

RETURN TO:
Department of General Services
PURCHASING DIVISION
201 West Colfax Avenue
Department 304, 11th Floor
Denver, CO 80202
Phone: (720) 913-8100
FAX: (720) 913-8101

CITY AND COUNTY OF DENVER



Department of General Services
PURCHASING DIVISION
www.denvergov.org/purchasing

Buyer: Kenton Janzen
720-913-8117

FORMAL PROPOSAL

Formal Proposal No. 28410

FOUR HEAVY DUTY 4X4 FRONT MOUNT RUNWAY BROOMS

SCHEDULE OF EVENTS

• Proposal Issued	November 16, 2016		
• Deadline to Submit Additional Questions	November 29, 2016	4:00 P.M.	Local Time
• Response to Written Questions	December 2, 2016		
• Proposal Due Date	December 8, 2016	3:30 PM	Local Time

Vendor offers to furnish to the City and County of Denver the materials, supplies, products or services requested in accordance with the specifications and subject to the Terms and Conditions described herein.

VENDOR SIGN HERE

Company Name: O. J. Watson Company, Inc.

By: R. K. Eckrich

(Printed or Typed Name)

Signature: 

Signature constitutes acceptance of all Terms and Conditions listed on this form and all documents attached.

deckrich@ojwatson.com

Email: _____

303-295-2885

Phone: _____

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WATSON
COMPANY
INC.

SECTION C: PRICING / PROPOSAL ITEMS

C.1 PRICING INFORMATION:

This section shall include a description of the proposed costs and prices. All pricing information shall be limited solely to this section of your proposal. This section should address all requirements set forth in Section B as well as any other items pertinent to your proposal pricing such as additional discounts for increased quantities, etc. The requirements have been developed to allow the City to uniformly evaluate prices submitted for the work. Accordingly, you should follow these instructions carefully and provide all data requested in the formats specified herein and in any referenced attachments.

Any omissions in this proposal shall be identified by each Vendor and incorporated into their proposal including any omissions for software, hardware, support etc. which is necessary to the success of the project and must be identified as a separate line item with pricing and included as part of this proposal. The City will not increase the contract or any purchase order (either dollar amount or time) for items not included in the submitted proposal documents. The City reserves the right to purchase part or the entire proposal.

C.2 PRICING:

All prices quoted shall be firm and fixed.

C.3 PROPOSAL ITEMS:

<u>Item #</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>	
1.	4x4 Heavy Duty Front Mount Runway Brooms Manufacturer: Oshkosh _____ Model #: HB 2723 XF ____	\$ 492,645.00	
	Freight Charges for Delivery(Per Unit)	\$ 5,500.00	
	Complete Delivered Price per Unit	\$ 498,145.00	
		DELIVERED PRICE OF ALL 4 UNITS	\$ 1,992,580.00

Shipping Schedule: 9/01/2017 1st Unit Days ARO
 Shipping Schedule: 9/01/2017 2nd Unit Days ARO
 Shipping Schedule: 9/01/2017 3rd Unit Days ARO
 Shipping Schedule: 9/01/2017 4th Unit Days ARO

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SECTION E: ADDITIONAL REQUIRED INFORMATION

E.1 REFERENCE LISTING:

Vendors shall furnish the names, addresses and telephone numbers of a minimum of three (3) firms or government organizations for which the vendor is currently furnishing or has, in the past, completed service for:

Company Name	Wittman Regional Airport
Address	525 West 20 th Ave, Oshkosh, WI 54902
Reference	Attn: Peter Moll
Reference Email Address	
Telephone Number	920-236-4932
Company Name	Rick Husband Amarillo Airport
Address	10801 Airport Blvd, Amarillo, TX 79111
Reference	Attn: Sarah Freese
Reference Email Address	
Telephone Number	806-335-1671
Company Name	Minneapolis St. Paul International Airport
Address	6025 S. 28 th Avenue, Minneapolis, MN 55450
Reference	Attn: Chuck Kanuit
Reference Email Address	
Telephone Number	612-467-0635

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E.2 VENDOR'S CHECK LIST:

The following check list should be used to ensure required documentation is attached to the proposal. If a document is not required for your proposal, write n/a in the blank.

- | | |
|---|----------------|
| 1. Have you signed the front page of the proposal? | X
_____ |
| 2. Have you reviewed all proposal prices, checked unit costs, extensions and totals? | X
_____ |
| 3. Have you included manufacturer's names and reference numbers, as applicable? | X
_____ |
| 4. Have you listed the quantities you will supply? | X
_____ |
| 5. Have you supplied any alternatives or additional information on separate headed note paper? | X
_____ |
| 6. Have you responded to or completed and included in your response all of the City's requirements, questions, forms, including the vendor sustainability form and other city requests (where applicable)? | X
_____ |
| 7. Have you assured that there is sufficient time to transmit this proposal? The mailing envelope must be delivered on time, as specified in the proposal, to the correct address; the proposal must be sealed and marked with proposal number, date required and proposal title. | X
_____ |
| 8. Have you enclosed relevant technical literature or samples (where applicable)? | X
_____ |
| 9. Have you completed and included the XO-101 Diversity and Inclusivity Information Request Form? | X
_____ |
| 10. Have you completed and included all required MBE, WBE, SBE documentation (where applicable)? | _____
_____ |

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E.3 GREENPRINT DENVER VENDOR SUSTAINABILITY:

The City encourages vendors to demonstrate a commitment to and experience in environmental sustainability and public health protection practices applicable to its line of products and/or services being procured in this proposal. See Section A of this proposal for the Greenprint Denver Policy and Guidance. The following are areas that may be addressed.

Explain how your products and/or service supports the City's goal of environmentally preferable purchasing.

- Manufacturing Process
- Product Content
- Transportation
- Packaging
- Performance
- End of Life
- Third Party Certification (Green Seal, Eco Logo, Design for the Environment, etc.)
- Other

Please see below.

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OSHKOSH CORPORATION CORPORATE POLICY			
Title:	ENERGY MANAGEMENT POLICY	Approved By:	Marek May, Senior Vice President, Operations
Number:	CORP-POL-ENV002	Prepared By:	Kevin Tubbs, Sr. Director, Global Environmental Affairs and Sustainability
Last Revised:	August 15, 2016	Last Reviewed:	August 15, 2016

PURPOSE

Oshkosh strives to use energy in the most efficient, cost effective, and environmentally responsible manner possible. The purpose of this policy is to optimize energy consumption throughout Oshkosh, improve cost-effectiveness and productivity, enhance working conditions, reduce greenhouse gas emissions, contribute to sustainability and otherwise reduce waste associated with energy use.

