

WORK PLAN
FOR
NEW JERSEY
DEPARTMENT OF TRANSPORTATION
LOWER PASSAIC RIVER DREDGING PILOT STUDY
Contract No. ESS000030



Submitted by: Jay Cashman, Inc.

Revised November 22, 2005



WORK PLAN

Jay Cashman Inc., (“CASHMAN”) is pleased to provide this revised work plan to implement the Lower Passaic River Dredging Pilot Study (the “Work” or “Pilot Study”) as described in the New Jersey Department of Transportation (the “Department” or “NJDOT”) specifications pursuant to Contract No. ESS000030. This revised Work Plan includes comments received from the NJDOT and its consultants in a memo dated November 4, 2005 and additional comments received during a conference call with the NJDOT on November 14, 2005. CASHMAN understands the importance of working and interacting with the Department’s team of scientists and consultants tasked with monitoring this important work. CASHMAN has the expertise, local presence, and owned equipment inventory to complete this project in accordance with the Department’s requirements and we look forward to this opportunity.

The following is CASHMAN’s intended approach to execute the operational requirements of this project. As with any project, Cashman reserves the right to make any necessary adjustments and changes to these plans to meet the project objectives. Any changes would be confirmed with the Department in advance. The terms Contractor, Department and Engineer are defined using the definitions provided in the specifications for this project.

Sequence of Events

1.0: Award and Notice

Pursuant to the revised project schedule, Cashman will implement the pilot dredge work starting on December 5, 2005. Toward this end, Cashman is coordinating activities with the surveyor, CableArm, and our Sterling Equipment Company to ensure all equipment is in place for this project.



2.0: Submittals

It is CASHMAN's understanding that time is of the essence. Because of the tight schedule Cashman prepared the Work Plan prior to receiving the Notice to Proceed to ensure all project aspects are finalized prior to the project start date. As required by the specifications, the following project submittals will be processed on an expedited basis:

- Work Plan and Schedule (Submitted within 5 days of receipt of the written Notice to Proceed); and
- Health and Safety Plan (Submitted within 10 days of written Notice to Proceed).

The Health and Safety Plan ("HASP") shall conform to the project specifications including applicable state and federal worker safety requirements.

Additionally, and to maintain the purpose of the expedited review, it is assumed that the Department shall review and provide comments to the reports in the respective time frames noted above, or sooner. If comments are received, CASHMAN shall work with the Department and its Engineer to expedite the completion of these reports. The schedule and plans will be finalized upon review and agreement with the Department.

3.0 Pre-Mob and Mobilization

Pre-Mob

Cashman has met with CableArm representatives to ensure the new bucket features are incorporated into the Wood I and to coordinate the team arrangements. The Wood I presently has a ClamVision system. The new bucket will be connected to this system, including the sensors that will detect bucket closure and bucket depth. Other pertinent operational aspects will be discussed with the CableArm representatives, including data collection and management.



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Mobilization

Cashman is planning to mobilize its equipment to the site from its New Bedford, MA and Staten Island, NY facilities for the December 5, 2005 project start date. Prior to shipping the equipment it will be maintained and retrofitted with the equipment required for this project.

Cashman will utilize a new 8YD Cable Arm Inc., environmental clamshell bucket. The bucket will be delivered to Cashman's Staten Island, NY facility where it will be installed to the Lima 2400 crane on Cashman's Wood I dredge barge. The connections to ClamVision will be made at this time. All other maintenance and equipment adjustments will also be made in Staten Island. The Wood I will ship out of Staten Island to arrive at the project location on our about December 2, 2005.

The following equipment is scheduled for use on this project:

- Wood I dredge, with Lima 2400 crane and CableArm 8YD environmental clamshell bucket and ClamVision system.
- Guide Barge – SEI 32
- 50 Ton Crane on Guide Barge – rough terrain model
- Hopper Barges – SEI 3000, 3001, 3002, and 3003
- Tug Boat – Tender – Bosco Tug
- Tug Boat – For tow to the BioGenesis Decontamination Facility in Keasbey, NJ – Cameron's Point Tug

Wood I



4.0: Dredging (Completed by Nov. 15, 2005)

4.1: Pre-Dredging Bathymetric Survey

Pursuant to the project specifications, and under CASHMAN'S direction, a pre-dredging bathymetric survey will be performed by Roger's Surveying, Inc., of Staten Island, New York, prior to the start of dredging operations. Roger's will perform the pre-condition survey on Monday November 28, 2005. One day is anticipated in the field, and two days are estimated in the office to manage the data. Cashman believes it is important that Roger's and the Engineer are in agreement with the survey data before the project is started. This approved pre-condition survey data must be uploaded into the ClamVision system in time for the December 5, 2005 start date. Cashman plans to have the pre-condition survey uploaded into the ClamVision system on the Wood I on Friday December 2, 2005.

