

THOMPSON FALLS

MONTANA

GENUINE IN NATURE

WAYFINDING MASTER PLAN

JANUARY 2024



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ACKNOWLEDGMENTS

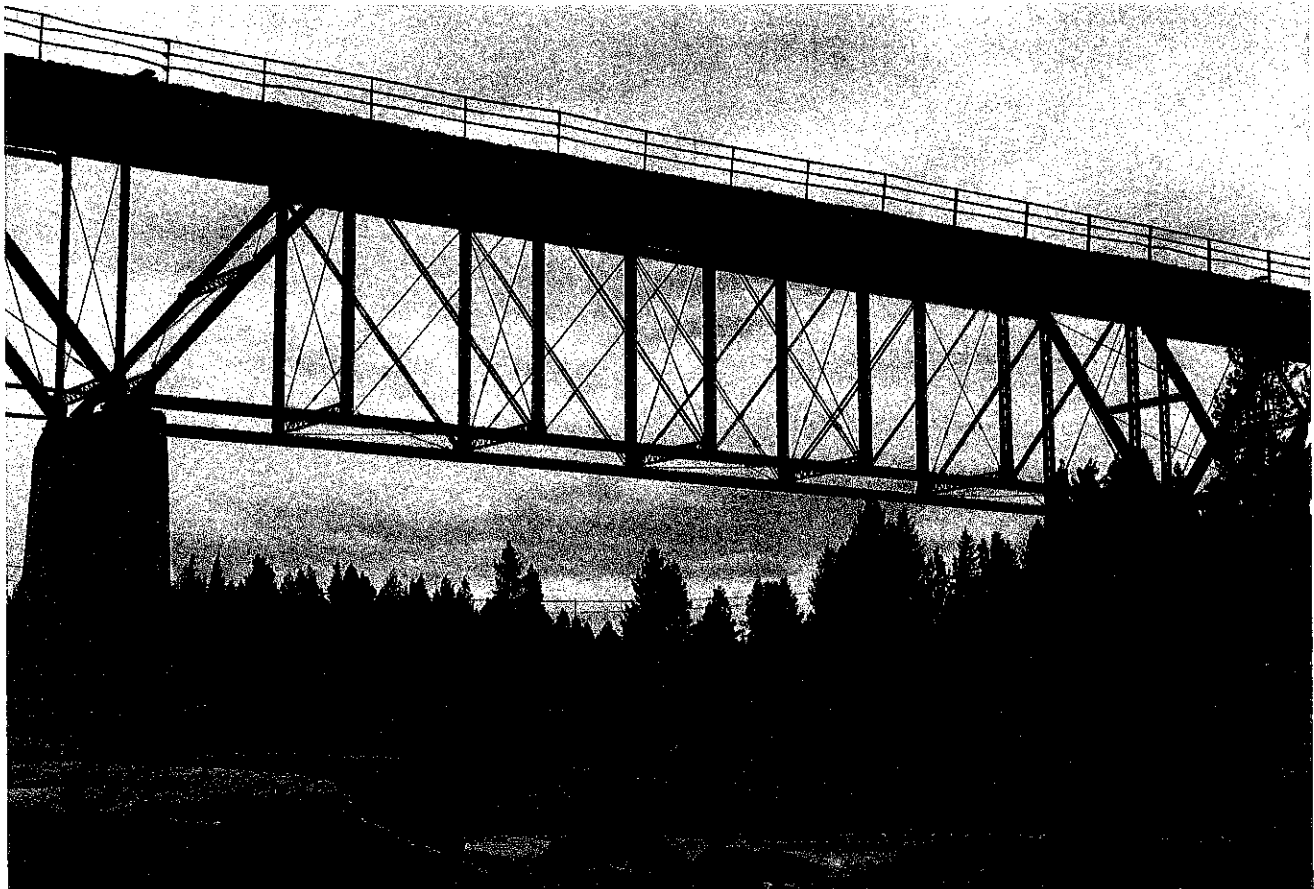
CRITICAL PARTNERS & CONTRIBUTORS

City of Thompson Falls
Heart of the Rockies Initiative
Kaniksu Land Trust
Limberlost Brewing Company
Thompson Falls Chamber of Commerce
Thompson Falls Community Trails
Thompson Falls Main Street Association
Thompson Falls Public Library
Sanders County
Sanders County Community Development
Sanders County MSU Extension



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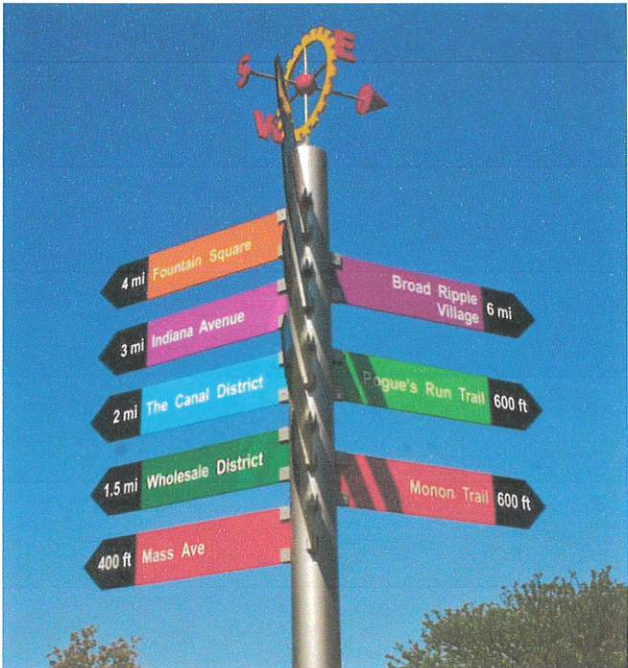
BACKGROUND



WHAT IS WAYFINDING?

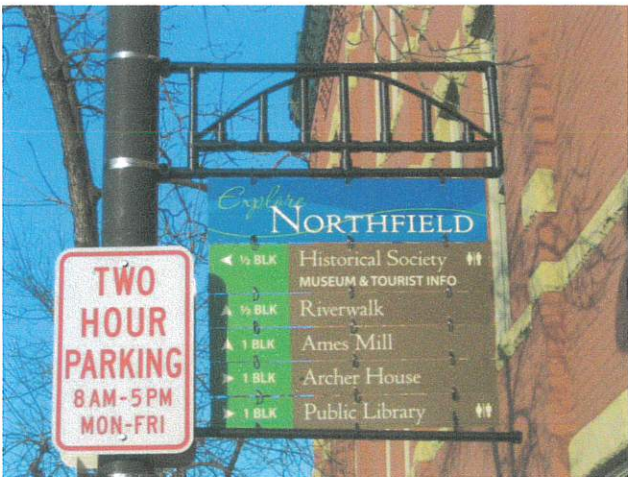
INTRODUCTION

Wayfinding signs are designed to provide clear guidance on directions, important landmarks, and points of interest, making it easier for residents and visitors to navigate to their intended destinations. This not only reduces confusion, errors, and accidents but also improves the overall user experience and ensures a safer environment for everyone. Implementing a community wayfinding plan has multiple benefits including promoting local businesses and recreational assets while fostering a sense of community and pride by showcasing distinctive landmarks and attractions.

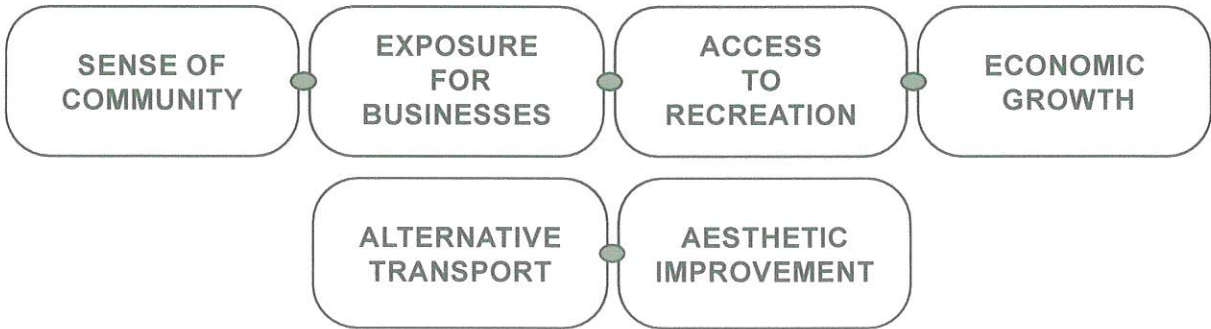


WAYFINDING PROCESS

The Wayfinding Plan summarizes the feedback received from the public and partners, which influenced the suggestions for sign design and placement. It includes specifications for developing and constructing new signs, prioritized locations for their installation, and estimated costs associated with sign projects and their construction. This effort utilized map data, community-generated points of interest, and the priorities highlighted by various past public-engagement efforts.



Above: Examples of Wayfinding Signage. (Source: www.pinterest.com)

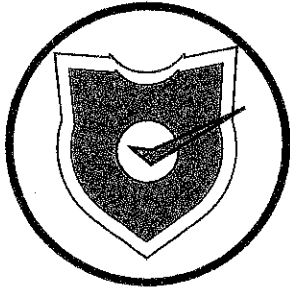


WAYFINDING GOALS

To develop effective, implementable wayfinding and signage plan to direct the enthusiasm of both locals and visitors. Fostering a sense of community that brings advantages through increased exposure to businesses, recreation areas, opportunities for economic growth, opportunities for alternative modes of transportation, and aesthetic benefits. Based on feedback from the community survey and public open house, the goals of the wayfinding and signage plan include:

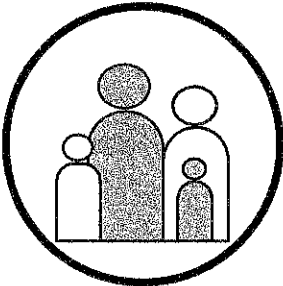
SAFETY

Promote safety by reducing confusion and the potential for accidents. Improve pedestrian and bike safety along the downtown corridor.



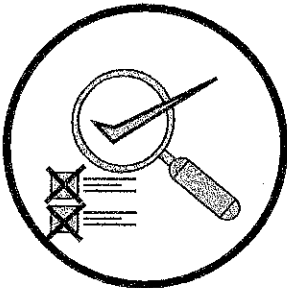
IDENTITY

Utilize the existing Branding standards to create visual identity for the community, reinforcing its unique character and personality.



ACCESSIBILITY

Enhance the accessibility of the community for residents, visitors, and seasonal tourists by providing clear and intuitive navigation to promote use of amenities and reduce seasonal traffic impacts.



COMPLIANCE

Ensure that the wayfinding plan complies with regulations, including sign codes and accessibility standards, in order to reduce the cost and time required for future implementation.

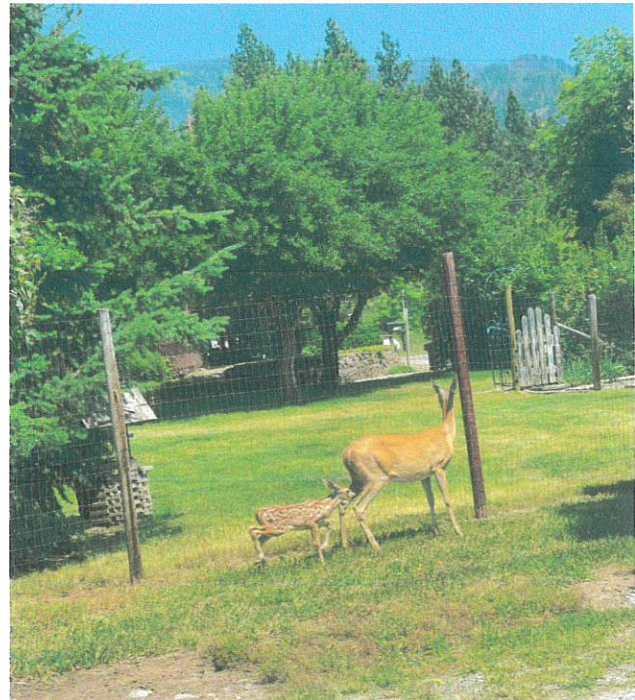


ECONOMY

Support local businesses and boost economic development by directing people to commercial areas, cultural attractions, and other points of interest. Highlight key attractions, landmarks, and historic sites to boost tourism revenue.

HOW TO USE THIS PLAN

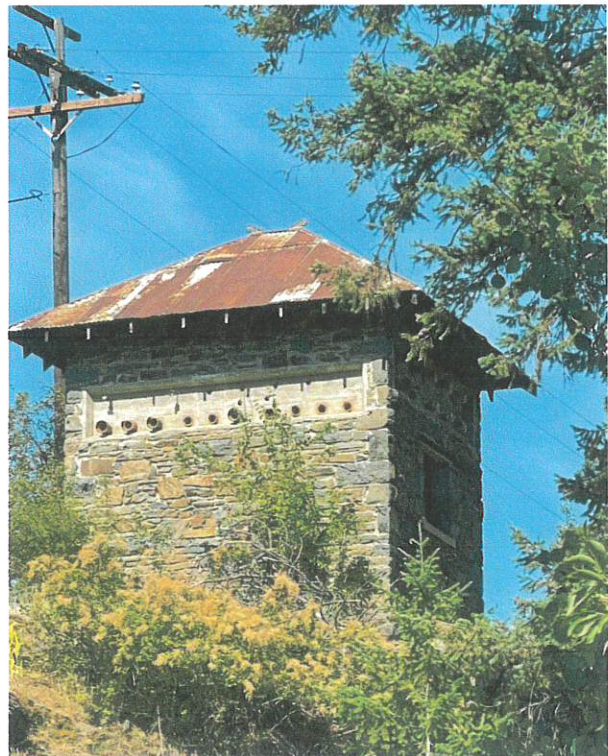
This Plan will serve as the basis for further signage implementation in Thompson Falls. Designs and information outlined in this document provide guidelines for implementation and will facilitate coordination with transportation officials. The findings from the community engagement framework established in previous planning efforts and further completed in this Plan should guide any future efforts in wayfinding. This document is intended to be an evolving resource with updates as necessary to suit current and future community goals. Community stakeholders will need to revisit the list of destinations and prioritize needed signs for proper navigation of residents and visitors.



THOMPSON FALLS BACKGROUND

Thompson Falls, Montana, is situated in a scenic valley along the banks of the Clark Fork River. Situated midway between Missoula, Montana, and Sandpoint, Idaho, along Montana Highway 200, Thompson Falls serves as the seat of Sanders County.

Thompson Falls' vibrant downtown area, which extends along Main Street and Montana Highway 200, is home to a multitude of local businesses that play a pivotal role in shaping the unique character of the community. Beyond the downtown core, both Thompson Falls' residents and visitors enjoy access to extensive tracts of public land that span across millions of acres. These natural areas offer diverse recreational opportunities year-round and Highway 200 serves as a popular route for seasonal visitors.

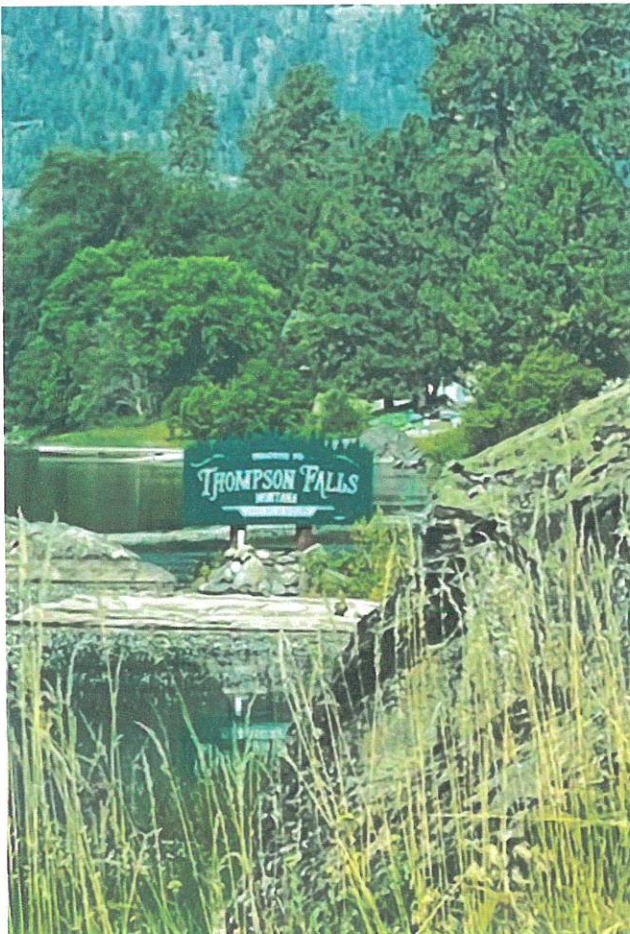


PURPOSE OF THIS PLAN

The following plan is a component of the Thompson Falls Recreation Economy Infrastructure Plan, which received funding through a 2021 USDA Rural Business Development Grant (RBDG) awarded to Sanders County. The Kaniksu Land Trust oversaw the grant administration and project management, including the development of this Wayfinding Plan. The USDA RBDG grant application and approval took place following the conclusion of the 2020 Recreation Economy for Rural Communities (RERC) workshop in Thompson Falls. The RERC workshop led to the creation of a Community Action Plan for Thompson Falls, and emphasized initiatives aimed at expanding the local recreation

economy, such as the implementation of wayfinding signs. The importance of wayfinding information was also highlighted within the Downtown Master Plan, a document crafted by the Downtown Committee, which later evolved into the Thompson Falls Main Street Association. This association is affiliated with the Montana Main Street Program and is dedicated to rejuvenating Main Street and the community as a whole.

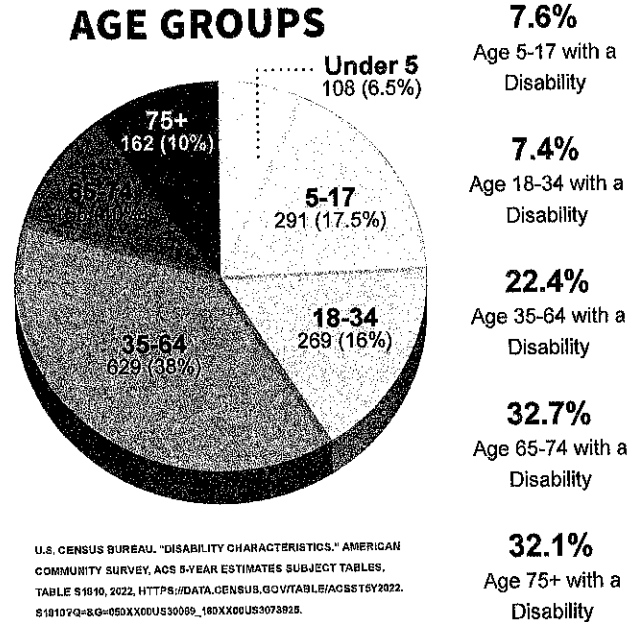
This plan also seeks to improve adoption and application of the city's branding strategy. This branding strategy dictates the aesthetics, material, and design standards with which future signage should comply to further promote Thompson Falls and its amenities.



This project was funded by a Montana Main Street (MMS) Grant, administered through the Montana Department of Commerce. The MMS Program, operating as a state coordinating initiative within the Main Street America network, allocates competitive grant funds to communities emphasizing planning and/or implementation projects directly tied to downtown revitalization, development, and historic preservation. The goal of this program is to better the economic, historic, and cultural vitality of Montana downtowns through community development, revitalization, and historic preservation.

THOMPSON FALLS DEMOGRAPHICS

The total population of Thompson Falls in the U.S. Census Bureau's 2022 American Community Survey was 1,658 in 711 total households with 327 people 65 years or older. 28.1% of households in Thompson Falls have a member under 18 while 36.4% have at least one member 65 or older. **17.8% of all Thompson Falls residents had a disability.** The US Council on Environmental quality identifies Sanders County as a disadvantaged community.



12.8% of Thompson Falls residents that are 65 years or older have vision difficulty. This further highlights the need for clear and effective wayfinding elements to reduce potential vehicle/pedestrian conflict.

Workforce and commuting statistics show 85.4% of all workers in Thompson Falls work within Sanders County. 71.6% of all workers in Thompson Falls have a work commute time of less than 10 minutes, suggesting that the majority of Thompson Falls' workforce lives and works within the community. Reports show that 98.3% of households have a car available, with 47.2% of households having 3 or more vehicles available suggesting that driving is a large factor for households and their livelihoods.

Thompson Falls community members over 65 also report hearing, cognitive, and ambulatory difficulties at higher rates and would benefit from clear and consistent markers for vehicles and pedestrians along roadways and trails.

Thompson Falls is in the 92nd percentile of persons over 18 with heart disease. Wayfinding elements that further enable new and longtime residents to access nearby recreational amenities can be a tool for improving public health.

ECONOMIC INDICATORS

55.8%
Persons over 16 in Labor Force

7.1%
Residents below the poverty level

57.5%
Persons have public health insurance

\$43,125
Median Income Level

10.8%
Persons 25 and over with less than high school education

15.1%
Persons 25 and over with a Bachelors degree or greater

U.S. CENSUS BUREAU. "SELECTED ECONOMIC CHARACTERISTICS." AMERICAN COMMUNITY SURVEY, ACS 5-YEAR ESTIMATES DATA PROFILES, TABLE DP03, 2022, [HTTPS://DATA.CENSUS.GOV/TABLE/ACS2022.DP03](https://data.census.gov/tables/acs/2022/DP03)?Q=ECON-P.O&G=050XX00US30089_160XX00US3073825.

U.S. CENSUS BUREAU. "SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES." AMERICAN COMMUNITY SURVEY, ACS 5-YEAR ESTIMATES DATA PROFILES, TABLE DP02, 2022, [HTTPS://DATA.CENSUS.GOV/TABLE/ACS2022.DP02](https://data.census.gov/tables/acs/2022/DP02)?Q=DISABILITY_CHARACTERISTICS&G=050XX00US30089_160XX00US3073825.

ANALYSIS



FORT THOMPSON PLAYGROUND

Established in 1857, Fort Thompson is a historic site located in Thompson Falls, Idaho. The site is a remnant of the early mining boom in the region and is one of the best preserved examples of a frontier town. The site is a remnant of the early mining boom in the region and is one of the best preserved examples of a frontier town. The site is a remnant of the early mining boom in the region and is one of the best preserved examples of a frontier town.

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OWNED & OPERATED BY THE CITY OF THOMPSON FALLS

PLAYERS TO USE DAYLIGHT HOURS ONLY

Properly supervised children, dogs, and pets. Please do not drink here. No swimming.

Play safe. No alcohol, drugs, or weapons. No smoking. No firearms.

