



WISCONSIN DOT

STRUCTURES INSPECTION PROGRAM

TECHNICAL BULLETIN

Issue 3 - May 2019

2019 WISDOT STRUCTURE INSPECTION REFRESHER TRAINING (SIRT)

All structural inspectors and program managers in Wisconsin are required to have a WisDOT approved refresher training on a periodic (5-year maximum) basis. All inspections conducted after January 1, 2020 will require the inspector to have passed the 2019 SIRT. This training will be administered online using the WisDOT LearnCenter. For inspectors

external to WisDOT, Attachment A details how to register for the training.

It is anticipated that 13 training modules will be available by September 1st, 2019. All training will need to be completed by December 31st, 2019.

Each module needs to be taken and passed to receive credit for the refresher training. There will be a short quiz at the end of each module. The participant will need to receive an 80% or greater score on the quiz to pass the module.

Once the participant has completed all modules, he/she will be able to print out (or save digitally) a completion certification for the course.

Inspectors and program managers wishing to maintain certification to perform in-service inspections of structures in Wisconsin must submit the following to Structure-Inspection@dot.wi.gov:

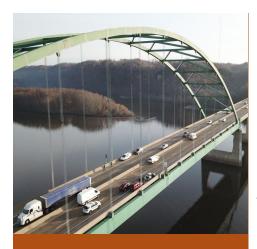
- 1) Completion Certificate (Attach Document)
- 2) Inspector Name (First and Last)
- 3) Inspector Email Address
- 4) Wisconsin Inspector ID (4-Digit Number)
- 5) Wisconsin PE # (Optional)

For professional engineers, if you are interested in obtaining Professional Development Hours (PDH's), you will need to complete the PDH assessment module and print the award letter for your records. It is estimated that up to 5 PDH's will be awarded for this training.

The course is titled **2019 Structure Inspection Training Series Curriculum** and will consist of the following modules:

<u>Structure Inspection - National Bridge Inventory (NBI) Rating System</u>

The NBI rating system refresher involves utilizing NBI coding diagrams, applying NBI ratings, reflecting element conditions, coding NBI for RC slab bridges and coding NBI for bridge frames and arches.



Did you know:

Wisconsin has six structures with clear spans greater than 600 feet. The longest span (670 feet) is the tied arch structure that carries USH 151 over the Mississippi River near Dubuque, Iowa.

Structure Inspection - Program Administration

This module covers the qualifications that are required to be a team leader on routine, fracture critical and underwater dive inspections for bridge structures. It also covers the qualifications to be a program manager and lists the responsibilities of both team leaders and program managers. Finally, it defines both quality assurance and quality control related to bridge inspections.

Structure Inspection - Superstructures

This module covers condition state coding of items that are commonly miscoded on bridge inspections in Wisconsin. First, it looks at the proper coding for reinforced concrete deck girders. Then it covers both the proper coding of truss bridges, as well as tips on how to estimate and code painted surfaces. Finally, the module looks at some common tips to use when evaluating bridge bearings.

<u>Structure Inspection - Best Practices</u>

Best practices of bridge inspection which includes reporting, notes, inspection planning, inspection teams and inspection gear.

Structure Inspection - Substructure Elements and Assessments

Substructure Elements and Assessments which includes distinguishing between pile and column elements, evaluating corroded steel pile/column, coding wingwalls, determining the extent of abutments and wingwalls, understanding

 $different\,types\,of\,crash\,w\,alls\,and\,how\text{-to}\,code.$

Structure Inspection - Decks

This module covers condition state coding of items that are commonly mis-coded on bridge inspections in Wisconsin for Decks and Slabs. First, it looks at the proper coding for decks and slabs, including top-flange elements. Then it covers how to properly quantify and code wearing surfaces, as well as giving tips for how to determine wearing surface thicknesses. Finally, it looks at defects that have been added or modified since the 2014 roll-out of the field manual.

Structure Inspection - Culverts

This module covers inspection of culvert type structures for both bridges (>20') and small bridges (\leq 20'). Topics include the basic definition of each type, as well as elements and assessments used to quantify defects. Finally, safety guidelines are discussed.

Structure Inspection - Underwater Inspections

This module covers underwater probing, underwater surveys (both profile and hydrographic) as well briefly discussing underwater dive inspections. Topics include details on when these are performed, what the inspector is looking for during these activities, as well as best practices to get good results. Also included are specifics on WisDOT policies that determine when each of these types of activities are required.

