

# Idaho Asphalt IC Demonstration

## US 95, Garwood to Sagle, ID (May 5-8, 2014)

### On-Site Personnel

First name	Last name	Affiliation	Telephone	Email
FHWA IC Project Team				
George	Chang	Transtec Group	512-659-1231	gkchang@thetranstecgroup.com
Lee	Gallivan	FHWA	317-605-4704	Victor.Gallivan@dot.gov
Bob	Horan	Asphalt Institute	804-539-3036	bhoran@AsphaltInstitute.org
Richard	Duval	FHWA	303-718-3713	Richard.Duval@dot.gov
John	Perry	FHWA - ID	208-334-9180	JohnA.Perry@dot.gov
Kyle	Holman	FHWA-ID	208-334-9180	kyle.holman@dot.gov
State DOT				
Marvin	Fenn	ITD District 1		marvin.fenn@itd.idaho.gov
John	Perfect	ITD District 1	208-772-1224	john.perfect@itd.idaho.gov
Jeff	Drager	ITD District 1		jeff.drager@itd.idaho.gov
Mike	Santi	ITD		mike.santi@itd.idaho.gov
John	Ingram	ITD		John.Ingram@itd.idaho.gov
Vendors				
Tim	Kowalski	Wirtgen/Hamm	615-594-4604	tkowalski@Wirtgenamerica.com
Andy	Kazanis	Wirtgen America	509-998-5530	akazanis@Wirtgenamerica.com
Ed	Conlin	Sakai America	770-238-6755	e-conlin@sakaiamerica.com
Josh	Steele	Sakai America	770-877-9433	j-steele@sakaiamerica.com
Keiichi	Uchiyama	Sakai - Japan		k-uchiyanama@sakainet.co.jp
Jim	Preston	TopCon	614-479-4817	
Garry	Aicken	Kessler (LWD-a Test)	703-989-6612	garry@kesslerdcp.com
Paving Contractors				
Jared	Wise	Interstate Concrete & Asphalt	208-660-5281	jwise@oldcastlematerials.com
Pat	Cove	Interstate Concrete & Asphalt	208-755-9987	Pat.Cove@oldcastlematerials.com
Kent	Merrick	Scarsella Brothers		kent.m@scarsellabros.com
Elaine	Davis	HDR Engineering	208-859-0476	Elaine.Davis@hdrinc.com
Ryan	Smith	HDR Engineering	208-449-6203	ryan.smith@hdrinc.com
Paving Association				
TBA				

Project webpage: (<http://www.intelligentcompaction.com/projects/2012-2014-fhwa-hma/2014-field-projects/idaho-2014>)

## Main Contacts

- **FHWA IC project:** Dr. George Chang, FHWA IC team.
- **Paving Contractor:** Pat Cove, Interstate Concrete & Asphalt, 208-755-9987, Pat.Cove@oldcastlematerials.com. Consultant: Elaine David, HDR, 208-859-0476, Elaine.Davis@hdrinc.com
- **Open House:** John Perfect, ITD District 1, 208-772-1224, john.perfect@itd.idaho.gov
- **Roller Shipment:** *Shipping address:* US 95 N and Williams Lane; *Contacts:* Pat Cove, Interstate Concrete & Asphalt, 208-755-9987, Pat.Cove@oldcastlematerials.com; *ETA:* May 2-4, 2014.

## Responsibilities

### FHWA IC Team

- IC training,
- Field data collection/analysis,
- Presentation during Open House.

### DOT

- Personnel to be trained on IC,
- Coordination of the Open House event,
- Facility and AV for the Open House event,
- Personnel and equipment for nuclear density gauge, non-clear density gauge, and (FWD testing),
- Arrangement for personnel and equipment (2 rigs: one from DOT and one from contractor) for coring,
- Personnel and equipment for bulk density tests for cores.

### Paving Contractor

- Personnel to be trained on IC,
- Two IC roller operators,
- Mobilization of IC rollers onsite,
- One density gauge and an operator,
- Fuel for IC rollers.

### Roller Vendors

- IC Training (esp. IC operation, data collection and transfer),

- Technical support during field demo,
- Presentation during Open House.

