



Mn/DOT Name: 44 LMT

NGS Name: 44 LMT

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	6	112 N	37 W	443227.00	952059.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2006	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) **Stamping:** 44 LMT 1964

6.2 MILES SOUTHEAST OF ECHO, 5.0 MILES SOUTH ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND 4TH AVENUE IN ECHO, THEN 3.4 MILES EAST ALONG TRUNK HIGHWAY 19, 268.0 FEET SOUTH AND 35.0 FEET EAST OF TRUNK HIGHWAY 19 AT A TEE-ROAD SOUTH, 2.0 FEET EAST OF A FENCE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1064.306	.033	3							VERTICAL CONTROL SURVEY	1965	USGS-VERT	

Geoid Separations(ft): GEOID18 = -89.974 12B = -89.967 09 = -89.839 03 = -89.764

* No Horizontal Positions in the Database *



Mn/DOT Name: 45 LMT

NGS Name: 45 LMT

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	13	112 N	38 W	443004.00	952100.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2003	NOT FOUND	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) **Stamping:** 1069 45 LMT 1964

3.3 MILES EAST OF VESTA, 3.4 MILES EAST AND NORTH AND EAST ON COUNTY ROAD 30 FROM THE JUNCTION OF COUNTY ROAD 30 AND COUNTY ROAD 10, THEN 131.0 FEET NORTHWEST ON GARDEN AVENUE, 194.0 FEET NORTH AND 15.0 FEET WEST OF COUNTY ROAD 30 AT A TEE-ROAD SOUTH (COUNTY ROAD 56) 12.0 FEET NORTH OF A NEW HOME CONSTRUCTION.

Station Notes

THE FENCE CORNER IS GONE, CHECK COUNTY ROAD 30 GRADING PLANS.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1069.296	.033	3					VERTICAL CONTROL SURVEY	1966	USGS-VERT

Geoid Separations(ft): GEOID18 = -89.974 12B = -89.974 09 = -89.846 03 = -89.770

* No Horizontal Positions in the Database *



Mn/DOT Name: 46 LMT

NGS Name: 46 LMT

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	22	112 N	37 W	443003.00	951723.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2003	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2016) **Stamping:** 1055 46 LMT 1964

6.2 MILES EAST OF VESTA, 4.3 MILES EAST AND SOUTH AND EAST ON COUNTY ROAD 30 FROM THE JUNCTION OF COUNTY ROAD 30 AND COUNTY ROAD 10, THEN CONTINUE 2.0 MILES ON 310TH STREET, 32.0 FEET SOUTH AND 45.0 FEET EAST OF COUNTY ROAD 30, AT A NORTH-SOUTH TOWNSHIP ROAD.

Station Notes

THE REDWOOD COUNTY HIGHWAY DEPARTMENT FOUND THE POWER POLE NO LONGER THERE AND DID FIND THE POWER POLE GUIDE ANCHOR.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1055.283	.033	3				VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.124 12B = -90.118 09 = -89.997 03 = -89.921

* No Horizontal Positions in the Database *



Mn/DOT Name: 55 JMK

NGS Name: 55 JMK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095241/
 USGS Quad: WABASSO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	36	112 N	38 W	442810.00	952103.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2003	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: 55 JMK 1966

1.3 MILES SOUTHWEST OF SEAFORTH, 0.2 MILE NORTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND ELM STREET IN SEAFORTH, THEN 1.0 MILE ALONG COUNTY ROAD 56, THEN 0.8 MILE SOUTH ON GARDEN AVENUE, 446.0 FEET NORTH AND 41.0 FEET WEST OF A ROAD AT A DRIVE WEST.

Station Notes

THE REDWOOD COUNTY HIGHWAY DEPARTMENT FOUND THE POWER POLES ON THE EAST SIDE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>			
1057.773	.033	3				VERTICAL CONTROL SURVEY		1966	USGS-VERT			

Geoid Separations(ft): GEOID18 = -89.964 12B = -89.970 09 = -89.839 03 = -89.757

* No Horizontal Positions in the Database *



Mn/DOT Name: 56 JMK

NGS Name: 56 JMK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095214/
 USGS Quad: ROWENA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	35	112 N	37 W	442810.00	951459.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2003	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: 56 JMK 1966

5.0 MILES NORTH OF WABASSO, 4.0 MILES NORTH ALONG COUNTY ROAD 6 FROM THE JUNCTION OF TRUNK HIGHWAY 68 IN WABASSO, THEN 1.0 MILE NORTH ON A TOWNSHIP ROAD, 556.0 FEET SOUTH AND 86.0 FEET WEST OF THE CROSSROADS.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1051.081	.033	3				VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.256 12B = -90.256 09 = -90.131 03 = -90.042

* No Horizontal Positions in the Database *



Mn/DOT Name: 6402 B

NGS Name: 6402 B

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4737](#) [Get Map](#)
NGS Quad / Sta Num : 44095311/
USGS Quad: MILROY

		<u>Reference</u>		<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Order</u>	<u>Order</u>
SW	34	112 N	39 W	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNMT

Description: (2009) Stamping: 6402 B 2006

6.0 MILES SOUTHWEST OF VESTA, 7.25 MILES SOUTHWEST AND WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 47.60, 77.0 FEET EAST OF COUNTY ROAD 8, 50.5 FEET NORTH OF TRUNK HIGHWAY 19, 36.0 FEET WEST OF A POWER POLE WITH A GUY WIRE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1091.228	.016	2/1				2011	00000690					
1091.231	.016	2/1				2008	VTLIN					

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1091.146	.262		1001.727	.197	2011	2024	RTRN2024					

Geoid Separations(ft): GEOID18 = -89.419 12B = -89.409 09 = -89.308 03 = -89.206

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>		<u>Redwood County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>			
44 27 28.07615	95 32 00.72580	421610.658	196055.819	.131	3	2024	RTRN2024			

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>			
2224297.832	863261.422	979142.088	16160872.338	.131	3	2024	RTRN2024			

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_B-DM4737-3N-17MAY2024.jpg	N	May 17, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_B-DM4737-2-17MAY2024.jpg		May 17, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_B-DM4737-1-17MAY2024.jpg		May 17, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6402 C

NGS Name: 6402 C

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4738](#) [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	36	112 N	39 W	442727.80	952934.93	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2024	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 26 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** 6402 C 2006

5.0 MILES SOUTHWEST OF VESTA, 5.25 MILES SOUTHWEST AND WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 49.60, 49.7 FEET NORTH OF TRUNK HIGHWAY 19, 25.0 FEET EAST OF A FIELD ENTRANCE, 1.0 FOOT WEST OF A WITNESS POST.

Station Notes

THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Determination Method	Year	Reference						
1096.783	.016	2/1	VERTICAL ADJUSTMENT	2011	00000690						
1096.786	.016	2/1	VERTICAL CONTROL SURVEY	2008	VTLIN						

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Determination Method	Year	Reference						
1096.746	.262		GPS - OPUS	2021	GPSBM						
1096.737	.262		GPS - OPUS	2021	GPSBM						
1096.832	.262		GPS - RTRN	2021	RTRN2021						

Geoid Separations(ft): GEOID18 = -89.534 12B = -89.527 09 = -89.419 03 = -89.327

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Geodetic Position			Redwood County			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference			
44 27 27.79477	95 29 34.92686	432185.907	195991.159	.131	3	GPS - OPUS	2021	GPSBM			
44 27 27.79492	95 29 34.92672	432185.917	195991.174	.131	3	GPS - OPUS	2021	GPSBM			
44 27 27.79511	95 29 34.92643	432185.938	195991.193	.131	3	GPS - RTRN	2021	RTRN2021			

State Plane and UTM Coordinates (Feet)

NAD83(2011)				MN State Plane - South Zone			UTM - Zone 15			Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference			
2234869.612	863037.189	989712.129	16160518.881	.131	3	GPS - OPUS	2021	GPSBM			
2234869.622	863037.204	989712.139	16160518.896	.131	3	GPS - OPUS	2021	GPSBM			
2234869.643	863037.223	989712.161	16160518.914	.131	3	GPS - RTRN	2021	RTRN2021			

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_C-DM4738-3N-11MAY2021.jpg	N	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_C-DM4738-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_C-DM4738-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6402 C RESET

NGS Name: 6402 C RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	36	112 N	39 W	442727.79	952934.92		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 2 IN.	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 26 FT)	SURVEY DISK	MNDT

Description: (2024) Stamping: 6402 C RESET 2024

5.0 MILES SOUTHWEST OF VESTA, 5.25 MILES SOUTHWEST AND WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 49.60, 49.7 FEET NORTH OF TRUNK HIGHWAY 19, 25.0 FEET EAST OF A FIELD ENTRANCE, 1.0 FOOT WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1096.714	.262			1007.180	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 27 27.79471	95 29 34.92486	432186.052	195991.152	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2234869.757	863037.180	989712.273	16160518.870	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_C_RESET-3N-17MAY2024.jpg	N	May 17, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_C_RESET-2-17MAY2024.jpg		May 17, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_C_RESET-1-17MAY2024.jpg		May 17, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6402 D

NGS Name: 6402 D

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4739](#) [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				Reference	Reference	Vert	Horz
1/4	Sec	Twp	Rng	Latitude	Longitude	Order	Order
SE	30	112 N	38 W	442818.72	952732.56	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	SURVEY DISK	MNNDT

Description: (2009) **Stamping:** 6402 D 2006

3.0 MILES SOUTHWEST OF VESTA, 3.15 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 51.70, 76.7 FEET SOUTHEAST OF TRUNK HIGHWAY 19, 15.0 FEET NORTH OF A FIELD ENTRANCE, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference	
1080.966	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690	
1080.969	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference	
1080.903	.262		991.248	.197	2011	GPS - OPUS	2021	GPSBM	
1081.179	.262		991.524	.197	2011	GPS - OPUS	2021	GPSBM	
1080.923	.262		991.268	.197	2011	GPS - OPUS	2021	GPSBM	
1080.976	.262		991.320	.197	2011	GPS - RTRN	2021	RTRN2021	

Geoid Separations(ft): GEOID18 = -89.655 12B = -89.659 09 = -89.537 03 = -89.449

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Redwood County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 28 18.72451	95 27 32.56434			441075.561	201122.688	.131	3	GPS - OPUS	2021	GPSBM
44 28 18.72340	95 27 32.56283			441075.670	201122.575	.131	3	GPS - OPUS	2021	GPSBM
44 28 18.72440	95 27 32.56438			441075.558	201122.677	.131	3	GPS - OPUS	2021	GPSBM
44 28 18.72462	95 27 32.56392			441075.591	201122.699	.131	3	GPS - RTRN	2021	RTRN2021

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
2243834.604	868033.363			998738.917	16165405.858	.131	3	GPS - OPUS	2021	GPSBM
2243834.711	868033.249			998739.023	16165405.742	.131	3	GPS - OPUS	2021	GPSBM
2243834.600	868033.352			998738.914	16165405.847	.131	3	GPS - OPUS	2021	GPSBM
2243834.634	868033.374			998738.948	16165405.868	.131	3	GPS - RTRN	2021	RTRN2021

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_D-DM4739-3E-11MAY2021.jpg	E	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_D-DM4739-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_D-DM4739-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6402 E

NGS Name: 6402 E

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4740](#) [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	21	112 N	38 W	443000.80	952542.80	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1988	2006	GOOD	Horz=NO Vert=YES	YES	64005	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	VERTICAL CONTROL DISK	MNDT

Description: (2009) **Stamping:** 6402 E 2006

1.0 MILE SOUTHWEST OF VESTA, IN A BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 19 BRIDGE NUMBER 64005 OVER THE REDWOOD RIVER, 0.65 MILE SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 54.20, 22.0 FEET SOUTHEAST OF TRUNK HIGHWAY 19.

Station Notes

THE DISK WAS SET IN THE BRIDGE WHEN BUILT IN 1988 THEN STAMPED WHEN USED IN 2006.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1050.602	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1050.598	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Geoid Separations(ft): GEOID18 = -89.780 12B = -89.790 09 = -89.652 03 = -89.567

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_E-DM4740-3SE-17OCT2006.jpg	SE	Oct 17, 200
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_E-DM4740-2-17OCT2006.jpg		Oct 17, 200
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_E-DM4740-1-17OCT2006.jpg		Oct 17, 200

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6402 F

NGS Name: 6402 F

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4741](#) [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	16	112 N	38 W	443055.75	952517.92	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: 6402 F 2006

0.5 MILE NORTHWEST OF VESTA, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 55.45, 49.0 FEET WEST OF TRUNK HIGHWAY 19, 29.0 FEET SOUTH OF A FIELD ENTRANCE, 10.5 FEET SOUTH OF THE SECTION LINE, 6.0 FEET NORTH OF A FIELD ENTRANCE, 8.8 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>	
1065.506	.016	2/1				VERTICAL ADJUSTMENT		2011	00000690	
1065.506	.016	2/1				VERTICAL CONTROL SURVEY		2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>	
1065.513	.262		975.697	.197	2011	GPS - RTRN		2024	RTRN2024	
1065.526	.262		975.713	.197	2011	GPS - OPUS		2021	GPSBM	
1065.395	.262		975.582	.197	2011	GPS - OPUS		2021	GPSBM	
1065.542	.262		975.726	.197	2011	GPS - RTRN		2021	RTRN2021	

Geoid Separations(ft): GEOID18 = -89.813 12B = -89.819 09 = -89.685 03 = -89.596

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
44 30 55.75292	95 25 17.91827	450876.203	217000.952	.131	3	GPS - RTRN		2024	RTRN2024
44 30 55.75392	95 25 17.91829	450876.202	217001.054	.131	3	GPS - OPUS		2021	GPSBM
44 30 55.75417	95 25 17.91822	450876.207	217001.079	.131	3	GPS - OPUS		2021	GPSBM
44 30 55.75387	95 25 17.91766	450876.248	217001.049	.131	3	GPS - RTRN		2021	RTRN2021

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
2253872.520	883759.985	1008969.991	16181010.654	.131	3	GPS - RTRN		2024	RTRN2024
2253872.521	883760.086	1008969.993	16181010.755	.131	3	GPS - OPUS		2021	GPSBM
2253872.526	883760.111	1008969.998	16181010.780	.131	3	GPS - OPUS		2021	GPSBM
2253872.566	883760.080	1008970.038	16181010.748	.131	3	GPS - RTRN		2021	RTRN2021

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_F-DM4741-3W-14MAY2024.jpg	W	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_F-DM4741-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_F-DM4741-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6402 G

NGS Name: 6402 G

County: REDWOOD, MN (Sheet 1)

NGS ACRN: NGS Quad / Sta Num : 44095133/ USGS Quad: ECHO	Get Map
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<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	16	112 N	38 W	443003.59	952541.52		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 44 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) **Stamping:** 6402 G 2024

0.6 MILE SOUTHWEST OF VESTA, 0.6 MILE SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 54.3, 85.6 FEET NORTHWEST OF TRUNK HIGHWAY 19, 31.6 FEET SOUTHWEST OF A FIELD ENTRANCE, 1.5 FEET SOUTHEAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>		
1044.568	.262		954.785	.197	2011	GPS - RTRN		2024	RTRN2024		

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>	
44 30 03.59316	95 25 41.52261	449153.198	211722.494	.131	3	GPS - RTRN		2024	RTRN2024	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>	
2252070.276	878508.775	1007103.325	16175781.203	.131	3	GPS - RTRN		2024	RTRN2024	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_G-3SE-12JUN2024.jpg	SE	Jun 12, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_G-2-12JUN2024.jpg		Jun 12, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_G-1-12JUN2024.jpg		Jun 12, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6402 H

NGS Name: 6402 H

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	30	112 N	38 W	442822.70	952730.28		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 41 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: 6402 H 2024

3.1 MILES SOUTHWEST OF VESTA, 3.0 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 51.85, 38.6 FEET NORTHWEST OF TRUNK HIGHWAY 19.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>		
1078.869	.262		989.207	.197	2011	GPS - RTRN		2024	RTRN2024		

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>	
44 28 22.69676	95 27 30.27619	441242.595	201524.516	.131	3	GPS - RTRN		2024	RTRN2024	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>	
2244007.662	868432.576	998916.870	16165802.984	.131	3	GPS - RTRN		2024	RTRN2024	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_H-3SE-12JUN2024.jpg	SE	Jun 12, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_H-2-12JUN2024.jpg		Jun 12, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6402_H-1-12JUN2024.jpg		Jun 12, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 A

NGS Name: 6403 A

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1658](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	112 N	36 W	443227.40	950717.90	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2015	GOOD	Horz=NO Vert=NO	YES	5133	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	VERTICAL CONTROL DISK	MNDT

Description: (2009) **Stamping:** 6403 A 1986

IN REDWOOD FALLS, IN A BRIDGE RAILING IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 19 BRIDGE NUMBER 5133 OVER THE REDWOOD RIVER, 0.2 MILE WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71, AT TRUNK HIGHWAY 19 MILEPOINT 71.9, 32.6 FEET SOUTH OF TRUNK HIGHWAY 19.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
993.092	.016	2/1					VERTICAL ADJUSTMENT	2013	00000774	
993.092	.016	2/1					VERTICAL CONTROL SURVEY	2012	VMORG	
993.092	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
993.092	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	
993.092	.016	2/1					VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
992.613	.016	2/1					VERTICAL CONTROL SURVEY	1986	VOLIV	

Geoid Separations(ft): GEOID18 = -90.459 12B = -90.459 09 = -90.315 03 = -90.229

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_A-PQ1658-3S-07JUL2015.jpg	S	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_A-PQ1658-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_A-PQ1658-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 B

NGS Name: 6403 B

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1659](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	1	112 N	36 W	443227.49	950721.56	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2015	GOOD	Horz=NO Vert=NO	YES	5133	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	VERTICAL CONTROL DISK	MNDT

Description: (2009) **Stamping:** 6403 B 1986

IN REDWOOD FALLS, IN A BRIDGE RAILING IN THE SOUTHWEST CORNER OF TRUNK HIGHWAY 19 BRIDGE NUMBER 5133 OVER THE REDWOOD RIVER, 0.2 MILE WEST ON TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71, AT TRUNK HIGHWAY 19 MILEPOINT 71.85, 32.6 FEET SOUTH OF TRUNK HIGHWAY 19.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
995.802	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
995.802	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	
995.802	.016	2/1					VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
995.323	.016	2/1					VERTICAL CONTROL SURVEY	1986	VOLIV	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
995.913	.262			905.458	.197	2011	GPS - RTRN	2015	RTRN2015	

Geoid Separations(ft): GEOID18 = -90.456 12B = -90.456 09 = -90.315 03 = -90.226

Lat/Lon and County Coordinates (Feet)

<u>NAVD83(2011)</u>			<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 27.48691	95 07 21.56195		528859.359	226254.355	.131	3	GPS - RTRN	2015	RTRN2015

State Plane and UTM Coordinates (Feet)

<u>NAVD83(2011)</u>			<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2331976.758	891834.716		1087173.512	16188128.270	.131	3	GPS - RTRN	2015	RTRN2015

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_B-PQ1659-3S-26JUL2006.jpg	S	Jul 26, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_B-PQ1659-2-26JUL2006.jpg		Jul 26, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_B-PQ1659-1-26JUL2006.jpg		Jul 26, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 C

NGS Name: 6403 C

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4763](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	1	112 N	36 W	443228.64	950759.30	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2016) **Stamping:** 6403 C 2006

0.75 MILE WEST OF REDWOOD FALLS, 0.75 MILE WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 71.30, 53.5 FEET NORTH-NORTHEAST OF A CABLE BOX, 47.5 FEET SOUTH OF TRUNK HIGHWAY 19, 41.0 FEET EAST OF LASER AVENUE, 1.0 FOOT NORTH OF A WITNESS POST.

Station Pair: KEIL MNDT - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1032.114	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898
1032.114	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN
1032.114	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1032.117	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1032.219	.262		941.789	.197	2011	GPS - RTRN	2024	RTRN2024
1032.114			941.681	.010	2011	HORIZONTAL ADJUSTMENT	2016	GPS3150
1032.114	.131		941.914	.066	1996	GPS - STATIC	2016	HBORN
1032.114			941.681	.010	2011	GPS - STATIC	2016	HBORN
1032.055	.262		941.625	.197	2011	GPS - RTRN	2015	RTRN2015
1032.114			941.681	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030
1032.114			941.681	.012	2011	GPS - STATIC	2014	HMORG
1032.117	.131		941.914	.066	1996	GPS - STATIC	2012	HMORG

Geoid Separations(ft): GEOID18 = -90.426 12B = -90.430 09 = -90.285 03 = -90.203

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 28.64166	95 07 59.30342	526125.556	226367.782	.131	3	GPS - RTRN	2024	RTRN2024
44 32 28.64137	95 07 59.30349	526125.551	226367.753	.010		ADJUSTMENT	2016	GPS3150
44 32 28.64137	95 07 59.30349	526125.551	226367.753	.010	C	GPS - STATIC	2016	HBORN
44 32 28.64184	95 07 59.30396	526125.517	226367.801	.131	3	GPS - RTRN	2015	RTRN2015
44 32 28.64137	95 07 59.30349	526125.551	226367.753	.013		ADJUSTMENT	2014	GPS3030
44 32 28.64137	95 07 59.30349	526125.551	226367.753	.013	C	GPS - STATIC	2014	HMORG

NAD83(1996)		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 28.64094	95 07 59.30375	526125.532	226367.709	.033	C	GPS - STATIC	2016	HBORN
44 32 28.64094	95 07 59.30375	526125.532	226367.709	.033	C	GPS - STATIC	2012	HMORG

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2329245.316	891989.352	1084444.092	16188316.380	.131	3	GPS - RTRN	2024	RTRN2024
2329245.310	891989.323	1084444.086	16188316.351	.010		ADJUSTMENT	2016	GPS3150
2329245.310	891989.323	1084444.086	16188316.351	.010	C	GPS - STATIC	2016	HBORN
2329245.277	891989.371	1084444.053	16188316.400	.131	3	GPS - RTRN	2015	RTRN2015
2329245.310	891989.323	1084444.086	16188316.351	.013		ADJUSTMENT	2014	GPS3030
2329245.310	891989.323	1084444.086	16188316.351	.013	C	GPS - STATIC	2014	HMORG

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2329245.291	891989.280	1084444.066	16188316.308	.033	C	GPS - STATIC	2016	HBORN
2329245.291	891989.280	1084444.066	16188316.308	.033	C	GPS - STATIC	2012	HMORG

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_C-DM4763-3S-15MAY2024.jpg	S	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_C-DM4763-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_C-DM4763-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 D

NGS Name: 6403 D

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4762](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	3	112 N	36 W	443228.65	950957.03	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** 6403 D 2006

2.3 MILES WEST OF REDWOOD FALLS, 2.3 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 IN REDWOOD FALLS, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 69.7, 44.0 FEET SOUTH OF TRUNK HIGHWAY 19, 6.0 FEET NORTH OF A CABLE BOX, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>						
1039.053	.016	2/1				2011	00000690						
1039.056	.016	2/1				2008	VTLIN						

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>						
1039.128	.262		948.774	.197	2011	2024	RTRN2024						
1038.955	.262		948.597	.197	2011	2021	GPSBM						
1039.106	.262		948.748	.197	2011	2021	GPSBM						
1039.050	.262		948.696	.197	2011	2021	RTRN2021						

Geoid Separations(ft): GEOID18 = -90.354 12B = -90.354 09 = -90.213 03 = -90.138

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
44 32 28.64841	95 09 57.02703	517598.738	226359.733	.131	3	2024	RTRN2024					
44 32 28.64807	95 09 57.02753	517598.702	226359.699	.131	3	2021	GPSBM					
44 32 28.64796	95 09 57.02756	517598.699	226359.688	.131	3	2021	GPSBM					
44 32 28.64854	95 09 57.02706	517598.735	226359.746	.131	3	2021	RTRN2021					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
2320720.403	892109.923	1075920.988	16188541.450	.131	3	2024	RTRN2024					
2320720.367	892109.889	1075920.951	16188541.416	.131	3	2021	GPSBM					
2320720.364	892109.878	1075920.949	16188541.406	.131	3	2021	GPSBM					
2320720.402	892109.937	1075920.987	16188541.463	.131	3	2021	RTRN2021					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_D-DM4762-3S-15MAY2024.jpg	S	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_D-DM4762-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_D-DM4762-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 E

NGS Name: 6403 E

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4761](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	4	112 N	36 W	443228.80	951106.80	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 21 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: 6403 E 2006

3.25 MILES WEST OF REDWOOD FALLS, 3.25 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 68.75, 41.3 FEET SOUTH OF TRUNK HIGHWAY 19, 18.0 FEET EAST OF A FIELD ENTRANCE, 49.4 FEET WEST-NORTHWEST OF A RIGHT-OF-WAY POST, 1.0 FOOT NORTH OF A WITNESS POST.

Station Notes

THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1053.144	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1053.151	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Geoid Separations(ft): GEOID18 = -90.315 12B = -90.311 09 = -90.170 03 = -90.098

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_E-DM4761-3S-11SEP2006.jpg	S	Sep 11, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_E-DM4761-2-11SEP2006.jpg		Sep 11, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_E-DM4761-1-11SEP2006.jpg		Sep 11, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 E RESET

NGS Name: 6403 E RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	4	112 N	36 W	443228.83	951106.77		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		FLUSH	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 21 FT)	SURVEY DISK	MNDT

Description: (2024) **Stamping:** 6403 E RESET 2024

3.25 MILES WEST OF REDWOOD FALLS, 3.25 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 68.75, 41.3 FEET SOUTH OF TRUNK HIGHWAY 19, 18.0 FEET EAST OF A FIELD ENTRANCE, 49.4 FEET WEST-NORTHWEST OF A RIGHT-OF-WAY POST, 1.0 FOOT NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1053.052	.262			962.738	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>				
44 32 28.82796	95 11 06.77340	512546.939	226374.350	.131	3	GPS - RTRN	2024	RTRN2024				

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>				
2315670.026	892200.741	1070871.877	16188694.178	.131	3	GPS - RTRN	2024	RTRN2024				

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_E_RESET-3S-15MAY2024.jpg	S	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_E_RESET-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_E_RESET-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 F

NGS Name: 6403 F

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4760](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	5	112 N	36 W	443229.10	951218.50	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2006	GOOD	Horz=NO Vert=YES	YES	64002	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE WING WALL	BENCH MARK DISK	MNDT

Description: (2009) **Stamping:** 6403 F 1973

4.25 MILES WEST OF REDWOOD FALLS, IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 19 BRIDGE NUMBER 64002 OVER RAMSEY CREEK, 4.25 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 67.80, 26.0 FEET SOUTH OF TRUNK HIGHWAY 19.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1028.436	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1028.440	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Geoid Separations(ft): GEOID18 = -90.272 12B = -90.266 09 = -90.128 03 = -90.059

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_F-DM4760-3W-27JUL2006.jpg	W	Jul 27, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_F-DM4760-2-27JUL2006.jpg		Jul 27, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_F-DM4760-1-27JUL2006.jpg		Jul 27, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 G

NGS Name: 6403 G

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4759](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	31	113 N	36 W	443230.07	951341.46	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** 6403 G 2006

5.4 MILES WEST OF REDWOOD FALLS, 5.4 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 66.65, 53.3 FEET WEST OF A POWER POLE, 50.7 FEET NORTH OF TRUNK HIGHWAY 19, 30.0 FEET EAST OF A FIELD ENTRANCE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1049.033	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690
1049.037	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1049.053	.262			958.830	.197	2011	GPS - RTRN	2024	RTRN2024
1048.994	.262			958.771	.197	2011	GPS - OPUS	2021	GPSBM
1049.053	.262			958.830	.197	2011	GPS - OPUS	2021	GPSBM
1049.023	.262			958.801	.197	2011	GPS - RTRN	2021	RTRN2021

Geoid Separations(ft): GEOID18 = -90.223 12B = -90.220 09 = -90.079 03 = -90.013

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Project Info</u>			
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 32 30.07414	95 13 41.46495	501342.500	226496.913	.131	3	GPS - RTRN	2024	RTRN2024	
44 32 30.07442	95 13 41.46496	501342.500	226496.941	.131	3	GPS - OPUS	2021	GPSBM	
44 32 30.07453	95 13 41.46481	501342.510	226496.952	.131	3	GPS - OPUS	2021	GPSBM	
44 32 30.07505	95 13 41.46418	501342.556	226497.005	.131	3	GPS - RTRN	2021	RTRN2021	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>			
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2304470.101	892492.293	1059675.744	16189123.035	.131	3	GPS - RTRN	2024	RTRN2024	
2304470.100	892492.322	1059675.744	16189123.064	.131	3	GPS - OPUS	2021	GPSBM	
2304470.112	892492.333	1059675.755	16189123.074	.131	3	GPS - OPUS	2021	GPSBM	
2304470.158	892492.385	1059675.802	16189123.126	.131	3	GPS - RTRN	2021	RTRN2021	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_G-DM4759-3N-14MAY2024.jpg	N	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_G-DM4759-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_G-DM4759-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 H

NGS Name: 6403 H

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4758](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	2	112 N	36 W	443229.60	951502.30	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1993	2006	GOOD	Horz=NO Vert=?	YES	64001	FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	VERTICAL CONTROL DISK	MNDT

Description: (2009) **Stamping:** 6403 H 1993

6.5 MILES WEST OF REDWOOD FALLS, IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 19 BRIDGE NUMBER 64001 OVER RAMSEY CREEK, 6.5 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 65.55, 21.5 FEET SOUTH OF TRUNK HIGHWAY 19, 8.5 FEET WEST OF THE END OF A RAIL.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1034.361	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1034.365	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Geoid Separations(ft): GEOID18 = -90.174 12B = -90.170 09 = -90.029 03 = -89.967

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_H-DM4758-3S-27JUL2006.jpg	S	Jul 27, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_H-DM4758-2-27JUL2006.jpg		Jul 27, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_H-DM4758-1-27JUL2006.jpg		Jul 27, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 J

NGS Name: 6403 J

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4757](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	34	113 N	37 W	443230.52	951722.73	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** 6403 J 2006

8.45 MILES WEST OF REDWOOD FALLS, 8.45 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 63.6, 51.0 FEET NORTH OF TRUNK HIGHWAY 19, 47.6 FEET EAST SOUTH-EAST OF A POWER POLE, 37.0 FEET WEST OF A CABLE BOX, 12.0 FEET EAST OF HUNTER AVENUE EXTENDED, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1056.832	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690
1056.835	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1056.815	.262			966.721	.197	2011	GPS - RTRN	2024	RTRN2024
1056.717	.262			966.622	.197	2011	GPS - OPUS	2021	GPSBM
1056.911	.262			966.816	.197	2011	GPS - OPUS	2021	GPSBM
1056.835	.262			966.740	.197	2011	GPS - RTRN	2021	RTRN2021

Geoid Separations(ft): GEOID18 = -90.095 12B = -90.088 09 = -89.954 03 = -89.888

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Project Info</u>			
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 32 30.51635	95 17 22.73204	485316.077	226546.706	.131	3	GPS - RTRN	2024	RTRN2024	
44 32 30.51665	95 17 22.73122	485316.136	226546.736	.131	3	GPS - OPUS	2021	GPSBM	
44 32 30.51661	95 17 22.73096	485316.155	226546.732	.131	3	GPS - OPUS	2021	GPSBM	
44 32 30.51670	95 17 22.73055	485316.185	226546.741	.131	3	GPS - RTRN	2021	RTRN2021	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>			
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2288448.239	892783.850	1043657.479	16189611.038	.131	3	GPS - RTRN	2024	RTRN2024	
2288448.299	892783.879	1043657.539	16189611.067	.131	3	GPS - OPUS	2021	GPSBM	
2288448.317	892783.875	1043657.558	16189611.062	.131	3	GPS - OPUS	2021	GPSBM	
2288448.347	892783.883	1043657.588	16189611.071	.131	3	GPS - RTRN	2021	RTRN2021	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_J-DM4757-3N-14MAY2024.jpg	N	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_J-DM4757-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_J-DM4757-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 K

NGS Name: 6403 K

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4754](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	33	113 N	37 W	443230.47	951757.67	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	SURVEY DISK	MNMT

Description: (2009) Stamping: 6403 K 2006

8.9 MILES WEST OF REDWOOD FALLS, 8.9 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19/ TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 63.15, 53.0 FEET NORTH OF TRUNK HIGHWAY 19, 32.0 FEET WEST OF HARVEST AVENUE, 16.6 FEET SOUTH OF A FIELD ENTRANCE, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1047.767	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690
1047.770	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1047.862	.262			957.787	.197	2011	GPS - RTRN	2024	RTRN2024

Geoid Separations(ft): GEOID18 = -90.075 12B = -90.069 09 = -89.937 03 = -89.869

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 30.47438	95 17 57.67146			482785.404	226544.346	.131	3	GPS - RTRN	2024	RTRN2024

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>				
<u>MN State Plane - South Zone</u>						<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>											
2285918.133	892819.670			1041127.784	16189677.883	.131	3	GPS - RTRN	2024	RTRN2024		

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K-DM4754-3N-14MAY2024.jpg	N	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K-DM4754-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K-DM4754-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 K 1

NGS Name: 6403 K 1

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4755](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	28	113 N	37 W	443401.90	951756.30	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2006	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** 6403 K 1 2006

8.91 MILES WEST-NORTHWEST OF REDWOOD FALLS, 8.9 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, TO TRUNK HIGHWAY 19 MILEPOINT 63.15, THEN 1.75 MILES NORTH ON HARVEST AVENUE, 22.0 FEET WEST OF HARVEST AVENUE, 15.0 FEET SOUTH OF A FIELD ENTRANCE, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1067.271	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1067.278	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Geoid Separations(ft): GEOID18 = -90.042 12B = -90.042 09 = -89.905 03 = -89.832

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K_1-DM4755-3W-12SEP2006.jpg	W	Sep 12, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K_1-DM4755-2-12SEP2006.jpg		Sep 12, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K_1-DM4755-1-12SEP2006.jpg		Sep 12, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 K 2

NGS Name: 6403 K 2

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4756](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	22	113 N	37 W	443431.30	951755.90	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2006	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2016) **Stamping:** 6403 K 2 2006

8.93 MILES NORTHWEST OF REDWOOD FALLS, 8.9 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, TO TRUNK HIGHWAY 19 MILEPOINT 63.15, THEN 2.3 MILES NORTH ON HARVEST AVENUE, 35.0 FEET EAST OF HARVEST AVENUE, 15.5 FEET NORTH OF A FIELD ENTRANCE, 2.0 FEET WEST OF A NORTH-SOUTH FENCE LINE, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1058.797	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1058.804	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Geoid Separations(ft): GEOID18 = -90.033 12B = -90.029 09 = -89.892 03 = -89.816

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K_2-DM4756-3E-12SEP2006.jpg	E	Sep 12, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K_2-DM4756-2-12SEP2006.jpg		Sep 12, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_K_2-DM4756-1-12SEP2006.jpg		Sep 12, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 L

NGS Name: 6403 L

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4753](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	33	113 N	37 W	443230.43	951834.21	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	SURVEY DISK	MNMT

Description: (2009) Stamping: 6403 L 2006

4.0 MILES NORTHEAST OF VESTA, 7.85 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 62.65, 73.0 FEET EAST OF HARVEST AVENUE EXTENDED, 49.0 FEET NORTH OF TRUNK HIGHWAY 19, 5.2 FEET WEST OF A CABLE BOX, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1057.498	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690
1057.498	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1057.560	.262			967.505	.197	2011	GPS - RTRN	2024	RTRN2024

Geoid Separations(ft): GEOID18 = -90.056 12B = -90.049 09 = -89.918 03 = -89.846

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 30.43114	95 18 34.20532			480139.245	226542.265	.131	3	GPS - RTRN	2024	RTRN2024

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2283272.572	892857.512			1038482.648	16189748.166	.131	3	GPS - RTRN	2024	RTRN2024

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_L-DM4753-3N-14MAY2024.jpg	N	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_L-DM4753-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_L-DM4753-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 M

NGS Name: 6403 M

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4752](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	1	112 N	38 W	443229.28	952101.46	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDDT

Description: (2009) **Stamping:** 6403 M 2006

3.5 MILES NORTHEAST OF VESTA, 5.85 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 60.60, 50.0 FEET SOUTH OF TRUNK HIGHWAY 19, 47.0 FEET WEST OF GARDEN AVENUE SOUTH, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1064.378	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690
1064.381	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1064.329	.262			974.358	.197	2011	GPS - RTRN	2024	RTRN2024
1064.417	.262			974.447	.197	2011	GPS - OPUS	2021	GPSBM
1064.319	.262			974.348	.197	2011	GPS - OPUS	2021	GPSBM
1064.375	.262			974.404	.197	2011	GPS - RTRN	2021	RTRN2021

Geoid Separations(ft): GEOID18 = -89.970 12B = -89.967 09 = -89.839 03 = -89.764

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 29.28354	95 21 01.46188			469473.259	226438.629	.131	3	GPS - RTRN	2024	RTRN2024
44 32 29.28340	95 21 01.46239			469473.221	226438.615	.131	3	GPS - OPUS	2021	GPSBM
44 32 29.28347	95 21 01.46232			469473.226	226438.622	.131	3	GPS - OPUS	2021	GPSBM
44 32 29.28395	95 21 01.46163			469473.277	226438.671	.131	3	GPS - RTRN	2021	RTRN2021

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2272607.558	892914.821			1027818.082	16189936.260	.131	3	GPS - RTRN	2024	RTRN2024
2272607.521	892914.808			1027818.045	16189936.247	.131	3	GPS - OPUS	2021	GPSBM
2272607.526	892914.815			1027818.050	16189936.254	.131	3	GPS - OPUS	2021	GPSBM
2272607.577	892914.863			1027818.101	16189936.301	.131	3	GPS - RTRN	2021	RTRN2021

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_M-DM4752-3S-14MAY2024.jpg	S	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_M-DM4752-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_M-DM4752-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 N

NGS Name: 6403 N

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3437](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	1	112 N	36 W	443227.67	950714.12	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 17 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2015) **Stamping:** 6403 N 2015

IN REDWOOD FALLS, AT THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 67, AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 71.95, 27.1 FEET SOUTH OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 WEST, 34.3 FEET NORTH-NORTHEAST OF TRUNK HIGHWAY 67 EAST/TRUNK HIGHWAY 71 SOUTH, 18.0 FEET WEST-NORTHWEST OF A ROCK PILLAR/CORNER OF A WALL, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
996.967	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898	
996.963	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
997.049	.262		906.589	.197	2011	GPS - RTRN	2024	RTRN2024	
996.963			906.488	.017	2011	HORIZONTAL ADJUSTMENT	2016	GPS3150	
996.963	.131		906.694	.066	1996	GPS - STATIC	2016	HBORN	
996.963			906.488	.017	2011	GPS - STATIC	2016	HBORN	
996.976	.262		906.514	.197	2011	GPS - RTRN	2015	RTRN2015	

Geoid Separations(ft): GEOID18 = -90.459 12B = -90.462 09 = -90.318 03 = -90.229

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 32 27.66587	95 07 14.11638	529398.625	226273.215	.131	3	GPS - RTRN	2024	RTRN2024	
44 32 27.66544	95 07 14.11644	529398.621	226273.171	.013		ADJUSTMENT	2016	GPS3150	
44 32 27.66544	95 07 14.11644	529398.621	226273.171	.013	C	GPS - STATIC	2016	HBORN	
44 32 27.66531	95 07 14.11678	529398.596	226273.158	.131	3	GPS - RTRN	2015	RTRN2015	

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 32 27.66498	95 07 14.11667	529398.604	226273.125	.033	C	GPS - STATIC	2016	HBORN	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>
2332516.180	891845.438	1087713.041	16188132.379	.131	3	GPS - RTRN	2024	RTRN2024	
2332516.176	891845.394	1087713.035	16188132.335	.013		ADJUSTMENT	2016	GPS3150	
2332516.176	891845.394	1087713.035	16188132.335	.013	C	GPS - STATIC	2016	HBORN	
2332516.151	891845.382	1087713.010	16188132.322	.131	3	GPS - RTRN	2015	RTRN2015	

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>
2332516.158	891845.348	1087713.017	16188132.289	.033	C	GPS - STATIC	2016	HBORN	



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_N-DQ3437-3S-15MAY2024.jpg	S	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_N-DQ3437-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_N-DQ3437-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6403 P

NGS Name: 6403 P

County: REDWOOD, MN (Sheet 1)

NGS ACRN: NGS Quad / Sta Num : 44095123/ USGS Quad: DELHI	Get Map
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<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	36	113 N	37 W	443230.21	951458.18		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: 6403 P 2024

6.8 MILES WEST OF REDWOOD FALLS, 6.4 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 65.6, 47.7 FEET NORTH OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67, 34.2 FEET WEST OF A DRIVEWAY.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order</u>	<u>(/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1026.691	.262			936.514	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 32 30.20924	95 14 58.18455	495785.674	226510.969	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2298914.808	892590.174	1054121.698	16189289.027	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_P-3N-12JUN2024.jpg	N	Jun 12, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_P-2-12JUN2024.jpg		Jun 12, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6403_P-1-12JUN2024.jpg		Jun 12, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6404 A

NGS Name: 6404 A

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1647](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	1	112 N	36 W	443225.10	950657.60	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2024	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MAT FOUNDATION (NON-PAVEMENT)	VERTICAL CONTROL DISK	MNDT

Description: (2011) **Stamping:** 6404 A 1986

IN REDWOOD FALLS, 0.15 MILE SOUTH ON TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71, TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 19 IN REDWOOD FALLS, THEN 0.15 MILE EAST ON 3RD STREET, IN THE BASE OF A FLAGPOLE ON THE WEST SIDE OF THE COURTHOUSE, 51.5 FEET EAST OF SOUTH JEFFERSON STREET ON THE WEST SIDE, 29.45 FEET WEST-SOUTHWEST OF THE NORTHWEST CORNER OF THE MAIN BUILDING, 8.2 FEET NORTHWEST OF THE NORTHWEST CORNER OF THE WEST ENTRANCE WALL, 1.1 FEET NORTHWEST OF A FLAGPOLE, THE POLE HAS BEEN REMOVED, THE CONCRETE FOOTING IS STABLE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1043.440	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898	
1043.440	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN	
1043.440	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774	
1043.440	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG	
1043.440	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690	
1043.440	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN	
1043.440	.016	2/1				VERTICAL ADJUSTMENT	1995	00000135	

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1042.961	.016	2/1				VERTICAL CONTROL SURVEY	1986	VOLIV	

Geoid Separations(ft): GEOID18 = -90.476 12B = -90.476 09 = -90.334 03 = -90.246

*** No Horizontal Positions in the Database ***

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_A-PQ1647-3E-07JUL2015.jpg	E	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_A-PQ1647-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_A-PQ1647-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6404 B

NGS Name: 6404 B

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1648](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	6	112 N	35 W	443226.00	950618.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MAT FOUNDATION (NON-PAVEMENT)	BOLT	MNDT

Description: (2009) Stamping: 6404 B 1986

IN REDWOOD FALLS, AT A WATER TANK, 0.65 MILE EAST ALONG TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 FROM THE JUNCTION WITH TRUNK HIGHWAY 67 IN REDWOOD FALLS, 80.0 FEET SOUTHWEST OF AND 3.0 FEET HIGHER THAN THE CENTERLINE OF SUNRISE BOULEVARD, 37.85 FEET EAST-SOUTHEAST OF THE CENTER OF A FIRE HYDRANT, 30.7 FEET SOUTH-SOUTHWEST OF A CONCRETE PEDESTAL FOR A SPOT LIGHT, 1.0 FOOT OF THE ENTRANCE DOOR TO THE WATER TANK.