RESPONSIBILITY

All of our employees worldwide as well as on-site Contractors/Suppliers working on our behalf have a role to play in conserving energy. All employees are responsible to efficiently use energy which is under their direct control.

POLICY

Oshkosh will promote the efficient use of energy to produce and deliver world class products and services to our customers. We are committed to responsible energy use and will practice energy efficiency in all facilities and equipment, wherever it is cost effective. To implement this policy, we will:

- Achieve and maintain compliance with applicable legal and other requirements.
- Continuously improve energy efficiency by establishing and implementing strategic energy management practices worldwide that support manufacturing, distribution and service capabilities while providing a safe and comfortable work environment.
- Consider energy efficiency as a factor in product development and in process and facility design and in the procurement of goods and services.
- Procure adequate and dependable energy supplies at the most advantageous rate and implement appropriate risk contingency plans to protect operations from supply interruptions.
- Encourage continuous improvement in energy conservation by employees.

OSHKOSH CORPORATION			
CORPORATE POLICY			
Title:	Energy Management Policy	Last Revised:	08/15/2016
Number:	CORP-POL-ENV002	Last Reviewed:	08/15/2016

- Use energy consumption data to establish Key Performance Indicators (KPIs) to drive performance improvements. We will measure, review and communicate our progress on a regular basis to ensure availability of information to our employees.
- Ensure adequate resources are available to work towards achieving KPI goals.

REFERENCES

N/A

DEFINITIONS

N/A

CONTACTS

Kevin Tubbs, Sr. Director, Global Environmental Affairs and Sustainability, ext. 22592

Scott Obremski, Corporate Environmental Manager, ext. 24214

**OSHKOSH CORPORATION
CORPORATE POLICY**

Title:	ENVIRONMENTAL PROTECTION	Approved By:	Ignacio Cortina, Senior Vice President, General Counsel, and Secretary
Number:	CORP-POL-ENV001 (195-P)	Prepared By:	Kevin Tubbs, Sr. Director, Global Environmental Affairs and Sustainability
Last Revised:	June 1, 2016	Last Reviewed:	June 1, 2016

PURPOSE

Protecting the environment is an Oshkosh Corporation core value. It is our goal to reduce wastes and emissions, minimize adverse environmental impacts, and promote resource conservation at all of our production, service and sales operations worldwide.

RESPONSIBILITY

All of our employees share responsibility for our environmental performance. This policy and any subsequent modifications will be communicated to all employees and made available to the public.

POLICY

To ensure that we consistently adhere to this environmental core value, we will:

- Comply with or exceed the requirements of applicable environmental laws and regulations in all of our operations worldwide.
- Promote efficient use of materials and resources in our buildings, processes, and products.
- Work to minimize waste and explore and evaluate reuse and recycle options.
- Investigate alternatives for the use of hazardous materials.
- Drive continuous improvement in our environmental performance through implementation of the Oshkosh Operating System, setting of Key Performance Indicators (KPIs) and sharing best practices across the Company. We will measure and review our progress on a regular basis.
- Assess environmental impacts when designing and developing new products and services.
- Assess environmental impacts when evaluating product distribution and logistics.
- Incorporate environmental performance into the selection and ongoing evaluation process for suppliers and service providers including licensees and third party manufacturers.
- Conduct regular environmental assessments of the Company's facilities and report the results of these assessments to Company senior leadership
- Conduct appropriate environmental due diligence as part of any merger and/or property acquisition process.

Oshkosh Corporation Classification: Unrestricted OSHKOSH CORPORATION CORPORATE POLICY			
Title:	Corporate Environmental Protection	Last Revised:	06/01/2016
Number:	CORP-POL-ENV001	Last Reviewed:	06/06/2016

REFERENCES

N/A

DEFINITIONS

N/A

CONTACTS

Kevin Tubbs, Sr. Director, Global Environmental Affairs and Sustainability, ext. 22592

Scott Obremski, Corporate Environmental Manager, ext. 24214



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COMPANY
INC.

EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION POLICY STATEMENT

The purpose of this memorandum is to re-emphasize our commitment to equal employment opportunity in conjunction with Executive Orders 11246 and 11375, the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974, and the implementing regulations which respect thereto. This statement is to ensure that all employees and others are aware of the company's position and commitments.



The policy of the company prohibits any employment practice which in any way discriminates or tends to discriminate against any person, employee, or applicant for employment with respect to compensation, terms, conditions or privileges of employment because of an individual's race, color, religion, national origin, sex, age, disability, veteran status, marital status, citizenship status, creed, sexual orientation, gender identity or other protected categories, as provided by law. The company also prohibits any type of harassment on the basis of any protected characteristic. Any conduct constituting such harassment will not be tolerated.

The company's equal employment opportunity obligations extend to all requirements of employment practices, including but not limited to the following: a) recruitment; b) hiring; c) promotion; d) compensation; e) benefits; f) education and training; g) education assistance; h) social and recreational programs; and i) personnel actions.

As a government contractor Pierce Manufacturing Inc., an Oshkosh Corporation company, will also take affirmative action to employ, and advance in employment, qualified minorities, females, protected veterans and individuals with disabilities. Any employee or applicant for employment who is qualified under the applicable regulations will be considered under our affirmative action program. We invite applicants and employees to self-identify their protected status on a form provided by the company, on a confidential basis, for purposes of our affirmative action program. Whether or not an individual elects to self-identify, no adverse action will result. In addition, Oshkosh Corporation will routinely audit and report on the effectiveness of the affirmative action program and take remedial action where appropriate. The affirmative action program for persons with disabilities and veterans is available for review by job applicants and employees through the human resources department from 7:30 a.m. to 4:00 p.m. on weekdays.

Employees and applicants shall not be subjected to harassment, intimidation, threats, coercion or discrimination because they have engaged or may engage in any of the following activities that are related to the above regulations or any other Federal, State, or local law regarding equal opportunity: filing a complaint, assisting or participating in an investigation relating to the law, opposing an unlawful practice and/or exercising a protected right.

Our CEO, Charlie Szewcs, and I are personally committed to this policy. Our actions and decisions will support the spirit and intent of this policy and program. We ask every employee to do the same.

I have assigned an EEO Official to be responsible for enforcement of the policy. If you have any questions or wish to discuss this policy, please contact the EEO Official listed below.