### GPS Vendor

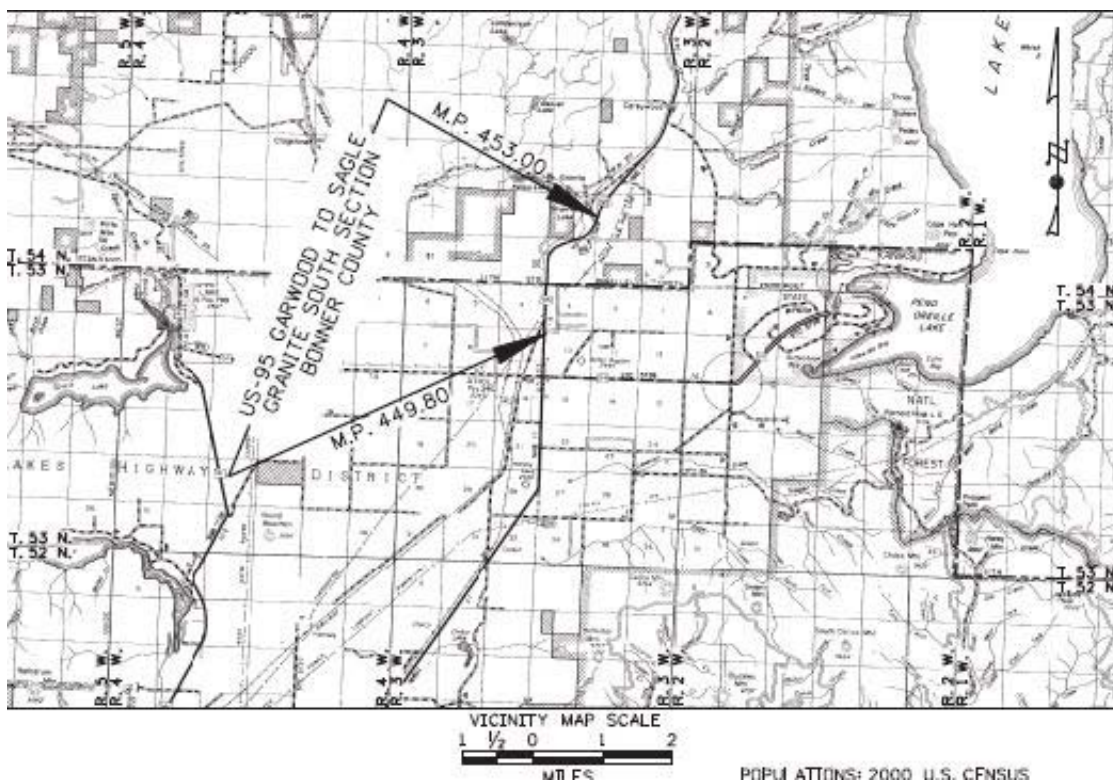
- GPS base station, rover and an operator,
- GPS training,
- Technical support during field demo,
- Presentation during Open House.

### LWD-a Vendor

- Personnel and equipment for LWD tests.

### Site Map

This project is a night-time paving job located at the main lane of US-95, north of Coeur d'Alene, ID, in Direct 1 of ITD.



### Paving Info

- **N'** intermediate asphalt mixture at paving **N** ft wide
- The JMF is **TBA**.

## Onsite Safety



**Contact Pat Cove, Interstate Concrete & Asphalt, 208-755-9987, [Pat.Cove@oldcastlematerials.com](mailto:Pat.Cove@oldcastlematerials.com), for any onsite visits.**

DOT and Contractor require all onsite participants to observe safety rules:

- Ingress and egress to and from the work zone, vehicles shall be equipped with yellow flashing lights.
- Location to park vehicles.
- Location for people to safely observe operations.
- Adequate PPE provided for all personnel within the work zone. (hard hats, safety vests, working gloves, safety glasses, steel toed boots, etc.)
- Suggest carpool to the job site.



