensioners are mounted at the idler shaft.

- CONVEYOR MESH: Storage hold conveyor mesh will be 1” x 1” heavy-duty galvanized flat wire belting consisting of 6-gauge welded rods. Conveyor bed is made up of two (2) 30” belts.

- DISCHARGE REACH: The #3 discharge conveyor extends a minimum of 7’ beyond the barge stern to be capable of raising a minimum of 5’ to unload. Raising and lowering the #3 conveyor is accomplished by means of two (2) single acting hydraulic cylinders. Unloading time is ninety (90) seconds. The discharge conveyor has incorporated deflectors on the stern end to funnel the material while offloading.

POWERPLANT AND HYDRAULICS

- LOCATION: The engine and hydraulic pump are mounted on rubber vibration isolators and is platform mounted alongside the hydraulic tank and lockable battery box away from the operator.

  The engine tower will be of the split tower design if the hydraulic flip up paddle wheel option is chosen. If a standard paddle wheel is chosen the client can choose between a split or full tower design.

- ENGINE: The harvester will be powered by a water cooled four cylinder Tier 4 Kubota Diesel engine. Engine has a 12 volt electrical system and automatic low oil pressure and a high temp shutdown.

- FUEL TANK: The harvester is equipped with one (1) 30-gallon fuel tank. Fuel tank is labeled for diesel fuel and includes a lockable filler/breather cap. A separate in-line fuel filtering system is supplied.

- HYDRAULIC PUMP SYSTEM: The engine directly drives a variable volume pressure compensated demand pump to power all hydraulic systems on the harvester. Total flow capacity / gallons per minute (GPM) is sufficient to operate both paddle wheels as well as all cutting and loading conveyor motors simultaneously. The system allows for all operating functions at infinitely variable speeds from zero to factory set maximum speeds.

- HYDRAULIC RESERVOIR: The hydraulic reservoir has a capacity of 25 US Gallons and includes a lockable filler/breather cap, water collection drain pepcock, magnetic particle collector, suction strainer, 10 micron return filter, visual oil level and temperature gauge and electronic low level sensing unit with alarm. The hydraulic tank is mounted on an elevated platform next to the engine.

- HYDRAULIC OIL: Hydraulic oil is Clarion AW-46 biodegradable and passes the US Coast Guard static sheet. Compatible hydraulic oil will be used to match all of clients existing equipment if necessary.

- HYDRAULIC LINES: All hydraulic lines are made of heavy duty double braided rubber hose.

The following minimum PSI hose ratings shall be required:

¼” Hose – 5000 PSI minimum
½” Hose – 3500 PSI minimum
¾” Hose – 2250 PSI minimum
1” Hose – 2000 PSI minimum

- HYDRAULIC FITTINGS: Only high-quality hydraulic fittings are used. All fittings are properly matched in size and rating to the hydraulic hose.

- HYDRAULIC OPERATION: The paddle wheels have separate speed controls, both forward and reverse, by manual hydraulic control levers. All other hydraulic functions are independently activated by manual hydraulic control levers.

PROPULSION SYSTEM

- PADDLE WHEELS: Two bi-directional paddle wheels are center mounted on the port and starboard sides of the barge. Paddle wheels are easily attached and removed via eight (8) bolts for over-the-road transportation. Paddle wheels are powered by a heavy-duty direct drive hydraulic wheel bearing motor. Each paddle wheel motor is protected by a cross over relief valve.

- DIMENSIONS: Each paddle wheel measures (size of flip up paddle wheel may vary):

Diameter:	60”
Width:	30”
Paddle Depth:	16”

- PADDLE WHEEL GUARDS: Paddle wheels will have a safety railing to enable a clear passage between the paddle wheel and tower. Guards are easily removable.

- FINISH: Paddle wheels and entire paddle wheel guard system is painted black.

CONTROL BRIDGE

- LOCATION: The operator control area is a raised bridge, permanently mounted at the forward end of the harvester over the storage hold container. Bridge is surrounded by safety railings with access to it from the barge deck by means of non-skid ladder steps from both the starboard and port sides.

  The control tower will be of the split tower design if the hydraulic flip up paddle wheel option is chosen. If a standard paddle wheel is chosen, the client can choose between a split or full tower design.