As part of the pre-condition survey scope, Cashman intends to collect survey data from shore to shore 1000 feet upstream of the pilot dredge project area and 500 feet downstream of the pilot area. As discussed above, this work will be coordinated with the Engineer's survey contractor and the shared data will be used to establish a mutually agreed baseline condition. Additionally, Cashman will establish a base station that is visible from the Pilot Study work area to ensure data can be obtained as needed. The post condition survey will be performed by Rogers within 24 hours of project completion.

Cashman has discussed its concerns associated with relying on pre and post condition survey data as the final determining factor to evaluate project performance because of the conditions of the Lower Passaic River and the small scale nature of the Pilot Study. One concern involves the rapid current and re-sedimentation of excavated areas. Another concern involves the physical nature of the sediment and the fact that the Pilot Study area will be a small cut area in this fast moving river. We believe that adjacent and sidewall sediment will slump into the dredged areas immediately after dredging. Therefore it would be inaccurate to use the pre and post dredge surveys for measurement or payment purposes.



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As a result, Cashman will use “Real Time Data” that will include data provided by Cable Arm sensors and daily surveys of dredged areas to verify the actual performance of the dredging activities. This data will include the depth and coordinates of each bucket cut. It will also include survey data collected in each dredged area at the end of each day. The pre and post condition survey data will be used as supporting information, but final determination for measurement and payment and conformance with project specifications shall be made using the Real Time Data, provided by Cable Arm and the scow measurements provided by Cashman.

4.2: Scow Measurements

The material will be measured in scow, prior to transporting each scow to the Decontamination Facility. Barge measurements will be made using the following techniques:

- 1) Inside hopper measurements will be made at the project site, prior to moving the barge to the Decontamination Facility.
- 2) After the barge is unloaded at the Decontamination Facility measurements will be made of material remaining.
- 3) Barge displacement will be measured before and after filling the barge; and
- 4) Freeboard measurements will be made before and after filling.

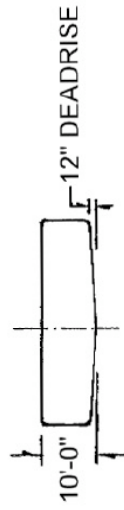
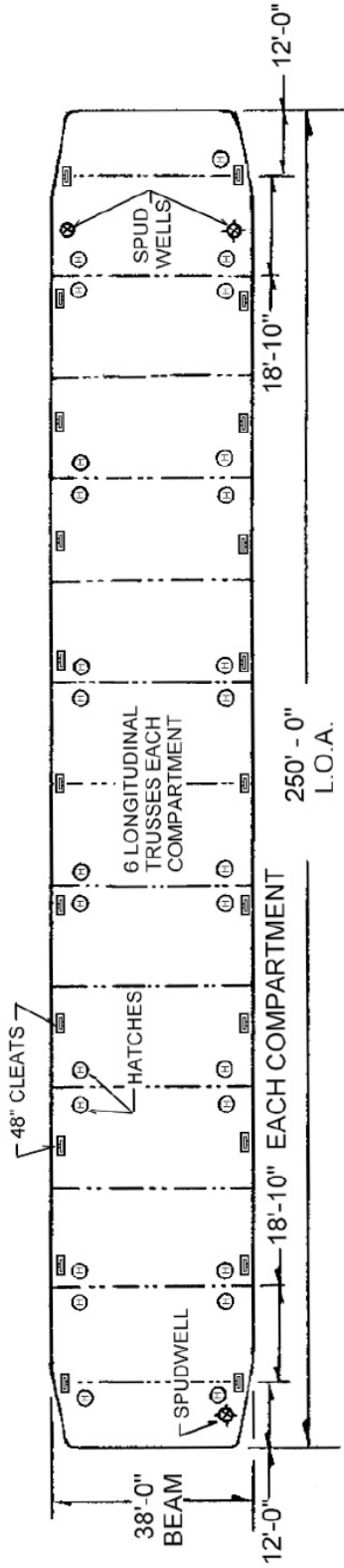
4.3: Dredging of Contaminated Materials

Cashman intends to stage its primary equipment as shown on the attached drawing. Using this equipment set-up, Cashman plans to implement the following approach to complete the Pilot Study scope of work.

Cashman will use a Guide Spud Barge as part of its work operations when digging the 11-foot and 13-foot sections. The Guide Barge, the SEI 32, is 250 feet in length and 38 feet wide. The Guide Barge will be spudded adjacent to and outside the project area using its two inboard spuds. A 50-ton crane will be positioned on the Guide Barge to use as necessary and also to lift the spuds, as needed. By using the Guide Barge, Cashman will minimize the use of tug boats to move the dredge thereby minimizing the potential for project area sediments to be disturbed by the tug propeller action. See attached sketch of the Guide Barge – SEI 32 below.