## On-site Activities

Schedule	Activities
Day 0 Sunday (May 4)	<ul style="list-style-type: none"> <li>Conduct IC rollers/GPS setup and trial runs (equipment vendors and FHWA IC team only) at the staging area. (2PM-5PM)</li> </ul>
Day 1 Monday (May 5)	<ul style="list-style-type: none"> <li>Set up the GPS base station and IC roller/GPS system (by 6AM).</li> <li>Conduct project briefing at the staging area and IC training for roller operators (6AM-6:30AM).</li> <li>Start paving with one IC roller at breakdown and another IC roller at intermediate position.</li> <li>Select a 500-ft section as a test strip to establish the rolling pattern. Conduct NG/GPS/LWD-a testing immediately behind the paver and at selected locations after each breakdown and intermediate roller pass within the test strip.</li> <li>Perform production compaction using the rolling pattern.</li> <li>Conduct NG/GPS/LWD-a at selected locations after the finishing rolling.</li> </ul>
Day 2 Tuesday (May 6)	<ul style="list-style-type: none"> <li>Set up the GPS base station and IC roller/GPS system (by 6AM).</li> <li>Start paving with one IC roller at breakdown and another IC roller at intermediate position.</li> <li>Conduct NG/GPS/LWD-a testing immediately behind the paver and at selected locations after each breakdown roller pass within the 1500-ft section.</li> <li>Conduct NG/GPS/LWD-a testing at selected locations after each intermediate roller pass within the 1500-ft section.</li> <li>After the finishing rolling, mark 60 locations within the 1500-ft paved section. Conduct NG/GPS tests at marked locations. Conduct <del>FWD</del> and LWD-a tests at designated locations. Conduct coring at the marked locations.</li> </ul>
Day 3 Wednesday (May 7)	<ul style="list-style-type: none"> <li>Set up the GPS base station and IC roller/GPS system (by 6AM).</li> <li>Start paving with one IC roller at breakdown and another IC roller at intermediate position.</li> <li>Select a 500-ft section. Conduct NG/GPS/LWD-a testing immediately behind the paver and at selected locations after each breakdown and intermediate roller pass within the test strip.</li> <li>Perform production compaction using the rolling pattern.</li> <li>Conduct NG/GPS/LWD-a at selected locations after the finishing rolling.</li> </ul>
Days 4 Thursday (May 8)	<ul style="list-style-type: none"> <li>Conduct the Open House event including presentation and equipment demonstration.</li> </ul>

- GPS: A base station and a rover will be provided by Sitech West.
- NG: Nuclear density gauge.
- LWD-a: Lightweight deflectometer for asphalt tests.
- ~~FWD:~~ ~~Falling weight deflectometer tests.~~
- Coring: 60 X 4" cores will be taken.
- Core tests: Bulk density testing of cores will be performed within 30 days after the demo.

