

NOTICE TO BIDDERS
SPECIFICATIONS FOR
CASE 580N SERIES III LOADER BACKHOE
OR APPROVED EQUAL

The equipment to be supplied shall be a new Loader Backhoe. The machine model shall have been in production for more than 60 months and in distribution to Contractors and Municipalities in the State of New Jersey. The machine model shall be a new 2011/2012 model, unused and be a current production model. Discontinued models will not be accepted. The vendor must be a fully authorized factory dealer that shall have had the franchise for selling and distributing the machine they intend to bid to the Borough of Glassboro for a period of 60 months and shall have a list of contractors and governmental agencies that have had this product in their possession and ownership. No demonstrator models are acceptable. The specs shall include all standard equipment as listed in the manufacturer's brochure, spec sheets and price lists, including the items specified hereinafter. A certificate of origin from the factory will be provided with the equipment upon delivery. The bidder will submit only one bid and no alternate bids are acceptable.

The following specifications are listed by number and any clarification or amplifications must be fully explained in writing, taking exception by number. Failure to do this will result in rejection of the bidder. All components of the machine bid, such as: engine, transmission, transaxle or backhoe bucket must be built by the equipment manufacturer. This will insure proper parts replacement and down time cost savings to the Borough. The vendor shall be within a 30 - mile radius to supply ample parts and service at a cost savings to the Borough. The vendor will list any exceptions to the manufacture of the components and/or attachments in the warranty section of the bid. The manufacturer's brochure and price sheet take precedent over any other literature or dealer submitted letters or bulletins. Only factory data is acceptable. Failure to comply with any of these requirements or token compliance will be deemed non-responsive and the bid will be rejected. The award will be based on the lowest responsible bidder who meets the performance and compliance criteria determined by the Borough of Glassboro. All machines will be judged fairly and accordingly by the Borough's Purchasing Agent or Engineer or Public Works Department. The Borough of Glassboro is not responsible for any misinterpretation of the bid by the vendor or any errors in publication, print or any corrections. Bidder shall not assume anything pertaining to specifications or the machine that they intend to bid.

Any questions regarding the bid or its specifications must be addressed in writing five (5) days prior to the bid opening to the Borough of Glassboro. Those addressed after that time frame will not be accepted. The following specifications are the minimum acceptable.

TRACTOR - 4 WHEEL DRIVE

- 1. Preference shall be given to machines manufactured in the United States of America. _____

- A. ENGINE**
- 1. The loader backhoe shall have a 4-cylinder diesel engine turbo _____
- 2. Minimum 79 net horsepower at 2200 rpm. _____
- 3. The engine shall provide a minimum SAE net torque rating of 270 ft-lbs @ 1400 rpm. _____
- 4. A parent metal bore _____
- 5. Torque Rise at rated speed 36% _____
- 6. An internal oil cooler _____
- 7. An integral water pump _____
- 8. A dual stage air cleaner-dry type, radial seal _____
- 9. A 12 volt electrical system _____
- 10. A minimum 120 amp alternator _____
- 11. A single serpentine belt for fan and alternator _____
- 12. An automatic self adjusting belt tensioner _____
- 13. Vertical spin-on engine oil filter _____
- 14. Pressurized under piston oil nozzles _____
- 15. 500 hour engine oil change interval _____
- 16. Tier III approved federal emissions regulations _____
- 17. Dual cold-start 850 CCA batteries _____
- 18. Two (2) 30 amp power plugs _____
- 19. Radiator, Core Type, Square Wave Core Size in Area: _____
 486 IN² _____
 3 row of Tubes _____
- 20. Fan: _____
 7 Blade Suction Style _____
 19.65 in Diameter _____
 1.1:1 Ratio _____
- 21. Water Pump: _____
 Integral Style _____
- 22. Engine Oil: _____
 Pump, Deep sump plate cooler with Pressurized under-piston nozzles _____
- 23. Pump Operating angle ratings as follows _____
 Side – to – Side Rating @ 35° _____
 Fore and AFT Rating @ 35° _____
 Oil Filtration, Replaceable, Full – Flow spin – on _____

