PURPOSE

This subject was developed to provide guidance to improvement project inspectors as well as Department and County field and maintenance crews for the installation, service and maintenance of all types of highway signs on the State Highway network. The goal for this is to install signs to provide a safe, understandable and efficient system of guidance to the motoring public.

These guidelines are intended to provide a framework of policies and practices for the systematic reporting and handling of signing installation and replacement or sign repair activities done by others under the direction of the Wisconsin Department of Transportation through its Regions. It is inherent these guidelines promote safety of the motorist, safety for the improvement and maintenance crews and standardization of practices toward uniform application and appearance statewide.

Improvement project crews and maintenance crews will perform their operations in accordance with the Wisconsin Manual on Uniform Traffic Control Devices, Traffic Engineering, Operations & Safety Manual and other Department policies as referenced within.

The Department recognizes these guidelines may require adjustments and revision as they are implemented.

SIGN TYPES

There are two types of signs that are installed and maintained for the DOT:

- **Type I** signs are on an extruded aluminum base material, typically mounted on steel I-beams.
- **Type II** signs consist of direct applied message sheet aluminum base material, typically mounted on wood or steel posts.

SIGN CLASSIFICATIONS

**Regulatory signs** give notice of traffic laws and convey the rules of the road. Regulatory signs typically have a red or white background. Examples are stop signs, speed limit signs, wrong way signs, etc.

**Warning signs** alert the attention of the driver to special conditions on or adjacent to a roadway that may require an important driving decision or action. Warning signs typically have a fluorescent yellow background. Examples include curve warning signs, no passing zone signs, stop ahead signs etc.

**School signs** are used to alert the motorist to school locations and the posted school speed limit. School Signs typically have a fluorescent yellow/green background.

**Guide signs** are directional and informational. They are used to direct the motorist to their destination and to inform them about various service facilities and other points of interest along the highway. Guide Signs typically have a green background, and directional assemblies are typically black on white background or white on blue background.

**Recreational signs** are informative for the traveling public not familiar to an area to get to their destination. Recreational Signs typically have a brown background. Examples are historical marker signs and boat landing signs.

**Tourist information signs** are informative signs used to guide motorists to service type areas. Tourist Informational Signs typically have a blue background. Examples of these signs are TODS.

STORAGE & HANDLING OF SIGNS

Signs shall be shipped with the sign face protected either by cardboard or slip-sheeting paper taped to the sign. Signs shall be stored vertically on edge.

Signs that may be stored at County shops:

- Mandatory (max of 6)
  - Stop Signs (30x30 and 36x36)
  - Yield (36x31)

Signs shall not be stored at the Region except those necessary for the electricians. Scrap aluminum signs shall...
be returned to the Distribution County. The Distribution County will return all scrap aluminum signs to BSI.

**SIGN VERIFICATION**

Check all signs in against the sign shipper received at the time of delivery. Call and/or email your region rep or BTO Shop Coordinator (DOTBTOSignOrders@dot.wi.gov) with any questions.

a. **Acceptable Abbreviations**

<table>
<thead>
<tr>
<th>Highway</th>
<th>Hwy</th>
<th>Circle</th>
<th>Cir</th>
<th>Lane</th>
<th>Ln</th>
</tr>
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<tbody>
<tr>
<td>Parkway</td>
<td>Pkwy</td>
<td>Road</td>
<td>Rd</td>
<td>Trail</td>
<td>Tr</td>
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<tr>
<td>Boulevard</td>
<td>Blvd</td>
<td>Street</td>
<td>St</td>
<td>Court</td>
<td>Ct</td>
</tr>
<tr>
<td>Avenue</td>
<td>Ave</td>
<td>Place</td>
<td>Pl</td>
<td>Drive</td>
<td>Dr</td>
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<tr>
<td>Terrace</td>
<td>Ter</td>
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</tr>
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</table>

