REPORTING AND SIGNING OF VERTICAL CLEARANCES AND OBSTRUCTED TURNING MOVEMENTS

Bureau of Operations

December 2013

Illinois Department of Transportation

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Introduction

The intent of this policy is to provide uniform signing and reporting of vertical clearances and obstructed turning movements to reduce instances of vehicles entrapped on roadways. Reporting is divided into two groups: Non-Construction and Construction Zone related restrictions. Roadway and structure inventory data consisting of vertical clearance measurements shall be maintained by the district offices in a manner that will provide complete, accurate and timely entry of the data for use in real-time, on-line data processing systems for internal and external use.

Non-Construction Related Restrictions

Obstructed Turning Radii and Vertical Clearances Due to Truck Length

It is necessary to report truck length restrictions for routes where difficulties from load length have occurred due to obstructed turning radii or sag curves with low vertical clearances. Reported truck length restrictions will be utilized, by the Central Bureau of Operations, when issuing oversize load permits in order to prevent permitted loads from damaging roadways and becoming entrapped.

Reporting of Obstructed Turning Radii

All permanent and emergency restrictions which result in length restrictions less than 150 feet shall be reported to the Central Bureau of Operations on form OPER 2410 (see Attachment A and examples) as soon as possible. The OPER 2410 form is used by district personnel to update, submit or delete all highway construction information for the Road Construction Map on the Getting Around Illinois web site and for reporting all width and length restrictions. Length restrictions will remain in place until the restriction has been eliminated. Revisions to established length restrictions shall also be reported to the Central Bureau of Operations on form OPER 2410 as soon as possible.

Permanent length restrictions of 80 feet or less shall be established and reported for all roundabouts.

The location of restrictions on conventional highways or freeway/expressway ramps should be identified with a distance from an identifiable location, such as an intersection of two routes and the “From Mile/To Mile” fields left blank. If a restriction is located at a structure, identify the structure number, feature crossed, and the distance from an identifiable location. If there are multiple structures, each structure and restriction must be listed separately.

Specify on the form if this is a permanent restriction or due to an emergency. If the restriction is changed or removed after being submitted, a revised OPER 2410 must be submitted to inform the Central Bureau of Operations the restriction has been changed or removed.

After completion of an OPER 2410, the form is to be e-mailed to DOT.Roadinfo@Illinois.gov. Emergencies or any unusual restrictions should be reported as soon as possible to:

a) During Normal Business Hours: Call (217) 782-8551. (Submittal of OPER 2410 by e-mail to DOT.Roadinfo@Illinois.gov is still required.)
b) After Normal Business Hours/ Weekends/Holidays: Call the Communications Center (Station 1) at (217) 782-2937. After calling Station 1, submit OPER 2410 by e-mail to DOT.Roadinfo@Illinois.gov and DOT.COMMCTR@Illinois.gov.

Reporting of Overhead Structure Vertical Clearances

The Illinois Department of Transportation (IDOT) is authorized by the Illinois Size and Weight Law [625 ILCS 5/Ch. 15] to issue special permits to allow the operation of vehicles or loads that exceed the legal maximum dimension and weights on highways under Department jurisdiction (Federal and State non-local highways maintained by IDOT). IDOT issues approximately 250,000 of these special permits each year. Measurements of vertical clearances are used when issuing these permits. It is therefore necessary that IDOT exercise due diligence in the collection, maintenance, security and reporting of all minimum vertical clearances, measured to overhead obstructions, over all state-maintained roadways. Vertical clearances are not to be measured for state-maintained structures over local roadways or railroads. For the purpose of reporting minimum vertical clearances, an overhead obstruction is taken as overhead bridge members, overhead span sign structures, and overhead monotube structures (see Figure 1).

Vertical clearance restrictions that are established or changed shall be reported to the Central Bureau of Operations by submittal of an OPER 1306 form (see Attachment B and examples). The OPER 1306 form is used by district personnel to update and report vertical clearance information to the Bureau of Operations for use with the automated permit routing system. Minimum vertical clearances over 25 feet are not required to be exact and may be reported on the OPER 1306 form as “Over 25 ft”. A copy of the OPER 1306 form shall also be submitted to the District Traffic Engineer so that any necessary vertical clearance signing work may be accomplished. A copy of the OPER 1306 form should also be submitted to district staff responsible for updating the Illinois Structure Information System (ISIS) database. Separate vertical clearances shall be measured and reported for each travel direction. The minimum actual clearances and the posted clearances shall be listed on the OPER 1306 form.

The minimum actual clearance shall be the lowest measured clearance for a given direction of travel rounded down to the nearest inch. With an exception for sag vertical curves, the posted clearance for a given travel direction shall be the minimum actual measurement, for the travel direction, minus one additional inch.

For sag vertical curves, the minimum actual clearance, the “actual sag clearance”, and the posted clearance for each travel direction shall be listed on the OPER 1306. The “actual sag clearance” for a given travel direction shall be calculated from the average of the measurements taken 25 feet in advance of and beyond the lowest clearance point for the travel direction. Utilizing the average of these measurements accounts for asymmetrical sag curves which may allow for a larger clearance than with a symmetrical sag curve. The posted clearance, for the travel direction, shall be the lesser of the minimum actual clearance or the actual sag clearance for the travel direction rounded down to the nearest whole inch minus one additional inch (see the OPER 1306 form for further details). The average of the sag curve measurements should only be used if less than the minimum actual clearance under the structure.

The vertical clearance for a sag curve may also be determined as part of a special study that analyzes the profile of the road and the critical vehicle on a foot-by-foot basis. Special consideration should be given to conducting a more detailed study or using engineering judgment for a structure over a sag curve if initial measurements indicate the need to report a clearance below 13'-6" and there has not been a history of loads damaging the structure. If a detailed study is done or engineering judgment is used, this information should be included in the location and description notes section of the OPER 1306 form. In addition to the sag curve vertical clearance information reported to the Central Bureau of Operations, an OPER 1306 form and a permanent 80 foot overall length restriction should be established by e-mailing DOT.Roadinfo@Illinois.gov.

When measuring vertical clearances over an elevated roadway such as an elevated ramp or river bridge, the minimum actual clearance shall be measured within face to face of bridge rail/parapet wall excluding raised medians or curbs. For non-elevated roadways, the minimum actual clearance shall be within the edges of the traveled way excluding shoulders and medians.

Separate Vertical Clearance measurements should be taken of the same structure crossing diverging or merging roadways (ramps) and the minimum clearance value for each roadway reported as separate vertical clearances. Separate Vertical Clearance measurements should also be taken for parallel structures having different structure numbers.

Figure 1 – Structures for which minimum vertical clearances are required

Overhead bridge members

Overhead span sign structures

Overhead monotube structures

Overhead Structure Vertical Clearance Signing

Rectangular Low Clearance signs (W12-2a) shall be mounted on structures over highways where the posted vertical clearance is less than 14 feet 6 inches. The signs should be centered over the lane or lanes to the right of the center line of the highway facing approaching traffic. In lieu of overhead posting, ground-mounted Low Clearance signs (W12-2) may be installed immediately adjacent to the structure where engineering judgment shows that overhead mounting is impractical. When the posted vertical clearance is less than 14 feet 0 inches, Low Clearance signs (W12-2) shall also be installed in advance of the structure at a distance sufficient for a driver to slow or stop as necessary before the structure. When the posted vertical clearance is less than 13 feet 6 inches, Low Clearance signs (W12-2) shall also be installed in advance of the structure along with X MILES AHEAD plaques (W12-I101) at the nearest intersecting road at which a vehicle can detour or turn around.

The vertical clearance posted on W12-2a and W12-2 signs should be the lowest measured vertical clearance in each direction rounded down to the nearest whole inch minus 1 additional inch and shall match the posted clearances that are reported to the Central Bureau of Operations on the OPER 1306 form. For example, the clearance shown on the signs for a structure with a lowest measured clearance of 13 feet 10 1/2 inches should read 13 feet 9 inches. For sag curves, the 1 inch deduction should be applied to the lesser of the minimum actual clearance or the average of the measurements taken 25 feet in advance of and beyond the low clearance point under the structure as detailed on the OPER 1306 form (See Attachment B). **It is not necessary to deduct more than 1 inch from the measured clearances.** The Central Bureau of Operations will take an additional deduction from the reported clearance when routing oversized loads. Consistently utilizing a 1 inch deduction will allow for uniformity throughout the state and will provide consistency between the clearances reported to the Central Bureau of Operations and the clearances posted on the Low Clearance signs.