CALL 911 TO REPORT CRIME, VANDALISM, OR SERIOUS INJURY

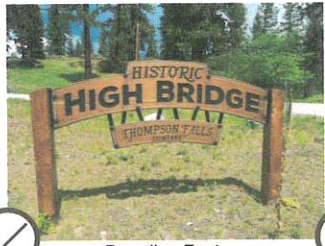
EXISTING SIGNAGE



Updated Logo
Branding Fonts
Branding Colors



Updated Logo
Branding Fonts
Branding Colors



Branding Fonts



No Logo
No Branding Fonts
No Branding Colors

VEHICULAR SIGNAGE

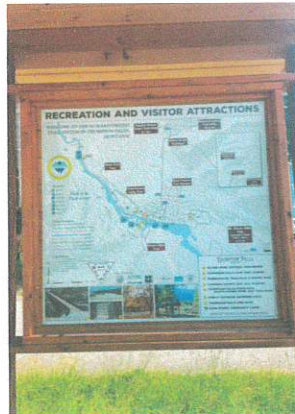
Over the past several years, there have been numerous signs replaced around town. Particularly in parks and town entries, these signs have incorporated the new branding style. These signs are given a low priority for replacement as they are currently utilizing the branding. For consistency, signs installed in the future should follow the signage standards outlined in this plan.

There are also several instances of other styles of signage throughout the community that have not been updated to date. These signs should be given a higher priority for replacement so there is consistency with City of Thompson Falls amenities and facilities.



PEDESTRIAN SIGNAGE

There are several instances of pedestrian signs around Thompson Falls. The majority of the pedestrian signs direct users to trails. The pedestrian signs were observed to be the least consistent signage existing in the city at the current time with very few having updated branding.



COMMUNITY ASSET/KIOSK SIGNAGE

Kiosks around the community, especially near parks, were largely updated within the past few years. Several of these have updated maps and visitor attractions. Because these are in good condition, these will fall to a lower priority for replacement or updates with funding being directed towards replacing older signage/facilities first. As upgrades take place, these kiosks should be updated for consistency and standardization.

OPPORTUNITIES AND CHALLENGES

Thompson Falls has been in the process of replacing existing signs and improving wayfinding. Below, there are some of the opportunities and challenges that are identified. These have been taken into consideration throughout the plan to prioritize and identify next steps.

OPPORTUNITIES

•Exceptional access to nature: unique assets including Island Park, the Clark Fork River, abundant wildlife, magnificent mountain ranges, parks, wilderness areas, national and state forests and state parks in the area.

Charming small-town community: that serves as a Clark Fork River corridor to natural resources, cultural, and historical hot spots.

Diverse recreation: including a full range of outdoor activities including boating, camping, cycling, hiking, horseback riding, fishing, golfing, mountain biking, water sports, and rafting with close access to dirt biking, skiing, and snowmobiling.

Partnerships: a culture of collaboration among Thompson Falls' many partners, including the Downtown Association, the Chamber of Commerce and other economic or social resources and clubs.

Desire: for business leaders to promote outdoor-recreation-friendly communities and for tourists to seek out authentic travel experiences.

Unique: hyper-local flavor that can be scaled and harnessed for more authentic promotion.

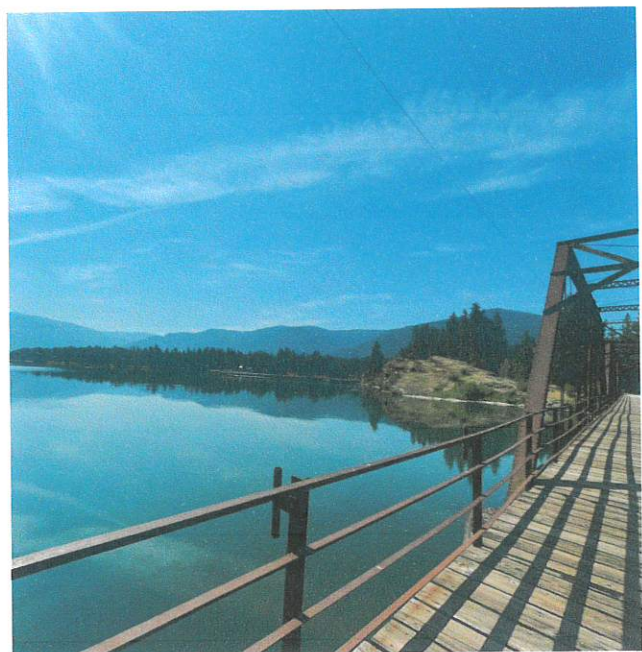
CHALLENGES

Driving Focused: driving distances are longer for some residents and the accessibility of basic services (such as medical, emergency and technology) is restricted for residents and visitors with limited motor vehicle access.

Wayfinding: lack of consistent current directional sign to guide movement of visitors through primary entry points and around the community to maximize potential investment and engagement.

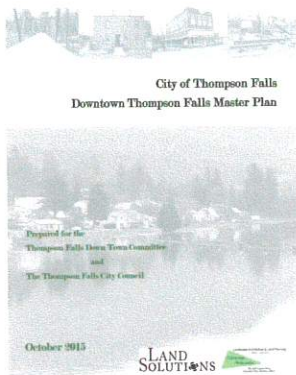
Encroachment: Railroad and MDT rights-of-way overlap on the primary travel corridor.

Public transportation: is limited between Montana cities and to area attractions.



EXISTING PLANS

DOWNTOWN MASTER PLAN - OCTOBER 2015



Thompson Falls' 2015 Downtown Master Plan serves as a guide for improving the economic conditions and highlighting opportunities for improvements to the Thompson Falls Main Street. This Plan focused on both physical and cultural amenities to promote community assets and provide a vision for the future of downtown. The plan lays out specific short, medium and long-term actions, and includes a vision for improved community gateways and amenities to improve the arrival experience, encourage patronage at local businesses, and increase awareness of and access to local recreational resources.

www.cityofthompsonfalls.com/downtown-master-plan

THOMPSON FALLS BRANDING STRATEGY AND MARKETING PLAN - 2018



These documents establish standards for community-branding and strategies for leveraging the branding to further promote Thompson Falls. In order to generate implementable signage designs, recommendations from these branding efforts will be evaluated using the recommendations and requirements of the Federal Highway Administration (FHWA) and Montana Department of Transportation (MDT) to determine compliance with mandatory visibility, glance recognition, material, reflectivity, font, contrast, and legibility standards.

RECREATION ECONOMY FOR RURAL COMMUNITIES COMMUNITY ACTION PLAN - OCTOBER 2020



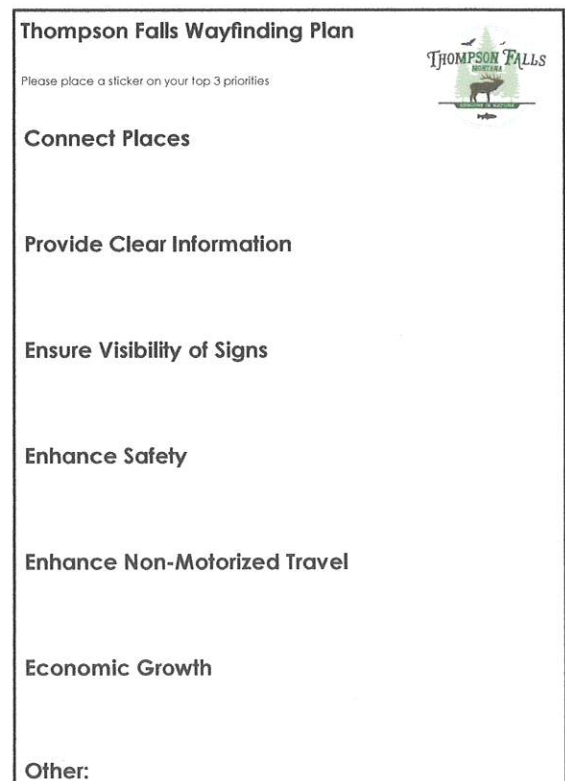
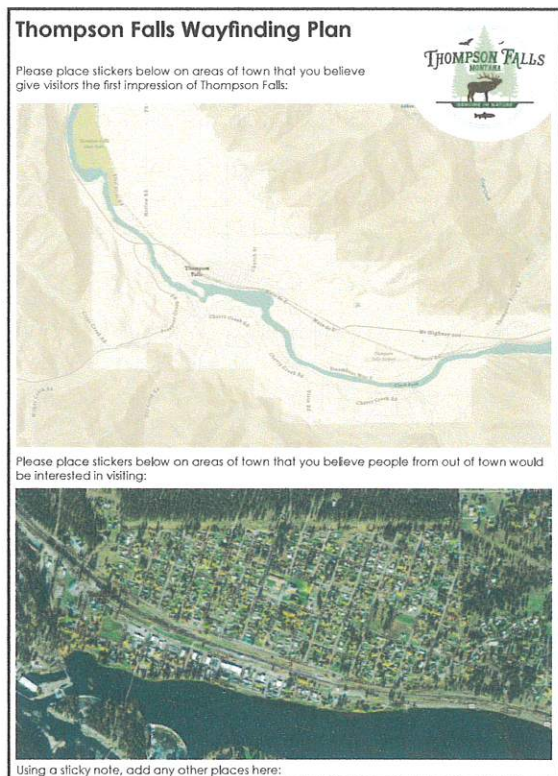
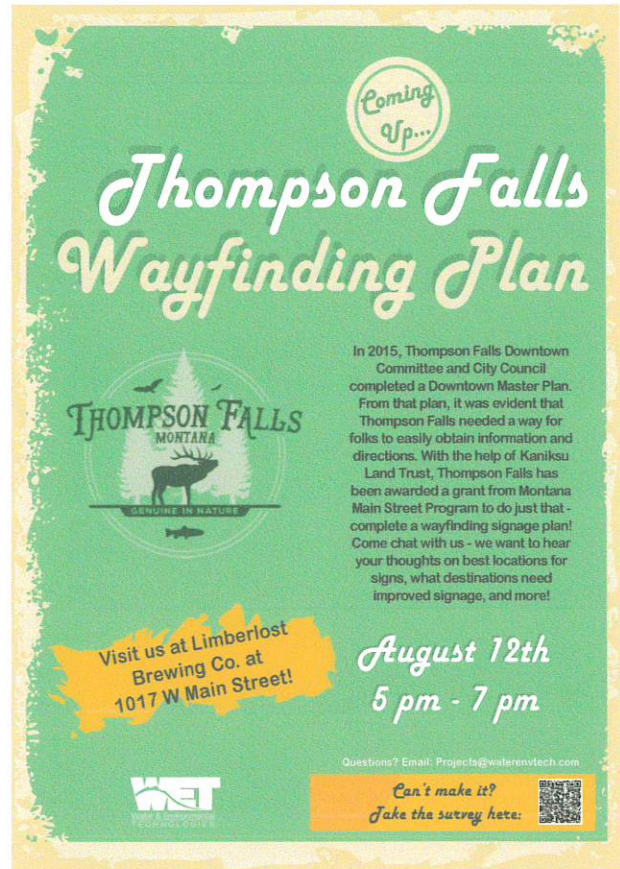
This Community Action Plan was developed following a series of workshops in which participants shared their vision for a growing local economy and hopes for revitalization of Main Street. This plan has a major influence on the Wayfinding Plan and produced a community-generated inventory of recreational, historical, and cultural assets in Thompson Falls. Creation of the Wayfinding Plan is in line with several action items developed in these workshops.

PUBLIC ENGAGEMENT

The public meeting was held on August 12th from 5-7 PM. This event piggybacked on an existing event to help increase participation and was held at the Limberlost Brewery during a live music event. Promotional materials were hung around town at various businesses to increase awareness. During this weekend, the project team also walked into several businesses that were open to talk to citizens about their feelings on wayfinding.

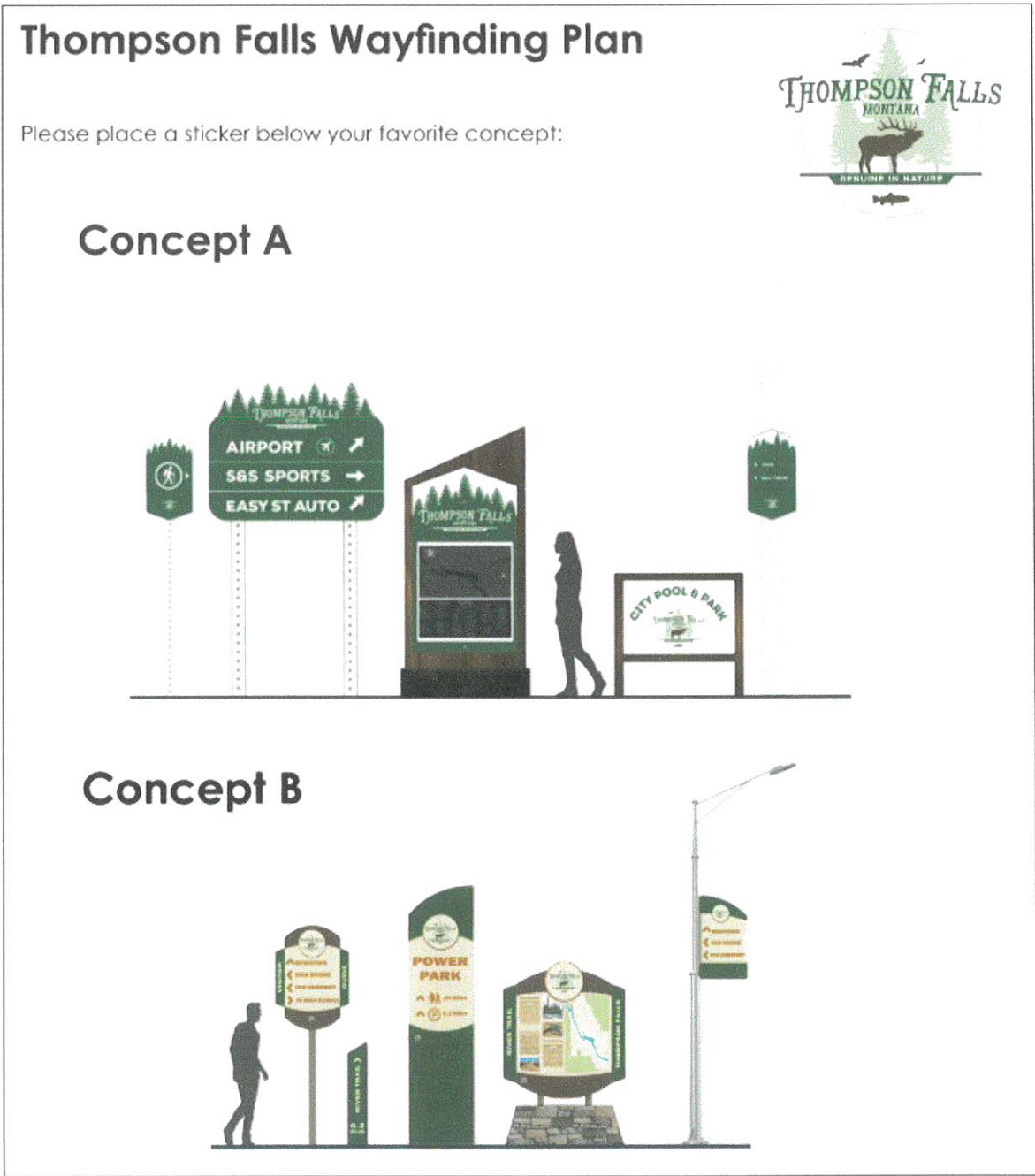
Overwhelmingly, people felt it was confusing and there was an overlap of signage with existing Montana Department of Transportation signage. They felt their downtown businesses could benefit from clearer signage, ease of parking, and slower traffic speeds.

Examples of materials utilized to collect responses in this engagement event can be seen below:



In the Summer and Fall of 2023, a survey was released and distributed through various locations in the community. The survey was also presented at an August City Council meeting with paper copies of the survey available as well as QR scan codes.

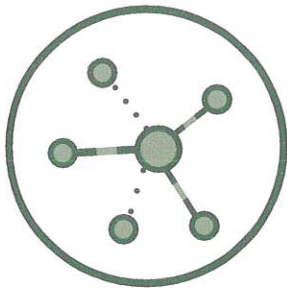
The survey results indicate various aspects of the community of Thompson Falls, including residency distribution, preferences for improved wayfinding signage among different user groups, and ratings for ease of finding parks, businesses, and public buildings. An extensive list of survey questions is available in the Appendix of this report. Respondents expressed opinions on existing signs, with the majority of respondents finding them lacking. Preferences for signage showed Concept A being the most favored. Overall, the data provides insights for potential enhancements in signage and navigation strategies to improve the community's accessibility and overall appeal.



WAYFINDING PRIORITIES



ASSET INVENTORY
Identify High-Priority Assets For Promotion,
Connection, and Wayfinding Signage



PHYSICAL CONNECTIONS
Identify Needs for Connection Infrastructure
Among Recreation Assets and Downtown



REGIONAL PROMOTION
Identify Partners, Resources, And
Opportunities to Promote Regional
Assets



These priorities were driven by reviewing past planning efforts, stakeholder feedback, public comment, and survey results. These goals should be revisited periodically to ensure they align with the future needs and wants of the City of Thompson Falls and its residents.

WAYFINDING STANDARDS



SIGNAGE STANDARDS

Sign family concept alternatives were presented to the public at the public meeting as well as through the online survey. Concepts utilized easily sourced materials, and reviewed costs for installation and labor. As several signs have already been installed in the City, the following standards have been developed to integrate these new signs, the new branding, and provide consistency throughout the community.

VEHICULAR DIRECTIONAL

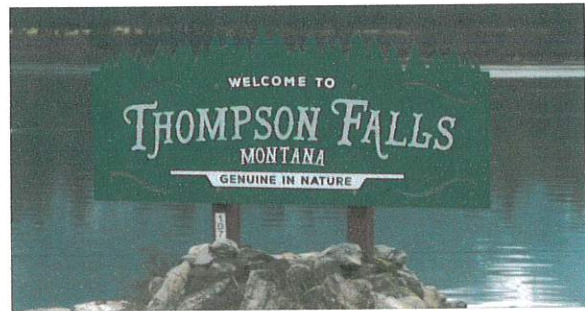
These signs will be large and used sparingly to direct users to key locations. These are designed to Montana Department of Transportation standards to allow for ease of permitting and installation. (See page 34 for sign requirements).

KIOSKS

Kiosks are placed at high traffic locations with a map on one side and additional information on the other. These can be updated frequently for community events and updates and serve as an informative location for residents as well as visitors.

COMMUNITY GATEWAY

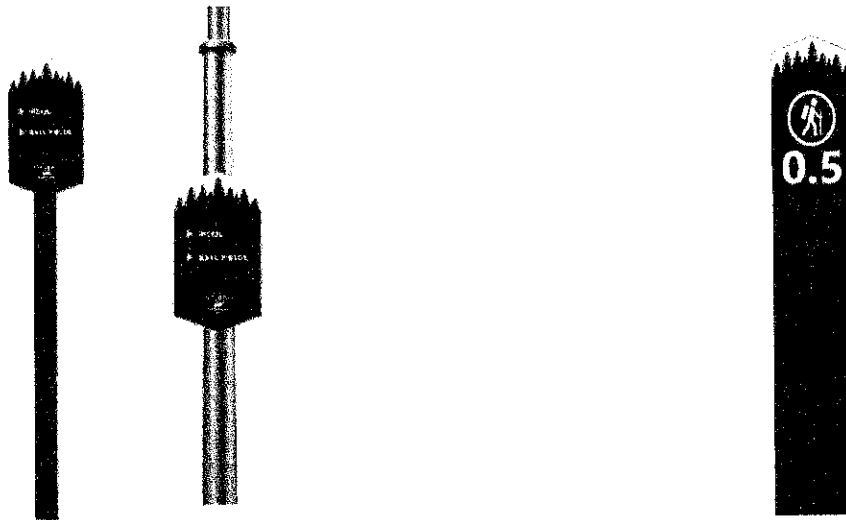
These signs are the first impression of the City of Thompson Falls. They announce and introduce the city. These signs will feature the city name and have substantial size to be seen clearly. These have already begun installation and consistency should be insured in future signage.



COMMUNITY ASSET SIGNAGE

These signs will be used for Parks, Buildings, and other Community Amenities that require Vehicular Visibility and a sense of arrival.





PEDESTRIAN AND TRAIL IDENTIFICATION

These signs smaller in size and direct users to trail locations and other recreational opportunities in the community. These can be mounted on existing light poles or independently near parks and trails.

BANNERS

There are several existing banners on poles throughout downtown that are due for replacement. It is recommended to replace these banners with the designs outlined on Page 33 as well as having 2 other banners for special events/holidays for year round interest.

TRAIL MARKERS

With so many recreation opportunities weaving in and out of the community, it was identified that trail markers are needed to help guide users between Trail Identification signage. These help span between the larger signage and clearly mark distances.

OTHER

Because the downtown area lies within several right-of-ways and signage is already congested, it is recommended to utilize other methods for wayfinding and cohesion in downtown such as benches, trashcans, and bike racks. These will make downtown identifiable and reduce visual clutter.

SIGN MATERIALS

The materials recommended in this plan are based on local availability, cost of materials and labor, and longevity of material life-span.