b. **Arrow Abbreviations**

- **Left Arrow**  ←  [LA]  Right Arrow  →  [RA]
- **Tilt Left Arrow**  ↘  [TL]  Tilt Right Arrow  ↗  [TR]
- **Up Arrow**  ↑  [UA]  Double Arrow  ↔  [DBA]
- **Down Left Arrow**  ↘  [DL]  Down Right Arrow  ↗  [DR]
- **Left Turn Arrow**  ←  [LT]  Right Turn Arrow  →  [RT]
- **Left Bent Arrow**  ↘  [LB]  Right Bent Arrow  →  [RB]
- **Ahead & Left Arrow**  ↑  [U/LA]  Ahead & Right Arrow  →  [U/RA]
- **Left and Tilt Right**  ←  [LA/TR]  Tilt Left and Right  →  [TL/RA]
- **Ahead and Tilt Left**  ↑  [UA/TL]  Ahead and Tilt Right  →  [UA/TR]
- **Tilt Down Left and TR**  ↘  [DL/TR]  TL and Tilt Down Right  →  [TL/DR]

c. **J-panels**

How to organize J-panels (Refer to A2-1s for the correct codes):

1. Direction of arrow:  
   ![Arrows]

   AND  
   ![Arrows]

2. IH, USH, STH, CTH, Business Routes, Alt Routes, To, Tours, Hospitals  
   ![Signs]

   Number (lowest number first)
INSTALLING SIGNS

County Maintenance Agreements

Counties will be given corridors of the signs and/or posts needing replacement from the Region. For locations of new signs the work order will be provided by a Regional contact, the area then will be staked by the DOT. Crews shall contact Digger's Hotline prior to digging. Crews need to check to make sure sign is facing in the proper direction for traffic and at proper heights, offsets and use of proper mounting hardware.

The scheduling of the sign replacements shall be completed within 75-days of receiving the sign or July 1st whichever comes later. The region does have discretion to extend this time based on a very high numbers of signs or post replacements.

A detailed breakdown of county costs including county labor, equipment, number of signs, and number of posts shall be shown on all invoices.

The following signing activities can be classified into the following county maintenance agreements (XX denotes county unless otherwise noted):

1. Adams 25 Iowa 49 Portage
2. Ashland 26 Iron 50 Price
3. Barron 27 Jackson 51 Racine
4. Bayfield 28 Jefferson 52 Richland
5. Brown 29 Juneau 53 Rock
6. Buffalo 30 Kenosha 54 Rusk
7. Burnett 31 Kewaunee 55 Sawyer
8. Calumet 32 La Crosse 56 Sauk
9. Chippewa 33 Lafayette 57 St. Croix
10. Clark 34 Langlade 58 Shawano
11. Columbia 35 Lincoln 59 Sheboygan
12. Crawford 36 Manitowoc 60 Taylor
13. Dane 37 Marathon 61 Trempealeau
14. Dodge 38 Marinette 62 Vernon
15. Door 39 Marquette 63 Vilas
16. Douglas 40 Milwaukee 64 Walworth
17. Dunn 41 Monroe 65 Washburn
18. Eau Claire 42 Oconto 66 Washington
19. Florence 43 Oneida 67 Waukesha
20. Fond du Lac 44 Outagamie 68 Waupaca
21. Forest 45 Ozaukee 69 Waushara
22. Grant 46 Pepin 70 Winnebago
23. Green 47 Pierce 71 Wood
24. Green Lake 48 Polk 73 Menominee

Activity Code 081 for Permanent Sign Repair and 085 Temporary/Emergency Sign Repair

- RMA 00XX-01-62 Damaged signs on Interstates without a break ticket and Adopt a Highway
- RMA 00XX-01-61 Damaged signs on non-interstate without a break ticket and Adopt a Highway
- Damage Claim 0077-0x-00 Damage Claim Damage Claim with break ticket (X designates the number for your region)
  1. Madison
  2. Waukesha
  3. Green Bay
  4. Wisconsin Rapids
  5. La Crosse
  6. Eau Claire
  7. Rhinelander
  8. Superior
- 0080-02-63 White Arrowboards*
- 0080-02-53 TODS Signing*
- 0080-02-61 Ski Area Signing

Activity Code 086 Permanent Sign Replacement

- TMA A project number will be provided though MPM
- DMA 00XX-58-22 Discretionary Maintenance Agreements

*For White Arrowboards and TODS signs the County should collect the checks made payable to the Wisconsin Department of Transportation and send the checks to: Wisconsin Department of Transportation, Attn: Casey Amans, 3609 Pierstorff St, Madison, WI 53704. The County should only repair damaged White Arrowboards or TODS signs when directed to do so by the sign owner.
Improvement/Refurbishment Projects

A listing of signs may be provided by the Signing Coordinator to the designer to be included in the construction project plan. The listing should identify location on respective improvement project in both directions of travel. A special ID is set up for all improvement projects.

