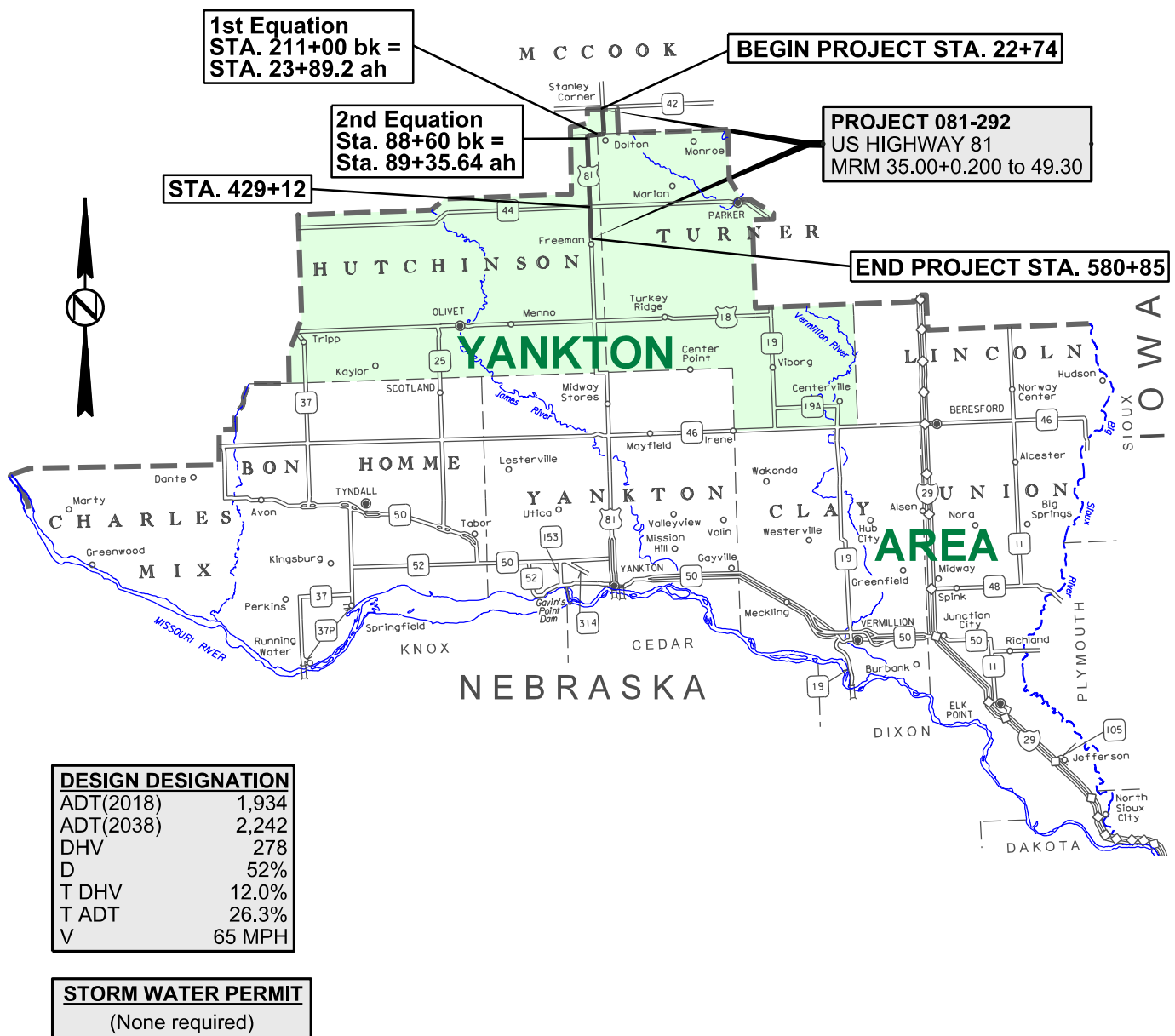


081-292
US HIGHWAY 81
HUTCHINSON, MCCOOK & TURNER COUNTIES
SPOT COLD MILLING ASPHALT CONCRETE &
SPOT ASPHALT CONCRETE RESURFACING OF SHOULDERS
LENGTH: 14.100 MILES
PCN I5HQ



081-292
HUTCHINSON, McCOOK & TURNER COUNTIES

INDEX OF SHEETS

Sheet 1	Layout Map
Sheet 2	Index of Sheets
Sheet 3	Estimate of Quantities and Plan Notes
Sheets 4 - 7	Plan Notes
Sheet 8	Typical Sections
Sheets 9 – 14	Traffic Control