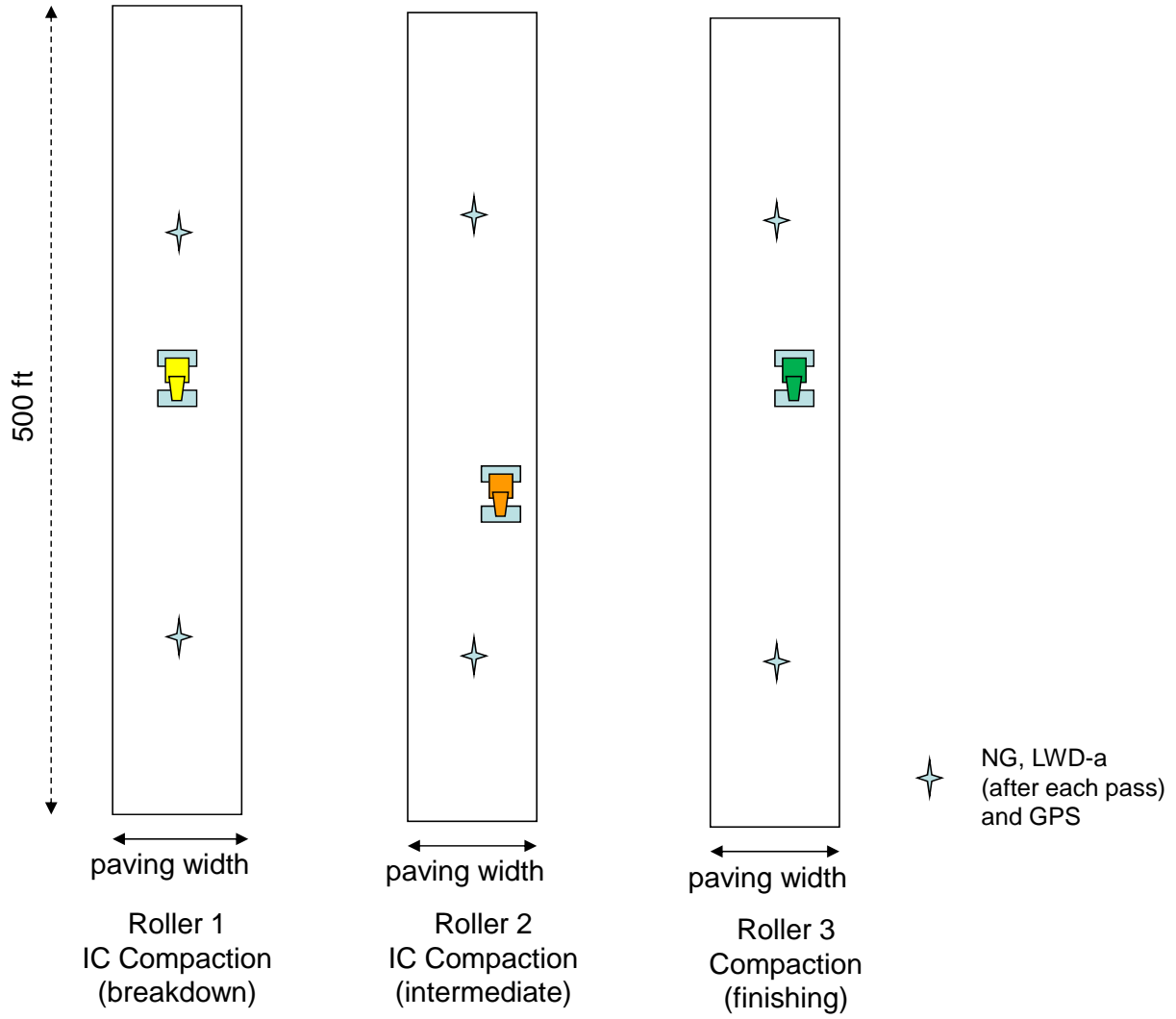
## Test Settings

Date	TB	Machine	Setting	Spot Tests	Notes/Comments
Day 1	1A	IC 1	0.3mm at 4000 vpm	NG, GPS, LWD-a	Breakdown compaction for asphalt base course. 1. Compact with normal roller passes. 2. NG/GPS/LWD-a tests after each roller pass at selected locations within the test section.
	1B	IC 2	Low amp at 4000 vpm	NG, GPS, LWD-a	Intermediate compaction for asphalt base course. 1. Compact with normal roller passes. 2. NG/GPS/LWD-a tests after each roller pass at selected locations within the test section.
	1C	Roller3	Static	NA	Finishing rolling 1. Compact with normal roller passes.
Day 2	2A	IC 2	Low amp at 4000 vpm	NG, GPS, LWD-a	Breakdown compaction for asphalt base course. 1. Compact with normal roller passes. 2. NG/GPS LWD-a tests after each roller pass at selected locations within the test section.
	2B	IC 1	0.3mm at 4000 vpm	NG, GPS, LWD-a	Intermediate compaction for asphalt base course. 1. Compact with normal roller passes. 2. NG/GPS LWD-a tests after each roller pass at selected locations within the test section.
	2C	Roller3	Static	NG, GPS, LWD-a, FWD, GPR Coring	Finishing rolling 1. Compact with normal roller passes. 2. NG/GPS/LWD-a/FWD/GPR/Coring tests after the finishing rolling at marked locations within the test section.
Day 3	3A	IC 1	0.3mm at 4000 vpm	NG, GPS, LWD-a	Breakdown compaction for asphalt base course. 1. Compact with normal roller passes. 2. NG/GPS LWD-a tests after each roller pass at selected locations within the test section.
	3B	IC 2	Low amp at 4000 vpm	NG, GPS, LWD-a	Intermediate compaction for asphalt base course. 1. Compact with normal roller passes. 2. NG/GPS LWD-a tests after each roller pass at selected locations within the test section.
	3C	Roller3	Static	NA	Finishing rolling 1. Compact with normal roller passes.