Construction Related Restrictions

Introduction

The intent of this section is to provide uniform reporting in order to reduce the chances of oversized vehicles, particularly those operating under permits for limited continuous operation which are valid for 3 months or 1 year, from becoming entrapped in construction zones. For the purpose of this policy, a construction zone includes all road construction, maintenance, or utility activities that create turning and vertical clearance restrictions as detailed in the following sections.

Turning Radii in Construction Zones

All length restrictions less than 80 feet caused by unique traffic control situations in construction zones shall be reported. It is recommended to report length restrictions between 80 feet and 150 feet to prevent overlength vehicles from damaging roadways/traffic control and becoming entrapped in the construction zone.

Report length restrictions on form OPER 2410. After completion, the form is to be e-mailed to DOT.Roadinfo@Illinois.gov. The OPER 2410 form must be submitted at least 21 days in advance of the restriction becoming effective.

Overhead Structures in Construction Zones

It is necessary to report vertical clearance changes over all state roadways in construction zones. If construction causes a reduction in a vertical clearance temporarily, the temporary vertical clearance shall be reported to the Central Bureau of Operations on form OPER 1306 with the "Temporary Vertical Clearance" box checked. The OPER 1306 form must be e-mailed to DOT.Roadinfo@Illinois.gov at least 21 days in advance of the temporary reduction becoming effective. A temporary vertical clearance change may include temporary formwork placed under a structure or a temporary shifting of traffic such as a median crossover or running traffic on the shoulder which places the shifted traffic under a lower portion of an overhead structure.

If construction will cause a permanent reduction in a vertical clearance, an OPER 1306 form must be submitted to the Central Bureau of Operations as soon as possible once construction begins. In this case the "Vertical Clearance based on plans" box should be checked. The revised vertical clearances should be based on the proposed design in the construction plans. For example, if resurfacing plans indicate the pavement elevation will be uniformly increased 2 inches under an existing structure, vertical clearances should be reported as 2 inches less than the existing reported clearances. After construction is complete, the vertical clearances should be field verified and reported and signed as specified in the non-construction related restriction section of this policy for overhead structures and overhead structure signing.

Illinois Department of Transportation

Road Restriction Information

Name: _____ Phone #: _____ ☐ **Permanent** ☐ **Emergency**

Location Information: District: _____ County Name: _____

Route Type: _____ Route Number or Street: _____

Near Town: _____ Direction of Route: _____ Bound

From Location or Mile: _____ To Location or Mile: _____

Road Restriction Information: **Start Date:** _____ **Stop Date:** _____

Contract #: _____ ☐ **New** ☐ **Revised** ☐ **Delete**

Contract Value: _____ Contractor: _____

Type of Construction: _____ Lanes/Ramp Closed: _____

Suggestions to Motorists:

Traffic Alert (Special Comments):

Detour Route:

Oversize Vehicle Permit Restrictions: Structure Number: Crossing:

	Feet	Inches		Feet	Inches
Max Width:			**Max Length:**	000	

Web Address:
Send to: DOT.ROADINFO@Illinois.gov or in the Global Address Book under DOT.RoadInfo

OPER 2410: ROAD RESTRICTION INFORMATION FORM INSTRUCTIONS

(USE A SEPARATE FORM FOR EACH LOCATION)

Name: Please enter the name of person responsible for this restriction.

Phone #: Please enter the phone number for the person responsible for this restriction.

Permanent or Emergency: Please mark box if you are submitting a restriction of this type. Emergency- Mark box to report a restriction after informing Station 1, due to an unplanned event. Permanent- Mark box to identify a permanent roadway restriction not due to construction. Example: Max length 100 feet due to turning radius at intersection or 14 feet wide at a narrow structure. All narrow structures with actual openings of less than 17' 6" should be reported. For Permanent Restrictions you only need to fill out the location and Max Width or Length. This restriction will be placed on our Permanent Restriction List at:

Permanent Restriction List http://www.dot.il.gov/road/nopermits.pdf

Location Information:

District/ County Name: Please select District and identify County for construction location.

Route Type: Please select type of route at Construction Location. (Interstate, US Route, Illinois Route, Street, County Road, or other.)

Route Number or Street: Identify Route e.g. 90 for Interstate 90, or roadway name. Do not use FAP, FAU, etc.

Near Town: Enter name of the town construction zone is in or nearest to.

Direction of Route: Use the official direction the route travels. Do not use cardinal direction. Example INT 55 travels south to north and INT 24 travels west to east. (North, South, North and South, East, West, East and West).

From / To Location or Mile: Always use mile posts or Exit Numbers for Interstate projects, e.g. MP 177 to 184 or MP 39 for a specific structure at MP 39. For all other roadways use intersecting streets, distance from state roadway, etc. e.g. "Elm St. to First Ave.", "2 miles south IL29 at BNSF RR", "Auburn Rd. to 5 miles north of Sydney". Do not use Station Numbers.

Road Restriction Information:

Start / Stop Dates: These should be the dates which will affect motorists and not necessarily the official contract starting and stopping dates. The start and stop dates are in mm/dd/yyyy format. **The Stop Date is the day the motoring public will stop being affected. If you are not sure of the Stop Date make it longer and revise at a later date. Construction zones will be removed on the Stop Date, if not revised prior to.** Projects not requiring roadway closures, or dimensional restrictions on vehicles should be submitted within 7 days of start date. Projects requiring roadway/ramp closures or oversize vehicle permit dimensional restrictions (maximum width, or length restrictions on vehicles) should submit restrictions 21 days prior to the actual start date the roadway will be Closed or a dimensional restriction will be in place, to give motorists and oversize overweight permit loads advance notice.
Stop dates should be revised or modified as necessary during the life of the project.

Contract #: Please enter contract number. If no contract number, specify reason like CN RR, Day Labor, Bridge Office, or Emergency. In those cases a contract number will be assigned.

New, Revised, Delete: Please mark box that describes what kind of temporary restriction you are submitting. **New**- Never submitted prior. **Revised**- For changing something submitted prior. **Delete**- To remove an active construction zone, prior to the Stop Date. (You do not have to submit a delete form when past the Stop Date. Restrictions will automatically be removed after the Stop Date.)

Contractor: Please provide name of contractor or entity doing the work.

Contract Value: Please provide value of work performed. (Some Districts use this form to provide data for Press Releases).

Type of Construction: Select what describes your construction zone the best. Use one of the following: Lane Reduction/Lane Closure, Intermittent Road Work, Intersection Restrictions, Temporary Changes, One Way Traffic with Temporary Signals, One Way Traffic with Flaggers, Shoulder Work, Road Closed, Bridge Closed, Shoulder Closed, Ramp Closed, Railroad Closure, Weight Station Closed, Rest Area Closed, or Closed Due to Flooding. This is a pull down box selection.

Lanes / Ramp Closed: Provide information on the number of lanes closed or if a ramp or shoulder is closed or restricted.

Suggestions to Motorists: Please enter information that would be helpful to motorists. Examples: Traffic restricted to one lane in each direction, Road closed to place beams expect 15 minute closures, Expect lane closures with narrow lanes. Traffic restricted to one lane directed by temporary traffic signals. Include general information on such things as delays, time of day or days of week, etc. This is an input text line.

Traffic Alert: Any special information, including special delays such as "Expect intermittent 20-minute delays on May 17", INT 57 SB ramp to IL 17 EB ramp closed, etc. This is an input text line.

Detour Route: Enter detour route for standard vehicles and truck detour if needed. This is an input text line.

Structure Number: Enter the structure number at the construction zone, please be sure it is the old number and not the new structure number. Oversize vehicle permit restrictions will be placed on route specified at the structure only. If you need restrictions on the crossing roadway as well, please specify. Enter what the structure is crossing to right.