Station Notes

THIS STATION HAS BEEN COVERED UP BY THE BASE OF A NEW WATER TOWER AS REPORTED BY MARK MORTENSON D8 SURVEYS CREW CHIEF.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1025.454	.016	2/1				VERTICAL ADJUSTMENT	1995	00000135

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1024.978	.016	2/1				VERTICAL CONTROL SURVEY	1986	VOLIV

Geoid Separations(ft): GEOID18 = -90.495 12B = -90.495 09 = -90.364 03 = -90.262

* No Horizontal Positions in the Database *



Mn/DOT Name: 6404 C

NGS Name: 6404 C

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1649](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	31	113 N	35 W	443230.00	950550.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2005	DESTROYED	Horz=NO Vert=NO	NO			MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MAT FOUNDATION (NON-PAVEMENT)	VERTICAL CONTROL DISK	MNDT

Description: (2009) Stamping: 6404 C 1986

IN REDWOOD FALLS, IN A CONCRETE BASE OF A MCDONALDS SIGN, 1.05 MILES EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71, AT TRUNK HIGHWAY 19 MILEPOINT 73.15, 57.0 FEET NORTH OF A FRONTAGE ROAD, 17.9 FEET EAST-NORTHEAST OF A FLAGPOLE, 16.9 FEET WEST OF THE EAST ENTRANCE TO A MCDONALDS, 2.5 FEET EAST-SOUTHEAST OF THE SOUTHEAST CORNER OF THE SIGN.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1013.673	.016	2/1					VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1013.194	.016	2/1					VERTICAL CONTROL SURVEY	1986	VOLIV	

Geoid Separations(ft): GEOID18 = -90.508 12B = -90.508 09 = -90.380 03 = -90.275

* No Horizontal Positions in the Database *



Mn/DOT Name: 6404 D

NGS Name: 6404 D

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1650](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	5	112 N	35 W	443229.58	950451.60	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2015	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	VERTICAL CONTROL DISK	MNDT

Description: (2009) Stamping: 6404 D 1986

0.25 MILE EAST OF REDWOOD FALLS, 1.8 MILES EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 73.95, 68.7 FEET NORTH OF TRUNK HIGHWAY 19, 4.7 FEET SOUTH OF A POWER POLE, 4.3 FEET SOUTH-SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1016.346	.016	2/1					VERTICAL ADJUSTMENT	2004	0000425-2	
1016.346	.016	2/1					VERTICAL CONTROL SURVEY	2002	VREPO	
1016.346	.016	2/1					VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1015.874	.016	2/1					VERTICAL CONTROL SURVEY	1986	VOLIV	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
				925.763	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
				925.874	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1016.337	.131			925.992	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1016.337	.131			925.992	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -90.544 12B = -90.544 09 = -90.416 03 = -90.311

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 29.57876	95 04 51.60453			539720.554	226483.656	.013		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 29.57884	95 04 51.60535			539720.495	226483.664	.013		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 29.57827	95 04 51.60472			539720.540	226483.606	.033	C	ADJUSTMENT	2002	GPS1673
44 32 29.57827	95 04 51.60472			539720.541	226483.605	.033	C	GPS - STATIC	2001	HVEST



State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2342838.830	891900.141	1098035.794	16188060.549	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2342838.770	891900.150	1098035.735	16188060.559	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2342838.815	891900.092	1098035.779	16188060.500	.033	C	ADJUSTMENT	2002	GPS1673
2342838.815	891900.092	1098035.779	16188060.500	.033	C	GPS - STATIC	2001	HVEST



Mn/DOT Name: 6404 D RESET

NGS Name: 6404 D RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: DQ3438	Get Map
NGS Quad / Sta Num : 44095122/	
USGS Quad: REDWOOD FALLS	

		<u>Reference</u>		<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Order</u>	<u>Order</u>
NW	5	112 N	35 W	2	C
		<u>Latitude</u>	<u>Longitude</u>		
		443229.58	950451.61		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNNDT

Description: (2016) Stamping: 6404 D RESET 2015

IN REDWOOD FALLS, 1.8 MILES EAST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 73.95, 68.7 FEET NORTH OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 71, 39.0 FEET SOUTH OF BRIDGE STREET, 5.0 FEET SOUTHWEST OF A CABLE BOX, 39.0 FEET EAST-SOUTHEAST OF A LIGHT POLE.

Station Pair: HUY LE - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1016.002	.016	2/1						VERTICAL ADJUSTMENT	2017	00000898		
1016.002	.016	2/1						VERTICAL CONTROL SURVEY	2016	VBORN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1016.018	.262		925.471	.197	2011			GPS - RTRN	2024	RTRN2024		
1016.002			925.467	.017	2011			HORIZONTAL ADJUSTMENT	2016	GPS3150		
1016.002	.131		925.674	.066	1996			GPS - STATIC	2016	HBORN		
1016.002			925.467	.017	2011			GPS - STATIC	2016	HBORN		
1015.923	.262		925.379	.197	2011			GPS - RTRN	2015	RTRN2015		

Geoid Separations(ft): GEOID18 = -90.544 12B = -90.544 09 = -90.416 03 = -90.311

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Geodetic Position</u>			<u>Redwood County</u>			<u>Determination Method</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>				<u>Year</u>	<u>Reference</u>		
44 32 29.57884	95 04 51.60594		539720.452	226483.664		.131	3	GPS - RTRN			2024	RTRN2024		
44 32 29.57889	95 04 51.60543		539720.489	226483.668		.013		ADJUSTMENT			2016	GPS3150		
44 32 29.57889	95 04 51.60543		539720.489	226483.668		.013	C	GPS - STATIC			2016	HBORN		
44 32 29.57810	95 04 51.60485		539720.531	226483.589		.131	3	GPS - RTRN			2015	RTRN2015		

<u>NAD83(1996)</u>			<u>Geodetic Position</u>			<u>Redwood County</u>			<u>Determination Method</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>				<u>Year</u>	<u>Reference</u>		
44 32 29.57843	95 04 51.60567		539720.471	226483.622		.033	C	GPS - STATIC			2016	HBORN		

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>			<u>MN State Plane - South Zone</u>			<u>UTM - Zone 15</u>			<u>Determination Method</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>				<u>Year</u>	<u>Reference</u>		
2342838.728	891900.151		1098035.692	16188060.560		.131	3	GPS - RTRN			2024	RTRN2024		
2342838.765	891900.156		1098035.729	16188060.564		.013		ADJUSTMENT			2016	GPS3150		
2342838.765	891900.156		1098035.729	16188060.564		.013	C	GPS - STATIC			2016	HBORN		
2342838.806	891900.075		1098035.769	16188060.483		.131	3	GPS - RTRN			2015	RTRN2015		

<u>NAD83(1996)</u>			<u>MN State Plane - South Zone</u>			<u>UTM - Zone 15</u>			<u>Determination Method</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>				<u>Year</u>	<u>Reference</u>		
2342838.747	891900.109		1098035.711	16188060.518		.033	C	GPS - STATIC			2016	HBORN		



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_D_RESET-DQ3438-3N-15MAY2024.jpg	N	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_D_RESET-DQ3438-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_D_RESET-DQ3438-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6404 E

NGS Name: 6404 E

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1651](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	4	112 N	35 W	443229.37	950357.13	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1986	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 6 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	VERTICAL CONTROL DISK	MNDT

Description: (2009) Stamping: 6404 E 1986

1.0 MILE EAST OF REDWOOD FALLS, 2.6 MILES EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 74.8, 51.0 FEET NORTH OF TRUNK HIGHWAY 19, 78.0 FEET SOUTHWEST OF A TELEPHONE CABLE POST, 18.5 FEET WEST OF DRIVEWAY NUMBER 36155 (WEST ENTRANCE TO A FRONTAGE ROAD), 0.9 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Year	Reference					
1017.278	.016	2/1				2017	00000898					
1017.278	.016	2/1				2016	VBORN					
1017.278	.016	2/1				2004	00000425-2					
1017.278	.016	2/1				2002	VREPO					
1017.278	.016	2/1				1995	00000135					

NGVD29			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Year	Reference					
1016.802	.016	2/1				1986	VOLIV					

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Year	Reference					
1017.278			926.694	.014	2011	2016	GPS3150					
1017.278	.131		926.904	.066	1996	2016	HBORN					
1017.278			926.694	.014	2011	2016	HBORN					
1017.222	.262		926.642	.197	2011	2015	RTRN2015					

Geoid Separations(ft): GEOID18 = -90.584 12B = -90.581 09 = -90.456 03 = -90.344

Lat/Lon and County Coordinates (Feet)

NAD83(2011)			Geodetic Position			Redwood County			Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order	Year	Reference					
44 32 29.37271	95 03 57.13120	543666.122	226470.494	.010		2016	GPS3150					
44 32 29.37271	95 03 57.13120	543666.122	226470.494	.010	C	2016	HBORN					
44 32 29.37137	95 03 57.12995	543666.213	226470.358	.131	3	2015	RTRN2015					

NAD83(1996)			Geodetic Position			Redwood County			Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order	Year	Reference					
44 32 29.37225	95 03 57.13145	543666.104	226470.447	.033	C	2016	HBORN					

State Plane and UTM Coordinates (Feet)

NAD83(2011)			MN State Plane - South Zone			UTM - Zone 15			Determination Method		Project Info	
X	Y	X	Y	Acc	Order	Year	Reference					
2346783.261	891827.474	1101979.083	16187939.539	.010		2016	GPS3150					
2346783.261	891827.474	1101979.083	16187939.539	.010	C	2016	HBORN					
2346783.349	891827.337	1101979.170	16187939.401	.131	3	2015	RTRN2015					

NAD83(1996)			MN State Plane - South Zone			UTM - Zone 15			Determination Method		Project Info	
X	Y	X	Y	Acc	Order	Year	Reference					
2346783.242	891827.427	1101979.064	16187939.493	.033	C	2016	HBORN					



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_E-PQ1651-3N-07JUL2015.jpg	N	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_E-PQ1651-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_E-PQ1651-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6404 F

NGS Name: 6404 F

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1652](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	4	112 N	35 W	443227.75	950320.64	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2015	GOOD	Horz=NO Vert=YES	YES		PROJECTS 6 IN.	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MAT FOUNDATION (NON-PAVEMENT)	VERTICAL CONTROL DISK	MNDT

Description: (2016) **Stamping:** 6404 F 1986

1.5 MILES EAST OF REDWOOD FALLS, 3.05 MILES EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 75.25, 113.0 FEET SOUTH OF TRUNK HIGHWAY 19, 67.0 FEET SOUTH-SOUTHWEST OF A TELEPHONE CABLE POST, 63.0 FEET WEST OF AN ENTRANCE TO KIBBLE EQUIPMENT, 0.5 FOOT SOUTH AND 0.45 FOOT WEST OF THE NORTHEAST CORNER OF AN OLD BASE OF A JOHN DEERE SIGN.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1006.455	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898	
1006.455	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN	
1006.455	.016	2/1					VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1005.982	.016	2/1					VERTICAL CONTROL SURVEY	1986	VOLIV	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1006.346	.262			915.746	.197	2011	GPS - RTRN	2015	RTRN2015	

Geoid Separations(ft): GEOID18 = -90.607 12B = -90.603 09 = -90.479 03 = -90.364

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>			<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>					<u>Acc</u>	<u>Order</u>			
44 32 27.74639	95 03 20.64233			546309.384	226311.358	.131	3	GPS - RTRN	2015	RTRN2015

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>			<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>					<u>Acc</u>	<u>Order</u>			
2349423.495	891628.509			1104616.700	16187708.227	.131	3	GPS - RTRN	2015	RTRN2015

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_F-PQ1652-3S-07JUL2015.jpg	S	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_F-PQ1652-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_F-PQ1652-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6404 G

NGS Name: 6404 G

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1653](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	34	113 N	35 W	443229.00	950242.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2015	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	VERTICAL CONTROL DISK	MNDT

Description: (2009) **Stamping:** 6404 G 1986

2.0 MILES EAST OF REDWOOD FALLS, NEAR A REST AREA, 3.55 MILES EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 75.7, 106.5 FEET SOUTH-SOUTHEAST OF TRUNK HIGHWAY 19, 73.0 FEET NORTH-NORTHWEST OF A POWER POLE, 62.0 FEET NORTH OF A ROAD, 16.0 FEET WEST OF A ROAD, 5.1 FEET SOUTH-SOUTHWEST OF AN ANCHOR POLE, 9.0 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1002.846	.016	2/1							VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1002.373	.016	2/1							VERTICAL CONTROL SURVEY	1986	VOLIV	

Geoid Separations(ft): GEOID18 = -90.630 12B = -90.626 09 = -90.505 03 = -90.387

* No Horizontal Positions in the Database *



Mn/DOT Name: 6404 H

NGS Name: 6404 H

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1654](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	34	113 N	35 W	443237.00	950221.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2015	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	VERTICAL CONTROL DISK	MNDT

Description: (2009) Stamping: 6404 H 1986

2.25 MILES WEST OF MORTON, 1.85 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 76.1, 84.0 FEET EAST-NORTHEAST OF THE WEST END OF A GUARD POST, 51.6 FEET WEST-NORTHWEST OF THE EAST END OF A GUARD POST, 44.0 FEET NORTH OF TRUNK HIGHWAY 19, 1.0 FOOT NORTH OF A GUARD CABLE, 0.6 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
932.370	.016	2/1					VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
931.901	.016	2/1					VERTICAL CONTROL SURVEY	1986	VOLIV	

Geoid Separations(ft): GEOID18 = -90.640 12B = -90.633 09 = -90.512 03 = -90.394

* No Horizontal Positions in the Database *



Mn/DOT Name: 6404 J

NGS Name: 6404 J

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1655](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	35	113 N	35 W	443235.00	950140.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2015	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	VERTICAL CONTROL DISK	MNDT

Description: (2009) Stamping: 6404 J 1986

1.75 MILES WEST OF MORTON, 2.15 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 76.55, 99.0 FEET SOUTH OF TRUNK HIGHWAY 19, 25.5 FEET EAST OF AN ENTRANCE TO A GRAVEL PIT, 1.0 FOOT WEST-NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
866.206	.016	2/1					VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
865.736	.016	2/1					VERTICAL CONTROL SURVEY	1986	VOLIV	

Geoid Separations(ft): GEOID18 = -90.663 12B = -90.659 09 = -90.541 03 = -90.420

* No Horizontal Positions in the Database *



Mn/DOT Name: 6404 K

NGS Name: 6404 K

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1656](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	35	112 N	35 W	443236.00	950123.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2006	GOOD	Horz=NO Vert=NO	NO		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE)	VERTICAL CONTROL DISK	MNDT

Description: (2009) **Stamping:** 6404 K 1986

1.5 MILES WEST OF MORTON, 1.85 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 76.85, 106.0 FEET NORTH OF TRUNK HIGHWAY 19, 44.0 FEET EAST OF A FIELD ENTRANCE, 17.0 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 0.8 FOOT SOUTH OF A WITNESS POST.

Station Notes

THE SURVEY MARK IS ON RAILROAD PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
846.219	.016	2/1				VERTICAL ADJUSTMENT	1995	00000135

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
845.750	.016	2/1				VERTICAL CONTROL SURVEY	1986	VOLIV

Geoid Separations(ft): GEOID18 = -90.672 12B = -90.666 09 = -90.551 03 = -90.426

* No Horizontal Positions in the Database *



Mn/DOT Name: 6404 L

NGS Name: 6404 L

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1657](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	1	112 N	34 W	443222.00	950023.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2015	DESTROYED	Horz=NO Vert=NO	NO			MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	VERTICAL CONTROL DISK	MNDT

Description: (2009) **Stamping:** 6404 L 1986

0.5 MILE WEST OF MORTON, 0.9 MILE WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, 116.5 FEET SOUTH-SOUTHWEST OF TRUNK HIGHWAY 19, 47.5 FEET SOUTHWEST OF COUNTY ROAD 2, 44.5 FEET SOUTHEAST OF AN ENTRANCE, 33.2 FEET NORTHWEST OF A POWER POLE.

Station Notes

THE REDWOOD COUNTY HIGHWAY DEPARTMENT FOUND THAT THE JACKPOT JUNCTION BINGO SIGN HAS BEEN REPLACED AND THE OLD BASE HAS BEEN REMOVED.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
868.112	.016	2/1				VERTICAL ADJUSTMENT	1995	00000135

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
867.643	.016	2/1				VERTICAL CONTROL SURVEY	1986	VOLIV

Geoid Separations(ft): GEOID18 = -90.712 12B = -90.705 09 = -90.597 03 = -90.469

* No Horizontal Positions in the Database *

Mn/DOT Name: 6404 M
County: REDWOOD, MN (Sheet 1)

NGS Name: 6404 M

NGS ACRN: [DQ3439](#) [Get Map](#)

NGS Quad / Sta Num : 44095122/

USGS Quad: REDWOOD FALLS

	<u>Reference</u>		<u>Reference</u>	<u>Vert</u>	<u>Horz</u>		
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	31	113 N	35 W	443229.44	950603.52	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2015) **Stamping:** 6404 M 2015

IN REDWOOD FALLS, 1.0 MILE EAST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 72.95, 49.1 FEET NORTH OF TRUNK HIGHWAY 19, 83.8 FEET WEST OF DEKALB STREET, 31.8 FEET SOUTH-SOUTHEAST OF BRIDGE STREET, 42.0 FEET WEST-NORTHWEST OF A TRAFFIC LIGHT POLE, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
	<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
	1013.472	.016	2/1		922.908	.197	2011	VERTICAL ADJUSTMENT	2017	00000898			
	1013.472	.016	2/1		922.954	.013	2011	VERTICAL CONTROL SURVEY	2016	VBORN			

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
	<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
	1013.410	.262			922.908	.197	2011	GPS - RTRN	2024	RTRN2024			
	1013.472				922.954	.013	2011	HORIZONTAL ADJUSTMENT	2016	GPS3150			
	1013.472	.131			923.164	.066	1996	GPS - STATIC	2016	HBORN			
	1013.472				922.954	.013	2011	GPS - STATIC	2016	HBORN			
	1013.433	.262			922.935	.197	2011	GPS - RTRN	2015	RTRN2015			

Geoid Separations(ft): GEOID18 = -90.499 12B = -90.499 09 = -90.371 03 = -90.269

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
	<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
	44 32 29.44295	95 06 03.51767		534511.877	226460.845	.131	3	GPS - RTRN	2024	RTRN2024			
	44 32 29.44311	95 06 03.51709		534511.919	226460.861	.010		ADJUSTMENT	2016	GPS3150			
	44 32 29.44311	95 06 03.51709		534511.919	226460.861	.010	C	GPS - STATIC	2016	HBORN			
	44 32 29.44311	95 06 03.51755		534511.886	226460.861	.131	3	GPS - RTRN	2015	RTRN2015			

<u>NAD83(1996)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
	<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
	44 32 29.44265	95 06 03.51732		534511.902	226460.814	.033	C	GPS - STATIC	2016	HBORN			

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
	<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
	2337631.047	891955.898		1092828.997	16188180.136	.131	3	GPS - RTRN	2024	RTRN2024			
	2337631.089	891955.914		1092829.040	16188180.152	.010		ADJUSTMENT	2016	GPS3150			
	2337631.089	891955.914		1092829.040	16188180.152	.010	C	GPS - STATIC	2016	HBORN			
	2337631.056	891955.914		1092829.006	16188180.152	.131	3	GPS - RTRN	2015	RTRN2015			

<u>NAD83(1996)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
	<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
	2337631.072	891955.867		1092829.022	16188180.106	.033	C	GPS - STATIC	2016	HBORN			



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_M-DQ3439-3N-15MAY2024.jpg	N	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_M-DQ3439-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_M-DQ3439-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6404 N

NGS Name: 6404 N

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3440](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	34	113 N	35 W	443230.01	950242.67	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2015	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2015) Stamping: 6404 N 2015

3.75 MILES EAST OF REDWOOD FALLS, 3.75 MILES EAST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 67, AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 75.75, 76.4 FEET SOUTH-SOUTHEAST OF TRUNK HIGHWAY 19, 49.0 FEET EAST-NORTHEAST OF 340TH STREET, 1.5 FEET NORTH-NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference	
997.905	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898	
997.905	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference	
997.905			907.291	.016	2011	HORIZONTAL ADJUSTMENT	2016	GPS3150	
997.905	.131		907.511	.066	1996	GPS - STATIC	2016	HBORN	
997.905			907.291	.016	2011	GPS - STATIC	2016	HBORN	
997.859	.262		907.232	.197	2011	GPS - RTRN	2015	RTRN2015	

Geoid Separations(ft): GEOID18 = -90.630 12B = -90.623 09 = -90.505 03 = -90.387

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 30.01020	95 02 42.66881	549059.317	226546.770	.013		ADJUSTMENT	2016	GPS3150
44 32 30.01020	95 02 42.66881	549059.317	226546.770	.013	C	GPS - STATIC	2016	HBORN
44 32 30.00985	95 02 42.66927	549059.283	226546.734	.131	3	GPS - RTRN	2015	RTRN2015

NAD83(1996)		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 30.00974	95 02 42.66906	549059.299	226546.723	.033	C	GPS - STATIC	2016	HBORN

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
2352176.324	891822.390	1107371.709	16187868.354	.013		ADJUSTMENT	2016	GPS3150
2352176.324	891822.390	1107371.709	16187868.354	.013	C	GPS - STATIC	2016	HBORN
2352176.290	891822.355	1107371.675	16187868.320	.131	3	GPS - RTRN	2015	RTRN2015

NAD83(1996)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
2352176.305	891822.344	1107371.690	16187868.308	.033	C	GPS - STATIC	2016	HBORN

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_N-DQ3440-3SE-22JUL2015.jpg	SE	Jul 22, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_N-DQ3440-2-22JUL2015.jpg		Jul 22, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_N-DQ3440-1-22JUL2015.jpg		Jul 22, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6404 P

NGS Name: 6404 P

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3929](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	34	113 N	35 W	443237.23	950208.99	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2015	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2015) Stamping: 6404 P 2015

4.0 MILES EAST OF REDWOOD FALLS, 4.25 MILES EAST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 76.25, 51.4 FEET NORTH OF TRUNK HIGHWAY 19, AT THE WEST EDGE OF A REST AREA, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
894.198	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898
894.194	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
894.185	.262			803.542	.197	2011	GPS - RTRN	2015	RTRN2015

Geoid Separations(ft): GEOID18 = -90.646 12B = -90.643 09 = -90.521 03 = -90.400

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 37.23271	95 02 08.98692			551497.137	227283.979	.131	3	GPS - RTRN	2015	RTRN2015

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>				
<u>MN State Plane - South Zone</u>						<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>											
2354624.684	892522.656			1109828.470	16188538.559	.131	3	GPS - RTRN	2015	RTRN2015		

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_P-DQ3929-3N-22JUL2015.jpg	N	Jul 22, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_P-DQ3929-2-22JUL2015.jpg		Jul 22, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_P-DQ3929-1-22JUL2015.jpg		Jul 22, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6404 Q

NGS Name: 6404 Q

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3441](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	35	113 N	35 W	443234.39	950117.83	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2015) **Stamping:** 6404 Q 2015

4.6 MILES EAST OF REDWOOD FALLS, 4.95 MILES EAST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 76.9, 40.5 FEET NORTH OF TRUNK HIGHWAY 19, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
850.330	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898		
850.326	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
850.326			759.641	.018	2011	HORIZONTAL ADJUSTMENT	2016	GPS3150		
850.326	.131		759.851	.066	1996	GPS - STATIC	2016	HBORN		
850.326			759.641	.018	2011	GPS - STATIC	2016	HBORN		
850.330	.262		759.657	.197	2011	GPS - RTRN	2015	RTRN2015		

Geoid Separations(ft): GEOID18 = -90.676 12B = -90.669 09 = -90.554 03 = -90.430

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 32 34.39264	95 01 17.83289	555202.849	227005.609	.013		ADJUSTMENT	2016	GPS3150	
44 32 34.39264	95 01 17.83289	555202.849	227005.609	.013	C	GPS - STATIC	2016	HBORN	
44 32 34.39176	95 01 17.83285	555202.852	227005.520	.131	3	GPS - RTRN	2015	RTRN2015	

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 32 34.39218	95 01 17.83314	555202.831	227005.563	.033	C	GPS - STATIC	2016	HBORN	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
2358325.316	892188.464	1113524.717	16188159.035	.013		ADJUSTMENT	2016	GPS3150	
2358325.316	892188.464	1113524.717	16188159.035	.013	C	GPS - STATIC	2016	HBORN	
2358325.317	892188.375	1113524.718	16188158.946	.131	3	GPS - RTRN	2015	RTRN2015	

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
2358325.297	892188.418	1113524.698	16188158.989	.033	C	GPS - STATIC	2016	HBORN	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_Q-DQ3441-3N-22JUL2015.jpg	N	Jul 22, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_Q-DQ3441-2-22JUL2015.jpg		Jul 22, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6404_Q-DQ3441-1-22JUL2015.jpg		Jul 22, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6405 AA

NGS Name: 6405 AA

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3930](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	12	112 N	36 W	443136.89	950710.99	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: 6405 AA 2015

1.0 MILE SOUTH OF REDWOOD FALLS, 1.0 MILE SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71, TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 71 MILEPOINT 74.40, 65.5 FEET WEST OF TRUNK HIGHWAY 71, 8.1 FEET EAST OF A RIGHT-OF-WAY POST, 8.1 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1033.754	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898	
1033.754	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1033.859	.262			943.368	.197	2011	GPS - RTRN	2024	RTRN2024	
1033.754	.262			943.263	.197	2011	GPS - RTRN	2015	RTRN2015	

Geoid Separations(ft): GEOID18 = -90.492 12B = -90.492 09 = -90.361 03 = -90.269

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 31 36.88787	95 07 10.98752		529632.389	221130.967	.131	3	GPS - RTRN	2024	RTRN2024	
44 31 36.88955	95 07 10.98743		529632.395	221131.137	.131	3	GPS - RTRN	2015	RTRN2015	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
2332672.326	886700.885	1087806.134	16182986.161	.131	3	GPS - RTRN	2024	RTRN2024	
2332672.335	886701.055	1087806.145	16182986.331	.131	3	GPS - RTRN	2015	RTRN2015	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_AA-DQ3930-3W-15MAY2024.jpg	W	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_AA-DQ3930-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_AA-DQ3930-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6405 K

NGS Name: 6405 K

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	25	112 N	36 W	442906.00	950702.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	1986	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2009) Stamping:

3.9 MILES SOUTH OF REDWOOD FALLS, 3.9 MILES SOUTH ALONG SOUTH MILL STREET (COUNTY ROAD 71) FROM THE JUNCTION OF SOUTH MILL STREET AND 2ND STREET IN REDWOOD FALLS.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1055.939	.033	3					VERTICAL CONTROL SURVEY	1962	CS6405	

Geoid Separations(ft): GEOID18 = -90.594 12B = -90.584 09 = -90.472 03 = -90.367

* No Horizontal Positions in the Database *



Mn/DOT Name: 6405 L

NGS Name: 6405 L

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4764](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	13	112 N	36 W	443051.65	950703.92	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2015	GOOD	Horz=YES Vert=YES	YES		PROJECTS 3 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2011) **Stamping:** 6405 L 1962 STA 1015+60

3.8 MILES SOUTH OF REDWOOD FALLS, 1.9 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 19 IN REDWOOD FALLS, AT TRUNK HIGHWAY 71 MILEPOINT 73.5, 65.0 FEET EAST OF TRUNK HIGHWAY 71, AT A FIELD ENTRANCE EAST, AT THE NORTH SIDE OF THE EAST EDGE OF A U.S. WEST UNDERGROUND JUNCTION BOX, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1040.064	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898	
1040.064	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN	
1040.064	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774	
1040.064	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG	
1040.064	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690	
1040.064	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1039.683	.033	3				VERTICAL CONTROL SURVEY	1962	CS6405	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1039.978	.262		949.453	.197	2011	GPS - RTRN	2015	RTRN2015	
1040.064			949.539	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030	
1040.064			949.539	.012	2011	GPS - STATIC	2014	HMORG	
1040.057	.131		949.762	.066	1996	GPS - STATIC	2012	HMORG	

Geoid Separations(ft): GEOID18 = -90.528 12B = -90.525 09 = -90.400 03 = -90.302

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 30 51.65284	95 07 03.91556		530151.210	216550.502	.131	3	GPS - RTRN	2015	RTRN2015
44 30 51.65327	95 07 03.91573		530151.198	216550.546	.020		ADJUSTMENT	2014	GPS3030
44 30 51.65327	95 07 03.91573		530151.198	216550.546	.020	C	GPS - STATIC	2014	HMORG

<u>NAD83(1996)</u>			<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 30 51.65264	95 07 03.91609		530151.172	216550.482	.033	C	GPS - STATIC	2012	HMORG



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2333121.935	882113.682	1088199.536	16178393.673	.131	3	GPS - RTRN	2015	RTRN2015
2333121.923	882113.725	1088199.524	16178393.716	.020		ADJUSTMENT	2014	GPS3030
2333121.923	882113.725	1088199.524	16178393.716	.020	C	GPS - STATIC	2014	HMORG

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2333121.896	882113.662	1088199.497	16178393.653	.033	C	GPS - STATIC	2012	HMORG

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_L-DM4764-3E-07JUL2015.jpg	E	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_L-DM4764-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_L-DM4764-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6405 M

NGS Name: 6405 M

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	12	112 N	36 W	443116.00	950704.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2006	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	SURVEY DISK	MNDT

Description: (2009) Stamping: 6405 M 1962

0.75 MILE SOUTH OF THE REDWOOD FALLS WATER TANK, AT TRUNK HIGHWAY 71 STATION 1043+75, 25.0 FEET WEST OF TRUNK HIGHWAY 71, THE STATION IS A BOLT IN THE NORTHWEST CORNER OF THE WEST HEADWALL OF A TRUNK HIGHWAY 71 BOX CULVERT.

Station Notes
 THE BOX CULVERT IS GONE, A ROUND CULVERT IS IN PLACE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1033.266	.033	3							VERTICAL CONTROL SURVEY	1962	CS6405	

Geoid Separations(ft): GEOID18 = -90.512 12B = -90.508 09 = -90.380 03 = -90.285

* No Horizontal Positions in the Database *



Mn/DOT Name: 6405 N

NGS Name: 6405 N

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1646](#) [Get Map](#)
NGS Quad / Sta Num : 44095122/
USGS Quad: REDWOOD FALLS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	12	112 N	36 W	443130.63	950708.98	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1986	2024	GOOD	Horz=NO Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	VERTICAL CONTROL DISK	MNDT

Description: (2011) **Stamping:** 6405 N 1986

0.25 MILE SOUTH OF REDWOOD FALLS, 1.05 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 19 IN REDWOOD FALLS, AT TRUNK HIGHWAY 71 MILEPOINT 74.3, 67.2 FEET WEST-SOUTHWEST OF TRUNK HIGHWAY 71, 30.0 FEET SOUTH OF 327TH AVENUE, 2.2 FEET NORTH OF A POWER POLE, 2.2 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference		
1042.114	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898		
1042.114	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN		
1042.114	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774		
1042.114	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG		
1042.114	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690		
1042.114	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN		
1042.114	.016	2/1				VERTICAL ADJUSTMENT	1995	00000135		

NGVD29				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference		
1041.648	.016	2/1				VERTICAL CONTROL SURVEY	1986	VOLIV		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference		
1042.245	.262		951.747	.197	2011	GPS - RTRN	2024	RTRN2024		
1042.098	.262		951.602	.197	2011	GPS - RTRN	2015	RTRN2015		

Geoid Separations(ft): GEOID18 = -90.499 12B = -90.499 09 = -90.367 03 = -90.272

Lat/Lon and County Coordinates (Feet)

NAD83(2011)			Redwood County				Project Info		
Geodetic Position			X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude								
44 31 30.63208	95 07 08.97646		529778.971	220497.613	.131	3	GPS - RTRN	2024	RTRN2024
44 31 30.63144	95 07 08.97597		529779.006	220497.549	.131	3	GPS - RTRN	2015	RTRN2015

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
X	Y							
2332809.320	886065.471	1087935.337	16182349.099	.131	3	GPS - RTRN	2024	RTRN2024
2332809.354	886065.406	1087935.371	16182349.034	.131	3	GPS - RTRN	2015	RTRN2015

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_N-PQ1646-3S-15MAY2024.jpg	S	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_N-PQ1646-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_N-PQ1646-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6405 P

NGS Name: 6405 P

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1645](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	12	112 N	36 W	443105.21	950740.69	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1986	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	VERTICAL CONTROL DISK	MNDT

Description: (2009) Stamping: 6405 P 1986

0.75 MILE SOUTHWEST OF REDWOOD FALLS, 1.0 MILE SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 19 IN REDWOOD FALLS, THEN 0.45 MILE WEST ON 327TH STREET, THEN 0.5 MILE SOUTH ON LIBERTY AVENUE, 144.9 FEET SOUTH OF A POWER POLE, 38.5 FEET EAST OF LIBERTY AVENUE, 13.5 FEET NORTH OF A FIELD ENTRANCE, 0.9 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1037.987	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898	
1037.987	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN	
1037.987	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774	
1037.987	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG	
1037.987	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690	
1037.983	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN	
1037.957	.016	2				VERTICAL ADJUSTMENT	1995	00000135	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1037.518	.016	2/1				VERTICAL CONTROL SURVEY	1986	VOLIV	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1037.928	.262		947.432	.197	2011	GPS - OPUS	2021	GPSBM	
1037.967	.262		947.472	.197	2011	GPS - RTRN	2021	RTRN2021	
1037.961	.262		947.469	.197	2011	GPS - RTRN	2015	RTRN2015	
1037.987			947.492	.009	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030	
1037.987			947.495	.009	2011	GPS - STATIC	2014	HMORG	
			947.492	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1037.990	.131		947.715	.066	1996	GPS - STATIC	2012	HMORG	
			947.610	.012	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1037.957	.131		947.738	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023	
1037.957	.131		947.738	.066	1996	GPS - STATIC	2004	HREDW	
1037.957	.131		947.738	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1037.957	.131		947.738	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -90.495 12B = -90.492 09 = -90.364 03 = -90.272

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 31 05.21162	95 07 40.68617	527484.893	217920.072	.131	3	GPS - OPUS	2021	GPSBM
44 31 05.21130	95 07 40.68536	527484.952	217920.040	.131	3	GPS - RTRN	2021	RTRN2021
44 31 05.21088	95 07 40.68535	527484.952	217919.998	.131	3	GPS - RTRN	2015	RTRN2015
44 31 05.21090	95 07 40.68544	527484.946	217920.000	.010		ADJUSTMENT	2014	GPS3030
44 31 05.21086	95 07 40.68545	527484.945	217919.996	.010	C	GPS - STATIC	2014	HMORG
44 31 05.21090	95 07 40.68544	527484.946	217920.000	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 31 05.21102	95 07 40.68624	527484.888	217920.012	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 31 05.21042	95 07 40.68589	527484.913	217919.951	.033	C	GPS - STATIC	2012	HMORG
44 31 05.21042	95 07 40.68589	527484.913	217919.951	.033	C	ADJUSTMENT	2004	GPS2023
44 31 05.21042	95 07 40.68589	527484.913	217919.951	.033	C	GPS - STATIC	2004	HREDW
44 31 05.21042	95 07 40.68589	527484.913	217919.951	.033	C	ADJUSTMENT	2002	GPS1673
44 31 05.21042	95 07 40.68589	527484.913	217919.951	.033	C	GPS - STATIC	2001	HVEST

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2330476.908	883523.144	1085571.894	16179835.461	.131	3	GPS - OPUS	2021	GPSBM
2330476.966	883523.111	1085571.952	16179835.427	.131	3	GPS - RTRN	2021	RTRN2021
2330476.966	883523.069	1085571.951	16179835.385	.131	3	GPS - RTRN	2015	RTRN2015
2330476.959	883523.071	1085571.945	16179835.387	.010		ADJUSTMENT	2014	GPS3030
2330476.959	883523.067	1085571.944	16179835.383	.010	C	GPS - STATIC	2014	HMORG
2330476.959	883523.071	1085571.945	16179835.387	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2330476.902	883523.084	1085571.887	16179835.401	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2330476.926	883523.023	1085571.911	16179835.339	.033	C	GPS - STATIC	2012	HMORG
2330476.926	883523.023	1085571.911	16179835.339	.033	C	ADJUSTMENT	2004	GPS2023
2330476.926	883523.023	1085571.911	16179835.339	.033	C	GPS - STATIC	2004	HREDW
2330476.926	883523.023	1085571.911	16179835.339	.033	C	ADJUSTMENT	2002	GPS1673
2330476.926	883523.023	1085571.911	16179835.339	.033	C	GPS - STATIC	2001	HVEST

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_P-PQ1645-3E-11MAY2021.jpg	E	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_P-PQ1645-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_P-PQ1645-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6405 S

NGS Name: 6405 S

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4767](#) [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

				Reference	Reference	Vert	Horz
1/4	Sec	Twp	Rng	Latitude	Longitude	Order	Order
SW	25	112 N	36 W	442815.18	950704.35	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** 6405 S 2006

4.95 MILES SOUTH OF REDWOOD FALLS, 4.95 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 67/TRUNK HIGHWAY 19 IN REDWOOD FALLS, AT TRUNK HIGHWAY 71 MILEPOINT 70.5, 111.5 FEET SOUTH OF A CABLE BOX, 62.6 FEET WEST OF TRUNK HIGHWAY 71, 55.6 FEET NORTH OF 290TH STREET, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1045.329	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898
1045.329	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN
1045.329	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774
1045.329	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG
1045.329	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1045.326	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1045.273	.262		954.657	.197	2011	GPS - OPUS	2021	GPSBM
1045.319	.262		954.703	.197	2011	GPS - RTRN	2021	RTRN2021
1045.362	.262		954.752	.197	2011	GPS - RTRN	2015	RTRN2015
1045.329			954.700	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030
1045.329			954.700	.012	2011	GPS - STATIC	2014	HMORG
1045.339	.131		954.936	.066	1996	GPS - STATIC	2012	HMORG

Geoid Separations(ft): GEOID18 = -90.617 12B = -90.613 09 = -90.505 03 = -90.394

Lat/Lon and County Coordinates (Feet)

NAD83(2011)			Redwood County				Project Info		
Geodetic Position			X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude								
44 28 15.18330	95 07 04.35374		530141.806	200704.080	.131	3	GPS - OPUS	2021	GPSBM
44 28 15.18319	95 07 04.35366		530141.812	200704.068	.131	3	GPS - RTRN	2021	RTRN2021
44 28 15.18303	95 07 04.35312		530141.851	200704.052	.131	3	GPS - RTRN	2015	RTRN2015
44 28 15.18312	95 07 04.35395		530141.791	200704.061	.023		ADJUSTMENT	2014	GPS3030
44 28 15.18312	95 07 04.35395		530141.791	200704.061	.023	C	GPS - STATIC	2014	HMORG

NAD83(1996)			Redwood County				Project Info		
Geodetic Position			X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude								
44 28 15.18256	95 07 04.35448		530141.752	200704.004	.033	C	GPS - STATIC	2012	HMORG

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2332873.515	866271.148	1087757.286	16162554.943	.131	3	GPS - OPUS	2021	GPSBM
2332873.520	866271.137	1087757.292	16162554.932	.131	3	GPS - RTRN	2021	RTRN2021
2332873.559	866271.120	1087757.330	16162554.914	.131	3	GPS - RTRN	2015	RTRN2015
2332873.499	866271.130	1087757.271	16162554.925	.023		ADJUSTMENT	2014	GPS3030
2332873.499	866271.130	1087757.271	16162554.925	.023	C	GPS - STATIC	2014	HMORG

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2332873.460	866271.074	1087757.231	16162554.869	.033	C	GPS - STATIC	2012	HMORG

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_S-DM4767-3W-11MAY2021.jpg	W	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_S-DM4767-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_S-DM4767-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6405 T

NGS Name: 6405 T

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4766](#) [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	24	112 N	36 W	442907.48	950704.45	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2015	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2011) Stamping: 6405 T 2006

3.95 MILES SOUTH OF REDWOOD FALLS, 3.95 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 67/TRUNK HIGHWAY 19 IN REDWOOD FALLS, AT TRUNK HIGHWAY 71 MILEPOINT 71.5, 69.6 FEET NORTH OF COUNTY ROAD 12(300TH STREET), 67.4 FEET WEST OF TRUNK HIGHWAY 71, 6.2 FEET NORTHEAST OF DOUBLE CABLE CABINETS, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1055.408	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898		
1055.408	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN		
1055.408	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774		
1055.408	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG		
1055.408	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690		
1055.405	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1055.329	.262		964.745	.197	2011	GPS - RTRN	2015	RTRN2015		
1055.408			964.808	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030		
1055.408			964.808	.012	2011	GPS - STATIC	2014	HMORG		
1055.411	.131		965.044	.066	1996	GPS - STATIC	2012	HMORG		

Geoid Separations(ft): GEOID18 = -90.590 12B = -90.581 09 = -90.472 03 = -90.364

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 29 07.47887	95 07 04.45196	530127.216	206000.263	.131	3	GPS - RTRN	2015	RTRN2015	
44 29 07.47845	95 07 04.45212	530127.204	206000.221	.023		ADJUSTMENT	2014	GPS3030	
44 29 07.47845	95 07 04.45212	530127.204	206000.221	.023	C	GPS - STATIC	2014	HMORG	

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 29 07.47783	95 07 04.45265	530127.166	206000.158	.033	C	GPS - STATIC	2012	HMORG	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
						GPS - RTRN	2015	RTRN2015	
2332938.812	871566.301	1087887.334	16167849.044	.131	3	ADJUSTMENT	2014	GPS3030	
2332938.800	871566.259	1087887.322	16167849.001	.023		GPS - STATIC	2014	HMORG	
2332938.800	871566.259	1087887.322	16167849.001	.023	C				

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
2332938.761	871566.197	1087887.282	16167848.939	.033	C	GPS - STATIC	2012	HMORG	



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_T-DM4766-3W-30AUG2006.jpg	W	Aug 30, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_T-DM4766-2-30AUG2006.jpg		Aug 30, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_T-DM4766-1-30AUG2006.jpg		Aug 30, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6405 U

NGS Name: 6405 U

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DM4765](#) [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	13	112 N	36 W	442957.41	950705.36	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2015	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: 6405 U 2006

2.95 MILES SOUTH OF REDWOOD FALLS, 2.95 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 67/TRUNK HIGHWAY 19 IN REDWOOD FALLS, AT TRUNK HIGHWAY 71 MILEPOINT 72.5, 174.6 FEET SOUTH OF A CABLE PEDESTAL, 65.0 FEET WEST OF TRUNK HIGHWAY 71, 1.0 FOOT NORTH OF A WITNESS POST.