<u>Structure Inspection - Structural Review and Critical Findings</u>

This module details what both structural reviews and critical findings are in relation to the inspection program and gives details on responsibilities associated with these items. It details how to document these findings, who can perform structural reviews, and what the responsibilities are for the owner, the program manager, and the inspector.

<u>Structure Inspection - Field Manual Updates</u>

This module will provide detailed information on elements, assessments, or defects that have been updated since the last Field Manual release in 2018. It will also detail additional language that was added to the Field Manual to better describe severe (CS4) defects on structures.

Structure Inspection - Timber Structures

This module will describe why WisDOT codes Timber Spreader Beams and what to look for during the inspection of those elements. In addition, it will provide some tips on inspecting piles and how to properly assess section loss for a round timber pile. It will also offer some guidance on non-destructive testing methods for timber.

<u>Structure Inspection - Highway Structures Information System (HSI) Tips</u>

This module will cover some tips on entering inspections in the HSI system, upload of photos and other documents, as well as a refresher on what is required to complete an inspection. Finally, it details some items that happen internally in the system once an inspection has been completed by the inspector.

<u>Structure Inspection - Maintenance Activities</u>

This module gives a briefdescription of common types of maintenance activities and a guide on the responsibilities of both the inspection team leader and the program manager concerning repairs and maintenance. It also alerts the student to the WisDOT Preservation manual and gives a brief overview of saving maintenance items in the Highway Structures Information System (HSI)

<u>Structure Inspection - PDH Assessment Module (Engineers Only)</u>

This examination is for professional engineers after they've completed the above curriculum. If this exam is passed, the student will be awarded up to 5 PDH units.

FIELD MANUALS - 2019 ERRATTA AND UPDATES

There are several updates to the 2018 Field Manual that will be posted to the structures inspection website by September 1, 2019. The link to the website is here: <u>WisDOT Structure Inspection Website</u>.

Inspectors are advised to update their field manual with these changes as soon as possible after it is released. The update will cover both errors in the previous version as well as new guidance into the severe (CS4) condition state. The 2019 SIRT will cover most of these updates as well.

POLICY UPDATES

Like the Field Manual updates, new and updated versions of the following policies will be available on the Inspection Website (see above link) by September 1, 2019. They include:

- Structural Review Policy
- Critical Findings Policy

2018 INSPECTION PERFORMANCE

WisDOT monitors inspection frequency performance to ensure that our bridges are getting inspected at the proper frequency and to adhere to the FHWA Metrics for the Oversight of the National Bridge Inspection Program (Metrics 6-10). The expectation is that an inspection will be performed in the month that the inspection is due and entered into the Highway Structures Information System in a timely fashion.

The following table shows the routine bridge inspection performance summary for the 2018 inspection season (which runs from 4/1/2018 to 3/31/2019). Overall, the results indicate a very high percentage of inspections were performed on-time. An inspection is considered on-time when performed in the month that it is due or before. Some programs show a lower percentage on-time but have justifiable reasons that aren't covered in this table. Keep up the great work!

For more information, please contact Matthew Coupar or Richard Marz.

DTSD Performance Management Strategic Initiative Routine Bridge Inspection Performance Summary