SPUD BARGE SEI 32



MIDSHIP SECTION



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Cashman intends to use its SEI 3000 series hopper barges to contain and deliver the dredged material to the decontamination facility. These barges can now be used to deliver material to the Decontamination Facility unloading area after the recently completed emergency dredging work excavated the unloading area to 11 feet to accommodate larger vessels.

Guide Barge Set-up

As shown on the attached sketches, when digging the 11 foot and 13 foot sections, the Wood I will be positioned on the outside or starboard side of the Guide Barge. The SEI 3000 series hopper barge will be positioned on the starboard side of the Wood I.

All dredging activities will begin upriver and proceed downriver. Using this approach, Cashman will dredge the entire 11-foot section to the target design elevations. Cashman will then move the Guide Barge and reposition the dredge and scow to dredge the entire length of the 13-foot section. Working downriver, the sediment will be excavated in a path toward the hopper barge to avoid working over an excavated area. By winching and cabling the three vessels together, Cashman will move the set-up downstream to minimize use of tug boats in the dredge area.

Alternatively, Cashman could set-up the Guide Barge and dredge the 13-foot section first. When completed the Guide Barge would be moved and spudded to dredge the 11-foot section. This approach would eliminate spudding the Guide Barge in a previously dredged area. Cashman can initiate this work whichever way the NJDOT prefers; however the final decision should be made by December 1, 2005 as equipment set-up is planned for December 2, 2005.

The last lane, or the 15-foot cut depth elevation will be excavated without using the Guide Barge, again working upriver to downriver. See attached sketch depicting this layout. The last drawing depicts the exclusion zone areas that will be designated as such on the various vessels, with specific work procedures described in the project Health and Safety Plan.



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The material volumes, bucket depth measurement data and daily survey data will be closely monitored throughout this process to validate that the project requirements are met to the extent practicable, and to ensure that no more than 5000 yards of material is excavated.

The rinse tank will be staged on a 30-foot by 90-foot barge that will be positioned inside and adjacent to the hopper barge, within the digging area. Rinse tank management is discussed in more detail below.

Operationally, the Cashman team will be evaluating the Real Time Data to determine the target elevation of each bucket cut. If slumping occurs in the excavation area the Cashman team will use this Real Time Data to evaluate whether the project elevation can be achieved and validated. In standard projects such slumping is accounted for by digging the slumped bank material and then continuing to dig to the design depth. However, because this project has a defined removal volume based on the design cut, the excess bank material is not accounted for in the project volume. Therefore, if the bank material slumps into a project area it will be difficult to attain the project target elevation without exceeding the volume. To avoid this scenario, the following decision matrix will be employed using the real time data to record the field effort.

Dredging Decision Matrix

The pre-condition survey data will be used to establish the initial procedures for excavating each cut area. The objective is to have a decision matrix in-place that can be implemented for each cut area, especially in areas where slumping may occur. Our objective is to avoid multiple excavations in one cut area. Also, our objective is to verify that each cut area was excavated to the target depth, to the extent practicable. It is important that Cashman, CableArm and the project Engineer work together to ensure the decision matrix process is reasonable and streamlined so project productivity is not negatively impacted.

After each barge is loaded to the capacity that can be delivered to the decontamination facility, Cashman will measure the material in the scow using the procedures described above and then deliver it to the decontamination facility.



Cable Arm Bucket System



As required by the project specifications, dredging will be conducted using an eight (8) cubic yard environmental clamshell bucket manufactured by Cable Arm. The Cable Arm clamshell bucket's light-weight design enables only soft sediment to be removed.

The bucket will be equipped with the following sensors:

- Open and close sensor, tied into ClamVision system;
- Depth Penetration Sensor, to indicate how far above the material we are; and
- Pressure Transducer Sensor to indicate depth of the bucket.

This information and the daily dredged area surveys will be used to establish and verify project performance criteria. The data will be collected by CableArm and provided to Cashman's project team and the Project Engineer.

The bucket will be opened and placed into the targeted cut area. Upon confirming the bucket is in the correct digging location, the target depth will be programmed and the Operator will close the bucket. The bucket open and close sensor will then let the Operator know whether the bucket is closed. The depth of bucket sensor will collect the data on the bucket cut depth as described above. Backup manual measurements will be used should the primary systems fail.

The Operator will perform a controlled lift of each closed bucket in the water column. The bucket will be raised to its flaps, and moved to the discharge zone adjacent to the material barge, while still in the water. Once adjacent to the material barge, the bucket will be lifted and dumped into the scow. The bucket will then be closed and swung to the rinse tank. Once over the rinse tank it will be opened and lowered into the rinse tank. When submerged the bucket will be closed and then lifted and opened so that all the rinse water and any remaining sediment are collected into the rinse tank. The Operator



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will then move the bucket to the next designated bucket cut and the procedure is followed all over again.