B. FULLY SYNCHRONIZED TRANSMISSION

- | | | | |
|----|---|-------|-------|
| 1. | The power train shall consist of a torque converter drive with a fully synchronized Transmission. | _____ | _____ |
| 2. | 4 speeds in forward, 4 speeds in reverse | _____ | _____ |
| 3. | Minimum travel speeds of 24.3 mph in forward, 29.1 mph in reverse | _____ | _____ |
| 4. | Electric forward/reverse shuttle shift | _____ | _____ |
| 5. | Planetary transmission gears | _____ | _____ |
| 6. | Clutch disconnect button on shift lever | _____ | _____ |
| 7. | Clutch disconnect button on loader control lever | _____ | _____ |
| 8. | Factory Installed Ride Control | _____ | _____ |

C. POWER TRAIN – FOUR WHEEL DRIVE

- | | | | |
|-----|---|-------|-------|
| 1. | The loader backhoe power train shall be componentized. | _____ | _____ |
| 2. | Heavy duty type axles | _____ | _____ |
| 3. | On-the-go electro-hydraulic rear differential lock engagement | _____ | _____ |
| 4. | Remote front axle pivot lubrication | _____ | _____ |
| 5. | Lube for life drive shaft cross bearings | _____ | _____ |
| 6. | Four wheel drive with reinforced shaft guard from front of axle to Mid section of machine | _____ | _____ |
| 7. | Conventional differentials in the front | _____ | _____ |
| 8. | Conventional differentials in the rear axle | _____ | _____ |
| 9. | On-the-go electrical four wheel drive engagement | _____ | _____ |
| 10. | Front and rear axles shall have outboard planetaries | _____ | _____ |
| 11. | Single, double rod acting steering cylinder | _____ | _____ |
| 12. | Steering cylinder located behind axle for protection
And Increased turning ability | _____ | _____ |

D. BRAKES

- | | | | |
|----|--|-------|-------|
| 1. | The loader backhoe brakes shall be a multiple wet disk, fully hydraulic and Located inboard. Disc brake area 384 IN ² | _____ | _____ |
| 2. | Brakes shall be oil cooled | _____ | _____ |
| 3. | Brakes operated by two brake pedals which shall be suspended | _____ | _____ |
| 4. | Maintenance free and self-adjusting | _____ | _____ |

E. LOADER WITH GENERAL PURPOSE BUCKET:

- | | | | |
|----|---|-------|-------|
| 1. | The loader arms shall be heavy duty with in-line linkage | _____ | _____ |
| 2. | The loader arms shall have an arch design for short turning circle | _____ | _____ |
| 3. | Maximum turning diameter, 4WD engaged, brakes on...22'1" | _____ | _____ |
| 4. | Dual parallel lift cylinders | _____ | _____ |
| 5. | Dual parallel bucket cylinders | _____ | _____ |
| 6. | Bucket cylinders with reverse linkage minimizes - stress and twisting | _____ | _____ |
| 7. | Dual cast dump links to bucket | _____ | _____ |
| 8. | Full bucket rollover for dozing | _____ | _____ |
| 9. | Full bucket rollover for stability in backhoe operation | _____ | _____ |

BIDDER
COMPLIANCE
YES NO

- 10. Automatic bucket self-leveling _____
- 11. Return-to-dig _____
- 12. Loader bucket shall be a maximum 82 inches wide to enable
Rear tailgate entry into dump truck _____
- 13. Minimum 1.03 cubic yard heaped capacity _____
- 14. Rear end of bucket roll wrapped _____
- 15. Reversible bolt-on cutting edge interchangeable
with other loader buckets on site _____
- 16. Three spool loader valve. _____