WOOD

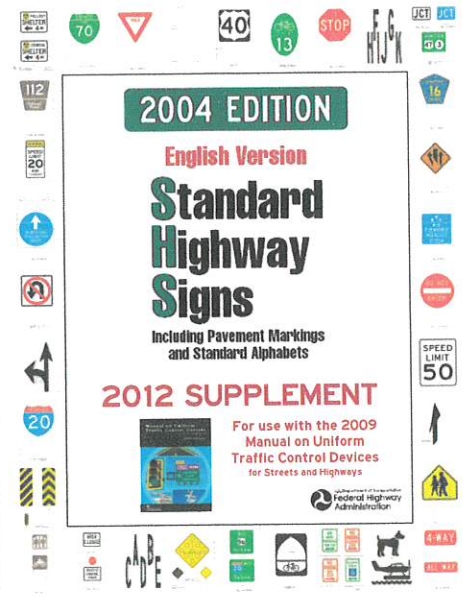
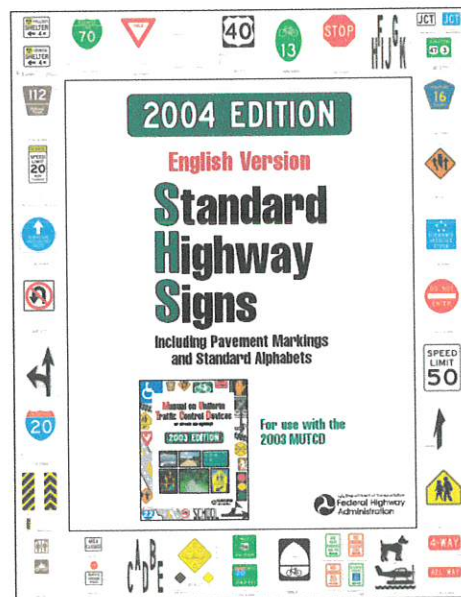
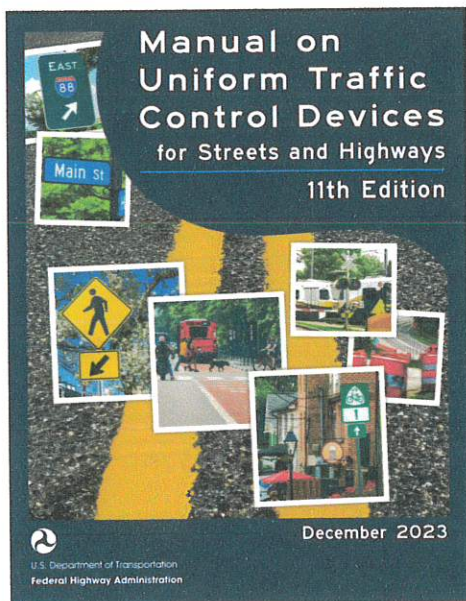
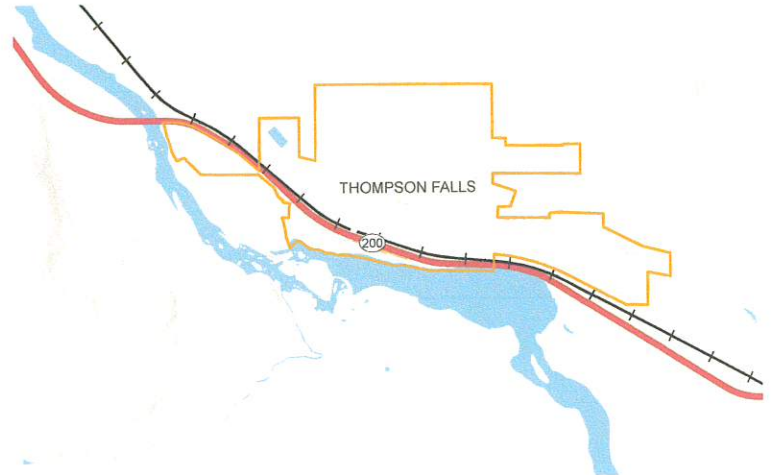
Signage posts should utilize locally sourced timbers when possible. These timbers should be pressure treated for longevity.

SIGN PANELS

Vehicular signs should comply to MDT standards for panel material. All other panels are recommended to be Aluminum with vandalism resistant surfacing.

SIGN STANDARD GUIDELINES

Signs placed into the Montana Department of Transportation's (MDT) right-of-way are required to comply with standards established by MDT as well as the Federal Highway Administration (FHWA) if roads involve federal funding. Montana Highway 200 has an MDT right-of-way (shown in red to the right) which coincides with Thompson Falls' downtown corridor and as such signs placed along the road in this right-of-way are subject to state and federal guidelines for sign content, form, and placement.



MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

This document published by the FHWA establishes standards for signage forms and regulations related to signage size, content, coloring, materials, placement, purpose, and enhancements. This document establishes standards for Community Wayfinding Signage and addresses limitations, exemptions and requirements for related signage. **Section 2D.55** addresses community wayfinding signage.

<https://mutcd.fhwa.dot.gov/>

STANDARD HIGHWAY SIGNS (SHS) & 2012 SUPPLEMENT

This document published by the FHWA is used in conjunction with the MUTCD to establish standards for signage legend (lettering) fonts, dimensions, borders, and spacing. This document presents the Standard Alphabets for use in roadway signage and establishes visibility/readability standards required for signage in roadways managed by MDT.

https://mutcd.fhwa.dot.gov/ser-shs_millennium.htm

STANDARDS & COMMUNITY BRANDING

Established community branding efforts will need to be adapted to meet the requirements of MDT and the FHWA in cases where mandatory design standards are not compatible with community branding for **vehicular signage**.

Community design preferences from the 2018 Branding Strategy and Marketing plans have **3 potential areas of conflict** with Community Wayfinding Signage Standards from the MUTCD:

1. Color luminance ratio for legends and backgrounds
2. Legend typeface (font)
3. Sign composition and enhancement markers

MUTCD	: SECT 2D.05.01-04	Lettering
MUTCD	: SECT 2D.50.19	Luminance
MUTCD	: SECT 2D.50.38-42	Enhancements
SHS	: 8-1,2,3	Guidelines

LETTER SIZING

- Gateway Signage: Min. 18" Tall Lettering
- Vehicular Signage: See "Example MDT Compliant Sign" for recommendations
- Pedestrian Signs: Min. 4" Tall Lettering
- General Standards: 1" Lettering is able to be seen approximately 25 feet away with high contrast colors.

TYPEFACE

The fonts in the existing branding booklet do not meet the spacing, readability, and legibility standards established by the FHWA for use in signage for motor vehicles. **Their use should be limited to Wayfinding Enhancement Markers or pedestrian-focused signage. Vehicular standards should utilize approved MDT and FHWA fonts.**



STANDARD ALPHABETS FOR HIGHWAYS SIGNS

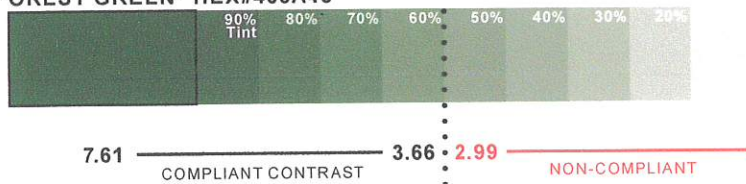
The FHWA Series also known as Highway Gothic or the Standard Alphabet for Highway Signs is a series of fonts described in the Standards for Highway Signs and Markings addition to the MUTCD, these fonts are acceptable for use in signage legends, one example from this series can be seen below.

HIGHWAY GOTHIC- FHWA SERIES E

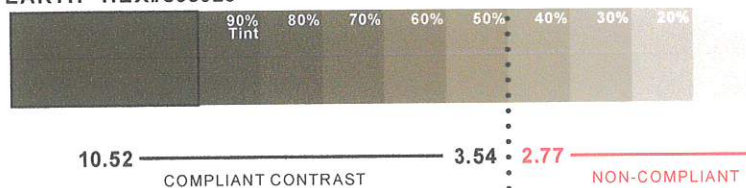


BRANDING COLOR PALETTE

"FOREST GREEN" HEX#405A43



"EARTH" HEX#533929



The MUTCD specifies a **minimum luminance ratio for backgrounds and legends of 3:1**. This value represents a 3:1 contrast ratio between the sign background and any content such as lettering, directional arrows, or other mandatory sign markings which may be required by the FHWA or MDT. This contrast ratio ensures that motorists will be able to quickly and easily discern critical directional information. **Sign legends are required to be either black or white and surfaces for vehicular signage must always have a retroreflective coating.**

Color palettes established in the 2018 Branding Strategy are only partially compliant, any future designs should be tested prior to implementation. Preliminary testing found that **only 2 of the 6 colors from the Branding Strategy can be partially compliant with the contrast ratio**. Other colors from the branding strategy are entirely non-compliant with the contrast ratio requirements and would not meet visibility standards.

OPERATIONS & MAINTENANCE

The MUTCD establishes standards for operations and maintenance of both temporary and permanent traffic control devices and markings.

Maintenance activities of unpowered (non-illuminated), permanent signage fixtures primarily focuses on ensuring **proper positioning, legibility, and visibility in both daytime and nighttime conditions**. Maintenance operations include cleaning of sign faces, inspecting and replacing mounting hardware as necessary, and removal of weeds, shrubbery, trees, and materials which would otherwise obscure visibility of the sign. **To ensure optimum visibility a schedule for inspection in both daytime and nighttime conditions should be developed**. Employees of the city and other responsible agencies such as law enforcement and public works should be encouraged to report damaged, deteriorated, and obscured signs. Signs which contain or are augmented by lighting or illumination components should regularly be inspected and replaced on a schedule consistent with recommendations from the manufacturer. Exact maintenance requirements may vary by manufacturer and should be considered when purchasing signage materials.

POTENTIAL MAINTENANCE

- Cleaning sign faces
- Replacing worn mounting hardware
- Ensuring proper sign alignment
- Replacement of sign faces when damaged or deteriorated
- Removal of obstructions to visibility
- Conduct assessments for visibility in both day and night conditions

MUTCD : SECT 2A.18 General Provisions

MUTCD : SECT 1D.10 General Provisions

MUTCD : SECT 4A.10 Highways

REPLACEMENT

The recommended lifespan of signage varies by manufacturer and should be considered when purchasing signage materials. **Factors such as warranties, manufacturing methods, availability, and ease of maintenance should be considered along with the initial manufacturing costs** to determine likely replacement intervals. Coordination with manufacturers will help balance initial costs with ongoing expenses and will assist in determining a cost effective replacement schedule.

INSTALLATION

Installation recommendations will vary by manufacturer but will be required to comply with standards established in the MUTCD as well as standards from MDT which can be found in **Appendix B**. These standards relate to signage placement (location), orientation, mounting, and supports. Installation of mounting hardware must not obscure or otherwise interfere with sign legend and directional markers.

ADDITIONAL CONSIDERATIONS

MDT's encroachment permit establishes additional requirements for operations and maintenance of signage features and locations. A permittee is **required to control noxious weeds in the area disturbed by installation for two (2) years**. Damage to installations in the right-of-way are the sole responsibility of the permittee and must be maintained in a condition **satisfactory to the state**. Upon termination or revocation of the permit, the permittee shall be solely responsible for removal of installations and shall restore the premises to their prior existing conditions.

PRIMARY DESTINATIONS - AMENITIES

Previous planning efforts had developed this comprehensive list of local amenities. Through stakeholder meetings and public meetings, this list was used as a base to identify sign locations and sign information to develop the signage schedule. From here, the list was reduced to show major destinations. This list could be utilized in other mapping exercises for brochures or pamphlets that are updated on a regular basis. Note that wayfinding signage itself cannot be used for advertisement or promotion of specific businesses. (MUTCD Sect. 2D.55.41)

CIVIC

- City Hall
- Clark Fork Prof Building
- Community Center
- Courthouse
- Election Office
- Elementary School
- High School
- Junior High School
- Senior Center
- Sheriff's Office

SERVICES

- Airport
- Amerigas
- Energy Partners
- John's Fuel Farm
- Library
- Transfer Station

FOOD & BEVERAGE

- Beagle's Bakery & Espresso
- Big Eddy's
- Black Bear Coffee
- Cheri's Coffee
- Clark Fork Elks Lodge
- Highlead
- Limbertost Brewery
- Wild Coyote

POINT OF INTEREST

- High Bridge
- Historic Fraternal
- Cemetery
- Wild Rose Cemetery
- Thompson Falls Dam
- Thompson Pass
- VFW Cemetery

RECREATION

- Pool
- Weber Gulch Trail
- Ainsworth Park
- Babe Ruth
- Pool Park Playground
- Power Park
- Bear Muscle Fitness
- Powerhouse Loop Trail
- Dog Park
- Railway Park
- Rex Theater
- Eddy Peak Fire Lookout
- River Trail
- Finlay Flats
- Flatiron
- Gazebo Park
- Graves Creek
- Island Park
- Kayak Launch
- Little League
- Mt Silcox WMA
- Mule Pasture
- Pickleball/Tennis
- Rivers Bend Golf Course
- Rose Garden & Fort
- Thompson Playground
- Softball Field
- Shooting Range
- Sqyalth Kwum
- Swimming Area
- Thompson Falls State Park
- Thompson River
- Wild Goose Landing
- Old Jail Museum

MEDICAL

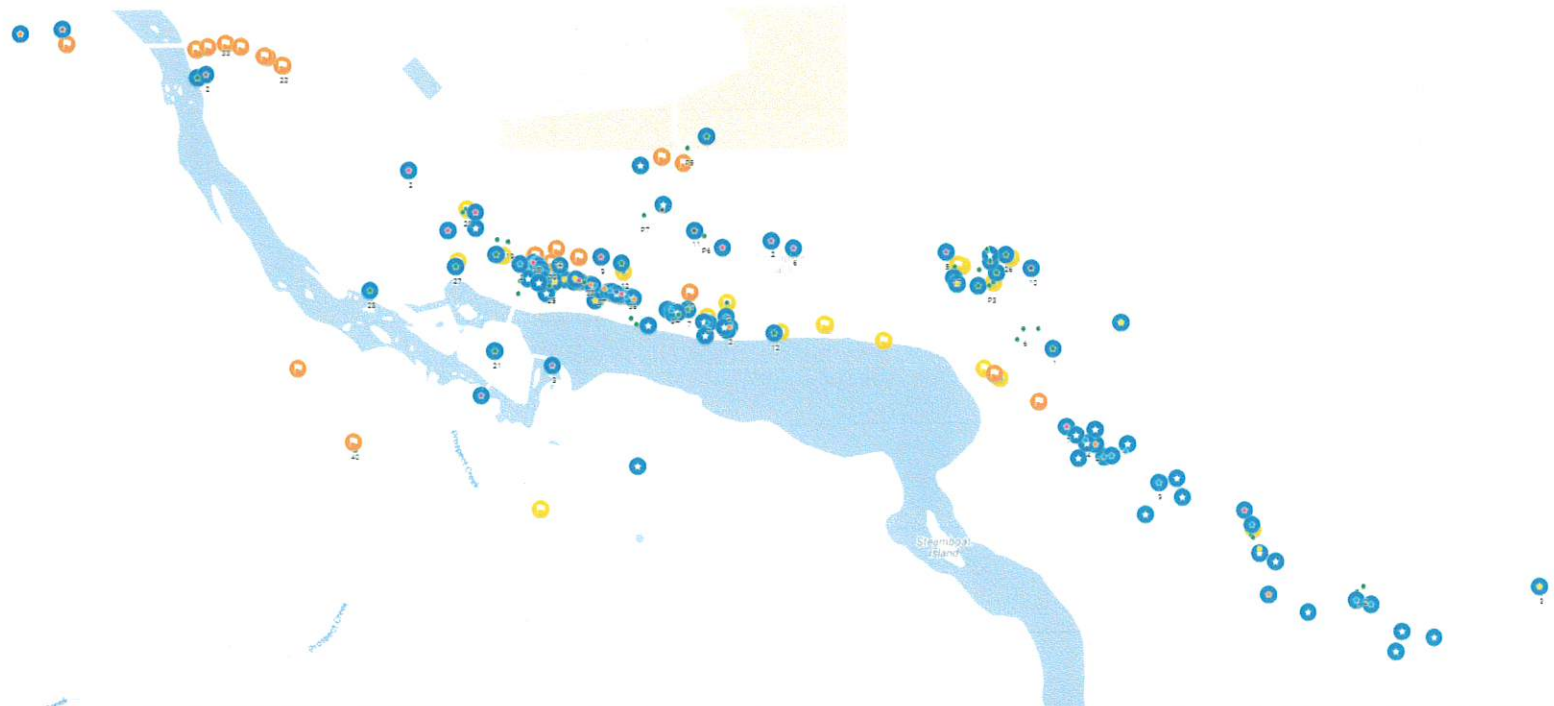
- Ambulance
- CFVH Family Medicine
- Fire Stations
- Lundgren Chiropractic
- Main St Medical
- River Town Dental
- Ryan Chiropractic
- Sanders County Mental Health
- Thompson Falls Vet
- Thompson Falls Family Pharmacy

LODGING

- Bear Creek Resort
- Birdland Bay RV
- Rimrock Lodge
- Riverfront Motel

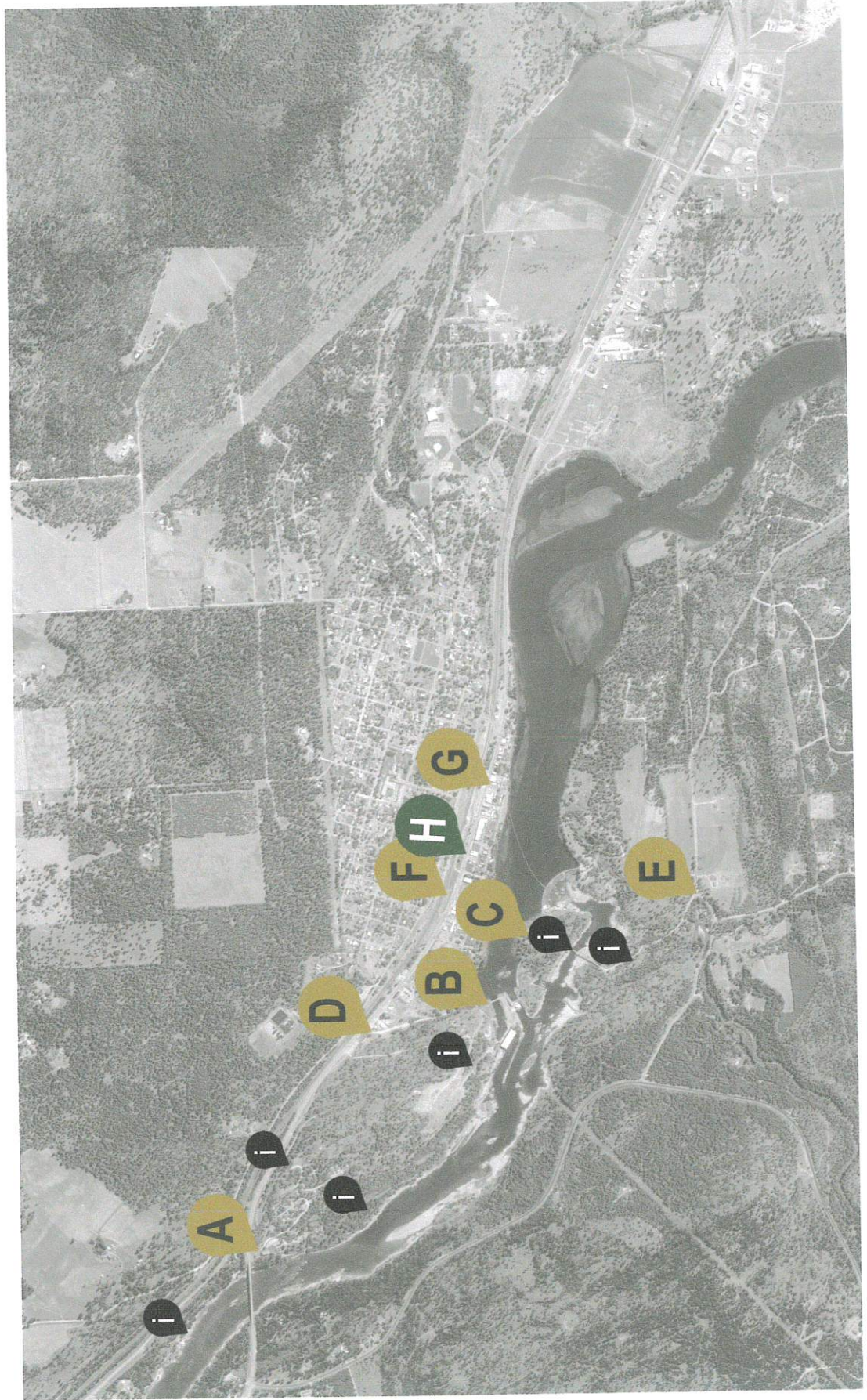
RETAIL

- Ace Hardware
- Big Bull Sports
- Crazy Moose Kayak & SUP Rentals
- Dollar Store
- East End Fuel
- Feed & Fuel
- Grocery Surplus
- Harvest Foods
- Linda's Gifts
- Napa Auto Parts
- S&S Sports
- Sanders Feed
- Studs
- Sunflower Gallery
- Town Pump
- True Value Hardware








SIGNAGE MAP

PEDESTRIAN, KIOSK, AND TRAIL IDENTIFICATION SIGNAGE



SIGNAGE SCHEDULE

PEDESTRIAN, KIOSK, AND TRAIL IDENTIFICATION SIGNAGE

LOCATION	LOCATION DETAILS	CONTENT	SIGN STYLE OTHER
	<p>Marker on trail that can be seen from highway.</p>	<p>STATE PARK TRAIL ↑ POWERHOUSE LOOP TRAIL</p>	<p>PEDESTRIAN DIRECTIONAL</p>
	<p>Marker at beginning of trailhead. *Improvements should be made to clearly identify trailhead location.</p>	<p>POWERHOUSE LOOP TRAIL</p>	<p>COMMUNITY ASSET SIGN</p>
	<p>Marker at Trail Intersection *Lower priority as this trail is already marked but does not conform to standards</p>	<p>← DAM VIEWING AREA ↑ ISLAND PARK TRAIL ↑ HIGH BRIDGE</p>	<p>PEDESTRIAN DIRECTIONAL</p>
	<p>Marker at beginning of trailhead. *Improvements should be made to clearly identify trailhead location.</p>	<p>POWERHOUSE LOOP TRAIL</p>	<p>COMMUNITY ASSET SIGN</p>
	<p>Marker directing towards High Bridge. *Improvements are recommended to delineate pedestrian/vehicular traffic.</p>	<p>HIGH BRIDGE AND ISLAND PARK TRAIL</p>	<p>COMMUNITY ASSET SIGN</p>