Jim Johnson - Executive Vice President & President, Pierce Manufacturing



EEO OFFICIAL: STEPHEN KOHLER - DIRECTOR, HUMAN RESOURCES

August 2015

E.4 CONTRACT CERTIFICATION FORM:

**CITY AND COUNTY OF DENVER
DEPARTMENT OF GENERAL SERVICES**

Proposal to provide _Four HD 4X4 Front Mount Runway Brooms


I, on behalf of the proposer identified below, hereby certify that I have read a copy of the sample contract attached to the Proposal/RFP and understand the terms and provisions contained in that contract. I further hereby certify that it is the proposer's intent to comply with each and every term and provision contained in the sample contract and propose no modifications to the sample contract except as follows:

- 1) NONE
- 2) _____
- 3) _____

I understand that the modification stated above, if any, are offered for discussion purposes only and that the City and County of Denver reserves the right to accept, reject or further negotiate any and all proposed modification to the sample contract.

Proposer Name: O. J. Watson Equipment Company

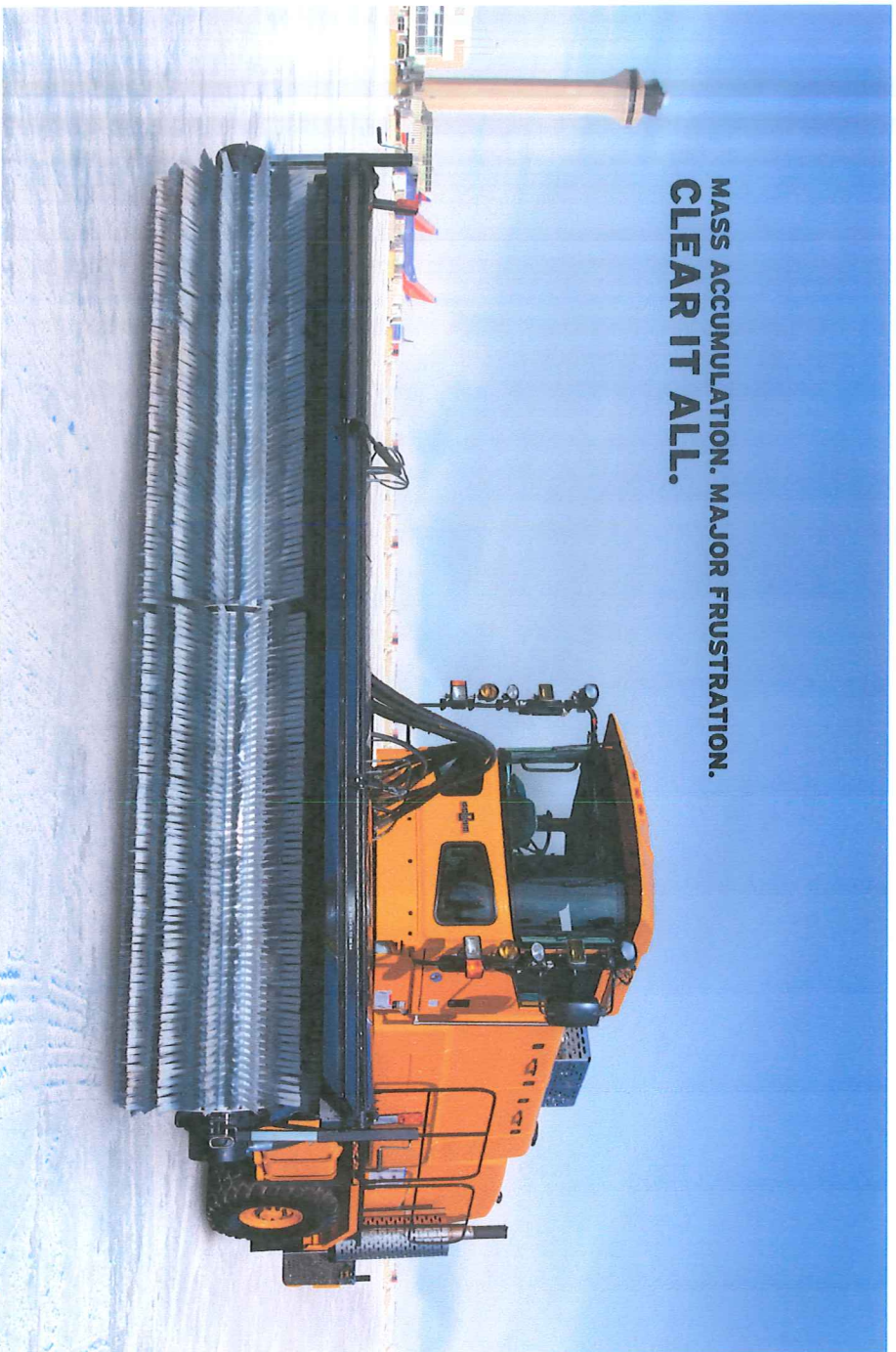
Project/RFP Title: Number 28410

Authorized Signature:  _____

Name (please print): R. K. Eckrich

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**MASS ACCUMULATION. MAJOR FRUSTRATION.
CLEAR IT ALL.**



OSHKOSH
AIRPORT
PRODUCTS

H-SERIES
XF BROOM

The Oshkosh® H-Series™ Xf Broom is built for the ultimate in performance and innovation. Optional automatic functions make easy work of airport snow removal and save transition time at the end of the runway. Easy access to maintenance checkpoints and electrical components simplifies serviceability and maximizes uptime. This, along with unsurpassed visibility from the H-Series cab, ensures nothing gets in the way of your performance.

TAKE BACK THE RUNWAY.

PERFORMANCE FEATURES

Heavy-Duty Construction

- High-performance broom for high-speed snow removal
- 2010 EPA Certified Cummins ISX 12 drive engine, up to 500 hp
- QSX 11.9 Tier 4i EPA compliant broom engine
- Active weight transfer option keeps weight on the front axle for improved overall handling of the chassis and broom
- Proven Oshkosh® mechanical cooling system

Oshkosh Command Zone Broom Control

- Optional Oshkosh Smart Pattern system compensates for bristle wear to maintain consistent pattern
- Self recognition systems know when brooming occurs
- Optional ground speed control adjusts broom rpm based upon chassis speed
- Configured to fit each airport

Smart Design

- 46 in. (1168 mm) diameter broom available in 18, 20 and 22 ft. (5.5 m, 6.1 m and 6.7 m) lengths
- Interactive display with integrated joystick
- External broom positioning system located for safer, easier broom setup and maintenance
- Simple hydraulic system features clean hose routings and single point access for filter replacement
- Simultaneous multi-function broom operations allow broom to lift and rotate at once, reducing transition time at the end of the runway
- Electronic broom modules and components grouped in one easily accessible location

SOLD AND SERVICED BY:

OJ.WATSON

EQUIPMENT

O.J. WATSON COMPANY, INC.