FIELD OPERATIONS

WisDOT shall provide all permanent signs. It shall be the responsibility of the County to provide all necessary posts and mounting hardware for installation of the signs, unless other arrangements have been made with the Region. All aluminum signs removed are the property of the DOT and arrangements shall be made for the delivery of signs back to the Central Office Sign Shop. Signs shall be returned banded on pallets or on red carts. Any signs put on a cart for transport back to Madison shall be so placed back the of the sign is against the metal to protect the face of the sign from further damage.

Routine Maintenance Sign Installation Activities

1. Patrol

Crews generally have a daily work plan, which establishes the route to be traveled each day. Knockdown temporary repairs will be the responsibility of the Counties. NO CREW SHALL LEAVE THE SITE OF A DOWNEO STOP OR YIELD SIGN, A TEMPORARY OR PERMANENT REPAIR SHALL BE MADE IMMEDIATELY.

Field and maintenance crews should be watchful for and report findings to Regional Signing Coordinator and/or CO Sign Shop:

- missing signs
- signs showing face material failures,
- obsolete signs or signs which are not needed
- vandalized signs or posts (defaced, gunshot or broken)
- maintenance or contractor damaged signs or posts
- bent or leaning posts
- correctness of installation (height, offset, location, visibility, plumbness)
- sign meets WMUTCD specifications

2. Installing Signs

Signs are attached to the posts using lag bolts or machine bolts. Signs are to be mounted so as to project 1” to 1-1/2” above the top of the post. All signs shall have a nylon washer used under the metal washer to reduce damage caused by the twisting of the sheeting under the pressure of tightening the bolts (See Sign Plate A4-8). Do not over tighten bolts.

Standard signs are fabricated using sheet aluminum. Aluminum signs are usually pre-drilled with mounting holes. Aluminum signs 78” or more in width shall have channel steel stringers installed.

Ensure that post is set to the correct depth (see Sign Plate A4-2 through A4-4). Once the post is placed in the hole check to see that the sign is the proper height and the sign is square with the roadway, facing the proper direction for traffic the sign is intended. The posts shall be back filled with suitable materials, and tamped in place, using 6” layers while keeping the post plumb. It is recommended that a level be used in this process.

When attaching the sign to the post it is important to keep the sign square on the post. Attach the bolt to the top of the sign first. Then square the sign on to the post before attaching the lower bolt. Predrilling of the post while squaring the sign is recommended.

Breakaway holes shall be drilled on all 4”x 6” wood posts (see Sign Plate A4-11). The breakaway holes do not need to be drilled if the posts are located behind a concrete barrier or guardrail.

PRIORITY OF ACTION FOR KNOCKDOWNS

1. STOP and YIELD Signs.

These signs are the most important signs. If a STOP or YIELD sign is reported down it is to be considered life threatening and extreme steps shall be taken to get it back up, even if it means using temporary supports. This includes overtime, nighttime, weekends and holidays. Whatever is necessary to get the sign back up as quickly as possible shall be done. A temporary repair shall be made immediately, and a permanent repair shall be made within 10 working days, or as agreed upon with Regional Traffic Section.
2. Regulatory, Warning and School Signs.

Second priority goes to Regulatory, Warning and School Signs. These signs, when reported damaged or knocked down, require prompt scheduling of repairs. Signs that are recognized as being critical to motorist safety are those that require the motorist to be alert to a specific change in the road or a potential hazard. Temporary repair shall be made immediately, during normal business hours.

3. Guide Signs, Recreational & Tourist Signs

Guide, recreational, and tourist signs are directional and informational type signs. They are less critical with respect to scheduling damage repairs. Temporary repairs are not necessary for these types of signs.