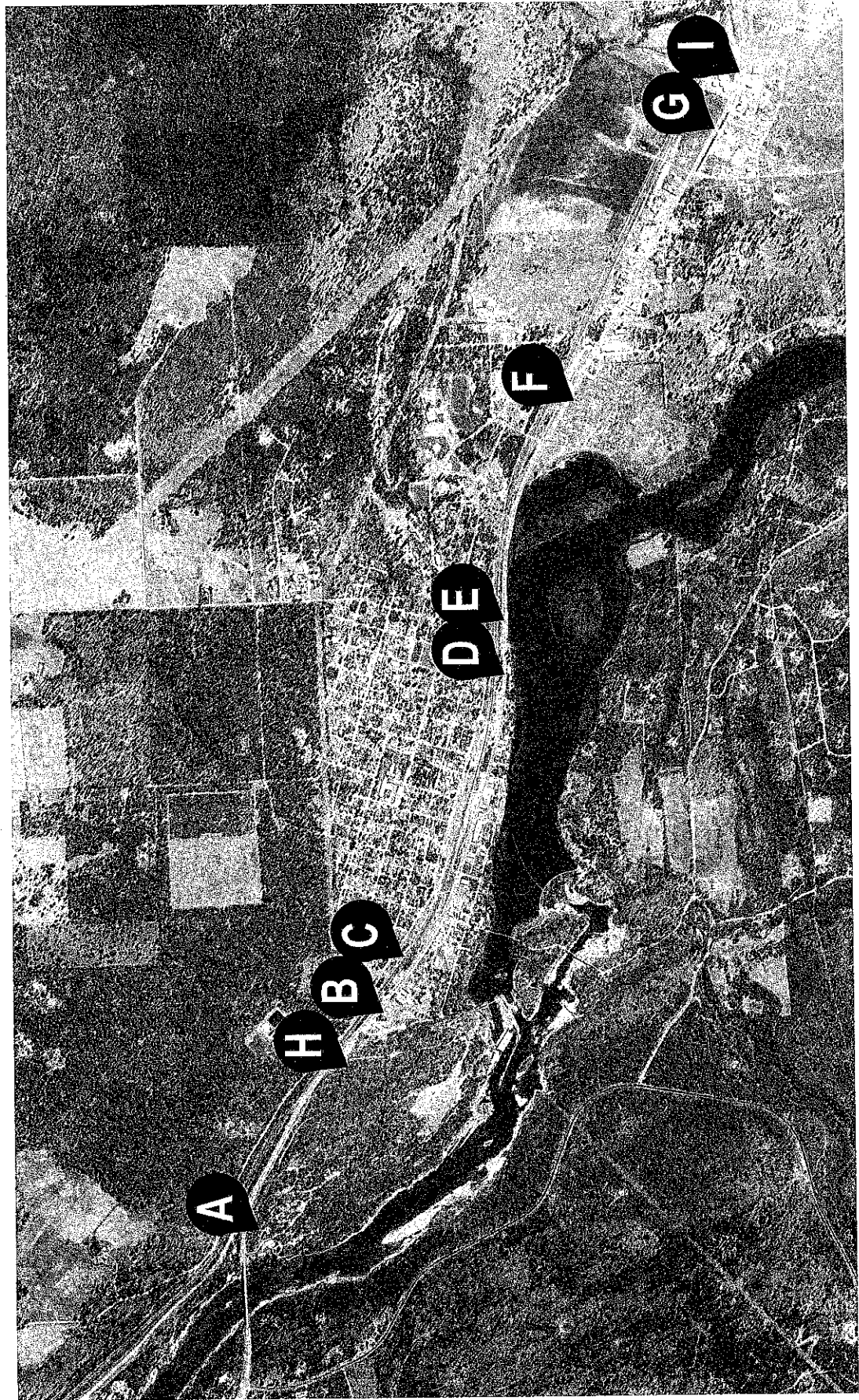
SIGNAGE SCHEDULE

PEDESTRIAN, KIOSK, AND TRAIL IDENTIFICATION SIGNAGE

LOCATION	LOCATION DETAILS	CONTENT	SIGN STYLE OTHER
	<p>Signage on the southern side of the street to identify this major intersection and possible pedestrian options.</p>	<p>↑ DOWNTOWN → HIGH BRIDGE ← SCHOOLS</p>	<p>PEDESTRIAN DIRECTIONAL</p>
	<p>Sign on the south side of the street across from the parking lot.</p>	<p>↑ DOWNTOWN → PARKING ↑ HISTORIC DISTRICT</p>	<p>PEDESTRIAN DIRECTIONAL</p>
	<p>Updated kiosk to replace existing kiosk at Sanders County Courthouse.</p>	<p>Updated Map on one side and area for community events/public notices on the other.</p>	<p>KIOSK</p>
	<p>Trail Markers located along trails approximately every half-mile or in complex areas to lead users along the trail and mark distances.</p>	<p>These should be used in addition to trailhead signs to users can easily identify routes and know distances.</p>	<p>TRAIL MARKERS</p>






SIGNAGE MAP

VEHICULAR DIRECTIONAL AND COMMUNITY GATEWAY SIGNAGE







SIGNAGE SCHEDULE

VEHICULAR DIRECTIONAL AND COMMUNITY GATEWAY

LOCATION	LOCATION DETAILS	SIDE/SPEED	CONTENT	
	ROAD EDGE AT INTERSECTION HWY 200 AND RIM ROCK LN	EASTBOUND HWY 200 45 MPH	↑ HISTORIC DISTRICT ↑ DOWNTOWN ↑ THOMPSON FALLS RESERVOIR	ROADWAY DIRECTIONAL MDT ROW
	ROAD EDGE MAIN ST AT LINCOLN ST WEST CURB	EASTBOUND HWY 200/ MAIN ST 35 MPH	DOWNTOWN THOMPSON FALLS	ROADWAY DIRECTIONAL MDT ROW
	ROAD EDGE MAIN ST AT LINCOLN ST EAST CURB	EASTBOUND HWY 200/ MAIN ST 35 MPH	→ HISTORIC DISTRICT ← TRAIL ACCESS ↑ THOMPSON FALLS RESERVOIR	ROADWAY DIRECTIONAL MDT ROW
	ROAD EDGE MAIN ST AT EAST RAMP ROAD	HWY 200 ACROSS WILD GOOSE LANDING	← RESERVOIR ACCESS ↑ DOWNTOWN → TRAIL ACCESS	ROADWAY DIRECTIONAL MDT ROW
	BEFORE WILD GOOSE LANDING	EASTBOUND HWY 200/ MAIN ST 35 MPH	↑ HIGH SCHOOL ↑ GROCERY	ROADWAY DIRECTIONAL MDT ROW

SIGNAGE SCHEDULE

VEHICULAR DIRECTIONAL AND COMMUNITY GATEWAY

LOCATION	DETAILS	SIDE/SPEED	CONTENT	OTHER
 F	<p>ROAD EDGE HWY 200 ACROSS RIVER TOWN DENTAL</p>	<p>WESTBOUND HWY 200 45 MPH</p>	<p>↑ THOMPSON FALLS RESERVOIR ↑ DOWNTOWN → HIGH SCHOOL</p>	<p>ROADWAY DIRECTIONAL</p> <p>MDT ROW</p>
 G	<p>ROAD EDGE HWY 200 NEAR SALISH SHORES INTERSECTION</p>	<p>WESTBOUND HWY 200 45 MPH</p>	<p>↑ THOMPSON FALLS RESERVOIR ↑ DOWNTOWN ↑ HISTORIC DISTRICT</p>	<p>ROADWAY DIRECTIONAL</p> <p>MDT ROW</p>
 H	<p>ROAD EDGE HWY 200</p>	<p>EASTBOUND HWY 200/ MAIN ST 45 MPH</p>	<p>WELCOME TO THOMPSON FALLS</p>	<p>COMMUNITY GATEWAY</p>
 I	<p>This entrance into town has a distinct lack of arrival. The following pages detail ideas for enhancing the experience.</p>	<p>WESTBOUND HWY 200/ MAIN ST 45 MPH</p>	<p>See following pages.</p>	<p>COMMUNITY GATEWAY</p>

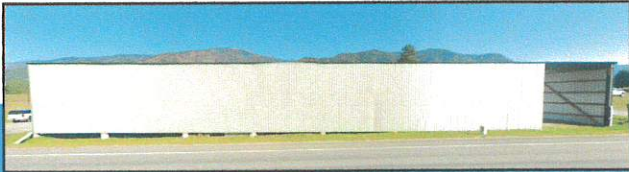
WAYFINDING - EXISTING STRUCTURES

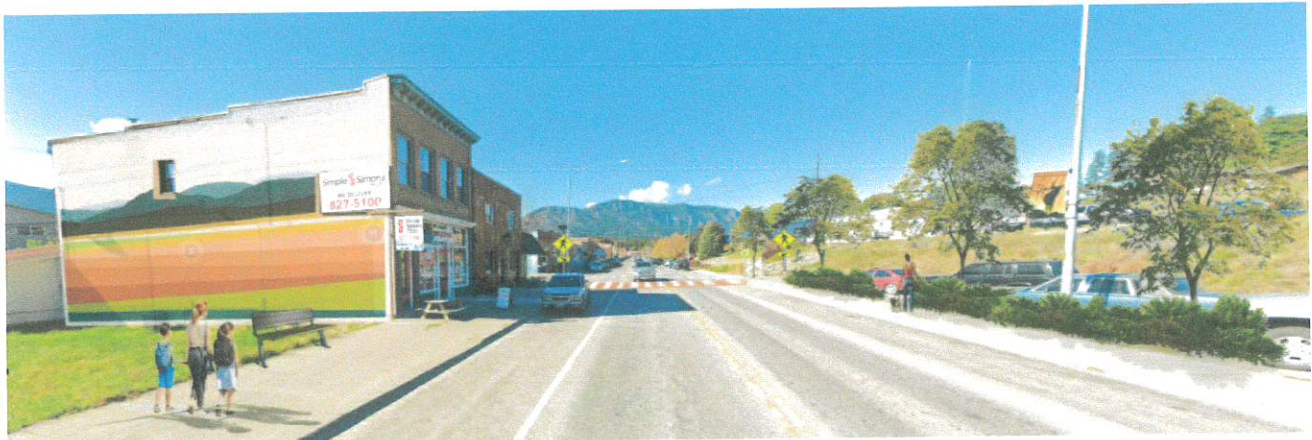


When entering into Thompson Falls from the East, there is a noticeable lack of entry. From a user experience, it is difficult to determine when you are entering into the community and equally as difficult to know the community is separated into two halves with the reservoir physically dividing the downtown area from the eastern portion of the community.

wayfinding elements - adding character to the structures as well as welcoming visitors and directing them to the downtown core. A series of wayfinding markers in addition to conventional signage beginning outside of city limits can enhance the entry experience while directing visitors and improving community identity. Many of these structures are privately

There is an opportunity along this corridor to potentially utilize existing structures as





Above: Example of a mural being utilized on an open building wall. Also notice across the street the integration of street trees to improve the continuity of downtown and add shade to the parking area.

owned and there may be an opportunity for collaboration with these owners. In some communities, large, open walls are used for art contests for local students and become a yearly tradition - adding an element of ever-changing interest.

Murals can be effectively used for wayfinding by incorporating visual cues and elements that guide individuals through a space. Here are several ways in which murals can serve as wayfinding tools:

DISTINCTIVE LANDMARKS

Murals can be designed to serve as distinctive landmarks within a location.

COLOR CODING

Incorporating a color-coded system into murals can help establish a visual hierarchy and convey specific information. Different colors or color patterns can represent different routes, areas, or points of interest. For Thompson

Falls, the branding colors could be utilized.

ARROW AND DIRECTIONAL SYMBOLS

Including arrows or other directional symbols within the mural design can provide clear guidance on the direction to follow.

MAPPING ELEMENTS

Murals can function as artistic maps, illustrating the layout of key locations, streets, or points of interest.

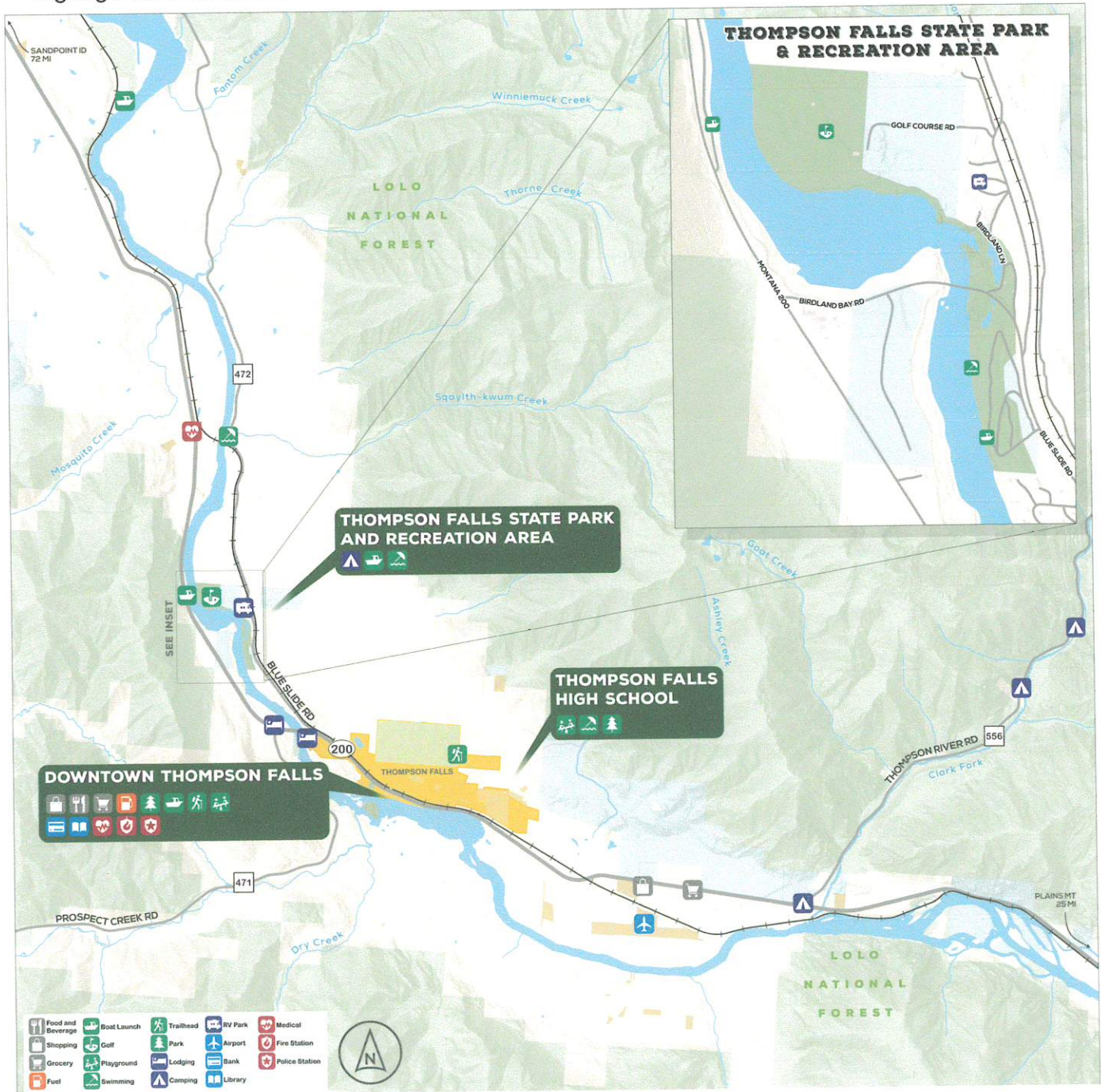
INTERACTIVE ELEMENTS

Murals can be augmented with interactive elements such as QR codes or digital displays to provide interactive features and real-time information, additional details, or even navigation assistance.

KIOSK AND PRINT MATERIALS

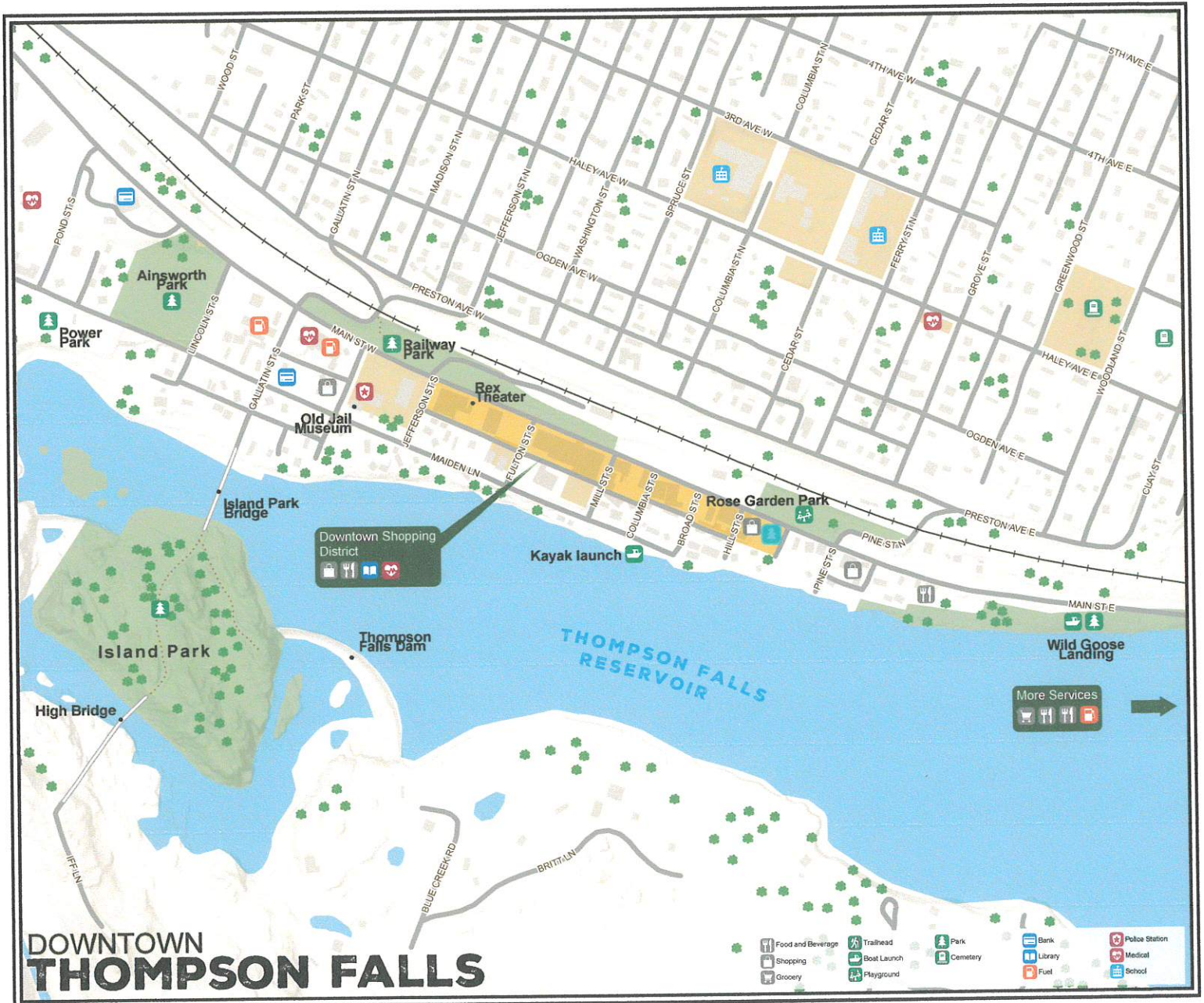
OVERALL MAP

The maps for Thompson Falls were created with the existing branding and marketing standards in mind. These maps on this page as well as the following page can be utilized on print materials for distribution as well as on signage such as kiosks.



KIOSK AND PRINT MATERIALS

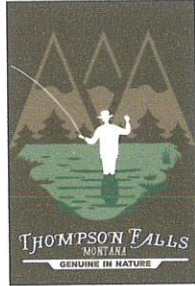
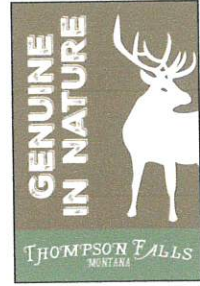
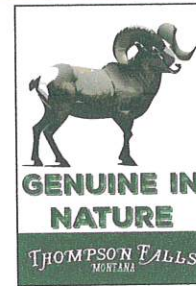
DOWNTOWN MAP



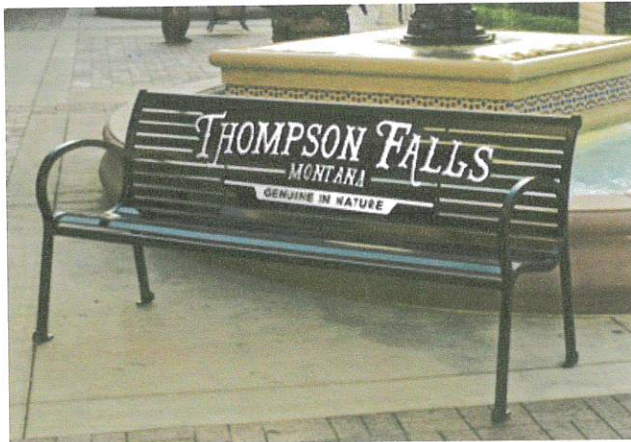
WAYFINDING - OTHER AMENITIES



There are several existing banner-style signs in the community, mounted on light poles. As these banners fade, it is recommended to incorporate new banners with styles similar to these:



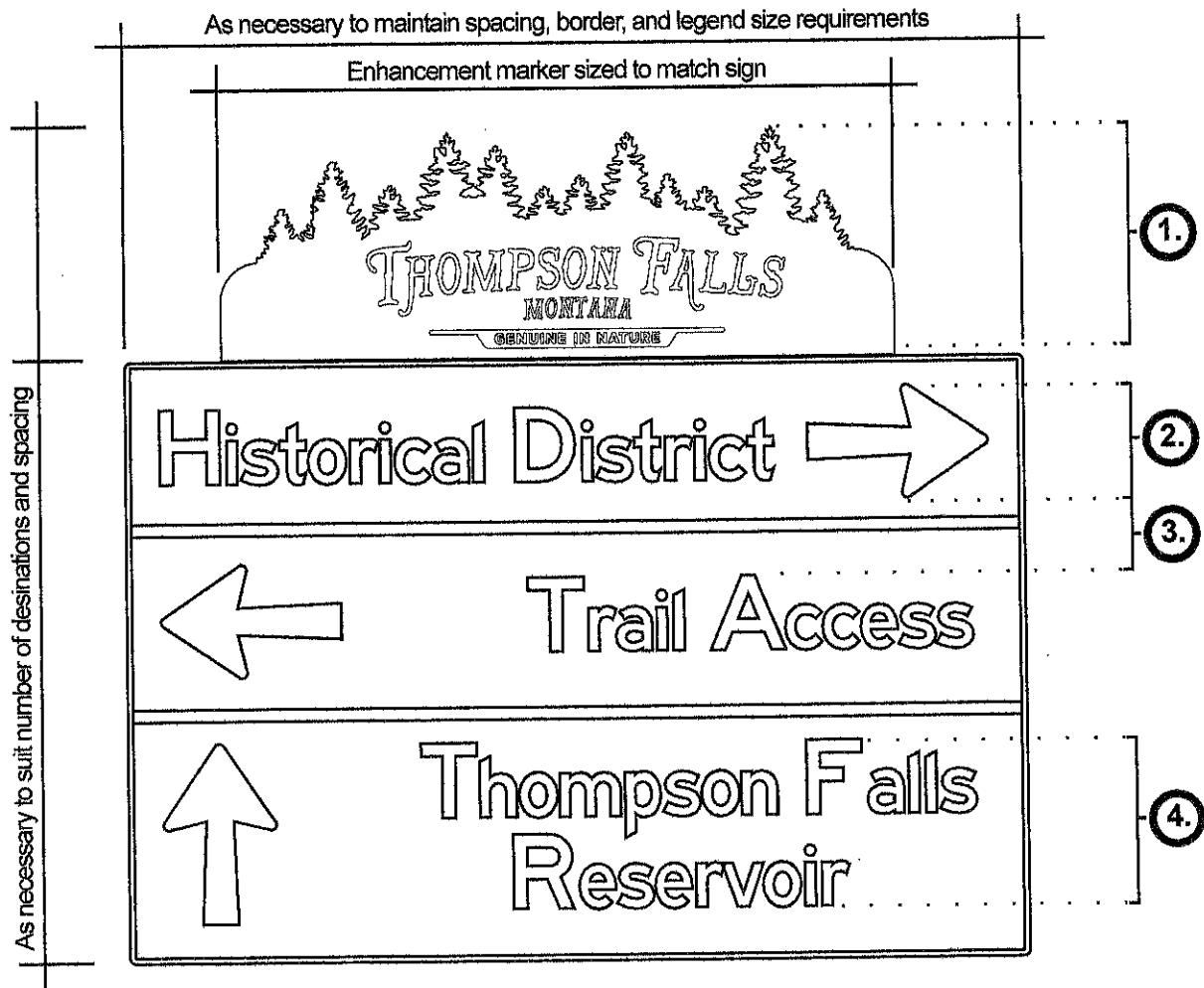
Banners should be refreshed throughout the year to incorporate holidays, special events, and recreation activities and more. These can be changed out on a regular basis to prolong the life of the banner and engage users.