5335 Franklin St.
Denver, CO 80216

(303) 295-2885
WATS (800) 332-2124
FAX (303) 296-8049

INNOVATIVE. EFFECTIVE. THE H-SERIES XF BROOM.

OSHKOSH
AIRPORT
PRODUCTS

CHASSIS

Front Axle:

- Oshkosh® Model 27K, single reduction with special heat treated alloy steel shafts, driver-controlled traction differential and Oshkosh cage ring type steering ends
- 6.17:1 ratio

Rear Axle:

- Eaton 17427, full floating, single reduction with special heat treated alloy steel shafts and driver-controlled traction differential
- 6.14:1 ratio

Air Brakes, Parking and Emergency:

- Secondary emergency system – modulated split type
- Auxiliary air inlet, left side
- Quick drain lanyards on all tanks

Brakes and Service:

- Dual system, air operated mechanical
- Electronic antilock brake system (4S-4M)
- Compressor – 15.7 cfm

Standard Accessories:

- National Standard Plus air ride driver seat, right of center
- 55,000 BTU heater/detester
- Digital climate control
- 12V power outlet (1)
- Cup holders (2)
- Electronic engine controls with on-board diagnostics integral with Oshkosh Command Zone™ system
- Electric remote control heated West Coast type mirrors
- Fresh air type heater and detester
- LCD dash display
- Light bars
- Dual electric windshield wipers mounted above windshield with intermittent speed control
- Side window defrosters
- Tilt/telescoping steering wheel
- Windshield washer, 6 quarts (5.7 L)

Instrumentation:

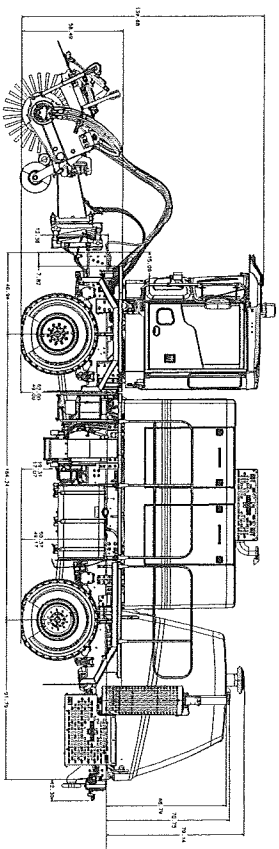
- Oshkosh Command Zone LCD dash pod on steering column
- Chassis and blower head functions and icons

Equipment:

- Dual 125 gal. (473 L) fuel tanks
- Full catwalks
- Heated fuel/water separator
- 1-piece molded fiberglass tilting engine cover, carrier engine

Drive Engine:

- Cummins ISX 12 L in-line 6 cylinder, 4 cycle
- Displacement – 729 in.³ (11.9 L)
- Horsepower – 350 @ 1,800 rpm
- Peak torque – 1,350 lbs.-ft. @ 1,200 rpm
- Governed rpm – 2,100



Electrical System:

- Alternator – 200A, chassis engine driven
- Lighting and starting – 12V each
- Battery – (4) 12V, 950 CCA each @ 0°F (-18°C), 3,800 CCA total

Frame:

- Single formed channel made of carbon manganese steel, heat treated
- Yield strength – 120,000 psi (827 Mpa) minimum
- RBM – 2,818,000 in.-lb. per rail
- Construction – Grade 8 flanged bolts and flanged locknuts

Lighting:

- Cab-mounted headlights with turn signals
- Clearance and marker lights to comply with federal regulations
- Fender-mounted headlights and turn signals
- Roof-mounted strobe light
- Dual stop, tail, turn signal lights (LED) at rear

Steering System:

- Sheppard XD120 integral hydraulic power gear
- Chassis hydraulics warning system – low level/high temperature

Suspension:

- Front – Hotchkiss semi-elliptic spring
- Rating – 27,000 lbs. (12,247 kg)
- Rear – Hotchkiss semi-elliptic spring
- Rating – 18,000 lbs. (8,165 kg)
- Tires: 395/85R20, 20 ply

Transfer Case*:

- Oshkosh 55000 Series, rear axle declutch
- 2.86:1 and 0.98:1 ratios

Transmission: Allison® Rugged Duty Series, 4-speed electronic

Vehicle Ratings at Axle Hubs:

- Front – 27,000 lbs. (12,247 kg)
- Rear – 23,000 lbs. (10,433 kg)
- Total – 50,000 lbs. (22,680 kg)
- Wheelbase: 164 in. (4,166 mm)

Wheels:

- Steel disc
- 20 x 10 in. (508 x 254 mm)

OSHKOSH BROOM AND POWER TRAIN

Pump Drive:

- Pank 58000
- Lubrication – pressurized system

Broom Engine:

- Cummins 6SX 11.9, in-line 6 cylinder, 4 cycle
- Displacement – 729 in.³ (11.9 L)
- Horsepower – 385 @ 1,800 rpm
- Peak torque – 1,350 lbs.-ft. @ 1,400 rpm
- Governed rpm – 2,250
- Heated fuel/water separator

Broom Core:

- 18 ft. (5.5 m) wide
- 50/50 poly/wire SIB cassette bristles
- 46 in. (1,168 mm) diameter

Head:

- 2 180/70 R8 casters
- 35 degree swing angle
- 525 rpm with 4828 lbs.-ft. of available torque at the broom shaft
- Oshkosh weight transfer system
- Oil bath core center bearing
- Broom oscillation of 8 degrees

Controls:

- Oshkosh Command Zone LCD dash pod on adjustable arm
- Oshkosh SmartPattern for automatic pattern adjustment (optional)
- Ground speed control (optional)
- Integrated joystick controls

Cooling System:

- Radiator core (auxiliary) – fin and tube type with deaeration system
- Mechanical fan clutch – temperature controlled clutch
- Silicone radiator hoses
- Spin on coolant filter