Crossing: When working at a structure/specific feature, enter what the structure is crossing like Illinois River or Mudd Creek. Please enter the current structure number, not the new structure number in column to left.

Oversize Vehicle Permit Restrictions: This section is for submitting width or length restrictions placed on vehicles for construction zones. These restrictions are based on the limitations of the construction zone, not the dimensions of the Construction Zone. Max Width measurements shall be 1' 6" less than the actual opening. e.g. (If actual opening measures 13', width restriction should be reported as 11' 6" and signed as 11' 6"). Max Length restriction measurements shall be determined by the turning radius and traffic patterns in the construction zone. Note: Length restrictions are usually not submitted unless you identify long vehicles are using the route, e.g. a wind mill blade with overall length of vehicle at 205 feet. Max length is also used with permanent restrictions to report permanent turning radius issues.

The blank entry field below the max width and length fields is for additional info. Examples: Report start and stop dates for restrictions if different than general construction start and stop dates, identify additional structures/locations with width restrictions and dates of, Start and Stop dates for Stage 1 or 2. (STR # 013-4569 6/15/2013-12/1/14 (Useful when **From/To Location** for paving is 5 miles long with width restriction at structure) or Stage 1 10' 6" on 5/15 Stage II 9' 6" on 7/7/13-11/1/13.) **Do not** consider marked detours when reporting restrictions. Permit loads can't use detours. **If this will be a Permanent Restriction please mark the box in the upper right corner of the form and remind us in this field as well, so we will ignore the start and stop dates.**

Web Address: Enter the address, if you have a specific web site established for the project.

Data Verification: Please verify the accuracy of the information posted for your area of the State on the Road Construction Map and Weekly Restriction List. Please bring all discrepancies to our attention by issuing a revised OPER 2410.

Road Construction Map	http://www.gettingaroundillinois.com/mapviewer.aspx?mt=cons
Weekly Restriction List	http://www.dot.il.gov/road/restrlst.rtf
Permanent Restriction List	http://www.dot.il.gov/road/nopermits.pdf

OPER 2410 EXAMPLES

EXAMPLE 1

In accordance with the “Reporting of Obstructed Turning Radii” section of this policy, permanent length restrictions of 80 feet or less should be established and reported for all roundabouts.

The following completed OPER 2410 form illustrates the necessary information to establish a 75 ft. permanent length restriction for the roundabout shown above.

Illinois Department of Transportation

Road Restriction Information

Name: John Q Public Phone #: 123-456-7890 ☒ **Permanent** ☐ **Emergency**

Location Information: District: 8 County Name: Madison

Route Type: US Route Route Number or Street: Jct. of US 40, IL 143, and IL 160

Near Town: Highland Direction of Route: North,South,East&West Bound

From Location or Mile: Jct. of US 40, IL 143, and IL 160 To Location or Mile:

Road Restriction Information: **Start Date:** **Stop Date:**

Contract #: ☐ **New** ☐ **Revised** ☐ **Delete**

Contract Value: Contractor:

Type of Construction: Lanes/Ramp Closed:

Suggestions to Motorists:

Traffic Alert (Special Comments):

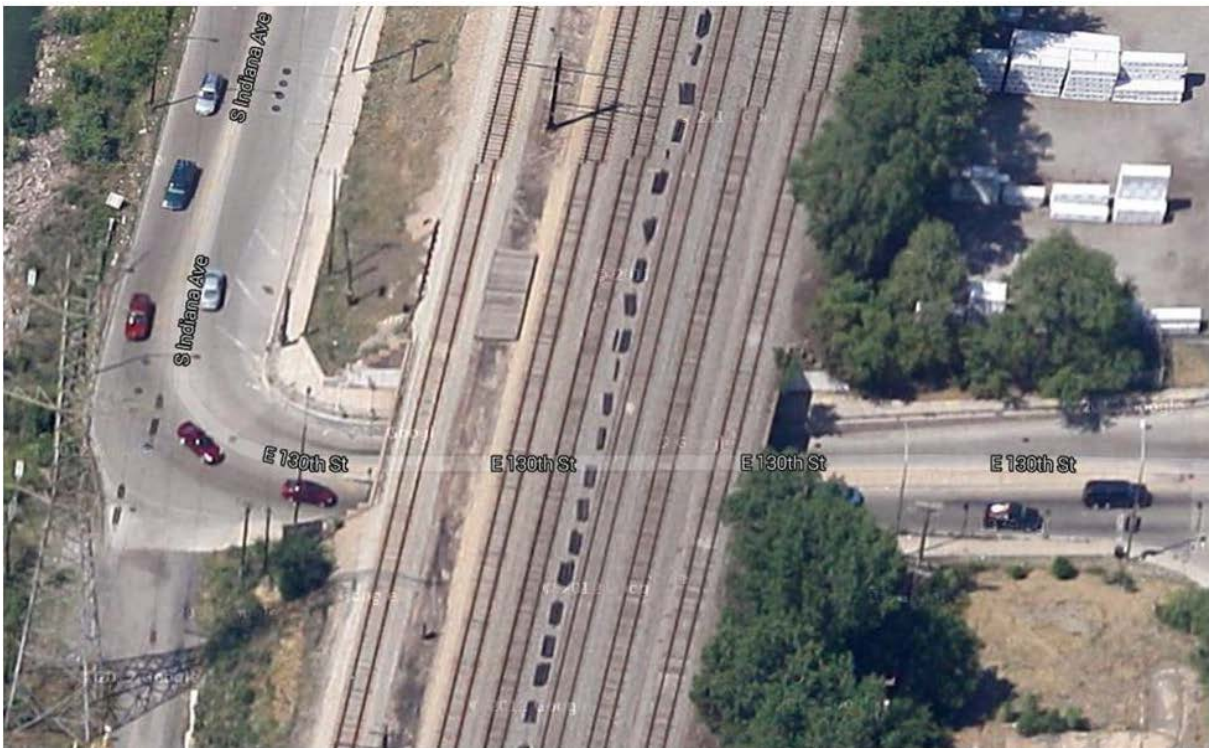
Detour Route:

Oversize Vehicle Permit Restrictions: Structure Number: Crossing:

	Feet	Inches		Feet	Inches
Max Width:			**Max Length:**	75	

Web Address:
Send to: DOT.ROADINFO@Illinois.gov or in the Global Address Book under DOT.RoadInfo

EXAMPLE 2



In accordance with the “Reporting of Obstructed Turning Radii” section of this policy, permanent length restrictions of 150 feet or less should be reported for all obstructed turning radii.

The following completed OPER 2410 form illustrates the necessary information to establish a permanent 65 ft. length restriction and a permanent 13 ft. 6 in. width restriction.

Illinois Department of Transportation

Road Restriction Information

Name: John Q Public Phone #: 123-456-7890 ☒ **Permanent** ☐ **Emergency**

Location Information: District: 1 County Name: Cook

Route Type: Other Route Number or Street: Jct. of Indiana Ave. and 130th St.

Near Town: Chicago Direction of Route: East & West Bound

From Location or Mile: Jct. of Indiana Ave. and 130th St. To Location or Mile:

Road Restriction Information: **Start Date:** **Stop Date:**

Contract #: ☐ **New** ☐ **Revised** ☐ **Delete**

Contract Value: Contractor:

Type of Construction: Lanes/Ramp Closed:

Suggestions to Motorists:

Traffic Alert (Special Comments):

Detour Route:

Oversize Vehicle Permit Restrictions: Structure Number: Crossing:

	Feet	Inches		Feet	Inches
Max Width:	13	6	**Max Length:**	65	

Width under RR and 65 ft length for turn to west

Web Address:
Send to: DOT.ROADINFO@Illinois.gov or in the Global Address Book under DOT.RoadInfo

EXAMPLE 3

All length restrictions less than 80 feet caused by unique traffic control situations in construction zones shall be reported. In this example, a ramp shoulder is to be closed for construction which will limit the available width for off-tracking of loads longer than 80 ft.