All signs that have been damaged should be replaced, contact your Region Sign Coordinator for these signs. All temporary sign repairs shall be a WisDOT approved sign post.

DETUR AND CONSTRUCTION SIGNING

The majority of detours are planned and will be done by contract. Small and emergency type detours performed by the counties need to be in accordance with the WMUTCD. The Department will provide signs for these detours.

REPORTING SYSTEMS

Repair Records for Accidents/Broken Posts and Signs are to be filled out and sent to the Regional shops monthly or as agreed upon with your Region.

Annual Sign and Post Replacement List will be given to the Counties. As the County completes the work, they shall send an updated copy of the list to the Regional.

The Regions may periodically provide the Counties with a new sign and post work order. These forms need to be filled out and sent to the Region upon completion.

Any counties with repair charges for vehicle damage with accident claim tag numbers shall fill out the County Charges Worksheet form DT 1785 and send it to the Region as soon as practical. Forms can be obtained from your Regional Signing Coordinator.

Knockdown and Repair Report is a way to record incoming calls for knockdowns or repairs and Diggers Hotline ticket information on a single form. This form is provided for your convenience and does not need to be returned to the Regional Sign Shop.

REQUIRED NUMBER OF POSTS

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<th>4x6 Wood Posts</th>
<th>(4 \times 6) Wood Posts</th>
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<tr>
<td>Number of Posts</td>
<td>Length (Rectangle/Square)</td>
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<tr>
<td>1</td>
<td>(L \leq 48'')</td>
</tr>
<tr>
<td>2</td>
<td>(48'' &lt; L \geq 120'')</td>
</tr>
<tr>
<td>3</td>
<td>(120'' &lt; L \geq 168'')</td>
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<th>4x6 Wood Posts</th>
<th>Diamond</th>
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<td>Number of Posts</td>
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<tr>
<td>1</td>
<td>(24'', 30'', 36'')</td>
</tr>
<tr>
<td>2</td>
<td>(48'')</td>
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<table>
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<tr>
<th>2x2 Square Steel Posts</th>
<th>(2 \times 2) Square Steel Posts</th>
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<td>Number of Posts</td>
<td>Area ((\text{ft}^2))</td>
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<tr>
<td>1</td>
<td>(\leq 9)</td>
</tr>
<tr>
<td>2</td>
<td>(9 &lt; x \leq 18)</td>
</tr>
<tr>
<td>3</td>
<td>(18 &lt; x \leq 27)</td>
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</table>
STANDARD INSTALLATION

**Standard Installation for Rural Highways**

**Standard Installation for Freeways, Expressways & Urban Highways**

ALL heights are measured from top of pavement not the ground.
Urban Area
- Curved flowline
- 2' Min 4' Max
- Curb flowline
- 12' from edge of white line
- 2' from outside edge of gravel
- 5' from edge of paved shoulder

Rural Area
- 6' from edge of paved shoulder
- 12' from edge of white line
- 2' from outside edge of gravel

Breakaway Holes
- Breakaway Holes = 1.5'' dia.
- Top of sign
  - 14''
  - 4'' Ground level
  - 4' = 20 SF and less
  - 5' = Greater than 20 SF

Mounting Signs
- To post
  - Top of post
    - 1''

No Stringers: ≤72''
- 72'' Stringers: 78'', 84'' or 90'' Signs
- 90'' Stringers: 96'', 102'' or 108'' Signs
- 108'' Stringers: 114'', 120'' or 126'' Signs
- 126'' Stringers: 132'', 136'' or 144'' Signs

2 4x6 Post
- 45''
- 48''
- SPEED LIMIT 70
- Green Bay

3 4x6 Posts
- WEST 221
- MILE 216
- NORTH 460
- EAST 221
- Satin 60
- Maqan

24''/30''/36'' Diamonds
- < 20 SF AND ≤ 48''

48'' Diamonds
- ≥ 20 SF
- 48'' < width > 108''

≥ 108''
- Minimum of 42'' between posts on center
### EXAMPLES OF CORRECT VS. INCORRECT INSTALLATIONS

<table>
<thead>
<tr>
<th>Incorrect</th>
<th>Correct</th>
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<tbody>
<tr>
<td>[Image of incorrect installation]</td>
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## CONTACTS