BROOM OPTIONS

- 20 and 22 ft. (6.1 and 6.7 m) head widths (4 casters)
- Cassette style bristles
- Wire or poly bristle options
- Snow shedding hood
- Ether start
- Auxiliary Engine Oil Heater
- Broom head vibrator
- Broom engine – 6SX 11.9 L with up to 500 hp, 1,600 lbs.-ft.
- Dual forced air blowers – 23,040 cfm @ 410 mph (660 kVph)

CHASSIS OPTIONS

Accessories

- Integral A/C
- Heated windshield
- Side window wipers

Drive Train:

- Cummins 385, 425, 500 hp engines
- 29K front axle rating
- Oshkosh ALL STEER® electronic all wheel steering system (23K and 26K rear only)
- Driver controlled and automatic lock/unlock transfer case

Electrical System:

- HID and other lighting packages
- On-board battery charger (20A self regulating)
- 270A alternator

Frame and Chassis:

- Single side fuel fill
- Centralized side drain kit

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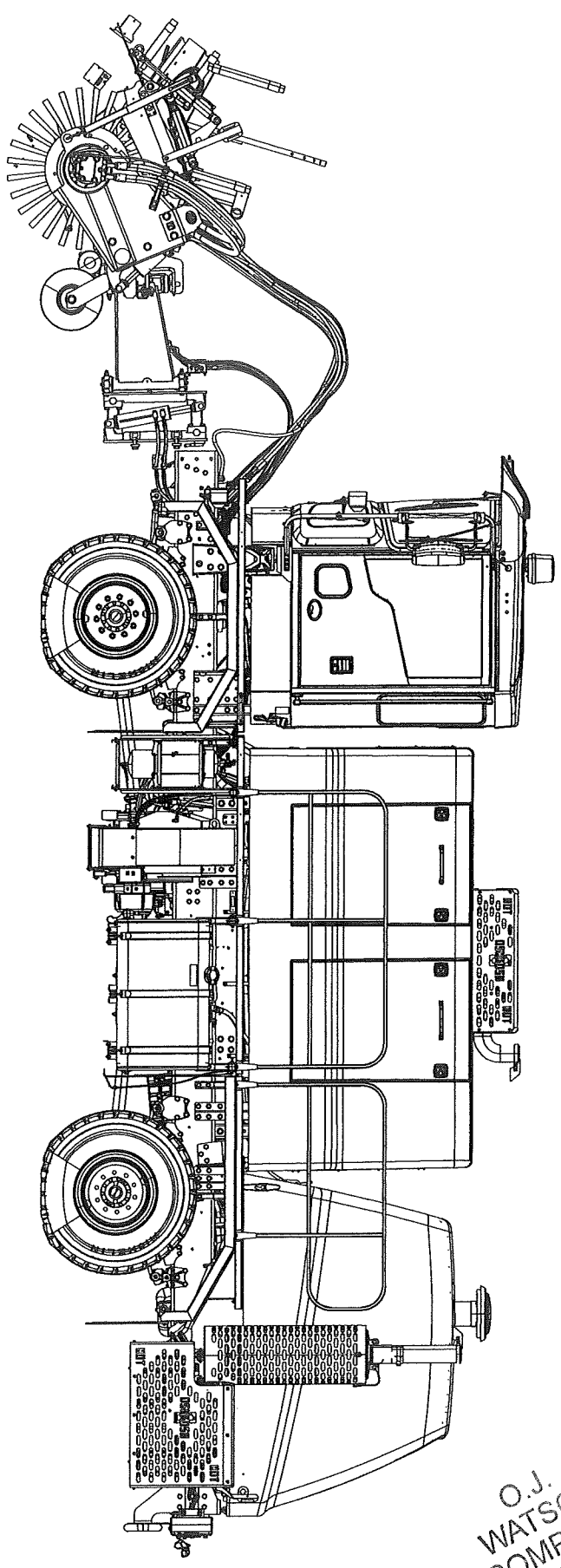
*Versions are available with rear axle disconnect, bevel gear center differential with driver-controlled lock or automatic (Over-Allier) differential.

oshkoshairport.com
+1 920 235 9151

ZONE/REV	DESCRIPTION	ON	DATE	PREP	APPD

2 REVISION HISTORY

**O.J. WATSON
COMPANY
INC.**



H-SERIES OSK 18" BROOM W/395 TIRES

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11/15/05	83	11/15/05	OSK
11/15/05	84	11/15/05	OSK
11/15/05	85	11/15/05	OSK
11/15/05	86	11/15/05	OSK
11/15/05	87	11/15/05	OSK
11/15/05	88	11/15/05	OSK
11/15/05	89	11/15/05	OSK
11/15/05	90	11/15/05	OSK
11/15/05	91	11/15/05	OSK
11/15/05	92	11/15/05	OSK
11/15/05	93	11/15/05	OSK
11/15/05	94	11/15/05	OSK
11/15/05	95	11/15/05	OSK
11/15/05	96	11/15/05	OSK
11/15/05	97	11/15/05	OSK
11/15/05	98	11/15/05	OSK
11/15/05	99	11/15/05	OSK
11/15/05	100	11/15/05	OSK

NOTES:

ABS Quality Evaluations

Certificate Of Conformance

This is to certify that the Quality Management System of:

Oshkosh Defense, LLC

**2727 Harrison Street
Oshkosh, WI 54091
U.S.A.**

(WITH ADDITIONAL FACILITIES LISTED ON ATTACHED ANNEX)

has been assessed by ABS Quality Evaluations, Inc. and found to be in conformance with the requirements set forth by:

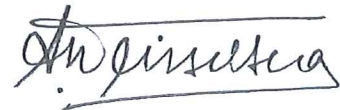
ISO 9001:2008

The Quality Management System is applicable to:

**DESIGN, MANUFACTURE, AND REMANUFACTURE OF SPECIALIZED TRUCKS AND TRANSPORT EQUIPMENT,
INCLUDING HEAVY-DUTY COMMERCIAL AND MILITARY TRUCKS, TRAILERS, PROPRIETARY DRIVE
COMPONENTS, CUSTOM TRAINING DEVELOPMENT, SERVICE PARTS AND SERVICE PARTS.**

This certificate may be found on the ABS QE Website (www.abs-qe.com). For certificates issued in the People's Republic of China information may also be verified on the CNCA website (www.cnca.gov.cn).

Certificate No:	30918
Original Certification Date:	26 May 1995
Effective Date:	18 March 2016
Expiration Date:	14 September 2018
Revision Date:	22 March 2016



Alex Weisselberg, President



Validity of this certificate is based on the periodic audits of the management system defined by the above scope and is contingent upon prompt, written notification to ABS Quality Evaluations, Inc. of significant changes to the management system or components thereof.