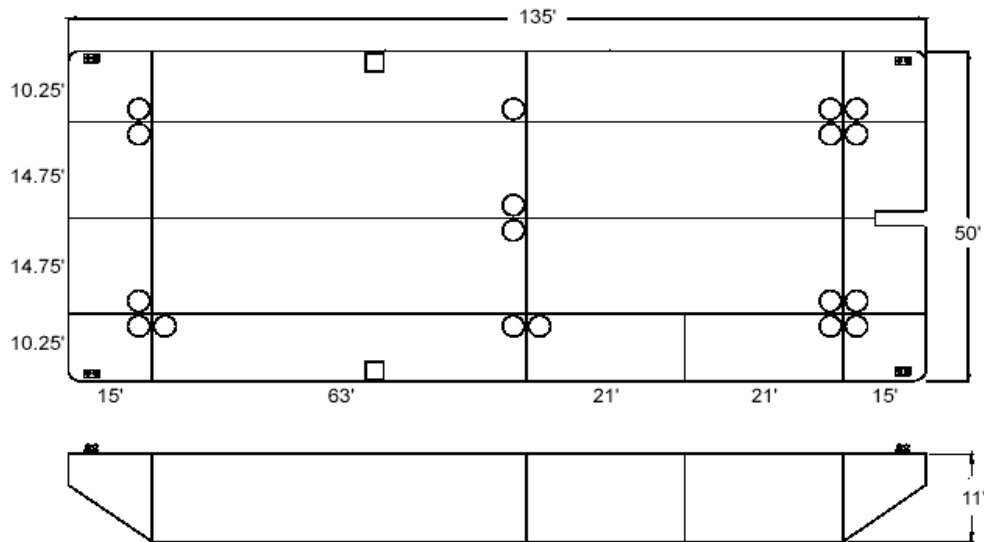
The bucket procedure described above is designed to minimize the potential for any bucket residual material to drain on the scow and also to reduce turbidity in the water column. The dredge operation has been designed to make the area adjacent to the scow the last area to be excavated in each dredge cut row. Cashman's deck hands will collect any sediment that may accumulate on the scow with a shovel and place it in the barge for ultimate transport to the decontamination facility. These procedures will be performed as necessary and prior to any barge movements. These same procedures will be used to remove material that may accumulate on the dredge deck. All sediment will be collected and placed in the scow. Once all solids are removed, the dredge will be rinsed as necessary using river water. All personnel decontamination procedures will take place as designated in the health and safety plan.

Cashman will utilize measures to the extent feasible to minimize operation in the study area. For example, when bringing in and removing scows from the study area, Cashman will deploy the tug boat to keep the propeller away from the study area and minimize propeller disturbance to the extent feasible.

The following is a specification for the Wood I dredge.



WOOD 1



4.4: Dredge Bucket Positioning System Software

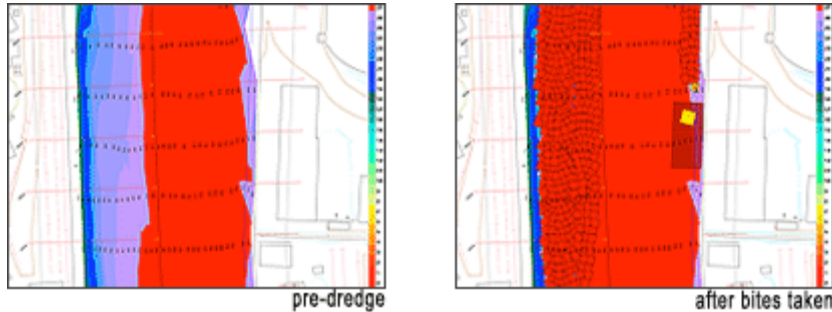
Our proposed bucket positioning method is provided to ensure compliance with the specifications and to avoid over-digging to the extent possible. It will also be the most reliable data to determine performance and measurement for payment. Our dredge bucket elevation will be monitored using Cable Arm's ClamVision software. The ClamVision software is a fully integrated dredge positioning system. It provides the Operator with a real time view of the barge and clamshell bucket positions, as they exist over the dredging project.

ClamVision displays a 3D, color-coded surface derived from existing hydrographic survey data. Each bucket cut is also recorded and color-coded based on the vertical cut depth. ClamVision also provides data on the number of cuts remaining by showing the horizontal area yet to be excavated. To further help the Operator, an information box provides instant feedback showing current depth, final project depth, target depth, and current bucket depth. These are defined as:

- Current depth is the existing depth of the area.
- Final project depth is the sediment depth after project completion.
- Target depth is the design depth for the pilot dredge area.
- Current bucket depth is the depth of the bucket at a particular point in time.