<table>
<thead>
<tr>
<th>Region</th>
<th>Contact Person</th>
<th>Number</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>WisDOT CO Sign Shop</td>
<td>Jon Eldridge</td>
<td>608-246-3270</td>
<td><a href="mailto:jonathan.eldridge@dot.wi.gov">jonathan.eldridge@dot.wi.gov</a></td>
</tr>
<tr>
<td></td>
<td>Casey Amans</td>
<td>608-245-5344</td>
<td><a href="mailto:dotbtosignorders@dot.wi.gov">dotbtosignorders@dot.wi.gov</a></td>
</tr>
<tr>
<td></td>
<td>Jeannie Silver.</td>
<td>608-246-5408</td>
<td><a href="mailto:casey.amans@dot.wi.gov">casey.amans@dot.wi.gov</a></td>
</tr>
<tr>
<td></td>
<td>Ryan Mayer</td>
<td>608-246-3810</td>
<td><a href="mailto:jeannie.silver@dot.wi.gov">jeannie.silver@dot.wi.gov</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:ryan.mayer@dot.wi.gov">ryan.mayer@dot.wi.gov</a></td>
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<tr>
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<tr>
<td>SW Region- La Crosse</td>
<td>Iver Peterson</td>
<td>608-785-9060</td>
<td><a href="mailto:iver.peterson@dot.wi.gov">iver.peterson@dot.wi.gov</a></td>
</tr>
<tr>
<td></td>
<td>Kory Keppel</td>
<td>608-792-6204</td>
<td><a href="mailto:kory.keppel@dot.wi.gov">kory.keppel@dot.wi.gov</a></td>
</tr>
<tr>
<td>3550 Mormon Coulee Rd.</td>
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</tr>
<tr>
<td>SW Region- Madison</td>
<td>Jeff Holloway</td>
<td>608-246-3268</td>
<td><a href="mailto:jeffrey.holloway@dot.wi.gov">jeffrey.holloway@dot.wi.gov</a></td>
</tr>
<tr>
<td></td>
<td>Timm Punzel</td>
<td>608-246-5352</td>
<td><a href="mailto:timm.punzel@dot.wi.gov">timm.punzel@dot.wi.gov</a></td>
</tr>
<tr>
<td>3601 Pierstorff St</td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE Region- West Allis</td>
<td>Dennis Newton</td>
<td>414-750-0257</td>
<td><a href="mailto:dennis.newton@dot.wi.gov">dennis.newton@dot.wi.gov</a></td>
</tr>
<tr>
<td></td>
<td>Jenny Buckett</td>
<td>414-750-2427</td>
<td><a href="mailto:Jennifer.buckett@dot.wi.gov">Jennifer.buckett@dot.wi.gov</a></td>
</tr>
<tr>
<td>935 S. 60th St.</td>
<td>Chuck Saldivar</td>
<td>414-750-1682</td>
<td><a href="mailto:Chuck.saldivar@dot.wi.gov">Chuck.saldivar@dot.wi.gov</a></td>
</tr>
<tr>
<td>West Allis, WI 53214</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NE Region- Green Bay</td>
<td>Tom Tillerman</td>
<td>920-492-4135</td>
<td><a href="mailto:thomas.tillerman@dot.wi.gov">thomas.tillerman@dot.wi.gov</a></td>
</tr>
<tr>
<td>944 Vander Perren Way</td>
<td>Mark Janke</td>
<td>920-492-5981</td>
<td><a href="mailto:mark.janke@dot.wi.gov">mark.janke@dot.wi.gov</a></td>
</tr>
<tr>
<td>Green Bay, WI 54304</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NC Region- Wis Rapids</td>
<td>Al Smith</td>
<td>715-421-8364</td>
<td><a href="mailto:alan.smith@dot.wi.gov">alan.smith@dot.wi.gov</a></td>