F. BACKHOE – EXTEND-A-HOE

- 1. The backhoe shall have grease able pins in the swing tower to boom base _____
- 2. Full Hydraulic Operation by hydraulic pump. No electronic solenoids or
Or switches _____
- 3. Replaceable bushings in the swing tower to boom base mounting pins _____
- 4. Boom width maximum of 9 inches _____
- 5. Mechanical bucket quick coupler _____
- 6. Extendible exterior dipper stick with straight-line visibility of bucket and
clear view for operation _____
- 7. Extendible dipper stick shall have the ability to be pinned to prevent movement _____
- 8. Extendible dipper stick shall have an internal bolt-on replaceable wear strip _____
- 9. Minimum 700 - pound front mounted counterweight for extend-a-hoe _____
- 10. Stabilizers shall be fully retractable within the width of the tires _____
- 11. Over-center design, provides travel stability and more compact,
Maneuverable unit _____
- 12. 36" backhoe bucket, heavy - duty design,
with weld - on teeth. _____
- 13. Minimum SAE dig depth with extend-a-hoe retracted for 24in. Level bottom
Of 14 feet 10 inches _____
- 14. Minimum SAE dig depth with extend-a-hoe extended for 24-in. level bottom
Of 18 feet 3 inches _____
- 15. Minimum digging force bucket cylinder 11,334 pounds force _____
- 16. Minimum digging force dipper cylinder 6,710 pounds force _____
- 17. Minimum truck loading height of 13 feet 8 inches _____
- 18. Maximum stabilizer spread in transport position of 7 feet 2 inches with
Standard pads _____
- 19. Stabilizer's in down position fully spread shall not exceed 9 feet 5 inches.
Critical for working small streets and safe position on highway shoulders _____
- 20. Heavy duty rubber stabilizer pads with Auto Up Feature _____

22.	Minimum lift capacities (for extend-a-hoe) and Heavy lift capability for craning					
	<u>Boom Lift</u>	<u>Retracted</u>	<u>Extended</u>			
a.	+12	2,644 lbs.	2,124 lbs.	_____	_____	
b.	+10	2,748 lbs.	2,172 lbs.	_____	_____	
c.	+8	2,761 lbs.	2,169 lbs.	_____	_____	
d.	+6	2,739 lbs.	2,173 lbs.	_____	_____	
	 <u>Dipper Lift</u>					
e.	+12	4,139 lbs.	2,981 lbs.	_____	_____	
f.	+10	3,826 lbs.	2,823 lbs.	_____	_____	
g.	+8	3,910 lbs.	2,855 lbs.	_____	_____	
h.	+6	4,357 lbs.	3,010 lbs.	_____	_____	

G. PERFORMANCE – LOADER

1.	Minimum SAE dump cylinder breakout force of 10,622 pounds force For hard bank and other dense material	_____	_____
2.	Minimum SAE lift capacity to full height of 6,803 pounds	_____	_____
3.	Minimum SAE dump clearance at full height and 45 degree dump angle Of 8 feet 9.9 inches	_____	_____
4.	Minimum SAE dump reach at full height and 45 degree dump Angle of 30” inches	_____	_____
5.	Minimum hinge pin height 11 feet, 2 inches	_____	_____
6.	Minimum dig depth below ground 6.1 inches	_____	_____
7.	Maximum loader lowering time (power down) 2.6 seconds	_____	_____
8.	Maximum loader lowering time (return-to-dig) 3.6 seconds	_____	_____
9.	Maximum bucket dumping time 1.1 seconds	_____	_____
10.	Maximum bucket raising time to full height 4.6 seconds	_____	_____
11.	Minimum wheel base 84.5 inches	_____	_____
12.	Maximum overall transport width 6 feet 9.8 inches	_____	_____
13.	Maximum height to top of cab 8 feet 11 inches	_____	_____
14.	Maximum front tires are 12x16.5, 8PR lug tread	_____	_____
15.	Minimum rear tires are 19.5Lx24 10PR (R4)	_____	_____
16.	Minimum ground clearance at backhoe frame 14.6”	_____	_____
17.	Minimum operating weight 17,350 lbs.	_____	_____