Illinois Department of Transportation

Road Restriction Information

Name: John Q Public Phone #: 123-456-7890 ☐ **Permanent** ☐ **Emergency**

Location Information: District: 2 County Name: Winnebago

Route Type: US Route Route Number or Street: 20

Near Town: Cherry Valley Direction of Route: West Bound

From Location or Mile: WB US 20 ramp To Location or Mile: SB Interstate 39

Road Restriction Information: **Start Date:** 05/12/2013 **Stop Date:** 10/31/2013

Contract #: 66D98 ☒ **New** ☐ **Revised** ☐ **Delete**

Contract Value: $700,000 Contractor: ACME Paving

Type of Construction: Lane Reduction/Lane Closure Lanes/Ramp Closed: Ramp

Suggestions to Motorists:
Shoulder Closed on Ramp

Traffic Alert (Special Comments):
Slow Down and watch for workers

Detour Route:

Oversize Vehicle Permit Restrictions: Structure Number: Crossing:

	Feet	Inches		Feet	Inches
Max Width:			**Max Length:**	80	

Web Address:
Send to: DOT.ROADINFO@Illinois.gov or in the Global Address Book under DOT.RoadInfo

Illinois Department of Transportation

Vertical Clearances and Overhead Obstructions

Use pages 2-3 for sag curves or when engineering judgment requires a greater than 1 inch reduction when reporting vertical clearances. Instructions on pages 3-4.

District: County:

Route/ Roadway:

Crossing Over:

Location:

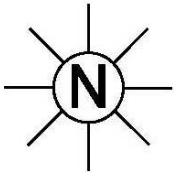
Latitude:

Longitude:

Minimum Actual Clearance								Posted Clearance							
NB/EB	__	__	FT	__	__	IN		NB/EB	__	__	FT	__	__	IN	
SB/WB	__	__	FT	__	__	IN		SB/WB	__	__	FT	__	__	IN	

Minimum Actual Clearance is reported as the lowest measurement rounded down to nearest inch.

Posted Clearance is signed as 1 inch less than the Minimum Actual Clearance. Do not sign if Minimum Actual Clearance is greater than 14 feet 6 inches.



Indicate North

Crossing Under

Sign Structures

- ☐ Simple Truss
- ☐ Cantilever
- ☐ Bridge Mount
- ☐ Monotube
- ☐ Bridge Truss Members
- ☐ Roadway Str. #
- ☐ Railroad Str. #

Date Measured:

Measured By:

Construction Zones

- ☐ Vertical Clearance based on plans
- ☐ Temporary Vertical Clearance

If roadwork on non-elevated roadways directs traffic onto shoulders, a temporary vertical clearance must be submitted if clearance is lower than actual reported.

For Elevated Roadways, the lowest vertical clearance is from face to face bridge rail/parapet wall, excluding raised medians or curbs. All other roadways are from edge line to edge line of travel lanes only.

Enter Actual Measurements in Structure Table

Shoulder	A_9	A_8	A_7	A_6	A_5	A_4	A_3	A_2	A_1	Median	A_{10}	A_{11}	A_{12}	A_{13}	A_{14}	A_{15}	A_{16}	A_{17}	A_{18}	Shoulder

Structure crossing over roadway

Shoulder	B_9	B_8	B_7	B_6	B_5	B_4	B_3	B_2	B_1	Median	B_{10}	B_{11}	B_{12}	B_{13}	B_{14}	B_{15}	B_{16}	B_{17}	B_{18}	Shoulder

E-mail to DOT.RoadInfo@Illinois.gov For questions call (217) 782-8551

This page is for sag curves or when engineering judgment requires greater than a 1 inch reduction in reported vertical clearance.
Instructions on pages 3-4.

Enter all structure information on page 1. Use this page to only determine the vertical clearance at structure.

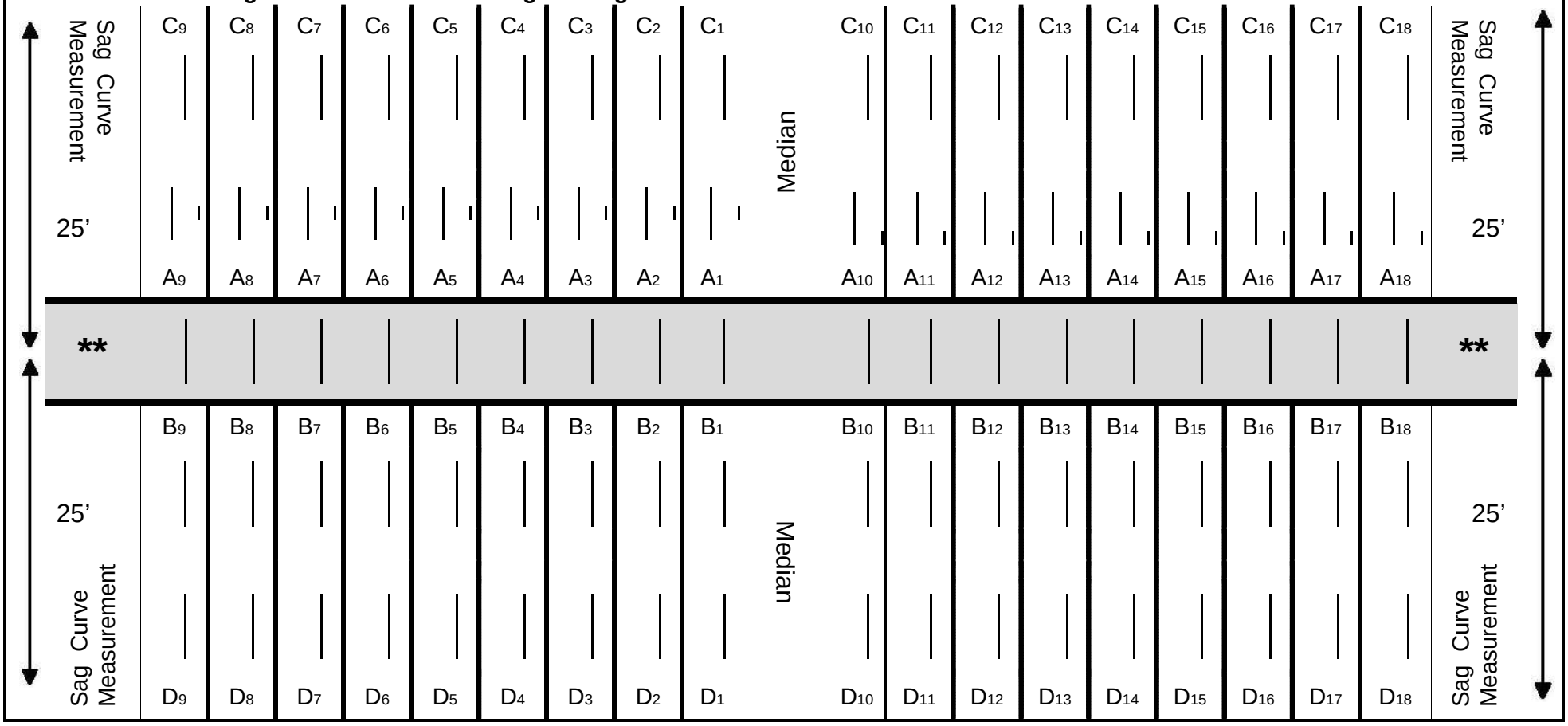
Minimum Actual Clearance							Actual Sag Clearance							Posted Clearance						
NB/EB	__	__	FT	__	__	IN	NB/EB	__	__	FT	__	__	IN	NB/EB	__	__	FT	__	__	IN
SB/WB	__	__	FT	__	__	IN	SB/WB	__	__	FT	__	__	IN	SB/WB	__	__	FT	__	__	IN