</tr>
<tr>
<td>2841 Industrial St</td>
<td>Chris Stimac</td>
<td>715-421-7387</td>
<td><a href="mailto:christopher.stimac@dot.wi.gov">christopher.stimac@dot.wi.gov</a></td>
</tr>
<tr>
<td>Wis Rapids, WI 54495</td>
<td></td>
<td></td>
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<tr>
<td>NC Region- Rhinelander</td>
<td>Al Smith</td>
<td>715-421-8364</td>
<td><a href="mailto:alansmith@dot.wi.gov">alansmith@dot.wi.gov</a></td>
</tr>
<tr>
<td>Hanson Lake Rd</td>
<td>Chris Stimac</td>
<td>715-421-7387</td>
<td><a href="mailto:christopher.stimac@dot.wi.gov">christopher.stimac@dot.wi.gov</a></td>
</tr>
<tr>
<td>Rhinelander, WI 54501</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NW Region- Spooner</td>
<td>Steven Allard</td>
<td>715-577-1259</td>
<td><a href="mailto:steven.allard@dot.wi.gov">steven.allard@dot.wi.gov</a></td>
</tr>
<tr>
<td>W7102 Green Valley Rd</td>
<td>Gary Eisold</td>
<td>715-450-9093</td>
<td><a href="mailto:gary.eisold@dot.wi.gov">gary.eisold@dot.wi.gov</a></td>
</tr>
<tr>
<td>Spooner, WI 54801</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>NW Region- Eau Claire</td>
<td>Steven Allard</td>
<td>715-577-1259</td>
<td><a href="mailto:steven.allard@dot.wi.gov">steven.allard@dot.wi.gov</a></td>
</tr>
<tr>
<td>5009 USH 53 South</td>
<td>Gary Eisold</td>
<td>715-450-9093</td>
<td><a href="mailto:gary.eisold@dot.wi.gov">gary.eisold@dot.wi.gov</a></td>
</tr>
<tr>
<td>Eau Claire, WI 54701</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County</td>
<td>Contact Person</td>
<td>Number</td>
<td>Email</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------</td>
<td>---------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Iowa</td>
<td>Randy Sudmeier</td>
<td>608-574-2936</td>
<td><a href="mailto:randy.sudmeier1@iowacounty.org">randy.sudmeier1@iowacounty.org</a></td>
</tr>
<tr>
<td>Jefferson</td>
<td>Tyson Barns</td>
<td>920-674-7390 920-723-7269</td>
<td><a href="mailto:TysonB@jeffersoncountywi.gov">TysonB@jeffersoncountywi.gov</a></td>
</tr>
<tr>
<td>Washington</td>
<td>Tim Pfeifer Kevin Schweizer</td>
<td>262-335-4440 262-483-3079 262-335-5027</td>
<td><a href="mailto:tim.pfeifer@co.washington.wi.us">tim.pfeifer@co.washington.wi.us</a>  <a href="mailto:Kevin.schweizer@washington.wi.us">Kevin.schweizer@washington.wi.us</a></td>
</tr>
<tr>
<td>Milwaukee</td>
<td>Douglas Decker</td>
<td>414-333-3291</td>
<td><a href="mailto:douglas.decker@milwaukeecounty.wi.gov">douglas.decker@milwaukeecounty.wi.gov</a></td>
</tr>
<tr>
<td>Racine</td>
<td>David Prutt</td>
<td>262-534-6400</td>
<td><a href="mailto:david.prutt@goRacine.org">david.prutt@goRacine.org</a></td>
</tr>
<tr>
<td>Winnebago</td>
<td>Chuck Griedl</td>
<td>920-232-1718 920-420-9412</td>
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PERSONAL SAFETY