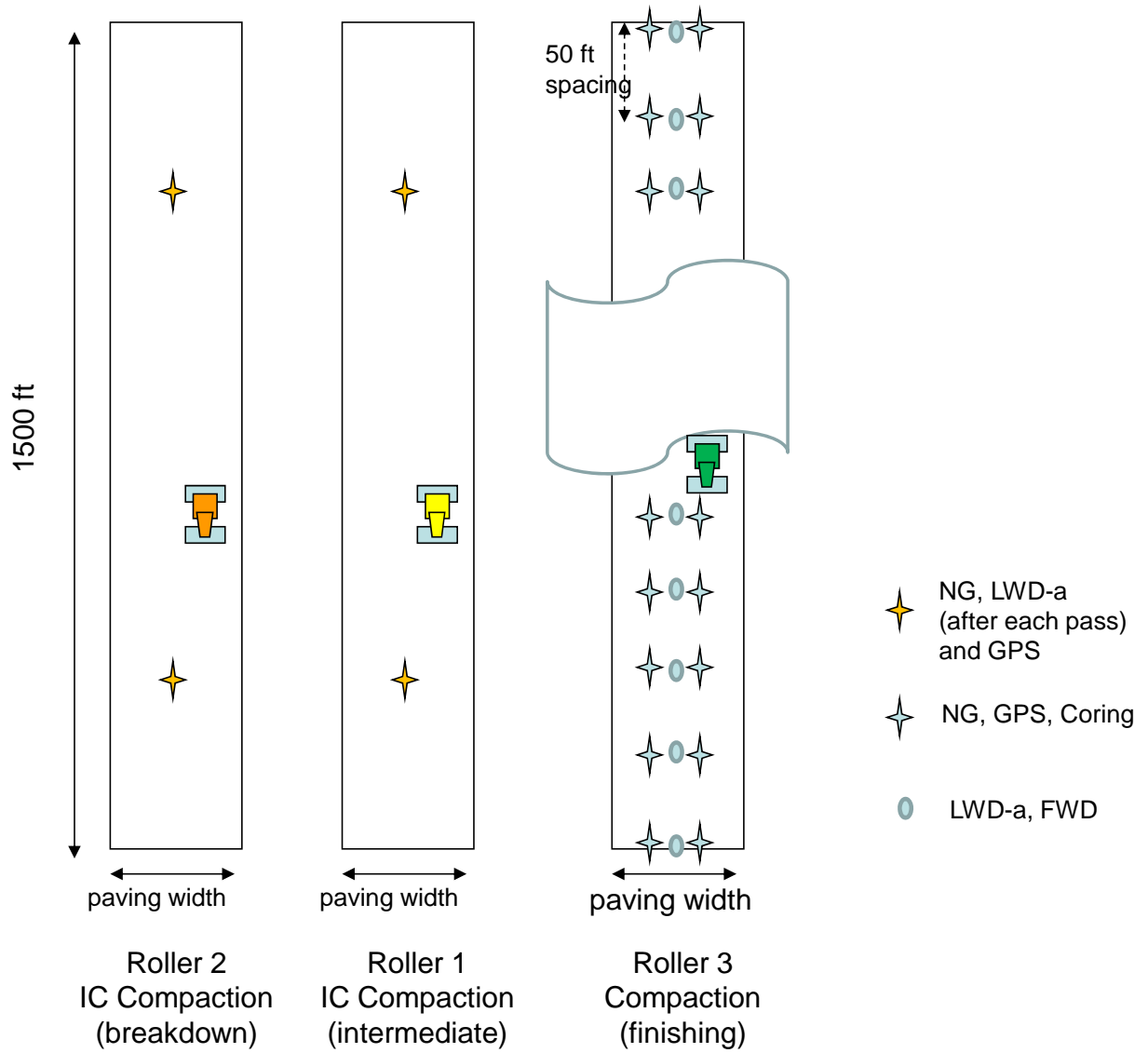
\*. The rolling pattern will be designated by the contractor.