Station Pair: BENARD - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1053.863	.016	2/1				VERTICAL ADJUSTMENT			2017	00000898		
1053.863	.016	2/1				VERTICAL CONTROL SURVEY			2016	VBORN		
1053.863	.016	2/1				VERTICAL ADJUSTMENT			2013	00000774		
1053.863	.016	2/1				VERTICAL CONTROL SURVEY			2012	VMORG		
1053.863	.016	2/1				VERTICAL ADJUSTMENT			2011	00000690		
1053.863	.016	2/1				VERTICAL CONTROL SURVEY			2008	VTLIN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1053.731	.262		963.177	.197	2011	GPS - RTRN			2015	RTRN2015		
1053.863			963.292	.011	2011	HORIZONTAL ADJUSTMENT			2014	GPS3030		
1053.863			963.292	.011	2011	GPS - STATIC			2014	HMORG		
1053.869	.131		963.528	.066	1996	GPS - STATIC			2012	HMORG		

Geoid Separations(ft): GEOID18 = -90.558 12B = -90.554 09 = -90.439 03 = -90.334

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Redwood County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order			Year	Reference	
44 29 57.41264	95 07 05.36295	530054.054	211057.188	.131	3	GPS - RTRN		2015	RTRN2015	
44 29 57.41235	95 07 05.36364	530054.005	211057.159	.020		ADJUSTMENT		2014	GPS3030	
44 29 57.41235	95 07 05.36364	530054.005	211057.159	.020	C	GPS - STATIC		2014	HMORG	

NAD83(1996)		Geodetic Position		Redwood County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order			Year	Reference	
44 29 57.41175	95 07 05.36415	530053.967	211057.098	.033	C	GPS - STATIC		2012	HMORG	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	X	Y	Acc	Order		Year	Reference
2332941.944	876623.134	1087952.338	16172905.595	.131	3	GPS - RTRN			2015	RTRN2015
2332941.894	876623.106	1087952.288	16172905.567	.020		ADJUSTMENT			2014	GPS3030
2332941.894	876623.106	1087952.288	16172905.567	.020	C	GPS - STATIC			2014	HMORG

NAD83(1996)		MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	X	Y	Acc	Order		Year	Reference
2332941.856	876623.045	1087952.249	16172905.507	.033	C	GPS - STATIC			2012	HMORG



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_U-DM4765-3W-07JUL2015.jpg	W	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_U-DM4765-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6405_U-DM4765-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6406 K

NGS Name: 6406 K

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ4717](#) [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	26	112 N	35 W	442840.54	950117.63	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 35 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) Stamping: 6406 K 2011

6.75 MILES SOUTHEAST OF REDWOOD FALLS, 6.35 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN THE SOUTHWEST PART OF REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 76.40, 65.5 FEET SOUTHWEST OF TRUNK HIGHWAY 67, 19.2 FEET NORTHWEST OF A FIELD ENTRANCE, 1.3 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>						
1027.596	.016	2/1				2013	00000774						
1027.593	.016	2/1				2012	VMORG						

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>						
1027.600	.262		936.770	.197	2011	2021	GPSBM						
1027.655	.262		936.826	.197	2011	2021	RTRN2021						
1027.596			936.789	.011	2011	2014	GPS3030						
1027.596			936.789	.011	2011	2014	HMORG						
1027.590	.131		936.990	.066	1996	2012	HMORG						

Geoid Separations(ft): GEOID18 = -90.827 12B = -90.820 09 = -90.741 03 = -90.603

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
44 28 40.54184	95 01 17.63188	555278.671	203322.489	.131	3	2021	GPSBM					
44 28 40.54219	95 01 17.63175	555278.680	203322.524	.131	3	2021	RTRN2021					
44 28 40.54210	95 01 17.63123	555278.718	203322.515	.020		2014	GPS3030					
44 28 40.54210	95 01 17.63123	555278.718	203322.515	.020	C	2014	HMORG					

<u>NAD83(1996)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
44 28 40.54158	95 01 17.63110	555278.727	203322.463	.033	C	2012	HMORG					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
2358043.939	868509.812	1112953.481	16164485.710	.131	3	2021	GPSBM					
2358043.949	868509.847	1112953.492	16164485.745	.131	3	2021	RTRN2021					
2358043.987	868509.837	1112953.529	16164485.735	.020		2014	GPS3030					
2358043.987	868509.837	1112953.529	16164485.735	.020	C	2014	HMORG					

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
2358043.996	868509.784	1112953.538	16164485.682	.033	C	2012	HMORG					



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_K-DO4717-3SW-11MAY2021.jpg	SW	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_K-DO4717-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_K-DO4717-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6406 L

NGS Name: 6406 L

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ4718](#) [Get Map](#)
NGS Quad / Sta Num : 44095211/
USGS Quad: CLEMENTS

				Reference	Reference	Vert	Horz
1/4	Sec	Twp	Rng	Latitude	Longitude	Order	Order
SE	22	112 N	35 W	442918.22	950210.35	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** 6406 L 2011

5.5 MILES SOUTHEAST OF REDWOOD FALLS, 5.35 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN THE SOUTHWEST PART OF REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 75.40, 69.7 FEET NORTHEAST OF TRUNK HIGHWAY 67, 29.3 FEET SOUTHEAST OF A FIELD ENTRANCE, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1031.366	.016	2/1					VERTICAL ADJUSTMENT	2013	00000774
1031.366	.016	2/1					VERTICAL CONTROL SURVEY	2012	VMORG

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1031.392	.262			940.621	.197	2011	GPS - OPUS	2021	GPSBM
1031.402	.262			940.628	.197	2011	GPS - RTRN	2021	RTRN2021
1031.366				940.625	.011	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030
1031.366				940.625	.011	2011	GPS - STATIC	2014	HMORG
1031.363	.131			940.822	.066	1996	GPS - STATIC	2012	HMORG

Geoid Separations(ft): GEOID18 = -90.774 12B = -90.764 09 = -90.679 03 = -90.544

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Redwood County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 29 18.22499	95 02 10.34743			551447.129	207129.272	.131	3	GPS - OPUS	2021	GPSBM
44 29 18.22517	95 02 10.34659			551447.190	207129.290	.131	3	GPS - RTRN	2021	RTRN2021
44 29 18.22508	95 02 10.34701			551447.159	207129.281	.026		ADJUSTMENT	2014	GPS3030
44 29 18.22508	95 02 10.34701			551447.159	207129.281	.026	C	GPS - STATIC	2014	HMORG

NAD83(1996)				Redwood County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 29 18.22460	95 02 10.34695			551447.164	207129.232	.033	C	GPS - STATIC	2012	HMORG

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
2354270.716	872373.482			1109227.802	16168395.232	.131	3	GPS - OPUS	2021	GPSBM
2354270.777	872373.499			1109227.863	16168395.248	.131	3	GPS - RTRN	2021	RTRN2021
2354270.746	872373.490			1109227.833	16168395.240	.026		ADJUSTMENT	2014	GPS3030
2354270.746	872373.490			1109227.833	16168395.240	.026	C	GPS - STATIC	2014	HMORG

NAD83(1996)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
2354270.750	872373.442			1109227.836	16168395.191	.033	C	GPS - STATIC	2012	HMORG



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_L-DO4718-3NE-11MAY2021.jpg	NE	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_L-DO4718-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_L-DO4718-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6406 M

NGS Name: 6406 M

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DO4721](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	17	112 N	35 W	443032.19	950405.01	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** 6406 M 2011

3.5 MILES SOUTHEAST OF REDWOOD FALLS, 3.2 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, TO TRUNK HIGHWAY 67 MILEPOINT 73.45, THEN 0.05 MILE SOUTH ON COUNTY ROAD 1, 43.8 FEET WEST OF COUNTY ROAD 1, 263.3 FEET SOUTHWEST OF TRUNK HIGHWAY 67, 8.5 FEET SOUTH OF A FIELD ENTRANCE, 3.1 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>						
1037.370	.016	2/1				2013	00000774						
1037.370	.016	2/1				2012	VMORG						

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>						
1037.416	.262		946.760	.197	2011	2021	GPSBM						
1037.406	.262		946.753	.197	2011	2021	RTRN2021						
1037.360	.262		946.714	.197	2011	2015	RTRN2015						
1037.370			946.737	.010	2011	2014	GPS3030						
1037.370			946.737	.010	2011	2014	HMORG						
1037.367	.131		946.950	.066	1996	2012	HMORG						

Geoid Separations(ft): GEOID18 = -90.656 12B = -90.646 09 = -90.544 03 = -90.423

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>						<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 30 32.19235	95 04 05.00563	543119.732	214601.883	.131	3	GPS - OPUS	2021	GPSBM	
44 30 32.19273	95 04 05.00554	543119.738	214601.922	.131	3	GPS - RTRN	2021	RTRN2021	
44 30 32.19255	95 04 05.00514	543119.767	214601.904	.131	3	GPS - RTRN	2015	RTRN2015	
44 30 32.19313	95 04 05.00601	543119.704	214601.963	.016		ADJUSTMENT	2014	GPS3030	
44 30 32.19313	95 04 05.00601	543119.704	214601.963	.016	C	GPS - STATIC	2014	HMORG	

<u>NAD83(1996)</u>		<u>Redwood County</u>						<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 30 32.19269	95 04 05.00597	543119.707	214601.918	.033	C	GPS - STATIC	2012	HMORG	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
2346057.993	879969.921	1101108.612	16176091.646	.131	3	GPS - OPUS	2021	GPSBM		
2346057.999	879969.959	1101108.620	16176091.684	.131	3	GPS - RTRN	2021	RTRN2021		
2346058.028	879969.941	1101108.648	16176091.665	.131	3	GPS - RTRN	2015	RTRN2015		
2346057.966	879970.000	1101108.586	16176091.725	.016		ADJUSTMENT	2014	GPS3030		
2346057.966	879970.000	1101108.586	16176091.725	.016	C	GPS - STATIC	2014	HMORG		

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
2346057.968	879969.956	1101108.588	16176091.681	.033	C	GPS - STATIC	2012	HMORG		



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_M-DO4721-3W-11MAY2021.jpg	W	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_M-DO4721-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_M-DO4721-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6406 N

NGS Name: 6406 N

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DO4722](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	8	112 N	35 W	443111.22	950456.72	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 14 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) Stamping: 6406 N 2011

2.6 MILES SOUTHEAST OF REDWOOD FALLS, 2.2 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 72.45, 65.4 FEET NORTHEAST OF TRUNK HIGHWAY 67, 2.0 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1023.003	.016	2/1					VERTICAL ADJUSTMENT	2013	00000774	
1023.003	.016	2/1					VERTICAL CONTROL SURVEY	2012	VMORG	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1023.098	.262			932.501	.197	2011	GPS - RTRN	2024	RTRN2024	
1023.003				932.433	.012	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119	
1023.003	.131			932.603	.066	1996	GPS - STATIC	2017	HMNCORS07	
1023.003				932.433	.012	2011	GPS - STATIC	2017	HMNPH	
1023.016	.262			932.426	.197	2011	GPS - RTRN	2015	RTRN2015	
1022.970	.262			932.380	.197	2011	GPS - RTRN	2015	RTRN2015	
1023.003				932.433	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030	
1023.003				932.433	.013	2011	GPS - STATIC	2014	HMORG	
1022.997	.131			932.639	.066	1996	GPS - STATIC	2012	HMORG	

Geoid Separations(ft): GEOID18 = -90.597 12B = -90.590 09 = -90.476 03 = -90.364

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 31 11.22458	95 04 56.72442		539364.346	218547.630	.131	3	GPS - RTRN	2024	RTRN2024
44 31 11.22378	95 04 56.72445		539364.344	218547.549	.010		ADJUSTMENT	2018	GPS3119
44 31 11.22378	95 04 56.72445		539364.344	218547.549	.010	C	GPS - STATIC	2017	HMNPH
44 31 11.22346	95 04 56.72406		539364.372	218547.517	.131	3	GPS - RTRN	2015	RTRN2015
44 31 11.22373	95 04 56.72400		539364.377	218547.545	.131	3	GPS - RTRN	2015	RTRN2015
44 31 11.22378	95 04 56.72445		539364.344	218547.549	.020		ADJUSTMENT	2014	GPS3030
44 31 11.22378	95 04 56.72445		539364.344	218547.549	.020	C	GPS - STATIC	2014	HMORG

<u>NAD83(1996)</u>			<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 31 11.22375	95 04 56.72451		539364.340	218547.546	.033	C	GPS - STATIC	2017	HMNCORS07
44 31 11.22337	95 04 56.72443		539364.346	218547.508	.033	C	GPS - STATIC	2012	HMORG



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2342363.009	883971.373	1097462.857	16180138.093	.131	3	GPS - RTRN	2024	RTRN2024
2342363.006	883971.292	1097462.853	16180138.012	.010		ADJUSTMENT	2018	GPS3119
2342363.006	883971.292	1097462.853	16180138.012	.010	C	GPS - STATIC	2017	HMNPH
2342363.034	883971.260	1097462.880	16180137.979	.131	3	GPS - RTRN	2015	RTRN2015
2342363.039	883971.287	1097462.885	16180138.006	.131	3	GPS - RTRN	2015	RTRN2015
2342363.006	883971.292	1097462.853	16180138.012	.020		ADJUSTMENT	2014	GPS3030
2342363.006	883971.292	1097462.853	16180138.012	.020	C	GPS - STATIC	2014	HMORG

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2342363.002	883971.289	1097462.848	16180138.009	.033	C	GPS - STATIC	2017	HMNCORS07
2342363.007	883971.251	1097462.853	16180137.970	.033	C	GPS - STATIC	2012	HMORG

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_N-DO4722-3NE-15MAY2024.jpg	NE	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_N-DO4722-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_N-DO4722-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6406 P

NGS Name: 6406 P

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DO4723](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	7	112 N	35 W	443147.44	950552.82	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) Stamping: 6406 P 2011

2.0 MILES SOUTH OF REDWOOD FALLS, 1.15 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN THE SOUTHWEST PART OF REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 71.4, 75.8 FEET SOUTHWEST OF TRUNK HIGHWAY 67, 63.2 FEET SOUTHEAST OF COUNTY ROAD 101, 1.6 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1024.886	.016	2/1					VERTICAL ADJUSTMENT	2013	00000774	
1024.886	.016	2/1					VERTICAL CONTROL SURVEY	2012	VMORG	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1024.982	.262			934.444	.197	2011	GPS - RTRN	2024	RTRN2024	
1024.877	.262			934.345	.197	2011	GPS - RTRN	2015	RTRN2015	
1024.886				934.368	.015	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030	
1024.886				934.368	.015	2011	GPS - STATIC	2014	HMORG	
1024.900	.131			934.581	.066	1996	GPS - STATIC	2012	HMORG	

Geoid Separations(ft): GEOID18 = -90.535 12B = -90.531 09 = -90.410 03 = -90.305

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 31 47.43974	95 05 52.82117			535293.662	222208.220	.131	3	GPS - RTRN	2024	RTRN2024
44 31 47.44019	95 05 52.82149			535293.638	222208.266	.131	3	GPS - RTRN	2015	RTRN2015
44 31 47.43969	95 05 52.82237			535293.575	222208.215	.020		ADJUSTMENT	2014	GPS3030
44 31 47.43969	95 05 52.82237			535293.575	222208.215	.020	C	GPS - STATIC	2014	HMORG

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 31 47.43926	95 05 52.82240			535293.572	222208.171	.033	C	GPS - STATIC	2012	HMORG

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2338348.503	887692.492			1093494.166	16183908.173	.131	3	GPS - RTRN	2024	RTRN2024
2338348.480	887692.538			1093494.144	16183908.220	.131	3	GPS - RTRN	2015	RTRN2015
2338348.416	887692.489			1093494.079	16183908.171	.020		ADJUSTMENT	2014	GPS3030
2338348.416	887692.489			1093494.079	16183908.171	.020	C	GPS - STATIC	2014	HMORG

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2338348.413	887692.445			1093494.076	16183908.127	.033	C	GPS - STATIC	2012	HMORG



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_P-DO4723-3SW-15MAY2024.jpg	SW	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_P-DO4723-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_P-DO4723-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6406 Q

NGS Name: 6406 Q

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DO4710](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	1	112 N	36 W	443206.11	950657.63	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2024	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) Stamping: 6406 Q 2011

IN REDWOOD FALLS, 0.15 MILE EAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN THE SOUTHWEST PART OF REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 70.4, 33.6 FEET SOUTH OF TRUNK HIGHWAY 67, 52.7 FEET EAST OF SOUTH JEFFERSON STREET, 12.9 FEET NORTH OF A SIDEWALK, 32.8 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1041.222	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898
1041.222	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN
1041.222	.016	2/1					VERTICAL ADJUSTMENT	2013	00000774
1041.225	.016	2/1					VERTICAL CONTROL SURVEY	2012	VMORG

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1041.287	.262			950.805	.197	2011	GPS - RTRN	2024	RTRN2024
1041.218	.262			950.736	.197	2011	GPS - RTRN	2015	RTRN2015

Geoid Separations(ft): GEOID18 = -90.482 12B = -90.482 09 = -90.348 03 = -90.256

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 06.11316	95 06 57.63380			530595.605	224092.132	.131	3	GPS - RTRN	2024	RTRN2024
44 32 06.11297	95 06 57.63409			530595.584	224092.113	.131	3	GPS - RTRN	2015	RTRN2015

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2333679.978	889646.818			1088849.834	16185919.603	.131	3	GPS - RTRN	2024	RTRN2024
2333679.956	889646.799			1088849.812	16185919.584	.131	3	GPS - RTRN	2015	RTRN2015

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_Q-DO4710-3W-15MAY2024.jpg	W	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_Q-DO4710-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6406_Q-DO4710-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 65 T

NGS Name: 65 T

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8918](#) [Get Map](#)
 NGS Quad / Sta Num : 44095311/
 USGS Quad: MILROY

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	34	112 N	39 W	442737.14	953049.13	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2024	GOOD	Horz=YES Vert=YES	YES		PROJECTS 5 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	USGS

Description: (2016) Stamping: 65 T 1097 1960

13.0 MILES EAST OF MARSHALL, 12.2 MILES EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 23 IN MARSHALL, TO TRUNK HIGHWAY 19 MILEPOINT 48.65, THEN 0.2 MILE NORTH ON CAMP AVENUE, 47.5 FEET SOUTH OF A POWER POLE, 36.0 FEET WEST OF CAMP AVENUE, 1.5 FEET EAST OF A WITNESS POST.

Station Notes

THE MARK IS TILTED 5 DEGREES TO THE EAST BUT IS STABLE. 10-16-2006.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1097.452	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1097.455	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1096.927	.033	3					VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1097.422	.262			1007.941	.197	2011	GPS - RTRN	2024	RTRN2024	
1097.485	.262			1008.003	.197	2011	GPS - OPUS	2019	GPSBM	
1097.701	.262			1008.220	.197	2011	GPS - RTRN	2019	RTRN2019	
				1007.977	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
				1008.069	.009	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1097.439	.131			1008.210	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1097.439	.131			1008.210	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -89.481 12B = -89.475 09 = -89.370 03 = -89.271

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 27 37.13562	95 30 49.12932			426806.956	196954.889	.131	3	GPS - RTRN	2024	RTRN2024
44 27 37.13584	95 30 49.12996			426806.910	196954.912	.131	3	GPS - OPUS	2019	GPSBM
44 27 37.13482	95 30 49.13090			426806.842	196954.809	.131	3	GPS - RTRN	2019	RTRN2019
44 27 37.13570	95 30 49.13011			426806.899	196954.897	.007		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 27 37.13564	95 30 49.13099			426806.835	196954.892	.010		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 27 37.13507	95 30 49.13066			426806.859	196954.834	.033	C	ADJUSTMENT	2002	GPS1673
44 27 37.13507	95 30 49.13066			426806.860	196954.832	.033	C	GPS - STATIC	2001	HVEST

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2229506.472	864081.864	984361.270	16161629.199	.131	3	GPS - RTRN	2024	RTRN2024
2229506.426	864081.887	984361.225	16161629.223	.131	3	GPS - OPUS	2019	GPSBM
2229506.356	864081.785	984361.153	16161629.122	.131	3	GPS - RTRN	2019	RTRN2019
2229506.415	864081.873	984361.213	16161629.209	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2229506.351	864081.868	984361.149	16161629.205	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2229506.374	864081.810	984361.171	16161629.147	.033	C	ADJUSTMENT	2002	GPS1673
2229506.374	864081.810	984361.171	16161629.147	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/65_T-AJ8918-3W-17MAY2024.jpg	W	May 17, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/65_T-AJ8918-2-17MAY2024.jpg		May 17, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/65_T-AJ8918-1-17MAY2024.jpg		May 17, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6506 A 2

NGS Name: 6506 A 2

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DJ6758](#) [Get Map](#)
 NGS Quad / Sta Num : 44094433/
 USGS Quad: MORTON

				Reference	Reference	Vert	Horz
1/4	Sec	Twp	Rng	Latitude	Longitude	Order	Order
SE	36	113 N	34 W	443242.14	945942.96	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1995	2024	GOOD	Horz=NO Vert=NO	YES	64010	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE RAILING	BENCH MARK DISK	MNDT

Description: (2016) **Stamping:** 6506 A 2 1995

0.75 MILE SOUTHWEST OF MORTON, IN A BRIDGE RAILING IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 19/ TRUNK HIGHWAY 71 BRIDGE NUMBER 6410 OVER THE MINNESOTA RIVER, 0.3 MILE SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 19 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 78.40, 25.73 FEET EAST OF TRUNK HIGHWAY 19/ TRUNK HIGHWAY 71.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Adj	Height	Acc	Adj	Determination Method	Year	Reference
850.274	.016	2/1					VERTICAL ADJUSTMENT	2013	00000792
850.274	.016	2/1					VERTICAL CONTROL SURVEY	2012	VMORTN
850.274	.016	2/1					VERTICAL ADJUSTMENT	2008	00000561
850.271	.016	2/1					VERTICAL CONTROL SURVEY	2005	VMTON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Adj	Height	Acc	Adj	Determination Method	Year	Reference
850.300	.262			759.579	.197	2011	GPS - RTRN	2024	RTRN2024

Geoid Separations(ft): GEOID18 = -90.718 12B = -90.712 09 = -90.600 03 = -90.472

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Redwood County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 32 42.13800	94 59 42.95708			562072.291	227808.900	.131	3	GPS - RTRN	2024	RTRN2024

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
2365205.239	892887.963			1120412.634	16188774.149	.131	3	GPS - RTRN	2024	RTRN2024

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6506_A_2-DJ6758-3SE-22MAY2024.jpg	SE	May 22, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6506_A_2-DJ6758-2-22MAY2024.jpg		May 22, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/6506_A_2-DJ6758-1-22MAY2024.jpg		May 22, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 66 T

NGS Name: 66 T

County: REDWOOD, MN (Sheet 1)

NGS ACRN: PQ1033	Get Map
NGS Quad / Sta Num : 44095311/	
USGS Quad: MILROY	

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	22	112 N	39 W	442938.32	953049.00		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1960	2021	GOOD	Horz=NO Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2009) **Stamping:** ET 66 T 1960 1088

4.5 MILES WEST-SOUTHWEST OF VESTA, 3.8 MILES SOUTHWEST AND WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, THEN 2.5 MILES NORTH ON CAMP AVENUE, 63.0 FEET EAST OF DRIVEWAY NUMBER 13969, 52.0 FEET WEST OF CAMP AVENUE, 21.0 FEET NORTH OF 305TH STREET, UNDER A HOUSE POWER LINE.

Station Notes

IN 2003, THE CONCRETE AROUND THE MARK IS BROKEN BUT THE MARK IS STILL STABLE. REPORTED CHIPPED BUT STABLE. DUE TO TREE COVER, THIS SURVEY MARK HAS BEEN ABANDONED FOR MNDOT GEODETIC HORIZONTAL SURVEYS.

Leveling-Derived Orthometric Heights (Feet)

NGVD29			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order/(Class)	Height	Acc	Adj	Determination Method	Year	Reference
1088.079	.033	3				VERTICAL CONTROL SURVEY	1966	USGS-VERT

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order/(Class)	Height	Acc	Adj	Determination Method	Year	Reference
			999.066	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			999.161	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1088.646	.131		999.279	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1088.646	.131		999.279	.066	1996	GPS - STATIC	2004	HREDW
1088.646	.262		999.368	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -89.567 12B = -89.570 09 = -89.449 03 = -89.340

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 29 38.31597	95 30 49.00050	426858.316	209227.242	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 29 38.31597	95 30 49.00133	426858.256	209227.242	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 29 38.31534	95 30 49.00066	426858.304	209227.178	.033	C	ADJUSTMENT	2004	GPS2023
44 29 38.31534	95 30 49.00066	426858.304	209227.178	.033	C	GPS - STATIC	2004	HREDW
44 29 38.32078	95 30 49.00675	426857.864	209227.731	.131	3	ADJUSTMENT	1999	17648
44 29 38.31496	95 30 49.00067	426858.303	209227.140	.131	3	ADJUSTMENT	1998	17655

NAD83(1986)		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 29 38.31491	95 30 48.99980	426858.366	209227.135	.131	3	ADJUSTMENT	1986	17289

NAD27		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 29 38.46144	95 30 47.94989			.100	3	CLASSICAL SURVEY	1977	15976

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2229743.019	876350.543	984747.911	16173896.145	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2229742.958	876350.544	984747.850	16173896.147	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2229743.006	876350.479	984747.897	16173896.082	.033	C	ADJUSTMENT	2004	GPS2023
2229743.006	876350.479	984747.897	16173896.082	.033	C	GPS - STATIC	2004	HREDW
2229742.575	876351.038	984747.473	16173896.646	.131	3	ADJUSTMENT	1999	17648
2229743.004	876350.441	984747.895	16173896.043	.131	3	ADJUSTMENT	1998	17655

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2229743.067	876350.435	984747.958	16173896.036	.131	3	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
1605141.236	548274.924			.100	3	CLASSICAL SURVEY	1977	15976

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/66_T-PQ1033-3NW-18AUG2003.jpg	NW	Aug 18, 2003
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/66_T-PQ1033-2-18AUG2003.jpg		Aug 18, 2003
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/66_T-PQ1033-1-18AUG2003.jpg		Aug 18, 2003

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 67 T

NGS Name: 67 T

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095311/
 USGS Quad: MILROY

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	20	112 N	39 W	442937.90	953424.60		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2008	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: 67 T 1960 1078

5.3 MILES NORTHWEST OF MILROY, 33.0 FEET SOUTH AND 158.0 FEET EAST OF COUNTY ROAD 51 (WEST AND SOUTH) AND A TOWNSHIP ROAD (EAST), 1.0 FOOT NORTH OF AN EAST-WEST FENCE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1077.872	.033	3					VERTICAL CONTROL SURVEY	1960	USGS-VERT	

Geoid Separations(ft): GEOID18 = -89.409 12B = -89.409 09 = -89.298 03 = -89.173

* No Horizontal Positions in the Database *



Mn/DOT Name: 68 JMK

NGS Name: 68 JMK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7774](#) [Get Map](#)
 NGS Quad / Sta Num : 44094433/
 USGS Quad: MORTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	19	112 N	34 W	443000.44	945911.33		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1966	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2016) **Stamping:** 68 JMK 1966

6.5 MILES NORTH OF MORGAN, 3.90 MILES NORTHWEST ALONG TRUNK HIGHWAY 67 FROM TRUNK HIGHWAY 67 AND COUNTY ROAD 2 IN MORGAN, TO TRUNK HIGHWAY 67 MILEPOINT 79.0, THEN 3.10 MILES NORTH ALONG COUNTY ROAD 13, 56.0 FEET EAST OF COUNTY ROAD 13, 12.0 FEET NORTH OF 310TH STREET EXTENDED, 4.5 FEET WEST OF A POWER POLE NUMBER RE FR 112, 2.8 FEET SOUTH OF A SIGN POST, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1012.846	.033	3				VERTICAL CONTROL SURVEY	1966 USGS-VERT

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1013.033	.262		922.180	.197	2011	GPS - OPUS	2021 GPSBM
1013.118	.262		922.265	.197	2011	GPS - OPUS	2021 GPSBM
1013.197	.262		922.341	.197	2011	GPS - RTRN	2021 RTRN2021
1013.056	.262		922.209	.197	2011	GPS - RTRN	2015 RTRN2015
			922.285	.010	2011	HORIZONTAL ADJUSTMENT	2014 GPS3030
1013.125			922.291	.010	2011	GPS - STATIC	2014 HMORG
			922.285	.023	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1013.154	.131		922.534	.066	1996	GPS - STATIC	2012 HMORG
			922.357	.025	2007	HORIZONTAL ADJUSTMENT	2007 GPS2300
1013.121	.131		922.469	.066	1996	HORIZONTAL ADJUSTMENT	2004 GPS2023
1013.121	.131		922.469	.066	1996	GPS - STATIC	2004 HREDW

Geoid Separations(ft): GEOID18 = -90.853 12B = -90.846 09 = -90.764 03 = -90.623

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Redwood County				Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference
44 30 00.43538	94 59 11.33416	564411.989	211439.285	.131	3	GPS - OPUS	2021 GPSBM
44 30 00.43495	94 59 11.33347	564412.039	211439.242	.131	3	GPS - OPUS	2021 GPSBM
44 30 00.43553	94 59 11.33310	564412.066	211439.301	.131	3	GPS - RTRN	2021 RTRN2021
44 30 00.43421	94 59 11.33343	564412.042	211439.167	.131	3	GPS - RTRN	2015 RTRN2015
44 30 00.43517	94 59 11.33320	564412.059	211439.264	.013		ADJUSTMENT	2014 GPS3030
44 30 00.43509	94 59 11.33329	564412.052	211439.256	.013	C	GPS - STATIC	2014 HMORG
44 30 00.43517	94 59 11.33320	564412.059	211439.264	.016		ADJUSTMENT	2012 GPS2800

NAD83(2007)		Redwood County				Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference
44 30 00.43526	94 59 11.33428	564411.980	211439.273	.020		ADJUSTMENT	2007 GPS2300

NAD83(1996)		Redwood County				Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference
44 30 00.43477	94 59 11.33341	564412.043	211439.224	.033	C	GPS - STATIC	2012 HMORG
44 30 00.43477	94 59 11.33341	564412.043	211439.224	.033	C	ADJUSTMENT	2004 GPS2023
44 30 00.43477	94 59 11.33341	564412.043	211439.224	.033	C	GPS - STATIC	2004 HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2367297.511	876486.947	1122303.853	16172348.973	.131	3	GPS - OPUS	2021	GPSBM
2367297.560	876486.903	1122303.901	16172348.929	.131	3	GPS - OPUS	2021	GPSBM
2367297.588	876486.961	1122303.930	16172348.987	.131	3	GPS - RTRN	2021	RTRN2021
2367297.562	876486.828	1122303.903	16172348.854	.131	3	GPS - RTRN	2015	RTRN2015
2367297.580	876486.925	1122303.922	16172348.951	.013		ADJUSTMENT	2014	GPS3030
2367297.573	876486.917	1122303.915	16172348.943	.013	C	GPS - STATIC	2014	HMORG
2367297.580	876486.925	1122303.922	16172348.951	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2367297.502	876486.935	1122303.844	16172348.962	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2367297.564	876486.884	1122303.905	16172348.910	.033	C	GPS - STATIC	2012	HMORG
2367297.564	876486.884	1122303.905	16172348.910	.033	C	ADJUSTMENT	2004	GPS2023
2367297.564	876486.884	1122303.905	16172348.910	.033	C	GPS - STATIC	2004	HREDW

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/68_JMK-DG7774-3E-11MAY2021.jpg	E	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/68_JMK-DG7774-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/68_JMK-DG7774-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 71 T

NGS Name: 71 T

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095422/
 USGS Quad: SCHOOL GROVE LAKE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	112 N	39 W	443231.00	953015.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2003	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: 71 T 1960 1071

9.5 MILES SOUTHEAST OF COTTONWOOD, 1.0 MILE EAST ALONG 4TH STREET FROM THE JUNCTION OF 4TH STREET AND 310TH AVENUE IN COTTONWOOD, THEN 4.0 MILES SOUTH ON 320TH AVENUE, THEN 7.0 MILES EAST ON 340TH STREET WHICH TURNS INTO (COUNTY ROAD 46), 50.0 FEET SOUTH AND 345.0 FEET WEST OF COUNTY ROAD 46 (ON THE NORTH COUNTY LINE) AT A TEE-ROAD NORTH.

Station Notes

THE REDWOOD COUNTY HIGHWAY DEPARTMENT FOUND THE RIGHT-OF-WAY POST GONE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1070.493	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT

Geoid Separations(ft): GEOID18 = -89.652 12B = -89.665 09 = -89.537 03 = -89.416

* No Horizontal Positions in the Database *



Mn/DOT Name: A 127

NGS Name: A 127

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0297](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	1	112 N	36 W	443224.00	950701.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1986	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	BENCH MARK DISK	NGS

Description: (2009) Stamping: A-127 1934

IN REDWOOD FALLS, IN THE NORTHWEST CORNER OF COURTHOUSE SQUARE BY THE JUNCTION OF COURTHOUSE SQUARE AND SOUTH JEFFERSON STREET IN REDWOOD FALLS.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1044.230	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1043.807	.033	3					VERTICAL CONTROL SURVEY	1965	USGS-VERT	
1043.807	.007	1					VERTICAL CONTROL SURVEY	1939	L73 MINN	

Geoid Separations(ft): GEOID18 = -90.472 12B = -90.472 09 = -90.331 03 = -90.239

* No Horizontal Positions in the Database *



Mn/DOT Name: ALLAN

NGS Name: ALLAN

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0955](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/1002
 USGS Quad: BELVIEW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	31	113 N	37 W	443322.10	952133.34		1

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1993	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (2009) **Stamping:** ALLAN 1934

4.4 MILES NORTHEAST OF VESTA, 1.0 MILE NORTH ALONG TRUNK HIGHWAY 273 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 273 (THE JUNCTION IS 4.0 MILES SOUTH OF BELVIEW), THEN 1.45 MILES WEST ON A GRAVEL ROAD, 375.02 FEET NORTHEAST OF ALLAN RM 1, 300.0 FEET EAST OF THE COUNTY LINE (296.0 FEET EAST OF A NORTH-SOUTH FENCE), 40.0 FEET SOUTH OF AN EAST-WEST GRAVEL ROAD, 24.5 FEET EAST OF A FIELD ENTRANCE, IN A CULTIVATED FIELD, 13.3 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1065.287	.131		975.625	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1064.598						RECIPROCAL VERTICAL ANGLE	1934	HORZ

Geoid Separations(ft): GEOID18 = -89.944 12B = -89.944 09 = -89.813 03 = -89.731

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
44 33 22.10317	95 21 33.33502	467172.898	231791.400	.033	1	ADJUSTMENT	1999	17648		

<u>NAD83(1986)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
44 33 22.09916	95 21 33.33232	467173.093	231790.993	.033	1	ADJUSTMENT	1986	17289		

<u>NAD27</u>		<u>Geodetic Position</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 22.25400	95 21 32.30700			.100	1	CLASSICAL SURVEY	1938	03676

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
2270388.506	898301.025	1025665.030	16195349.861	.033	1	ADJUSTMENT	1999	17648		

<u>NAD83(1986)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
2270388.694	898300.616	1025665.214	16195349.449	.033	1	ADJUSTMENT	1986	17289		

<u>NAD27</u>		<u>MN State Plane - South Zone</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1645786.163	570225.899			.100	1	CLASSICAL SURVEY	1938	03676



Mn/DOT Name: ALLAN AZ MK

NGS Name: ALLAN AZ MK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CO7763](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	31	113 N	37 W	443258.30	952024.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2006	GOOD	Horz=YES Vert=YES	NO		PROJECTS 3 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	AZIMUTH MARK DISK	NGS

Description: (2009) Stamping: ALLAN AZI 1934

4.0 MILES NORTHEAST OF VESTA, 6.35 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 61.15, THEN 0.5 MILE NORTH ON GARDEN AVENUE NORTH, 29.0 FEET WEST OF GARDEN AVENUE NORTH, 15.0 FEET SOUTH OF A FIELD ENTRANCE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1067.390	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1067.393	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Geoid Separations(ft): GEOID18 = -89.987 12B = -89.983 09 = -89.855 03 = -89.777

* No Horizontal Positions in the Database *



Mn/DOT Name: ALLAN RESET

NGS Name: ALLAN RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AH3643](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/1002
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	31	113 N	37 W	443322.10	952133.32		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1993	1993	GOOD	Horz=NO Vert=NO	NO		RECESSED 16 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (2009) **Stamping:** ALLAN 1934 1993

4.4 MILES NORTHEAST OF VESTA, 1.0 MILE NORTH ALONG TRUNK HIGHWAY 273 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 273 (THE JUNCTION IS 4.0 MILES SOUTH OF BELVIEW), THEN 1.45 MILES WEST ON A GRAVEL ROAD, 375.02 FEET NORTHEAST OF ALLAN RM 1, 300.0 FEET EAST OF COUNTY LINE (296.0 FEET EAST OF A NORTH-SOUTH FENCE), 40.0 FEET SOUTH OF AN EAST-WEST GRAVEL ROAD, 375.02 FEET NORTHEAST OF ALLAN RM 2, 24.5 FEET EAST OF A FIELD ENTRANCE, IN A CULTIVATED FIELD, 13.3 FEET SOUTH OF A WITNESS POST.

Station Notes

THE SURVEY MARK IS ON PRIVATE PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1075.326	.131		985.480	.017	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1075.359	.131		985.575	.016	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
			985.680	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648
			985.680	.066	1996	HORIZONTAL ADJUSTMENT	1998	GPS937

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1074.899						GPS - STATIC	1993	HORZ

Geoid Separations(ft): GEOID18 = -89.944 12B = -89.944 09 = -89.813 03 = -89.731

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 22.10395	95 21 33.31790	467174.138	231791.477	.023		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 22.10393	95 21 33.31879	467174.073	231791.475	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 22.10333	95 21 33.31838	467174.102	231791.414	.033	C	ADJUSTMENT	1999	17648
44 33 22.10333	95 21 33.31838	467174.102	231791.414	.033	C	ADJUSTMENT	1998	GPS937

NAD83(1986)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 22.09923	95 21 33.31272	467174.512	231790.998	.066	2	GPS - STATIC	1993	HMARS



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2270389.747	898301.083	1025666.272	16195349.904	.023		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2270389.682	898301.083	1025666.207	16195349.904	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2270389.711	898301.021	1025666.235	16195349.842	.033	C	ADJUSTMENT	1999	17648
2270389.711	898301.021	1025666.235	16195349.842	.033	C	ADJUSTMENT	1998	GPS937

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2270390.114	898300.599	1025666.633	16195349.415	.066	2	GPS - STATIC	1993	HMARS



Mn/DOT Name: ALLAN RM 1

NGS Name: ALLAN RM 1

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CO7764](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	31	113 N	37 W	443320.00	952136.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1993	1993	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2009) **Stamping:**

13.0 MILES WEST OF THE TOWN OF REDWOOD, 1.0 MILE NORTH ALONG TRUNK HIGHWAY 273 FROM THE JUNCTION OF TRUNK HIGHWAY 273 AND TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 (THE JUNCTION IS 4.0 MILES SOUTH OF BELVIEW), THEN 1.45 MILES WEST ON A GRAVEL ROAD, 40.0 FEET SOUTH OF A GRAVEL ROAD, 24.5 FEET SOUTH OF A FIELD ENTRANCE, 13.3 FEET SOUTH OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -89.944 12B = -89.944 09 = -89.813 03 = -89.731



Mn/DOT Name: ALLAN RM 2

NGS Name: ALLAN RM 2

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CO7765](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	31	113 N	37 W	443322.00	952136.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1993	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2009) Stamping:

4.4 MILES NORTHEAST OF VESTA, 1.0 MILE NORTH ALONG TRUNK HIGHWAY 273 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 273 (THE JUNCTION IS 4.0 MILES SOUTH OF BELVIEW), THEN 1.45 MILES WEST ON A GRAVEL ROAD.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -89.944 12B = -89.941 09 = -89.813 03 = -89.731



Mn/DOT Name: B 127

NGS Name: B 127

County: REDWOOD, MN (Sheet 1)

NGS ACRN: PQ0298	Get Map
NGS Quad / Sta Num : 44095122/	
USGS Quad: REDWOOD FALLS	

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	1	112 N	36 W	443156.83	950709.28	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - LARGE	BENCH MARK DISK	NGS

Description: (2016) **Stamping:** B 127 1934

IN REDWOOD FALLS, 0.6 MILE SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 19, AT TRUNK HIGHWAY 71 MILEPOINT 74.8, AT THE OLD WATER TANK, 57.0 FEET EAST OF TRUNK HIGHWAY 71, IN THE SOUTHWEST PART OF A SANDSTONE BASE OF A TANK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1048.377	.016	2/1				VERTICAL ADJUSTMENT		2017	00000898
1048.377	.016	2/1				VERTICAL CONTROL SURVEY		2016	VBORN
1048.377	.016	2/1				VERTICAL ADJUSTMENT		2013	00000774
1048.377	.016	2/1				VERTICAL CONTROL SURVEY		2012	VMORG
1048.377	.016	2/1				VERTICAL ADJUSTMENT		2011	00000690
1048.377	.016	2/1				VERTICAL CONTROL SURVEY		2008	VTLIN
1048.377	.007	1				VERTICAL ADJUSTMENT		1995	00000135
1048.377	.016	2/1				VERTICAL ADJUSTMENT		1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1047.957	.016	2/0				UNKNOWN/APPROXIMATE		1992	UNCHECKD
1047.898	.016	2/1				VERTICAL CONTROL SURVEY		1986	VOLIV
1047.957	.007	1				VERTICAL CONTROL SURVEY		1935	L73 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1048.472	.262		957.990	.197	2011	GPS - RTRN		2024	RTRN2024
1048.298	.262		957.816	.197	2011	GPS - RTRN		2015	RTRN2015

Geoid Separations(ft): GEOID18 = -90.482 12B = -90.482 09 = -90.344 03 = -90.256

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
44 31 56.82622	95 07 09.28310	529753.058	223150.401	.131	3	GPS - RTRN		2024	RTRN2024
44 31 56.82608	95 07 09.28204	529753.134	223150.387	.131	3	GPS - RTRN		2015	RTRN2015

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
2332823.426	888718.020	1087981.942	16185001.346	.131	3	GPS - RTRN		2024	RTRN2024
2332823.503	888718.004	1087982.019	16185001.330	.131	3	GPS - RTRN		2015	RTRN2015

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/B_127-PQ0298-3E-15MAY2024.jpg	E	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/B_127-PQ0298-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/B_127-PQ0298-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BELVIEW EVAN LUTH CH SPIRE

NGS Name: BELVIEW EVAN LUTH CH SPIRE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0956](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/1017
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	8	113 N	37 W	443610.96	951945.53		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1960	GOOD	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BLANK	CHURCH SPIRE	NGS

Description: (2009)

Stamping:

IN BELVIEW, ON THE JUNCTION OF SOUTH MAIN STREET AND ST. OLAF STREET IN BELVIEW, IN THE SOUTHEAST CORNER OF THE JUNCTION.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -89.921 12B = -89.924 09 = -89.790 03 = -89.698

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 36 10.96437	95 19 45.52833	474999.491	248882.478	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 36 10.96082	95 19 45.52615	474999.648	248882.118	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 36 11.11100	95 19 44.50000			.100	4	CLASSICAL SURVEY	1938	03676

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2278471.093	915269.938	1033956.259	16212219.968	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2278471.245	915269.576	1033956.406	16212219.604	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1653868.926	587194.260			.100	4	CLASSICAL SURVEY	1938	03676



Mn/DOT Name: BELVIEW MNDT

NGS Name: BELVIEW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AB9855](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	16	113 N	37 W	443506.97	951802.49	2	B

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1994	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD	MNDT

Description: (2009) **Stamping:** BELVIEW 1994

9.5 MILES WEST-NORTHWEST OF REDWOOD FALLS, 3.0 MILES NORTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 19, THEN 1.4 MILES EAST ON 370TH STREET (JUNCTION IS 10.5 MILES WEST OF REDWOOD FALLS), 33.0 FEET NORTH OF 370TH STREET, 60.0 FEET EAST OF A FIELD ENTRANCE, 22.2 FEET WEST-SOUTHWEST OF A POWER POLE, 21.8 FEET WEST-SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1050.949	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690	
1050.956	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1051.031	.262		961.022	.197	2011	GPS - RTRN	2024	RTRN2024	
1050.949			960.950	.009	2011	HORIZONTAL ADJUSTMENT	2019	GPS3321	
1050.949	.131		961.166	.066	1996	GPS - STATIC	2019	HYELL	
1050.949			960.950	.009	2011	GPS - STATIC	2019	HYELL	
1050.949			960.950	.009	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119	
1050.949	.131		961.166	.066	1996	GPS - STATIC	2017	HMNCORS07	
1050.949			960.950	.009	2011	GPS - STATIC	2017	HMNPH	
1050.861	.262		960.851	.197	2011	GPS - RTRN	2015	RTRN2015	
1050.894	.262		960.884	.197	2011	GPS - RTRN	2015	RTRN2015	
1050.949			960.950	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3032	
1050.956	.131		961.048	.066	2007	GPS - STATIC	2014	HECHO	
1050.949			960.943	.008	2011	GPS - STATIC	2014	HECHO	
			960.950	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1050.949	.131		961.166	.066	1996	GPS - STATIC	2011	HECHO	
1050.949	.098		961.048	.049	2007	HORIZONTAL ADJUSTMENT	2009	GPS2546	
1050.949	.098		961.048	.049	2007	GPS - STATIC	2009	HBMN1	
1050.949	.098		961.166	.049	1996	GPS - STATIC	2008	HBMN1	
			961.048	.008	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1050.982	.098		961.166	.049	1996	GPS - STATIC	2005	GPS2036	
1050.982	.131		961.166	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023	
1050.949	.131		961.166	.066	1996	GPS - STATIC	2004	HREDW	
1050.949	.098		961.166	.049	1996	GPS - STATIC	2004	GPS1994	
1050.949	.131		961.166	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1050.949	.131		961.166	.066	1996	GPS - STATIC	2001	HVEST	
1050.930	.098		961.166	.049	1996	GPS - STATIC	1997	GPS805-B	
1050.930	.131		961.166	.066	1996	GPS - STATIC	1997	GPS805-C	

Geoid Separations(ft): GEOID18 = -90.010 12B = -90.010 09 = -89.872 03 = -89.793

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 35 06.97343	95 18 02.48676	482449.672	242394.243	.131	3	GPS - RTRN	2024	RTRN2024
44 35 06.97334	95 18 02.48669	482449.677	242394.234	.007		ADJUSTMENT	2019	GPS3321
44 35 06.97334	95 18 02.48669	482449.677	242394.234	.007	C	GPS - STATIC	2019	HYELL
44 35 06.97334	95 18 02.48669	482449.677	242394.234	.007		ADJUSTMENT	2018	GPS3119
44 35 06.97334	95 18 02.48669	482449.677	242394.234	.007	C	GPS - STATIC	2017	HMNPH
44 35 06.97351	95 18 02.48603	482449.724	242394.251	.131	3	GPS - RTRN	2015	RTRN2015
44 35 06.97321	95 18 02.48615	482449.716	242394.221	.131	3	GPS - RTRN	2015	RTRN2015
44 35 06.97334	95 18 02.48669	482449.677	242394.234	.007		ADJUSTMENT	2014	GPS3032
44 35 06.97334	95 18 02.48663	482449.681	242394.234	.007	C	GPS - STATIC	2014	HECHO
44 35 06.97334	95 18 02.48669	482449.677	242394.234	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 35 06.97337	95 18 02.48749	482449.619	242394.237	.033	C	GPS - STATIC	2014	HECHO
44 35 06.97337	95 18 02.48749	482449.619	242394.237	.016	B	ADJUSTMENT	2009	GPS2546
44 35 06.97337	95 18 02.48749	482449.619	242394.237	.016	B	GPS - STATIC	2009	HBMN1
44 35 06.97337	95 18 02.48749	482449.619	242394.237	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.033	C	GPS - STATIC	2019	HYELL
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.033	C	GPS - STATIC	2017	HMNCORS07
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.033	C	GPS - STATIC	2011	HECHO
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.016	B	GPS - STATIC	2008	HBMN1
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.016	B	GPS - STATIC	2005	GPS2036
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.033	C	ADJUSTMENT	2004	GPS2023
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.033	C	GPS - STATIC	2004	HREDW
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.016	B	GPS - STATIC	2004	GPS1994
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.033	C	ADJUSTMENT	2002	GPS1673
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.033	C	GPS - STATIC	2001	HVEST
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.016	B	GPS - STATIC	1997	GPS805-B
44 35 06.97277	95 18 02.48671	482449.675	242394.176	.033	C	GPS - STATIC	1997	GPS805-C

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2285821.604	908670.854	1041225.795	16205530.447	.131	3	GPS - RTRN	2024	RTRN2024
2285821.609	908670.844	1041225.800	16205530.438	.007		ADJUSTMENT	2019	GPS3321
2285821.609	908670.844	1041225.800	16205530.438	.007	C	GPS - STATIC	2019	HYELL
2285821.609	908670.844	1041225.800	16205530.438	.007		ADJUSTMENT	2018	GPS3119
2285821.609	908670.844	1041225.800	16205530.438	.007	C	GPS - STATIC	2017	HMNPH
2285821.657	908670.861	1041225.848	16205530.453	.131	3	GPS - RTRN	2015	RTRN2015
2285821.648	908670.831	1041225.839	16205530.424	.131	3	GPS - RTRN	2015	RTRN2015
2285821.609	908670.844	1041225.800	16205530.438	.007		ADJUSTMENT	2014	GPS3032
2285821.613	908670.844	1041225.805	16205530.438	.007	C	GPS - STATIC	2014	HECHO
2285821.609	908670.844	1041225.800	16205530.438	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2285821.551	908670.848	1041225.742	16205530.442	.033	C	GPS - STATIC	2014	HECHO
2285821.551	908670.848	1041225.742	16205530.442	.016	B	ADJUSTMENT	2009	GPS2546
2285821.551	908670.848	1041225.742	16205530.442	.016	B	GPS - STATIC	2009	HBMN1
2285821.551	908670.848	1041225.742	16205530.442	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2285821.606	908670.787	1041225.797	16205530.380	.033	C	GPS - STATIC	2019	HYELL
2285821.606	908670.787	1041225.797	16205530.380	.033	C	GPS - STATIC	2017	HMNCORS07
2285821.606	908670.787	1041225.797	16205530.380	.033	C	GPS - STATIC	2011	HECHO
2285821.606	908670.787	1041225.797	16205530.380	.016	B	GPS - STATIC	2008	HBMN1
2285821.606	908670.787	1041225.797	16205530.380	.016	B	GPS - STATIC	2005	GPS2036
2285821.606	908670.787	1041225.797	16205530.380	.033	C	ADJUSTMENT	2004	GPS2023
2285821.606	908670.787	1041225.797	16205530.380	.033	C	GPS - STATIC	2004	HREDW
2285821.606	908670.787	1041225.797	16205530.380	.016	B	GPS - STATIC	2004	GPS1994
2285821.606	908670.787	1041225.797	16205530.380	.033	C	ADJUSTMENT	2002	GPS1673
2285821.606	908670.787	1041225.797	16205530.380	.033	C	GPS - STATIC	2001	HVEST
2285821.606	908670.787	1041225.797	16205530.380	.016	B	GPS - STATIC	1997	GPS805-B
2285821.606	908670.787	1041225.797	16205530.380	.033	C	GPS - STATIC	1997	GPS805-C

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BELVIEW-AB9855-3N-14MAY2024.jpg	N	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BELVIEW-AB9855-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BELVIEW-AB9855-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BENARD

NGS Name: BENARD

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ4709](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	13	112 N	36 W	443025.56	950703.35	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2015	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 32 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) Stamping: BENARD 2011

2.0 MILES SOUTH OF REDWOOD FALLS, 2.5 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 19 IN REDWOOD FALLS, AT TRUNK HIGHWAY 71 MILEPOINT 73.0, 70.0 FEET EAST OF TRUNK HIGHWAY 71, 22.4 FEET NORTH OF A FIELD ENTRANCE, 6.5 FEET SOUTH OF A FIRE HYDRANT, 1.5 FEET SOUTH OF A WITNESS POST.