081-292
HUTCHINSON, McCOOK & TURNER COUNTIES
ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	42	CuYd
260E1030	Base Course, Salvaged	84.6	Ton
320E1200	Asphalt Concrete Composite	2,540.0	Ton
332E0010	Cold Milling Asphalt Concrete	15,257	SqYd
634E0010	Flagging	150.0	Hour
634E0020	Pilot Car	75.0	Hour
634E0110	Traffic Control Signs	315.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <http://www.sddot.com/resources/Manuals/EnvironProcManual.pdf>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

HUTCHINSON, McCOOK & TURNER COUNTIES**COMMITMENT E: STORM WATER**

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating No Dumping Allowed.
2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

Cost associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

HUTCHINSON, McCOOK & TURNER COUNTIES**COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES (CONTINUED)**

The Contractor will provide ARC with the following: a topographical map or aerial view of which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow 30 Days from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease, and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

TABLE OF SPOT REPAIR OF SHOULDERS

Sta.	to	Sta.	Section	LOCATION	LENGTH FT	TOP WIDTH FT	BOTTOM WIDTH FT	COLD MILLING ASPHALT CONCRETE	ASPHALT CONCRETE
								(3" Depth)	COMPOSITE
								SqYd	TON
348+09	to	333+46	3rd Sta.	NB Shoulder	1463	6	7.5	1219	203
321+32	to	298+75	3rd Sta.	NB Shoulder	2257	6	7.5	1881	313
142+00	to	121+50	3rd Sta.	NB Shoulder	2050	6	7.5	1708	284
91+14	to	89+24	3rd Sta.	NB Shoulder	190	6	7.5	158	26
88+60	to	55+37	2nd Sta.	NB Shoulder	3323	6	7.5	2769	461
164+55	to	172+39	1st Sta.	SB Shoulder	784	6	7.5	653	109
173+52	to	180+93	1st Sta.	SB Shoulder	741	6	7.5	618	103
186+67	to	191+40	1st Sta.	SB Shoulder	473	6	7.5	394	66
53+94	to	81+70	2nd Sta.	SB Shoulder	2776	6	7.5	2313	385
331+01	to	364+51	3rd Sta.	SB Shoulder	3350	6	7.5	2792	465
392+37	to	401+39	3rd Sta.	SB Shoulder	902	6	7.5	752	125
TOTALS:								15257	2540

These quantities and locations are estimates only. Final locations and dimensions will be marked by the Engineer and are subject to change.

081-292
HUTCHINSON, McCOOK & TURNER COUNTIES

SHOULDER WORK

Prior to construction, Department of Transportation Maintenance Forces will spray the shoulders to kill existing vegetation. It is the Contractor's responsibility to notify the State a minimum of thirty days prior to starting work on the surface of the highway. The State assumes no responsibility for the effectiveness of the herbicide applied.

Vegetation and accumulated material on or adjacent to the existing roadway edge will be removed by the Contractor, to the satisfaction of the Engineer prior to cold milling. Along the repair areas, a 4"± depth of topsoil will be bladed down the respective inslopes and left in a windrow 1'± from the shoulder. Following completion of surfacing operations, topsoil will be bladed back up the inslope to the point indicated on the typical section. Any remaining windrow of accumulated material will be spread evenly on the inslope adjacent to the asphalt shoulder to the satisfaction of the Engineer.

Cost for shoulder work including removal and replacement of topsoil will be incidental to the contract unit prices for the various items. Separate measurement and payment will not be made.

COLD MILLING ASPHALT CONCRETE (INCLUDING 1"± BASE COURSE)

The requirements for the traveling or fixed string line in Section 332.3 B of the Specifications will be waived.

Material obtained from cold milling may be used as Base Course, Salvaged without further testing.

Cold milling operations ahead of asphalt concrete operations will be limited by particular job conditions and will be subject to approval of the Engineer. In no case will cold milling operations ahead of asphalt concrete operations exceed three calendar days. Care should be taken to maintain drainage of all milled areas. In the event of precipitation, the Contractor will recompact the base material to the satisfaction of the Engineer at no cost to the State.

Compaction of the base material will be required in the milled areas prior to the placement of Asphalt Concrete Composite. Cost for this work will be incidental to the contract unit prices for the various items. Compaction will be to the satisfaction of the Engineer.

Material not used on the project as Base Course, Salvaged will be the property of the Contractor.

SURFACING THICKNESS DIMENSIONS

At those locations where material must be placed to achieve a required elevation, plans tonnage may be varied to achieve the required elevation.