H. AXLE

1.	Rear axle is outboard planetary at end of each wheel hub Axle load rated at 10,090 pounds minimum State front axle load rated at 22,480 pounds minimum static rear	_____	_____
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I. OPERATOR ENVIRONMENT

- | | | | |
|-----|--|-------|-------|
| 1. | ROPS enclosed pressurized, and filtered all steel structure to meet OSHA regulations. Decibel rating no more than 72 DBA. | _____ | _____ |
| 2. | A minimum of four isolation mounts | _____ | _____ |
| 3. | Insulation for maximum temperature and sound control | _____ | _____ |
| 4. | Suspended brake pedals | _____ | _____ |
| 5. | Suspended accelerator | _____ | _____ |
| 6. | Electro-hydraulic rear differential lock | _____ | _____ |
| 7. | The transmission shift lever within easy reach of the operator and Integrated clutch disconnect button | _____ | _____ |
| 8. | All glass surfaces free of rubber moldings. Side windows swing out. Rear quarter windows shall open out & lock. Back window slides down. | _____ | _____ |
| 9. | Front and rear windshield wipers | _____ | _____ |
| 10. | Interior dome light | _____ | _____ |
| 11. | Interior rear view mirror | _____ | _____ |
| 12. | Retractable seat belt | _____ | _____ |
| 13. | Deluxe cloth suspension seat and tilt steering wheel | _____ | _____ |
| 14. | Built-in molded cup holder – tool box | _____ | _____ |
| 15. | A front console storage area | _____ | _____ |
| 16. | A single handle loader control with top mounted clutch cut out button | _____ | _____ |
| 17. | 4 individual adjustable 55 Watt lights – front, rear and side light
Top mounted in hood deck each side – (adjustable left or right) | _____ | _____ |
| 18. | Strobe light - roof mounted | _____ | _____ |
| 19. | A forward/reverse power shuttle lever mounted on the steering column | _____ | _____ |
| 20. | SAHR parking brake switch located on the instrument panel | _____ | _____ |
| 21. | Instrumentation located to the right of the operator | _____ | _____ |
| 22. | Accessory power plugs (2) AM FM Radio. | _____ | _____ |
| 23. | An easy to swing seat to address backhoe controls | _____ | _____ |
| 24. | Audible alarm, when swinging seat, to alert operator of transmission engagement | _____ | _____ |
| 25. | Operation Pilot Operated Controls: Pistol Grip Handles same as Excavator | _____ | _____ |
| 26. | The over-center backhoe release inside the cab, foot pedal operated, boom must Be able to swing in either direction while locked | _____ | _____ |
| 27. | The engine throttle control located within easy reach to the left of the operator | _____ | _____ |
| 28. | Seat must have electronic safety device. Seat is to swivel 180 degrees and Have audible alarm when turned 15-20 degrees to warn if machine is left in Gear without parking brake (NO EXCEPTION – SAFETY DEVICE
This feature will be demonstrated prior to an award) | _____ | _____ |
| 29. | Cab with factory air conditioning | _____ | _____ |

J. INSTRUMENTATION

- | | | | | | |
|----|--|-------|-------|-------|-------|
| 1. | Gauges; | | | | |
| | a. Engine water temperature gauge | | | _____ | _____ |
| | b. Converter oil temperature gauge | | | _____ | _____ |
| | c. Fuel | _____ | _____ | | |
| | d. Tachometer/hour meter | | | _____ | _____ |
| | e. Voltmeter | | | _____ | _____ |
| 2. | Warning lights; | | | | |
| | a. Air cleaner restriction | | | _____ | _____ |
| | b. Alternator | | | _____ | _____ |
| | c. Engine oil pressure | _____ | _____ | | |
| | d. Hydraulic oil pressure bypass | | | _____ | _____ |
| | e. Parking brake engagement | _____ | _____ | | |
| | f. Rear axle fluid temperature sensing system | | | _____ | _____ |
| | g. Low fuel | | | _____ | _____ |
| 3. | Audible warning alarms for; | | | | |
| | a. Coolant temperature | | | _____ | _____ |
| | b. Engine oil pressure | _____ | _____ | | |
| | c. Parking brake engagement | _____ | _____ | | |
| | d. Shuttle engagement with seat position in backhoe position | | | _____ | _____ |
| | e. Back-up alarm | | | _____ | _____ |
| 4. | Turn signal indicators | | | _____ | _____ |
| 5. | Horn – dual switched front & rear | | | _____ | _____ |