Station Pair: 6405 U - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order</u>	<u>(/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1053.948	.016	2/1					2017	00000898	VERTICAL ADJUSTMENT				
1053.948	.016	2/1					2016	VBORN	VERTICAL CONTROL SURVEY				
1053.948	.016	2/1					2013	00000774	VERTICAL ADJUSTMENT				
1053.948	.016	2/1					2012	VMORG	VERTICAL CONTROL SURVEY				

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order</u>	<u>(/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1053.899	.262			963.358	.197	2011	2015	RTRN2015	GPS - RTRN				
1053.948				963.404	.010	2011	2014	GPS3030	HORIZONTAL ADJUSTMENT				
1053.948				963.404	.010	2011	2014	HMORG	GPS - STATIC				
1053.935	.131			963.630	.066	1996	2012	HMORG	GPS - STATIC				

Geoid Separations(ft): GEOID18 = -90.544 12B = -90.541 09 = -90.420 03 = -90.318

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>			<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>						
44 30 25.56170	95 07 03.35392	530195.644	213908.182	.131	3	2015	RTRN2015	GPS - RTRN					
44 30 25.56139	95 07 03.35411	530195.631	213908.151	.016		2014	GPS3030	ADJUSTMENT					
44 30 25.56139	95 07 03.35411	530195.631	213908.151	.016	C	2014	HMORG	GPS - STATIC					

<u>NAD83(1996)</u>				<u>Geodetic Position</u>			<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>						
44 30 25.56080	95 07 03.35466	530195.591	213908.091	.033	C	2012	HMORG	GPS - STATIC					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>			<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>						
2333126.503	879471.317	1088171.751	16175751.381	.131	3	2015	RTRN2015	GPS - RTRN					
2333126.489	879471.286	1088171.737	16175751.350	.016		2014	GPS3030	ADJUSTMENT					
2333126.489	879471.286	1088171.737	16175751.350	.016	C	2014	HMORG	GPS - STATIC					

<u>NAD83(1996)</u>				<u>MN State Plane - South Zone</u>			<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>						
2333126.449	879471.227	1088171.695	16175751.291	.033	C	2012	HMORG	GPS - STATIC					



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BENARD-DO4709-3E-03AUG2011.jpg	E	Aug 3, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BENARD-DO4709-2-03AUG2011.jpg		Aug 3, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BENARD-DO4709-1-03AUG2011.jpg		Aug 3, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 64003 SE

NGS Name: BR 64003 SE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3928](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	35	113 N	35 W	443234.16	950124.97	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1997	2015	GOOD	Horz=NO Vert=NO	YES	64003	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	VERTICAL CONTROL DISK	MNDT

Description: (2015) **Stamping:** BR 64003 SE 1997

3.5 MILES EAST OF REDWOOD FALLS, 1.1 MILES EAST ALONG TRUNK HIGHWAY 71/19 FROM THE JUNCTION OF TRUNK HIGHWAY 71/19 AND 340TH STREET IN REDWOOD FALLS, AT TRUNK HIGHWAY 71/19 MILEPOINT 76.8, 26.2 FEET SOUTHWEST OF TRUNK HIGHWAY 71/19, 0.8 FOOT SOUTH OF A CONCRETE BRIDGE RAIL.

Station Notes

IF THE COORDINATES AND/OR ELEVATIONS ARE ESTABLISHED OR PUBLISHED ON THIS GEODETIC CONTROL DISK, THEY SHOULD BE USED WITH CAUTION. THE GEODETIC CONTROL DISK IS LOCATED ON AN INTEGRAL ABUTMENT AND/OR A JOINTLESS BRIDGE AND IS SUBJECT TO MOVEMENT BEYOND GEODETIC TOLERANCES.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
852.446	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898	
852.443	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
852.410	.262			761.744	.197	2011	GPS - RTRN	2015	RTRN2015	

Geoid Separations(ft): GEOID18 = -90.672 12B = -90.666 09 = -90.551 03 = -90.426

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>			<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>					<u>Acc</u>	<u>Order</u>			
44 32 34.16474	95 01 24.97132			554685.881	226981.198	.131	3	GPS - RTRN	2015	RTRN2015

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>			<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>					<u>Acc</u>	<u>Order</u>			
2357808.103	892171.855			1113007.343	16188148.767	.131	3	GPS - RTRN	2015	RTRN2015

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64003_SE-DQ3928-3W-07JUL2015.jpg	W	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64003_SE-DQ3928-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64003_SE-DQ3928-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 64009 NE

NGS Name: BR 64009 NE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	112 N	35 W	443229.07	950006.37		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1995	2015	GOOD	Horz=NO Vert=NO	YES	64009	FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	BENCH MARK DISK	MNDT

Description: (2016) **Stamping:** BR 64009 NE 1995

1.0 MILE SOUTHWEST OF MORTON, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 19 BRIDGE NUMBER 64009 OVER A RIVER, 0.7 MILE SOUTH AND WEST ALONG TRUNK HIGHWAY 19, TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 77.95, 25.0 FEET SOUTHEAST OF TRUNK HIGHWAY 19.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.718 12B = -90.708 09 = -90.600 03 = -90.472

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64009_NE-3SE-07JUL2015.jpg	SE	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64009_NE-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64009_NE-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 64009 SE

NGS Name: BR 64009 SE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	112 N	35 W	443227.77	950010.85		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1995	2015	GOOD	Horz=NO Vert=NO	YES	64003	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	BENCH MARK DISK	MNDT

Description: (2016) **Stamping:** BR 64009 SE 1995

1.0 MILE SOUTHWEST OF MORTON, IN A BRIDGE RAILING IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 19 BRIDGE NUMBER 64009 OVER A RIVER, 0.75 MILE SOUTH AND WEST ALONG TRUNK HIGHWAY 19/ TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 77.90, 25.0 FEET SOUTHEAST OF TRUNK HIGHWAY 19.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.715 12B = -90.708 09 = -90.600 03 = -90.472

<u>Type</u>	<u>Station Photos</u>		<u>Dir</u>	<u>Date</u>
	<u>Location:</u>	<u>File Name</u>		
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64009_SE-3SE-07JUL2015.jpg		SE	Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64009_SE-2-07JUL2015.jpg			Jul 7, 2015
	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/BR_64009_SE-1-07JUL2015.jpg			Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: C 127

NGS Name: C 127

County: REDWOOD, MN (Sheet 1)

NGS ACRN: P00299	Get Map
NGS Quad / Sta Num : 44095123/	
USGS Quad: DELHI	

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	14	112 N	36 W	443018.98	950741.30	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1934	2015	GOOD	Horz=NO Vert=NO	NO		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
WALL - LIGHT RETAINING	BENCH MARK DISK	NGS

Description: (2009) Stamping: C 127 1934

1.6 MILES SOUTH-SOUTHWEST OF REDWOOD FALLS, 1.0 MILE SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71/TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 67, THEN 0.45 MILE WEST ON 327TH STREET, THEN 1.4 MILES SOUTH ON LIBERTY AVENUE (OLD TRUNK HIGHWAY 71) TO A COUNTY DITCH, 20.0 FEET WEST OF LIBERTY AVENUE, IN THE CENTER OF THE WEST HEADWALL OF A BOX CULVERT.

Station Notes

COULD NOT GET DOWN TO THE MARK TO GET A PICTURE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1036.209	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898
1036.209	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN
1036.209	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774
1036.205	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG
1036.150	.007	1				VERTICAL ADJUSTMENT	1995	00000135
1036.146	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1035.730	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1035.730	.016	2/1				VERTICAL CONTROL SURVEY	1986	VOLIV
1035.730	.007	1				VERTICAL CONTROL SURVEY	1935	L73 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1036.153	.262		945.635	.197	2011	GPS - RTRN	2015	RTRN2015

Geoid Separations(ft): GEOID18 = -90.521 12B = -90.518 09 = -90.397 03 = -90.298

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 30 18.97768	95 07 41.29545	527446.761	213237.677	.131	3	GPS - RTRN	2015	RTRN2015

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2330368.158	878842.434	1085405.836	16175156.294	.131	3	GPS - RTRN	2015	RTRN2015



Mn/DOT Name: CAMP

NGS Name: CAMP

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3463](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	36	113 N	35 W	443230.75	950003.82	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 29 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2015) Stamping: CAMP 2015

5.7 MILES EAST OF REDWOOD FALLS, 6.0 MILES EAST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 78.0, 63.1 FEET NORTH-NORTHWEST OF TRUNK HIGHWAY 19, 31.3 FEET WEST-SOUTHWEST OF A GRAVEL ROAD, 1.5 FEET SOUTH-SOUTHEAST OF A WITNESS POST.

Station Pair: YARD - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
839.401	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898	
839.401	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
839.536	.262			748.817	.197	2011	GPS - RTRN	2024	RTRN2024	
839.401				748.696	.020	2011	HORIZONTAL ADJUSTMENT	2016	GPS3150	
839.401	.131			748.913	.066	1996	GPS - STATIC	2016	HBORN	
839.401				748.696	.020	2011	GPS - STATIC	2016	HBORN	
839.362	.262			748.650	.197	2011	GPS - RTRN	2015	RTRN2015	

Geoid Separations(ft): GEOID18 = -90.718 12B = -90.708 09 = -90.600 03 = -90.472

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 30.75050	95 00 03.82108			560564.468	226651.287	.131	3	GPS - RTRN	2024	RTRN2024
44 32 30.75072	95 00 03.82118			560564.461	226651.309	.016		ADJUSTMENT	2016	GPS3150
44 32 30.75072	95 00 03.82118			560564.461	226651.309	.016	C	GPS - STATIC	2016	HBORN
44 32 30.75037	95 00 03.82065			560564.499	226651.273	.131	3	GPS - RTRN	2015	RTRN2015

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 30.75026	95 00 03.82144			560564.442	226651.262	.033	C	GPS - STATIC	2016	HBORN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2363680.317	891753.365			1118873.939	16187658.340	.131	3	GPS - RTRN	2024	RTRN2024
2363680.310	891753.387			1118873.933	16187658.363	.016		ADJUSTMENT	2016	GPS3150
2363680.310	891753.387			1118873.933	16187658.363	.016	C	GPS - STATIC	2016	HBORN
2363680.348	891753.351			1118873.970	16187658.327	.131	3	GPS - RTRN	2015	RTRN2015

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2363680.290	891753.341			1118873.913	16187658.317	.033	C	GPS - STATIC	2016	HBORN



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/CAMP-DQ3463-3NW-22MAY2024.jpg	NW	May 22, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/CAMP-DQ3463-2-22MAY2024.jpg		May 22, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/CAMP-DQ3463-1-22MAY2024.jpg		May 22, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: D 127

NGS Name: D 127

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0351](#) [Get Map](#)
 NGS Quad / Sta Num : 44095214/
 USGS Quad: ROWENA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	23	112 N	36 W	442907.64	950816.77	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2015	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (2009) **Stamping:** D 127 1934

3.0 MILES SOUTH-SOUTHWEST OF REDWOOD FALLS, 3.6 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, THEN 1.0 MILE WEST ON COUNTY ROAD 12(300TH STREET), 84.0 FEET WEST-SOUTHWEST OF A TELEPHONE CABLE POST, 62.9 FEET NORTH-NORTHEAST OF A POWER POLE NUMBER 174, 26.0 FEET NORTH OF COUNTY ROAD 12(300TH STREET), 21.0 FEET WEST OF A FIELD ENTRANCE, 12.3 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>			<u>Year</u>	<u>Reference</u>	
1056.058	.016	2/1				2017	00000898	VERTICAL ADJUSTMENT				
1056.058	.016	2/1				2016	VBORN	VERTICAL CONTROL SURVEY				
1056.058	.016	2/1				2013	00000774	VERTICAL ADJUSTMENT				
1056.058	.016	2/1				2012	VMORG	VERTICAL CONTROL SURVEY				
1056.058	.016	2/1				2011	00000690	VERTICAL ADJUSTMENT				
1056.058	.016	2/1				2008	VTLIN	VERTICAL CONTROL SURVEY				
1055.966	.016	2				1991	00000025	VERTICAL ADJUSTMENT				

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>			<u>Year</u>	<u>Reference</u>	
1055.549	.016	2/0				1992	UNCHECKD	UNKNOWN/APPROXIMATE				
1055.549	.033	3				1966	USGS-VERT	VERTICAL CONTROL SURVEY				
1055.549	.007	1				1939	L73 MINN	VERTICAL CONTROL SURVEY				

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>			<u>Year</u>	<u>Reference</u>	
1055.972	.262					2015	RTRN2015	GPS - RTRN				
1056.058						2014	GPS3030	HORIZONTAL ADJUSTMENT				
1056.058						2014	HMORG	GPS - STATIC				
1056.067	.131					2012	HMORG	GPS - STATIC				

Geoid Separations(ft): GEOID18 = -90.538 12B = -90.535 09 = -90.413 03 = -90.315

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>			<u>Year</u>	<u>Reference</u>		
44 29 07.64390	95 08 16.77082	524884.084	206010.227	.131	3	2015	RTRN2015	GPS - RTRN					
44 29 07.64342	95 08 16.77185	524884.010	206010.179	.030		2014	GPS3030	ADJUSTMENT					
44 29 07.64342	95 08 16.77185	524884.010	206010.179	.030	C	2014	HMORG	GPS - STATIC					

<u>NAD83(1996)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>			<u>Year</u>	<u>Reference</u>		
44 29 07.64279	95 08 16.77244	524883.967	206010.115	.033	C	2012	HMORG	GPS - STATIC					

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2327697.071	871655.348	1082646.916	16168002.205	.131	3	GPS - RTRN	2015	RTRN2015
2327696.995	871655.301	1082646.841	16168002.158	.030		ADJUSTMENT	2014	GPS3030
2327696.995	871655.301	1082646.841	16168002.158	.030	C	GPS - STATIC	2014	HMORG

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2327696.952	871655.237	1082646.796	16168002.096	.033	C	GPS - STATIC	2012	HMORG

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/D_127-PQ0351-3N-07JUL2015.jpg	N	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/D_127-PQ0351-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/D_127-PQ0351-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DE 14 S

NGS Name: DE 14 S

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7778](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	113 N	36 W	443502.65	950850.79		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2024	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD	MN-127

Description: (2009) Stamping: DE14S 2002

3.5 MILES EAST OF DELHI, 2.0 MILES EAST ALONG COUNTY ROAD 9 FROM THE JUNCTION OF COUNTY ROAD 6 AND COUNTY ROAD 9 IN DELHI, THEN 2.5 MILES SOUTH AND EAST ON COUNTY ROAD 17, 39.0 FEET WEST OF LASER AVENUE, 74.5 FEET NORTHEAST OF COUNTY ROAD 17, 15.0 FEET NORTHEAST OF A POWER POLE, 2.2 FEET NORTH-NORTHWEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1018.066	.262		927.784	.197	2011	GPS - RTRN	2024	RTRN2024
1017.892	.262		927.610	.197	2011	GPS - OPUS	2021	GPSBM
1017.924	.262		927.643	.197	2011	GPS - OPUS	2021	GPSBM
1017.915	.262		927.633	.197	2011	GPS - RTRN	2021	RTRN2021
1017.875	.262		927.603	.197	2011	GPS - RTRN	2015	RTRN2015
			927.633	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			927.725	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1017.944	.131		927.849	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1017.911	.131		927.849	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -90.282 12B = -90.272 09 = -90.134 03 = -90.065

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
44 35 02.65160	95 08 50.79164	522379.858	241961.063	.131	3	GPS - RTRN	2024	RTRN2024
44 35 02.65092	95 08 50.79242	522379.801	241960.994	.131	3	GPS - OPUS	2021	GPSBM
44 35 02.65085	95 08 50.79217	522379.819	241960.987	.131	3	GPS - OPUS	2021	GPSBM
44 35 02.65111	95 08 50.79177	522379.849	241961.013	.131	3	GPS - RTRN	2021	RTRN2021
44 35 02.65056	95 08 50.79177	522379.849	241960.957	.131	3	GPS - RTRN	2015	RTRN2015
44 35 02.65076	95 08 50.79210	522379.825	241960.978	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
44 35 02.65084	95 08 50.79301	522379.759	241960.986	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
44 35 02.65031	95 08 50.79226	522379.813	241960.932	.033	C	ADJUSTMENT	2004	GPS2023
44 35 02.65031	95 08 50.79226	522379.813	241960.932	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2325735.717	907635.416	1081126.593	16204004.834	.131	3	GPS - RTRN	2024	RTRN2024
2325735.659	907635.348	1081126.534	16204004.767	.131	3	GPS - OPUS	2021	GPSBM
2325735.677	907635.341	1081126.552	16204004.760	.131	3	GPS - OPUS	2021	GPSBM
2325735.706	907635.367	1081126.582	16204004.785	.131	3	GPS - RTRN	2021	RTRN2021
2325735.706	907635.311	1081126.581	16204004.729	.131	3	GPS - RTRN	2015	RTRN2015
2325735.682	907635.332	1081126.557	16204004.750	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2325735.616	907635.341	1081126.491	16204004.760	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2325735.670	907635.286	1081126.544	16204004.705	.033	C	ADJUSTMENT	2004	GPS2023
2325735.670	907635.286	1081126.544	16204004.705	.033	C	GPS - STATIC	2004	HREDW

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DE_14_S-DG7778-3W-15MAY2024.jpg	W	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DE_14_S-DG7778-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DE_14_S-DG7778-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DE 7 NE

NGS Name: DE 7 NE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7779](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	7	113 N	36 W	443651.34	951307.64		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2019	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD	MN-127

Description: (2009) Stamping: DE7NE 2002

7.0 MILES NORTHWEST OF REDWOOD FALLS, 4.85 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, THEN 5.0 MILES NORTH ON COUNTY ROAD 6, 36.0 FEET WEST OF COUNTY ROAD 6, 56.0 FEET SOUTH OF 390TH STREET, 6.0 FEET NORTHWEST OF A POWER POLE, 2.4 FEET NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1023.909	.262		933.856	.197	2011	GPS - OPUS	2019	GPSBM
1023.945	.262		933.892	.197	2011	GPS - OPUS	2019	GPSBM
1024.158	.262		934.106	.197	2011	GPS - RTRN	2019	RTRN2019
1023.879	.262		933.833	.197	2011	GPS - RTRN	2015	RTRN2015
			933.961	.020	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			934.060	.021	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1024.047	.131		934.158	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1024.014	.131		934.158	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -90.052 12B = -90.046 09 = -89.908 03 = -89.842

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 36 51.33841	95 13 07.63997	503787.755	252957.127	.131	3	GPS - OPUS	2019	GPSBM
44 36 51.33809	95 13 07.64015	503787.742	252957.094	.131	3	GPS - OPUS	2019	GPSBM
44 36 51.33710	95 13 07.64024	503787.736	252956.994	.131	3	GPS - RTRN	2019	RTRN2019
44 36 51.33871	95 13 07.64040	503787.724	252957.157	.131	3	GPS - RTRN	2015	RTRN2015
44 36 51.33861	95 13 07.64004	503787.750	252957.147	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 36 51.33867	95 13 07.64086	503787.691	252957.153	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 36 51.33809	95 13 07.64026	503787.734	252957.094	.033	C	ADJUSTMENT	2004	GPS2023
44 36 51.33809	95 13 07.64026	503787.734	252957.094	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2307313.933	918909.304	1062843.877	16215504.729	.131	3	GPS - OPUS	2019	GPSBM
2307313.919	918909.272	1062843.863	16215504.698	.131	3	GPS - OPUS	2019	GPSBM
2307313.912	918909.171	1062843.854	16215504.597	.131	3	GPS - RTRN	2019	RTRN2019
2307313.902	918909.335	1062843.847	16215504.761	.131	3	GPS - RTRN	2015	RTRN2015
2307313.928	918909.324	1062843.872	16215504.750	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2307313.869	918909.331	1062843.813	16215504.758	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2307313.912	918909.272	1062843.855	16215504.698	.033	C	ADJUSTMENT	2004	GPS2023
2307313.912	918909.272	1062843.855	16215504.698	.033	C	GPS - STATIC	2004	HREDW

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DE_7_NE-DG7779-3W-28OCT2019.jpg	W	Oct 28, 2019
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DE_7_NE-DG7779-2-28OCT2019.jpg		Oct 28, 2019
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DE_7_NE-DG7779-1-28OCT2019.jpg		Oct 28, 2019

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DELHI MNDT

NGS Name: DELHI

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8937](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	6	112 N	36 W	443226.04	951233.92	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** DELHI 1998

4.5 MILES WEST OF REDWOOD FALLS, 4.35 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, TO TRUNK HIGHWAY 19 MILEPOINT 67.65, THEN 0.05 MILE SOUTH ON JUSTICE AVENUE, 28.0 FEET WEST OF JUSTICE AVENUE, 20.0 FEET NORTH OF A FIELD ENTRANCE, 142.2 FEET SOUTHEAST OF A RIGHT-OF-WAY POST, 7.8 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1021.855	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690		
1021.858	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1021.845	.262		931.583	.197	2011	GPS - RTRN	2024	RTRN2024		
1021.783	.262		931.517	.197	2011	GPS - OPUS	2019	GPSBM		
1022.035	.262		931.770	.197	2011	GPS - RTRN	2019	RTRN2019		
			931.573	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800		
			931.675	.009	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300		
1021.881	.131		931.793	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023		
1021.848	.131		931.793	.066	1996	GPS - STATIC	2004	HREDW		
1021.816	.131		931.793	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673		
1021.816	.131		931.793	.066	1996	GPS - STATIC	2001	HVEST		

Geoid Separations(ft): GEOID18 = -90.266 12B = -90.259 09 = -90.121 03 = -90.052

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 32 26.04185	95 12 33.91739	506235.114	226089.408	.131	3	GPS - RTRN	2024	RTRN2024	
44 32 26.04145	95 12 33.91776	506235.087	226089.368	.131	3	GPS - OPUS	2019	GPSBM	
44 32 26.04056	95 12 33.91711	506235.134	226089.278	.131	3	GPS - RTRN	2019	RTRN2019	
44 32 26.04113	95 12 33.91677	506235.159	226089.336	.007		ADJUSTMENT	2012	GPS2800	

<u>NAD83(2007)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 32 26.04118	95 12 33.91757	506235.101	226089.340	.010		ADJUSTMENT	2007	GPS2300	

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 32 26.04061	95 12 33.91669	506235.165	226089.283	.033	C	ADJUSTMENT	2004	GPS2023	
44 32 26.04061	95 12 33.91669	506235.165	226089.283	.033	C	GPS - STATIC	2004	HREDW	
44 32 26.04061	95 12 33.91669	506235.165	226089.283	.033	C	ADJUSTMENT	2002	GPS1673	
44 32 26.04061	95 12 33.91669	506235.165	226089.282	.033	C	GPS - STATIC	2001	HVEST	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2309355.404	892011.079	1064555.072	16188581.935	.131	3	GPS - RTRN	2024	RTRN2024
2309355.376	892011.039	1064555.044	16188581.895	.131	3	GPS - OPUS	2019	GPSBM
2309355.422	892010.949	1064555.089	16188581.804	.131	3	GPS - RTRN	2019	RTRN2019
2309355.448	892011.006	1064555.115	16188581.861	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2309355.390	892011.012	1064555.057	16188581.867	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2309355.452	892010.953	1064555.119	16188581.808	.033	C	ADJUSTMENT	2004	GPS2023
2309355.452	892010.953	1064555.119	16188581.808	.033	C	GPS - STATIC	2004	HREDW
2309355.452	892010.953	1064555.119	16188581.808	.033	C	ADJUSTMENT	2002	GPS1673
2309355.452	892010.953	1064555.119	16188581.808	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DELHI-AJ8937-3W-14MAY2024.jpg	W	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DELHI-AJ8937-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DELHI-AJ8937-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DICIAL MNDT

NGS Name: DICIAL

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8938](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	112 N	36 W	443206.83	951233.25	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: DICIAL 1998

4.5 MILES WEST OF REDWOOD FALLS, 4.35 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, TO TRUNK HIGHWAY 19 MILEPOINT 67.65, THEN 0.45 MILE SOUTH ON A ROAD, 1142.0 FEET SOUTH OF TRUNK HIGHWAY 19 ON A TOWNSHIP ROAD, 26.0 FEET NORTH OF AN ENTRANCE, 14.0 FEET EAST OF JUSTICE AVENUE TOWNSHIP ROAD, 6.6 FEET WEST OF A WITNESS POST.

Station Notes

THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1030.208	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690		
1030.211	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
			939.903	.013	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800		
			940.008	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300		
1030.149	.131		940.126	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673		
1030.149	.131		940.126	.066	1996	GPS - STATIC	2001	HVEST		

Geoid Separations(ft): GEOID18 = -90.275 12B = -90.269 09 = -90.131 03 = -90.065

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 06.83326	95 12 33.25413	506283.728	224144.062	.010		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 06.83335	95 12 33.25493	506283.670	224144.071	.013		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 06.83275	95 12 33.25411	506283.729	224144.010	.033	C	ADJUSTMENT	2002	GPS1673
44 32 06.83275	95 12 33.25411	506283.728	224144.010	.033	C	GPS - STATIC	2001	HVEST

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2309374.660	890065.462	1064550.478	16186636.117	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2309374.602	890065.472	1064550.420	16186636.128	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2309374.661	890065.410	1064550.478	16186636.065	.033	C	ADJUSTMENT	2002	GPS1673
2309374.661	890065.410	1064550.478	16186636.065	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DICIAL-AJ8938-3E-26JUL2006.jpg	E	Jul 26, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DICIAL-AJ8938-2-26JUL2006.jpg		Jul 26, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DICIAL-AJ8938-1-26JUL2006.jpg		Jul 26, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DICIAL MNDT RESET

NGS Name: DICIAL RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	112 N	36 W	443206.83	951233.25		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 3 IN.	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: DICIAL 1998 2024

4.5 MILES WEST OF REDWOOD FALLS, 4.35 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, TO TRUNK HIGHWAY 19 MILEPOINT 67.65, THEN 0.45 MILE SOUTH ON A ROAD, 1142.0 FEET SOUTH OF TRUNK HIGHWAY 19 ON A TOWNSHIP ROAD, 26.0 FEET NORTH OF AN ENTRANCE, 14.0 FEET EAST OF JUSTICE AVENUE TOWNSHIP ROAD, 6.6 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
1030.037	.262			939.762	.197	2011	GPS - RTRN	2024	RTRN2024		

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 32 06.83270	95 12 33.25383	506283.749	224144.005	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2309374.681	890065.405	1064550.498	16186636.060	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DICIAL_RESET-3E-14MAY2024.jpg	E	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DICIAL_RESET-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DICIAL_RESET-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DOLAN MNDT

NGS Name: DOLAN

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8928](#) [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	31	112 N	38 W	442800.82	952821.57	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** DOLAN 1998

4.5 MILES SOUTHWEST OF VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 50.7, THEN 0.5 MILE NORTH ON COUNTY ROAD 59, 1356.0 FEET NORTH OF TRUNK HIGHWAY 19 ON COUNTY ROAD 59, 88.4 FEET SOUTH-SOUTHWEST OF A POWER POLE, 51.5 FEET SOUTH OF FIRE NUMBER 28633, 49.0 FEET EAST OF COUNTY ROAD 59, 5.7 FEET EAST OF A WITNESS POST.

Station Notes

FOUND CAP LOOSE. USE WITH CAUTION.
 THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1078.088	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1078.092	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
				988.459	.017	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
				988.554	.017	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1078.016	.131			988.676	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1078.049	.131			988.676	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -89.609 12B = -89.609 09 = -89.495 03 = -89.403

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 28 00.81565	95 28 21.56578		437516.848	199319.084	.013		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>			<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 28 00.81562	95 28 21.56665		437516.785	199319.081	.013		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>			<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 28 00.81501	95 28 21.56618		437516.819	199319.019	.033	C	ADJUSTMENT	2002	GPS1673
44 28 00.81501	95 28 21.56618		437516.819	199319.017	.033	C	GPS - STATIC	2001	HVEST



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2240249.515	866283.885	995132.164	16163700.083	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2240249.452	866283.883	995132.101	16163700.081	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2240249.485	866283.820	995132.133	16163700.019	.033	C	ADJUSTMENT	2002	GPS1673
2240249.485	866283.820	995132.133	16163700.019	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DOLAN-AJ8928-3E-18AUG2003.jpg	E	Aug 18, 2003
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DOLAN-AJ8928-2-18AUG2003.jpg		Aug 18, 2003
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DOLAN-AJ8928-1-18AUG2003.jpg		Aug 18, 2003

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DOLAN MNDT RESET

NGS Name: DOLAN RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	31	112 N	38 W	442800.82	952821.56		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		FLUSH	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: DOLAN 1998 2024

4.5 MILES SOUTHWEST OF VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 50.7, THEN 0.5 MILE NORTH ON COUNTY ROAD 59, 1356.0 FEET NORTH OF TRUNK HIGHWAY 19 ON COUNTY ROAD 59, 88.4 FEET SOUTH-SOUTHWEST OF A POWER POLE, 51.5 FEET SOUTH OF FIRE NUMBER 28633, 5.7 FEET EAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>		
1077.849	.262		988.239	.197	2011	GPS - RTRN		2024	RTRN2024		

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>	
44 28 00.81552	95 28 21.56487	437516.914	199319.070	.131	3	GPS - RTRN		2024	RTRN2024	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>	
2240249.581	866283.870	995132.230	16163700.068	.131	3	GPS - RTRN		2024	RTRN2024	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DOLAN_RESET-3E-17MAY2024.jpg	E	May 17, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DOLAN_RESET-2-17MAY2024.jpg		May 17, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/DOLAN_RESET-1-17MAY2024.jpg		May 17, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: E 127

NGS Name: E 127

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [P00352](#) [Get Map](#)
 NGS Quad / Sta Num : 44095214/
 USGS Quad: ROWENA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	34	112 N	36 W	442748.99	950855.23	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2015	GOOD	Horz=NO Vert=YES	YES		RECESSED 26 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (2011) Stamping: E 127 1934

4.6 MILES SOUTH-SOUTHWEST OF REDWOOD FALLS, 4.6 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 67 IN REDWOOD FALLS TO TRUNK HIGHWAY 71 MILEPOINT 70.50, THEN 1.5 MILES WEST ON 290TH STREET, THEN 0.5 MILE SOUTH ON LASER AVENUE (OLD TRUNK HIGHWAY 71), 32.5 FEET WEST OF LASER AVENUE, 18.0 FEET NORTH OF 285TH STREET, 80.1 FEET NORTH OF A TELEPHONE CABLE POST, 76.2 FEET NORTHWEST OF A POWER POLE, 5.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1052.367	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898		
1052.367	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN		
1052.367	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774		
1052.373	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG		
1052.304	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025		

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1051.894	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD		
1051.894	.007	1				VERTICAL CONTROL SURVEY	1939	L73 MINN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1052.403	.262		961.858	.197	2011	GPS - RTRN	2015	RTRN2015		
1052.367			961.845	.009	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030		
1052.367			961.839	.009	2011	GPS - STATIC	2014	HMORG		
			961.845	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800		
1052.360	.131		962.045	.066	1996	GPS - STATIC	2012	HMORG		
			961.950	.008	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300		
1052.294	.131		962.081	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023		
1052.294	.131		962.081	.066	1996	GPS - STATIC	2004	HREDW		
1052.294	.131		962.081	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673		
1052.294	.131		962.081	.066	1996	GPS - STATIC	2001	HVEST		
1052.294	.131		962.081	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648		
1052.294	.131		962.081	.066	1996	HORIZONTAL ADJUSTMENT	1998	GPS937		

Geoid Separations(ft): GEOID18 = -90.548 12B = -90.544 09 = -90.433 03 = -90.331

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 27 48.98640	95 08 55.22968	522104.059	198041.186	.131	3	GPS - RTRN	2015	RTRN2015
44 27 48.98665	95 08 55.23014	522104.026	198041.211	.010		ADJUSTMENT	2014	GPS3030
44 27 48.98663	95 08 55.23014	522104.026	198041.209	.010	C	GPS - STATIC	2014	HMORG
44 27 48.98665	95 08 55.23014	522104.026	198041.211	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 27 48.98662	95 08 55.23106	522103.959	198041.208	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 27 48.98588	95 08 55.23055	522103.996	198041.133	.033	C	GPS - STATIC	2012	HMORG
44 27 48.98588	95 08 55.23055	522103.996	198041.133	.033	C	ADJUSTMENT	2004	GPS2023
44 27 48.98588	95 08 55.23055	522103.996	198041.133	.033	C	GPS - STATIC	2004	HREDW
44 27 48.98588	95 08 55.23055	522103.996	198041.133	.033	C	ADJUSTMENT	2002	GPS1673
44 27 48.98588	95 08 55.23055	522103.996	198041.133	.033	C	GPS - STATIC	2001	HVEST
44 27 48.98588	95 08 55.23055	522103.996	198041.133	.033	C	ADJUSTMENT	1999	17648
44 27 48.98588	95 08 55.23055	522103.996	198041.133	.033	C	ADJUSTMENT	1998	GPS937

NAD83(1986)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 27 48.97935	95 08 55.22452	522104.434	198040.472	.066	2	GPS - STATIC	1993	HMARS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2324797.497	863730.122	1079650.553	16160112.746	.131	3	GPS - RTRN	2015	RTRN2015
2324797.464	863730.147	1079650.521	16160112.772	.010		ADJUSTMENT	2014	GPS3030
2324797.464	863730.145	1079650.520	16160112.770	.010	C	GPS - STATIC	2014	HMORG
2324797.464	863730.147	1079650.521	16160112.772	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2324797.398	863730.145	1079650.454	16160112.771	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2324797.433	863730.070	1079650.489	16160112.694	.033	C	GPS - STATIC	2012	HMORG
2324797.433	863730.070	1079650.489	16160112.694	.033	C	ADJUSTMENT	2004	GPS2023
2324797.433	863730.070	1079650.489	16160112.694	.033	C	GPS - STATIC	2004	HREDW
2324797.433	863730.070	1079650.489	16160112.694	.033	C	ADJUSTMENT	2002	GPS1673
2324797.433	863730.070	1079650.489	16160112.694	.033	C	GPS - STATIC	2001	HVEST
2324797.433	863730.070	1079650.489	16160112.694	.033	C	ADJUSTMENT	1999	17648
2324797.433	863730.070	1079650.489	16160112.694	.033	C	ADJUSTMENT	1998	GPS937

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2324797.862	863729.402	1079650.909	16160112.022	.066	2	GPS - STATIC	1993	HMARS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/E_127-PQ0352-3N-07JUL2015.jpg	N	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/E_127-PQ0352-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/E_127-PQ0352-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FILL

NGS Name: FILL

County: REDWOOD, MN (Sheet 1)

NGS ACRN: DO4716	Get Map
NGS Quad / Sta Num : 44095211/	
USGS Quad: CLEMENTS	

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	36	112 N	35 W	442805.02	950025.27	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2012	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2014) Stamping: FILL 2011

7.5 MILES SOUTHEAST OF REDWOOD FALLS, 7.35 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN THE SOUTHWEST PART OF REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 77.60, 60.5 FEET SOUTHWEST OF TRUNK HIGHWAY 67, 11.3 FEET NORTHWEST OF A FIELD ENTRANCE, 1.4 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1030.316	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774	
1030.313	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1030.316			939.444	.011	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030	
1030.316			939.444	.011	2011	GPS - STATIC	2014	HMORG	
1030.313	.131		939.650	.066	1996	GPS - STATIC	2012	HMORG	

Geoid Separations(ft): GEOID18 = -90.879 12B = -90.876 09 = -90.797 03 = -90.663

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Redwood County				Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference	
44 28 05.02056	95 00 25.27442	559085.002	199735.270	.020		ADJUSTMENT	2014	GPS3030	
44 28 05.02056	95 00 25.27442	559085.002	199735.270	.020	C	GPS - STATIC	2014	HMORG	

NAD83(1996)		Redwood County				Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference	
44 28 05.02003	95 00 25.27446	559084.999	199735.216	.033	C	GPS - STATIC	2012	HMORG	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15				Determination Method		Project Info	
MN State Plane - South Zone		X	Y	Acc	Order		Year	Reference	
2361795.271	864866.033	1116659.960	16160796.365	.020		ADJUSTMENT	2014	GPS3030	
2361795.271	864866.033	1116659.960	16160796.365	.020	C	GPS - STATIC	2014	HMORG	

NAD83(1996)		UTM - Zone 15				Determination Method		Project Info	
MN State Plane - South Zone		X	Y	Acc	Order		Year	Reference	
2361795.268	864865.980	1116659.956	16160796.312	.033	C	GPS - STATIC	2012	HMORG	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FILL-DO4716-3SW-04AUG2011.jpg	SW	Aug 4, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FILL-DO4716-2-04AUG2011.jpg		Aug 4, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FILL-DO4716-1-04AUG2011.jpg		Aug 4, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FORTH MNDT

NGS Name: FORTH

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8939](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	32	113 N	37 W	443244.42	951946.22	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: FORTH 1998

5.0 MILES NORTHEAST OF VESTA, 6.85 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 61.70, THEN 732.0 FEET NORTH OF TRUNK HIGHWAY 19 ON TRUNK HIGHWAY 273, 48.0 FEET EAST OF TRUNK HIGHWAY 273, 10.8 FEET NORTHWEST OF A POWER POLE, 9.5 FEET NORTHWEST OF A WITNESS POST.