EXCAVATION OF UNSTABLE MATERIAL

Included in the Estimate of Quantities are 3 cubic yards per mile of Unclassified Excavation, Digouts for the necessary removal of unstable material.

Backfill will be paid for at the contract unit price per ton for Base Course, Salvaged.

BASE COURSE, SALVAGED

Base Course, Salvaged will be obtained from the milled material on the project and may be used without further testing. Compaction of the Base Course, Salvaged for the Digouts will be to the satisfaction of the Engineer.

All other requirements of the Specifications for Base Course, Salvaged will apply.

Included in the Estimate of Quantities are 6 tons per mile of Base Course, Salvaged for backfill of the Unclassified Excavation, Digouts.

If necessary, water will be added to the Base Course, Salvaged to bring the material to 6%± moisture at the time of compaction unless otherwise directed by the Engineer. Water, if required, will be incidental to the contract unit price per ton for Base Course, Salvaged.

GENERAL MAINTENANCE OF TRAFFIC

Sufficient traffic control devices have been included in these plans to sign one three mile workspace. If the Contractor elects to work on additional sites simultaneously, the cost for additional traffic control devices will be incidental to the contract unit price per square foot for Traffic Control Signs.

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

HUTCHINSON, McCOOK & TURNER COUNTIES**PERMANENT PAVEMENT MARKING**

The Contractor will conduct operations so as not to disturb the existing durable pavement marking. Any durable pavement marking disturbed/damaged due to the Contractor's operations will be replaced by the Contractor at no expense to the State. Repair of the durable pavement marking will be completed within 3 days of the final surfacing work.

RUMBLE STRIPS IN PCCP

The Contractor will conduct operations so as not to disturb the existing rumble strips. Material which accumulates in the rumble strip due to the Contractor's operations will be removed at no expense to the State.

SHEETING FOR TRAFFIC CONTROL SIGNS

All fluorescent orange background material on traffic control signs, all temporary delineators, and all temporary STOP (R1-1), YIELD (R1-2), DO NOT ENTER (R5-1), and WRONG WAY (R5-1a) signs will conform to the requirements of ASTM D4956 Type IX or XI. All other traffic control signs and background colors will conform to the requirements of ASTM D4956 Type IV.

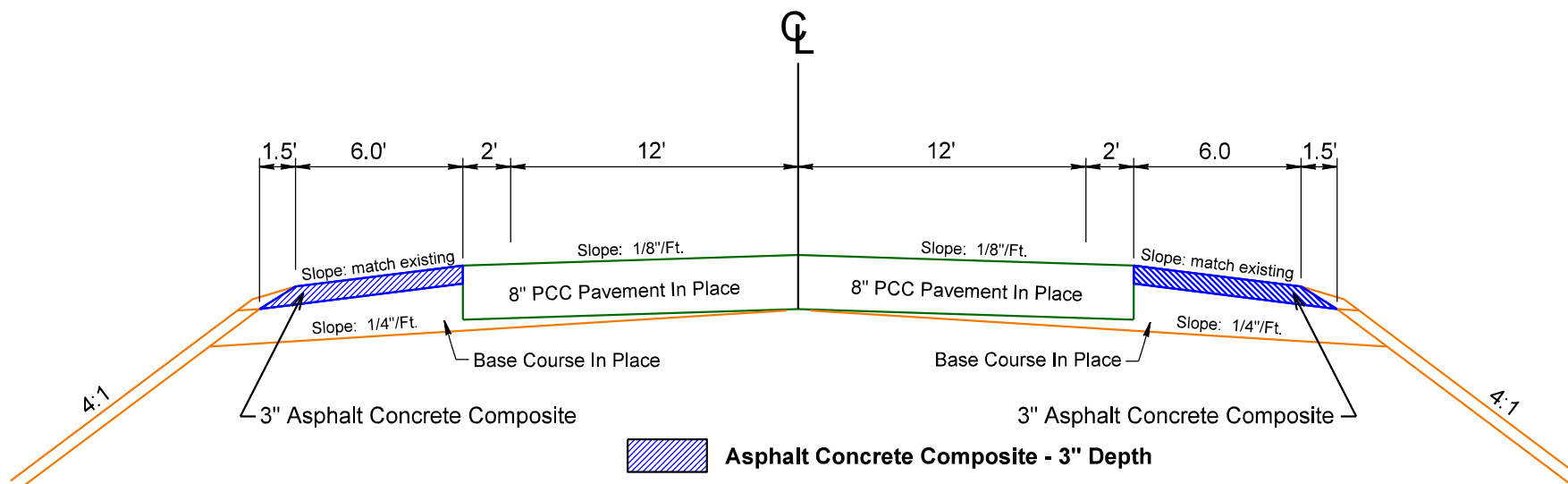
ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-17	SHOULDER DROP-OFF (symbol)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W21-5	SHOULDER WORK	2	48" x 48"	16.0	32.0
W21-5a	LEFT or RIGHT SHOULDER CLOSED	2	48" x 48"	16.0	32.0
W21-5b	LEFT or RIGHT SHOULDER CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT 3 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 11 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 14 MILES	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		315.0			