ABS Quality Evaluations, Inc. 16855 Northchase Drive, Houston, TX 77060, U.S.A.
Validity of this certificate may be confirmed at www.abs-qe.com/cert_validation.

ABS Quality Evaluations

ISO 9001:2008

Certificate Of Conformance

ANNEX

Certificate No: 30918

Oshkosh Defense, LLC

At Below Facilities:

Facility: 20th Avenue
339 20th Avenue
Oshkosh, WI 54902
U.S.A.

Activity: Shipping

Facility: Defense Program Center
3135 Oregon Street
Oshkosh, WI 54902
U.S.A.

Activity: Engineering Control Test Center

Facility: Global Integrated Product Support
425 N Washburn
Oshkosh, WI 54904
U.S.A.

Activity: Warranty, Aftermarket Sales, Technical Support

Facility: Global Technology Center
370 West Waukau Avenue
Oshkosh, WI 54902
U.S.A.

Activity: Engineering

Facility: North Plant
2307 Oregon Street
Oshkosh, WI 54902
U.S.A.

Activity: Fab, Weld, Machining

Facility: Oakwood
2855 South Oakwood Road
Oshkosh, WI 54904
U.S.A.

Activity: Test & PDI (Pre-delivery Inspection)

O.J.
WATSON
COMPANY
INC.



Validity of this certificate may be confirmed at www.abs-qe.com/cert_validation.

ABS Quality Evaluations

ISO 9001:2008

Certificate Of Conformance

ANNEX

Certificate No: 30918

Oshkosh Defense, LLC

At Below Facilities:

Facility: Oshkosh Finishing Services
333 West 29th Avenue
Oshkosh, WI 54902
U.S.A.

Activity: ecoat, paint

Facility: Test & Development
324 West 29th Avenue
Oshkosh, WI 54902
U.S.A.

Activity: Product Test and Development

Facility: Training Center
3740 Fisk Avenue
Oshkosh, WI 54904
U.S.A.

Activity: Develop and deliver customer training

Facility: West Plant
500 West Waukau Avenue
Oshkosh, WI 54902
U.S.A.

Activity: Paint

O.J.
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Validity of this certificate may be confirmed at www.abs-qe.com/cert_validation.



June 10, 2014

Mr. Sean Strosahl
Oshkosh Corporation
2307 Oregon Street
Oshkosh, WI 54903

Subject: Cummins ISX12 Installation in the H Series Chassis

Dear Sean:

This is to confirm that we have evaluated the installation of the EPA2013 ISX12 engine in the H Series chassis and have found that the cooling system is in concurrence with all of the requirements outlined in Cummins Application Engineering Bulletins 21.50 and 21.52.

Sincerely,

A handwritten signature in blue ink, appearing to read 'M Bartkowski'.

Michael Bartkowski
OEM Account Manager



November 19, 2013

Mr. Sean Strosahl
Oshkosh Corporation
2307 Oregon Street
Oshkosh, WI 54903

Dear Sean:

We have reviewed the installation of the Cummins EPA13 ISX12 engine in the Oshkosh H Series chassis and have found that the engine is installed in concurrence with our installation requirements. Please notify us if there are any changes to the installation of these engines. If any changes are made, they must be reviewed and a new statement will be issued regarding concurrence.

Please let me know if you need any additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael Bartkowski".

Michael Bartkowski
OEM Account Manager

O.J.
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INC.

Oshkosh Corporation Runway Broom Hydrostatic Drive Calculations

Broom	Values	Units
Engine Speed	2100	RPM
Pump Drive Ratio	1.53	
Pump Displacement	6.1	CU IN
Pump Vol Eff	0.99	
Pump QTY	2	EA
Pump Pressure	5075	PSI
Pump Speed	3213	RPM
Pump Mech Eff	0.98	
Motor Disp	6.1	CU IN
Motor Vol Eff	0.99	
Motor QTY	2	EA
Motor Mech Eff	0.98	
Gear Box Ratio	6	
Pump Flow	168	GPM
Hyd Power	497	HP
Engine Power	508	HP
Motor Speed	3149	RPM
Motor Torque	4828	IN-LBS
Motor Power	241	HP
Broom Speed	525	RPM
Broom Torque	57942	IN-LBS
	4828	FT-LBS

Pump Flow = Pump Speed (3213 RPM) * Pump Displacement (6.1 in³/Rev) * 2 pumps * (1 Gal/231 in³) * Pump Vol Eff (0.99)

Hyd Power = Pressure (psi) * Flow (gpm) / 1714

Engine Power = Hyd Power / Pump Mech Eff

Motor Speed = Pump Flow (168 gpm) / 2 Motors * 231 in³/gallon * Rev / Motor Displacement (6.1 in³) * Eff (0.99)

Motor Torque = Pump Pressure (5075) * Motor Displacement (6.1 in³) / Rev * (Rev / 2 * PI) * Mech Eff (.98)

Motor Power = Pressure (psi) * Flow (gpm) / 1714 * motor vol eff * motor Mech Eff

Broom Speed = Motor Speed / Gear Box Ratio

Broom Torque = Motor Torque (4828 in-lb) * Gear Box Ratio (6:1) * 2 motors * (1ft/12in)

O.J. WATSON COMPANY INC.



Engine Performance Curve

Cummins Inc
Columbus, Indiana 47202-3005
<http://www.cummins.com>

ISX 12 500

500 hp (373 kW) @ 1800 rpm
1645 lb-ft (2232 N-m) @ 1200 rpm

Automotive
Pg. No.