Station Notes

FOUND CAP LOOSE. USE WITH CAUTION.
 THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1068.092	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1068.095	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1068.092				978.075	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3032	
1068.095	.131			978.174	.066	2007	GPS - STATIC	2014	HECHO	
1068.092				978.085	.010	2011	GPS - STATIC	2014	HECHO	
				978.075	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1068.108	.131			978.308	.066	1996	GPS - STATIC	2011	HECHO	
				978.174	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1068.075	.131			978.308	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1068.075	.131			978.308	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -90.010 12B = -90.003 09 = -89.878 03 = -89.803

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 44.41700	95 19 46.22155			474924.759	227964.182	.010		ADJUSTMENT	2014	GPS3032
44 32 44.41699	95 19 46.22155			474924.759	227964.181	.010	C	GPS - STATIC	2014	HECHO
44 32 44.41700	95 19 46.22155			474924.759	227964.182	.010		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 44.41702	95 19 46.22237			474924.700	227964.184	.033	C	GPS - STATIC	2014	HECHO
44 32 44.41702	95 19 46.22237			474924.700	227964.184	.010		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 44.41642	95 19 46.22150			474924.763	227964.123	.033	C	GPS - STATIC	2011	HECHO
44 32 44.41642	95 19 46.22150			474924.763	227964.123	.033	C	ADJUSTMENT	2002	GPS1673
44 32 44.41642	95 19 46.22150			474924.762	227964.124	.033	C	GPS - STATIC	2001	HVEST

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2278080.779	894357.762	1033309.149	16191312.116	.010		ADJUSTMENT	2014	GPS3032
2278080.779	894357.761	1033309.149	16191312.115	.010	C	GPS - STATIC	2014	HECHO
2278080.779	894357.762	1033309.149	16191312.116	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2278080.719	894357.765	1033309.090	16191312.120	.033	C	GPS - STATIC	2014	HECHO
2278080.719	894357.765	1033309.090	16191312.120	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2278080.781	894357.703	1033309.151	16191312.058	.033	C	GPS - STATIC	2011	HECHO
2278080.781	894357.703	1033309.151	16191312.058	.033	C	ADJUSTMENT	2002	GPS1673
2278080.781	894357.703	1033309.151	16191312.058	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FORTH-AJ8939-3E-19AUG2003.jpg	E	Aug 19, 2003
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FORTH-AJ8939-2-19AUG2003.jpg		Aug 19, 2003
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FORTH-AJ8939-1-19AUG2003.jpg		Aug 19, 2003

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FORTH MNDT RESET

NGS Name: FORTH RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	32	113 N	37 W	443244.42	951946.22		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 3 IN.	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: FORTH 1998 2024

5.0 MILES NORTHEAST OF VESTA, 6.85 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 61.70, THEN 732.0 FEET NORTH OF TRUNK HIGHWAY 19 ON TRUNK HIGHWAY 273, 48.0 FEET EAST OF TRUNK HIGHWAY 273, 10.8 FEET NORTHWEST OF A POWER POLE, 9.5 FEET NORTHWEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1067.882	.262			977.872	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 32 44.41755	95 19 46.22180	474924.741	227964.238	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2278080.761	894357.818	1033309.133	16191312.173	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FORTH_RESET-3E-14MAY2024.jpg	E	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FORTH_RESET-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/FORTH_RESET-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GILF
County: REDWOOD, MN (Sheet 1)

NGS Name: GILF

NGS ACRN: [DQ4715](#) [Get Map](#)
NGS Quad / Sta Num : 44095211/
USGS Quad: CLEMENTS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	36	112 N	35 W	442751.72	950003.20	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) Stamping: GILF 2011

7.7 MILES SOUTHEAST OF REDWOOD FALLS, 7.75 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN THE SOUTHWEST PART OF REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 78.0, 64.3 FEET NORTHEAST OF TRUNK HIGHWAY 67, 1.1 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1037.711	.016	2/1					VERTICAL ADJUSTMENT	2013	00000774
1037.708	.016	2/1					VERTICAL CONTROL SURVEY	2012	VMORG

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1037.698	.262			946.796	.197	2011	GPS - OPUS	2021	GPSBM
1037.767	.262			946.862	.197	2011	GPS - RTRN	2021	RTRN2021
1037.711				946.822	.011	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030
1037.711				946.822	.011	2011	GPS - STATIC	2014	HMORG
1037.695	.131			947.026	.066	1996	GPS - STATIC	2012	HMORG

Geoid Separations(ft): GEOID18 = -90.902 12B = -90.895 09 = -90.820 03 = -90.686

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 27 51.71526	95 00 03.20461			560689.356	198392.277	.131	3	GPS - OPUS	2021	GPSBM
44 27 51.71501	95 00 03.20429			560689.379	198392.252	.131	3	GPS - RTRN	2021	RTRN2021
44 27 51.71536	95 00 03.20401			560689.399	198392.288	.020		ADJUSTMENT	2014	GPS3030
44 27 51.71536	95 00 03.20401			560689.399	198392.288	.020	C	GPS - STATIC	2014	HMORG

<u>NAD83(1996)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 27 51.71482	95 00 03.20404			560689.397	198392.233	.033	C	GPS - STATIC	2012	HMORG

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2363378.993	863499.162			1118226.841	16159410.251	.131	3	GPS - OPUS	2021	GPSBM
2363379.016	863499.137			1118226.864	16159410.225	.131	3	GPS - RTRN	2021	RTRN2021
2363379.036	863499.172			1118226.885	16159410.260	.020		ADJUSTMENT	2014	GPS3030
2363379.036	863499.172			1118226.885	16159410.260	.020	C	GPS - STATIC	2014	HMORG

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2363379.034	863499.117			1118226.881	16159410.206	.033	C	GPS - STATIC	2012	HMORG



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/GILF-DO4715-3NE-11MAY2021.jpg	NE	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/GILF-DO4715-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/GILF-DO4715-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HONN

NGS Name: HONN

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DO4720](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	16	112 N	35 W	443003.58	950317.19	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 30 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) Stamping: HONN 2011

4.2 MILES SOUTHEAST OF REDWOOD FALLS, 4.05 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN THE SOUTHWEST PART OF REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 74.35, 66.8 FEET NORTHEAST OF TRUNK HIGHWAY 67, 59.4 FEET NORTHWEST OF A FIELD ENTRANCE, 1.1 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1025.428	.016	2/1				VERTICAL ADJUSTMENT	2013	00000774	
1025.428	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORG	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1025.428			934.755	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030	
1025.428			934.755	.012	2011	GPS - STATIC	2014	HMORG	
1025.424	.131		934.959	.066	1996	GPS - STATIC	2012	HMORG	

Geoid Separations(ft): GEOID18 = -90.702 12B = -90.692 09 = -90.600 03 = -90.472

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 30 03.57604	95 03 17.18853	546591.392	211711.055	.026		ADJUSTMENT	2014	GPS3030	
44 30 03.57604	95 03 17.18853	546591.392	211711.055	.026	C	GPS - STATIC	2014	HMORG	

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 30 03.57555	95 03 17.18851	546591.394	211711.005	.033	C	GPS - STATIC	2012	HMORG	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
2349485.230	877027.415	1104499.604	16173107.386	.026		ADJUSTMENT	2014	GPS3030	
2349485.230	877027.415	1104499.604	16173107.386	.026	C	GPS - STATIC	2014	HMORG	

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
2349485.231	877027.366	1104499.604	16173107.336	.033	C	GPS - STATIC	2012	HMORG	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/HONN-DO4720-3NE-03AUG2011.jpg	NE	Aug 3, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/HONN-DO4720-2-03AUG2011.jpg		Aug 3, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/HONN-DO4720-1-03AUG2011.jpg		Aug 3, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HUY LE

NGS Name: HUY LE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3467](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	112 N	35 W	443228.29	950511.73	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 22 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: HUY LE 2015

IN REDWOOD FALLS, 1.7 MILES EAST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 73.7, 63.4 FEET SOUTH OF TRUNK HIGHWAY 19, 97.7 FEET WEST OF QUALITY DRIVE EXTENDED, 35.6 FEET NORTH OF REGISTER DRIVE, 22.5 FEET EAST OF A CABLE BOX, 1.5 FEET WEST OF A WITNESS POST.

Station Pair: 6404 D RESET - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1013.627	.016	2/1							2017	00000898		
1013.623	.016	2/1							2016	VBORN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1013.613	.262		923.082	.197	2011	923.082	.197	2011	2024	RTRN2024		
1013.623			923.099	.016	2011	923.099	.016	2011	2016	GPS3150		
1013.623	.131		923.305	.066	1996	923.305	.066	1996	2016	HBORN		
1013.623			923.099	.016	2011	923.099	.016	2011	2016	HBORN		
1013.561	.262		923.026	.197	2011	923.026	.197	2011	2015	RTRN2015		

Geoid Separations(ft): GEOID18 = -90.535 12B = -90.531 09 = -90.403 03 = -90.298

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Geodetic Position</u>			<u>Redwood County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>Order (/Class)</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
44 32 28.28759	95 05 11.73259		538262.905	226350.229	.131	3	2024	RTRN2024					
44 32 28.28745	95 05 11.73252		538262.910	226350.215	.013		2016	GPS3150					
44 32 28.28745	95 05 11.73252		538262.910	226350.215	.013	C	2016	HBORN					
44 32 28.28737	95 05 11.73262		538262.902	226350.206	.131	3	2015	RTRN2015					

<u>NAD83(1996)</u>			<u>Geodetic Position</u>			<u>Redwood County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>Order (/Class)</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
44 32 28.28698	95 05 11.73276		538262.893	226350.167	.033	C	2016	HBORN					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>			<u>MN State Plane - South Zone</u>			<u>UTM - Zone 15</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>Order (/Class)</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
2341379.514	891788.732		1096575.202	16187967.033	.131	3	2024	RTRN2024					
2341379.519	891788.717		1096575.206	16187967.019	.013		2016	GPS3150					
2341379.519	891788.717		1096575.206	16187967.019	.013	C	2016	HBORN					
2341379.512	891788.710		1096575.199	16187967.011	.131	3	2015	RTRN2015					

<u>NAD83(1996)</u>			<u>MN State Plane - South Zone</u>			<u>UTM - Zone 15</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>Order (/Class)</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>					
2341379.501	891788.670		1096575.188	16187966.972	.033	C	2016	HBORN					



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/HUY_LE-DQ3467-3S-15MAY2024.jpg	S	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/HUY_LE-DQ3467-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/HUY_LE-DQ3467-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: KEIL MNDT

NGS Name: KEIL

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8920](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	2	112 N	36 W	443210.45	950759.92	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1990	2024	NOT FOUND	Horz=NO Vert=NO	YES		RECESSED 1 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	HORIZONTAL CONTROL DISK	MNDT

Description: (2016) Stamping: KEIL 1990

0.7 MILE WEST OF REDWOOD FALLS, 0.7 MILE WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 71/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 19 IN REDWOOD FALLS TO TRUNK HIGHWAY 19 MILEPOINT 71.30, THEN 0.35 MILE SOUTH ON LASER AVENUE, 26.0 FEET WEST OF A ROAD, 9.0 FEET SOUTH OF A FIELD ENTRANCE, 13.0 FEET NORTH-NORTHWEST OF A WITNESS POST.

Station Pair: 6403 C - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1042.104	.016	2/1				2017	00000898					
1042.104	.016	2/1				2016	VBORN					
1042.104	.016	2/1				2011	00000690					
1042.107	.016	2/1				2008	VTLIN					

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1042.104	.262		951.661	.197	2011	2015	RTRN2015					
1042.104			951.629	.010	2011	2014	GPS3030					
1042.104			951.652	.010	2011	2014	HMORG					
			951.629	.012	2011	2012	GPS2800					
1042.124	.131		951.891	.066	1996	2012	HMORG					
			951.763	.010	2007	2007	GPS2300					
1042.157	.131		951.871	.066	1996	2003	GPS1907					
1042.157	.131		951.871	.066	1996	2003	HRED					
1042.058	.131		951.871	.066	1996	2002	GPS1673					
1042.058	.131		951.871	.066	1996	2001	HVEST					

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1041.697						1992	HORZ					

Geoid Separations(ft): GEOID18 = -90.439 12B = -90.443 09 = -90.298 03 = -90.216

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 10.45143	95 07 59.91826	526083.273	224525.503	.131	3	GPS - RTRN	2015	RTRN2015
44 32 10.45158	95 07 59.91845	526083.260	224525.518	.010		ADJUSTMENT	2014	GPS3030
44 32 10.45170	95 07 59.91845	526083.260	224525.530	.010	C	GPS - STATIC	2014	HMORG
44 32 10.45158	95 07 59.91845	526083.260	224525.518	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 10.45168	95 07 59.91926	526083.201	224525.528	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 10.45106	95 07 59.91880	526083.234	224525.466	.033	C	GPS - STATIC	2012	HMORG
44 32 10.45106	95 07 59.91880	526083.234	224525.466	.033	C	ADJUSTMENT	2003	GPS1907
44 32 10.45106	95 07 59.91880	526083.234	224525.466	.033	C	GPS - STATIC	2003	HRED
44 32 10.45106	95 07 59.91880	526083.234	224525.466	.033	C	ADJUSTMENT	2002	GPS1673
44 32 10.45106	95 07 59.91880	526083.233	224525.466	.033	C	GPS - STATIC	2001	HVEST

NAD83(1986)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 10.44522	95 07 59.91271	526083.676	224524.872	.033	C	GPS - STATIC	2003	HRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2329175.255	890148.149	1084351.466	16186476.117	.131	3	GPS - RTRN	2015	RTRN2015
2329175.241	890148.164	1084351.453	16186476.132	.010		ADJUSTMENT	2014	GPS3030
2329175.241	890148.176	1084351.453	16186476.144	.010	C	GPS - STATIC	2014	HMORG
2329175.241	890148.164	1084351.453	16186476.132	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2329175.183	890148.175	1084351.394	16186476.144	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2329175.215	890148.111	1084351.426	16186476.080	.033	C	GPS - STATIC	2012	HMORG
2329175.215	890148.111	1084351.426	16186476.080	.033	C	ADJUSTMENT	2003	GPS1907
2329175.215	890148.111	1084351.426	16186476.080	.033	C	GPS - STATIC	2003	HRED
2329175.215	890148.111	1084351.426	16186476.080	.033	C	ADJUSTMENT	2002	GPS1673
2329175.215	890148.112	1084351.426	16186476.080	.033	C	GPS - STATIC	2001	HVEST

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2329175.648	890147.514	1084351.852	16186475.477	.033	C	GPS - STATIC	2003	HRED

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/KEIL-AJ8920-3W-07JUL2015.jpg	W	Jul 7, 2015
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/KEIL-AJ8920-2-07JUL2015.jpg		Jul 7, 2015
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/KEIL-AJ8920-1-07JUL2015.jpg		Jul 7, 2015

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: KELLAR

NGS Name: KELLAR

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u> <u>Sec</u> <u>Twp</u> <u>Rng</u>	443320.59	951035.17		
NW 34 113 N 36 W				

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1952	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: **Stamping:** KELLAR 1934

3.0 MILES WEST OF REDWOOD FALLS, 2.8 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 17 IN REDWOOD FALLS, THEN 1.0 MILE NORTH ON KENWOOD AVENUE. IN A CULTIVATED FIELD, 289.0 FEET SOUTHEAST OF THE CROSSROADS, 87.0 FEET SOUTH OF A GRAVEL ROAD, 60.0 FEET SOUTHEAST OF A POWER POLE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.302 12B = -90.298 09 = -90.157 03 = -90.082



Mn/DOT Name: KELLAR AZ MK

NGS Name: KELLAR AZ MK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CQ5856](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	34	113 N	36 W	443321.00	951031.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2003	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (2009) Stamping: KELLAR 1934

3.0 MILES NORTHWEST OF REDWOOD FALLS, 2.8 MILES WEST ALONG TRUNK HIGHWAY 19/ TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 9 AND TRUNK HIGHWAY 17 IN REDWOOD FALLS, THEN 1.0 MILE NORTH ON KENWOOD AVENUE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.305 12B = -90.302 09 = -90.157 03 = -90.085



Mn/DOT Name: KELLAR RESET

NGS Name: KELLAR RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: PQ0952	Get Map
NGS Quad / Sta Num : 44095123/1012	
USGS Quad: DELHI	

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	34	113 N	36 W	443320.59	951035.17		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2003	NOT FOUND	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (2009) **Stamping:** KELLAR 1934 1952

3.0 MILES WEST OF REDWOOD FALLS, 2.8 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 17 IN REDWOOD FALLS, THEN 1.0 MILE NORTH ON KENWOOD AVENUE. IN A CULTIVATED FIELD, 289.0 FEET SOUTHEAST OF THE CROSSROADS, 87.0 FEET SOUTH OF A GRAVEL ROAD, 60.0 FEET SOUTHEAST OF A POWER POLE, 84.90 FEET SOUTHWEST OF KELLAR RM 4, 50.73 FEET SOUTH OF KELLAR RM 5, 50.5 FEET SOUTH OF A WITNESS POST.

Station Notes

THE DISTANCES TO KELLAR RM 4 AND KELLAR RM 5 WERE CHECKED IN 1992.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1048.456	.131		958.108	.016	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1048.456	.131		958.197	.014	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1046.586	.131		958.312	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1907
			958.312	.066	1996	GPS - STATIC	2003	HRED
			956.586	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1047.997						GPS - STATIC	1992	HORZ
1046.586						RECIPROCAL VERTICAL ANGLE	1934	HORZ

Geoid Separations(ft): GEOID18 = -90.302 12B = -90.298 09 = -90.157 03 = -90.082

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 20.58897	95 10 35.16622	514832.628	231617.955	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 20.58897	95 10 35.16714	514832.562	231617.955	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 20.58837	95 10 35.16664	514832.598	231617.894	.033	C	ADJUSTMENT	2003	GPS1907
44 33 20.58837	95 10 35.16664	514832.599	231617.893	.033	C	GPS - STATIC	2003	HRED
44 33 20.58670	95 10 35.16599	514832.645	231617.725	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 20.58295	95 10 35.16107	514833.002	231617.345	.033	1	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 20.73100	95 10 34.16400			.100	1	CLASSICAL SURVEY	1938	03676



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2318034.269	897408.619	1073299.914	16193872.916	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2318034.203	897408.620	1073299.848	16193872.917	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2318034.238	897408.559	1073299.883	16193872.856	.033	C	ADJUSTMENT	2003	GPS1907
2318034.238	897408.559	1073299.883	16193872.856	.033	C	GPS - STATIC	2003	HRED
2318034.283	897408.389	1073299.925	16193872.685	.033	1	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2318034.634	897408.004	1073300.271	16193872.296	.033	1	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
1693431.407	569332.776			.100	1	CLASSICAL SURVEY	1938	03676



Mn/DOT Name: KELLAR RM 1

NGS Name: KELLAR RM 1

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CQ5857](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	34	113 N	36 W	443319.91	951036.01		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2003	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2009)

Stamping:

3.0 MILES WEST OF REDWOOD FALLS, 2.8 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 17 IN REDWOOD FALLS, THEN 1.0 MILE NORTH ON KENWOOD AVENUE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.302 12B = -90.298 09 = -90.157 03 = -90.082



Mn/DOT Name: KELLAR RM 2

NGS Name: KELLAR RM 2

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CQ5858](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	34	113 N	36 W	443321.20	951036.92		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2003	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2009)

Stamping:

3.0 MILES WEST OF REDWOOD FALLS, 2.8 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 17 IN REDWOOD FALLS, THEN 1.0 MILE NORTH ON KENWOOD AVENUE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.302 12B = -90.298 09 = -90.154 03 = -90.082



Mn/DOT Name: KELLAR RM 3

NGS Name: KELLAR RM 3

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CQ5859](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	34	113 N	36 W	443321.00	951035.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2003	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2009) Stamping:

3.0 MILES WEST OF REDWOOD FALLS, 2.8 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 17 IN REDWOOD FALLS, THEN 1.0 MILE NORTH ON KENWOOD AVENUE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.302 12B = -90.298 09 = -90.157 03 = -90.082



Mn/DOT Name: KELLAR RM 4

NGS Name: KELLAR RM 4

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CQ5860](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	34	113 N	36 W	443321.09	951034.25		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2003	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2010) **Stamping:** KELLAR 1934 NO 4 1972

3.0 MILES WEST OF REDWOOD FALLS, 2.8 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 17 IN REDWOOD FALLS, THEN 1.0 MILE NORTH ON KENWOOD AVENUE, IN A CULTIVATED FIELD, 343.0 FEET EAST OF THE CENTER OF A GRAVEL ROAD, 98.0 FEET EAST OF A POWER LINE POLE, 69.5 FEET EAST OF A WITNESS POST AND 35.0 FEET SOUTH OF THE CENTER OF A ROAD.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.302 12B = -90.298 09 = -90.157 03 = -90.082



Mn/DOT Name: KELLAR RM 5

NGS Name: KELLAR RM 5

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CQ5861](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	34	113 N	36 W	443321.09	951035.18		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2003	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2016) **Stamping:** KELLAR 1934 NO 5 1972

3.0 MILES WEST OF REDWOOD FALLS, 2.8 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 17 IN REDWOOD FALLS, THEN 1.0 MILE NORTH ON KENWOOD AVENUE, IN A CULTIVATED FIELD, 125.0 FEET EAST OF THE CENTER OF A GRAVEL ROAD, 36.0 FEET SOUTH OF A GRAVEL ROAD, 29.0 FEET EAST OF A POWER LINE POLE AND 1.5 FEET EAST OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.302 12B = -90.298 09 = -90.157 03 = -90.082



Mn/DOT Name: KELLAR RM 6 AZIMUTH

NGS Name: KELLAR RM 6 AZIMUTH

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [CQ5862](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	34	113 N	36 W	443320.00	951035.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2003	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2009) **Stamping:** KELLAR 1934 NO 6 1972 AZ

IN THE NORTHWEST CORNER OF THE SHELTERBELT AT THE LEROY WOODFORD FARMSTEAD, 255.0 FEET WEST OF THE CENTER OF A FARM DRIVEWAY LEADING NORTH INTO THE FARMSTEAD OF MR. DOUGLAS LECHNER, 35.0 FEET SOUTH OF THE CENTER OF A GRAVEL ROAD, 11.0 FEET EAST OF A POWER POLE, AND 1.5 FEET WEST OF A METAL WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.298 12B = -90.295 09 = -90.151 03 = -90.079



Mn/DOT Name: MNCORS MORT MORTON ARP

NGS Name: MORTON CORS ARP

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DL7804](#) [Get Map](#)
 NGS Quad / Sta Num : 44094433/
 USGS Quad: MORTON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	36	113 N	34 W	443240.33	945943.96	2	A

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2019	GOOD	Horz=YES Vert=NO	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	MNDT

Description: (2009)

Stamping:

0.8 MILE SOUTHWEST OF MORTON, 0.35 MILE SOUTH ALONG TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 78.35, 64.9 FEET SOUTHWEST OF A WEATHER STATION, 43.0 FEET EAST OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71, 7.6 FEET EAST OF A GUARD RAIL. THE ANTENNA REFERENCE POINT IS THE BOTTOM OF THE ANTENNA ON THE BRASS PLUG ON THE TOP OF THE CONCRETE PILLAR.

Station Notes

THE NATIONAL GEODETIC SURVEY (NGS) SITE ID IS MNMN.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
849.995	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898	
849.995	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN	
849.995	.016	2/1				VERTICAL ADJUSTMENT	2013	00000792	
849.995	.016	2/1				VERTICAL CONTROL SURVEY	2012	VMORTN	
850.028	.016	2/1				VERTICAL ADJUSTMENT	2008	00000561	
850.025	.016	2/1				VERTICAL CONTROL SURVEY	2005	VMTON	



Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
849.995			759.355	.009	2011	HORIZONTAL ADJUSTMENT	2025	GPS3808
849.995			759.355	.008	2011	HORIZONTAL ADJUSTMENT	2025	GPS3800
849.995			759.355	.009	2011	GPS - STATIC	2025	H23BLUE2
849.995			759.355	.008	2011	HORIZONTAL ADJUSTMENT	2025	GPS3789
849.995			759.355	.006	2011	HORIZONTAL ADJUSTMENT	2025	GPS3788
849.995			759.355	.013	2011	HORIZONTAL ADJUSTMENT	2025	GPS3787
849.995			759.355	.013	2011	GPS - STATIC	2025	HWOOD
849.995			759.355	.008	2011	HORIZONTAL ADJUSTMENT	2024	GPS3772
849.995			759.355	.008	2011	GPS - STATIC	2024	HHUTCH2
849.995			759.355	.006	2011	GPS - STATIC	2024	HHUTCH1
849.995			759.355	.008	2011	GPS - STATIC	2024	HMNARP5
849.995			759.355	.010	2011	HORIZONTAL ADJUSTMENT	2024	GPS3750
849.995			759.355	.010	2011	GPS - STATIC	2024	HMNARP3
849.995			759.323	.016	2011	HORIZONTAL ADJUSTMENT	2023	GPS3585
849.995	.131		759.414	.066	1996	GPS - STATIC	2023	HNORWD
849.995			759.323	.016	2011	GPS - STATIC	2023	HNORWD
849.995	.131		759.414	.066	1996	GPS - STATIC	2021	HRVIL
849.995			759.323	.006	2011	HORIZONTAL ADJUSTMENT	2020	GPS3372
849.995			759.323	.006	2011	GPS - STATIC	2020	HRVIL
849.995			759.323	.007	2011	HORIZONTAL ADJUSTMENT	2020	GPS3367
849.995			759.323	.009	2011	HORIZONTAL ADJUSTMENT	2020	GPS3360
849.995	.131		759.414	.066	1996	GPS - STATIC	2020	HKAND
849.995			759.323	.007	2011	GPS - STATIC	2020	HKAND
849.995			759.323	.007	2011	HORIZONTAL ADJUSTMENT	2020	GPS3358
849.995	.131		759.414	.066	1996	GPS - STATIC	2020	HTH5
849.995			759.323	.009	2011	GPS - STATIC	2020	HTH5
849.995	.131		759.414	.066	1996	GPS - STATIC	2020	HSLEEP
849.995			759.323	.007	2011	GPS - STATIC	2020	HSLEEP
			759.323	.007	2011	HORIZONTAL ADJUSTMENT	2019	CORS-MYCS2
849.995			759.287	.007	2011	HORIZONTAL ADJUSTMENT	2019	GPS3321
849.995	.131		759.414	.066	1996	GPS - STATIC	2019	HYELL
849.995			759.287	.007	2011	GPS - STATIC	2019	HYELL
849.995			759.287	.012	2011	HORIZONTAL ADJUSTMENT	2019	GPS3295
849.995	.131		759.414	.066	1996	GPS - STATIC	2019	HTRACY
849.995			759.287	.012	2011	GPS - STATIC	2019	HTRACY
849.995			759.287	.005	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119
849.900	.131		759.414	.066	1996	GPS - STATIC	2017	HMNCORS07
849.995			759.287	.005	2011	GPS - STATIC	2017	HMNPH
849.995			759.287	.005	2011	HORIZONTAL ADJUSTMENT	2016	GPS3150
849.995			759.287	.009	2011	HORIZONTAL ADJUSTMENT	2016	GPS3141
849.897	.131		759.418	.066	1996	GPS - STATIC	2016	HBORN
849.995			759.287	.005	2011	GPS - STATIC	2016	HBORN
849.995			759.287	.011	2011	HORIZONTAL ADJUSTMENT	2016	GPS3139
849.995			759.287	.011	2011	GPS - STATIC	2016	HNORS
849.995	.131		759.369	.066	1996	GPS - STATIC	2016	HNORS
849.995	.131		759.369	.066	1996	GPS - STATIC	2016	HKLOS
849.995			759.287	.009	2011	GPS - STATIC	2016	HKLOS
			759.287	.005	2011	HORIZONTAL ADJUSTMENT	2015	GPS3118
849.995	.131		759.369	.066	1996	GPS - STATIC	2015	HPLAT
849.929			759.250	.005	2011	GPS - STATIC	2015	HPLAT
			759.296	.002	2011	GPS - STATIC	2015	HMNCORS15
			759.231	.024	2011	HORIZONTAL ADJUSTMENT	2015	GPS3023
849.995			759.287	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030
849.995			759.287	.010	2011	GPS - STATIC	2014	HMORG
849.995			759.287	.019	2011	HORIZONTAL ADJUSTMENT	2014	GPS3022
849.995			759.273	.019	2011	GPS - STATIC	2014	HHECT
849.995	.131		759.369	.066	1996	GPS - STATIC	2014	HHECT
849.995			759.287	.020	2011	HORIZONTAL ADJUSTMENT	2014	GPS2755



849.995		759.287	.024	2011	HORIZONTAL ADJUSTMENT	2014	GPS2997
849.995		759.234	.024	2011	GPS - STATIC	2014	HGWYN
849.995	.131	759.355	.066	1996	GPS - STATIC	2014	HGWYN
849.995		759.293	.020	2011	GPS - STATIC	2014	HBUTT
849.995		759.287	.024	2011	HORIZONTAL ADJUSTMENT	2014	GPS2977
849.995		759.227	.024	2011	GPS - STATIC	2013	HSUEUR
849.995	.131	759.523	.066	1996	GPS - STATIC	2013	HSUEUR
849.995		759.287	.026	2011	HORIZONTAL ADJUSTMENT	2013	GPS2966
850.028		759.287	.016	2011	HORIZONTAL ADJUSTMENT	2013	GPS2964
849.995	.131	759.523	.066	1996	GPS - STATIC	2013	HMKTO2
849.995		759.287	.026	2011	GPS - STATIC	2013	HMKTO2
850.028		759.316	.016	2011	GPS - STATIC	2013	HNMAN
849.998	.098	759.287	.049	2011	GPS - STATIC	2012	HMNCORS05
		759.287	.000	2011	HORIZONTAL ADJUSTMENT	2012	CORS-MYCS
		759.287	.000	2011	HORIZONTAL ADJUSTMENT	2011	CORS3429
850.031	.131	759.411	.066	2007	GPS - STATIC	2010	HBUTT
850.031	.131	759.467	.066	1996	GPS - STATIC	2010	HBUTT
		759.234	.000	2007	HORIZONTAL ADJUSTMENT	2010	CORS2716
850.031	.098	759.369	.049	1996	GPS - STATIC	2006	HMNCORS02

Geoid Separations(ft): GEOID18 = -90.718 12B = -90.712 09 = -90.600 03 = -90.472



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003		ADJUSTMENT	2025	GPS3808
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003		ADJUSTMENT	2025	GPS3800
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003	C	GPS - STATIC	2025	H23BLUE2
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003		ADJUSTMENT	2025	GPS3789
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003		ADJUSTMENT	2025	GPS3788
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.007		ADJUSTMENT	2025	GPS3787
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.007	C	GPS - STATIC	2025	HWOOD
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003	C	GPS - STATIC	2024	H23BLUE1
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003		ADJUSTMENT	2024	GPS3772
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003	C	GPS - STATIC	2024	HHUTCH2
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003	C	GPS - STATIC	2024	HHUTCH1
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.003	C	GPS - STATIC	2024	HMNARP5
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.007		ADJUSTMENT	2024	GPS3750
44 32 40.33143	94 59 43.96180	562000.054	227625.727	.007	C	GPS - STATIC	2024	HMNARP3
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.007		ADJUSTMENT	2023	GPS3585
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.007	C	GPS - STATIC	2023	HNORWD
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.003		ADJUSTMENT	2020	GPS3372
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.003	C	GPS - STATIC	2020	HRVIL
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.003		ADJUSTMENT	2020	GPS3367
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.003		ADJUSTMENT	2020	GPS3360
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.003	C	GPS - STATIC	2020	HKAND
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.007		ADJUSTMENT	2020	GPS3358
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.003	C	GPS - STATIC	2020	HTH5
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.007	C	GPS - STATIC	2020	HSLEEP
44 32 40.33145	94 59 43.96201	562000.039	227625.729	.003		ADJUSTMENT	2019	CORS-MYCS2
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003		ADJUSTMENT	2019	GPS3321
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003	C	GPS - STATIC	2019	HYELL
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.007		ADJUSTMENT	2019	GPS3295
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.007	C	GPS - STATIC	2019	HTRACY
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003		ADJUSTMENT	2018	GPS3119
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003	C	GPS - STATIC	2017	HMNPH
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003		ADJUSTMENT	2016	GPS3150
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003		ADJUSTMENT	2016	GPS3141
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003	C	GPS - STATIC	2016	HBORN
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.007		ADJUSTMENT	2016	GPS3139
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.007	C	GPS - STATIC	2016	HNORS
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003	C	GPS - STATIC	2016	HKLOS
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003		ADJUSTMENT	2015	GPS3118
44 32 40.33150	94 59 43.96200	562000.040	227625.734	.003	C	GPS - STATIC	2015	HPLAT
44 32 40.33146	94 59 43.96205	562000.036	227625.730	.003	A	GPS - STATIC	2015	HMNCORS15
44 32 40.33156	94 59 43.96223	562000.023	227625.740	.010		ADJUSTMENT	2015	GPS3023
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.010		ADJUSTMENT	2014	GPS3030
44 32 40.33146	94 59 43.96214	562000.030	227625.730	.010	C	GPS - STATIC	2014	HMORG
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.010		ADJUSTMENT	2014	GPS3022
44 32 40.33144	94 59 43.96191	562000.046	227625.728	.010	C	GPS - STATIC	2014	HHECT
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.010		ADJUSTMENT	2014	GPS2755
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.010		ADJUSTMENT	2014	GPS2997
44 32 40.33145	94 59 43.96198	562000.041	227625.729	.010	C	GPS - STATIC	2014	HGWYN
44 32 40.33145	94 59 43.96205	562000.036	227625.729	.010	C	GPS - STATIC	2014	HBUTT
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.010		ADJUSTMENT	2014	GPS2977
44 32 40.33144	94 59 43.96195	562000.043	227625.728	.010	C	GPS - STATIC	2013	HSUEUR
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.013		ADJUSTMENT	2013	GPS2966
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.010		ADJUSTMENT	2013	GPS2964
44 32 40.33143	94 59 43.96201	562000.039	227625.727	.013	C	GPS - STATIC	2013	HMKTO2
44 32 40.33146	94 59 43.96195	562000.043	227625.730	.010	C	GPS - STATIC	2013	HNMAN
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.016	B	GPS - STATIC	2012	HMNCORS05
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003		ADJUSTMENT	2012	CORS-MYCS
44 32 40.33144	94 59 43.96199	562000.040	227625.728	.003	A	ADJUSTMENT	2011	CORS3429



NAD83(2007)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 32 40.33128	94 59 43.96300	561999.967	227625.712	.033	C	GPS - STATIC	2010	HBUTT
44 32 40.33128	94 59 43.96300	561999.967	227625.712	.003	A	ADJUSTMENT	2010	CORS2716

NAD83(1996)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 32 40.33098	94 59 43.96198	562000.041	227625.682	.066		NCAT	2025	H23BLUE2
44 32 40.33098	94 59 43.96198	562000.041	227625.682	.066		NCAT	2025	HWOOD
44 32 40.33098	94 59 43.96198	562000.041	227625.682	.066		NCAT	2024	H23BLUE1
44 32 40.33098	94 59 43.96198	562000.041	227625.682	.066		NCAT	2024	HHUTCH2
44 32 40.33098	94 59 43.96198	562000.041	227625.682	.066		NCAT	2024	HHUTCH1
44 32 40.33126	94 59 43.96220	562000.025	227625.710	.033	C	GPS - STATIC	2023	HNORWD
44 32 40.33126	94 59 43.96220	562000.025	227625.710	.033	C	GPS - STATIC	2021	HRVIL
44 32 40.33126	94 59 43.96220	562000.025	227625.710	.033	C	GPS - STATIC	2020	HKAND
44 32 40.33126	94 59 43.96220	562000.025	227625.710	.033	C	GPS - STATIC	2020	HTH5
44 32 40.33126	94 59 43.96220	562000.025	227625.710	.033	C	GPS - STATIC	2020	HSLEEP
44 32 40.33126	94 59 43.96220	562000.025	227625.710	.033	C	GPS - STATIC	2019	HYELL
44 32 40.33126	94 59 43.96220	562000.025	227625.710	.033	C	GPS - STATIC	2019	HTRACY
44 32 40.33126	94 59 43.96220	562000.025	227625.710	.033	C	GPS - STATIC	2017	HMNCORS07
44 32 40.33095	94 59 43.96226	562000.021	227625.679	.033	C	GPS - STATIC	2016	HBORN
44 32 40.33136	94 59 43.96303	561999.965	227625.720	.033	C	GPS - STATIC	2016	HKLOS
44 32 40.33136	94 59 43.96303	561999.965	227625.720	.033	C	GPS - STATIC	2016	HNORS
44 32 40.33136	94 59 43.96303	561999.965	227625.720	.033	C	GPS - STATIC	2015	HPLAT
44 32 40.33136	94 59 43.96303	561999.965	227625.720	.033	C	GPS - STATIC	2014	HHECT
44 32 40.33054	94 59 43.96202	562000.038	227625.637	.033	C	GPS - STATIC	2014	HGWYN
44 32 40.33128	94 59 43.96300	561999.967	227625.712	.033	C	GPS - STATIC	2013	HSUEUR
44 32 40.33128	94 59 43.96300	561999.967	227625.712	.033	C	GPS - STATIC	2013	HMKTO2
44 32 40.33128	94 59 43.96300	561999.967	227625.712	.033	C	GPS - STATIC	2010	HBUTT
44 32 40.33136	94 59 43.96303	561999.965	227625.720	.016	B	GPS - STATIC	2006	HMNCORS02



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15						Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
2365130.257	892705.924	1120335.427	16188593.045	.003		ADJUSTMENT	2025	GPS3808	
2365130.257	892705.924	1120335.427	16188593.045	.003		ADJUSTMENT	2025	GPS3800	
2365130.257	892705.924	1120335.427	16188593.045	.003	C	GPS - STATIC	2025	H23BLUE2	
2365130.257	892705.924	1120335.427	16188593.045	.003		ADJUSTMENT	2025	GPS3789	
2365130.257	892705.924	1120335.427	16188593.045	.003		ADJUSTMENT	2025	GPS3788	
2365130.257	892705.924	1120335.427	16188593.045	.007		ADJUSTMENT	2025	GPS3787	
2365130.257	892705.924	1120335.427	16188593.045	.007	C	GPS - STATIC	2025	HWOOD	
2365130.257	892705.924	1120335.427	16188593.045	.003	C	GPS - STATIC	2024	H23BLUE1	
2365130.257	892705.924	1120335.427	16188593.045	.003		ADJUSTMENT	2024	GPS3772	
2365130.257	892705.924	1120335.427	16188593.045	.003	C	GPS - STATIC	2024	HHUTCH2	
2365130.257	892705.924	1120335.427	16188593.045	.003	C	GPS - STATIC	2024	HHUTCH1	
2365130.257	892705.924	1120335.427	16188593.045	.003	C	GPS - STATIC	2024	HMNARP5	
2365130.257	892705.924	1120335.427	16188593.045	.007		ADJUSTMENT	2024	GPS3750	
2365130.257	892705.924	1120335.427	16188593.045	.007	C	GPS - STATIC	2024	HMNARP3	
2365130.242	892705.926	1120335.412	16188593.047	.007		ADJUSTMENT	2023	GPS3585	
2365130.242	892705.926	1120335.412	16188593.047	.007	C	GPS - STATIC	2023	HNORWD	
2365130.242	892705.926	1120335.412	16188593.047	.003		ADJUSTMENT	2020	GPS3372	
2365130.242	892705.926	1120335.412	16188593.047	.003	C	GPS - STATIC	2020	HRVIL	
2365130.242	892705.926	1120335.412	16188593.047	.003		ADJUSTMENT	2020	GPS3367	
2365130.242	892705.926	1120335.412	16188593.047	.003		ADJUSTMENT	2020	GPS3360	
2365130.242	892705.926	1120335.412	16188593.047	.003	C	GPS - STATIC	2020	HKAND	
2365130.242	892705.926	1120335.412	16188593.047	.007		ADJUSTMENT	2020	GPS3358	
2365130.242	892705.926	1120335.412	16188593.047	.003	C	GPS - STATIC	2020	HTH5	
2365130.242	892705.926	1120335.412	16188593.047	.007	C	GPS - STATIC	2020	HSLEEP	
2365130.242	892705.926	1120335.412	16188593.047	.003		ADJUSTMENT	2019	CORS-MYCS2	
2365130.243	892705.925	1120335.414	16188593.046	.003		ADJUSTMENT	2019	GPS3321	
2365130.243	892705.925	1120335.414	16188593.046	.003	C	GPS - STATIC	2019	HYELL	
2365130.243	892705.925	1120335.414	16188593.046	.007		ADJUSTMENT	2019	GPS3295	
2365130.243	892705.925	1120335.414	16188593.046	.007	C	GPS - STATIC	2019	HTRACY	
2365130.243	892705.925	1120335.414	16188593.046	.003		ADJUSTMENT	2018	GPS3119	
2365130.243	892705.925	1120335.414	16188593.046	.003	C	GPS - STATIC	2017	HMNPH	
2365130.243	892705.925	1120335.414	16188593.046	.003		ADJUSTMENT	2016	GPS3150	
2365130.243	892705.925	1120335.414	16188593.046	.003		ADJUSTMENT	2016	GPS3141	
2365130.243	892705.925	1120335.414	16188593.046	.003	C	GPS - STATIC	2016	HBORN	
2365130.243	892705.925	1120335.414	16188593.046	.007		ADJUSTMENT	2016	GPS3139	
2365130.243	892705.925	1120335.414	16188593.046	.007	C	GPS - STATIC	2016	HNORS	
2365130.243	892705.925	1120335.414	16188593.046	.003	C	GPS - STATIC	2016	HKLOS	
2365130.243	892705.925	1120335.414	16188593.046	.003		ADJUSTMENT	2015	GPS3118	
2365130.243	892705.931	1120335.413	16188593.053	.003	C	GPS - STATIC	2015	HPLAT	
2365130.239	892705.927	1120335.409	16188593.049	.003	A	GPS - STATIC	2015	HMNCORS15	
2365130.226	892705.937	1120335.396	16188593.059	.010		ADJUSTMENT	2015	GPS3023	
2365130.243	892705.925	1120335.414	16188593.046	.010		ADJUSTMENT	2014	GPS3030	
2365130.233	892705.927	1120335.403	16188593.049	.010	C	GPS - STATIC	2014	HMORG	
2365130.243	892705.925	1120335.414	16188593.046	.010		ADJUSTMENT	2014	GPS3022	
2365130.249	892705.925	1120335.419	16188593.046	.010	C	GPS - STATIC	2014	HHECT	
2365130.243	892705.925	1120335.414	16188593.046	.010		ADJUSTMENT	2014	GPS2755	
2365130.243	892705.925	1120335.414	16188593.046	.010		ADJUSTMENT	2014	GPS2997	
2365130.244	892705.926	1120335.415	16188593.047	.010	C	GPS - STATIC	2014	HGWYN	
2365130.239	892705.926	1120335.409	16188593.047	.010	C	GPS - STATIC	2014	HBUTT	
2365130.243	892705.925	1120335.414	16188593.046	.010		ADJUSTMENT	2014	GPS2977	
2365130.246	892705.925	1120335.416	16188593.046	.010	C	GPS - STATIC	2013	HSUEUR	
2365130.243	892705.925	1120335.414	16188593.046	.013		ADJUSTMENT	2013	GPS2966	
2365130.243	892705.925	1120335.414	16188593.046	.010		ADJUSTMENT	2013	GPS2964	
2365130.242	892705.924	1120335.412	16188593.045	.013	C	GPS - STATIC	2013	HMKTO2	
2365130.246	892705.927	1120335.416	16188593.048	.010	C	GPS - STATIC	2013	HNMAN	
2365130.243	892705.925	1120335.414	16188593.046	.016	B	GPS - STATIC	2012	HMNCORS05	
2365130.243	892705.925	1120335.414	16188593.046	.003		ADJUSTMENT	2012	CORS-MYCS	



MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2365130.243	892705.925	1120335.414	16188593.046	.003	A	ADJUSTMENT	2011	CORS3429
<u>NAD83(2007)</u>								
2365130.170	892705.909	1120335.340	16188593.032	.033	C	GPS - STATIC	2010	HBUTT
2365130.170	892705.909	1120335.340	16188593.032	.003	A	ADJUSTMENT	2010	CORS2716
<u>NAD83(1996)</u>								
2365130.243	892705.878	1120335.413	16188593.000	.066		NCAT	2025	H23BLUE2
2365130.243	892705.878	1120335.413	16188593.000	.066		NCAT	2025	HWOOD
2365130.243	892705.878	1120335.413	16188593.000	.066		NCAT	2024	H23BLUE1
2365130.243	892705.878	1120335.413	16188593.000	.066		NCAT	2024	HHUTCH2
2365130.243	892705.878	1120335.413	16188593.000	.066		NCAT	2024	HHUTCH1
2365130.228	892705.907	1120335.398	16188593.029	.033	C	GPS - STATIC	2023	HNORWD
2365130.228	892705.907	1120335.398	16188593.029	.033	C	GPS - STATIC	2021	HRVIL
2365130.228	892705.907	1120335.398	16188593.029	.033	C	GPS - STATIC	2020	HKAND
2365130.228	892705.907	1120335.398	16188593.029	.033	C	GPS - STATIC	2020	HTH5
2365130.228	892705.907	1120335.398	16188593.029	.033	C	GPS - STATIC	2020	HSLEEP
2365130.228	892705.907	1120335.398	16188593.029	.033	C	GPS - STATIC	2019	HYELL
2365130.228	892705.907	1120335.398	16188593.029	.033	C	GPS - STATIC	2019	HTRACY
2365130.228	892705.907	1120335.398	16188593.029	.033	C	GPS - STATIC	2017	HMNCORS07
2365130.223	892705.875	1120335.393	16188592.997	.033	C	GPS - STATIC	2016	HBORN
2365130.168	892705.918	1120335.338	16188593.040	.033	C	GPS - STATIC	2016	HKLOS
2365130.168	892705.918	1120335.338	16188593.040	.033	C	GPS - STATIC	2016	HNORS
2365130.168	892705.918	1120335.338	16188593.040	.033	C	GPS - STATIC	2015	HPLAT
2365130.168	892705.918	1120335.338	16188593.040	.033	C	GPS - STATIC	2014	HHECT
2365130.240	892705.834	1120335.409	16188592.955	.033	C	GPS - STATIC	2014	HGWYN
2365130.170	892705.909	1120335.340	16188593.032	.033	C	GPS - STATIC	2013	HSUEUR
2365130.170	892705.909	1120335.340	16188593.032	.033	C	GPS - STATIC	2013	HMKTO2
2365130.170	892705.909	1120335.340	16188593.032	.033	C	GPS - STATIC	2010	HBUTT
2365130.168	892705.918	1120335.338	16188593.040	.016	B	GPS - STATIC	2006	HMNCORS02

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON_CORS_ARP-DL7804-3NE-17AUG2006.jpg	NE	Aug 17, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON_CORS_ARP-DL7804-2-17AUG2006.jpg		Aug 17, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON_CORS_ARP-DL7804-1-17AUG2006.jpg		Aug 17, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MNCORS MORT MORTON L1PC1

NGS Name: MORTON CORS L1 PHASE CENTER

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [!89944](#) [Get Map](#)
 NGS Quad / Sta Num : 44094433/
 USGS Quad: MORTON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	36	113 N	34 W	443240.33	945943.96		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2009	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	MNDT

Description: (2012)

Stamping:

0.8 MILE SOUTHWEST OF MORTON, 0.35 MILE SOUTH ALONG TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 78.35, 64.9 FEET SOUTHWEST OF A WEATHER STATION, 43.0 FEET EAST OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71, 7.6 FEET EAST OF A GUARD RAIL. THE ANTENNA REFERENCE POINT (ARP) IS THE TOP OF A BRASS PLUG ON THE TOP OF A CONCRETE PILLAR. THE STATION IS IN A ZEPHYR GEODETIC ANTENNA SERIAL NUMBER 12697119.