State Programs in Bold

Local Programs in Italics

	State Hogi	arris III Dolu		Local Programs III Italics			
Program	On-Time	Required	Percent On-Time	Program	On-Time	Required	Percent On-Time
Superior	154	154	100.0%	Rhinelander	119	119	100.0%
Ashland	44	44	100.0%	Florence	8	8	100.0%
Barron	243	245	99.2%	Forest	21	21	100.0%
Bayfield	46	46	100.0%	Iron	25	25	100.0%
Burnett	52	52	100.0%	Langlade	43	43	100.0%
Douglas	95	95	100.0%	Lincoln	63	63	100.0%
Polk	58	58	100.0%	Menominee	6	6	100.0%
Rusk	121	123	98.4%	Oneida	43	43	100.0%
Sawyer	68	71	95.8%	Price	65	65	100.0%
Taylor	110	110	100.0%	Shawano	68	68	100.0%
Washburn	24	24	100.0%	Vilas	13	13	100.0%
			la i			100	
Eau Claire	421	421	100.0%	Wis Rapids	274	274	100.0%
Buffalo	168	169	99.4%	Adams	32	32	100.0%
Chippewa	224	224	100.0%	Green Lake	21	22	95.5%
Clark	249	249	100.0%	Marathon	275	275	100.0%
Dunn	154	154	100.0%	Marquette	43	43	100.0%
Eau Claire	125	125	100.0%	Portage	45	45	100.0%
Jackson	87	89	97.8%	Waupaca	76	76	100.0%
Pepin	41	41	100.0%	Waushara	15	15	100.0%
Pierce	102	126	81.0%	Wood	115	117	98.3%
St. Croix	186	187	99.5%	The state of the s			
Trempealeau	181	181	100.0%	Green Bay	468	470	99.6%
		550		Brown	139	141	98.6%
La Crosse	366	366	100.0%	Calumet	50	50	100.0%
Crawford	139	139	100.0%	Door	9	9	100.0%
Grant	98	106	92.5%	Fond du Lac	107	107	100.0%
Juneau	19	51	37.3%	Kewaunee	73	73	100.0%
La Crosse	62	64	96.9%	Manitowoc	131	131	100.0%
Monroe	200	200	100.0%	Marinette	88	89	98.9%
Richland	220	220	100.0%	Oconto	98	100	98.0%
Vernon	254	255	99.6%	Outagamie	109	111	98.2%
	1801	240 0		Sheboygan	79	81	97.5%
Madison	499	517	96.5%	Winnebago	76	76	100.0%
Columbia	81	81	100.0%				.60.
Dane	263	264	99.6%	Waukesha	600	603	99.5%
Dodge	137	137	100.0%	Kenosha	41	41	100.0%
Green	218	218	100.0%	Milwaukee	281	303	92.7%
Iowa	125	130	96.2%	Ozaukee	52	52	100.0%
Jefferson	70	70	100.0%	Racine	74	74	100.0%
Lafayette	178	178	100.0%	Walworth	89	89	100.0%
Rock	144	152	94.7%	Washington	82	82	100.0%
Sauk	164	164	100.0%	Waukesha	178	179	99.4%

ABOUT THE BULLETIN

The Bureau of Structures at WisDOT will publish 1~2 newsletters a year to discuss topics involving inspection, maintenance, repair, or improvement information and initiatives. If you have ideas for future topics, please submit to Rick Marz, Travis McDaniel, Matt Coupar or Steve Doocy.

INSPECTION PROGRAM CONTACTS

Office	Name	Phone	Cell	Email	Role
FHWA	Joe Balice	608-829-7528	608-609-5025	ioe.balice@dot.gov	FHWA Bridge Engineer
Bureau of Structures	Richard Marz	608-266-8195	608-516-6376	richard.marz@dot.wi.gov	Statewide Inspection Program Manager
Bureau of Structures	Matt Coupar	608-266-5083		Matthew.Coupar@dot.wi.gov	Structures Inspection Engineer – State Program
Bureau of Structures	Travis McDaniel	608-266-5097		travis.mcdaniel@dot.wi.gov	StructuresInspectionEngineer-LocalProgram
Bureau of Structures	James Kast		608-516-6370	james.kast@dot.wi.gov	Reach-All Operator & Inspection/Maintenance
Bureau of Structures	Mark Dent		608-516-6374	mark.dent@dot.wi.gov	Reach-All Operator & Inspection/Maintenance
Bureau of Structures	Craig Hampton		608-516-6373	craig.hampton@dot.wi.gov	Reach-All Operator & Inspection (Scheduling)
Bureau of Structures	Matt Tourdot			Matthew.tourdot@dot.wi.gov	Reach-All Operator & Inspection/Maintenance
Bureau of Structures	Nate Sippel			Nathaniel.Sippel@dot.wi.gov	Reach-All Operator & Inspection/Maintenance
Bureau of Structures	Ryan Bowers	608-267-3577		Ryan.bowers@dot.wi.gov	Bridge Management Engineer/HSI Contact
Bureau of Structures	Steve Doocy	608-261-6063		Steve.doocy@dot.wi.gov	Statewide Ancillary Inspection Program Manager
Waukesha (SE)	John Bolka	262-548-6711	414-750-1516	john.bolka@dot.wi.gov	SE Region Bridge Inspection Program Manager
Madison (SW)	Michael Williams	608-516-6484	608-246-3250	michael.williams@dot.wi.gov	SW Region Bridge Inspection Program Manager
Madison (SW)	Steven Katzner	608-516-6425		steven.katzner@dot.wi.gov	SW Region Bridge Inspection Program Manager
La Crosse (SW)	David Bohnsack	608-785-9781	608-792-6084	david.bohnsack@dot.wi.gov	SW Region Bridge Inspection Program Manager
Green Bay (NE)	Dale Weber	920-492-7161	920-366-6430	dale.weber@dot.wi.gov	NE Region Bridge Inspection Program Manager
Wisconsin Rapids (NC)	Tom Hardinger	715-421-8323	715-459-4269	thomas.hardinger@dot.wi.gov	NC Region Bridge Inspection Program Manager
Rhinelander (NC)	Brock Gehrig	715-365-5799	715-493-4397	brock.gehrig@dot.wi.gov	NC Region Bridge Inspection Program Manager
Superior (NW)	Allan Bjorklund		715-225 9308	allan.bjorklund@dot.wi.gov	NW Region Bridge Inspection Program Manager
Eau Claire (NW)	Gregory Haig		715-577-0646	gregory.haig@dot.wi.gov	NW Region Bridge Inspection Program Manager