Curve Number
FR20347

CPL Code
43438

Date
3-Feb-2012

1

Compression Ratio: **16.6:1**

Fuel System: **XPI**

Cylinders: **6**

Bore: **5.11 in (130 mm)**

Stroke: **5.91 in (150 mm)**

Engine Configuration:

D0K3001BX03

Emission Certification:

EPA 2010, CARB 2010

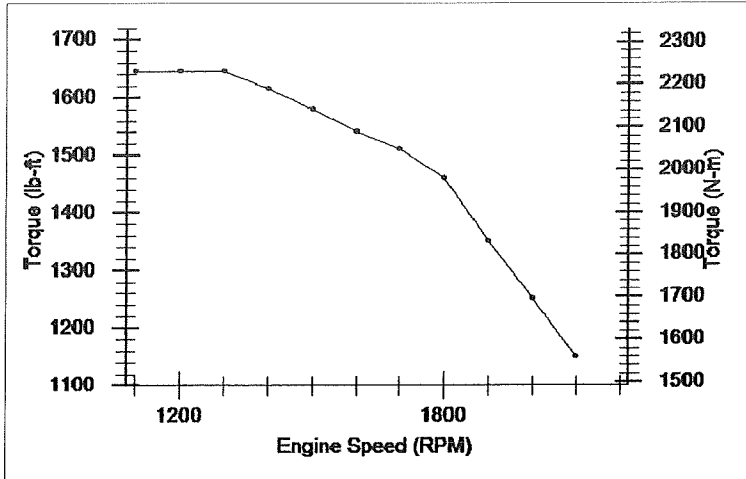
Aspiration:

Turbocharged and Charge Air Cooled

Displacement:

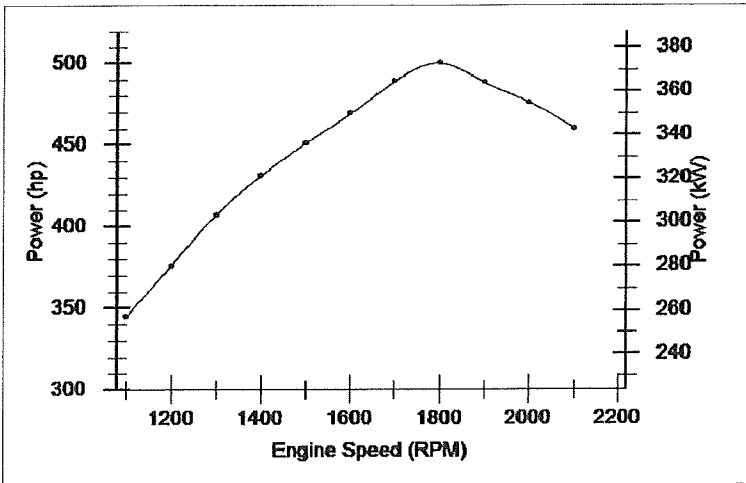
729 in3 (11.9 L)

Restricted to Specialty Voc Applications



Torque Output

RPM	lb-ft	N-m
1,100	1,645	2,230
1,200	1,645	2,230
1,300	1,645	2,230
1,400	1,615	2,190
1,500	1,580	2,142
1,600	1,540	2,088
1,700	1,510	2,047
1,800	1,459	1,978
1,900	1,350	1,830
2,000	1,250	1,695
2,100	1,150	1,559



Power Output

RPM	hp	kW
1,100	345	257
1,200	376	280
1,300	407	303
1,400	431	321
1,500	451	336
1,600	469	350
1,700	489	365
1,800	500	373
1,900	488	364
2,000	476	355
2,100	460	343

Curves shown above represent mature gross engine performance capabilities obtained and corrected in accordance with SAE J1349 conditions of 29.61 in Hg (100 kPa) barometric pressure [300 ft (90 m) altitude], 77 deg F (25 deg C) inlet air temperature, and 0.30 in Hg (1 kPa) water vapor pressure with No. 2 diesel fuel.

A Keith McIntire
Customer Engineering

Certified within 5%

Final-(Measured data)

Engine Performance Curve Cummins Inc Columbus, Indiana 47202-3005 http://www.cummins.com	ISX 12 500	500 hp (373 kW) @ 1800 rpm 1645 lb-ft (2232 N-m) @ 1200 rpm			Automotive Pg. No.
		Curve Number FR20347	CPL Code 43438	Date 3-Feb-2012	2

Compression Ratio: 16.6:1	Engine Configuration: D0K3001BX03
Fuel System: XPI	Emission Certification: EPA 2010, CARB 2010
Cylinders: 6	Aspiration: Turbocharged and Charge Air Cooled
Bore: 5.11 in (130 mm)	Displacement: 729 in3 (11.9 L)
Stroke: 5.91 in (150 mm)	

General Performance Data

Maximum low idle speed	800 RPM	
Minimum low idle speed	700 RPM	
Nominal no load governed speed	2,300 RPM	
Maximum overspeed capability	2,625 RPM	
Torque available at clutch engagement	800 lb-ft	1,085 N-m

Air Induction System

Maximum temperature rise between ambient air and engine air inlet	20 delta deg F	11.1 delta deg C
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Exhaust System

Maximum back pressure imposed by complete exhaust system	10.23 in-Hg	35 kPa
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Cooling System

Maximum coolant temperature - engine out	225 deg F	107 deg C
Maximum charge air cooler outlet temperature (pumping mode)	N/A deg F	N/A deg C
Maximum coolant temperature - engine out (pumping mode)	N/A deg F	N/A deg C
Maximum coolant pressure (exclusive of pressure cap; closed thermostat at maximum no load speed)	63 psi	434 kPa
Minimum cooling capability @ nominal fuel rate [Level II] with 35 mile/hr (56 km/hr) ram air speed and 50/50 E.G. coolant:		
Engine out coolant to ambient @ 1,800 RPM	119 delta deg F	66.1 delta deg C
Engine out coolant to ambient @ 1,200 RPM	128 delta deg F	71.1 delta deg C
Charge air cooler to ambient @ 1,800 RPM	43 delta deg F	23.9 delta deg C
Maximum allowable pressure drop across charge air cooler and OEM CAC piping (CACDP)	3.5 in-Hg	11.8 kPa
Maximum coolant temperature for engine protection controls	240 deg F	116 deg C

Maximum Rating Performance Data

	Governed Speed		Maximum Power		Peak Torque	
	2,100 RPM		1,800 RPM		1,200 RPM	
Engine Speed	2,100 RPM		1,800 RPM		1,200 RPM	
Output Power	460 hp	343 kW	500 hp	373 kW	376 hp	280 kW
Torque	1,150 lb-ft	1,559 N-m	1,459 lb-ft	1,978 N-m	1,645 lb-ft	2,230 N-m
Inlet Air Flow	828 ft3/min	391 L/s	795 ft3/min	375 L/s	600 ft3/min	283 L/s
Charge Air Flow	60.1 lb/min	27.3 kg/min	58 lb/min	26 kg/min	44 lb/min	20 kg/min
Exhaust Gas Flow	1,791 ft3/min	845 L/s	1,730 ft3/min	816 L/s	1,452 ft3/min	685 L/s
Exhaust Gas Temperature	979 deg F	526 deg C	964 deg F	518 deg C	940 deg F	504 deg C
Heat Rejection to Coolant	14,535 BTU/min	256 kW	14,255 BTU/min	251 kW	9,445 BTU/min	166 kW
Radiator Coolant Flow *	153 gpm	9.7 L/s	131 gpm	8.3 L/s	87 gpm	5.5 L/s
Turbo Comp. Outlet Pressure	62 in-Hg	210 kPa	76 in-Hg	255 kPa	66 in-Hg	223 kPa
Turbo Comp. Outlet Temperature	407 deg F	208 deg C	436 deg F	224 deg C	375 deg F	191 deg C
Fuel Consumption	180.3 lb/hr	81.8 kg/hr	183.4 lb/hr	83.2 kg/hr	125.2 lb/hr	56.8 kg/hr
Brake Mean Effective Pressure	238 psi	1,641 kPa	302 psi	2,082 kPa	340 psi	2,344 kPa