Example of Clamvision Display (courtesy of Cable Arm)



Sensors on the crane boom and the hoist drum will be calibrated daily to maintain consistent vertical measurements. The Operator will observe a digital read-out of the bucket elevation on the computer screen. The screen will also display the maximum depth not to be exceeded. The Operator will also be provided with several fields on the screen as shown below to aid in efficient and precise excavation.

Back-up Systems

Physical measurements will also be collected as back-up data in addition to the bucket sensors and transducers and these include:

- lead line measurements; and
- bucket chain marking system.

The sensors and physical measurements will be cross-checked periodically.

Additionally, Cashman has a 14 yard CableArm bucket at its Staten Island yard that will be available should the 8 yard bucket malfunction.

4.5: Dredge Positioning

Dredge Positioning will be provided by an MS860 RTK GPS positioning system. The system will utilize RTK GPS for the location of the barge and the boom tip and use a Gyro to determine the barge azimuth to insure proper alignment of the barge with dredge cuts.



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The positioning system will ensure that all areas can be covered in the first pass. Through the use of dual computer display monitors, the system provides the Operator and the Dredge Captain with a real time plan view of the dredge location and the bucket location. The bucket location will be superimposed on a digging rose pattern indicating the actual footprint of the bucket. Providing this information to both the Operator and the Dredge Captain greatly facilitates the movement of the dredge by optimizing communication and operational control. The Cable Arm team will also have their computer system and display linked to the dredge ClamVision system.

4.6: Data Integration



CASHMAN will integrate all the data generated providing the Operator with an accurate and real time assessment of project conditions. The data will be assimilated into daily reports

pursuant to the project requirements. These will be submitted to the Engineer, and the Dredge Captain, each day as specified, in quadruplicate.

Communications

Cashman uses VHS radios and prior to each day we will confirm the working frequency that will be used to communicate with all members of the project team. As a backup, cell phone numbers will be provided of all team members in each project related vessel.



4.7: Wash Tank and Rinse Water Management

The rinse tank will be staged on a 30-foot by 90-foot barge. This rinse tank barge will be positioned adjacent to the hopper barge. Each day before operations begin, any sediment that has accumulated in the rinse tank will be excavated and placed in the material barge. If necessary, water will be added to the rinse tank to begin each day.

At the end of the project, the remaining rinse tank water will be managed in accordance with the procedures stated in the October 6, 2005 Federal Consistency Determination/Water Quality Certificate letter from Mr. David Q. Risilia of the New Jersey Department of Environmental Protection, to Ms. Alice Yeh, of the United States Environmental Protection Agency. Pursuant to this letter, “rinse water may be discharged (into the dredging contract area), as long as the rinse water is held in a tank for a minimum of 24 hours after the last addition of water to the rinse water holding tank.” Any residual sediment remaining in the rinse tank will be measured by CableArm. It will be removed using the bucket. Any remaining material will be pumped into the scow.

4.8: Debris Management

CASHMAN intends to complete the dredging as specified above, and further CASHMAN does not plan to remove debris separately. Therefore, any debris generated will be part of the dredging process and will be delivered to the decontamination facility in the scows for offloading and eventual processing. Debris that is considered at or below the target excavation depth will be left in place.

4.9: Material Management and Delivery to Decontamination Facility

Cashman will load the material barges in a manner to ensure they can be safely delivered to the BioGenesis Washing BGW, LLC facility (the “Decontamination Facility”), located at 75 Crows Mill Road, Keasbey, NJ. CASHMAN will determine when a barge is ready to be delivered to the decontamination facility. The material inside the barge will be measured prior to transport. The barge will then be transported to the decontamination facility for offloading.

In accordance with the Sediment Delivery Terms Sheet (the “Terms Sheet”) dated 09/13/2005, the Decontamination Facility will accept the material removed from the



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Lower Passaic River (including any oversized debris) by scow, at its designated offloading location.

As referenced above, Cashman will utilize its SEI 3000 series barges to deliver dredged sediment to the Decontamination Facility.

The facility hours of operation as provided overlap with our limited dredging window. We have discussed this with facility representatives and they have indicated they would work with the Contractor to accommodate the tight project schedule.

Pursuant to the specifications, the Decontamination Facility will accept and offload all of the material delivered. The BioGenesis stated offload rate is 1,000 cubic yards per day. It is hoped that any residual water remaining in the scow between deliveries will be nominal and that this water would ultimately be removed during the scow decontamination process. Should actual conditions warrant removal of residual water in the scow, prior to the scow decontamination, CASHMAN will notify the Decontamination Facility so they can implement measures to remove this water at no cost to CASHMAN.