\*. Roller3: conventional finishing roller(s) (if applicable)

# Day 1 & 3 – Test Sections

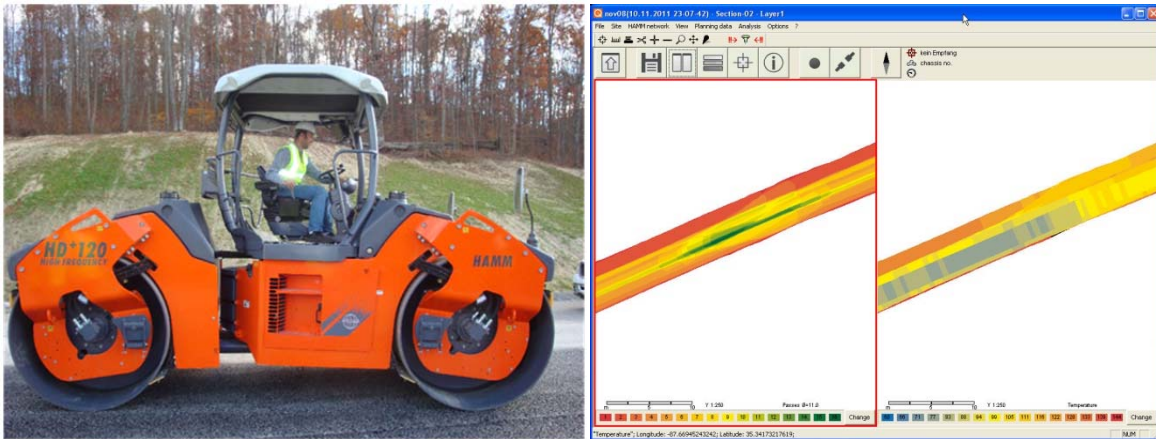


# Day 2 – Test Section



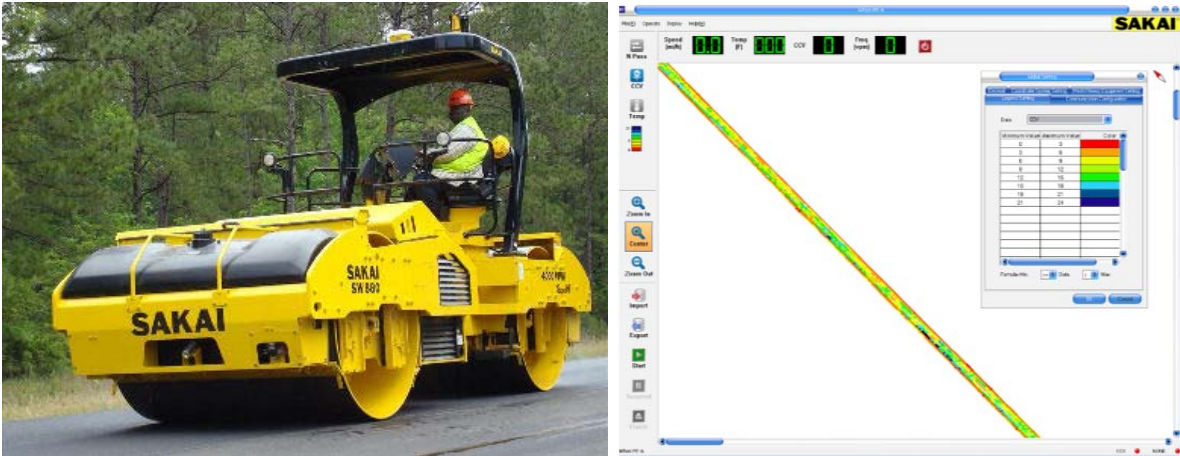


# HAMM Double-Drum IC Roller



Manufacturer/ Vendor	HAMM/Wirtgen
Model Name	HCQ (Hamm Compaction Quality)
Model Number	HD+ 90 / HD+ 110, HD+ 120 / HD+ 140
Drum Width	78" w/offset to 84.7"
Machine Weight	Operating wt. 27,569 lbs. w/max of 32,187 lbs.
Amplitude Settings	High/Low - .028/.011 in. (0.71/0.27 mm)
Frequency Settings	Variable from 2700 - 4020 vpm
Auto-Feedback	NA
Measurement System	HAMM Compaction Quality (HCQ)
Measurement Value	HMV, density estimator, temperature, passes
Measurement Unit	[unitless, % compaction, °C, color coded]
Documentation System	HCQ with ability to export to Veda
Contact	Tim Kowalski (615) 594-4604 tkowalski@Wirtgenamerica.com

# Sakai Double Drum IC rollers

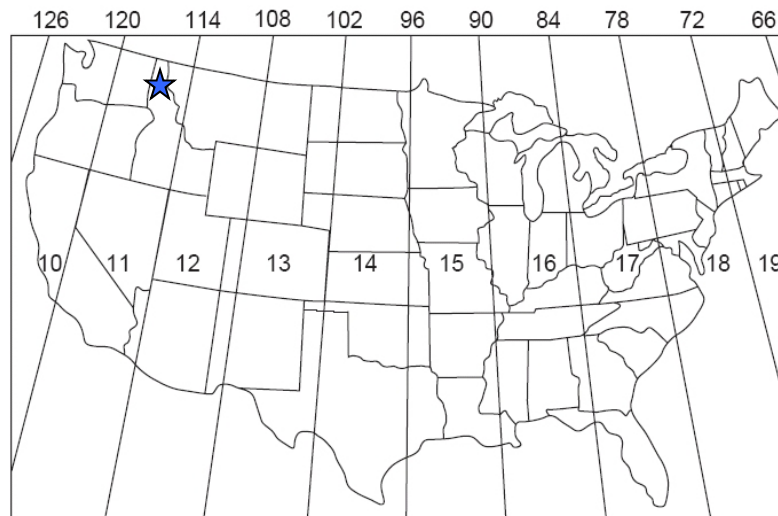


Manufacturer/ Vendor	Sakai America
Model Name	Compaction Information System (CIS)
Model Number	SW880
Drum Width	79"
Machine Weight	29,560 lbs (~ 14 tons)
Amplitude Settings	0.013" , 0.025" ( 0.33 to 0.64 mm)
Frequency Settings	2500, 3000, 4000 vpm
Auto-Feedback	No
Measurement System	CCV with temperature and passes mapping