- CONTROL CONSOLE: Manual control levers are mounted on the bridge within easy reach of an operator in the seated position. Any hydraulic lines located in this vicinity are shielded. Operator console includes one (1) lockable storage container.

- CONTROL PANEL: The control panel is mounted to the left of the operator seat within easy reach of the operator. The paddle wheel control panel is mounted to the right of the operator seat within easy reach of the operator.

- INSTRUMENTATION: Instrumentation includes an ignition switch, battery indicator, glow plug indicator, oil light, temp light, hour meter and tachometer. A power outlet will also be provided.

- OPERATOR SEAT: The operator seat is ergonomically designed made of foam rubber, padded and covered with weather proof heavy duty vinyl with adjustable height.

- BIMINI CANOPY: The harvester includes a large Bimini canopy designed to shade the operator.

FINISH

- PREPARATION AND FINISH: All weldments and fabricated parts are thoroughly cleaned to remove all grease, oil and foreign material. Weld spatter, slag, flux, rust and corrosion will be completely removed. All carbon steel surfaces are abrasive blasted per SSPC-SP10 and coated with Devoe 224V Epoxy applied at 4 – 8 mils.

- COLOR: Equipment will be painted as per clients' request. Stainless Steel barge will not be painted

- STAINLESS STEEL FINISH: Stainless steel barge will be cured with a pickling paste for a minimum of twenty-four (24) hours, then power buffed with rubbing compound to a high shine finish.

- FASTENERS: Where applicable, fasteners are stainless steel grade 18/8 throughout.

- PARTS AVAILABILITY: Parts and fittings for the transport and any of its accessories, (ie: engine, hydraulic lines, pumps & valves; hydraulic motors, hoses & fittings; hardware; electrical components; etc.) are of current manufacture, design and size that is readily available to the Buyer.

MISCELLANEOUS

- SPARE PARTS KIT: A spare parts kit will be provided at no additional cost and will include the following:
  - 12 each Sickle Blade
  - 24 each Sickle Blade Bolt
  - 24 each Sickle Blade Nut
  - 4 each Guard Shim
  - 3 each Hold Down Clip
  - 3 each Double Head Treated Guard
  - 1 each Tie Rod End
  - 1 each Pillow Block Bearing
  - 1 each Flat Bearing
  - 1 each Belting (small splicing section)
  - 2 each Belting Connecting Rod
  - 1 each Fuel Filter
  - 1 each Oil Filter
  - 1 each Hydraulic Filter

- TOOL KIT: A complete set of required tools for servicing the equipment will be supplied, along with a tool box and a fire extinguisher.

  - 1 each 14 pc Combo Wrench Set SAE ¼" – 1 ¼"
  - 1 each 21 pc Socket Set SAE/Metric 3/8 Drive
  - 1 each Allen Wrench Set SAE and Metric
  - 1 each Pipe Wrench
  - 1 each Crescent Wrench
  - 1 each Flat Head Screwdriver
  - 1 each Philips Head Screwdriver
  - 1 each Pliers
  - 1 each Hammer
  - 1 each Vice Grips
  - 1 each Side Cutters
  - 1 each Grease Gun
  - 1 each Needle Nose Pliers

ILH Dual Axle Trailer Conveyor

- DIMENSIONS:
  Length: 32’ 6”
  Width: 8’ 6”
  Height: 6’ 8.5” with side walls installed
- AXLES: 8,000 lbs each – 16,000 GVW
- BRAKES: Electric with Break-away Safety Kit
- SUSPENSION: Leaf Spring
- HITCH: Pintle (adjustable)
- WINCH: 12,000 lbs Electric
- CONVEYOR: Heavy Duty Pintle Chain with “wipers”
- HYDRAULIC SYSTEM: Honda Power Pack System
- LIGHTS: Tail, Stop, Turn
- VIN/ID PLATE: Laser Etched
- FINISH: Sandblasted/Black Enamel

CONVEYOR BED DIMENSIONS:

- LENGTH: 18.75’
- WIDTH: 62”
- HYDRAULIC MOTORS: Two (2) Parker Motors with reduction gears