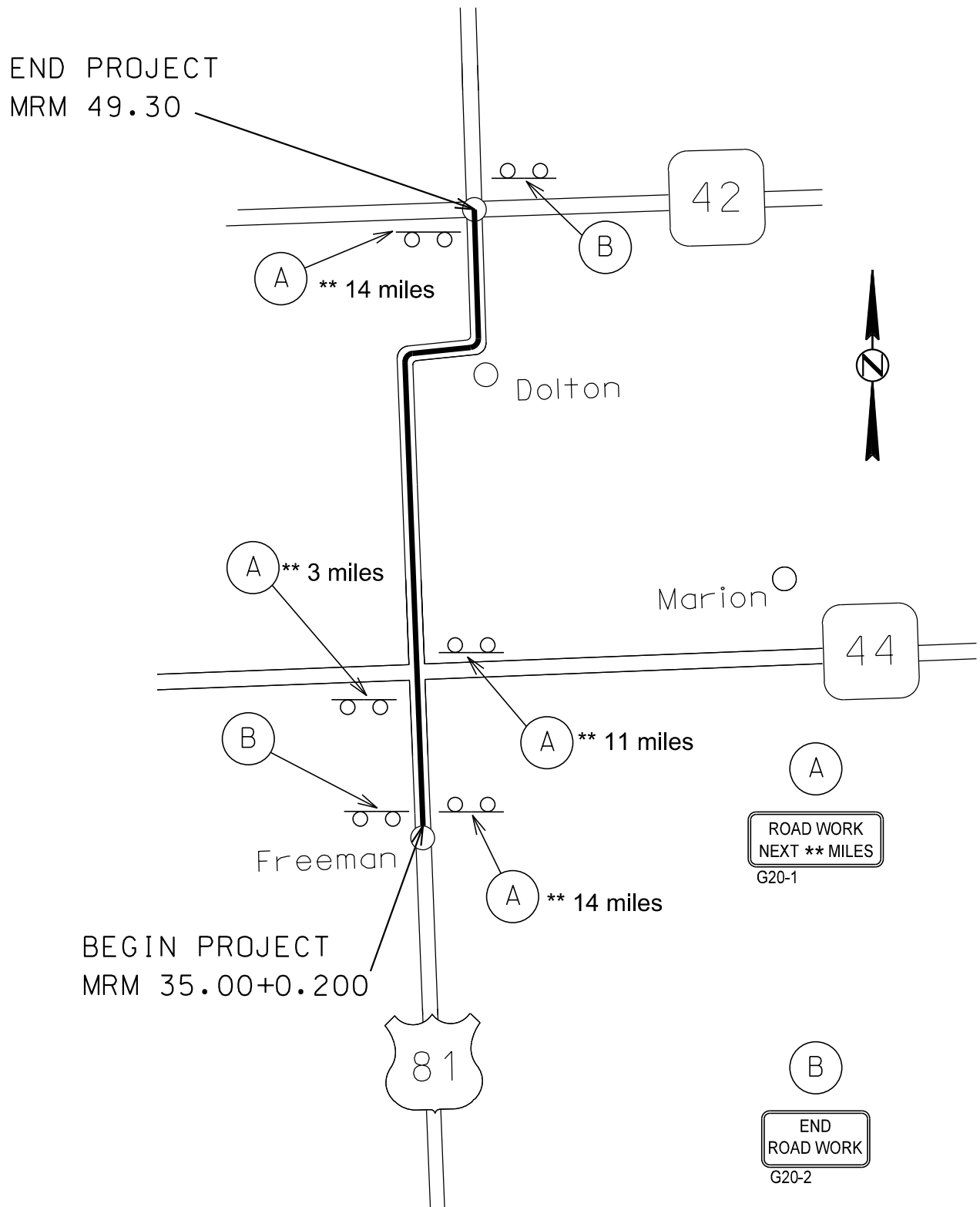
**Northbound and Southbound shoulders shown.
Some areas require only one shoulder to be repaired per location.**