Measurement Value	Compaction control value (CCV)
Measurement Unit	Unitless
GPS Capability	Yes
Documentation System	AithonMT and AithonPD with ability to export to Veda
Contact	Brandon Crockett (800) 3234-0535 ext. 205 b-crockett@sakaiamerica.com

# Global Positioning System (GPS)

## Grid Reference

UTM-11N is the preferred coordinate reference for all devices.



## GPS

- A TopCon GPS receiver and a radio will be mounted on the Sakai IC roller.
- A TopCon GPS base station will be setup to provide RTK correction signals.
- A hand-held TopCon GPS rover will be used for in-situ point measurements.
- A GPS receiver with OmniStar subscription will be mounted on the HAMM IC machine.
- A hand-held GPS receiver with OmniStar subscription will be used for in-situ point measurements..

## Open House

**Time:** 8:00 AM to noon, Thursday, May 8, 2014

**Location:** ITD District 1 Office

600 W. Prairie Ave., Coeur d'Alene, Idaho 83815-8764

**Contact:** John Perfect, ITD District 1, 208-772-1224, john.perfect@itd.idaho.gov



### Agenda

- **Session 1** - 8:00AM to 11:00AM - Indoor Presentation
- **Session 2** - 11:00AM to noon – Outdoor Equipment Demonstration (IC, LWD-a, GPS)

### Online Registration is required:

Webpage (<http://fhwaicopenhouseitd.eventbrite.com>)