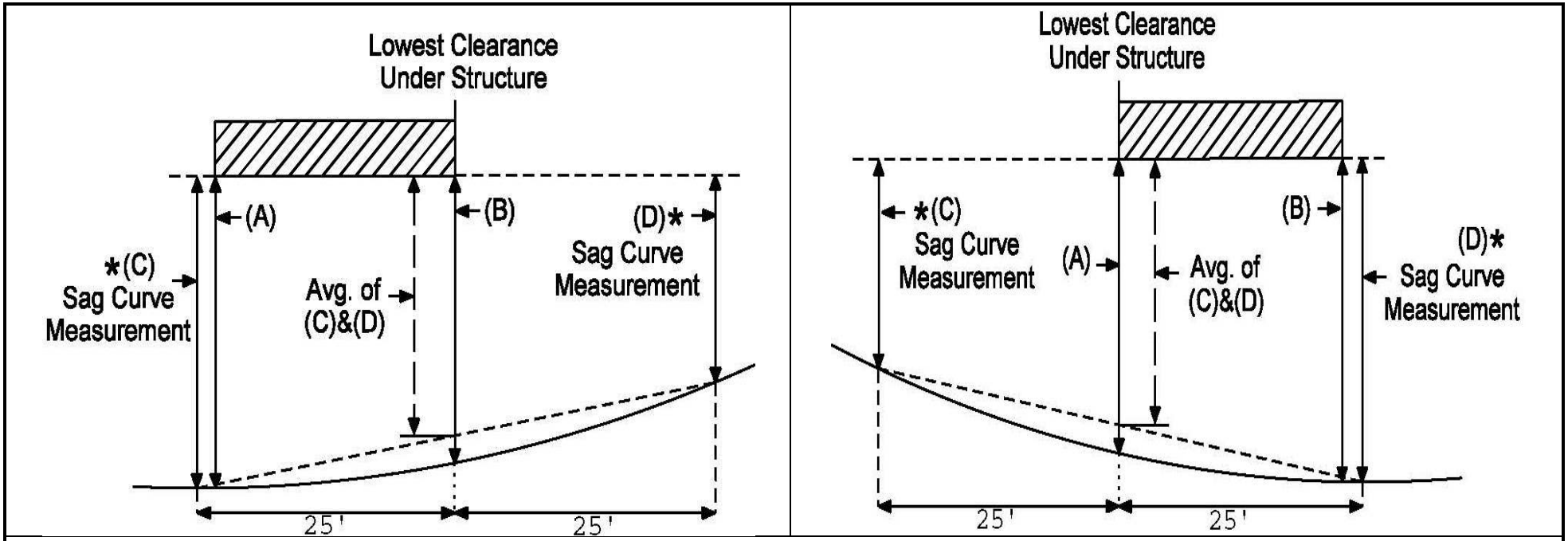
Minimum Actual Clearance is reported as the lowest measurement rounded down to nearest inch.

Actual Sag Clearance is reported as the lowest average of sag curve measurements, at 25 feet from the lowest minimum actual clearance, in each direction rounded down to nearest inch.

Posted Clearance is signed as 1 inch less than the lesser of the Actual Sag Clearance or Minimum Actual Clearance. Do not sign if Clearance used is greater than 14 feet 6 inches.

Indicate North on Page 1 **** Average of Sag Curve Measurements**** **Enter Actual Measurements in Structure Table**





Lowest clearance understructure will typically be at Measurement (A) or Measurement (B).

*Additional information to be provided if a structure is over a sag curve where trailer bridging may significantly reduce clearance.

A more detailed study which analyzes the profile of the road should be considered for unusual increases in the pavement elevation under the structure such as inlets or pavement patches.

E-mail to DOT.Roadinfo@Illinois.gov

For questions call 217-782-8551

OPER 1306: Vertical Clearances and Overhead Obstructions Form Instructions (Use a separate form for each location)

District: (Page 1 top left) Select District from drop down.

County: (Page 1 top left) Enter the County, where structure is located.

Route/Roadway: (Page 1 top left) Enter the route/roadway name. E.g. INT 55, US 50, IL 23, Ashland Ave. Do not use FAP, FAU, etc.

Crossing Over: (Page 1 top left) Enter what the roadway is crossing over. E.g. Illinois River, NB INT 57. For Elevated Roadways, the lowest vertical clearance is from face to face bridge rail/parapet wall, excluding raised medians or curbs. All other roadways are from edge line to edge line of travel lanes only.

Location: (Page 1 top left) Enter an in depth description of structure location. A map may be submitted with the location marked.

Latitude and Longitude: (Page 1 top left) Please provide the coordinates if available, to help identify the exact location of the structure.

Date Measured and Measured by: (Page 1 middle right above Construction Zones) Enter the date measured and measured by whom.

North: (Page 1 center left) Indicate the cardinal north direction for reference to the structure table.

Crossing Under Section: (Page 1 to right of North Symbol) Identify what the route/roadway is crossing under. (Sign structure type, bridge truss member, Roadway (with Structure #) or Railroad (with Structure #).

Construction Zones Section: (Page 1 middle right) Vertical clearances temporarily altered due to construction work or vertical clearances based on plans for proposed construction work that will alter an existing clearance should be noted in the construction zones section. This includes roadwork which directs traffic onto shoulders.

Sag Curve Diagrams: (Page 3) Used to identify A, B, C and D to provide values that are recorded in the structure tables at the bottom of page 1 and 2.

Structure Table: (**Page 1**) Individual measurements for each lane line and both sides of the structure should be recorded in the structure tables at the bottom of page 1 entering actual measurements. These measurements are represented as A and B with different number designations for each lane line. If structure is above a sag curve, actual measurements are recorded on (**Page 2**) Sag Curve Structure Table. Any structure over a sag curve where trailer bridging may occur should have measurements taken 25 ft. in advance of and beyond the lowest clearance point under the structure for each lane line and recorded in the diagram. These measurements are represented as C and D with different number designations for each lane line. The values of C and D with the same number designation should be averaged and that value recorded in the row of the diagram designated as Average of Sag Curve Measurements. (On page 2 in the horizontal row bounded by **)

Clearance Directions: The directions next to the Minimum Actual Clearance, Actual Sag Clearance and Posted Clearance boxes are to be based on the direction of field reference system mileages and not the cardinal direction. NB/EB is for the direction of ascending mileages and SB/WB is for the direction of descending mileages.

Minimum Actual Clearances: (Page 1 page top center and page 2 top left) The lowest A, B measurement should be rounded down to the nearest inch and recorded in the Minimum Actual Clearance boxes.

Actual Sag Clearance: (Page 2 top center) Round down to the nearest inch and then enter the lowest Average of Sag Curve Measurements. This additional vertical clearance information should be reported to the Central Bureau of Operations and a permanent 80 foot overall length restriction will be established at the structure location. By default, there is no maximum overall length restriction for proposed permit moves, so these additional vertical clearance measurements and length restrictions give the Central Bureau of Operations guidance when routing permit loads of an extremely long nature under sag curve structures.