081-292
HUTCHINSON, MCCOOK & TURNER COUNTIES



081-292
HUTCHINSON, McCOOK & TURNER COUNTIES
FIXED LOCATION SIGNS



081-292
HUTCHINSON, McCOOK & TURNER COUNTIES

Diagram illustrating traffic control setup for shoulder work on a two-lane road. The setup includes a 'ROAD WORK AHEAD' sign (W20-1) and a 'SHOULDER WORK' sign (W21-5) placed at distance A from the work area. An 'END ROAD WORK' sign (G20-2) is placed at distance C from the work area. The work area is labeled 'WORK SPACE'.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50
55	750	660	50
60 - 65	1000	780	50

■ Channelizing Device

END ROAD WORK
G20-2

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The SHOULDER WORK sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

Diagram illustrating traffic control setup for shoulder work on a divided roadway. It includes 'SHOULDER WORK' signs (W21-5) and a 'ROAD WORK AHEAD' sign (W20-1) placed at distance A from the work area. An 'END ROAD WORK' sign (G20-2) is placed at distance C from the work area. The work area is labeled 'WORK SPACE'.

Published Date: 1st Qtr. 2019

SDOT

**GUIDES FOR TRAFFIC CONTROL DEVICES
WORK ON SHOULDERS**

June 3, 2016

PLATE NUMBER
634.03

Sheet 1 of 1

081-292
HUTCHINSON, McCOOK & TURNER COUNTIES

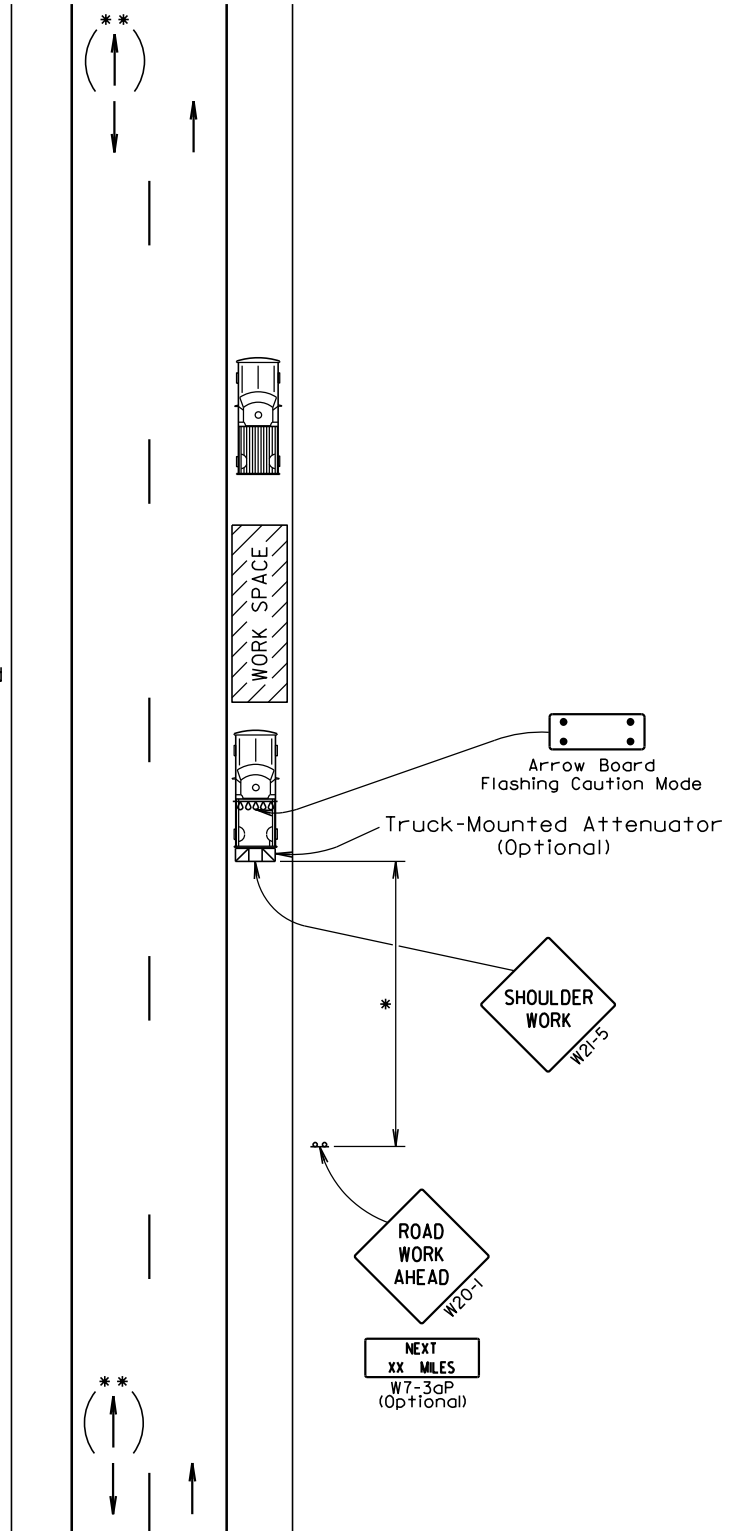
* In situations where multiple work locations in a limited distance make it practical to place stationary signs, the distance between the advance warning sign and the work should not exceed 5 miles.