Wayfinding can be incorporated into a number of downtown amenities including benches, trash cans, bike racks, sidewalk emblems, and even crosswalks.



EXAMPLE MDT COMPLIANT SIGNAGE



1. ENHANCEMENT MARKERS

The sizes and shapes of identification enhancement markers shall be smaller than the community wayfinding guide signs themselves. Identification enhancement markers shall not be designed to have an appearance that could be mistaken by road users as being a traffic control device.... The area of the identification enhancement marker should not exceed 1/5 of the area of the community wayfinding guide sign with which it is mounted in the same sign assembly. MUTCD SECT 2D.50.40-42

2. ARROWS

The width across the arrowhead for the Types A, B, and C directional arrows should be between 1.5 and 1.75 times the height of the upper-case letters of the principal legend on the sign. MUTCD SECT 2D.08.23

3. LEGEND SPACING

Interline spacing should be approximately three-fourths the average of capital or uppercase letterheights in adjacent lines of letters. SHS Design Guidelines 8-2

4. LEGEND SIZING

The principal legend on guide signs shall be in letters and numerals at least 6 inches in height for all upper-case letters, or a combination of 6 inches in height for upper-case letters and 4.5 inches in height for lower-case letters. On low-volume roads with speeds of 25 mph or less, and on urban streets with speeds of 25 mph or less, the principal legend shall be in letters at least 4 inches in height for all upper-case letters, or a combination of 4 inches in height for upper-case letters and 3 inches in height for lower-case letters. MUTCD SECT 2D.06.03

PERMITTING

All recommended Vehicular Directional signage is located along HWY 200 in a Montana Department of Transportation (MDT) Right-of-Way. Vehicular signage identified in the Sign Schedule as MDT ROW is located within this corridor and must have an Encroachment Permit. It is necessary to apply for all signs within the same permit application, **amendment or addition of signs following initiation of the procedure is not recommended by MDT and may result in significant delays to the permitting process.** It may be preferable in some cases to include all desired signage locations in the

same permit even if they will not be installed at the same time, further **direct consultation with MDT prior to submission of a permit application is highly recommended.** Sign maintenance will also be required under this permit. MDT standards for mounting and placement can be found in Appendix B.

Signs within the right-of-way of City or County roads must also get approval from the appropriate governing body. Additionally, signs to be placed on private property must get approval from the corresponding landowner.



**Montana Department of Transportation
Encroachment Application**

2701 Prospect Ave
PO Box 201001
Helena, MT 59620-1001
(406) 444-6200
www.mdt.mt.gov

Printed Date: 07/21/2022

Applicant Information				
First Name *	Last Name *	Email *		
<input type="text"/>	<input type="text"/>	<input type="text"/>		
Company				
<input type="text"/>				
Mailing Address *			Contact Phone *	
<input type="text"/>			<input type="text"/>	
City *	State *	Zip *		
<input type="text"/>	<input type="text"/>	<input type="text"/>		
Alternate Contact/Co-Applicant Information (Optional)				
First Name	Last Name	Email	Phone	Contact Type
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/> Co-Applicant <input type="radio"/> Alternate Contact
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/> Co-Applicant <input type="radio"/> Alternate Contact
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/> Co-Applicant <input type="radio"/> Alternate Contact
Location Information				
Sign Route *	Route Name	Mile Post Start *	Mile Post End	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Above: Example of MDT Encroachment Permit. Permit located at: <https://mtleague.org/wp-content/uploads/2021/10/Standard-Encroachment-Requirements.pdf>

FUNDING STRATEGY



FUNDING STRATEGIES

PROJECT PLANNING TOOLKIT

Wayfinding Project Background

Thompson Falls is a community of about 1,658 people set in northwest Montana nestled in a quiet valley along the beautiful Clark Fork River. In recent years they've been planning for and implementing community enhancements including the creation of a Downtown Master Plan (2015), participating in the Recreation Economy for Rural Communities program (RERC) in 2020, and completing pedestrian and roadway improvements along Main Street/ MT 200 in 2023. Thompson Falls completed a wayfinding plan, which was a goal of both the Downtown Master Plan and the RERC process, and they are seeking funding to help implement that plan.

The Setting - Main Street / MT 200

Main Street (Montana State Highway 200, MT 200) in Thompson Falls is the primary corridor through town and it also functions as the downtown and heart of the community with numerous local businesses that help define the character of the community. Because Main Street / MT 200 serves as both the downtown urban core and as the primary method for passing through Thompson Falls; special attention should be paid to the corridor and its advantages and challenges.

It is not hard to find Downtown Thompson Falls, in fact about 9,570 vehicles pass through on an average day . The challenge is that the community would benefit from a safe, vibrant, pedestrian-friendly corridor. This desire can be at odds with the design criteria applied to Montana Department of Transportation (MDT) routes, such as lane width, sight distance, signage setbacks, turning radii, etc. Roads typically function best as either a corridor for

cars or a living room for the community, but in Thompson Falls, Main Street (Highway 200) must do both.

In 2023 the Montana Department of Transportation partnered with Thompson Falls to update 30 sidewalk ramps along Main Street in an effort to improve pedestrian access and safety. These pedestrian improvements combined with the wayfinding implementation, will increase the safety and economic vitality of Thompson Falls.

Benefits of Wayfinding

Wayfinding can offer several benefits to Thompson Falls, as it can enhance the overall experience for residents and visitors alike by improving the following;

Improved Navigation: Help people navigate the Town more easily by providing clear signage and directional information leading to a sense of welcomeness and inclusivity, and improving visitor experiences.

Tourism and Economic Growth: Thompson Falls is known for its natural beauty and outdoor recreational opportunities, including the Clark Fork River and the Thompson Falls State Park. Wayfinding can help guide tourists to these attractions and encourage longer stays, leading to more economic activity.

Increased Foot Traffic: Effective wayfinding signage can direct pedestrians to local businesses, restaurants, and shops. Foot traffic is key to creating safe, vibrant communities - it leads to more community interactions, spontaneous shopping, and increased safety and economic activity. Walkable downtowns, town centers, and neighborhoods comprise only 1.2 percent of metropolitan land area—yet they generate 20 percent of the nation's

gross domestic product. Increased walkability is associated with higher home values across the country.

Branding and Identity: Wayfinding systems can incorporate the Town's unique character and identity through the use of specific colors, design elements, and logos. Branding can help create a strong sense of place and community identity, making it more memorable. The Town has created a wayfinding plan including signage details like colors, materials, logos, etc., as well as a location plan showing which signs need to be placed in which locations.

Local Cultural and Historical Promotion: Wayfinding can highlight local cultural and historical sites such as museums (Old Jail Museum), historic landmarks (Thompson Falls Dam, Koo-Koo-Sint Bighorn Sheep Viewing Site), public art, and scenic hiking trails and

drives. This promotes a deeper understanding of the Town's heritage and encourages cultural and educational tourism.

This section includes a summary of wayfinding related initiatives and community collaborators.

The **Thompson Falls Main Street (TFMS)** initiative is a public-private partnership between community members, businesses, and local governments united by a goal of revitalizing the historic town center while strengthening the local economy by connecting the town to the region's abundant recreational opportunities. TFMS is an all-volunteer organization that creates community connections to support a variety of projects that are guided by the town's 2015 Downtown Master Plan. Projects include community branding, re-purposing of historic buildings, and streetscape improvements.



Above: Pedestrian Improvements Along Main Street / MT 200. Photo Courtesy of MDT Thompson Falls - Urban - Construction Updates | Montana Department of Transportation (MDT) (mt.gov)

The **Cube Iron Cataract Coalition** is a local organization dedicated to building community awareness of recreation opportunities in the wilderness areas. The coalition maintains some trails in the wilderness and publishes maps and other marketing materials to encourage locals and visitors to get out and enjoy nature.

Thompson Falls Community Trails is a non-profit organization devoted to managing and promoting trails for non-motorized use.

Thompson Falls collaborated with MDT on its pedestrian improvements project. The Montana Department of Transportation (MDT) and Thompson Falls made significant Americans with Disabilities Act (ADA) upgrades and roadway improvements along the Thompson Falls Main Street / Montana Highway 200 (MT 200) corridor in Sanders County. The project began near the Thompson Falls Rural Fire Station at the intersection with Maiden Lane and extended southeast through the city for approximately one mile, ending at the entrance to Wild Goose Landing Park.

Project Plan for Implementation

The wayfinding project was identified in the 2015 Downtown Master Plan under the category of Awareness;

Goal #2 Visitors can easily obtain information on activities in Thompson Falls

Objective 2.1 Ensure visitors to Thompson Falls are aware of the recreational and cultural opportunities available

Action Item 2.1a is as follows;

Create and install consistent signage that directs visitors to attractions in Thompson Falls, including trails, parks, cultural landmarks and visitor information.

Through the public outreach process it was apparent that many Thompson Falls residents would like to see improved signage in town directing people to attractions. Visitors driving or biking into Thompson Falls have little indication of all that exists in Thompson Falls – notably the abundance of parks and trails.

With an effective a wayfinding program, Thompson Falls can prominently display signs that direct people to parks, trails, downtown, public parking, visitors center (see Action 2.1b), public lands, and boat ramps. Signs placed along MT Highway 200, will require approval from MDT prior to implementation. Coordination between signage manufacturers, installers, MDT, and the city of Thompson Falls can be facilitated with the use of this document, as well as regulations established in the MUTCD and SHS, when the city is ready to implement installation and/or replacement. Procedures related to the permitting process may make it preferable include all potential signage on a single application, even if there will not be immediate replacement or installation of all planned signs. Appendix B contains further standards from MDT related to sign placement and installation.

FUNDING STRATEGIES

Updated December 2023

MOTORIST SIGNAGE

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
Montana Department of Commerce	Montana Main Street Program - Planning and Project Grant	Town	\$50,000 1:5 match	February 28, 2024	Montana Main Street Program - Community MT	High

Thompson Falls is a member of the Montana Main Street Program and is eligible for a Planning and Project Grant. Thompson Falls was a recipient of the 2023 Planning and Project Grant to establish a wayfinding plan, and could submit again for implementation of the plan.

The department is currently working on updating program guidance. Please note that ongoing Main Street grants must be closed out or in the process of closing before a new grant application can be submitted.

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
Montana Department of Commerce	Montana Main Street Program - Impact Program	City, County, Tribal Gov., 501(c)	\$50,000 1:5 match	February 28, 2024	Montana Main Street Program - Community MT	High

Impact Grants will support Montana Main Street Program member community efforts to implement high impact projects that activate spaces and execute concrete ideas for downtown revitalization. Impact grant funds can be used to activate public spaces, downtown retail spaces, and upstairs housing.

The department is currently working on updating program guidance. Please note that ongoing Main Street grants must be closed out or in the process of closing before a new grant application can be submitted.

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
Glacier Country Tourism	Cooperative Marketing Project Match Program	City or Town	\$7,000 per project 1:1 match \$50,000 total for FY 2024	Rolling, starting on July 1 each year	Glacier Country Tourism Submission Manager	High

The intent of this program is to encourage the development of new or expanded marketing projects, thereby increasing the tourism appeal of the city or region to out-of-area visitors.

Wayfinding signs are eligible.

FUNDING STRATEGIES

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
USDA, Rural Development	Rural Business Development Grant	City or Town - must have a population less than 50,000	No max amount No match	February 28, 2024	Rural Business Development Grants in Montana	High

This program is designed to provide technical assistance and training for small rural businesses. Small means that the business has fewer than 50 new workers and less than \$1 million in gross revenue.

Wayfinding would fall under the Community Economic Development category as an eligible project

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
USDA, Rural Development	Community Development Initiative Grant	City or Town - must have a population less than 50,000	\$50,000 to \$500,000 1:1 match	July 2023 (annually)	Rural Community Development Initiative Grants in Montana	High

Rural Community Development Initiative grants are awarded to help non-profit housing and community development organizations, low-income rural communities and federally recognized tribes support housing, community facilities and community and economic development projects in rural areas. Wayfinding implementation is eligible.

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
USDA, Rural Development	Community Facilities Grant and Loan	City or Town - must have a population less than 20,000	No match	Rolling	Community Facilities Direct Loan & Grant Program in Montana	Medium

This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings. Low interest loans and grants are available. The maximum grant amount allowed is 75% of total project cost. Priority is given for small communities with a population of 5,500 or less, and low-income communities having a median household income below 80% of the state non metropolitan median household income.

The median household income for Montana is \$63,249 in 2021. The median household income for Thompson Falls, as reported in the Downtown Master Plan for 2013 is \$32,031. The grantable amount allowed under this program is tiered and based on median household income. Updated income data should be reviewed, but it appears likely that Thompson Falls would qualify for some grant funding under this program in addition to a loan.

FUNDING STRATEGIES

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
Avista	Economic and Community Vitality	501(c)3, civic org, or school	\$1.2M in 2022 (416 grants) Average grant, past 3 years ~\$7,500k	July 1 - August 1, 2024	Avistafoundation.com	Medium

The Avista Foundation, a community investment program of Avista Corp., provides funding to non-profit organizations addressing the needs of communities and citizens served by Avista Utilities in eastern Washington, northern Idaho, portions of southern Oregon, and Sanders County, Montana.

Focus Areas: Avista's philanthropy programs are focused on education, environment, vulnerable and limited income populations, and economic and cultural vitality. Thompson Falls would need to partner with a 501(c)3 to be eligible.

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
Montana Office of Tourism	Tourism Grant Program	City or Town	1:2 match w/ in kind up to 25%	Typically closes in September	Tourism Grant Program - Brand MT	Low - currently closed

Recently passed legislation, SB540 is significantly redeveloping the funding opportunities that may be provided through the Office of Tourism and they are in the early conversations of what that will look like. At this time there will not be a funding opportunity provided through the Tourism Grant Program this year.

Typically, wayfinding is an eligible project. This program should be re-examined next year.

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
NorthWestern Energy	Charitable Giving - Civic and Community	Non-profit	\$2.1M in 2022	Rolling, awards made quarterly	NorthWestern Energy charitable programs	Low

Thompson Falls would need to partner with a nonprofit organization.

This foundation has about \$20M in assets and funds about \$2M per year in grants. The Northwestern Energy Charitable Giving Program contributes to economic development, charitable donations and community sponsorships.

FUNDING STRATEGIES

Funding Agency	Program	Eligible Entity	Avail. Funding/ Match	Application Deadline	Website	Priority
Funder's Network for Smart Growth and Livable Communities	Partners for Places	Non-profit, government	\$45k to \$150k	February 27, 2024	Partners for Places - The Funders Network	Medium

Partners for Places aims to enhance local capacity to build equitable and sustainable communities in the United States and Canada.

These one-to-one matching awards support the planning and implementing of urban sustainability and green stormwater infrastructure projects. These one-to-one matching awards provide partnership investments between \$45,000 and \$150,000 for one-year projects, or between \$75,000 and \$180,000 for two-year projects, with one or more local foundations required to provide at least a 50% matching grant.

Through Round 16, the primary partners were local governments and local foundations. The Partners for Places 2018-2023 strategy leads with racial equity and a sharper focus on how best to advance equitable and sustainable communities. Starting in Round 17, the primary partners also include local frontline community groups. This collaborative governance model is intended to more deeply embed the values and practice of racial equity into local community decision-making processes.

What is a frontline community? Partners for Places defines frontline communities as those most impacted by systems of oppression and injustice, economic disadvantage, and environmental harm.

In Montana, they have funded the Montana Community Foundation for the past few years (\$160k in 2022) as well as two projects in Missoula.

COST ESTIMATION - SIGNS

Actual signage dimensions and print area will vary as required to maintain compliance with background and legend size/spacing requirements. Traffic speeds, shoulder width, and local road conditions will also affect sign dimensioning and manufacturing. Compliance with MDT and FHWA standards for community wayfinding signage should be confirmed prior to consultation with a manufacturer.

Below is a cost estimate for multiple standard roadway and pedestrian sign types, these estimates do not include mounting or installation. Mounting and installation requirements vary depending on sign dimensions and location in the right of way as required by MDT. These estimates do not include the manufacture or installation of wayfinding enhancement markers. Actual costs will vary depending on dimensions and preferences for mounting.

Estimated costs are provided for the most common sizes of standard roadway signage:

- **Motorist 60" x 48" Roadway Sign (.080 gauge, reflective, aluminum) (Sign Only) - \$603.50**
- **Pedestrian 12" x 20.5" Roadway Sign (.080 gauge, reflective, aluminum) (Sign Only) - \$57.00**



BIG BEAR SIGN CO INC

1315 Clark Fork Lane
PO Box 17467
Missoula, MT 59808

Estimate

Date	Estimate #
11/9/2023	2023-1776

In addition to signs for motorists and pedestrians, stakeholders and participants in public engagement have indicated an interest in unifying signage related to local parks and amenities as well as providing information on local businesses and recreation opportunities.

These estimates do not include the costs for installation or for accompanying structures or infrastructure necessary for mounting which will vary based on sign location and purpose. Signs placed in the MDT right-of-way will be required to meet the standards for signage for pedestrians.

Estimates for signage materials commonly utilized in these applications are below:

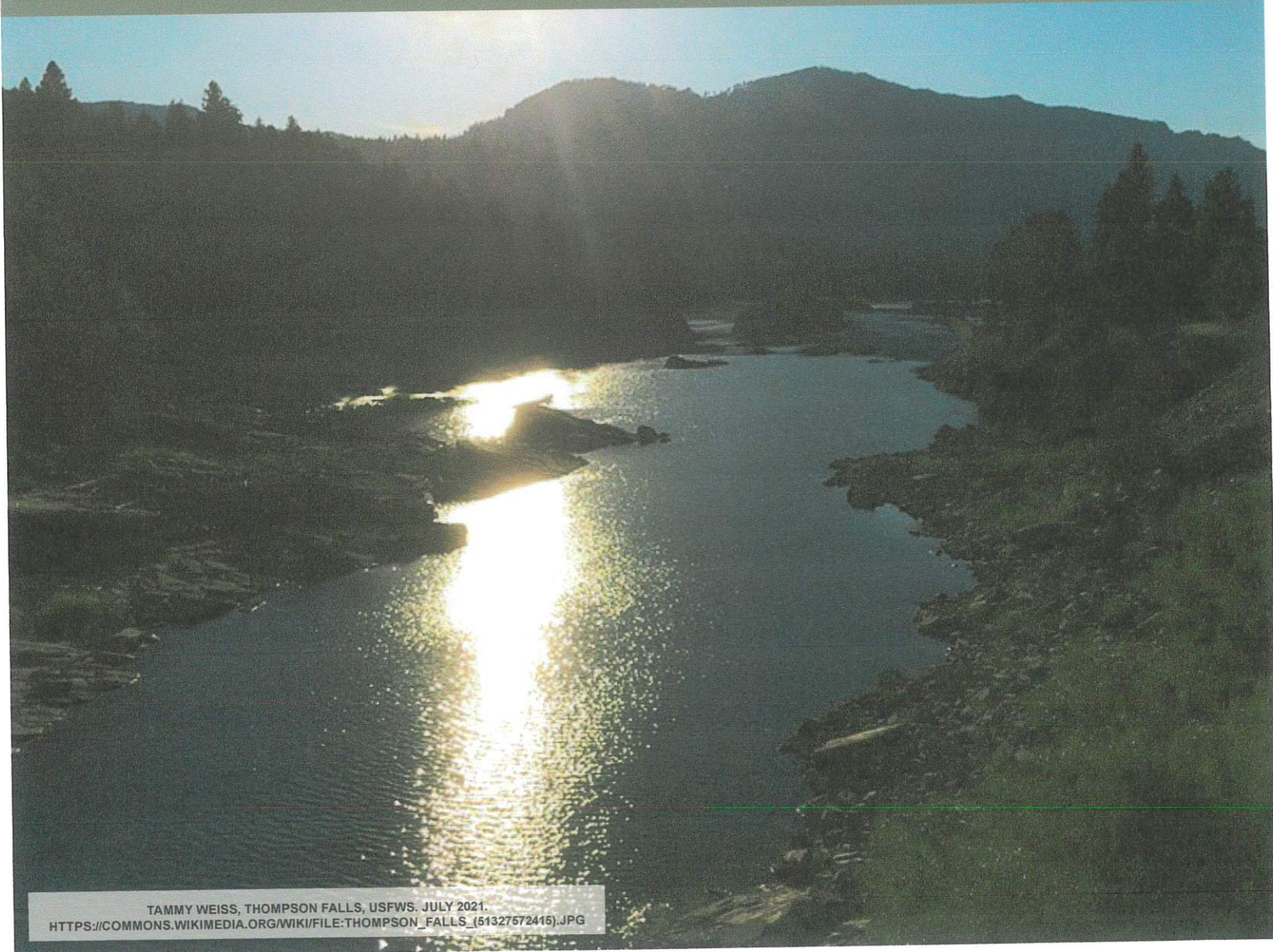
- **36"x60" Kiosk Board Sign with Map (Sign Only) (single sided, vinyl) - \$346.00**
- **48"x30" Community Asset Sign (Sign Only) (single sided, vinyl) - \$206.00**

		Rep	Project
Qty	Description	Price Each	Total
2	12" x 20.5" .063 ALUM. SIGNS, 4CP ON WHITE ENGINEER GRADE REFLECTIVE SHEETING, UV LAMINATE, SINGLE SIDED - ROADWAY SIGN W/CON, ROADWAY SIGN W/TEXT	57.00	114.00
1	60" x 48" .080 ALUM. SIGN, 4CP ON WHITE ENGINEER GRADE REFLECTIVE SHEETING, UV LAMINATE, SINGLE SIDED - LARGE ROADWAY (MAX PRINT AREA IS 46" ON THIS SIGN, WOULD NEED A WHITE MARGIN AROUND SIGN)	603.50	603.50
1	36" x 60" 3mm NUDO BOARD SIGN, 4CP ON WHITE PREMIUM CAST VINYL, UV LAMINATE, SINGLE SIDED - KIOSK SIGN W/MAP (DOES NOT INCLUDE STRUCTURE)	346.00	346.00
1	48" x 30" 3mm NUDO BOARD SIGN, 4CP ON WHITE PREMIUM CAST VINYL, UV LAMINATE, SINGLE SIDED - PARK SIGN (DOES NOT INCLUDE STRUCTURE)	206.00	206.00
Estimate is valid for 90 days.		Total	\$1,269.50

Phone #	Fax #	E-mail
406-542-1871	406-541-4435	info@bigbearsign.com

APPENDIX A-

COMMUNITY WAYFINDING SURVEY



Thompson Falls Wayfinding Plan Survey

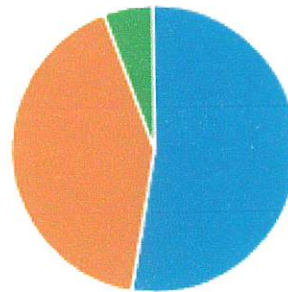
36
Responses

06:33
Average time to complete

Closed
Status

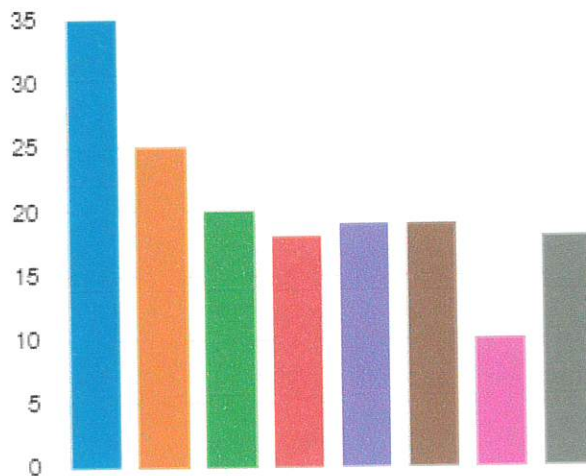
1. Are you a resident of Thompson Falls?