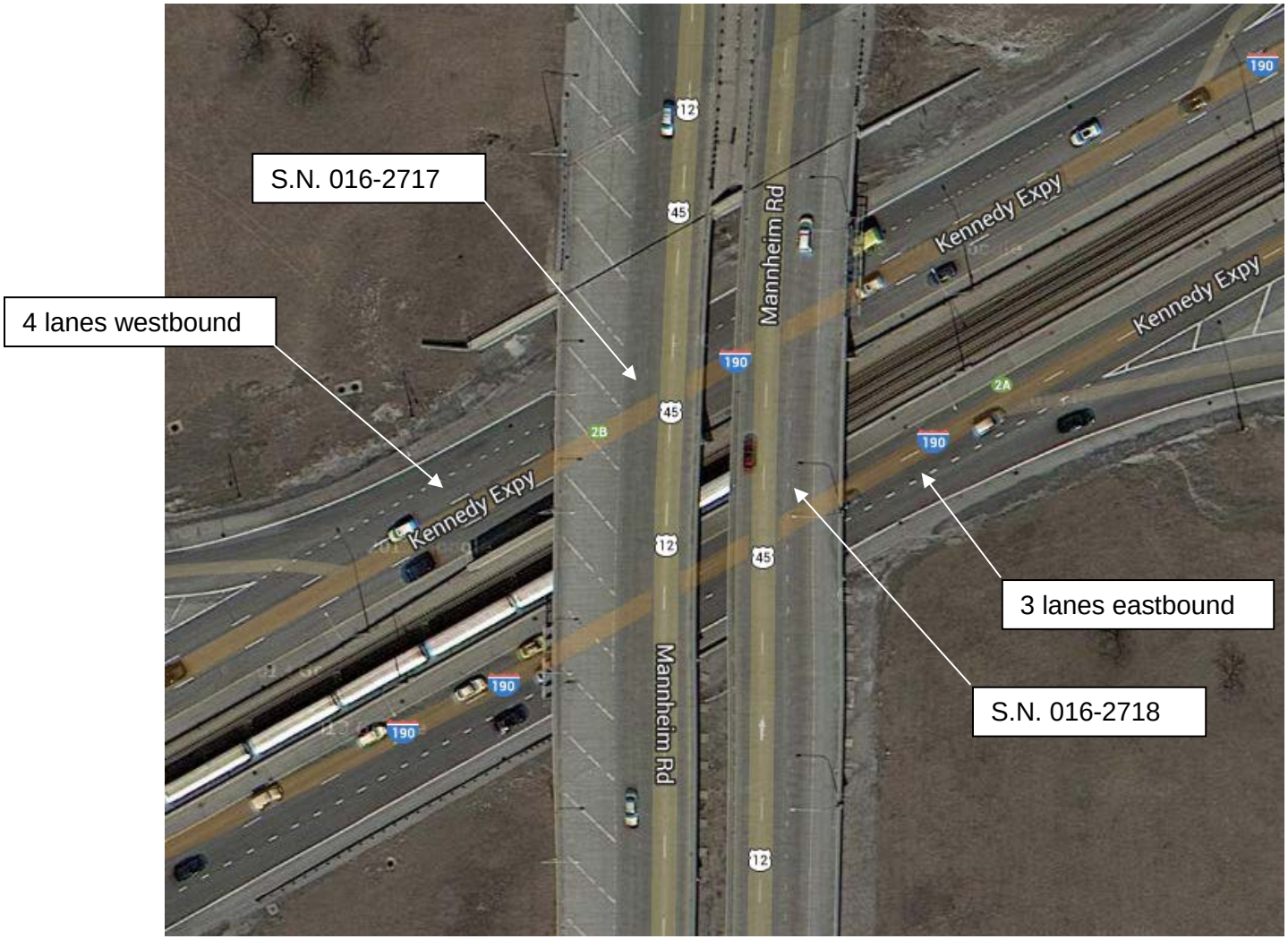
Posted Clearances: (Page 1 and 2 top right) For page 1 the Minimum Actual Clearance should be rounded down to the nearest inch and then one inch subtracted and reported for each direction in the Posted Clearance box. For page 2 the lesser of the lowest average of sag curve measurements or Minimum Actual Clearance should be rounded down to the nearest inch and then one inch subtracted and reported for each direction in the Posted Clearance box.

OPER 1306: A copy of the completed form must be submitted to the District Traffic Engineer, so that any necessary vertical clearance signing work may be accomplished.

Structure Removal: To remove a structure from our database, please provide all Location information and write remove across form and submit.

OPER 1306 EXAMPLES

EXAMPLE 1 – LEVEL GRADE
INT 190 UNDER US 12/45



Illinois Department of Transportation

Vertical Clearances and Overhead Obstructions

Use pages 2-3 for sag curves or when engineering judgment requires a greater than 1 inch reduction when reporting vertical clearances. Instructions on pages 3-4.

District: 1 | County: Cook

Route/ Roadway: Interstate 190

Crossing Over: N/A

Location: Near O'Hare Airport

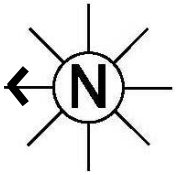
Latitude: 41.9809

Longitude: -87.878834

Minimum Actual Clearance								Posted Clearance							
NB/EB	1	5	FT	0	4	IN		NB/EB			FT			IN	
SB/WB	1	5	FT	1	0	IN		SB/WB			FT			IN	

Minimum Actual Clearance is reported as the lowest measurement rounded down to nearest inch.

Posted Clearance is signed as 1 inch less than the Minimum Actual Clearance. Do not sign if Minimum Actual Clearance is greater than 14 feet 6 inches.



Indicate North

Crossing Under

Sign Structures

- ☐ Simple Truss
- ☐ Cantilever
- ☐ Bridge Mount
- ☐ Monotube
- ☐ Bridge Truss Members
- ☒ Roadway Str. # 016-2717
- ☐ Railroad Str. #

Date Measured: 06/01/13

Measured By: AB

Construction Zones

- ☐ Vertical Clearance based on plans
- ☐ Temporary Vertical Clearance

If roadwork on non-elevated roadways directs traffic onto shoulders, a temporary vertical clearance must be submitted if clearance is lower than actual reported.

For Elevated Roadways, the lowest vertical clearance is from face to face bridge rail/parapet wall, excluding raised medians or curbs. All other roadways are from edge line to edge line of travel lanes only.

Enter Actual Measurements in Structure Table

	A9	A8	A7	A6	A5	A4	A3	A2	A1		A10	A11	A12	A13	A14	A15	A16	A17	A18	
Shoulder					18'-11"	18'-6"	17'-10"	18'-0"	18'-2"	Median	17'-7"	17'-5"	17'-5"	17'-5"						Shoulder

Structure crossing over roadway

	B9	B8	B7	B6	B5	B4	B3	B2	B1		B10	B11	B12	B13	B14	B15	B16	B17	B18	
Shoulder					16'-11"	16'-6"	15'-10"	16'-0"	16'-1"	Median	15'-7"	15'-5"	15'-4"	15'-5"						Shoulder

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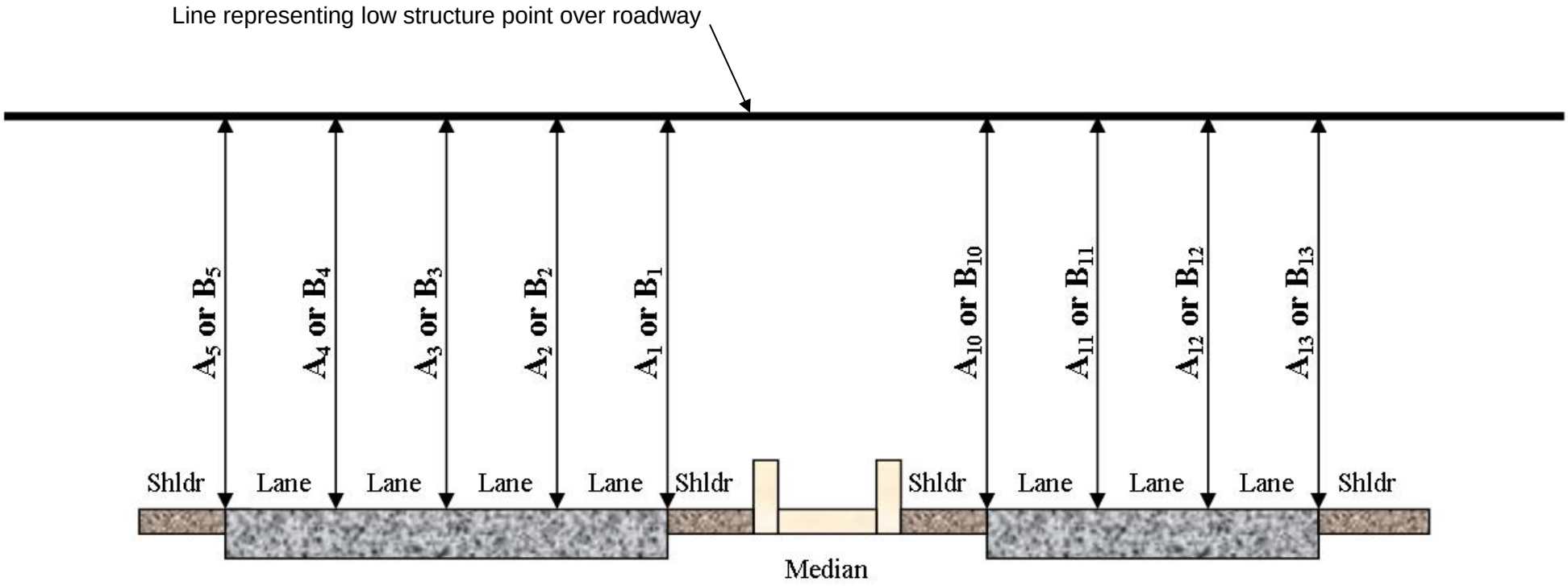


Cross Section I-190 (Looking East)

Since Interstate 190 is not elevated at this location, measurements only need to be taken within the traveled way (edge line to edge line of travel lanes) for each direction. Measurements at edge of shoulder or median are not necessary. Since measurements need to be taken at each lane line and each edge line, there would be five (5) sets of measurements for the westbound direction (3 lane lines and 2 edge lines) and four (4) sets of measurements for the eastbound direction (2 lane lines and 2 edge lines).