Station Notes

THE NATIONAL GEODETIC SURVEY (NGS) WILL NOT ASSIGN A PID TO THIS ANTENNA SINCE THIS ANTENNA WAS REMOVED PRIOR TO THE NATIONAL GEODETIC SURVEY (NGS) ACCEPTANCE OF THIS CORS STATION.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.718 12B = -90.712 09 = -90.600 03 = -90.472

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON_CORS_L1_PHASE_CENTER-!89944-3W-17AUG2006.jpg	W	Aug 17, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON_CORS_L1_PHASE_CENTER-!89944-2-17AUG2006.jpg		Aug 17, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON_CORS_L1_PHASE_CENTER-!89944-1-17AUG2006.jpg		Aug 17, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MNCORS MORT MORTON L1PC2

NGS Name: MORTON CORS L1 PHASE CENTER

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DL7805](#) [Get Map](#)
 NGS Quad / Sta Num : 44094433/
 USGS Quad: MORTON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	36	113 N	34 W	443240.33	945943.96		A

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2009	2015	GOOD	Horz=YES Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	MNDT

Description: (2012)

Stamping:

0.8 MILE SOUTHWEST OF MORTON, 0.35 MILE SOUTH ALONG TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 78.35, 64.9 FEET SOUTHWEST OF A WEATHER STATION, 43.0 FEET EAST OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71, 7.6 FEET EAST OF A GUARD RAIL. THE ANTENNA REFERENCE POINT (ARP) IS THE TOP OF A BRASS PLUG ON THE TOP OF A CONCRETE PILLAR. STATION MNCORS MORT MORTON L1PC2 IS IN A ZEPHYR GEODETIC LF MODEL 2 ANTENNA SERIAL NUMBER 31182737.

Station Notes

THE STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
759.506	.000	2011	759.451	.000	2007	HORIZONTAL ADJUSTMENT	2011	CORS3429
						HORIZONTAL ADJUSTMENT	2010	CORS2716

Geoid Separations(ft): GEOID18 = -90.718 12B = -90.712 09 = -90.600 03 = -90.472

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 40.33147	94 59 43.96200	562000.040	227625.731	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 40.33132	94 59 43.96301	561999.967	227625.716	.003	A	ADJUSTMENT	2010	CORS2716

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2365130.243	892705.928	1120335.413	16188593.049	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2365130.169	892705.913	1120335.339	16188593.036	.003	A	ADJUSTMENT	2010	CORS2716

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON CORS L1 PHASE CENTER-DL7805-3N-24FEB2009.jpg	N	Feb 24, 2009
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON CORS L1 PHASE CENTER-DL7805-2-24FEB2009.jpg		Feb 24, 2009
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON CORS L1 PHASE CENTER-DL7805-1-23FEB2009.jpg		Feb 23, 2009

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MORTON

NGS Name: MORTON

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DJ6760](#) [Get Map](#)
 NGS Quad / Sta Num : 44094433/
 USGS Quad: MORTON

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	36	113 N	34 W	443240.34	945943.96	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2024	GOOD	Horz=NO Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (2009) **Stamping:** MORTON 2005

0.8 MILE SOUTHWEST OF MORTON, 0.35 MILE SOUTH ALONG TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN MORTON, AT TRUNK HIGHWAY 19 MILEPOINT 78.35, 64.9 FEET SOUTHWEST OF A WEATHER STATION, 43.0 FEET SOUTHEAST OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71, 7.6 FEET SOUTHEAST OF A GUARD RAIL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Orthometric Height				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference			
844.690	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898			
844.690	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN			
844.729	.016	2/1					VERTICAL ADJUSTMENT	2013	00000792			
844.729	.016	2/1					VERTICAL CONTROL SURVEY	2012	VMORTN			
844.765	.016	2/1					VERTICAL ADJUSTMENT	2008	00000561			
844.762	.016	2/1					VERTICAL CONTROL SURVEY	2005	VMTON			

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Orthometric Height				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference			
844.742	.262			754.021	.197	2011	GPS - RTRN	2024	RTRN2024			
844.647	.262			753.935	.197	2011	GPS - RTRN	2015	RTRN2015			

Geoid Separations(ft): GEOID18 = -90.718 12B = -90.712 09 = -90.600 03 = -90.472

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Geodetic Position				Redwood County			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference				
44 32 40.33974	94 59 43.95987	562000.192	227626.569	.131	3	GPS - RTRN	2024	RTRN2024				
44 32 40.34003	94 59 43.96118	562000.096	227626.598	.131	3	GPS - RTRN	2015	RTRN2015				

State Plane and UTM Coordinates (Feet)

NAD83(2011)				MN State Plane - South Zone				UTM - Zone 15			Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference				
2365130.407	892706.763	1120335.588	16188593.883	.131	3	GPS - RTRN	2024	RTRN2024				
2365130.313	892706.794	1120335.494	16188593.914	.131	3	GPS - RTRN	2015	RTRN2015				

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON-DJ6760-3SE-22MAY2024.jpg	SE	May 22, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON-DJ6760-2-22MAY2024.jpg		May 22, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/MORTON-DJ6760-1-22MAY2024.jpg		May 22, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: PA 20 SE

NGS Name: PA 20 SE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7790](#) [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	20	112 N	35 W	442908.36	950404.99	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2002	2021	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (IN SLEEVE) (DEPTH 16 FT)	METAL ROD	MN-127

Description: (2004) **Stamping:** PA20SE 2002

3.0 MILES SOUTHEAST OF REDWOOD FALLS, 3.2 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, TO TRUNK HIGHWAY 67 MILEPOINT 73.45, THEN 1.6 MILES SOUTH ON COUNTY ROAD 1, 42.0 FEET WEST OF COUNTY ROAD 1, 36.0 FEET NORTH OF COUNTY ROAD 12 (300TH STREET), 6.0 FEET NORTH-NORTHEAST OF A STREET SIGN POST, 4.0 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>	
1034.306	.016	2/1				VERTICAL ADJUSTMENT		2013	00000774	
1034.302	.016	2/1				VERTICAL CONTROL SURVEY		2012	VMORG	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>	
1034.276	.262		943.571	.197	2011	GPS - OPUS		2021	GPSBM	
1034.316	.262		943.610	.197	2011	GPS - RTRN		2021	RTRN2021	
1034.286	.262		943.584	.197	2011	GPS - RTRN		2015	RTRN2015	
1034.306			943.578	.007	2011	HORIZONTAL ADJUSTMENT		2014	GPS3030	
1034.306			943.597	.007	2011	GPS - STATIC		2014	HMORG	
			943.578	.010	2011	HORIZONTAL ADJUSTMENT		2012	GPS2800	
1034.316	.131		943.824	.066	1996	GPS - STATIC		2012	HMORG	
			943.673	.010	2007	HORIZONTAL ADJUSTMENT		2007	GPS2300	
1034.250	.131		943.804	.066	1996	HORIZONTAL ADJUSTMENT		2004	GPS2023	
1034.217	.131		943.804	.066	1996	GPS - STATIC		2004	HREDW	

Geoid Separations(ft): GEOID18 = -90.708 12B = -90.699 09 = -90.603 03 = -90.479

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
44 29 08.36002	95 04 04.98803	543138.148	206111.808	.131	3	GPS - OPUS		2021	GPSBM
44 29 08.36014	95 04 04.98750	543138.187	206111.820	.131	3	GPS - RTRN		2021	RTRN2021
44 29 08.35990	95 04 04.98615	543138.284	206111.796	.131	3	GPS - RTRN		2015	RTRN2015
44 29 08.35997	95 04 04.98724	543138.205	206111.803	.010		ADJUSTMENT		2014	GPS3030
44 29 08.35997	95 04 04.98753	543138.184	206111.803	.010	C	GPS - STATIC		2014	HMORG
44 29 08.35997	95 04 04.98724	543138.205	206111.803	.013		ADJUSTMENT		2012	GPS2800

<u>NAD83(2007)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
44 29 08.36005	95 04 04.98810	543138.143	206111.811	.013		ADJUSTMENT		2007	GPS2300

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
44 29 08.35945	95 04 04.98751	543138.186	206111.750	.033	C	GPS - STATIC		2012	HMORG
44 29 08.35945	95 04 04.98751	543138.186	206111.750	.033	C	ADJUSTMENT		2004	GPS2023
44 29 08.35945	95 04 04.98751	543138.186	206111.750	.033	C	GPS - STATIC		2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2345948.353	871481.576	1100895.107	16167605.190	.131	3	GPS - OPUS	2021	GPSBM
2345948.391	871481.588	1100895.146	16167605.201	.131	3	GPS - RTRN	2021	RTRN2021
2345948.489	871481.562	1100895.243	16167605.175	.131	3	GPS - RTRN	2015	RTRN2015
2345948.410	871481.570	1100895.164	16167605.184	.010		ADJUSTMENT	2014	GPS3030
2345948.389	871481.571	1100895.143	16167605.184	.010	C	GPS - STATIC	2014	HMORG
2345948.410	871481.570	1100895.164	16167605.184	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2345948.348	871481.579	1100895.102	16167605.193	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2345948.390	871481.518	1100895.143	16167605.132	.033	C	GPS - STATIC	2012	HMORG
2345948.390	871481.518	1100895.143	16167605.132	.033	C	ADJUSTMENT	2004	GPS2023
2345948.390	871481.518	1100895.143	16167605.132	.033	C	GPS - STATIC	2004	HREDW

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/PA_20_SE-DG7790-3W-27MAY2021.jpg	W	May 27, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/PA_20_SE-DG7790-2-27MAY2021.jpg		May 27, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/PA_20_SE-DG7790-1-27MAY2021.jpg		May 27, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: PAXT

NGS Name: PAXT

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DO4719](#) [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	21	112 N	35 W	442951.60	950302.48	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** PAXT 2011

4.7 MILES SOUTHEAST OF REDWOOD FALLS, 4.35 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN THE SOUTHWEST PART OF REDWOOD FALLS, AT TRUNK HIGHWAY 67 MILEPOINT 74.65, 79.5 FEET SOUTHWEST OF TRUNK HIGHWAY 67, 1.3 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>	
1032.183	.016	2/1						VERTICAL ADJUSTMENT	2013	00000774	
1032.183	.016	2/1						VERTICAL CONTROL SURVEY	2012	VMORG	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>	
1032.183				941.494	.012	2011		HORIZONTAL ADJUSTMENT	2014	GPS3030	
1032.183				941.494	.012	2011		GPS - STATIC	2014	HMORG	
1032.183	.131			941.694	.066	1996		GPS - STATIC	2012	HMORG	

Geoid Separations(ft): GEOID18 = -90.718 12B = -90.708 09 = -90.617 03 = -90.489

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
44 29 51.60467	95 03 02.48429			547659.868	210501.011		.026		ADJUSTMENT	2014	GPS3030
44 29 51.60467	95 03 02.48429			547659.868	210501.011		.026	C	GPS - STATIC	2014	HMORG

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
44 29 51.60418	95 03 02.48424			547659.872	210500.962		.033	C	GPS - STATIC	2012	HMORG

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>										
2350535.203	875801.543			1105534.502	16171868.749		.026		ADJUSTMENT	2014	GPS3030
2350535.203	875801.543			1105534.502	16171868.749		.026	C	GPS - STATIC	2014	HMORG

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>										
2350535.206	875801.493			1105534.504	16171868.700		.033	C	GPS - STATIC	2012	HMORG

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/PAXT-DO4719-3SW-03AUG2011.jpg	SW	Aug 3, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/PAXT-DO4719-2-03AUG2011.jpg		Aug 3, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/PAXT-DO4719-1-03AUG2011.jpg		Aug 3, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: POSEN MNDT

NGS Name: POSEN

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8933](#) [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	3	112 N	38 W	443201.12	952327.73	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 1 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2016) Stamping: POSEN 1998

3.5 MILES NORTHEAST OF VESTA, 3.75 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 58.65, THEN 0.55 MILE SOUTH ON FAIRVIEW AVENUE, 75.0 FEET NORTH OF A 1/4 CORNER FENCE LINE, 23.0 FEET WEST OF FAIRVIEW AVENUE, 20.0 FEET SOUTH OF A FIELD ENTRANCE, 1.0 FOOT NORTH OF A WITNESS POST.

Station Pair: YELL MNDT RESET - REDWOOD, MN

Station Notes

THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1053.604	.016	2/1				VERTICAL ADJUSTMENT	2013	00000797
1053.604	.016	2/1				VERTICAL CONTROL SURVEY	2011	VECHO
1053.604	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1053.604	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1053.446	.262		963.555	.197	2011	GPS - RTRN	2015	RTRN2015
1053.604			963.722	.009	2011	HORIZONTAL ADJUSTMENT	2014	GPS3032
1053.604	.131		963.820	.066	2007	GPS - STATIC	2014	HECHO
1053.604			963.722	.009	2011	GPS - STATIC	2014	HECHO
			963.722	.013	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1053.607	.131		963.955	.066	1996	GPS - STATIC	2011	HECHO
			963.820	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1053.607	.131		963.955	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673
1053.607	.131		963.955	.066	1996	GPS - STATIC	2001	HVEST

Geoid Separations(ft): GEOID18 = -89.888 12B = -89.892 09 = -89.764 03 = -89.678

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 01.11542	95 23 27.72817	458873.618	223603.672	.131	3	GPS - RTRN	2015	RTRN2015
44 32 01.11681	95 23 27.72828	458873.610	223603.813	.010		ADJUSTMENT	2014	GPS3032
44 32 01.11668	95 23 27.72823	458873.613	223603.799	.010	C	GPS - STATIC	2014	HECHO
44 32 01.11681	95 23 27.72828	458873.610	223603.813	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 01.11683	95 23 27.72910	458873.550	223603.815	.033	C	GPS - STATIC	2014	HECHO
44 32 01.11683	95 23 27.72910	458873.550	223603.815	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 01.11618	95 23 27.72814	458873.620	223603.749	.033	C	GPS - STATIC	2011	HECHO
44 32 01.11618	95 23 27.72814	458873.620	223603.749	.033	C	ADJUSTMENT	2002	GPS1673
44 32 01.11618	95 23 27.72814	458873.620	223603.749	.033	C	GPS - STATIC	2001	HVEST

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2261967.663	890240.466	1017144.981	16187392.263	.131	3	GPS - RTRN	2015	RTRN2015
2261967.657	890240.607	1017144.977	16187392.404	.010		ADJUSTMENT	2014	GPS3032
2261967.661	890240.594	1017144.980	16187392.391	.010	C	GPS - STATIC	2014	HECHO
2261967.657	890240.607	1017144.977	16187392.404	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2261967.598	890240.610	1017144.918	16187392.408	.033	C	GPS - STATIC	2014	HECHO
2261967.598	890240.610	1017144.918	16187392.408	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2261967.666	890240.543	1017144.985	16187392.340	.033	C	GPS - STATIC	2011	HECHO
2261967.666	890240.543	1017144.985	16187392.340	.033	C	ADJUSTMENT	2002	GPS1673
2261967.666	890240.543	1017144.986	16187392.340	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/POSEN-AJ8933-3W-02NOV2010.jpg	W	Nov 2, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/POSEN-AJ8933-2-02NOV2010.jpg		Nov 2, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/POSEN-AJ8933-1-02NOV2010.jpg		Nov 2, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: POSEN MNDT RESET

NGS Name: POSEN RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	3	112 N	38 W	443201.12	952327.73		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: POSEN 1998 2024

3.5 MILES NORTHEAST OF VESTA, 3.75 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 58.65, THEN 0.55 MILE SOUTH ON FAIRVIEW AVENUE, 75.0 FEET NORTH OF A 1/4 CORNER FENCE LINE, 23.0 FEET WEST OF FAIRVIEW AVENUE, 20.0 FEET SOUTH OF A FIELD ENTRANCE, 1.0 FOOT NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1053.335	.262			963.443	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 32 01.11690	95 23 27.72875	458873.576	223603.821	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2261967.623	890240.616	1017144.943	16187392.414	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/POSEN_RESET-3W-14MAY2024.jpg	W	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/POSEN_RESET-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/POSEN_RESET-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RADT MNDT

NGS Name: RADT

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8929](#) [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	29	112 N	38 W	442910.51	952639.69	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	NO		RECESSED 4 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: RADT 1998

2.0 MILES SOUTHWEST OF VESTA, 1.85 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 53.05, 114.0 FEET NORTHWEST OF TRUNK HIGHWAY 19, 76.6 FEET SOUTHWEST OF A POWER POLE, 35.0 FEET SOUTH OF 300TH STREET, 3.4 FEET SOUTH OF A WITNESS POST.

Station Notes

THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1049.985	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1049.988	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
				960.234	.016	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
				960.329	.017	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1049.932	.131			960.457	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1049.932	.131			960.457	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -89.721 12B = -89.728 09 = -89.596 03 = -89.511

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 29 10.50950	95 26 39.68884			444923.424	206356.934	.013		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 29 10.50948	95 26 39.68969			444923.363	206356.932	.013		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>				<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 29 10.50886	95 26 39.68909			444923.406	206356.869	.033	C	ADJUSTMENT	2002	GPS1673
44 29 10.50886	95 26 39.68909			444923.405	206356.871	.033	C	GPS - STATIC	2001	HVEST



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2247760.541	873208.310	1002728.434	16170533.146	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2247760.479	873208.309	1002728.372	16170533.146	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2247760.522	873208.245	1002728.414	16170533.082	.033	C	ADJUSTMENT	2002	GPS1673
2247760.521	873208.245	1002728.414	16170533.082	.033	C	GPS - STATIC	2001	HVEST



Mn/DOT Name: RADT MNDT RESET

NGS Name: RADT RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	29	112 N	38 W	442910.51	952639.69		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: RADT 1998 2024

2.0 MILES SOUTHWEST OF VESTA, 1.85 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 53.05, 114.0 FEET NORTHWEST OF TRUNK HIGHWAY 19, 35.0 FEET SOUTH OF 300TH STREET, 3.5 FEET EAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>		
1051.117	.262		961.396	.197	2011	GPS - RTRN		2024	RTRN2024		

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>				<u>Redwood County</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>	
44 29 10.51025	95 26 39.68757	444923.517	206357.010	.131	3	GPS - RTRN		2024	RTRN2024	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>	
2247760.634	873208.384	1002728.528	16170533.220	.131	3	GPS - RTRN		2024	RTRN2024	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RADT_RESET-3S-14MAY2024.jpg	S	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RADT_RESET-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RADT_RESET-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RE 21 SE

NGS Name: RE 21 SE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7792](#) [Get Map](#)
 NGS Quad / Sta Num : 44095214/
 USGS Quad: ROWENA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	21	112 N	36 W	442907.46	951008.29	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2021	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (IN SLEEVE) (DEPTH 20 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** RE 21 SE 2003

6.5 MILES SOUTHWEST OF REDWOOD FALLS, 4.0 MILES SOUTH ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 19 IN REDWOOD FALLS, THEN 2.6 MILES WEST ON COUNTY ROAD 12 (300TH STREET), 40.0 FEET WEST OF COUNTY ROAD 17 (KNOX AVENUE), 29.0 FEET NORTH OF COUNTY ROAD 12 (300TH STREET), 3.0 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>	
1044.798	.016	2/1				VERTICAL ADJUSTMENT		2017	00000898	
1044.798	.016	2/1				VERTICAL CONTROL SURVEY		2016	VBORN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>	
1044.745	.262		954.286	.197	2011	GPS - OPUS		2021	GPSBM	
1044.686	.262		954.227	.197	2011	GPS - OPUS		2021	GPSBM	
1044.791	.262		954.335	.197	2011	GPS - RTRN		2021	RTRN2021	
1044.621	.262		954.171	.197	2011	GPS - RTRN		2015	RTRN2015	
			954.316	.012	2011	HORIZONTAL ADJUSTMENT		2014	GPS3030	
1044.758			954.312	.012	2011	GPS - STATIC		2014	HMORG	
			954.316	.013	2011	HORIZONTAL ADJUSTMENT		2012	GPS2800	
1044.781	.131		954.542	.066	1996	GPS - STATIC		2012	HMORG	
			954.417	.014	2007	HORIZONTAL ADJUSTMENT		2007	GPS2300	
1044.716	.131		954.549	.066	1996	HORIZONTAL ADJUSTMENT		2004	GPS2023	
1044.716	.131		954.549	.066	1996	GPS - STATIC		2004	HREDW	

Geoid Separations(ft): GEOID18 = -90.459 12B = -90.453 09 = -90.331 03 = -90.239

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
44 29 07.45951	95 10 08.29110	516798.891	205983.667	.131	3	GPS - OPUS		2021	GPSBM
44 29 07.45994	95 10 08.29160	516798.855	205983.710	.131	3	GPS - OPUS		2021	GPSBM
44 29 07.45963	95 10 08.29070	516798.920	205983.679	.131	3	GPS - RTRN		2021	RTRN2021
44 29 07.45987	95 10 08.29065	516798.924	205983.703	.131	3	GPS - RTRN		2015	RTRN2015
44 29 07.45947	95 10 08.29121	516798.883	205983.663	.020		ADJUSTMENT		2014	GPS3030
44 29 07.45939	95 10 08.29109	516798.892	205983.655	.020	C	GPS - STATIC		2014	HMORG
44 29 07.45947	95 10 08.29121	516798.883	205983.663	.020		ADJUSTMENT		2012	GPS2800

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
44 29 07.45952	95 10 08.29206	516798.821	205983.668	.020		ADJUSTMENT		2007	GPS2300

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>			<u>Year</u>	<u>Reference</u>
44 29 07.45887	95 10 08.29147	516798.864	205983.602	.033	C	GPS - STATIC		2012	HMORG
44 29 07.45887	95 10 08.29147	516798.864	205983.602	.033	C	ADJUSTMENT		2004	GPS2023
44 29 07.45887	95 10 08.29147	516798.864	205983.602	.033	C	GPS - STATIC		2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2319613.387	871750.752	1074564.693	16168196.489	.131	3	GPS - OPUS	2021	GPSBM
2319613.352	871750.796	1074564.658	16168196.534	.131	3	GPS - OPUS	2021	GPSBM
2319613.416	871750.764	1074564.723	16168196.500	.131	3	GPS - RTRN	2021	RTRN2021
2319613.420	871750.788	1074564.727	16168196.524	.131	3	GPS - RTRN	2015	RTRN2015
2319613.379	871750.748	1074564.685	16168196.485	.020		ADJUSTMENT	2014	GPS3030
2319613.388	871750.740	1074564.694	16168196.477	.020	C	GPS - STATIC	2014	HMORG
2319613.379	871750.748	1074564.685	16168196.485	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2319613.317	871750.754	1074564.624	16168196.492	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2319613.359	871750.688	1074564.665	16168196.425	.033	C	GPS - STATIC	2012	HMORG
2319613.359	871750.688	1074564.665	16168196.425	.033	C	ADJUSTMENT	2004	GPS2023
2319613.359	871750.688	1074564.665	16168196.425	.033	C	GPS - STATIC	2004	HREDW

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RE_21_SE-DG7792-3N-11MAY2021.jpg	N	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RE_21_SE-DG7792-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RE_21_SE-DG7792-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: REDWOOD FALLS FIRST PRESB CH

NGS Name: REDWOOD FALLS FIRST PRESB CH

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0949](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/1026
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	1	112 N	36 W	443219.88	950701.12		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2015	GOOD	Horz=NO Vert=NO	YES			BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	CHURCH SPIRE	NGS

Description: (2009)

Stamping:

IN REDWOOD FALLS, 0.15 MILE EAST ALONG 4TH STREET FROM THE JUNCTION OF 4TH STREET AND TRUNK HIGHWAY 71
 IN REDWOOD FALLS, 56.0 FEET NORTH OF 4TH STREET.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.472 12B = -90.472 09 = -90.334 03 = -90.243

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 19.87703	95 07 01.11504	530341.448	225485.714	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 19.87330	95 07 01.10950	530341.850	225485.337	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 32 20.01900	95 07 00.12300			.100	4	CLASSICAL SURVEY	1938	03676

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2333446.901	891043.903	1088633.891	16187319.475	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2333447.297	891043.520	1088634.282	16187319.087	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
1708843.766	562968.165			.100	4	CLASSICAL SURVEY	1938	03676

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/REDWOOD_FALLS_FIRST_PRESB_CH-PQ0949-2-07JUL2015.jpg		Jul 7, 2015
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: REDWOOD FALLS HIGH SCH STACK

NGS Name: REDWOOD FALLS HIGH SCH STACK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0950](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/1027
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	1	112 N	36 W	443207.84	950713.94		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1952	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	STACK	NGS

Description: (2016)

Stamping:

IN REDWOOD FALLS, ON SOUTH MINNESOTA STREET, IN BETWEEN THE JUNCTIONS OF SOUTH MINNESOTA STREET AND WEST WYOMING STREET, AND MINNESOTA STREET AND WEST BROADWAY STREET.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.472 12B = -90.472 09 = -90.334 03 = -90.246

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 07.84098	95 07 13.93766	529414.336	224265.458	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 07.83740	95 07 13.93256	529414.706	224265.096	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 32 07.98000	95 07 12.94000			.100	4	CLASSICAL SURVEY	1938	03676

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2332501.604	889837.921	1087673.860	16186125.137	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2332501.969	889837.553	1087674.220	16186124.765	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
1707898.850	561761.886			.100	4	CLASSICAL SURVEY	1938	03676



Mn/DOT Name: REDWOOD FALLS METH CH SPIRE

NGS Name: REDWOOD FALLS METH CH SPIRE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0948](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/1028
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	1	112 N	36 W	443222.04	950700.81		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	CHURCH SPIRE	NGS

Description: (2009) Stamping:
 IN REDWOOD FALLS, AT THE SOUTHWEST CORNER OF 3RD STREET AND JEFFERSON STREET.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.472 12B = -90.472 09 = -90.331 03 = -90.243

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 22.04207	95 07 00.80618	530363.508	225705.012	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 22.03840	95 07 00.80072	530363.904	225704.640	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 22.18400	95 06 59.81400			.100	4	CLASSICAL SURVEY	1938	03676

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2333472.263	891262.816	1088661.936	16187538.065	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2333472.654	891262.439	1088662.321	16187537.684	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1708869.139	563187.071			.100	4	CLASSICAL SURVEY	1938	03676



Mn/DOT Name: REDWOOD FALLS MUNICIPAL TANK

NGS Name: REDWOOD FALLS MUNICIPAL TANK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0951](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/1029
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	1	112 N	36 W	443156.97	950709.04		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	ELEVATED TANK	NGS

Description: (2009)

Stamping:

IN THE SOUTHWEST PART OF REDWOOD FALLS, 0.2 MILE SOUTH OF THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.482 12B = -90.482 09 = -90.344 03 = -90.256

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 31 56.97176	95 07 09.04120	529770.561	223165.165	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 31 56.96757	95 07 09.03538	529770.983	223164.741	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 31 57.10800	95 07 08.04300			.100	4	CLASSICAL SURVEY	1938	03676

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2332841.148	888732.516	1087999.841	16185015.625	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2332841.563	888732.086	1088000.251	16185015.190	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
1708238.443	560656.211			.100	4	CLASSICAL SURVEY	1938	03676



Mn/DOT Name: REDWOOD FALLS REDWOOD CO CTHSE

NGS Name: REDWOOD FALLS REDWOOD CO CTHSE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0947](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/1030
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	1	112 N	36 W	443222.49	950659.00		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2007	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SPIRE	NGS

Description: (2009) Stamping:
 IN REDWOOD FALLS, AT THE CORNER OF JEFFERSON STREET AND 3RD STREET.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -90.472 12B = -90.472 09 = -90.334 03 = -90.243

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 22.49478	95 06 59.00434	530493.955	225751.046	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 22.49091	95 06 58.99855	530494.375	225750.654	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 22.63700	95 06 58.01200			.100	4	CLASSICAL SURVEY	1938	03676

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2333603.374	891306.871	1088793.580	16187580.512	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2333603.788	891306.474	1088793.989	16187580.110	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1709000.265	563231.156			.100	4	CLASSICAL SURVEY	1938	03676



Mn/DOT Name: REDWOOD MUN RNWY 12

NGS Name: REDWOOD MUN RNWY 12

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1270](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	32	113 N	35 W	443303.80	950519.30		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
	1990	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION	UNMONUMENTED	NGS

Monument Type
SEE DESCRIPTIVE TEXT

Description: (2016)

Stamping:

LOCATED AT THE REDWOOD FALLS MUNICIPAL AIRPORT, AT THE NORTHWEST END OF THE RUNWAY 12-30. CONTACT THE AIRPORT MANAGER BEFORE USE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u> Orthometric Height			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1016.468	.262		926.294	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -90.505 12B = -90.505 09 = -90.371 03 = -90.269

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u> Geodetic Position		Redwood County					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 03.82497	95 05 19.33353	537706.004	229948.318	.131	3	ADJUSTMENT	1999	17648

<u>NAD27</u> Geodetic Position					<u>Project Info</u>			
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 33 03.00000	95 05 18.00000			.100		CLASSICAL SURVEY	1991	17504

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u> MN State Plane - South Zone		UTM - Zone 15					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2340877.015	895394.365	1096116.935	16191578.613	.131	3	ADJUSTMENT	1999	17648

<u>NAD27</u> MN State Plane - South Zone					<u>Project Info</u>			
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1716297.498	567220.374			.100		CLASSICAL SURVEY	1991	17504



Mn/DOT Name: REDWOOD MUN RNWY 30

NGS Name: REDWOOD MUN RNWY 30

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1271](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	32	113 N	35 W	443239.70	950435.59		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
	1990	GOOD	Horz=YES Vert=?	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	UNMONUMENTED	NGS

Description: (2016)

Stamping:

LOCATED AT THE REDWOOD FALLS MUNICIPAL AIRPORT, AT THE SOUTHEAST END OF THE RUNWAY 12-30. CONTACT THE AIRPORT MANAGER BEFORE USE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1021.356	.262		931.123	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -90.551 12B = -90.548 09 = -90.420 03 = -90.311

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 39.69807	95 04 35.59050	540878.494	227510.683	.131	3	ADJUSTMENT	1999	17648

NAD27

<u>Geodetic Position</u>					<u>Project Info</u>			
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 39.00000	95 04 34.00000			.100		CLASSICAL SURVEY	1991	17504

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2344011.985	892909.460	1099221.248	16189055.425	.131	3	ADJUSTMENT	1999	17648

NAD27

<u>MN State Plane - South Zone</u>					<u>Project Info</u>			
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1719451.361	564748.108			.100		CLASSICAL SURVEY	1991	17504



Mn/DOT Name: REDWOODPORT

NGS Name: REDWOODPORT

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1272](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	32	113 N	35 W	443238.06	950437.20	2	B

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1990	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 7 IN.	STEEL SPIKE IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD	NGS

Description: (2009) **Stamping:** REDWOODPORT 1990

IN REDWOOD FALLS, 2.1 MILES EAST ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAYS 71 (MILL STREET) AND 19/67 (BRIDGE STREET) IN REDWOOD FALLS, AT THE AIRPORT, 0.1 MILE SOUTHEAST OF THE AIRPORT OFFICE, 153.0 FEET NORTHWEST OF THE CENTER OF A BITUMINOUS TAXIWAY, 144.0 FEET NORTH-NORTHEAST OF A FENCE CORNER, 140.5 FEET EAST-NORTHEAST OF THE SOUTHWEST CORNER OF AN AIRPORT HANGAR, 52.5 FEET NORTHWEST OF THE NORTHEAST END OF THE NORTHWEST ONE OF TWO 15.0 INCH DIAMETER CULVERTS, 26.3 FEET NORTHEAST OF THE EDGE OF A BITUMINOUS TAXIWAY. CONTACT THE AIRPORT MANAGER BEFORE USE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1019.253	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898
1019.253	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN
1019.253	.016	2/1				VERTICAL ADJUSTMENT	2004	00000425-2
1019.253	.016	2/1				VERTICAL CONTROL SURVEY	2002	VREPO

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1019.253			928.699	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3030
1019.253			928.702	.008	2011	GPS - STATIC	2014	HMORG
			928.699	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1019.256	.131		928.938	.066	1996	GPS - STATIC	2012	HMORG
			928.794	.007	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1019.256	.098		928.929	.049	1996	GPS - STATIC	2005	GPS2036
1019.256	.131		928.929	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1019.256	.131		928.929	.066	1996	GPS - STATIC	2004	HREDW
1019.256	.131		928.929	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1907
1019.256	.131		928.929	.066	1996	GPS - STATIC	2003	HRED
1019.191	.131		928.929	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673
1019.191	.131		928.929	.066	1996	GPS - STATIC	2001	HVEST
1019.158	.098		928.929	.049	1996	HORIZONTAL ADJUSTMENT	1999	17648
1019.204	.098		928.929	.049	1996	GPS - STATIC	1997	GPS805-B

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1018.797						GPS - STATIC	1992	HORZ
1018.403						GPS - STATIC	1991	HORZ

Geoid Separations(ft): GEOID18 = -90.551 12B = -90.548 09 = -90.420 03 = -90.311



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 32 38.06378	95 04 37.20191	540762.101	227344.947	.007		ADJUSTMENT	2014	GPS3030
44 32 38.06375	95 04 37.20190	540762.102	227344.944	.007	C	GPS - STATIC	2014	HMORG
44 32 38.06378	95 04 37.20191	540762.101	227344.947	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 32 38.06380	95 04 37.20276	540762.039	227344.949	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.033	C	GPS - STATIC	2012	HMORG
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.016	B	GPS - STATIC	2005	GPS2036
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.033	C	ADJUSTMENT	2004	GPS2023
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.033	C	GPS - STATIC	2004	HREDW
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.033	C	ADJUSTMENT	2003	GPS1907
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.033	C	GPS - STATIC	2003	HRED
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.033	C	ADJUSTMENT	2002	GPS1673
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.033	C	GPS - STATIC	2001	HVEST
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.016	B	ADJUSTMENT	1999	17648
44 32 38.06331	95 04 37.20196	540762.097	227344.899	.016	B	GPS - STATIC	1997	GPS805-B

NAD83(1986)

Geodetic Position		Redwood County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 32 38.05671	95 04 37.19566	540762.555	227344.231	.066	2	ADJUSTMENT	1991	GPS194

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 32 38.20106	95 04 36.20626			.100	2	CLASSICAL SURVEY	1991	17504

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2343893.119	892745.519	1099100.381	16188892.951	.007		ADJUSTMENT	2014	GPS3030
2343893.120	892745.515	1099100.382	16188892.948	.007	C	GPS - STATIC	2014	HMORG
2343893.119	892745.519	1099100.381	16188892.951	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2343893.058	892745.521	1099100.319	16188892.954	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2343893.115	892745.471	1099100.376	16188892.903	.033	C	GPS - STATIC	2012	HMORG
2343893.115	892745.471	1099100.376	16188892.903	.016	B	GPS - STATIC	2005	GPS2036
2343893.115	892745.471	1099100.376	16188892.903	.033	C	ADJUSTMENT	2004	GPS2023
2343893.115	892745.471	1099100.376	16188892.903	.033	C	GPS - STATIC	2004	HREDW
2343893.115	892745.471	1099100.376	16188892.903	.033	C	ADJUSTMENT	2003	GPS1907
2343893.115	892745.471	1099100.376	16188892.903	.033	C	GPS - STATIC	2003	HRED
2343893.115	892745.471	1099100.376	16188892.903	.033	C	ADJUSTMENT	2002	GPS1673
2343893.115	892745.471	1099100.376	16188892.903	.033	C	GPS - STATIC	2001	HVEST
2343893.115	892745.471	1099100.376	16188892.903	.016	B	ADJUSTMENT	1999	17648
2343893.115	892745.471	1099100.376	16188892.903	.016	B	GPS - STATIC	1997	GPS805-B

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2343893.563	892744.797	1099100.815	16188892.223	.066	2	ADJUSTMENT	1991	GPS194

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
1719290.531	564669.317			.100	2	CLASSICAL SURVEY	1991	17504

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/REDWOODPORT-PQ1272-3W-09OCT2008.jpg	W	Oct 9, 2008
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/REDWOODPORT-PQ1272-2-09OCT2008.jpg		Oct 9, 2008
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/REDWOODPORT-PQ1272-1-09OCT2008.jpg		Oct 9, 2008

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: REDWOODPORT AZ MK

NGS Name: REDWOODPORT AZ MK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1273](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	32	113 N	35 W	443252.43	950502.19	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1990	2016	GOOD	Horz=YES Vert=YES	NO		FLUSH	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (IN SLEEVE) (DEPTH 62 FT)	METAL ROD	NGS

Description: (2009) **Stamping:** REDWOODPORT AZ MK 1990

1.9 MILES EAST OF REDWOOD FALLS, 2.0 MILES EAST OF THE JUNCTION OF WASHINGTON STREET AND EAST BRIDGE STREET IN REDWOOD FALLS, AT THE AIRPORT, 0.3 MILE NORTHWEST OF THE AIRPORT OFFICE, 156.0 FEET SOUTHWEST OF THE CENTER OF A RUNWAY, 152.0 FEET EAST-SOUTHEAST OF THE SOUTHEAST CORNER OF A 1 12-30 SIGN, 3.4 FEET NORTHWEST OF A WITNESS POST. CONTACT THE AIRPORT MANAGER BEFORE USE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1021.097	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898	
1021.100	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
				930.549	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
				930.651	.008	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1021.094	.131			930.779	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1907	
1021.094	.131			930.779	.066	1996	GPS - STATIC	2003	HRED	
1021.028	.131			930.779	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1021.028	.131			930.779	.066	1996	GPS - STATIC	2001	HVEST	
1020.995	.197			930.789	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1020.700							GPS - STATIC	1992	HORZ	
1020.306							GPS - STATIC	1991	HORZ	

Geoid Separations(ft): GEOID18 = -90.525 12B = -90.521 09 = -90.390 03 = -90.289



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County					Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 52.43416	95 05 02.19107	538949.543	228796.935	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Redwood County					Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 52.43416	95 05 02.19187	538949.485	228796.935	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Redwood County					Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 52.43369	95 05 02.19113	538949.539	228796.888	.033	C	ADJUSTMENT	2003	GPS1907
44 32 52.43369	95 05 02.19113	538949.539	228796.888	.033	C	GPS - STATIC	2003	HRED
44 32 52.43369	95 05 02.19113	538949.539	228796.888	.033	C	ADJUSTMENT	2002	GPS1673
44 32 52.43369	95 05 02.19113	538949.539	228796.888	.033	C	GPS - STATIC	2001	HVEST
44 32 52.43367	95 05 02.19126	538949.529	228796.886	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Redwood County					Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 52.42707	95 05 02.18496	538949.986	228796.218	.066	2	ADJUSTMENT	1991	GPS194

NAD27

Geodetic Position							Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 52.57160	95 05 01.19458			.100	2	CLASSICAL SURVEY	1991	17504

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2342102.892	894224.500	1097328.395	16190393.788	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2342102.834	894224.501	1097328.337	16190393.789	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2342102.887	894224.453	1097328.390	16190393.741	.033	C	ADJUSTMENT	2003	GPS1907
2342102.887	894224.453	1097328.390	16190393.741	.033	C	GPS - STATIC	2003	HRED
2342102.887	894224.453	1097328.390	16190393.741	.033	C	ADJUSTMENT	2002	GPS1673
2342102.887	894224.453	1097328.390	16190393.741	.033	C	GPS - STATIC	2001	HVEST
2342102.878	894224.451	1097328.380	16190393.739	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2342103.325	894223.777	1097328.819	16190393.059	.066	2	ADJUSTMENT	1991	GPS194

NAD27

MN State Plane - South Zone							Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1717500.308	566148.296			.100	2	CLASSICAL SURVEY	1991	17504



Mn/DOT Name: RIDAN MNDT

NGS Name: RIDAN

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8936](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	2	112 N	37 W	443206.22	951610.95	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2021	NOT FOUND	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 14 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: RIDAN 1998

7.5 MILES WEST OF REDWOOD FALLS, 7.4 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, TO TRUNK HIGHWAY 19 MILEPOINT 64.60, THEN 0.45 MILE SOUTH ON A ROAD, 1201.0 FEET SOUTH OF TRUNK HIGHWAY 19 ON IDEAL AVENUE, 67.0 FEET NORTH-NORTHWEST OF THE WEST END OF A 12.0 FOOT DIAMETER CULVERT, 27.0 FEET WEST IDEAL AVENUE, 20.6 FEET NORTH OF A FIELD ENTRANCE, 6.5 FEET NORTHEAST OF THE NORTH END OF A 12.0 INCH DIAMETER CULVERT, NORTH OF A COUNTY DITCH, 5.0 FEET SOUTH OF A WITNESS POST.