CASHMAN is available and welcomes the opportunity to provide additional support and input into this process to ensure it operates at maximum efficiency.

4.10: Post-Dredging Survey

Pursuant to the specifications, a bathymetric survey will be conducted immediately after the dredging is concluded. The survey work will be performed by Rogers Surveying, Inc., at the direction of CASHMAN.

5.0: Demobilization

Upon completion and verification of the work, the staging area will be dismantled and the equipment will return to CASHMAN's facility in Staten Island, NY.

6.0: Decontamination

At the conclusion of the project, the barges will be decontaminated by the Decontamination Facility, and all resulting water and sediment shall be offloaded and managed by the Decontamination Facility.



7.0: Project Close-Out

Following substantial completion, Engineer will finalize quantities for all Pay Items and Extra Work authorized and incorporated into the project. Cashman will provide final drawings and all Real Time Data to verify performance and material removed. This information combined with scow measurements will be the final determining information for payment and measuring purposes.

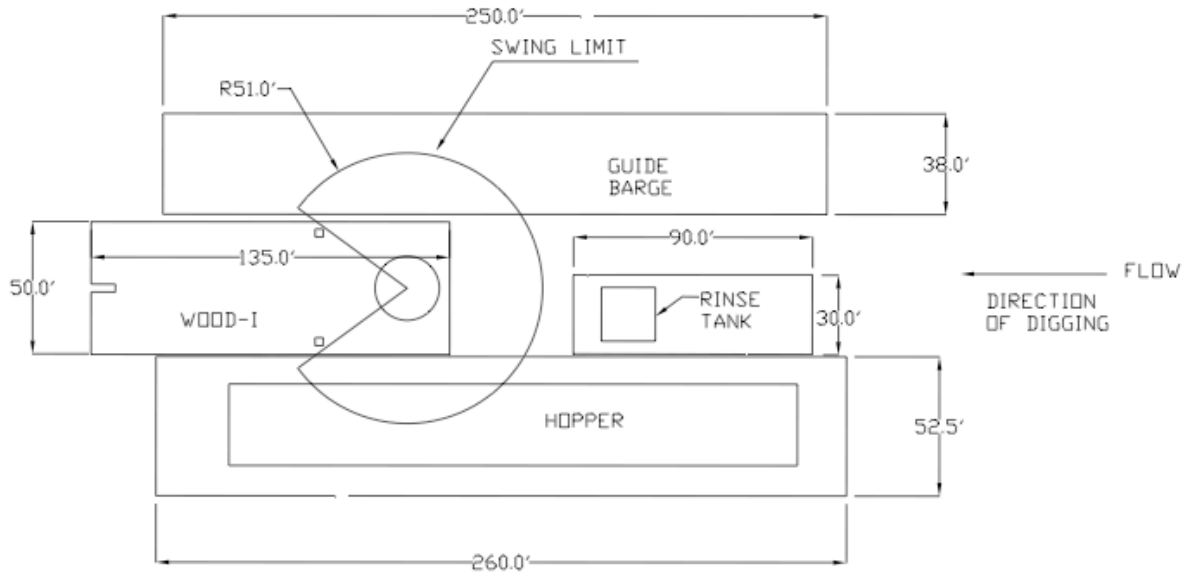
8.0: Additional Company Resources

Jay Cashman, Inc. has additional resources to bring to this project through our wholly owned Sterling Equipment Company (www.sterlingequipment.com). Through Sterling we have an inventory of floating equipment valued in excess of \$60 million. Should circumstances warrant, and if additional resources are required, please be advised that Jay Cashman, Inc. stands ready to provide these resources.