- Yes, I live in town 19
- Nope, but I live near town (neig... 15
- Nope, but I have visited 2
- I have never been to Thompson ... 0



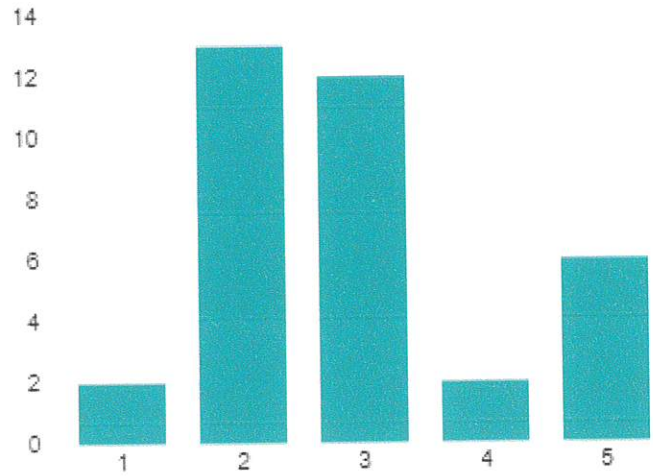
2. Who do you think will benefit from improved wayfinding signage? (Select all that apply)

- Out of town visitors 35
- Recreationalists 25
- Families 20
- Vehicular Users 18
- Pedestrians/Bike Users 19
- Businesses 19
- Healthcare Users 10
- Event Participants (Sports, Music... 18
- Other 0



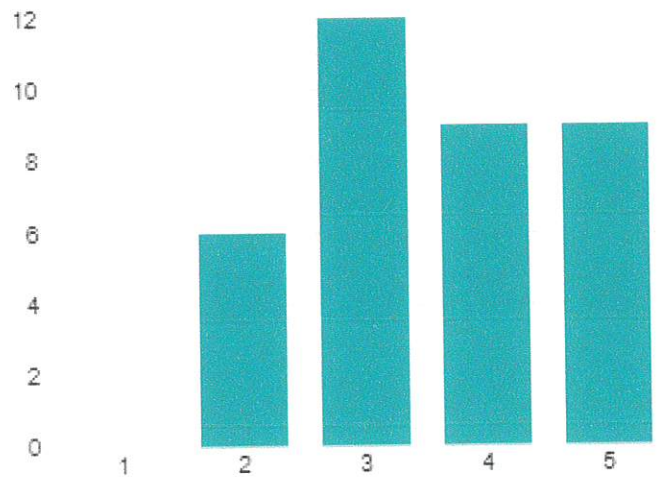
3. On a scale of 1 to 5, how easy do you feel it is for people to find Parks/Trails in and around town? (1 being the hardest to find, 5 being the easiest)

2.91
Average Rating



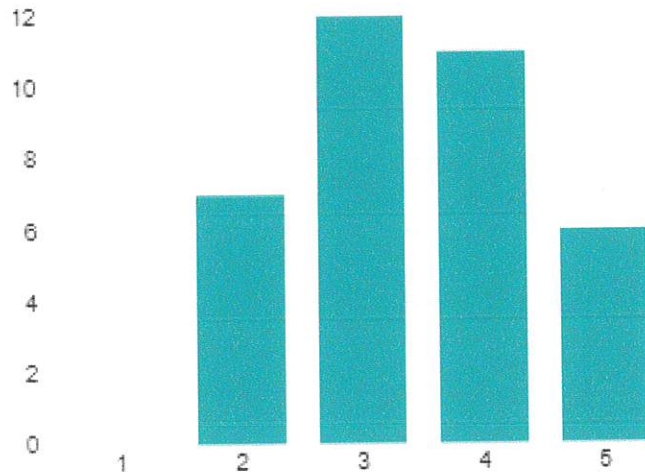
4. On a scale of 1 to 5, how easy do you feel it is for people to find Businesses in and around town? (1 being the hardest to find, 5 being the easiest)

3.58
Average Rating



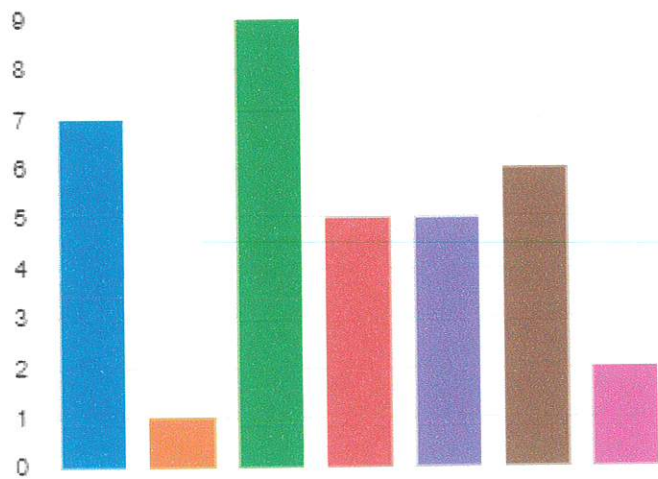
5. On a scale of 1 to 5, how easy do you feel it is for people to find Public Buildings (Schools, Courthouse, etc) in and around town? (1 being the hardest to find, 5 being the easiest)

3.44
Average Rating



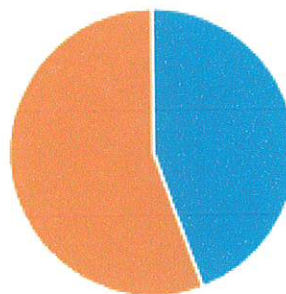
6. Think about a recent time you have used signs in another city. What did the signs help you navigate to?

- Hospitals 7
- Schools 1
- Park/Trail 9
- Businesses 5
- Municipal Building (Courthouse,...) 5
- The town itself (WELCOME TO.....) 6
- Other 2



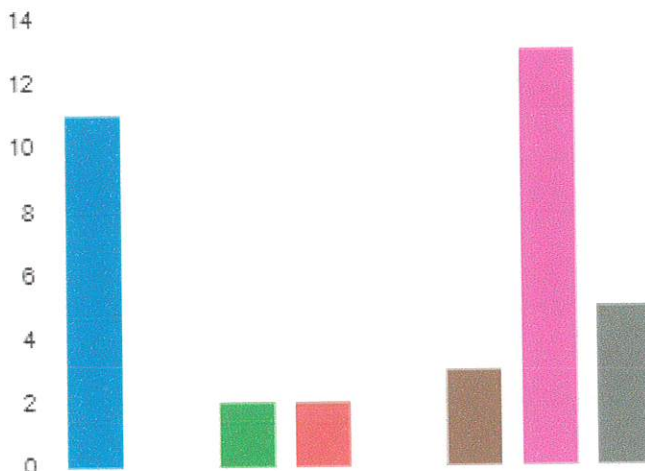
7. In recent years, have you noticed new signage around town?

● Yes	16
● No	20



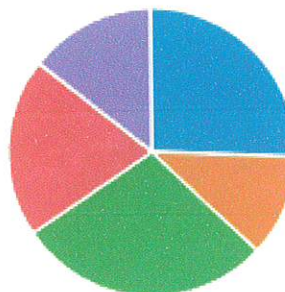
8. I feel the existing signs in Thompson Falls are (select all that apply):

● Adequate	11	14
● Complicated	0	12
● Confusing	2	10
● Clear	2	8
● Busy	0	6
● Representative of Thompson Falls	3	4
● Lacking	13	2
● Other	5	0

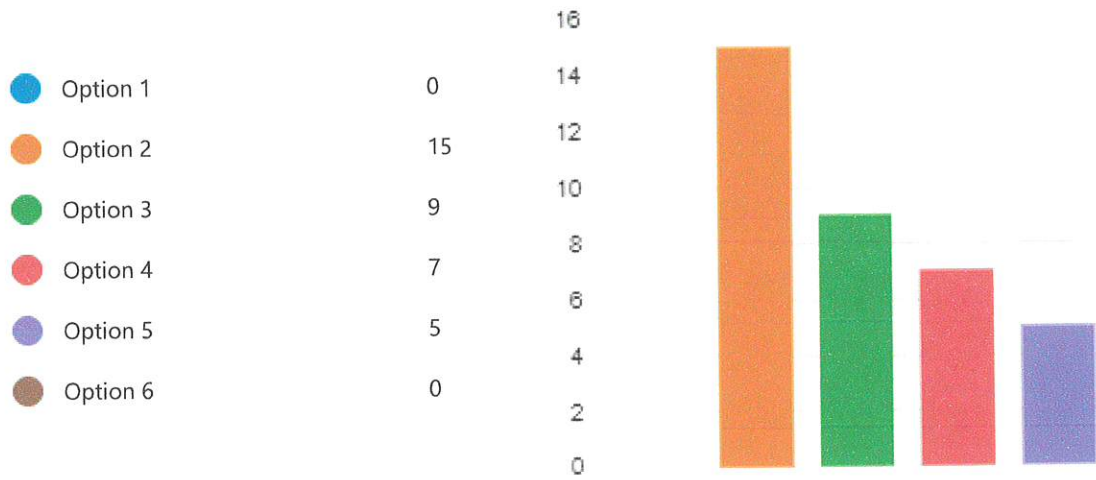


9. At which location on the map do you feel is the primary entrance into Thompson Falls?

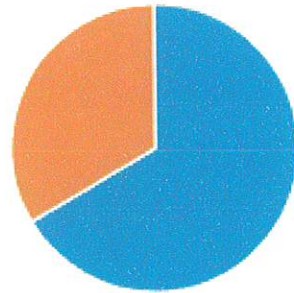
● Area 1 (Pink)	9
● Area 2 (Yellow)	4
● Area 3 (Blue)	10
● Area 4 (Red)	7
● Other	5



10. Looking at only the map, which style is most appealing to you?



11. Which of the two options to you prefer?



12. If you could only use one word to describe Thompson Falls, what would it be?

30
Responses

Latest Responses

"Enlightened"

"genuine"

"unique"

4 respondents (13%) answered **Home** for this question.



13. Anything else you would like us to know about wayfinding in Thompson Falls?

22
Responses

Latest Responses

"In the midst of an extremely dense foggy night, encountered a ..."

"I think it's pretty adequate as far as signs go. Maybe the gazeb..."

6 respondents (27%) answered **need** for this question.



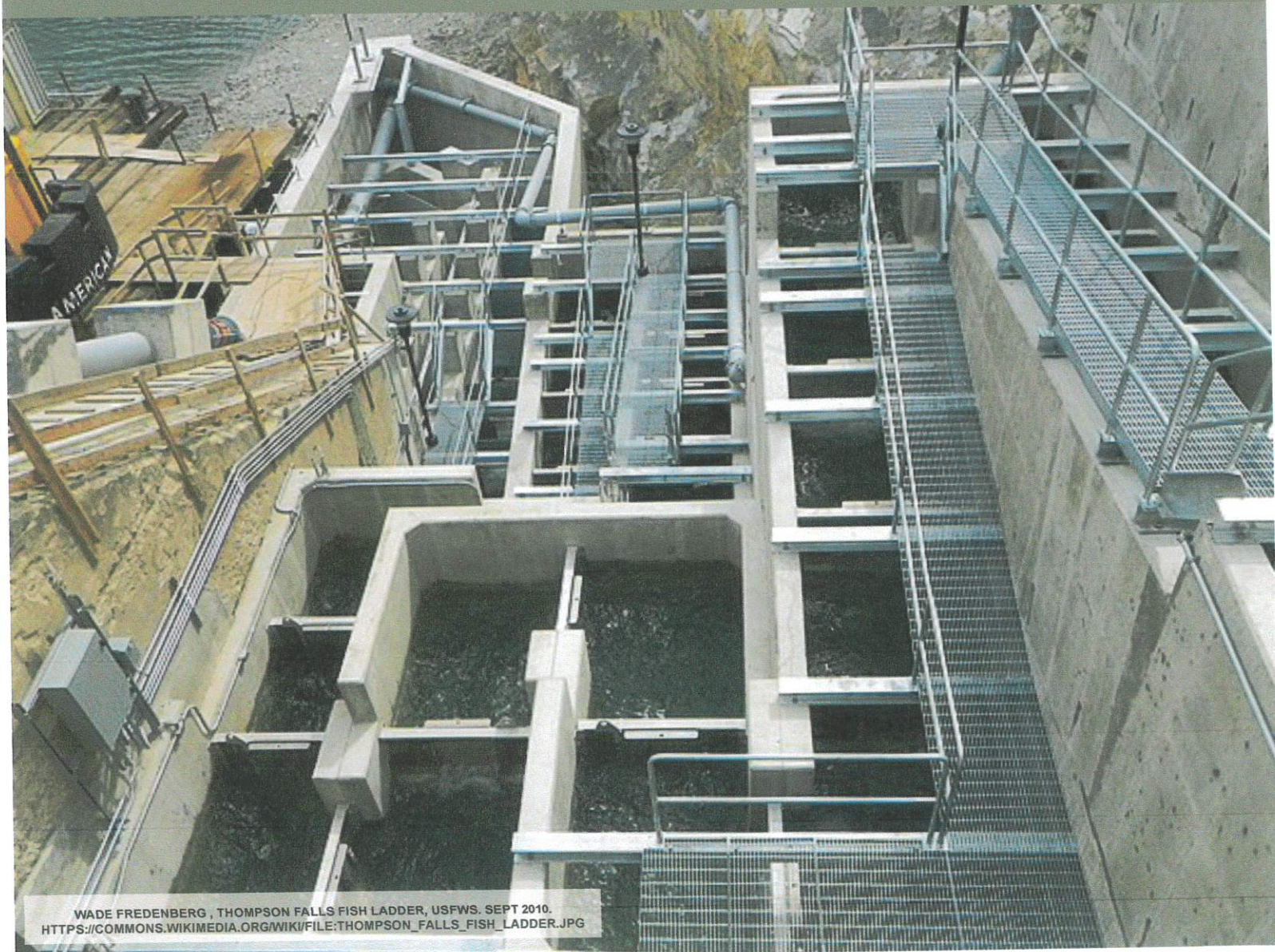
13. Anything else you would like us to know about wayfinding in Thompson Falls?

22 Responses

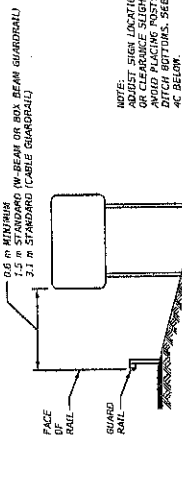
ID ↑	Name	Responses
1	anonymous	N/A
2	anonymous	We need a cohesive design and color
3	anonymous	Please don't inundate the hwy with signage. Put it in one or two areas.
4	anonymous	A large, general sign would be helpful only at locations where a car could stop and people could get out and decipher. That would make Wild Goose Landing or the Park on the SE corner of town the most logical. And, of course, with google maps, we can all find specific businesses etc, but maybe not find the best entrance (and parking) to the various trail and park systems.
5	anonymous	Signs to the mule pasture are particularly in need of fixing.
6	anonymous	Adds character & welcoming value
7	anonymous	It would encourage people to stop, not just drive through
8	anonymous	given all the needs in town, this seems like a waste of time and money
9	anonymous	SIGNAGE FOR FISHING SPOTS MAY BE A GOOD OPTION IT IS ONE QUESTION WE GET AND ALSO FOR THOMPSON RIVER AREA
10	anonymous	keeping it consistent and clean
11	anonymous	Recreation (i.e. Golf Course, Parks, Trails)
12	anonymous	no
13	anonymous	JUST COULD BE BETTER.
14	anonymous	no
15	anonymous	Thank you for taking on this important project!
16	anonymous	Prominently include info about recreation activities nearby, outside of town - hiking, rafting, hunting
17	anonymous	This town needs a destination, a reason to come and a reason to stay.
18	anonymous	Don't mention Mule Pasture Trails, we like it sparse and quiet for locals. It has signage now. Sometimes travelers will use it as overnight camping which is against the rules. Thx
19	anonymous	The town definitely needs to advertise its attractions
20	anonymous	Small towns need to focus on what the citizens need, first and foremost.
21	anonymous	I think it's pretty adequate as far as signs go. Maybe the gazebo could be a possible visitor center?
22	anonymous	In the midst of an extremely dense foggy night, encountered a herd of wild roaming horses all over the road; barely avoided collision with any of them.

APPENDIX B-

MDT SIGNAGE PLACEMENT STANDARDS



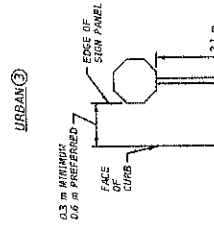
GUIDE SIGNS



NOTE: FOR PLACEMENT OF THESE SIGNS IN URBAN CONDITIONS, SEE THE SIGN LOCATION AND SPECIFICATION SHEETS IN THE SIGNING PLANS FOR EACH LOCATION. THE MAXIMUM CLEARANCE OF THESE SIGNS IS 13.2 m IN ANY CONDITION. SEE DTL DWG. NO. 619-08 FOR MOUNTING HEIGHTS.

5. WITHIN THE CITY LIMITS OR IN A SIDEWALK AND CURB AREA, MOUNT SIGNS TO HAVE THE PROPER CLEARANCES, BUT AVOID PLACING SIGNS IN THE SHOULDER OR ON THE SIDEWALK. THE EXACT LOCATION OF THESE SIGNS WILL BE DETERMINED BY THE PROJECT MANAGER. THESE SIGN INSTALLATIONS WILL BE DETERMINED BY THE PROJECT MANAGER. SEE DTL DWG. NO. 619-18 FOR VARIOUS CONTIGUOUS TYPE MOUNTINGS.

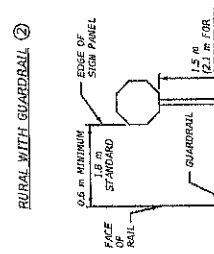
6. EVALUATE SIGNS WITHIN CLEAR ZONES (TABLES BELOW) FOR SUPPORT REQUIREMENTS. REQUIREMENTS CONTACT AIT TRAFFIC SECTION FOR CENTERLINE BREAKAWAY MEETING THE REQUIREMENTS OF SECTION 704.



NOTE: FOR PLACEMENT OF THESE SIGNS IN URBAN CONDITIONS, SEE THE SIGN LOCATION AND SPECIFICATION SHEETS IN THE SIGNING PLANS FOR EACH LOCATION. THE MAXIMUM CLEARANCE OF THESE SIGNS IS 13.2 m IN ANY CONDITION. SEE DTL DWG. NO. 619-08 FOR MOUNTING HEIGHTS.

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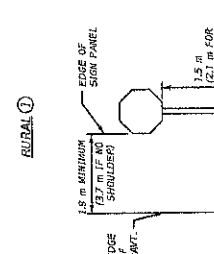
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1. PLACE ALL SIGNS AT THE CLEARANCE AND MOUNTING HEIGHTS SHOWN.

2. FOR REGULATION, WARNING AND ROUTE MARKER SIGNS, AND THEIR ASSEMBLIES, LOCATED IN URBAN CONDITIONS, THE CLEARANCE FROM THE FACE OF THE RAIL TO THE SIGN PANEL SHALL BE 0.6 m (2.1 m FOR INTERSTATE).

3. FOR REGULATION, WARNING AND ROUTE MARKER SIGNS, AND THEIR ASSEMBLIES, ON INTERSTATE HIGHWAYS, THE CLEARANCE IS 6.1 m FROM THE EDGE OF PAVEMENT IN COLUMN COLUMNS AND 6.1 m FROM THE EDGE OF SHOULDER IN COLUMN D.

4. FOR GUIDE SIGNS AND THEIR ASSEMBLIES, PLACE SIGNS IN THE CLEAR ZONE DISTANCES LISTED IN THE SIGNING PLANS.

1. PLACE ALL SIGNS AT THE CLEARANCE AND MOUNTING HEIGHTS SHOWN.

2. FOR REGULATION, WARNING AND ROUTE MARKER SIGNS, AND THEIR ASSEMBLIES, LOCATED IN URBAN CONDITIONS, THE CLEARANCE FROM THE FACE OF THE RAIL TO THE SIGN PANEL SHALL BE 0.6 m (2.1 m FOR INTERSTATE).

3. FOR REGULATION, WARNING AND ROUTE MARKER SIGNS, AND THEIR ASSEMBLIES, ON INTERSTATE HIGHWAYS, THE CLEARANCE IS 6.1 m FROM THE EDGE OF PAVEMENT IN COLUMN C COLUMNS AND 6.1 m FROM THE EDGE OF SHOULDER IN COLUMN D.

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4. FOR GUIDE SIGNS AND THEIR ASSEMBLIES, PLACE SIGNS IN THE CLEAR ZONE DISTANCES LISTED IN THE SIGNING PLANS.