The ROAD WORK NEXT xx MILES sign may be used instead of the ROAD WORK AHEAD sign if the work locations occur over a distance of more than 2 miles.

Arrow board is required for intermittently and continuously moving mobile operations when work exceeds 1 hour.

** If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

In situations where the distance between the advance warning signs and the work is 2 miles to 5 miles, a Supplemental Distance plaque should be used with the ROAD WORK AHEAD sign.



September 22, 2014

Published Date: 1st Qtr. 2019

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**GUIDES FOR TRAFFIC CONTROL DEVICES
MOBILE OPERATIONS ON SHOULDER**

PLATE NUMBER
634.04

Sheet 1 of 1

081-292
HUTCHINSON, McCOOK & TURNER COUNTIES

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45	500	25
50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

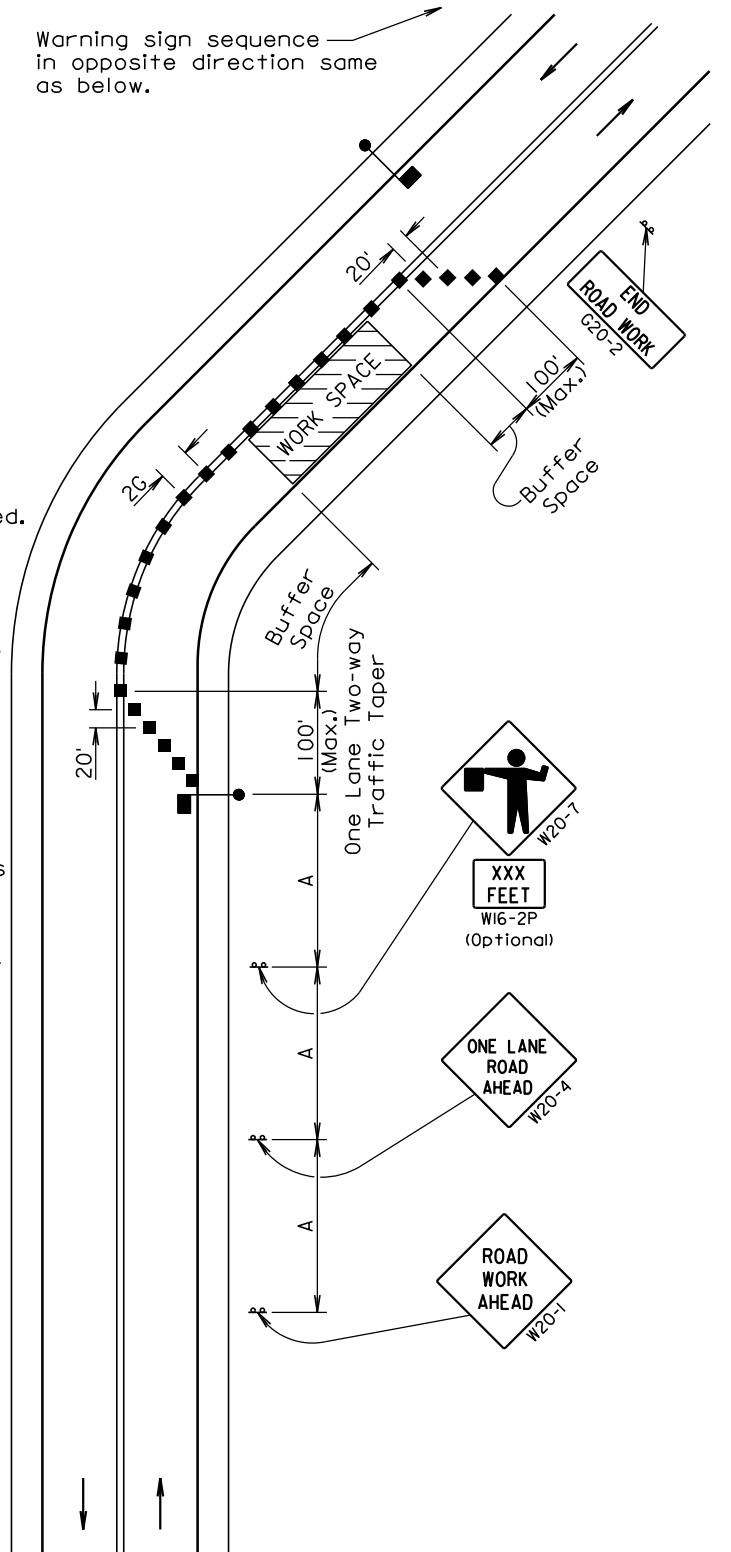
G20-2
END ROAD WORK

Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.



June 3, 2016

Published Date: 1st Qtr. 2019

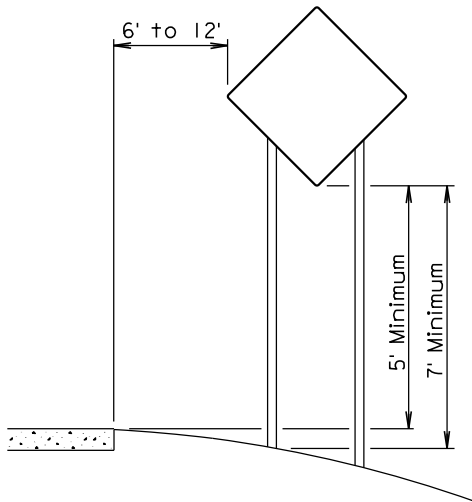
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**GUIDES FOR TRAFFIC CONTROL DEVICES
 LANE CLOSURE WITH FLAGGER PROVIDED**

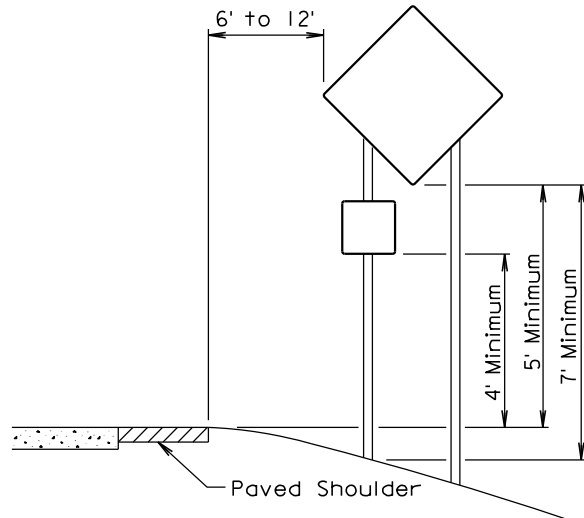
PLATE NUMBER
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Sheet 1 of 1

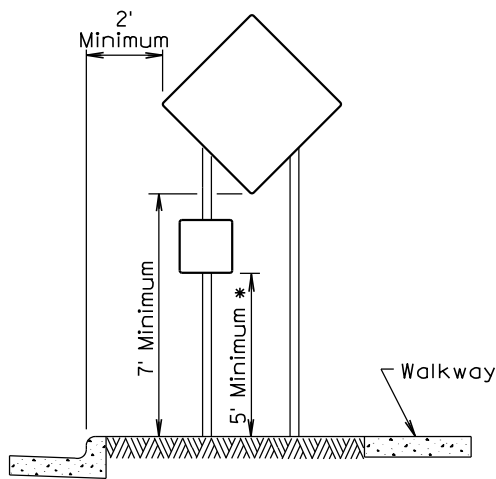
081-292
HUTCHINSON, McCOOK & TURNER COUNTIES



RURAL DISTRICT

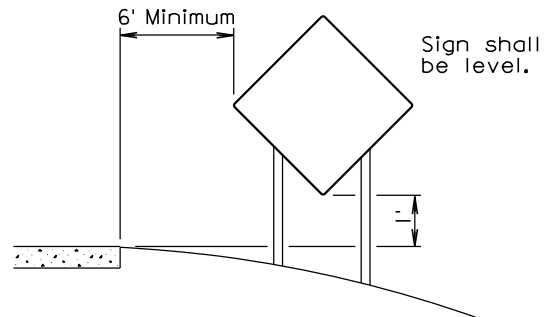


RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



URBAN DISTRICT

* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.