K. HYDRAULICS

- | | | | | | |
|----|--|--|--|-------|-------|
| 1. | The loader backhoe hydraulics shall be open center and allow for smooth Loader and backhoe operation | | | | |
| 2. | The loader backhoe hydraulics shall also include a tandem section cast iron Gear pump.
Standard main relief pressure:
3350 +/- 50 PSI @ 28.5 GPM | | | _____ | _____ |
| 3. | One section to supply 28.5 GPM to the loader valve | | | _____ | _____ |
| 4. | Heavy duty hydraulic oil cooler | | | _____ | _____ |
| 5. | Oil filter, spin-on, 7 micron | | | _____ | _____ |
| 6. | Condition indicator light for filter | | | _____ | _____ |
| 7. | Anti-cavitation valves in the dipper and loader circuit | | | _____ | _____ |
| 8. | Pilot operated check valves for boom, dipper, and stabilizers | | | _____ | _____ |
| 9. | Anti-rebound cushion valve to minimize over-swing and position the bucket for pin point accuracy to prevent spillage and boom vibration while operating in medium digging operations. This feature will be demonstrated prior to an award. | | | _____ | _____ |

L. TIRES

- 1. Maximum front tires are 12x16.5 10PR, Lug Tread
Additional Tire and Rim Mounted _____
- 2. Minimum rear tires are 19.5x24 10PR
Additional Tire and Rim Mounted _____
- 3. All tires to be manufactured for the American market _____

M. SERVICEABILITY

- 1. The loader backhoe shall be easy to service from ground level _____
- 2. A tilt hood accessible to the engine with the loader arms raised or lowered _____
- 3. Minimum 42 gallon side mounted fuel tank _____
- 4. Minimum 12.5 gallon side mounted hydraulic oil tank with sight gauge _____
- 5. Minimum service capacities;
 - a. Hydraulic system, total 118 qts. _____
 - b. Transmission 4WD total system 22 qt. _____
 - c. 4WD front axle
Differential 8.1 qt. _____
 - Planetaries (each) 0.5 qt. _____
 - d. Rear axle
Differential 14.4 qt. _____
 - Planetaries (each) 14.4 qt. _____
 - e. Engine oil w/ filter 14.4 qt. _____
 - f. Cooling system w/ heater 17.8 qt. _____
 - g. Window washer reservoir 3.0 qt. _____

N. WARRANTY

- 1. The loader backhoe shall have one full year warranty, unlimited hours on
Entire machine. Copy of Mfg Warranty provided with bid. _____
- 2. The engine shall have a standard warranty of two years or 2,000 hours _____
- 3. The power train shall have a warranty of 36 months, 5,000 hours _____
- 4. 50 hour Service check at no charge _____
- 5. One service disc, one parts disc, and one operators manual _____
- 6. Operator intro to machine for service and maintenance to machine
by Dealer Service Tech on Delivery _____
- 7. Full service facility within 30 miles of The Maintenance Garage _____

O. PRICE

One New Case 580N Loader Backhoe or approved equal \$ _____
 Optional Price for 4-in-1 bucket with edge (ilo) front bucket \$ _____
 Optional Price for Snow Box: 10 Ft with Rubber Edge \$ _____

*The Borough of Glassboro reserves the
right to cancel or reject any or all bids.*

Date: _____

Signature

Title

**Equipment List of Municipal – Gov Owners
Who Own This Type of Equipment in Southern New Jersey**

	Customers	Phone Numbers	Contacts
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

**Information Must Be Accurate.
Last 36 Months.**

Accepted by: _____, Mayor of the Borough of Glassboro

Date: _____