HORIZONTAL CURVE ADJUSTMENTS
(APPLICABLE ON DESIGN SPEED (km/h))

DESIGN SPEED (km/h)	60	70	80	90	100	110
FLAT	1.1	1.1	1.1	1.2	1.2	1.2
1% TO 2%	1.1	1.1	1.1	1.2	1.2	1.2
3% TO 4%	1.1	1.1	1.1	1.2	1.2	1.2
5% TO 6%	1.1	1.1	1.1	1.2	1.2	1.2
7% TO 8%	1.1	1.1	1.1	1.2	1.2	1.2
9% TO 10%	1.1	1.1	1.1	1.2	1.2	1.2
11% TO 12%	1.1	1.1	1.1	1.2	1.2	1.2
13% TO 14%	1.1	1.1	1.1	1.2	1.2	1.2
15% TO 16%	1.1	1.1	1.1	1.2	1.2	1.2
17% TO 18%	1.1	1.1	1.1	1.2	1.2	1.2
19% TO 20%	1.1	1.1	1.1	1.2	1.2	1.2
21% TO 22%	1.1	1.1	1.1	1.2	1.2	1.2
23% TO 24%	1.1	1.1	1.1	1.2	1.2	1.2
25% TO 26%	1.1	1.1	1.1	1.2	1.2	1.2
27% TO 28%	1.1	1.1	1.1	1.2	1.2	1.2
29% TO 30%	1.1	1.1	1.1	1.2	1.2	1.2
31% TO 32%	1.1	1.1	1.1	1.2	1.2	1.2
33% TO 34%	1.1	1.1	1.1	1.2	1.2	1.2
35% TO 36%	1.1	1.1	1.1	1.2	1.2	1.2
37% TO 38%	1.1	1.1	1.1	1.2	1.2	1.2
39% TO 40%	1.1	1.1	1.1	1.2	1.2	1.2
41% TO 42%	1.1	1.1	1.1	1.2	1.2	1.2
43% TO 44%	1.1	1.1	1.1	1.2	1.2	1.2
45% TO 46%	1.1	1.1	1.1	1.2	1.2	1.2
47% TO 48%	1.1	1.1	1.1	1.2	1.2	1.2
49% TO 50%	1.1	1.1	1.1	1.2	1.2	1.2
51% TO 52%	1.1	1.1	1.1	1.2	1.2	1.2
53% TO 54%	1.1	1.1	1.1	1.2	1.2	1.2
55% TO 56%	1.1	1.1	1.1	1.2	1.2	1.2
57% TO 58%	1.1	1.1	1.1	1.2	1.2	1.2
59% TO 60%	1.1	1.1	1.1	1.2	1.2	1.2

CLEAR ZONE DISTANCES
(IN METERS FROM EDGE OF DRIVING LANE)

DESIGN SPEED (km/h)	FLAT	3:1	4:1 TO 5:1	CUT SLOPES
60	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
70	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
80	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
90	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
100	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
110	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0

TO AVOID GLARE, SKEN SIGN
AWAY FROM ROADWAY AT THE
FACE OF SHOULDER SKEN
SIGN TOWARDS ROADWAY AT THE
FACE OF SHOULDER. SIGN IS > 3.1m
FROM SHOULDER.

125 mm FOR EVERY 300 mm OF SIGN WIDTH

90°

SKEN DIAGRAM

DETAILED DRAWING
DWG. NO. 619-00
SECTION 619.04

MDTX MONTANA DEPARTMENT OF TRANSPORTATION

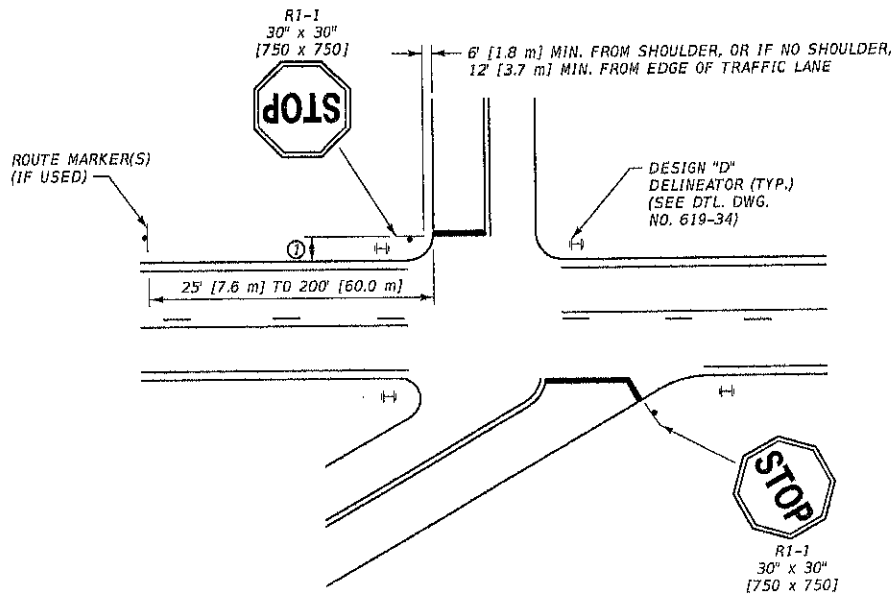
ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

WHEN AN INVESTIGATION OR ACCIDENT HISTORY INDICATES A HIGH PROBABILITY OF ACCIDENTS, CLEAR ZONE DISTANCES GREATER THAN 9.0 m MAY BE LIMITED TO 9.0 m TO PROVIDE A CONSISTENT ROADWAY TEMPLATE WHEN EXPERIENCE WITH PREVIOUS SIMILAR PROJECTS INDICATES SATISFACTORY PERFORMANCE.

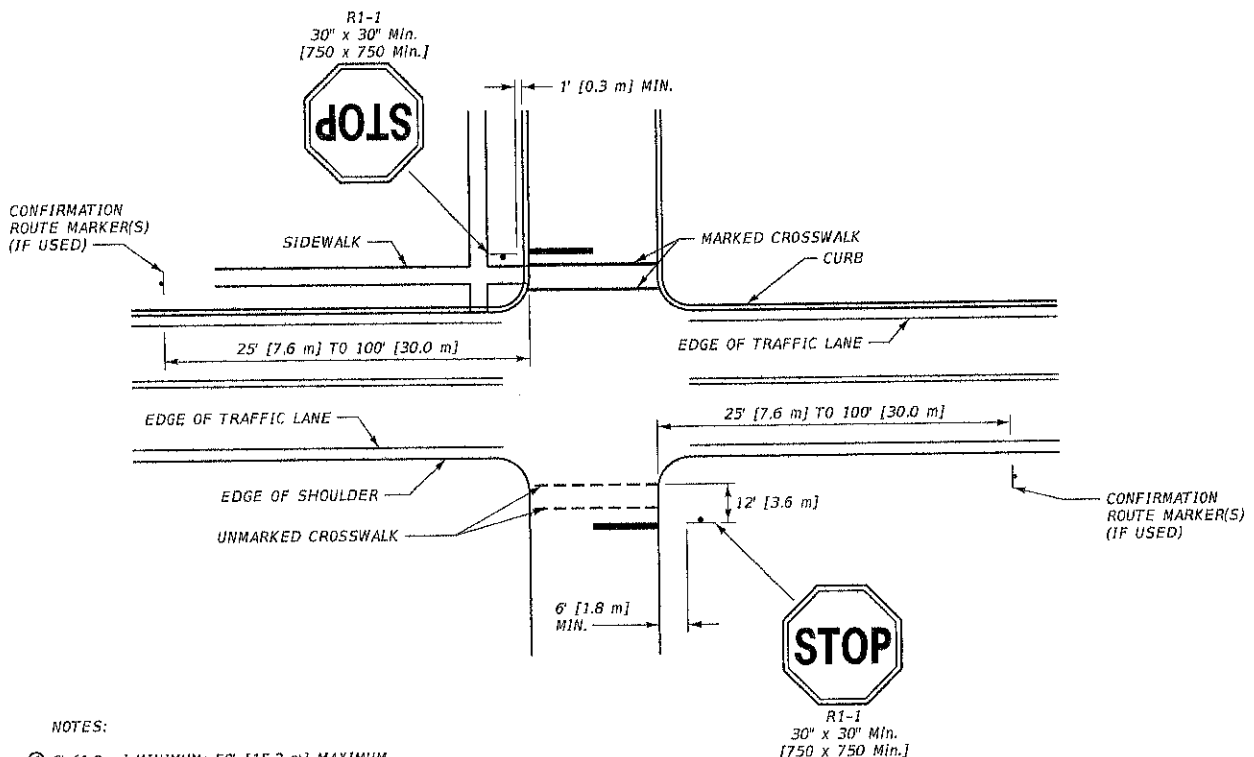
FIRE OBJECTS, INCLUDING SIGN POSTS, SHOULD NOT BE PLACED IN THE CLEAR ZONE DISTANCE. SEE MASHUTO ROADSIDE DESIGN GUIDE FOR ADDITIONAL CONSIDERATIONS IN LOCATING SIGNS.

WHEN AN INVESTIGATION OR ACCIDENT HISTORY INDICATES A HIGH PROBABILITY OF ACCIDENTS, CLEAR ZONE DISTANCES GREATER THAN 9.0 m MAY BE LIMITED TO 9.0 m TO PROVIDE A CONSISTENT ROADWAY TEMPLATE WHEN EXPERIENCE WITH PREVIOUS SIMILAR PROJECTS INDICATES SATISFACTORY PERFORMANCE.

FIRE OBJECTS, INCLUDING SIGN POSTS, SHOULD NOT BE PLACED IN THE CLEAR ZONE DISTANCE. SEE MASHUTO ROADSIDE DESIGN GUIDE FOR ADDITIONAL CONSIDERATIONS IN LOCATING SIGNS.



RURAL



URBAN

NOTES:

- ① 6' [1.8 m] MINIMUM; 50' [15.2 m] MAXIMUM.
- ② PLACE R1-1 SIGN AT THE BEGINNING OF CURB RADIUS OR SHOULDER RADIUS, OR 4 FEET [1.2 m] IN ADVANCE OF THE MARKED OR UNMARKED CROSSWALK.
- ③ SEE PLANS FOR FINAL SIGNING AND PAVEMENT MARKING LOCATIONS.
- ④ USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

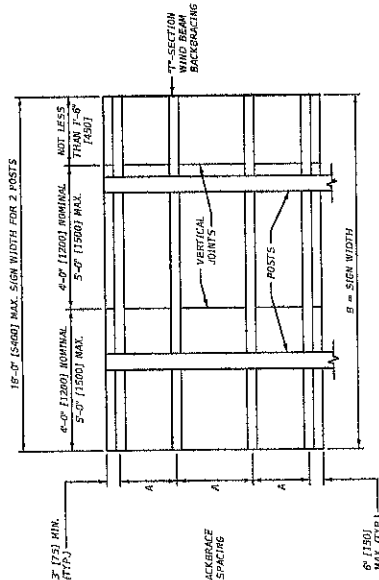
DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 619.704	DWG. NO. 619-02
TYPICAL RURAL AND URBAN APPROACHES	
MDT MONTANA DEPARTMENT OF TRANSPORTATION	

MAXIMUM BACKRACE SPACING "A"	2 POSTS	3 POSTS	MAXIMUM WIDTH "B"
1'-0"	18'-0"	27'-0"	37'-0"
2'-0"	17'-0"	25'-0"	34'-0"
3'-0"	14'-0"	22'-0"	30'-0"
4'-0"	13'-0"	20'-0"	28'-0"

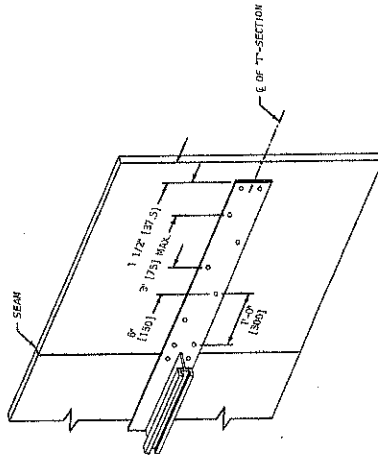
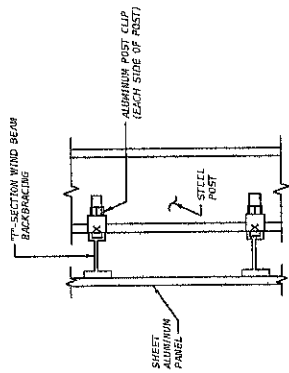
FOR ALUMINUM PLATE THICKNESS INFORMATION SEE SECTION 704.

MAXIMUM BACKRACE SPACING "A" (mm)	2 POSTS	3 POSTS	MAXIMUM WIDTH "B" (mm)
300	5400	8100	11700
500	5100	7700	11000
600	4950	7400	10600
750	4425	6600	9900
900	4050	6000	9000
1050	3750	5550	8250

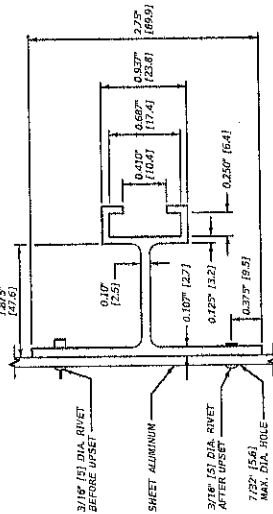
FOR ALUMINUM PLATE THICKNESS INFORMATION SEE SECTION 704.



BACKBRACE DETAIL



RIVET SPACING DETAIL
 LOCATE RIVETS AT 6\"/>



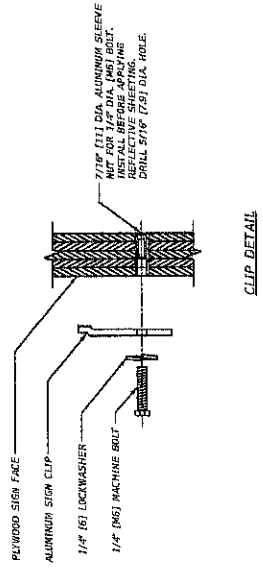
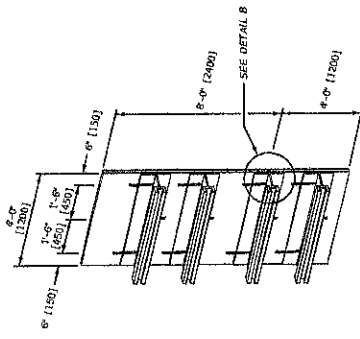
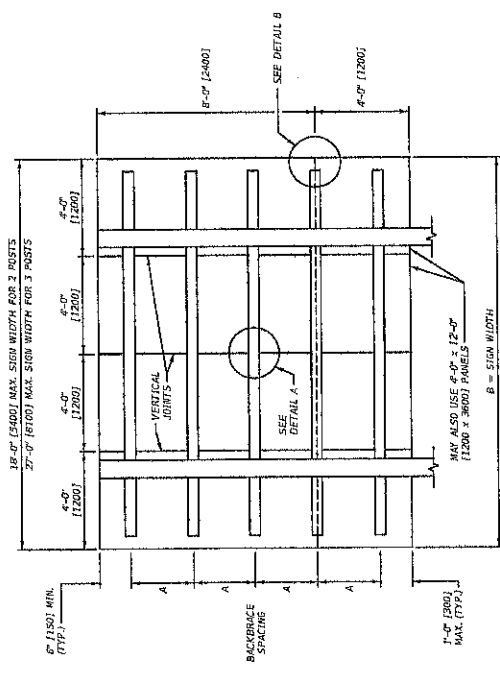
EXTRUDED T-SECTION BACKBRACE

- NOTES:
- CONFORM ALL ALUMINUM SIGNS TO SECTIONS 619, AND 704.
 - FOR SIGNS 4'-0" (1200) HIGH BY 6'-0" (1800) LONG OR LESS USE A SINGLE SHEET OF ALUMINUM.
 - DO NOT USE HORIZONTAL JOINTS ON SIGNS 4'-0" (1200) IN HEIGHT AND SMALLER. THE MINIMUM SHEET WIDTH IS 1'-0" (300).
 - SIGNS OVER 6'-0" (1800) HIGH MAY HAVE HORIZONTAL AND VERTICAL JOINTS. THE MINIMUM SHEET SIZE IS 1'-0" (300) WIDE BY 1'-0" (300) HIGH.
 - CLEAN AND DRY POST CLIP RIVETS, THEN TORQUE TO 225 INCH POUNDS (25.4 N.M.).
 - LOCATE ALL HORIZONTAL JOINTS AT A T-SECTION.
 - NO SPLICES ARE ALLOWED IN EXTRUDED T-SECTIONS.
 - USE SCREW RIVETS AND LOCKWASHERS MEETING THE REQUIREMENTS OF SECTION 704.
 - USE ONLY ALUMINUM RIVETS.
 - THE MAXIMUM GAP BETWEEN INDIVIDUAL SIGN PANELS AT JOINTS IS 1/16" (1.6) AT ANY POINT.
 - THE PROJECT MANAGER MAY APPROVE ADDITIONAL METHODS TO PREVENT LIGHT LEAKAGE THROUGH SIGN PANEL SEAMS.

UNITS SHOWN IN BRACKETS () ARE METRIC AND ARE IN MILLIMETERS (MM) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING	DWG. NO.
REFERENCE	619-04
STANDARD SPEC.	SECTION 819.04
ALUMINUM SHEET INCREMENT SIGN CONSTRUCTION DETAILS	

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 MONTANA DEPARTMENT OF TRANSPORTATION

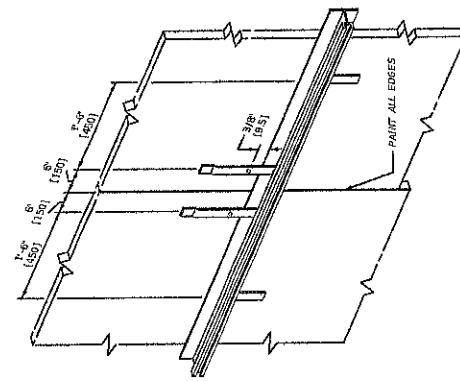
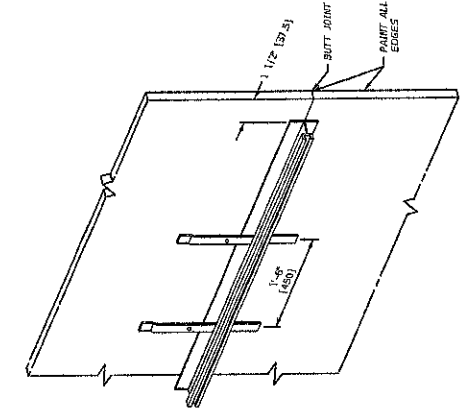


BACKBRACING TABLE -- PLYWOOD SIGNS

MAXIMUM BACKBRACE SPACING "A"	DIMENSIONS		
	2 POST	MAXIMUM WIDTH "B"	3 POST
1'-0"	18'-0"	27'-0"	
1'-0"	17'-0"	26'-0"	
2'-0"	16'-0"	24'-0"	
2'-0"	14'-0"	22'-0"	
3'-0"	13'-0"	20'-0"	
3'-0"	12'-0"	18'-0"	

MAXIMUM BACKBRACE SPACING "A" (mm)	METRIC DIMENSIONS		
	2 POST (mm)	MAXIMUM WIDTH "B" (mm)	3 POST (mm)
300	5400	8100	
300	5100	7800	
600	4950	7400	
750	4425	6600	
900	4050	6000	
1050	3750	5550	

ALUMINUM CLIP PLACEMENT

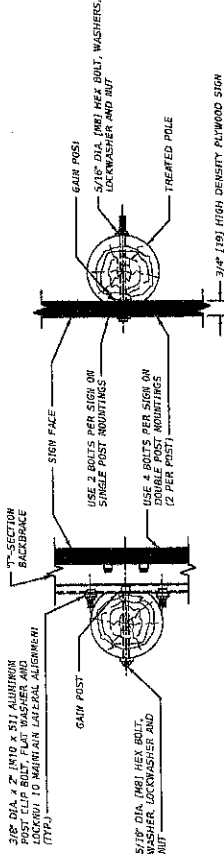
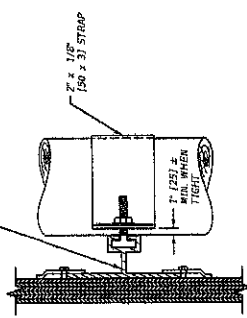
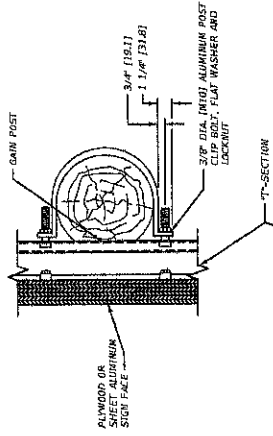
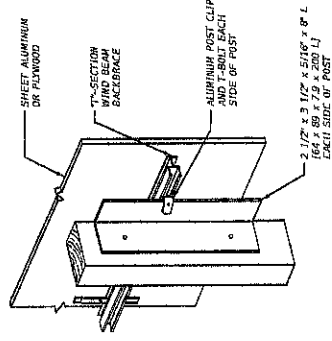
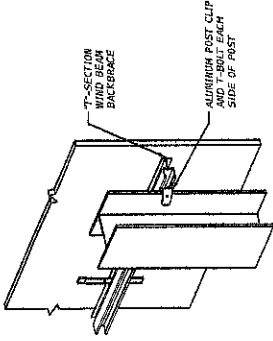
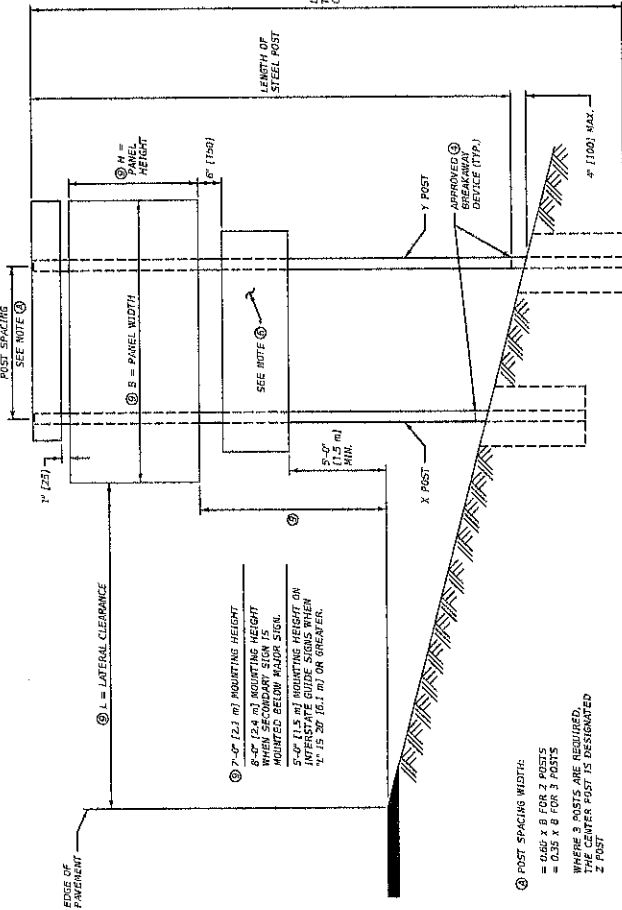


- NOTES:
- CONFORM ALL PLYWOOD SIGNS TO SECTIONS 619 AND 704.
 - ON SIGNS 4'-0" (1200) HIGH AND GREATER, DO NOT USE ANY PANELS LESS THAN 4'-0" (1200) IN HEIGHT.
 - DO NOT USE HORIZONTAL JOINTS ON SIGNS LESS THAN 4'-0" (1200) IN HEIGHT.
 - FOR SIGNS WITH HEIGHTS THAT ARE NOT IN MULTIPLES OF 4'-0" (1200), PLACE THE 4'-0" LENGTH PANEL ON THE INSIDE EDGE.
 - FOR SIGNS OVER 16'-0" (4800) IN HEIGHT, THE FULL HEIGHT SIGN MUST BE MADE OF TWO PANELS. THE FULL HEIGHT JOINT IN USE OF USING STANDARD LENGTH PANEL AS SHOWN.
 - THE MINIMUM SIZE PANEL IS 1'-0" (300) WIDE OR 4'-0" (1200) HIGH.
 - CONSTRUCT PLYWOOD SIGNS OF ONE PIECE OF PLYWOOD UNLESS THE PLANS SPECIFY OTHERWISE FOR SPECIAL DESIGN SIGNS.
 - USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

DETAILED DRAWING
 REFERENCE: DTG. NO. 619-06
 STANDARD SPEC. SECTION 813.04
 PLYWOOD SHEET INCREMENT GUIDE SIGN
 CONSTRUCTION DETAILS

MDTX MONTANA DEPARTMENT OF TRANSPORTATION

MOUNTING DETAILS



DETAILED DRAWING	DWG. NO.
REFERENCE	619-08
STANDARD SPEC.	
SECTION REF.	
GUIDE SIGN CLEARANCE AND MOUNTING DETAILS	

UNITS SHOWN IN BRACKETS () ARE METRIC AND ARE IN MILLIMETERS (MM) UNLESS OTHER UNITS ARE SHOWN.