ATTACHMENT A REGISTRATION FOR LEARNCENTER TRAINING



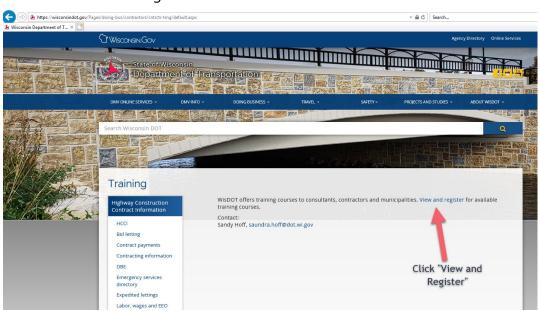
Obtaining WisDOT Online Training as an External User

This informational packet will assist you with details for completing WisDOT 2019 Structure Inspection online training modules. For questions concerning the content of this packet, please contact Sandy Hoff @ Saundra.Hoff@dot.wi.gov or call 608-267-6722.

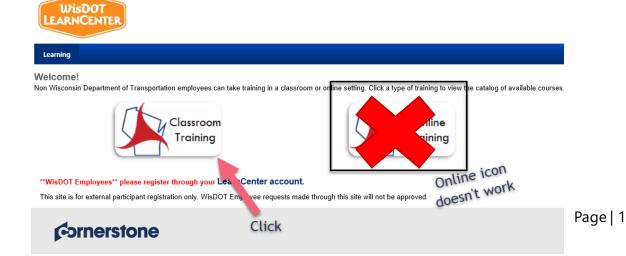
How to Register in the WisDOT LearnCenter

To access the WisDOT LearnCenter as an external user, please follow these instructions:

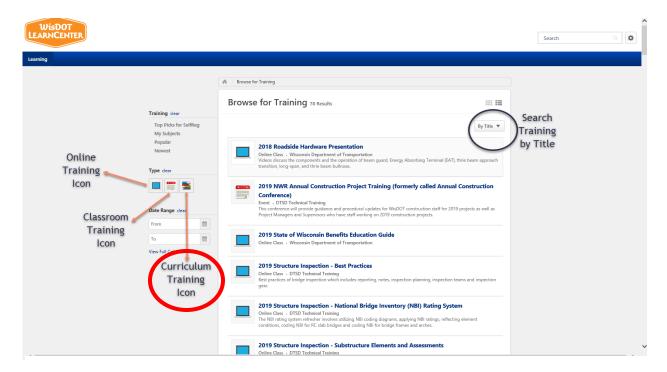
- 1. Go to the WisDOT External Training website (https://wisconsindot.gov/Pages/doing-bus/contractors/cntrctr-trng/default.aspx)
- 2. Click on "View and Register"



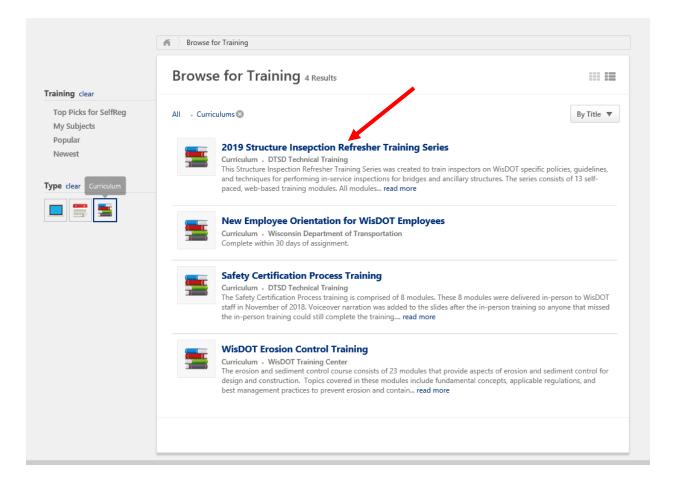
3. Click "Classroom Training" (The Online Training Icon doesn't work)