Jay Cashman, Inc. – The Right Choice



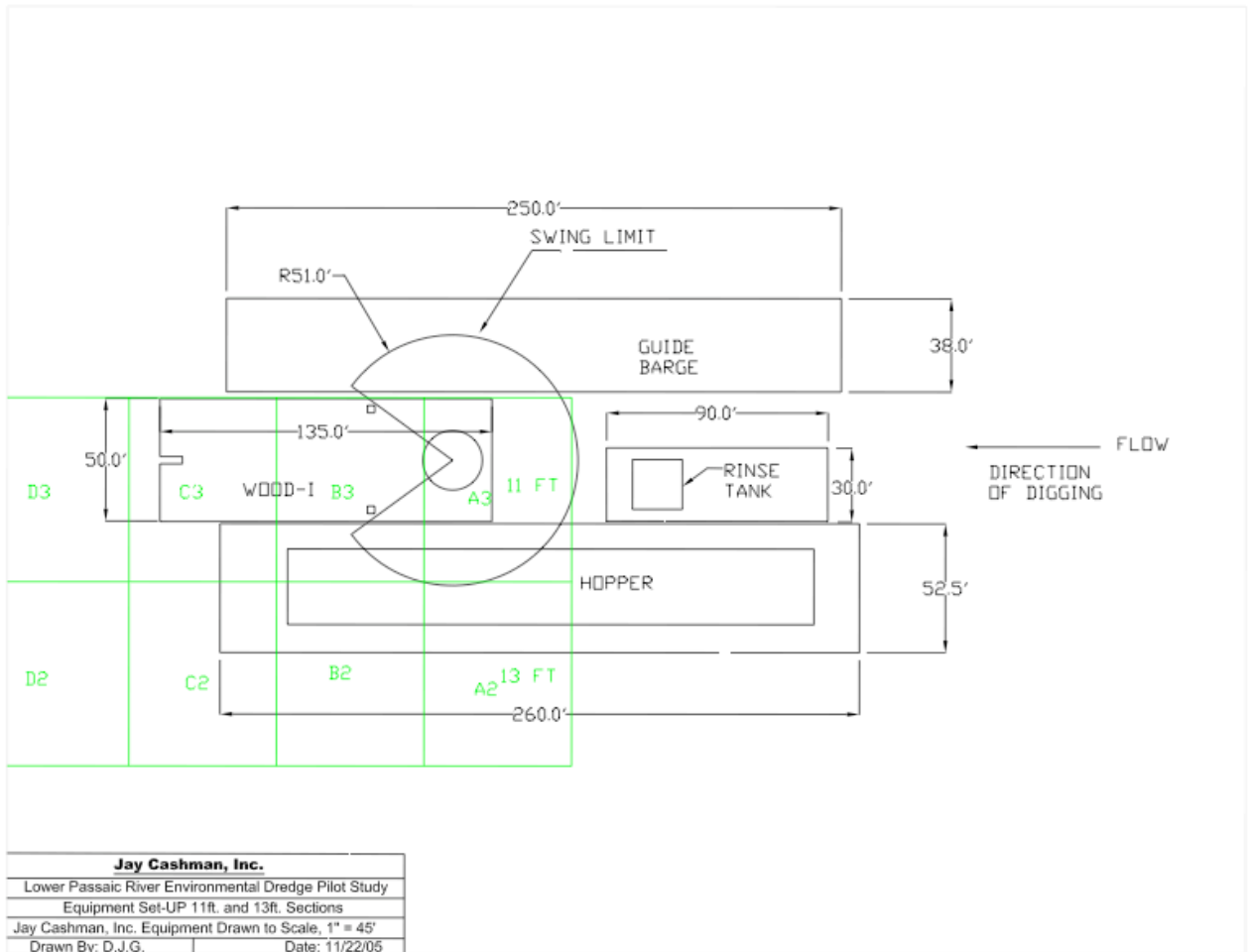
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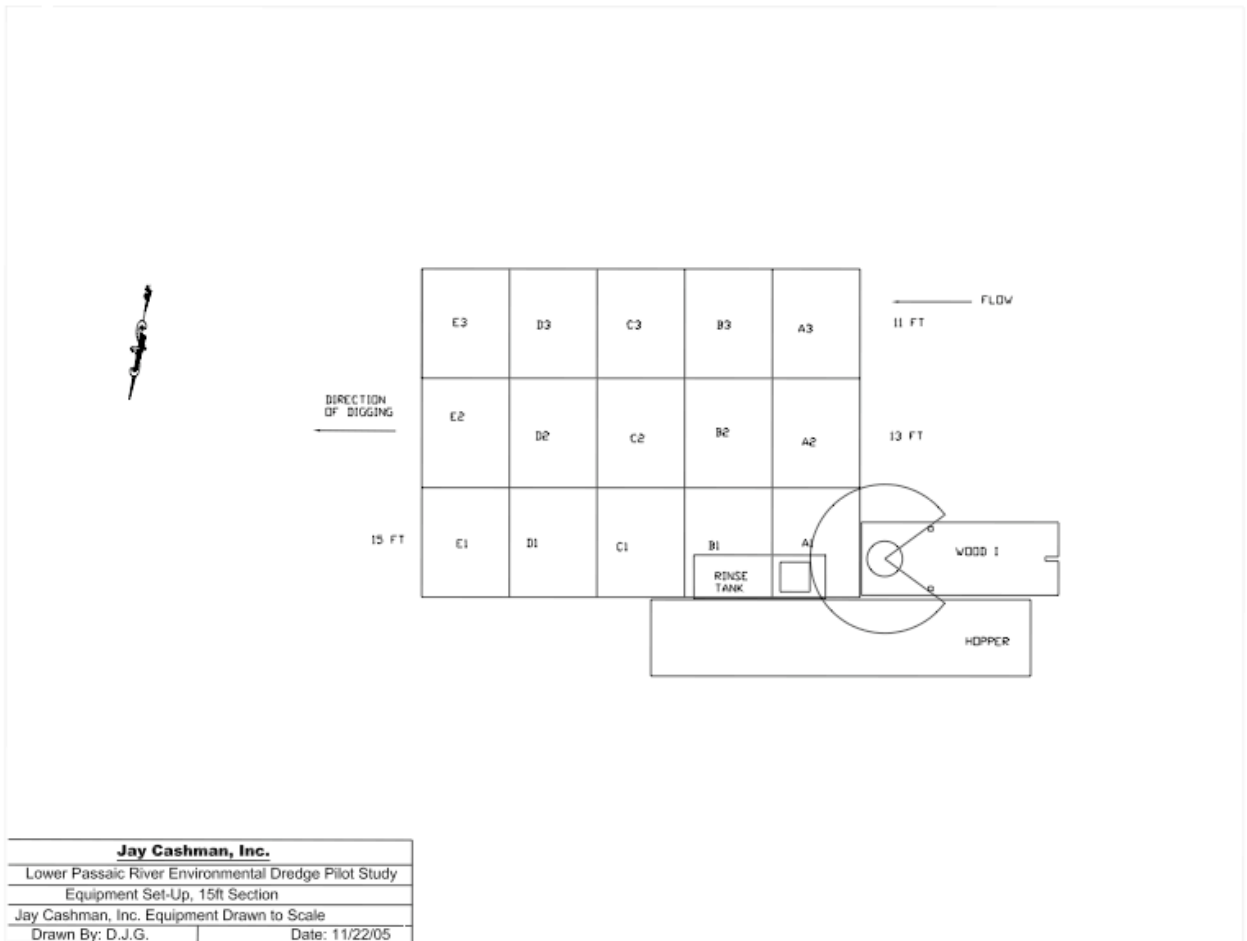
Jay Cashman, Inc.	
Lower Passaic River Environmental Dredge Pilot Study	
Equipment Set-UP 11ft. and 13ft. Sections	
Jay Cashman, Inc. Equipment Drawn to Scale, 1" = 45'	
Drawn By: D.J.G.	Date: 11/22/05