The 'Posted Clearance' section does not need to be filled out and vertical clearance signing would not be required since the minimum actual clearances are greater than 14 ft. 6 in.

EXAMPLE 2 – SAG CURVE IL 29 UNDER UP RR

NORTH

Illinois Department of Transportation

Vertical Clearances and Overhead Obstructions

Use pages 2-3 for sag curves or when engineering judgment requires a greater than 1 inch reduction when reporting vertical clearances. Instructions on pages 3-4.

District: 6 | County: Sangamon

Route/ Roadway: IL 29 – Sangamon Ave.

Crossing Over: N/A

Location: 0.1 Miles east of Bus 55

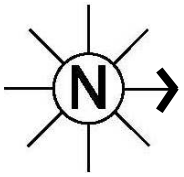
Latitude: 39.83109

Longitude: -89.63375

Minimum Actual Clearance							Posted Clearance						
NB/EB			FT			IN	NB/EB			FT			IN
SB/WB			FT			IN	SB/WB			FT			IN

Minimum Actual Clearance is reported as the lowest measurement rounded down to nearest inch.

Posted Clearance is signed as 1 inch less than the Minimum Actual Clearance. Do not sign if Minimum Actual Clearance is greater than 14 feet 6 inches.



Indicate North

Crossing Under

Sign Structures

- ☐ Simple Truss
- ☐ Cantilever
- ☐ Bridge Mount
- ☐ Monotube
- ☐ Bridge Truss Members
- ☐ Roadway Str. #
- ☒ Railroad Str. #

Date Measured: 02/17/13

Measured By: AB

Construction Zones

- ☐ Vertical Clearance based on plans
- ☐ Temporary Vertical Clearance

If roadwork on non-elevated roadways directs traffic onto shoulders, a temporary vertical clearance must be submitted if clearance is lower than actual reported.

For Elevated Roadways, the lowest vertical clearance is from face to face bridge rail/parapet wall, excluding raised medians or curbs. All other roadways are from edge line to edge line of travel lanes only.

Enter Actual Measurements in Structure Table

Shoulder	A_9	A_8	A_7	A_6	A_5	A_4	A_3	A_2	A_1	Median	A_{10}	A_{11}	A_{12}	A_{13}	A_{14}	A_{15}	A_{16}	A_{17}	A_{18}	Shoulder

Structure crossing over roadway

Shoulder	B_9	B_8	B_7	B_6	B_5	B_4	B_3	B_2	B_1	Median	B_{10}	B_{11}	B_{12}	B_{13}	B_{14}	B_{15}	B_{16}	B_{17}	B_{18}	Shoulder

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This page is for sag curves or when engineering judgment requires greater than a 1 inch reduction in reported vertical clearance.
Instructions on pages 3-4.

Enter all structure information on page 1. Use this page to only determine the vertical clearance at structure.

Minimum Actual Clearance							Actual Sag Clearance							Posted Clearance						
NB/EB	1	4	FT	0	5	IN	NB/EB	1	4	FT	0	2	IN	NB/EB	1	4	FT	0	1	IN
SB/WB	1	4	FT	0	4	IN	SB/WB	1	4	FT	0	2	IN	SB/WB	1	4	FT	0	1	IN

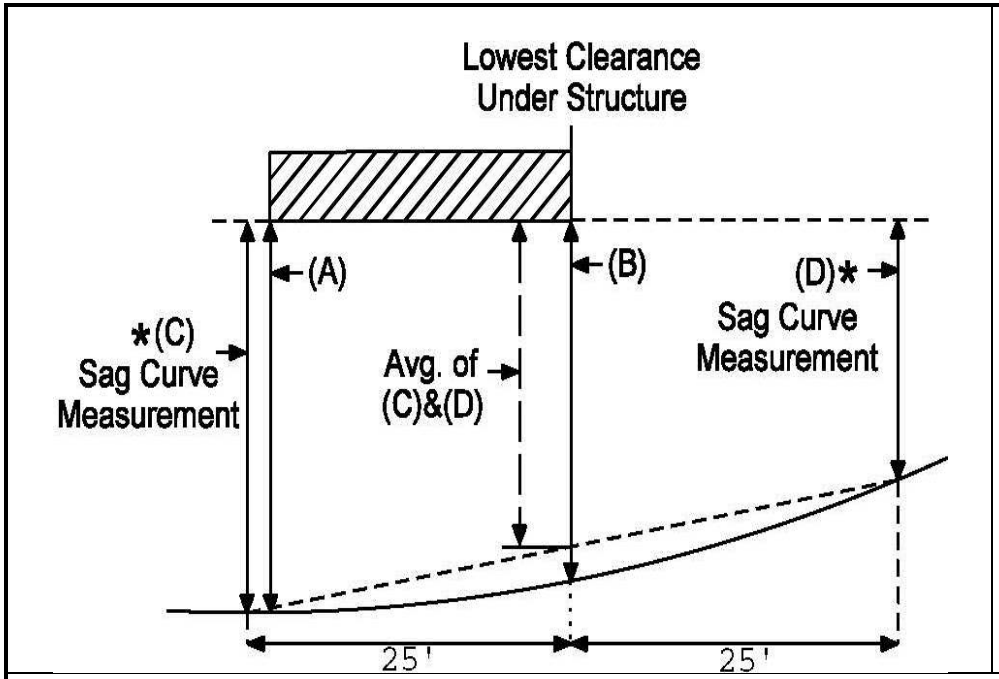
Minimum Actual Clearance is reported as the lowest measurement rounded down to nearest inch.

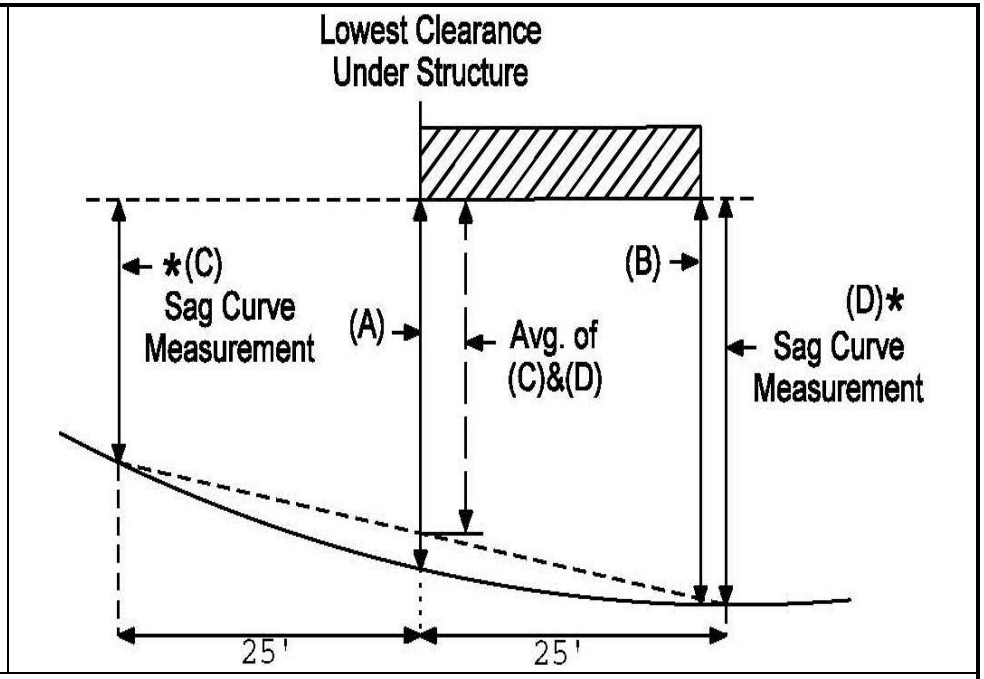
Actual Sag Clearance is reported as the lowest average of sag curve measurements, at 25 feet from the lowest minimum actual clearance, in each direction rounded down to nearest inch.