All Department of Transportation (DOT) personnel and any personnel working for the state are required to follow the safety policies stated in the DOT Transportation Administrative Manual (TAM). DOT, county, and contractor personnel shall wear:

- **Eye Protection:** (TAM SD 36)
  - Safety glasses with attached shields
- **Foot Protection:** Steel-toe boot or shoe (TAM SD 30)
- **Protective Headgear:** (TAM SD 51)
  - Hard hat
- **High Visibility Safety Apparel:** (TAM SD 57)
  - Reflectorized Safety Vest at all times on or along the roadway
  - Reflectorized Safety Pants during nighttime hours.

Hazard Warning Information - Treated Wood Management (See Exhibit 5)

(Material Safety Data Sheets should be requested from the wood post vendor)

EMPLOYEE RECOMMENDED TRAINING

All agencies doing work for the DOT should make sure their employees are properly trained in the following areas:

1. **Field Operations Awareness**
2. **Shop Tools**
3. **Major Equipment Operations**
4. **Utilities Locate.** Call Diggers Hotline 811
5. **Retraining**
6. **Vehicle Safety and Inspection**
WORK AREA TRAFFIC CONTROL

All traffic control shall be in compliance with the WMUTCD and Departmental policies. See Standard detail drawings.

Vehicles used in highway signing operations shall be equipped with at least two (2) yellow, high intensity rotating beacons, clearly visible from the front, rear and both sides of the vehicle. These beacons shall be placed as high as possible on each vehicle. Vehicles shall have all warning lights operating when stopped, or moving slowly along any highway. Warning lights SHALL NOT be displayed while the vehicle is traveling at highway speeds or when traveling between jobs.

When conditions are less than ideal, additional advance warning signs or devices should be added to the traffic control layouts. In some cases, the work should be deferred until the conditions are more favorable.

All lane closures on two lane roadways require flagging of traffic as well as advance signing and cone placement in the work area. Remember that all flaggers shall use stop/slow paddles.

An encroachment into a lane of traffic may require cones and/or flagging. The amount of encroachment, the volume and speed of passing vehicles will determine traffic control measures required. For example, a cone may be sufficient to mark the point where an outrigger makes contact with the pavement outside the overall width of the truck.

PUBLIC SAFETY

Workers shall park vehicles off the road as far as practical. Care should be taken to not block the vision of existing traffic control devices such as stop signs and signals. Work activities should be performed with an assumption the motorist does not know what the workers are going to do.

UTILITIES

Utility Locates. Diggers Hotline (811) shall be called and located before any work is performed. They should be given at least a 3 working day notice.

The following is a five-point plan for utility locates before digging in the highway right-of-way, which covers the routine steps required by Diggers Hotline:

1. Prepare a plan or work location sketch or drawing. Indicate a 25 foot radius around the stake or lath for "MARKING INSTRUCTIONS" for Diggers Hotline.
2. At each locate site, mark with a stake or by painting the pavement or shoulder of the highway. White or pink are the approved colors for ribbons, flags or paint when marking sign locations for utility locates.
3. Identify the exact location by measuring the distance from the nearest intersecting street or highway. Indicate which side of the highway the locate is on.
4. Contact Diggers Hotline to request the area to be located. Retain ticket number for a minimum of six years after work is completed.
5. Investigate the possibility of other utilities having services at the locate site.

Utility Damage Procedure. Damage prevention is the ultimate goal. As stated above it is essential to get clearance from utilities before doing any digging.

IF UTILITY DAMAGE OCCURS:

- CALL THE UTILITY FROM A SAFE LOCATION AS SOON AS POSSIBLE.
- CLEAR AREA IF NECESSARY.
- EXTINGUISH ALL FIRE SOURCES; BE MINDFUL OF LOSS OF LIFE.
- NOTIFY EMERGENCY SERVICES (IF NECESSARY).
- NOTIFY SUPERVISOR.
- BE AVAILABLE ON OR NEAR THE SITE UNTIL REPAIR CREW ARRIVES.

MAJOR EQUIPMENT OPERATIONS

It is recommended that field operations that involve digger derricks or bucket trucks will NOT be performed with fewer than two crew persons on the job site.
HAVING A UTILITY LOCATE CLEARANCE DOESN'T NECESSARILY MEAN ALL DANGER HAS BEEN REMOVED.

Derrick operators must be aware of overhead lines to be certain the boom or its attachments remain the required distance away from the overhead lines.

**ACRONYMS & DESCRIPTIONS**

- **HMA** - Hot Mix Asphalt
- **MSDS** - Material Safety Data Sheets
- **PCC** - Portland Cement Concrete
- **PMC** - Pavement Marking Coordinator
- **TMA** - Traffic Maintenance Agreement
- **Type H Sheeting** - Prismatic High Intensity
- **Type F Sheeting** - Prismatic High Intensity Fluorescent Sheeting