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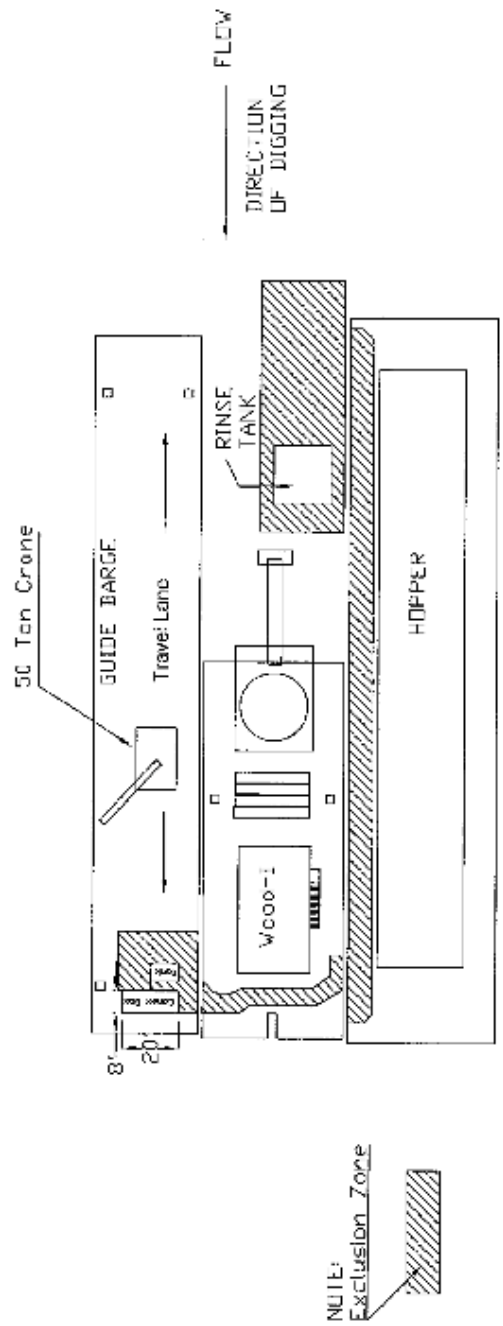
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Jay Cashman, Inc.
 Lower Passaic River Environmental Dredge Pilot Study:
 Equipment Set Up, with Exclusion Zone
 Jay Cashman, Inc. Equipment Drawn to Scale, 1" = 45'
 Drawn By: D. J.G. Date: 11/22/05