Posted Clearance is signed as 1 inch less than the lesser of the Actual Sag Clearance or Minimum Actual Clearance. Do not sign if Clearance used is greater than 14 feet 6 inches.

Indicate North on Page 1 **** Average of Sag Curve Measurements**** **Enter Actual Measurements in Structure Table**

	C_9	C_8	C_7	C_6	C_5	C_4	C_3	C_2	C_1	Median	C_{10}	C_{11}	C_{12}	C_{13}	C_{14}	C_{15}	C_{16}	C_{17}	C_{18}	
Sag Curve Measurement							13.20	13.27	13.33		13.59	13.87								Sag Curve Measurement
25’							14.38	14.51	14.47		14.62	14.91								25’
	A_9	A_8	A_7	A_6	A_5	A_4	A_3	A_2	A_1		A_{10}	A_{11}	A_{12}	A_{13}	A_{14}	A_{15}	A_{16}	A_{17}	A_{18}	
**							14.20	14.25	14.24		14.34	14.53								**
	B_9	B_8	B_7	B_6	B_5	B_4	B_3	B_2	B_1		B_{10}	B_{11}	B_{12}	B_{13}	B_{14}	B_{15}	B_{16}	B_{17}	B_{18}	
25’							15.37	15.55	14.96		14.78	14.74								25’
Sag Curve Measurement							15.19	15.22	15.15		15.08	15.18								Sag Curve Measurement
	D_9	D_8	D_7	D_6	D_5	D_4	D_3	D_2	D_1		D_{10}	D_{11}	D_{12}	D_{13}	D_{14}	D_{15}	D_{16}	D_{17}	D_{18}	





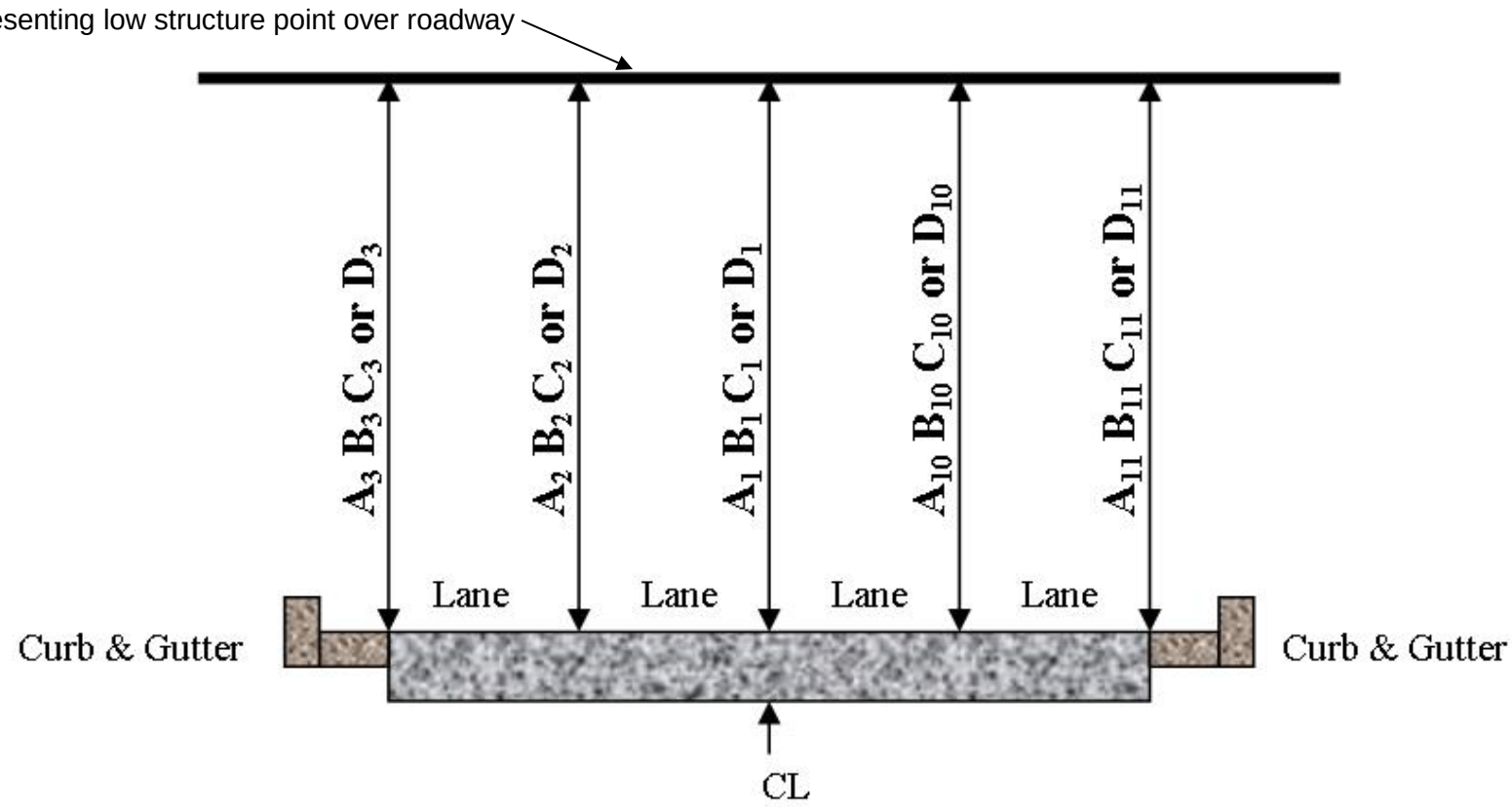
Lowest clearance understructure will typically be at Measurement (A) or Measurement (B).

*Additional information to be provided if a structure is over a sag curve where trailer bridging may significantly reduce clearance.

A more detailed study which analyzes the profile of the road should be considered for unusual increases in the pavement elevation under the structure such as inlets or pavement patches.

E-mail to DOT.Roadinfo@Illinois.gov

For questions call 217-782-8551



Cross Section IL 29 (Looking West)

Since IL 29 is not elevated at this location, measurements only need to be taken within the traveled way (edge line to edge line of travel lanes) for each direction. Measurements at edge of shoulder are not necessary. IL 29 at this location is a 4-lane undivided highway which would require a total of five (5) sets of measurements (2 edge lines, 2 lane lines, and 1 centerline). Since this is a sag curve, measurements are required 25 ft. in advance of and beyond the lowest actual clearance point of the structure. Since the lowest clearances are mostly at the west face of the structure ('A' measurements), the sag curve measurements were made 25 ft. on either side of the west face. Additional sag curve measurements could be made 25 ft. on either side of the east face as well if it is believed these measurements would result in lower sag clearances. All controlling measurements would be recorded on **page 2** of the OPER 1306 form since this is a sag curve. The average of the 'C' and 'D' measurements are calculated and recorded within the bridge diagram on the form. The Minimum Actual Clearance Box should be filled in with the lowest 'A' or 'B' measurement for each direction rounded down to the nearest inch. The Actual Sag Clearance Box should be filled in with the lowest average measurement for each direction rounded down to the nearest inch. The Posted Clearance Box should be filled in with the lesser of the Minimum Actual Clearance or the Actual Sag Clearance values minus 1 inch. Because IL 29 is designated as a north-south route, the vertical clearance directions need to be based on northbound and southbound with northbound being the direction of ascending field reference system mileages even though the route itself at this location is east/west. Vertical clearance signing would be required since the posted clearance is less than 14 ft. 6 in. The clearance displayed on the signs would be 14 ft. 1 in.