Station Notes

THERE IS A NEW FIELD ENTRANCE IN THE AREA.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1037.449	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690	
1037.449	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
			947.272	.013	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
			947.373	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1037.399	.131		947.498	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1037.399	.131		947.498	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -90.144 12B = -90.138 09 = -90.003 03 = -89.937

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 06.22493	95 16 10.94745	490514.356	224083.635	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 06.22497	95 16 10.94826	490514.297	224083.639	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 06.22438	95 16 10.94739	490514.360	224083.580	.033	C	ADJUSTMENT	2002	GPS1673
44 32 06.22438	95 16 10.94739	490514.360	224083.581	.033	C	GPS - STATIC	2001	HVEST



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2293608.124	890242.941	1048786.243	16187006.854	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2293608.065	890242.946	1048786.184	16187006.860	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2293608.127	890242.886	1048786.246	16187006.798	.033	C	ADJUSTMENT	2002	GPS1673
2293608.127	890242.886	1048786.246	16187006.798	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RIDAN-AJ8936-3W-26JUL2006.jpg	W	Jul 26, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RIDAN-AJ8936-2-26JUL2006.jpg		Jul 26, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/RIDAN-AJ8936-1-26JUL2006.jpg		Jul 26, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCKDELL LUTH CH SPIRE

NGS Name: ROCKDELL LUTH CH SPIRE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0954](#) [Get Map](#)
 NGS Quad / Sta Num : 44095131/1036
 USGS Quad: IVERSON LAKE

		<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	28	443903.08	951824.41		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1934	GOOD	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	CHURCH SPIRE	NGS

Description: (2009)

Stamping:

3.0 MILES NORTH-NORTHEAST OF BELVIEW, 3.0 MILES NORTH ALONG HARVEST AVENUE FROM THE JUNCTION OF HARVEST AVENUE AND COUNTY ROAD 9 IN BELVIEW, 1.0 MILE EAST OF BELVIEW, THEN 0.3 MILE WEST ALONG 410TH STREET, THEN 0.4 MILE NORTH ON A ROAD.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -89.787 12B = -89.793 09 = -89.668 03 = -89.567

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 39 03.07707	95 18 24.41453	480884.071	266307.560	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 39 03.07445	95 18 24.40853	480884.505	266307.294	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 39 03.22000	95 18 23.39000			.100	4	CLASSICAL SURVEY	1938	03676

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2284617.155	932602.057	1040315.695	16229476.729	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2284617.584	932601.784	1040316.121	16229476.451	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
1660014.812	604525.876			.100	4	CLASSICAL SURVEY	1938	03676



Mn/DOT Name: ROHLIK MNDT

NGS Name: ROHLIK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8930](#) [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	20	112 N	38 W	442910.88	952608.20	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 45 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: ROHLIK 1998

2.0 MILES SOUTHWEST OF VESTA, 1.85 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA TO TRUNK HIGHWAY 19 MILEPOINT 53.05, THEN 0.4 MILE EAST ON 300TH STREET, 33.0 FEET NORTH OF 300TH STREET, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1050.398	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1050.401	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1050.470	.262			960.726	.197	2011	GPS - RTRN	2024	RTRN2024	
1050.395	.262			960.651	.197	2011	GPS - OPUS	2021	GPSBM	
1050.401	.262			960.658	.197	2011	GPS - OPUS	2021	GPSBM	
1050.352	.262			960.608	.197	2011	GPS - RTRN	2021	RTRN2021	
				960.651	.014	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
				960.746	.015	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1050.424	.131			960.871	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023	
1050.424	.131			960.871	.066	1996	GPS - STATIC	2004	HREDW	
1050.359	.131			960.871	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1050.359	.131			960.871	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -89.747 12B = -89.750 09 = -89.619 03 = -89.534

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 29 10.88166	95 26 08.19526			447206.761	206388.861	.131	3	GPS - RTRN	2024	RTRN2024
44 29 10.88160	95 26 08.19517			447206.768	206388.855	.131	3	GPS - OPUS	2021	GPSBM
44 29 10.88164	95 26 08.19524			447206.763	206388.859	.131	3	GPS - OPUS	2021	GPSBM
44 29 10.88160	95 26 08.19431			447206.830	206388.855	.131	3	GPS - RTRN	2021	RTRN2021
44 29 10.88178	95 26 08.19512			447206.772	206388.873	.013		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 29 10.88178	95 26 08.19595			447206.711	206388.873	.013		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 29 10.88115	95 26 08.19533			447206.756	206388.809	.033	C	ADJUSTMENT	2004	GPS2023
44 29 10.88115	95 26 08.19533			447206.756	206388.809	.033	C	GPS - STATIC	2004	HREDW
44 29 10.88115	95 26 08.19533			447206.756	206388.809	.033	C	ADJUSTMENT	2002	GPS1673
44 29 10.88115	95 26 08.19533			447206.757	206388.810	.033	C	GPS - STATIC	2001	HVEST



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2250043.820	873205.775	1005011.832	16170502.673	.131	3	GPS - RTRN	2024	RTRN2024
2250043.826	873205.769	1005011.839	16170502.666	.131	3	GPS - OPUS	2021	GPSBM
2250043.821	873205.773	1005011.834	16170502.671	.131	3	GPS - OPUS	2021	GPSBM
2250043.888	873205.768	1005011.901	16170502.665	.131	3	GPS - RTRN	2021	RTRN2021
2250043.830	873205.787	1005011.843	16170502.685	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2250043.770	873205.788	1005011.783	16170502.686	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2250043.814	873205.723	1005011.826	16170502.622	.033	C	ADJUSTMENT	2004	GPS2023
2250043.814	873205.723	1005011.826	16170502.622	.033	C	GPS - STATIC	2004	HREDW
2250043.814	873205.723	1005011.826	16170502.622	.033	C	ADJUSTMENT	2002	GPS1673
2250043.814	873205.723	1005011.826	16170502.622	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/ROHLIK-AJ8930-3N-14MAY2024.jpg	N	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/ROHLIK-AJ8930-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/ROHLIK-AJ8930-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SH 16 SE

NGS Name: SH 16 SE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7793](#) [Get Map](#)
 NGS Quad / Sta Num : 44094433/
 USGS Quad: MORTON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	16	112 N	34 W	443025.93	945533.46		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2021	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** SH16SE 2003

6.5 MILES NORTH OF MORGAN, 6.5 MILES NORTH ALONG COUNTY ROAD 2 FROM THE JUNCTION OF COUNTY ROAD 2 AND TRUNK HIGHWAY 67 IN MORGAN, 50.0 FEET EAST OF COUNTY ROAD 2, 47.0 FEET NORTH OF 305TH STREET, 13.8 FEET NORTH-NORTHEAST OF A FENCE CORNER, 3.0 FEET WEST OF A FENCE POST, 2.0 FEET EAST-SOUTHEAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
975.710	.262		884.752	.197	2011	GPS - OPUS	2021	GPSBM
975.703	.262		884.746	.197	2011	GPS - OPUS	2021	GPSBM
975.736	.262		884.775	.197	2011	GPS - RTRN	2021	RTRN2021
			884.706	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			884.788	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
975.654	.131		884.910	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
975.654	.131		884.910	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -90.958 12B = -90.961 09 = -90.879 03 = -90.731

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 30 25.93433	94 55 33.45456	580194.505	214075.126	.131	3	GPS - OPUS	2021	GPSBM
44 30 25.93426	94 55 33.45503	580194.471	214075.118	.131	3	GPS - OPUS	2021	GPSBM
44 30 25.93433	94 55 33.45418	580194.532	214075.126	.131	3	GPS - RTRN	2021	RTRN2021
44 30 25.93425	94 55 33.45406	580194.541	214075.117	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 30 25.93432	94 55 33.45512	580194.464	214075.124	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 30 25.93382	94 55 33.45424	580194.528	214075.074	.033	C	ADJUSTMENT	2004	GPS2023
44 30 25.93382	94 55 33.45424	580194.528	214075.074	.033	C	GPS - STATIC	2004	HREDW



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2383116.040	878884.156	1138150.146	16174552.347	.131	3	GPS - OPUS	2021	GPSBM
2383116.006	878884.149	1138150.111	16174552.341	.131	3	GPS - OPUS	2021	GPSBM
2383116.067	878884.155	1138150.173	16174552.347	.131	3	GPS - RTRN	2021	RTRN2021
2383116.076	878884.147	1138150.182	16174552.338	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2383116.000	878884.155	1138150.105	16174552.347	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2383116.062	878884.104	1138150.168	16174552.295	.033	C	ADJUSTMENT	2004	GPS2023
2383116.062	878884.104	1138150.168	16174552.295	.033	C	GPS - STATIC	2004	HREDW

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_16_SE-DG7793-3E-11MAY2021.jpg	E	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_16_SE-DG7793-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_16_SE-DG7793-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SH 29 W

NGS Name: SH 29 W

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7794](#) [Get Map](#)
 NGS Quad / Sta Num : 44095241/
 USGS Quad: WABASSO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	29	112 N	37 W	442847.45	951950.60		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2021	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (IN SLEEVE) (DEPTH 20 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** SH29W 2002

IN SEAFORTH, AT THE JUNCTION OF COUNTY ROAD 1 AND COUNTY ROAD 56, 49.0 FEET EAST OF COUNTY ROAD 7, 26.0 FEET SOUTH OF COUNTY ROAD 56, 4.0 FEET SOUTHEAST OF A STREET SIGN, 2.7 FEET SOUTHEAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>	<u>Year</u>	<u>Reference</u>	
1050.057	.262		960.034	.197	2011	2021	GPSBM	2021	GPSBM	
1050.008	.262		959.985	.197	2011	2021	GPSBM	2021	GPSBM	
1050.182	.262		960.159	.197	2011	2021	RTRN	2021	RTRN2021	
			960.070	.013	2011	2012	GPS2800	2012	GPS2800	
			960.169	.013	2007	2007	GPS2300	2007	GPS2300	
1050.129	.131		960.290	.066	1996	2004	GPS2023	2004	GPS2023	
1050.096	.131		960.290	.066	1996	2004	HREDW	2004	HREDW	

Geoid Separations(ft): GEOID18 = -90.023 12B = -90.026 09 = -89.898 03 = -89.816

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>	<u>Year</u>	<u>Reference</u>
44 28 47.45402	95 19 50.59531	474579.440	203966.139	.131	3	2021	GPSBM	2021	GPSBM
44 28 47.45424	95 19 50.59542	474579.431	203966.161	.131	3	2021	GPSBM	2021	GPSBM
44 28 47.45433	95 19 50.59469	474579.485	203966.170	.131	3	2021	RTRN	2021	RTRN2021
44 28 47.45464	95 19 50.59503	474579.460	203966.202	.013		2012	ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>	<u>Year</u>	<u>Reference</u>
44 28 47.45467	95 19 50.59589	474579.398	203966.205	.013		2007	ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>	<u>Year</u>	<u>Reference</u>
44 28 47.45405	95 19 50.59518	474579.449	203966.142	.033	C	2004	ADJUSTMENT	2004	GPS2023
44 28 47.45405	95 19 50.59518	474579.449	203966.142	.033	C	2004	GPS - STATIC	2004	HREDW



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2277373.474	870370.618	1032308.028	16167333.043	.131	3	GPS - OPUS	2021	GPSBM
2277373.467	870370.640	1032308.021	16167333.065	.131	3	GPS - OPUS	2021	GPSBM
2277373.520	870370.648	1032308.074	16167333.073	.131	3	GPS - RTRN	2021	RTRN2021
2277373.496	870370.680	1032308.051	16167333.105	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2277373.433	870370.684	1032307.988	16167333.110	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2277373.484	870370.620	1032308.038	16167333.046	.033	C	ADJUSTMENT	2004	GPS2023
2277373.484	870370.620	1032308.038	16167333.046	.033	C	GPS - STATIC	2004	HREDW

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_29_W-DG7794-3E-11MAY2021.jpg	E	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_29_W-DG7794-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_29_W-DG7794-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SH 36 NE

NGS Name: SH 36 NE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7795](#) [Get Map](#)
 NGS Quad / Sta Num : 44095214/
 USGS Quad: ROWENA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	36	112 N	37 W	442814.19	951346.98		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2024	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** SH36NE 2002

5.0 MILES NORTH OF WABASSO, 6.0 MILES NORTH ALONG COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND TRUNK HIGHWAY 68 IN WABASSO, 53.0 FEET WEST OF COUNTY ROAD 6, 32.0 FEET SOUTH OF 290TH STREET, 2.0 FEET EAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1068.499	.262		978.184	.197	2011	GPS - RTRN	2024	RTRN2024
1068.505	.262		978.190	.197	2011	GPS - OPUS	2021	GPSBM
1068.377	.262		978.062	.197	2011	GPS - OPUS	2021	GPSBM
1068.449	.262		978.135	.197	2011	GPS - RTRN	2021	RTRN2021
			978.121	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			978.220	.009	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1068.436	.131		978.354	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1068.403	.131		978.354	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -90.315 12B = -90.311 09 = -90.187 03 = -90.098

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 28 14.19273	95 13 46.97662	500944.433	200582.526	.131	3	GPS - RTRN	2024	RTRN2024
44 28 14.19251	95 13 46.97699	500944.407	200582.504	.131	3	GPS - OPUS	2021	GPSBM
44 28 14.19280	95 13 46.97692	500944.411	200582.534	.131	3	GPS - OPUS	2021	GPSBM
44 28 14.19285	95 13 46.97645	500944.446	200582.538	.131	3	GPS - RTRN	2021	RTRN2021
44 28 14.19279	95 13 46.97683	500944.418	200582.533	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 28 14.19285	95 13 46.97768	500944.356	200582.538	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 28 14.19224	95 13 46.97705	500944.402	200582.477	.033	C	ADJUSTMENT	2004	GPS2023
44 28 14.19224	95 13 46.97705	500944.402	200582.477	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2303681.197	866590.051	1058569.720	16163230.735	.131	3	GPS - RTRN	2024	RTRN2024
2303681.170	866590.029	1058569.692	16163230.714	.131	3	GPS - OPUS	2021	GPSBM
2303681.175	866590.058	1058569.698	16163230.743	.131	3	GPS - OPUS	2021	GPSBM
2303681.210	866590.062	1058569.732	16163230.747	.131	3	GPS - RTRN	2021	RTRN2021
2303681.182	866590.057	1058569.705	16163230.742	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2303681.121	866590.064	1058569.643	16163230.750	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2303681.165	866590.001	1058569.687	16163230.687	.033	C	ADJUSTMENT	2004	GPS2023
2303681.165	866590.001	1058569.687	16163230.687	.033	C	GPS - STATIC	2004	HREDW

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_36_NE-DG7795-3W-20MAY2024.jpg	W	May 20, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_36_NE-DG7795-2-20MAY2024.jpg		May 20, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_36_NE-DG7795-1-20MAY2024.jpg		May 20, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SH 36 NW

NGS Name: SH 36 NW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7796](#) [Get Map](#)
 NGS Quad / Sta Num : 44094344/
 USGS Quad: MORGAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	36	112 N	34 W	442813.89	945308.35		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2002	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 6 IN.	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-127

Description: (2009) Stamping: SH36NW 2002

4.2 MILES NORTH-NORTHEAST OF MORGAN, 2.85 MILES NORTHEAST AND NORTH ALONG COUNTY ROAD 2/ CARLETON AVENUE SOUTH FROM THE JUNCTION OF COUNTY ROAD 2 AND TRUNK HIGHWAY 67/ FRONT STREET IN MORGAN, THEN 3.0 MILES EAST AND NORTH ALONG COUNTY ROAD 11, 43.0 FEET EAST OF COUNTY ROAD 11, 33.0 FEET SOUTH OF 290TH STREET, 2.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>			
1013.971	.262		922.852	.197	2011	GPS - RTRN	2024	RTRN2024		
1013.820	.262		922.702	.197	2011	GPS - OPUS	2021	GPSBM		
1013.863	.262		922.744	.197	2011	GPS - OPUS	2021	GPSBM		
1013.873	.262		922.754	.197	2011	GPS - RTRN	2021	RTRN2021		
1013.800	.262		922.679	.197	2011	GPS - RTRN	2013	RTRN2013		
			922.764	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800		
			922.846	.066	2007	HORIZONTAL ADJUSTMENT	2010	GPS2250-B		
			922.846	.029	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300		
1013.909	.131		922.918	.066	1996	HORIZONTAL ADJUSTMENT	2006	GPS2250		
1013.909	.131		922.918	.066	1996	GPS - STATIC	2006	HBRWN		
1013.843	.131		922.918	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023		
1013.843	.131		922.918	.066	1996	GPS - STATIC	2004	HREDW		

Geoid Separations(ft): GEOID18 = -91.119 12B = -91.122 09 = -91.050 03 = -90.912

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>	
44 28 13.89254	94 53 08.34597	590767.671	200744.848	.131	3	GPS - RTRN	2024	RTRN2024
44 28 13.89202	94 53 08.34634	590767.644	200744.795	.131	3	GPS - OPUS	2021	GPSBM
44 28 13.89194	94 53 08.34666	590767.621	200744.787	.131	3	GPS - OPUS	2021	GPSBM
44 28 13.89207	94 53 08.34603	590767.667	200744.800	.131	3	GPS - RTRN	2021	RTRN2021
44 28 13.89196	94 53 08.34524	590767.724	200744.789	.131	3	GPS - RTRN	2013	RTRN2013
44 28 13.89193	94 53 08.34587	590767.678	200744.786	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>	
44 28 13.89189	94 53 08.34712	590767.587	200744.781	.033	C	ADJUSTMENT	2010	GPS2250-B
44 28 13.89189	94 53 08.34712	590767.587	200744.781	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>	
44 28 13.89135	94 53 08.34646	590767.636	200744.727	.033	C	ADJUSTMENT	2006	GPS2250
44 28 13.89135	94 53 08.34646	590767.636	200744.727	.033	C	GPS - STATIC	2006	HBRWN
44 28 13.89135	94 53 08.34646	590767.636	200744.727	.033	C	ADJUSTMENT	2004	GPS2023
44 28 13.89135	94 53 08.34646	590767.636	200744.727	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2393485.693	865397.590	1148353.645	16160940.484	.131	3	GPS - RTRN	2024	RTRN2024
2393485.665	865397.537	1148353.617	16160940.433	.131	3	GPS - OPUS	2021	GPSBM
2393485.642	865397.529	1148353.593	16160940.425	.131	3	GPS - OPUS	2021	GPSBM
2393485.688	865397.542	1148353.640	16160940.437	.131	3	GPS - RTRN	2021	RTRN2021
2393485.745	865397.530	1148353.696	16160940.424	.131	3	GPS - RTRN	2013	RTRN2013
2393485.700	865397.528	1148353.651	16160940.422	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2393485.609	865397.525	1148353.560	16160940.421	.033	C	ADJUSTMENT	2010	GPS2250-B
2393485.609	865397.525	1148353.560	16160940.421	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2393485.656	865397.470	1148353.607	16160940.365	.033	C	ADJUSTMENT	2006	GPS2250
2393485.656	865397.470	1148353.607	16160940.365	.033	C	GPS - STATIC	2006	HBRWN
2393485.656	865397.470	1148353.607	16160940.365	.033	C	ADJUSTMENT	2004	GPS2023
2393485.656	865397.470	1148353.607	16160940.365	.033	C	GPS - STATIC	2004	HREDW

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_36_NW-DG7796-3E-28MAY2024.jpg	E	May 28, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_36_NW-DG7796-2-28MAY2024.jpg		May 28, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SH_36_NW-DG7796-1-28MAY2024.jpg		May 28, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: STA 22

NGS Name: STA 22

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1031](#) [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	30	112 N	38 W	442910.38	952745.53		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	1960	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	UNMONUMENTED	USGS

Description: (2016)

Stamping:

2.72 MILES SOUTHWEST OF VESTA, 1.7 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND WEST SOUTH STREET IN VESTA, THEN 0.8 MILE WEST ALONG 300TH STREET.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1080.706	.262		991.320	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -89.675 12B = -89.678 09 = -89.550 03 = -89.462

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 29 10.38153	95 27 45.53281	440149.787	206356.812	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 29 10.37639	95 27 45.52625	440150.261	206356.290	.131	3	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 29 10.52520	95 27 44.48214			.100	3	CLASSICAL SURVEY	1977	15976

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2242988.030	873280.220	997956.464	16170663.460	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2242988.496	873279.691	997956.923	16170662.925	.131	3	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1618386.639	545204.485			.100	3	CLASSICAL SURVEY	1977	15976



Mn/DOT Name: STA 23

NGS Name: STA 23

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1032](#) [Get Map](#)
NGS Quad / Sta Num : 44095311/
USGS Quad: MILROY

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	23	112 N	39 W	442911.94	953035.50		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	1960	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	USGS

Description: (2016)

Stamping:

4.5 MILES SOUTHWEST OF VESTA, 1.7 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND WEST SOUTH STREET IN VESTA, THEN 3.2 MILES WEST ALONG 300TH STREET.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1088.252	.262		998.981	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -89.557 12B = -89.560 09 = -89.442 03 = -89.337

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
44 29 11.94017	95 30 35.49893	427828.008	206552.731	.131	3	ADJUSTMENT	1999	17648
44 29 11.93435	95 30 35.49265	427828.461	206552.140	.131	3	ADJUSTMENT	1998	17655

<u>NAD83(1986)</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
44 29 11.93431	95 30 35.49178	427828.524	206552.136	.131	3	ADJUSTMENT	1986	17289

<u>NAD27</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
44 29 12.08093	95 30 34.44168			.100	3	CLASSICAL SURVEY	1977	15976

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
2230672.121	873662.031	985644.195	16171196.010	.131	3	ADJUSTMENT	1999	17648
2230672.565	873661.433	985644.632	16171195.407	.131	3	ADJUSTMENT	1998	17655

<u>NAD83(1986)</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
2230672.628	873661.428	985644.695	16171195.401	.131	3	ADJUSTMENT	1986	17289

<u>NAD27</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
1606070.849	545585.954			.100	3	CLASSICAL SURVEY	1977	15976



Mn/DOT Name: STA 24

NGS Name: STA 24

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ1034](#) [Get Map](#)
 NGS Quad / Sta Num : 44095311/
 USGS Quad: MILROY

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	20	112 N	39 W	442911.69	953315.66		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	1960	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	UNMONUMENTED	USGS

Description: (2016)

Stamping:

6.65 MILES SOUTHWEST OF VESTA, 1.7 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND WEST SOUTH STREET IN VESTA, THEN 5.4 MILES WEST ALONG 300TH STREET.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1096.783	.262		1007.629	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -89.442 12B = -89.439 09 = -89.327 03 = -89.212

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 29 11.69287	95 33 15.65860	416216.659	206570.062	.131	3	ADJUSTMENT	1999	17648
44 29 11.68659	95 33 15.65257	416217.094	206569.424	.131	3	ADJUSTMENT	1998	17655

<u>Geodetic Position</u>		<u>Redwood County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 29 11.68650	95 33 15.65086	416217.218	206569.414	.131	3	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 29 11.83116	95 33 14.59504			.100	3	CLASSICAL SURVEY	1977	15976

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2219063.779	873854.585	974037.030	16171530.641	.131	3	ADJUSTMENT	1999	17648
2219064.204	873853.941	974037.447	16171529.992	.131	3	ADJUSTMENT	1998	17655

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2219064.328	873853.930	974037.570	16171529.979	.131	3	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1594462.628	545778.214			.100	3	CLASSICAL SURVEY	1977	15976



Mn/DOT Name: STOCK MNDT

NGS Name: STOCK

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8927](#) [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	31	112 N	38 W	442736.89	952821.78	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2021	DESTROYED	Horz=NO Vert=NO	NO		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2009) **Stamping:** STOCK 1998

4.5 MILES SOUTHWEST OF VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 50.7, 148.0 FEET NORTH OF TRUNK HIGHWAY 19 ON COUNTY ROAD 59, 145.0 FEET NORTHWEST OF TRUNK HIGHWAY 19, 93.2 FEET SOUTH-SOUTHWEST OF A POWER POLE, 48.2 FEET SOUTH-SOUTHWEST OF A RIGHT-OF-WAY POST, 48.0 FEET EAST OF COUNTY ROAD 59, 4.0 FEET SOUTH OF A WITNESS POST.

Station Notes

FOUND CAP LOOSE. USE WITH CAUTION.
 THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1082.442	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690	
1082.445	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
			992.787	.017	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
			992.879	.017	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1082.347	.131		993.000	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1082.347	.131		993.000	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -89.596 12B = -89.596 09 = -89.481 03 = -89.393

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 27 36.89004	95 28 21.77601	437494.517	196896.095	.013		ADJUSTMENT	2012	GPS2800	

<u>NAD83(2007)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 27 36.89001	95 28 21.77687	437494.454	196896.092	.013		ADJUSTMENT	2007	GPS2300	

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>	
44 27 36.88942	95 28 21.77640	437494.488	196896.032	.033	C	ADJUSTMENT	2002	GPS1673	
44 27 36.88942	95 28 21.77640	437494.489	196896.033	.033	C	GPS - STATIC	2001	HVEST	



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2240190.626	863861.804	995043.662	16161278.531	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2240190.563	863861.802	995043.599	16161278.530	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2240190.596	863861.742	995043.632	16161278.469	.033	C	ADJUSTMENT	2002	GPS1673
2240190.596	863861.742	995043.632	16161278.469	.033	C	GPS - STATIC	2001	HVEST



Mn/DOT Name: STOCK MNDT RESET

NGS Name: STOCK RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095244/
 USGS Quad: LUCAN

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	31	112 N	38 W	442736.89	952821.78		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) **Stamping:** STOCK 1998 2024

4.5 MILES SOUTHWEST OF VESTA, 4.2 MILES SOUTHWEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 50.7, 145.0 FEET NORTHWEST OF TRUNK HIGHWAY 19, 48.0 FEET EAST OF COUNTY ROAD 59, 23.1 FEET NORTH ON ENTRANCE, 4.0 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1082.180	.262			992.583	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 27 36.88925	95 28 21.77528	437494.570	196896.015	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2240190.677	863861.723	995043.712	16161278.450	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/STOCK_RESET-3E-15MAY2024.jpg	E	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/STOCK_RESET-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/STOCK_RESET-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SW 28 N

NGS Name: SW 28 N

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7798](#) [Get Map](#)
 NGS Quad / Sta Num : 44095131/
 USGS Quad: IVERSON LAKE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	28	114 N	37 W	443927.22	951847.05		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2019	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (IN SLEEVE) (DEPTH 16 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** SW 28 N 2002

12.4 MILES NORTHWEST OF REDWOOD FALLS, 7.85 MILES WEST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 19/TRUNK HIGHWAY 67 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, THEN 9.0 MILES NORTH AND WEST ON COUNTY ROAD 19, THEN 0.65 MILES WEST ON COUNTY ROAD 58, 178.3 FEET EAST OF GRANDVIEW AVENUE, 49.2 FEET SOUTH OF COUNTY ROAD 58(420TH STREET), 2.2 FEET NORTHWEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
914.956	.262		825.208	.197	2011	GPS - OPUS	2019	GPSBM
914.946	.262		825.198	.197	2011	GPS - OPUS	2019	GPSBM
915.149	.262		825.402	.197	2011	GPS - RTRN	2019	RTRN2019
			825.274	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			825.372	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
915.024	.131		825.471	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
915.024	.131		825.471	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -89.747 12B = -89.757 09 = -89.626 03 = -89.527

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 39 27.21578	95 18 47.04894	479250.091	268753.816	.131	3	GPS - OPUS	2019	GPSBM
44 39 27.21629	95 18 47.04937	479250.061	268753.868	.131	3	GPS - OPUS	2019	GPSBM
44 39 27.21545	95 18 47.04801	479250.159	268753.783	.131	3	GPS - RTRN	2019	RTRN2019
44 39 27.21539	95 18 47.04941	479250.058	268753.777	.010		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 39 27.21543	95 18 47.05022	479249.999	268753.781	.010		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 39 27.21487	95 18 47.04965	479250.040	268753.725	.033	C	ADJUSTMENT	2004	GPS2023
44 39 27.21487	95 18 47.04965	479250.040	268753.725	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2283020.475	935072.376	1038749.428	16231966.745	.131	3	GPS - OPUS	2019	GPSBM
2283020.444	935072.428	1038749.398	16231966.797	.131	3	GPS - OPUS	2019	GPSBM
2283020.541	935072.342	1038749.494	16231966.710	.131	3	GPS - RTRN	2019	RTRN2019
2283020.440	935072.338	1038749.393	16231966.706	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2283020.381	935072.342	1038749.335	16231966.712	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2283020.422	935072.285	1038749.374	16231966.654	.033	C	ADJUSTMENT	2004	GPS2023
2283020.422	935072.285	1038749.374	16231966.654	.033	C	GPS - STATIC	2004	HREDW

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SW_28_N-DG7798-3S-28OCT2019.jpg	S	Oct 28, 2019
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SW_28_N-DG7798-2-28OCT2019.jpg		Oct 28, 2019
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SW_28_N-DG7798-1-28OCT2019.jpg		Oct 28, 2019

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SW 28 S

NGS Name: SW 28 S

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095131/
 USGS Quad: IVERSON LAKE

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	28	114 N	37 W	443927.50	951847.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2003	GOOD	Horz=YES Vert=YES	NO		PROJECTS 6 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD	MN-127

Description: (2009) Stamping: SW28S 2003

3.0 MILES NORTH OF BELVIEW, 3.5 MILES NORTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND COUNTY ROAD 9 IN BELVIEW, 1783.0 FEET EAST OF GRANDVIEW AVENUE, 50.0 FEET SOUTH OF COUNTY ROAD 58.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -89.747 12B = -89.757 09 = -89.626 03 = -89.527



Mn/DOT Name: SW 31 SE

NGS Name: SW 31 SE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7799](#) [Get Map](#)
 NGS Quad / Sta Num : 44095131/
 USGS Quad: IVERSON LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	31	114 N	37 W	443745.46	952022.81		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2003	2021	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	MARKER IS STEEL ROD

Monument Type	Disk Type	Mon. Agency
STEEL ROD (IN SLEEVE) (DEPTH 16 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** SW31SE 2002

1.0 MILE NORTH OF BELVIEW, 1.45 MILES NORTH AND WEST ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 9 AND COUNTY ROAD 7 IN BELVIEW, 104.0 FEET NORTH OF 400TH STREET, 52.0 FEET WEST OF COUNTY ROAD 7, 2.1 FEET NORTHEAST OF A WITNESS POST.

Station Notes

SET DATE/STAMPING DATE DIFFERENCE VERIFIED (2014)

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1059.667	.262		969.850	.197	2011	GPS - RTRN	2021	RTRN2021
			969.818	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			969.913	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1059.644	.131		969.995	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1059.644	.131		969.995	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -89.816 12B = -89.819 09 = -89.695 03 = -89.593

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 37 45.45867	95 20 22.81402	472314.138	258455.935	.131	3	GPS - RTRN	2021	RTRN2021
44 37 45.45848	95 20 22.81367	472314.163	258455.916	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Redwood County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 37 45.45849	95 20 22.81450	472314.103	258455.917	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Redwood County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 37 45.45792	95 20 22.81386	472314.149	258455.859	.033	C	ADJUSTMENT	2004	GPS2023
44 37 45.45792	95 20 22.81386	472314.149	258455.859	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2275930.822	924881.615	1031534.161	16221863.105	.131	3	GPS - RTRN	2021	RTRN2021
2275930.847	924881.595	1031534.186	16221863.085	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2275930.787	924881.597	1031534.126	16221863.088	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2275930.832	924881.539	1031534.171	16221863.029	.033	C	ADJUSTMENT	2004	GPS2023
2275930.832	924881.539	1031534.171	16221863.029	.033	C	GPS - STATIC	2004	HREDW



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SW_31_SE-DG7799-3SW-11MAY2021.jpg	SW	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SW_31_SE-DG7799-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/SW_31_SE-DG7799-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: THUNE MNDT

NGS Name: THUNE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8934](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	112 N	37 W	443225.44	951946.85	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: THUNE 1998

5.0 MILES NORTHEAST OF VESTA, 6.85 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 61.7, THEN 0.1 MILE SOUTH ON COUNTY ROAD 7, 230.0 FEET SOUTH OF TRUNK HIGHWAY 19 ON COUNTY ROAD 7, 43.0 FEET EAST OF COUNTY ROAD 7, 23.7 FEET SOUTH-SOUTHWEST OF A POWER POLE, 21.5 FEET SOUTH-SOUTHWEST OF A WITNESS POST.

Station Notes

FOUND CAP LOOSE. USE WITH CAUTION.
 THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1064.594	.016	2/1				2011	00000690					
1064.598	.016	2/1				2008	VTLIN					

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
			974.552	.013	2011	2012	GPS2800					
			974.650	.013	2007	2007	GPS2300					
1064.532	.131		974.782	.066	1996	2002	GPS1673					
1064.532	.131		974.782	.066	1996	2001	HVEST					

Geoid Separations(ft): GEOID18 = -90.013 12B = -90.006 09 = -89.882 03 = -89.806

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>		<u>Redwood County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>			
44 32 25.43853	95 19 46.85501	474876.618	226042.180	.010		2012	GPS2800			

<u>NAD83(2007)</u>		<u>Geodetic Position</u>		<u>Redwood County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>			
44 32 25.43855	95 19 46.85582	474876.560	226042.182	.013		2007	GPS2300			

<u>NAD83(1996)</u>		<u>Geodetic Position</u>		<u>Redwood County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>			
44 32 25.43795	95 19 46.85494	474876.623	226042.121	.033	C	2002	GPS1673			
44 32 25.43795	95 19 46.85494	474876.622	226042.120	.033	C	2001	HVEST			



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2278003.652	892436.943	1033208.464	16189392.198	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2278003.593	892436.946	1033208.406	16189392.202	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2278003.656	892436.884	1033208.468	16189392.139	.033	C	ADJUSTMENT	2002	GPS1673
2278003.656	892436.885	1033208.468	16189392.140	.033	C	GPS - STATIC	2001	HVEST



Mn/DOT Name: THUNE MNDT RESET

NGS Name: THUNE RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	112 N	37 W	443225.44	951946.86		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: THUNE 1998 2024

5.0 MILES NORTHEAST OF VESTA, 6.85 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA TO TRUNK HIGHWAY 19 MILEPOINT 61.7, THEN 0.1 MILE SOUTH ON COUNTY ROAD 7, 230.0 FEET SOUTH OF TRUNK HIGHWAY 19 ON COUNTY ROAD 7, 43.0 FEET EAST OF COUNTY ROAD 7, 23.7 FEET SOUTH-SOUTHWEST OF A POWER POLE, 21.5 FEET SOUTH-SOUTHWEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1064.411	.262			974.398	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 32 25.43811	95 19 46.85541	474876.590	226042.137	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2278003.622	892436.901	1033208.434	16189392.157	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/THUNE_RESET-3E-14MAY2024.jpg	E	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/THUNE_RESET-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/THUNE_RESET-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TIRE MNDT

NGS Name: TIRE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8935](#) [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	2	112 N	37 W	443228.70	951610.17	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 14 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: TIRE 1998

7.5 MILES WEST OF REDWOOD FALLS, 7.4 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 64.60, 25.0 FEET EAST OF IDEAL AVENUE, 120.0 FEET SOUTH OF TRUNK HIGHWAY 19, 45.6 FEET SOUTH-SOUTHWEST OF A POWER POLE, 30.0 FEET SOUTH OF AN ENTRANCE, 5.1 FEET NORTH OF A WITNESS POST.

Station Notes

THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1052.121	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1052.124	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1052.203	.262			962.065	.197	2011	GPS - OPUS	2021	GPSBM	
1052.193	.262			962.055	.197	2011	GPS - RTRN	2021	RTRN2021	
				961.947	.013	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
				962.045	.014	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1052.065	.131			962.170	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1052.065	.131			962.170	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -90.134 12B = -90.131 09 = -89.993 03 = -89.928

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 28.70452	95 16 10.17484			490571.328	226360.243	.131	3	GPS - OPUS	2021	GPSBM
44 32 28.70464	95 16 10.17474			490571.335	226360.256	.131	3	GPS - RTRN	2021	RTRN2021
44 32 28.70476	95 16 10.17510			490571.309	226360.268	.010		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 28.70480	95 16 10.17591			490571.250	226360.272	.013		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 28.70420	95 16 10.17504			490571.313	226360.211	.033	C	ADJUSTMENT	2002	GPS1673
44 32 28.70420	95 16 10.17504			490571.312	226360.210	.033	C	GPS - STATIC	2001	HVEST



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2293699.428	892518.149	1048905.441	16189280.948	.131	3	GPS - OPUS	2021	GPSBM
2293699.435	892518.161	1048905.448	16189280.960	.131	3	GPS - RTRN	2021	RTRN2021
2293699.409	892518.174	1048905.422	16189280.973	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2293699.351	892518.179	1048905.364	16189280.979	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2293699.413	892518.117	1048905.425	16189280.916	.033	C	ADJUSTMENT	2002	GPS1673
2293699.413	892518.117	1048905.425	16189280.916	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/TIRE-AJ8935-3E-11MAY2021.jpg	E	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/TIRE-AJ8935-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/TIRE-AJ8935-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TIRE MNDT RESET

NGS Name: TIRE RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095132/
 USGS Quad: BELVIEW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	112 N	37 W	443228.70	951610.18		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) **Stamping:** TIRE 1998 2024

7.5 MILES WEST OF REDWOOD FALLS, 7.4 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 71 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 64.60, 25.0 FEET EAST OF IDEAL AVENUE, 120.0 FEET SOUTH OF TRUNK HIGHWAY 19, 45.6 FEET SOUTH-SOUTHWEST OF A POWER POLE, 30.0 FEET SOUTH OF AN ENTRANCE, 5.1 FEET NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1052.081	.262			961.944	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 32 28.70466	95 16 10.17517	490571.304	226360.258	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2293699.404	892518.163	1048905.417	16189280.963	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/TIRE_RESET-3E-14MAY2024.jpg	E	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/TIRE_RESET-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/TIRE_RESET-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 11 KW

NGS Name: TT 11 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095124/
 USGS Quad: VICKSBURG

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	31	114 N	36 W	443832.00	951417.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1965	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2009) **Stamping:** TT 11 KW 1951

12.0 MILES SOUTH AND 1.0 MILE WEST OF RENVILLE, 1.2 MILES SOUTHWEST ALONG A GRAVEL ROAD FROM A BRIDGE OVER THE MINNESOTA RIVER, 3.0 MILES NORTH AND 1.0 MILE SOUTH OF DELHI, 0.1 MILE SOUTH AND 0.2 MILE EAST OF A SCHOOL, 425.0 FEET SOUTH AND 30.0 FEET EAST OF THE EAST-WEST ROAD (410TH STREET) AT A TEE-ROAD SOUTH (IMPALA AVENUE), 16.0 FEET NORTH OF A TELEPHONE POLE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1042.718	.033	3							VERTICAL CONTROL SURVEY	1965	USGS-VERT	

Geoid Separations(ft): GEOID18 = -89.918 12B = -89.915 09 = -89.790 03 = -89.705

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 12 KW

NGS Name: TT 12 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	6	113 N	36 W	443657.00	951418.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1965	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2016) **Stamping:** TT 12 KW 1951

1.1 MILES NORTH AND 1.0 MILE WEST OF DELHI, 1.1 MILES NORTH ALONG COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND COUNTY ROAD 9 IN DELHI, THEN 1.0 MILE WEST ON 390TH STREET, 540.0 FEET NORTH AND 25.0 FEET EAST OF THE CROSSROADS (390TH STREET AND IMPALA AVENUE), 99.0 FEET NORTH OF A TELEPHONE POLE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1035.543	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.016 12B = -90.016 09 = -89.875 03 = -89.803

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 13 KW

NGS Name: TT 13 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	18	113 N	36 W	443510.00	951417.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1965	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2009) **Stamping:** TT 13 KW 1951

0.9 MILE SOUTH AND 1.0 MILE WEST OF DELHI, 1.0 MILE SOUTH ALONG COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND COUNTY ROAD 9 IN DELHI, THEN 1.0 MILE WEST ALONG 370TH STREET, 345.0 FEET NORTH AND 27.0 FEET EAST OF THE CROSSROADS (370TH STREET AND IMPALA AVENUE).

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1041.891	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.111 12B = -90.108 09 = -89.964 03 = -89.898

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 14 KW

NGS Name: TT 14 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	31	113 N	36 W	443314.00	951400.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1998	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: TT 14 KW 1951

3.3 MILES SOUTHWEST OF DELHI, 3.0 MILES SOUTH ALONG COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND NORTH AVENUE IN DELHI, THEN 0.8 MILE WEST ALONG 350TH STREET, 785.0 FEET SOUTH AND 26.0 FEET WEST OF AN EAST-WEST ROAD AT A TEE-ROAD SOUTH.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1060.474	.033	3							VERTICAL CONTROL SURVEY	1965	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.190 12B = -90.184 09 = -90.046 03 = -89.980

*** No Horizontal Positions in the Database ***



Mn/DOT Name: TT 15 KW

NGS Name: TT 15 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	1	112 N	37 W	443147.00	951346.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	2003	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: TT 15 KW 1951

5.5 MILES WEST OF REDWOOD FALLS, 0.8 MILE SOUTH ON COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND TRUNK HIGHWAY 19, 43.0 FEET NORTH AND 51.0 FEET WEST OF COUNTY ROAD 6 AT A DRIVE EAST, 9.0 FEET NORTH OF A TELEPHONE POLE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>		
1063.692	.033	3							VERTICAL CONTROL SURVEY	1965	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.239 12B = -90.236 09 = -90.095 03 = -90.029

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 16 KW

NGS Name: TT 16 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	18	112 N	36 W	443007.00	951344.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	2003	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) **Stamping:** TT 16 KW 1951

6.1 MILES SOUTHWEST OF REDWOOD FALLS, 4.7 MILES WEST ALONG TRUNK HIGHWAY 67/TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND LASER AVENUE IN REDWOOD FALLS, THEN 2.8 MILES SOUTH ALONG COUNTY ROAD 6, 860.0 FEET NORTH AND 48.0 FEET EAST OF THE JUNCTION OF COUNTY ROAD 6 AND COUNTY ROAD 30 WEST, 210.0 FEET NORTH AND 48.0 FEET EAST OF COUNTY ROAD 6 AT A DRIVE WEST, 52.0 FEET SOUTH OF A POWER POLE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1069.906	.033	3				VERTICAL CONTROL SURVEY	1966	USGS-VERT		

Geoid Separations(ft): GEOID18 = -90.279 12B = -90.272 09 = -90.144 03 = -90.069

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 17 KW

NGS Name: TT 17 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095214/
 USGS Quad: ROWENA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	29	112 N	36 W	442907.00	951210.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1968	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2016) Stamping: TT 17 KW 1951

4.2 MILES SOUTHWEST OF REDWOOD FALLS, 4.7 MILES WEST ALONG TRUNK HIGHWAY 67/TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND LASER AVENUE IN REDWOOD FALLS, THEN 3.9 MILES SOUTH ALONG COUNTY ROAD 6, THEN 1.3 MILES EAST ON 300TH STREET, 1680.0 FEET EAST AND 34.0 FEET SOUTH OF THE CENTER OF THE CROSSROADS (JUSTICE AVENUE, 300TH STREET), 23.0 FEET EAST OF THE CENTER OF A STEEL GATE, 47.0 FEET EAST OF A TELEPHONE POLE, 3.0 FEET NORTH OF A RIGHT-OF-WAY FENCE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1061.104	.033	3				VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.367 12B = -90.364 09 = -90.239 03 = -90.154

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 18 KW

NGS Name: TT 18 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095214/
 USGS Quad: ROWENA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	22	112 N	36 W	442908.00	950950.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1958	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2016) Stamping: TT 18 KW 1951

4.0 MILES SOUTHWEST OF REDWOOD FALLS, 1.8 MILES WEST ALONG TRUNK HIGHWAY 67/TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND LASER AVENUE IN REDWOOD FALLS, THEN 3.9 MILES SOUTH ALONG KNOX AVENUE, 31.0 FEET NORTH AND 1170.0 FEET EAST OF THE CENTER OF THE CROSSROADS (COUNTY HIGHWAY 17 AND 300TH STREET), 39.0 FEET EAST OF A TELEPHONE POLE, 3.0 FEET SOUTH OF A RIGHT-OF-WAY FENCE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1051.117	.033	3				1966	USGS-VERT					

Geoid Separations(ft): GEOID18 = -90.472 12B = -90.466 09 = -90.344 03 = -90.252

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 19 KW

NGS Name: TT 19 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	29	113 N	35 W	443349.00	950538.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1979	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) **Stamping:** TT 19 KW 1951

2.3 MILES NORTH OF REDWOOD FALLS, IN NORTH REDWOOD, 20.0 FEET NORTH AND 7.0 FEET EAST OF THE CORNER OF A CONCRETE CURB, AT THE NORTHEAST CORNER OF THE MAIN JUNCTION IN NORTH REDWOOD, 9.0 FEET NORTH AND 10.0 FEET WEST OF THE SOUTHWEST CORNER OF A GROCERY STORE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
847.265	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.469 12B = -90.469 09 = -90.325 03 = -90.226

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 26 KW

NGS Name: TT 26 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	30	112 N	35 W	442906.00	950616.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	2015	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2016) **Stamping:** TT 26 KW 1951

3.8 MILES SOUTHEAST OF REDWOOD FALLS, 0.6 MILE EAST OF TRUNK HIGHWAY 71, 3.8 MILES SOUTH ALONG MAGNOLIA AVENUE FROM THE JUNCTION OF MAGNOLIA AVENUE AND NORMANDALE ROAD (COUNTY ROAD 101) IN REDWOOD FALLS, 26.0 FEET SOUTH AND 715.0 FEET EAST OF AN EAST-WEST ROAD AT A TEE-ROAD NORTH, 235.0 FEET EAST OF A PRIVATE DRIVE SOUTH, 2.0 FEET NORTH OF A RIGHT-OF-WAY FENCE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1060.378	.033	3					VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.623 12B = -90.613 09 = -90.512 03 = -90.397

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 27 KW

NGS Name: TT 27 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095211/
 USGS Quad: CLEMENTS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	20	112 N	35 W	442959.00	950512.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1958	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2009) **Stamping:** TT 27 KW 1951

3.1 MILES SOUTHEAST OF REDWOOD FALLS, 3.8 MILES SOUTH ALONG MAGNOLIA AVENUE FROM THE JUNCTION OF MAGNOLIA AVENUE AND NORMANDALE ROAD (COUNTY ROAD 101) IN REDWOOD FALLS, 0.5 MILE WEST OF A SCHOOLHOUSE, 345.0 FEET EAST AND 33.0 FEET SOUTH OF THE CENTER OF A NORTH-SOUTH ROAD (MIDWAY AVENUE) AT A TEE-ROAD EAST (310TH STREET), 12.0 FEET EAST OF A TELEPHONE POLE, 1.0 FOOT NORTH OF A RIGHT-OF-WAY FENCE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1051.720	.033	3					VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.633 12B = -90.626 09 = -90.521 03 = -90.403

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 28 KW

NGS Name: TT 28 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	15	112 N	35 W	443000.90	950245.90		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	2011	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: TT 28 KW 1951

4.4 MILES SOUTHEAST OF REDWOOD FALLS, 2.8 MILES SOUTHEAST ALONG TRUNK HIGHWAY 67 FROM THE JUNCTION OF TRUNK HIGHWAY 67 AND COUNTY ROAD 24 IN REDWOOD FALLS, THEN 0.4 MILE EAST ON 310TH STREET, 30.0 FEET NORTH AND 520.0 FEET EAST OF A CROSSROADS, 30.0 FEET NORTH AND 62.0 FEET EAST OF A WOOD BRIDGE.