RURAL DISTRICT
3 DAY MAXIMUM

(Not applicable to regulatory signs)

September 22, 2014

Published Date: 1st Qtr. 2019

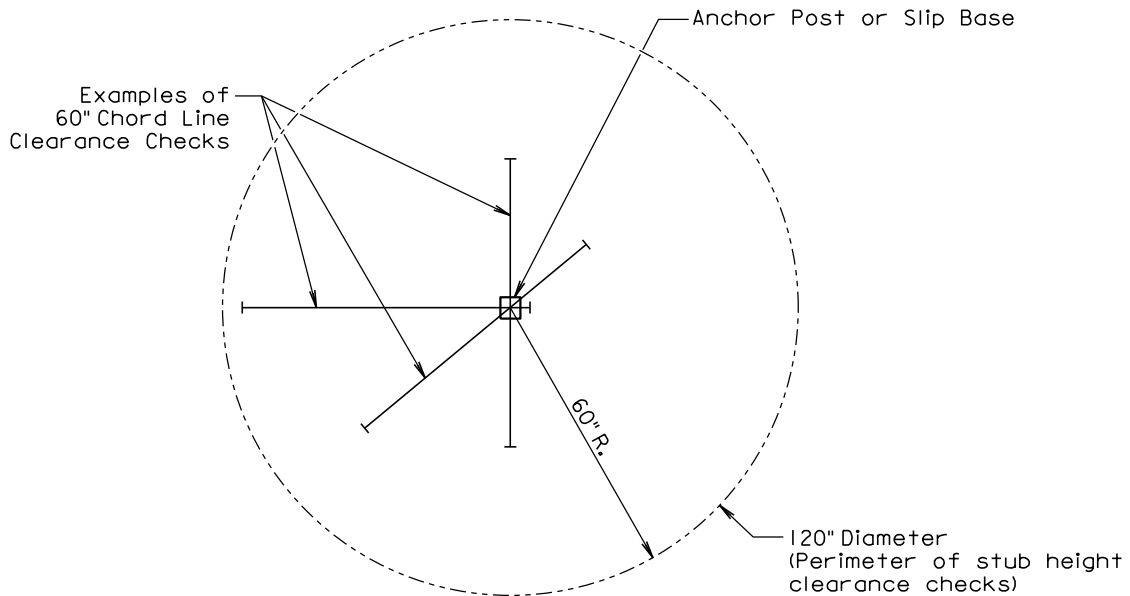
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CRASHWORTHY SIGN SUPPORTS
(Typical Construction Signing)

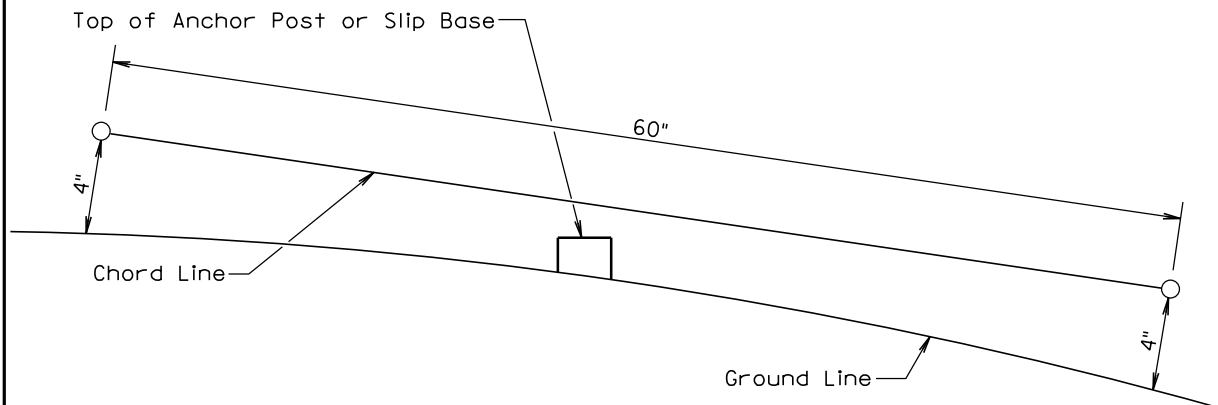
PLATE NUMBER
634.85

Sheet 1 of 1

081-292
HUTCHINSON, McCOOK & TURNER COUNTIES



PLAN VIEW
 (Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 1st Qtr. 2019

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BREAKAWAY SUPPORT STUB CLEARANCE

PLATE NUMBER
634.99

Sheet 1 of 1