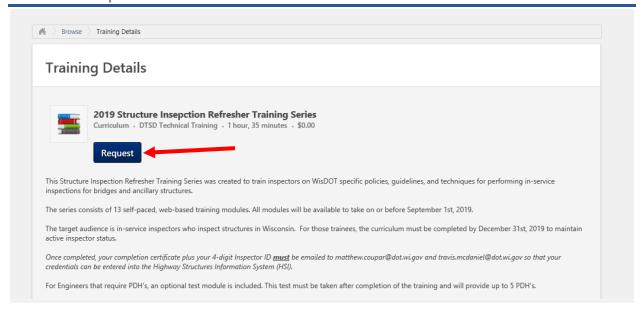
- 4. To Search for the 2019 Structure Inspection Training Series Curriculum
 - a. Select the Curriculum icon
 - b. Select the "By Title" Arrow (by title or most recent training)
 - c. Scroll through the "Browse for Training" List (Alphabetical Order)



5. Click on "2019 Structure Inspection Refresher Training Series"



6. Click on "Request"



Price

\$0.00

Professional Development Hours (PDHs)

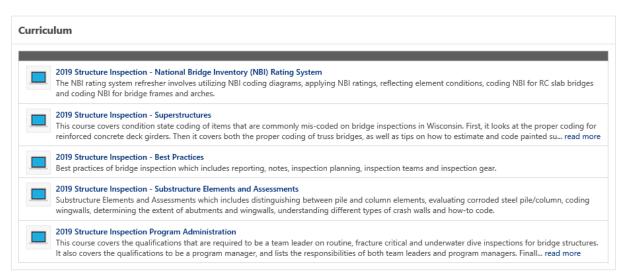
5

Available Languages

English (US)

Subjects

Division Specific > DTSD & DTIM Specific > Structural Skills



- 6. Complete the form (all data items are required)
 - a. First Name
 - b. Last Name
 - c. Email Address
 - d. Phone Number
 - e. Company
- f. Password must be 6-12 characters, cannot have leading or training spaces, cannot be the same as the Username (**Your username will be your email address**) Keep track of your password **new requirement)



- 7. You will receive an email that you are confirmed and information to access the online training module. On your LearnCenter transcript page, select 'open curriculum' to access the actual module trainings.
- 8. There will be a list of modules to complete. Select "launch" to open the training module.

Completing the Training Modules

For completion of the training module, you will need to correctly answer the questions at the end of the module (if applicable). If you do not pass, you have the capability of retaking the quiz.

Once you complete the curriculum, click on the 2019 Structure Inspection Training Completion Module for a completion certificate. All modules for the inspection training will be available by September 1st, 2019.

Notification of Completion for Inspection Credentials

Inspectors wishing to maintain certification to perform in-service inspections of structures in Wisconsin must submit the following to <u>Structure-Inspection@dot.wi.gov</u>.

- 1) Completion Certificate (Attach Document to email)
- 2) Inspector Name (First and Last)
- 3) Inspector Email Address
- 4) Wisconsin Inspector ID (4-Digit Number)
- 5) Wisconsin PE # (Optional)

Professional Development Hours (PDHs)

As an engineer, and if interested in obtaining Professional Development Hours (PDHs), you will need to complete the Inspection Series Professional Development Hours Assessment Module. The PDH Assessment Module will be available by September 1, 2019.

- 1. To access the Professional Development Hours Assessment Module, you need to complete and pass all the modules in the series. Once you completed all the training modules, the assessment will become activated.
- You must pass the quiz in the assessment to receive a Professional Development Hours
 Award Letter. You can print the award letter for record keeping. Do note that there will
 be no formal certificate.

Contacting WisDOT DTSD Staff

To contact the BOS staff for course content, inspection related questions, inspector qualifications, etc.:

- 1. Matt Coupar @ Matthew.Coupar@dot.wi.gov or call 608-266-5083
- 2. Travis McDaniel @ <u>Travis.McDaniel@dot.wi.gov</u> or call 608-266-5097

LearnCenter and Professional Development Hours issues contact:

Sandy Hoff @ Saundra.Hoff@dot.wi.gov or call 608-267-6722