Station Notes

NO STAMPING, THE DISK IS BROKEN OFF.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1024.608	.033	3					VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.722 12B = -90.712 09 = -90.623 03 = -90.492

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 30 KW

NGS Name: TT 30 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	12	112 N	35 W	443146.00	950018.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	1999	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: TT 30 KW 1951

4.3 MILES EAST OF REDWOOD FALLS, 4.3 MILES EAST ALONG COUNTY ROAD 24 FROM THE JUNCTION OF COUNTY ROAD 24 AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, 1.0 MILE NORTH OF COUNTY ROAD 53, 28.0 FEET SOUTH AND 382.0 FEET EAST OF THE JUNCTION OF COUNTY ROAD 24 AND A NORTH-SOUTH TOWNSHIP ROAD (OMEGA AVENUE), 116.8 FEET SOUTHEAST OF A POWER POLE.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
980.014	.033	3				1965	USGS-VERT	VERTICAL CONTROL SURVEY				

Geoid Separations(ft): GEOID18 = -90.741 12B = -90.731 09 = -90.636 03 = -90.502

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 31 KW

NGS Name: TT 31 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44094344/
 USGS Quad: MORGAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	28	112 N	34 W	442907.00	945640.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	2003	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: TT 31 KW 1951

5.0 MILES NORTH AND 1.0 MILE WEST OF MORGAN, 1.4 MILES NORTH ALONG CARLETON AVENUE (COUNTY ROAD 2) FROM THE JUNCTION OF CARLETON AVENUE (COUNTY ROAD 2) AND REETZ STREET IN MORGAN, THEN 1.0 MILE WEST ALONG 270TH STREET, THEN 3.0 MILES NORTH ALONG RANCH AVENUE, 1.1 MILES EAST OF PRAIRIE VIEW SCHOOL, 35.0 FEET SOUTH AND 504.0 FEET EAST OF THE JUNCTION RANCH AVENUE AND 300TH STREET, 1.0 FOOT NORTH OF A FENCE CORNER.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1014.122	.033	3				VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -90.974 12B = -90.971 09 = -90.895 03 = -90.754

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 32 KW

NGS Name: TT 32 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44094344/
 USGS Quad: MORGAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	27	112 N	34 W	442906.00	945431.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	2003	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: TT 32 KW 1951

4.8 MILES NORTHEAST OF MORGAN, 3.4 MILES NORTH ALONG CARLETON AVENUE (COUNTY ROAD 2) FROM THE JUNCTION OF CARLETON AVENUE (COUNTY ROAD 2) AND REETZ STREET IN MORGAN, 0.8 MILE EAST ON 300TH STREET, 3.0 MILES EAST OF PRAIRIE VIEW SCHOOL, 15.0 FEET SOUTH AND 730.0 FEET WEST OF AN EAST-WEST ROAD FROM THE JUNCTION OF 300TH STREET AND SARATOGA AVENUE ON 300TH STREET.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1012.429	.033	3					VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -91.046 12B = -91.050 09 = -90.974 03 = -90.830

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 33 KW

NGS Name: TT 33 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44094344/
 USGS Quad: MORGAN

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	36	112 N	34 W	442806.00	945307.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	2008	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) **Stamping:** TT 33 KW 1951

5.0 MILES NORTH AND 2.0 MILES EAST OF MORGAN, 2.4 MILES NORTH ALONG CARLETON AVENUE (TRUNK HIGHWAY 2), THEN 2.8 MILES EAST AND NORTH ALONG COUNTY ROAD 11, 910.0 FEET SOUTH AND 31.0 FEET EAST OF A NORTH-SOUTH ROAD (COUNTY ROAD 11) AT A TEE-ROAD EAST, 68.0 FEET NORTH AND 31.0 FEET EAST OF A PRIVATE DRIVE EAST.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1019.158	.033	3					VERTICAL CONTROL SURVEY	1966	USGS-VERT	

Geoid Separations(ft): GEOID18 = -91.122 12B = -91.128 09 = -91.056 03 = -90.918

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/TT_33_KW-3N-09OCT2008.jpg	N	Oct 9, 2008
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 56 KW

NGS Name: TT 56 KW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44094433/
 USGS Quad: MORTON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	14	112 N	34 W	443016.00	945308.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1951	2003	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009) Stamping: TT 56 KW 1951

2.2 MILES SOUTH OF FRANKLIN, 1.1 MILES SOUTH ALONG COUNTY ROAD 11 FROM THE JUNCTION OF COUNTY ROAD 11 AND COUNTY ROAD 5 IN THE SOUTHWEST CORNER OF FRANKLIN, 0.9 MILE SOUTH OF COUNTY ROAD 11 BRIDGE OVER THE MINNESOTA RIVER, 499.0 FEET SOUTH OF COUNTY ROAD 11 BRIDGE OVER A CREEK, 9.0 FEET SOUTH AND 53.0 FEET EAST OF A GRAVEL ROAD AT A DIM ROAD SOUTH.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
828.502	.033	3				1966	USGS-VERT	VERTICAL CONTROL SURVEY				

Geoid Separations(ft): GEOID18 = -91.050 12B = -91.060 09 = -90.968 03 = -90.820

* No Horizontal Positions in the Database *



Mn/DOT Name: UN 1 NE

NGS Name: UN 1 NE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7800](#) [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	1	112 N	39 W	443230.10	952822.43		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2018	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** UN 1 NE 2003

5.0 MILES NORTHWEST OF VESTA, FROM TRUNK HIGHWAY 19 MILEPOINT 54.85 GO 2.5 MILES WEST ALONG COUNTY ROAD 30, THEN 2.5 MILES NORTH ON COUNTY ROAD 59, 62.0 FEET WEST OF COUNTY ROAD 59 (DAYTON AVENUE), 65.0 FEET SOUTH OF COUNTY ROAD 46, 3.0 FEET NORTHWEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1062.209			972.432	.009	2011	HORIZONTAL ADJUSTMENT	2019	GPS3321
1062.193	.131		972.642	.066	1996	GPS - STATIC	2019	HYELL
1062.209			972.432	.009	2011	GPS - STATIC	2019	HYELL
1062.144	.262		972.409	.197	2011	GPS - RTRN	2015	RTRN2015
1062.157			972.432	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3032
1062.196	.131		972.528	.066	2007	GPS - STATIC	2014	HECHO
1062.157			972.436	.010	2011	GPS - STATIC	2014	HECHO
			972.432	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1062.170	.131		972.642	.066	1996	GPS - STATIC	2011	HECHO
			972.528	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1062.170	.131		972.642	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1062.170	.131		972.642	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -89.721 12B = -89.734 09 = -89.606 03 = -89.491

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 30.09884	95 28 22.42625	437534.249	226590.768	.007		ADJUSTMENT	2019	GPS3321
44 32 30.09884	95 28 22.42625	437534.249	226590.768	.007	C	GPS - STATIC	2019	HYELL
44 32 30.09851	95 28 22.42535	437534.314	226590.734	.131	3	GPS - RTRN	2015	RTRN2015
44 32 30.09884	95 28 22.42625	437534.249	226590.768	.010		ADJUSTMENT	2014	GPS3032
44 32 30.09878	95 28 22.42628	437534.247	226590.762	.010	C	GPS - STATIC	2014	HECHO
44 32 30.09884	95 28 22.42625	437534.249	226590.768	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 30.09884	95 28 22.42708	437534.189	226590.768	.033	C	GPS - STATIC	2014	HECHO
44 32 30.09884	95 28 22.42708	437534.189	226590.768	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 30.09821	95 28 22.42637	437534.240	226590.704	.033	C	GPS - STATIC	2019	HYELL
44 32 30.09821	95 28 22.42637	437534.240	226590.704	.033	C	GPS - STATIC	2011	HECHO
44 32 30.09821	95 28 22.42637	437534.240	226590.704	.033	C	ADJUSTMENT	2004	GPS2023
44 32 30.09821	95 28 22.42637	437534.240	226590.704	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15			Project Info			
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2240678.440	893548.846	995895.015	16190961.921	.007		ADJUSTMENT	2019	GPS3321
2240678.440	893548.846	995895.015	16190961.921	.007	C	GPS - STATIC	2019	HYELL
2240678.505	893548.812	995895.080	16190961.886	.131	3	GPS - RTRN	2015	RTRN2015
2240678.440	893548.846	995895.015	16190961.921	.010		ADJUSTMENT	2014	GPS3032
2240678.438	893548.840	995895.013	16190961.915	.010	C	GPS - STATIC	2014	HECHO
2240678.440	893548.846	995895.015	16190961.921	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15			Project Info			
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2240678.380	893548.847	995894.955	16190961.923	.033	C	GPS - STATIC	2014	HECHO
2240678.380	893548.847	995894.955	16190961.923	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15			Project Info			
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2240678.430	893548.782	995895.005	16190961.858	.033	C	GPS - STATIC	2019	HYELL
2240678.430	893548.782	995895.005	16190961.858	.033	C	GPS - STATIC	2011	HECHO
2240678.430	893548.782	995895.005	16190961.858	.033	C	ADJUSTMENT	2004	GPS2023
2240678.430	893548.782	995895.005	16190961.858	.033	C	GPS - STATIC	2004	HREDW

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/UN_1_NE-DG7800-3S-18AUG2003.jpg	S	Aug 18, 2003
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/UN_1_NE-DG7800-2-18AUG2003.jpg		Aug 18, 2003
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/UN_1_NE-DG7800-1-18AUG2003.jpg		Aug 18, 2003

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: UN 4 NE

NGS Name: UN 4 NE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7801](#) [Get Map](#)
 NGS Quad / Sta Num : 44095422/
 USGS Quad: SCHOOL GROVE LAKE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	4	112 N	39 W	443227.72	953202.18		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2021	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** UN4NE 2002

20.5 MILES WEST OF REDWOOD FALLS, 5.5 MILES WEST ON COUNTY ROAD 30 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 54.85 IN VESTA, THEN 2.5 MILES NORTH ON COUNTY ROAD 8, 50.0 FEET WEST OF COUNTY ROAD 8, 61.0 FEET SOUTH OF COUNTY ROAD 46, 2.0 FEET EAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1072.577	.262		982.997	.197	2011	GPS - OPUS	2021	GPSBM
1072.626	.262		983.046	.197	2011	GPS - OPUS	2021	GPSBM
1072.668	.262		983.092	.197	2011	GPS - RTRN	2021	RTRN2021
			983.066	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			983.164	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1072.636	.131		983.262	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1072.636	.131		983.262	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -89.580 12B = -89.590 09 = -89.468 03 = -89.334

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 27.71671	95 32 02.18249	421616.427	226402.030	.131	3	GPS - OPUS	2021	GPSBM
44 32 27.71678	95 32 02.18263	421616.417	226402.037	.131	3	GPS - OPUS	2021	GPSBM
44 32 27.71688	95 32 02.18222	421616.447	226402.047	.131	3	GPS - RTRN	2021	RTRN2021
44 32 27.71661	95 32 02.18221	421616.448	226402.020	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 27.71658	95 32 02.18298	421616.392	226402.017	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 27.71580	95 32 02.18237	421616.436	226401.938	.033	C	ADJUSTMENT	2004	GPS2023
44 32 27.71580	95 32 02.18237	421616.436	226401.938	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2224761.557	893600.361	979977.348	16191208.691	.131	3	GPS - OPUS	2021	GPSBM
2224761.547	893600.368	979977.338	16191208.699	.131	3	GPS - OPUS	2021	GPSBM
2224761.576	893600.377	979977.368	16191208.708	.131	3	GPS - RTRN	2021	RTRN2021
2224761.577	893600.350	979977.368	16191208.681	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2224761.521	893600.348	979977.312	16191208.679	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2224761.564	893600.269	979977.354	16191208.599	.033	C	ADJUSTMENT	2004	GPS2023
2224761.564	893600.269	979977.354	16191208.599	.033	C	GPS - STATIC	2004	HREDW

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/UN_4_NE-DG7801-3W-11MAY2021.jpg	W	May 11, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/UN_4_NE-DG7801-2-11MAY2021.jpg		May 11, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/UN_4_NE-DG7801-1-11MAY2021.jpg		May 11, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: VE 36 SW

NGS Name: VE 36 SW

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DG7803](#) [Get Map](#)
 NGS Quad / Sta Num : 44095241/
 USGS Quad: WABASSO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	36	112 N	38 W	442725.28	952212.48		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2024	GOOD	Horz=YES Vert=YES	YES		PROJECTS 6 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD	MN-127

Description: (2009) **Stamping:** VE36SW 2003

3.0 MILES SOUTHWEST OF SEAFORTH, 1.6 MILES SOUTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 56 AND COUNTY ROAD 7 IN SEAFORTH, THEN 2.0 MILES WEST ON COUNTY ROAD 12, 42.0 FEET NORTH OF COUNTY ROAD 12 (280TH STREET), 27.0 FEET EAST OF FRONTIER AVENUE, 6.8 FEET WEST OF THE WEST SIDE OF A POWER POLE NUMBER 0957089, 7.0 FEET NORTH OF A WITNESS POST.

Station Notes

THE POWER POLE MAY INTERFERE WITH GPS.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1071.258	.262		981.356	.197	2011	GPS - RTRN	2024	RTRN2024
1071.143	.262		981.245	.197	2011	GPS - OPUS	2021	GPSBM
1071.120	.262		981.222	.197	2011	GPS - OPUS	2021	GPSBM
1071.163	.262		981.264	.197	2011	GPS - OPUS	2021	GPSBM
1071.264	.262		981.363	.197	2011	GPS - RTRN	2021	RTRN2021
			981.333	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			981.432	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1071.291	.131		981.547	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023
1071.258	.131		981.547	.066	1996	GPS - STATIC	2004	HREDW

Geoid Separations(ft): GEOID18 = -89.901 12B = -89.908 09 = -89.777 03 = -89.688

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 27 25.27892	95 22 12.48196	464277.787	195658.652	.131	3	GPS - RTRN	2024	RTRN2024
44 27 25.27866	95 22 12.48100	464277.857	195658.626	.131	3	GPS - OPUS	2021	GPSBM
44 27 25.27790	95 22 12.48107	464277.852	195658.549	.131	3	GPS - OPUS	2021	GPSBM
44 27 25.27891	95 22 12.48139	464277.829	195658.651	.131	3	GPS - OPUS	2021	GPSBM
44 27 25.27876	95 22 12.48132	464277.834	195658.636	.131	3	GPS - RTRN	2021	RTRN2021
44 27 25.28052	95 22 12.48055	464277.890	195658.814	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 27 25.28056	95 22 12.48144	464277.825	195658.818	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 27 25.27995	95 22 12.48074	464277.876	195658.756	.033	C	ADJUSTMENT	2004	GPS2023
44 27 25.27995	95 22 12.48074	464277.876	195658.756	.033	C	GPS - STATIC	2004	HREDW

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15						Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2266948.912	862220.519	1021783.480	16159310.126	.131	3	GPS - RTRN	2024	RTRN2024	
2266948.981	862220.492	1021783.549	16159310.098	.131	3	GPS - OPUS	2021	GPSBM	
2266948.975	862220.415	1021783.542	16159310.021	.131	3	GPS - OPUS	2021	GPSBM	
2266948.953	862220.518	1021783.521	16159310.124	.131	3	GPS - OPUS	2021	GPSBM	
2266948.958	862220.503	1021783.526	16159310.108	.131	3	GPS - RTRN	2021	RTRN2021	
2266949.017	862220.680	1021783.587	16159310.285	.013		ADJUSTMENT	2012	GPS2800	

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15						Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2266948.952	862220.685	1021783.523	16159310.291	.013		ADJUSTMENT	2007	GPS2300	

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15						Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2266949.002	862220.622	1021783.572	16159310.228	.033	C	ADJUSTMENT	2004	GPS2023	
2266949.002	862220.622	1021783.572	16159310.228	.033	C	GPS - STATIC	2004	HREDW	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VE_36_SW-DG7803-3N-20MAY2024.jpg	N	May 20, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VE_36_SW-DG7803-2-20MAY2024.jpg		May 20, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VE_36_SW-DG7803-1-20MAY2024.jpg		May 20, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: VENT MNDT

NGS Name: VENT

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8921](#) [Get Map](#)
 NGS Quad / Sta Num : 44095123/
 USGS Quad: DELHI

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	35	113 N	36 W	443233.14	950849.66	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1990	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 17 FT)	HORIZONTAL CONTROL DISK	MNDT

Description: (2009) Stamping: VENT 1990

1.5 MILES NORTHWEST OF REDWOOD FALLS, 1.4 MILES WEST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 19 AND TRUNK HIGHWAY 67 IN REDWOOD FALLS TO TRUNK HIGHWAY 19 MILEPOINT 70.65, THEN 0.1 MILE NORTH ON COUNTY ROAD 17, 33.5 FEET EAST-NORTHEAST OF A POWER POLE, 24.0 FEET WEST OF COUNTY ROAD 17, 12.5 FEET SOUTH OF AN ENTRANCE, 9.9 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1041.930	.016	2/1				VERTICAL ADJUSTMENT	2017	00000898		
1041.930	.016	2/1				VERTICAL CONTROL SURVEY	2016	VBORN		
1041.930	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690		
1041.934	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1042.003	.262		951.606	.197	2011	GPS - RTRN	2024	RTRN2024		
1041.973	.262		951.579	.197	2011	GPS - OPUS	2021	GPSBM		
1041.904	.262		951.511	.197	2011	GPS - RTRN	2021	RTRN2021		
1041.884	.262		951.488	.197	2011	GPS - RTRN	2015	RTRN2015		
			951.530	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800		
			951.648	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300		
1041.927	.131		951.763	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023		
1041.894	.131		951.763	.066	1996	GPS - STATIC	2004	HREDW		
1041.993	.131		951.763	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1907		
1041.993	.131		951.763	.066	1996	GPS - STATIC	2003	HRED		
1041.894	.131		951.763	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673		
1041.894	.131		951.763	.066	1996	GPS - STATIC	2001	HVEST		

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>		
1041.501						GPS - STATIC	1992	HORZ		

Geoid Separations(ft): GEOID18 = -90.394 12B = -90.397 09 = -90.249 03 = -90.170

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 33.14494	95 08 49.66210	522477.555	226819.702	.131	3	GPS - RTRN	2024	RTRN2024
44 32 33.14490	95 08 49.66134	522477.611	226819.698	.131	3	GPS - OPUS	2021	GPSBM
44 32 33.14534	95 08 49.66116	522477.624	226819.743	.131	3	GPS - RTRN	2021	RTRN2021
44 32 33.14529	95 08 49.66020	522477.693	226819.738	.131	3	GPS - RTRN	2015	RTRN2015
44 32 33.14510	95 08 49.66071	522477.656	226819.719	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 33.14531	95 08 49.66139	522477.607	226819.740	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 33.14466	95 08 49.66096	522477.638	226819.674	.033	C	ADJUSTMENT	2004	GPS2023
44 32 33.14466	95 08 49.66096	522477.638	226819.674	.033	C	GPS - STATIC	2004	HREDW
44 32 33.14466	95 08 49.66096	522477.638	226819.674	.033	C	ADJUSTMENT	2003	GPS1907
44 32 33.14466	95 08 49.66096	522477.638	226819.674	.033	C	GPS - STATIC	2003	HRED
44 32 33.14466	95 08 49.66096	522477.638	226819.674	.033	C	ADJUSTMENT	2002	GPS1673
44 32 33.14466	95 08 49.66096	522477.639	226819.674	.033	C	GPS - STATIC	2001	HVEST

NAD83(1986)

Geodetic Position		Redwood County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 32 33.13897	95 08 49.65473	522478.089	226819.097	.033	C	GPS - STATIC	1992	HRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2325604.999	892496.190	1080810.141	16188867.823	.131	3	GPS - RTRN	2024	RTRN2024
2325605.054	892496.185	1080810.196	16188867.817	.131	3	GPS - OPUS	2021	GPSBM
2325605.068	892496.230	1080810.210	16188867.861	.131	3	GPS - RTRN	2021	RTRN2021
2325605.137	892496.224	1080810.280	16188867.854	.131	3	GPS - RTRN	2015	RTRN2015
2325605.100	892496.205	1080810.242	16188867.836	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2325605.052	892496.227	1080810.194	16188867.859	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2325605.082	892496.161	1080810.223	16188867.792	.033	C	ADJUSTMENT	2004	GPS2023
2325605.082	892496.161	1080810.223	16188867.792	.033	C	GPS - STATIC	2004	HREDW
2325605.082	892496.161	1080810.223	16188867.792	.033	C	ADJUSTMENT	2003	GPS1907
2325605.082	892496.161	1080810.223	16188867.792	.033	C	GPS - STATIC	2003	HRED
2325605.082	892496.161	1080810.223	16188867.792	.033	C	ADJUSTMENT	2002	GPS1673
2325605.082	892496.161	1080810.223	16188867.792	.033	C	GPS - STATIC	2001	HVEST

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2325605.525	892495.579	1080810.659	16188867.204	.033	C	GPS - STATIC	1992	HRED

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VENT-AJ8921-3W-15MAY2024.jpg	W	May 15, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VENT-AJ8921-2-15MAY2024.jpg		May 15, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VENT-AJ8921-1-15MAY2024.jpg		May 15, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: VESTA MNDT

NGS Name: VESTA

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8919](#) [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	9	112 N	38 W	443148.09	952523.28	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: VESTA 1998

1.5 MILES NORTH OF VESTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 56.4, THEN 0.1 MILE WEST ON 330TH STREET, 25.0 FEET SOUTH OF 330TH STREET, 11.0 FEET WEST-NORTHWEST OF A POWER POLE, 6.3 FEET NORTHWEST OF A WITNESS POST.

Station Pair: VOTE MNDT - REDWOOD, MN

Station Notes

FOUND CAP LOOSE. USE WITH CAUTION.
 THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1062.527	.016	2/1					VERTICAL ADJUSTMENT	2011	00000690	
1062.524	.016	2/1					VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1062.242	.262			972.416	.197	2011	GPS - RTRN	2015	RTRN2015	
1062.527				972.721	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3032	
1062.524	.131			972.816	.066	2007	GPS - STATIC	2014	HECHO	
1062.527				972.695	.012	2011	GPS - STATIC	2014	HECHO	
				972.721	.015	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1062.531	.131			972.957	.066	1996	GPS - STATIC	2011	HECHO	
				972.816	.016	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1062.531	.131			972.957	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1062.531	.131			972.957	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -89.819 12B = -89.826 09 = -89.698 03 = -89.603

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Project Info</u>			
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 31 48.08926	95 25 23.28228			450499.802	222302.211	.131	3	GPS - RTRN	2015	RTRN2015
44 31 48.08981	95 25 23.28196			450499.825	222302.267	.013		ADJUSTMENT	2014	GPS3032
44 31 48.08983	95 25 23.28209			450499.816	222302.269	.013	C	GPS - STATIC	2014	HECHO
44 31 48.08981	95 25 23.28196			450499.825	222302.267	.013		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>				<u>Redwood County</u>			<u>Project Info</u>			
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 31 48.08982	95 25 23.28279			450499.765	222302.268	.033	C	GPS - STATIC	2014	HECHO
44 31 48.08982	95 25 23.28279			450499.765	222302.268	.013		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Project Info</u>			
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 31 48.08916	95 25 23.28190			450499.829	222302.201	.033	C	GPS - STATIC	2011	HECHO
44 31 48.08916	95 25 23.28190			450499.829	222302.201	.033	C	ADJUSTMENT	2002	GPS1673
44 31 48.08916	95 25 23.28190			450499.831	222302.200	.033	C	GPS - STATIC	2001	HVEST

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2253576.199	889065.665	1008738.674	16186320.276	.131	3	GPS - RTRN	2015	RTRN2015
2253576.223	889065.720	1008738.699	16186320.331	.013		ADJUSTMENT	2014	GPS3032
2253576.214	889065.723	1008738.690	16186320.333	.013	C	GPS - STATIC	2014	HECHO
2253576.223	889065.720	1008738.699	16186320.331	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2253576.163	889065.722	1008738.639	16186320.334	.033	C	GPS - STATIC	2014	HECHO
2253576.163	889065.722	1008738.639	16186320.334	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2253576.226	889065.654	1008738.701	16186320.265	.033	C	GPS - STATIC	2011	HECHO
2253576.226	889065.654	1008738.701	16186320.265	.033	C	ADJUSTMENT	2002	GPS1673
2253576.226	889065.655	1008738.701	16186320.265	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VESTA-AJ8919-3S-27OCT2010.jpg	S	Oct 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VESTA-AJ8919-2-27OCT2010.jpg		Oct 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VESTA-AJ8919-1-27OCT2010.jpg		Oct 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: VESTA MNDT RESET

NGS Name: VESTA RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	112 N	38 W	443148.09	952523.28		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: VESTA 1998 2024

1.5 MILES NORTH OF VESTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA TO TRUNK HIGHWAY 19 MILEPOINT 56.4, THEN 0.1 MILE WEST ON 330TH STREET, 25.0 FEET SOUTH OF 330TH STREET, 11.0 FEET WEST-NORTHWEST OF A POWER POLE, 6.3 FEET NORTHWEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order</u>	<u>(/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
1062.258	.262			972.436	.197	2011	GPS - RTRN	2024	RTRN2024			

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>				<u>Redwood County</u>				<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
44 31 48.08981	95 25 23.28127	450499.875	222302.267	.131	3	GPS - RTRN	2024	RTRN2024					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>MN State Plane - South Zone</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>					
2253576.273	889065.719	1008738.749	16186320.329	.131	3	GPS - RTRN	2024	RTRN2024					

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VESTA_RESET-3S-14MAY2024.jpg	S	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VESTA_RESET-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VESTA_RESET-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: VOTE MNDT

NGS Name: VOTE

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8931](#) [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	9	112 N	38 W	443148.15	952457.52	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2024	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: VOTE 1998

1.5 MILES NORTH OF VESTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 56.4, THEN 0.25 MILE EAST ON 330TH STREET, 719.0 FEET EAST OF TRUNK HIGHWAY 19 ON A TOWNSHIP ROAD, 28.0 FEET SOUTH OF 330TH STREET, 11.1 FEET EAST-NORTHEAST OF A POWER POLE, 7.6 FEET EAST-NORTHEAST OF A WITNESS POST.

Station Pair: VESTA MNDT - REDWOOD, MN

Station Notes

FOUND CAP LOOSE. USE WITH CAUTION.
 THE DISK WAS RETURNED TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.977	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1057.977	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.780	.262		967.941	.197	2011	GPS - RTRN	2015	RTRN2015
1057.977			968.154	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3032
1057.977	.131		968.249	.066	2007	GPS - STATIC	2014	HECHO
1057.977			968.135	.012	2011	GPS - STATIC	2014	HECHO
			968.154	.016	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1057.970	.131		968.390	.066	1996	GPS - STATIC	2011	HECHO
			968.249	.017	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1057.970	.131		968.390	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673
1057.970	.131		968.390	.066	1996	GPS - STATIC	2001	HVEST

Geoid Separations(ft): GEOID18 = -89.836 12B = -89.839 09 = -89.711 03 = -89.619

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 31 48.14591	95 24 57.51732	452366.347	222303.703	.131	3	GPS - RTRN	2015	RTRN2015
44 31 48.14603	95 24 57.51687	452366.380	222303.715	.013		ADJUSTMENT	2014	GPS3032
44 31 48.14608	95 24 57.51696	452366.373	222303.720	.013	C	GPS - STATIC	2014	HECHO
44 31 48.14603	95 24 57.51687	452366.380	222303.715	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 31 48.14604	95 24 57.51770	452366.319	222303.716	.033	C	GPS - STATIC	2014	HECHO
44 31 48.14604	95 24 57.51770	452366.319	222303.716	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 31 48.14538	95 24 57.51680	452366.385	222303.649	.033	C	GPS - STATIC	2011	HECHO
44 31 48.14538	95 24 57.51680	452366.385	222303.649	.033	C	ADJUSTMENT	2002	GPS1673
44 31 48.14538	95 24 57.51680	452366.385	222303.650	.033	C	GPS - STATIC	2001	HVEST

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2255442.323	889038.992	1010604.578	16186270.725	.131	3	GPS - RTRN	2015	RTRN2015
2255442.356	889039.003	1010604.611	16186270.736	.013		ADJUSTMENT	2014	GPS3032
2255442.350	889039.009	1010604.605	16186270.741	.013	C	GPS - STATIC	2014	HECHO
2255442.356	889039.003	1010604.611	16186270.736	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2255442.296	889039.005	1010604.551	16186270.739	.033	C	GPS - STATIC	2014	HECHO
2255442.296	889039.005	1010604.551	16186270.739	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2255442.360	889038.937	1010604.614	16186270.670	.033	C	GPS - STATIC	2011	HECHO
2255442.360	889038.937	1010604.614	16186270.670	.033	C	ADJUSTMENT	2002	GPS1673
2255442.360	889038.937	1010604.614	16186270.670	.033	C	GPS - STATIC	2001	HVEST

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VOTE-AJ8931-3S-27OCT2010.jpg	S	Oct 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VOTE-AJ8931-2-27OCT2010.jpg		Oct 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VOTE-AJ8931-1-27OCT2010.jpg		Oct 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: VOTE MNDT RESET

NGS Name: VOTE RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: NGS Quad / Sta Num : 44095133/ USGS Quad: ECHO	Get Map
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<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	9	112 N	38 W	443148.15	952457.52		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2024	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2024) Stamping: VOTE 1998 2024

1.5 MILES NORTH OF VESTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, TO TRUNK HIGHWAY 19 MILEPOINT 56.4, THEN 0.25 MILE EAST ON 330TH STREET, 719.0 FEET EAST OF TRUNK HIGHWAY 19 ON A TOWNSHIP ROAD, 28.0 FEET SOUTH OF 330TH STREET, 11.1 FEET EAST-NORTHEAST OF A POWER POLE, 7.6 FEET EAST-NORTHEAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
1057.711	.262			967.875	.197	2011	GPS - RTRN	2024	RTRN2024		

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>		<u>Redwood County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 31 48.14618	95 24 57.51751	452366.333	222303.730	.131	3	GPS - RTRN	2024	RTRN2024

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>				
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2255442.310	889039.019	1010604.565	16186270.752	.131	3	GPS - RTRN	2024	RTRN2024		

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VOTE_RESET-3S-14MAY2024.jpg	S	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VOTE_RESET-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/VOTE_RESET-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: X 126

NGS Name: X 126

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0294](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	1	112 N	35 W	443224.00	950021.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1978	DESTROYED	Horz=NO Vert=NO	NO	4668		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	BENCH MARK DISK	NGS

Description: (2009) Stamping: X-126 1934

1.0 MILE SOUTHWEST OF MORTON, 0.8 MILE SOUTHWEST ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 19 IN THE SOUTHWEST END OF TOWN IN MORTON.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
865.671	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
865.244	.033	3					VERTICAL CONTROL SURVEY	1965	USGS-VERT	
865.244	.007	1					VERTICAL CONTROL SURVEY	1934	L73 MINN	

Geoid Separations(ft): GEOID18 = -90.712 12B = -90.705 09 = -90.597 03 = -90.469

* No Horizontal Positions in the Database *



Mn/DOT Name: Y 126

NGS Name: Y 126

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0295](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	34	113 N	35 W	443238.00	950217.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2015	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	BENCH MARK DISK	NGS

Description: (2009) Stamping: Y-126 1934

2.7 MILES WEST OF MORTON, 2.4 MILES WEST ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 71 AND TRUNK HIGHWAY 19 IN THE SOUTHWEST END OF TOWN IN MORTON. IN THE NORTHEAST HEADWALL OF A TRUNK HIGHWAY 71 CULVERT.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
922.846	.016	2/0						VERTICAL ADJUSTMENT		1991	00000025		

<u>NGVD29</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
922.413	.007	1						VERTICAL CONTROL SURVEY		1935	L73 MINN		

Geoid Separations(ft): GEOID18 = -90.640 12B = -90.636 09 = -90.515 03 = -90.397

* No Horizontal Positions in the Database *



Mn/DOT Name: YARD

NGS Name: YARD

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DQ3476](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	1	112 N	35 W	443224.12	950023.51	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2015	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 22 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2015) Stamping: YARD 2015

4.5 MILES EAST OF REDWOOD FALLS, 4.7 MILES EAST ALONG TRUNK HIGHWAY 19/TRUNK HIGHWAY 71 FROM THE JUNCTION OF TRUNK HIGHWAY 19, TRUNK HIGHWAY 71, AND TRUNK HIGHWAY 67 IN REDWOOD FALLS, AT TRUNK HIGHWAY 19 MILEPOINT 77.7, 56.2 FEET SOUTHEAST OF TRUNK HIGHWAY 19, 71.8 FEET SOUTHWEST OF COUNTY ROAD 2, 29.6 FEET SOUTH OF A LIGHT POLE, 1.5 FEET NORTHEAST OF A WITNESS POST.

Station Pair: CAMP - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
865.510	.016	2/1					VERTICAL ADJUSTMENT	2017	00000898	
865.507	.016	2/1					VERTICAL CONTROL SURVEY	2016	VBORN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
865.549	.262			774.838	.197	2011	GPS - RTRN	2024	RTRN2024	
865.507				774.808	.020	2011	HORIZONTAL ADJUSTMENT	2016	GPS3150	
865.507	.131			775.015	.066	1996	GPS - STATIC	2016	HBORN	
865.507				774.808	.020	2011	GPS - STATIC	2016	HBORN	
865.494	.262			774.792	.197	2011	GPS - RTRN	2015	RTRN2015	

Geoid Separations(ft): GEOID18 = -90.712 12B = -90.702 09 = -90.597 03 = -90.469

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 24.12187	95 00 23.51300			559140.045	225975.972	.131	3	GPS - RTRN	2024	RTRN2024
44 32 24.12187	95 00 23.51242			559140.087	225975.972	.016		ADJUSTMENT	2016	GPS3150
44 32 24.12187	95 00 23.51242			559140.087	225975.972	.016	C	GPS - STATIC	2016	HBORN
44 32 24.12135	95 00 23.51249			559140.082	225975.919	.131	3	GPS - RTRN	2015	RTRN2015

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 24.12141	95 00 23.51268			559140.068	225975.925	.033	C	GPS - STATIC	2016	HBORN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2362246.048	891099.693			1117431.782	16187022.302	.131	3	GPS - RTRN	2024	RTRN2024
2362246.090	891099.692			1117431.824	16187022.301	.016		ADJUSTMENT	2016	GPS3150
2362246.090	891099.692			1117431.824	16187022.301	.016	C	GPS - STATIC	2016	HBORN
2362246.084	891099.639			1117431.818	16187022.248	.131	3	GPS - RTRN	2015	RTRN2015

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2362246.070	891099.646			1117431.804	16187022.254	.033	C	GPS - STATIC	2016	HBORN



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YARD-DQ3476-3SE-22MAY2024.jpg	SE	May 22, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YARD-DQ3476-2-22MAY2024.jpg		May 22, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YARD-DQ3476-1-22MAY2024.jpg		May 22, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: YELL MNDT

NGS Name: YELL

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [AJ8932](#) [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	3	112 N	38 W	443228.70	952327.64	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1998	2010	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2009) Stamping: YELL 1998

4.0 MILES NORTHEAST OF VESTA, 3.75 MILES NORTH AND EAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 58.65, 170.5 FEET SOUTH OF TRUNK HIGHWAY 19, 131.8 FEET SOUTHEAST OF A POWER POLE, 170.5 FEET SOUTH OF TRUNK HIGHWAY 19, 85.0 FEET SOUTH OF THE INTERSECTION OF TRUNK HIGHWAY 19 AND A TOWNSHIP ROAD, 22.9 FEET WEST OF FAIRVIEW AVENUE, 4.4 FEET NORTH OF A WITNESS POST.

Station Notes

11-2-2010 FOUND THE CAP LOOSE, RESET ON THIS DATE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1060.460	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690	
1060.460	.016	2/1				VERTICAL CONTROL SURVEY	2008	VTLIN	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
			970.579	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
			970.677	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1060.497	.131		970.815	.066	1996	HORIZONTAL ADJUSTMENT	2004	GPS2023	
1060.497	.131		970.815	.066	1996	GPS - STATIC	2004	HREDW	
1060.464	.131		970.815	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1673	
1060.464	.131		970.815	.066	1996	GPS - STATIC	2001	HVEST	

Geoid Separations(ft): GEOID18 = -89.888 12B = -89.892 09 = -89.764 03 = -89.675

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 28.70165	95 23 27.63941	458885.428	226397.465	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 28.70166	95 23 27.64024	458885.368	226397.466	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Redwood County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 32 28.70101	95 23 27.63925	458885.440	226397.400	.033	C	ADJUSTMENT	2004	GPS2023
44 32 28.70101	95 23 27.63925	458885.440	226397.400	.033	C	GPS - STATIC	2004	HREDW
44 32 28.70101	95 23 27.63925	458885.440	226397.400	.033	C	ADJUSTMENT	2002	GPS1673
44 32 28.70101	95 23 27.63925	458885.440	226397.402	.033	C	GPS - STATIC	2001	HVEST



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2262021.625	893033.417	1017233.193	16190184.682	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2262021.565	893033.419	1017233.133	16190184.685	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2262021.635	893033.352	1017233.203	16190184.617	.033	C	ADJUSTMENT	2004	GPS2023
2262021.635	893033.352	1017233.203	16190184.617	.033	C	GPS - STATIC	2004	HREDW
2262021.635	893033.352	1017233.203	16190184.617	.033	C	ADJUSTMENT	2002	GPS1673
2262021.635	893033.352	1017233.203	16190184.617	.033	C	GPS - STATIC	2001	HVEST

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YELL-AJ8932-3W-19AUG2003.jpg	W	Aug 19, 2003
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YELL-AJ8932-2-19AUG2003.jpg		Aug 19, 2003
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YELL-AJ8932-1-19AUG2003.jpg		Aug 19, 2003

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: YELL MNDT RESET

NGS Name: YELL RESET

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [DN9321](#) [Get Map](#)
 NGS Quad / Sta Num : 44095133/
 USGS Quad: ECHO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	3	112 N	38 W	443228.70	952327.64	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) Stamping: YELL 1998 2010

4.0 MILES NORTHEAST OF VESTA, 3.75 MILES NORTHEAST ALONG TRUNK HIGHWAY 19 FROM THE JUNCTION OF TRUNK HIGHWAY 19 AND COUNTY ROAD 30 IN VESTA, AT TRUNK HIGHWAY 19 MILEPOINT 58.65, 170.5 FEET SOUTH OF TRUNK HIGHWAY 19, 131.8 FEET SOUTHEAST OF A POWER-POLE, 22.9 FEET WEST OF FAIRVIEW AVENUE, 4.4 FEET NORTH-NORTHWEST OF A WITNESS POST.

Station Pair: POSEN MNDT - REDWOOD, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1060.542	.016	2/1					VERTICAL ADJUSTMENT	2013	00000797	
1060.542	.016	2/1					VERTICAL CONTROL SURVEY	2011	VECHO	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1060.467	.262			970.579	.197	2011	GPS - RTRN	2024	RTRN2024	
1060.378	.262			970.487	.197	2011	GPS - RTRN	2015	RTRN2015	
1060.542				970.628	.009	2011	HORIZONTAL ADJUSTMENT	2014	GPS3032	
1060.510	.131			970.717	.066	2007	GPS - STATIC	2014	HECHO	
1060.542				970.628	.009	2011	GPS - STATIC	2014	HECHO	
1060.497	.131			970.848	.066	1996	GPS - STATIC	2011	HECHO	

Geoid Separations(ft): GEOID18 = -89.888 12B = -89.892 09 = -89.764 03 = -89.675

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 28.70176	95 23 27.63863			458885.485	226397.476	.131	3	GPS - RTRN	2024	RTRN2024
44 32 28.70196	95 23 27.63940			458885.429	226397.496	.131	3	GPS - RTRN	2015	RTRN2015
44 32 28.70152	95 23 27.63909			458885.452	226397.452	.010		ADJUSTMENT	2014	GPS3032
44 32 28.70152	95 23 27.63909			458885.452	226397.452	.010	C	GPS - STATIC	2014	HECHO

<u>NAD83(2007)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 28.70163	95 23 27.63991			458885.392	226397.463	.033	C	GPS - STATIC	2014	HECHO

<u>NAD83(1996)</u>				<u>Redwood County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
44 32 28.70099	95 23 27.63901			458885.457	226397.398	.033	C	GPS - STATIC	2011	HECHO



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2262021.681	893033.427	1017233.250	16190184.691	.131	3	GPS - RTRN	2024	RTRN2024
2262021.626	893033.448	1017233.195	16190184.713	.131	3	GPS - RTRN	2015	RTRN2015
2262021.648	893033.403	1017233.216	16190184.668	.010		ADJUSTMENT	2014	GPS3032
2262021.648	893033.403	1017233.216	16190184.668	.010	C	GPS - STATIC	2014	HECHO

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2262021.588	893033.415	1017233.157	16190184.681	.033	C	GPS - STATIC	2014	HECHO

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15				Project Info		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2262021.652	893033.349	1017233.220	16190184.614	.033	C	GPS - STATIC	2011	HECHO

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YELL_RESET-DN9321-3W-14MAY2024.jpg	W	May 14, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YELL_RESET-DN9321-2-14MAY2024.jpg		May 14, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/redwood/YELL_RESET-DN9321-1-14MAY2024.jpg		May 14, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: Z 126

NGS Name: Z 126

County: REDWOOD, MN (Sheet 1)

NGS ACRN: [PQ0296](#) [Get Map](#)
 NGS Quad / Sta Num : 44095122/
 USGS Quad: REDWOOD FALLS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	33	113 N	35 W	443230.00	950431.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2015	DESTROYED	Horz=NO Vert=NO	NO			STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	BENCH MARK DISK	NGS

Description: (2009) **Stamping:** Z-126 1934

IN REDWOOD FALLS, 0.15 MILE EAST ALONG TRUNK HIGHWAY 71 FROM THE JUNCTION OF COUNTY ROAD 71 AND COUNTY ROAD 1 IN REDWOOD FALLS, 60.0 FEET NORTH OF TRUNK HIGHWAY 71, 10.0 FEET EAST OF A PRIVATE ROAD NORTH.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1018.305	.016	2/0						VERTICAL ADJUSTMENT		1991	00000025		

<u>NGVD29</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1017.875	.007	1						VERTICAL CONTROL SURVEY		1935	L73 MINN		

Geoid Separations(ft): GEOID18 = -90.561 12B = -90.558 09 = -90.433 03 = -90.321

* No Horizontal Positions in the Database *