* - Radiator Coolant Flow is approximately 5% less with a continuously deaerating system.
 Coolant: 50/50 - Ethylene Glycol/Water by volume. Values are within +/- 5%.

Change Log

Date	Author	Change Description
10/18/2010	A Keith McIntire	
9/27/2011		
2/2/2012	A Keith McIntire	Revised model nametorque curve at 1100rpm and performance data.



Office of Economic Development Division of Small Business Opportunity 201 W Colfax Ave, Dept 907 Denver, CO 80202 P: 720.913.1714 F: 720.913.1809 www.denvergov.org/oed

Diversity and Inclusiveness* in City Solicitations Information Request Form Denver Executive Order No. 101 establishes strategies between the City and private industry to use diversity and inclusiveness to promote economic development in the City and County of Denver and to encourage more businesses to compete for City contracts and procurements. The Executive Order requires, among other things, the collection of certain information regarding the practices of the City's contractors and consultants toward diversity and inclusiveness and encourages/requires City agencies to include diversity and inclusiveness policies in selection criteria where legally permitted in solicitations for City services or goods. Answer each question below. Missing or incomplete responses will be recorded as "no", "not applicable", or "none". A proposal or response to a solicitation by a contractor/consultant that does not include this completed form shall be deemed non-responsive and rejected.

Business Email Address ***Enter Email Address of City and County of Denver contact person facilitating this solicitation. *****Please provide the City Agency that is facilitating this solicitation: *****Agency Name (if not listed above) *****Project Name *****Solicitation No. (Check Below if Not Applicable) *****Item #141** Check Here if Solicitation No. is N/A**Name of Your Company *****What Industry is Your Business? *****If Other, Please Tell Us Your Industry: *****Address *****City *****State ***

O.J.
WATSON
COMPANY
INC.

Zip Code *

80216

Business Phone Number *

303-295-2885

Business Facsimile Number

303-296-8049

O.J.
WATSON
COMPANY
INC.

1. How many employees does your company employ? *

- 1-10
- 11-50
- 51-100
- Over 100

1.1. How many of your employees are:

Number of Full Time: *

Number of Part Time: *

2. Do you have a Diversity and Inclusiveness Program? *

- Yes
- No

If No, and your company size is less than 10 employees continue to question 10. Complete and sign the form.

If Yes, does it address:

2.1. Employment and retention? *

- Yes
- No

2.2. Procurement and supply chain activities? *

- Yes
- No

2.3. Customer Service? *

- Yes
- No

3. Provide a detailed narrative of your company's diversity and inclusiveness principles and programs. This may include, for example, (i) diversity and inclusiveness employee training programs, equal opportunity policies, and the budget amount spent on an annual basis for workplace diversity; or (ii) diversity and inclusiveness training and information to improve customer service. (If Not Applicable, please type N/A below) *

4. Does your company regularly communicate its diversity and inclusiveness policies to employees? *

- Yes
- No

O.J.
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COMPANY
INC.

If you answered Yes to Question 4, how does your company regularly communicate its diversity and inclusiveness policies to employees? (Select all that apply) *

- Employee Training
- Pamphlets
- Public EEO Postings
- Other

5. How often do you provide training and diversity and inclusiveness principles? *

- Monthly
- Quarterly
- Annually
- N/A
- Other

5.1 What percentage of the total number of employees generally participate? *

- 0-25%
- 26-50%
- 51-75%
- 76-100%
- N/A

6. State how you achieve diversity and inclusiveness in supply and procurement activities. This may include, for example, narratives of training programs, equal opportunity policies, diversity or inclusiveness partnership programs, mentoring and outreach programs, and the amount and description of budget spent on an annual basis for procurement and supplier diversity and inclusiveness. (If Not Applicable, please type N/A below) *

7. Do you have a diversity and inclusiveness committee? *

- Yes
- No

7.1 If Yes, how often does it meet? *

- Monthly
- Quarterly
- Annually
- Other

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7.2. If you responded that you do not have a diversity and inclusiveness committee, describe any plans your company may have to establish such a committee. (If Not Applicable, please type N/A below) *

8. Do you have a budget for diversity and inclusiveness efforts? *

- Yes
- No

9. Does your company integrate diversity and inclusion competencies into executive/manager performance evaluation plans? *

- Yes
- No

10. If you responded that you do not have a diversity and inclusiveness program, describe any plans your company may have to adopt such a program. *

We are an Equal Employment Opportunity company.

11. Would you like information detailing how to implement a Diversity and Inclusiveness program? *

- Yes
- No

If yes, please email XO101@denvergov.org.

I attest that the information represented herein is true, correct and complete, to the best of my knowledge. *

Check Here if the Above Statement is True.

Name of Person Completing Form *

R. K. Eckrich

Today's Date

12-06-2016

NOTE: Attach additional sheets or documentation as necessary for a complete response.

https://fs7.formsite.com/CCDenver/files/f-160-132-10047239_txX5bD99_Oshkosh_EEO.pdf

*"Diversity and inclusiveness program" means a program that invites values, perspectives and contributions of people from diverse backgrounds, and integrates diversity into its hiring and retention policies, training opportunities, and business development methods to provide an equal opportunity for each person to participate, contribute, and succeed within the organization's workplace. "Diversity" encompasses a wide variety of human differences, including differences such as race, age, gender, gender identity, sexual orientation, ethnicity, physical disabilities, appearance, historically underutilized and disadvantaged persons, as well as social identities such as religion, marital status, socio-economic status, lifestyle, education, parental status, geographic background, language ability, and veteran status."

WATSON
COMPANY
INC.