- NOTES:**
1. MOUNTING SYSTEMS SHOWN ARE TYPICAL. OTHER SYSTEMS MAY BE APPROVED BY THE PROJECT MANAGER.
 2. USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.
 3. GAIN THE TOP HALF OF WOOD POLES ACCORDING TO THE TABLE ON DTL DWG. NO. 619-26.
 4. SEE THE SIGNING PLANS FOR THE TYPES OF POSTS AND FOUNDATIONS.
 5. MOUNT ONE-PANEL PLYWOOD SIGNS DIRECTLY TO WOOD POLES OR POSTS, WHEN SPECIFIED IN THE PLANS, BY BOLTING THROUGH THE SIGN PLATE AND THE POLE AS REQUIRED BY THE DETAILED DRAWINGS, SPECIFICATIONS AND DESIGN. USE T-SECTION WIND BEAMS WHEN REQUIRED BY DTL DWG. NO. 619-26.
 6. SUSPEND LARGE SUPPLEMENTAL SIGNS ADDED AFTER INITIAL SIGN INSTALLATION. POSTS/POLES IS NOT ALLOWED. ATTACHMENT TO TRAFFIC.
 7. USE 1/2\"/>
 8. IN LOCATING SIGNS, AVOID PLACING POSTS IN DITCH BOTTOMS WHERE THEY WOULD IMPERE DRAINAGE.
 9. DIMENSIONS ARE SPECIFIED IN THE SIGNING PLANS.

TREATED POLE SINGLE OR DOUBLE MOUNT
USED WHEN T-SECTION WIND BEAMS NOT REQUIRED

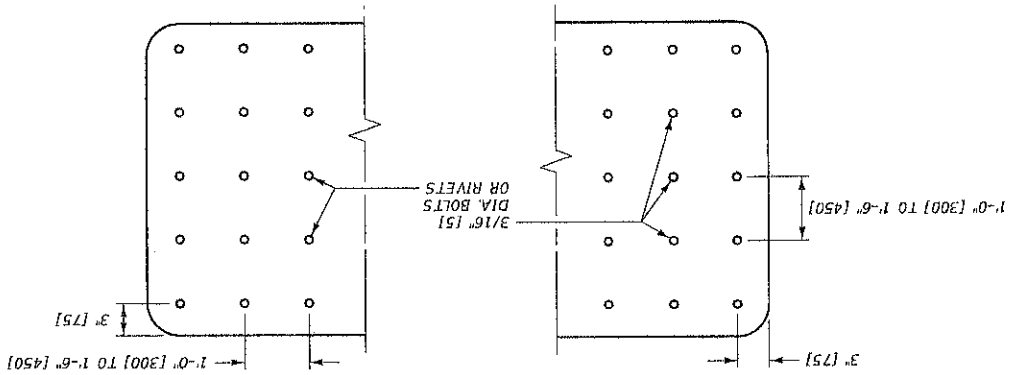
DOUBLE POLE MOUNT

UNITS SHOWN IN BRACKETS () ARE METRIC AND ARE IN MILLIMETERS (MM) UNLESS OTHER UNITS ARE SHOWN.

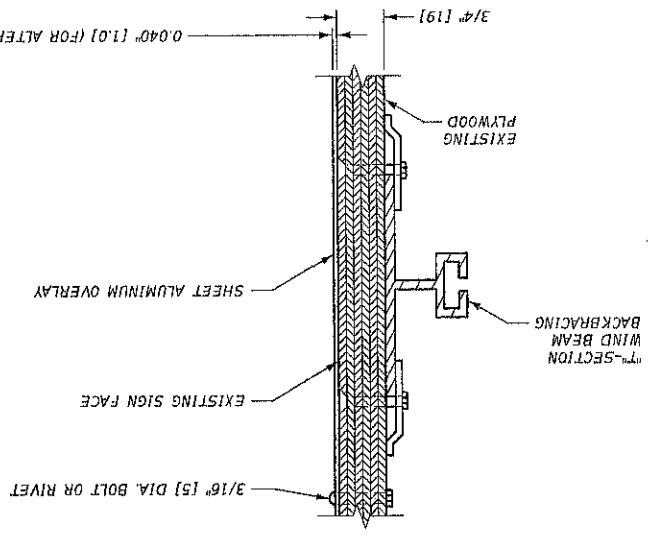
- NOTES:
- 1 REMOVE ALL RAISED LETTERS, NUMERALS, SYMBOLS, BORDERS AND PREVIOUS SIGN OVERLAYS TO BE REPLACED, AND CLEAN SIGN FACE TO A SMOOTH SURFACE BEFORE OVERLAYING.
 - 2 ALL LETTERS, NUMERALS, SYMBOLS AND BORDERS ARE TYPE "C" CUTOUT UNLESS OTHERWISE SPECIFIED, AND APPLIED TO THE BACK-GROUND SHEETING PRIOR TO FIELD APPLICATION OF THE SIGN.
 - 3 THE SIZE OF ALL GUIDE SIGN OVERLAYS AND LEGENDS MUST BE VERIFIED BY THE PROJECT MANAGER PRIOR TO FABRICATION.
 - 4 AN ADHESIVE-BACKED SHEETING MAY BE USED AS AN ALTERNATIVE ON SIGN WIDTHS OF 6'-0" (1800) OR LESS IF IT IS PREFABRICATED TO A MINIMUM THICKNESS OF 0.005" (.13) AND CONSTRUCTED OF PREAPPLIED REFLECTIVE SHEETING ON ADHESIVE-BACKED ALUMINUM. APPLY ADHESIVE-BACKED OVERLAY SHEETING WHEN AIR AND SURFACE TEMPERATURES ARE ABOVE 50°F (10°C). DO NOT USE THIS TYPE OF OVERLAY MATERIAL ON OVERHEAD SIGNS.
 - 5 PROVIDE A MINIMUM REFLECTIVE SHEETING INTENSITY OF TYPE 4, MEETING THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, UNLESS SPECIFIED OTHERWISE.
 - 6 APPLY ALL MATERIALS IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.

- 7 USE ALUMINUM ALLOY TYPE 6061-T6 OR A5052-H38, CONVERSION COAT ALL ALUMINUM WITH A PROCESS SUCH AS ALODINE 1200 (OR EQUAL) AND RINSE AND DRY THOROUGHLY. PROTECT IT FROM SOIL BY ACCEPTABLE METHODS.
- 8 SIGN OVERLAYS MAY REQUIRE REMOVAL OF THE SIGN FROM THE POSTS TO AVOID PROJECTING BOLT HEADS. DO NOT LEAVE WARNING AND REGULATORY SIGNS TO BE OVERLAPPED UNDISPLAYED FOR MORE THAN ONE (1) HOUR DURING DAYLIGHT. DO NOT LEAVE GUIDE SIGNS UNDISPLAYED FOR MORE THAN TEN (10) HOURS DURING DAYLIGHT. INSURE SIGNS TO BE OVERLAPPED ARE OPERATIONAL PRIOR TO DARKNESS.
- 9 OVERLAY SIGNS SMALLER THAN 4'-0" x 6'-0" (1200 x 1800) WITH ONE PANEL OF MATERIAL, FOR SEAMS IN LARGE OVERLAYS, USE RIVETS OR BOLTS SPACED AS SHOWN ON THIS DRAWING AND PLACE PARALLEL TO AND NO MORE THAN 3" (75) LATERALLY FROM THE SEAM.
- 10 USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

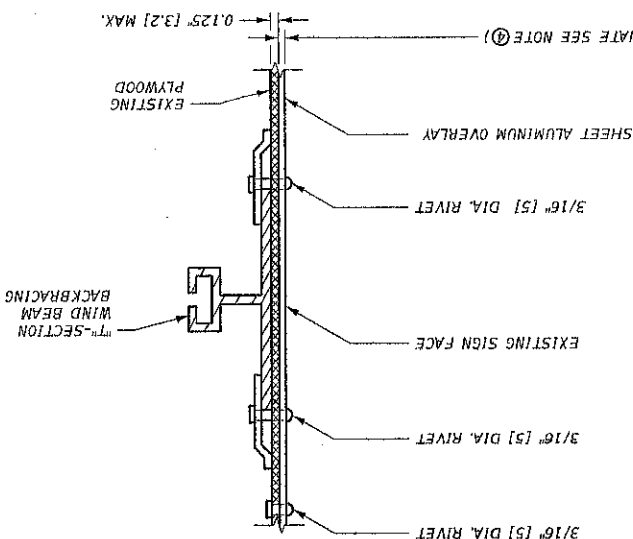
FASTENER PATTERN



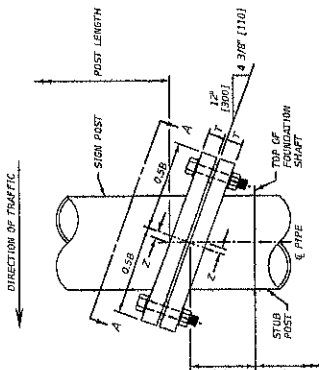
EXISTING PLYWOOD SIGNS



EXISTING ALUMINUM SIGNS

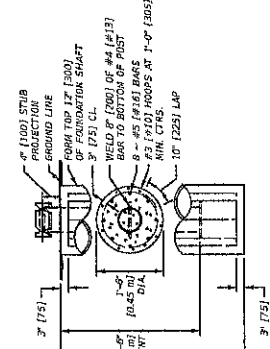


NOTES:
 USE TUBULAR POSTS FOR SINGLE POST MOUNTED SIGNS ONLY.
 USE BOLT WITH HEX HEAD, HEX NUT AND 3 WASHERS AT EACH LOCATION. SEE TABLE FOR BOLT DIAMETER FOR BASE CONNECTION ASSEMBLY. ALL BOLTS ARE ASTM A 325 (1325N).



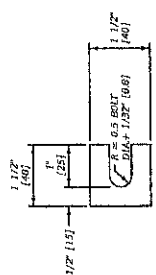
PROCEDURE FOR BASE CONNECTION ASSEMBLY

1. ASSEMBLE POST TO STUB WITH BOLTS AND ONE LOCK WASHER BETWEEN PLATES.
2. SHIM AS REQUIRED TO PLUMB POST.
3. TIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE (SEE TABLE BELOW).
4. LOOSEN EACH BOLT AND RETIGHTEN TO PRESCRIBED TORQUE IN THE SAME ORDER AS ORIGINAL TIGHTENING. DO NOT OVERTIGHTEN.
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.



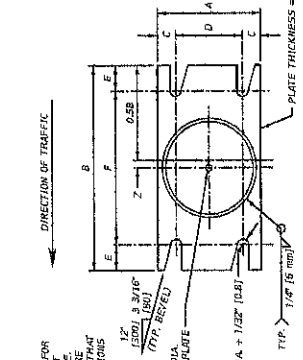
FOUNDATION SHAFT DETAIL

FURNISH TWO 0.012\"/>



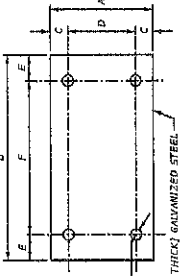
SHIM DETAIL

SECTIONS SHOWN ARE FOR INSTALLATION ON RIGHT SHOULDER AND IN BORE. DIMENSIONS FROM FACE OF ASPHALT PAVEMENT FROM THAT SHOWN FOR INSTALLATIONS ON LEFT SHOULDER.

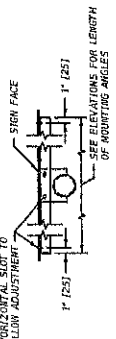


TYPICAL SIGN ELEVATION

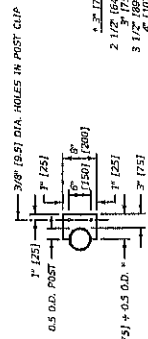
NOTES: ALL ANGLES SEE DETAILED DRAWING NUMBER 619-16 AND BELOW.



BASE PLATE DETAIL



KEEPER PLATE DETAIL



POST CLIP DETAILS

NOMINAL PIPE DIA.	BASE CONNECTION DATA										FOUNDATION		
	BOLT SIZE	BOLT TORQUE	A	B	C	D	E	F	T	Z	FOOTING DIAMETER	FOOTING DEPTH	
3 1/2"	1 1/2" DIA. x 2 1/2"	240 IN.LB.	4 1/2"	7 1/2"	1"	2 1/2"	3/4"	6"	3/4"	5/16"	1'-0"	3'-0"	
4"	1 1/2" DIA. x 2 1/2"	240 IN.LB.	5 1/2"	8 1/2"	1"	3 1/2"	3/4"	7"	3/4"	5/16"	1'-0"	3'-0"	
5"	5/8" DIA. x 3 1/2"	480 IN.LB.	6 1/2"	9 3/4"	1 1/4"	4"	7/8"	8"	1"	3/8"	1'-0"	4'-0"	
6"	3/4" DIA. x 3 1/2"	780 IN.LB.	7 1/2"	11 1/4"	1 1/4"	5"	1"	9 1/4"	1"	3/8"	1'-0"	4'-0"	

NOMINAL PIPE DIA.	METRIC BASE CONNECTION DATA										METRIC FOUNDATION		
	BOLT SIZE	BOLT TORQUE	A	B	C	D	E	F	T	Z	FOOTING DIAMETER	FOOTING DEPTH	
75 mm	M12 x 63	27 N-m	114.3	190.5	25.4	63.5	19.05	152.4	19	8	0.45 m	0.9 m	
102 mm	M12 x 63	27 N-m	139.7	215.9	25.4	88.9	19.05	177.8	19	8	0.45 m	0.9 m	
127 mm	M16 x 83	54 N-m	168.1	247.66	31.75	101.6	22.23	203.2	25	10	0.45 m	1.2 m	
152 mm	M20 x 89	85 N-m	190.5	295.75	31.75	122.0	25.4	234.25	25	10	0.45 m	1.4 m	

NOMINAL PIPE DIA.	NOMINAL WEIGHT OF PIPE	WEIGHT OF BASE PLATE & SUB POST	WEIGHT OF PIPE PER LINEAL FOOT
3"	7.58	26.03	26.03
3 1/2"	9.11	32.85	32.85
4"	10.79	38.44	38.44
5"	14.62	61.51	61.51
6"	18.97	81.54	81.54

TABLE OF WEIGHTS

NOMINAL PIPE DIA.	NOMINAL WEIGHT OF PIPE	WEIGHT OF BASE PLATE & SUB POST	WEIGHT OF PIPE PER LINEAL FOOT
3"	11.26	12.71	12.71
3 1/2"	13.56	16.26	16.26
4"	16.06	17.44	17.44
5"	21.76	27.80	27.80
6"	28.23	38.99	38.99

METRIC TABLE OF WEIGHTS

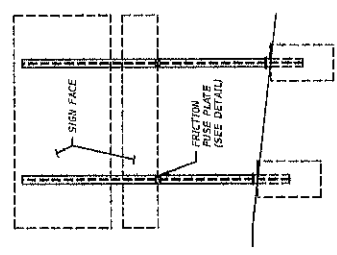
- NOTES:**
1. USE STEEL PIPE CONFORMING TO THE REQUIREMENTS OF ASTM A 53 (200), TYPE E OR S, GRADE 48 OR A 500 (200), GRADE II.
 2. USE CLASS GENERAL CONCRETE WITH A SMOOTH FINISH ON TOP. FURNISH 12 INCHES (300) OF FOUNDATION.
 3. SIGNMOUNT SUPPLY PLANS FOR APPROVAL PRIOR TO FABRICATION.
 4. FOR SIGN PLACEMENT AND DETAILS SEE THE SIGNING DETAILED DRAWINGS.
 5. GALVANIZE PIPE PER SECTION 711.
 6. EXCEPT AS OTHERWISE APPROVED BY THE PROJECT MANAGER, PAINT STRUCTURAL STEEL WITH ONE SHOP COAT AND ONE FIELD COAT OF AN EPOXY ENAMEL PAINT AS SPECIFIED IN THE STANDARD SPECIFICATIONS.
 7. ALL SURFACES NOT IN CONTACT WITH THE CONCRETE.
 8. FRAMEABLE BOSS BREAKAWAY SYSTEMS LISTED ON THE DEPARTMENTS QUALIFIED PRODUCTS LIST ARE ALLOWED TO BE USED IN PLACE OF THE DESIGN SHOWN HERE AS AN EQUAL OPTION IF PER PRODUCT MANUFACTURER'S APPROVAL.
 9. USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

TYPICAL SPLICE
 BACKING STRIP THICKNESS = T OR 5/16" (81.3) MAX. LOCKE SPURCE IN TOP ONE-HALF OF POST.

UNITS SHOWN IN BRACKETS () ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

OTHER DRAWING REFERENCE: STANDARD SPEC. SECTION 358.019-204711
 TUBULAR SIGN POST DETAILS
 MDTA MONTANA DEPARTMENT OF TRANSPORTATION
 DWG. NO. 619-12

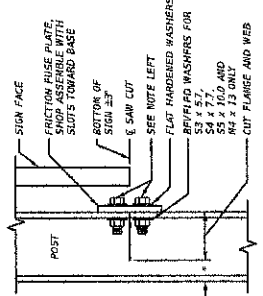
BASE CONNECTION DATA										FUSE PLATE DATA										FOUNDATION DATA									
POST SIZE	BOLT SIZE	BOLT TORQUE	DIMENSIONS										BASE PLATES (LxB)	DIMENSIONS										FUSE DEVICE DEPTH (LxB)	FRT. DEPTH	STUB LENGTH	FRT. DIA.	BAR C SIZE	STUB POST (LxB)
			A	B	C	D	E	F	G	H	I	J		K	L	M	N	O	P	Q	R	S	T						
W4 x 13	5/8" DIA.	40 FT. LB.	8 1/2"	5"	3/4"	2 3/4"	1 1/2"	3/4"	3/4"	5/8"	21.58	3 3/4"	3"	1 1/8"	4"	2 1/4"	7/8"	5/8"	3/8"	13/16"	5/8"	1.60	2'-0"	1'-6"	#5	36.00			
M4 x 13	5/8" DIA.	40 FT. LB.	12 1/2"	6 1/4"	3/4"	6"	1 1/8"	3/4"	5/8"	37.00	4 1/2"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	1/2"	7/8"	3/4"	3.27	2'-6"	2'-0"	#7	45.00				
W6 x 18	3/4" DIA.	65 FT. LB.	15"	7 1/2"	3/4"	5"	1 1/4"	1"	5/8"	60.86	4 3/4"	2 1/2"	1 1/2"	6"	3 1/2"	1 1/4"	3/4"	9/16"	15/16"	3/4"	4.66	3'-0"	2'-0"	#9	72.00				
W12 x 30	3/4" DIA.	65 FT. LB.	17"	7 1/2"	7/8"	5"	1 1/4"	1"	5/8"	78.54	5 3/8"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	9/16"	1 3/16"	3/4"	5.52	3'-0"	2'-6"	#9	90.00				
53 x 57	1/2" DIA.	20 FT. LB.	8"	3"	3/4"	1 1/2"	3/4"	5/8"	1/4"	10.37	3 1/8"	1 1/2"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	1/4"	1/4"	1 1/8"	1 1/2"	0.64	1'-6"	1'-6"	#4	8.55				
54 x 77	3/4" DIA.	40 FT. LB.	8"	3"	3/4"	1 1/2"	3/4"	5/8"	1/4"	10.45	3 1/8"	1 1/2"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	1/4"	1/4"	1 1/8"	1 1/2"	0.64	1'-6"	1'-6"	#4	11.55				
55 x 100	3/4" DIA.	40 FT. LB.	9 1/2"	4"	3/4"	2"	1"	3/4"	1/4"	19.88	3 1/8"	1 1/2"	1 1/2"	1 1/8"	3"	1 7/8"	9/16"	1/2"	1/4"	1 3/16"	0.66	1'-6"	1'-6"	#5	15.00				



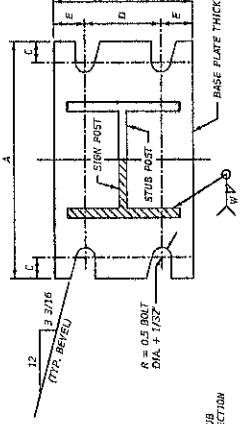
- PROCEDURE FOR BASE CONNECTION ASSEMBLY**
- ASSEMBLE POST TO STUB WITH BOLTS AND ONE (1) WASHER BETWEEN PLATES.
 - SHIM AS REQUIRED TO PLUMB POST.
 - TIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE (SEE TABLE).

- LOOSEN EACH BOLT AND RETIGHTEN TO PRESCRIBED TORQUE IN THE SAME ORDER AS ORIGINAL TIGHTENING, IN 1/2 INCH INCREMENTS.
- SHIM THREADED AT JUNCTION WITH NOT USING A CENTER PUNCH TO PREVENT NOT LOOSENING.

NOTE: BOLTS MUST BE ASTM A 305 AND BE TIGHTENED BY USE OF A DIRECT TENSION INDICATING DEVICE (LOAD INDICATING WASHER) IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.



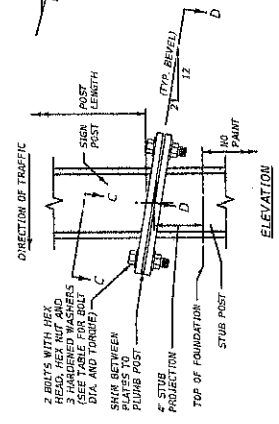
ERUCTION FUSE PLATE DETAIL



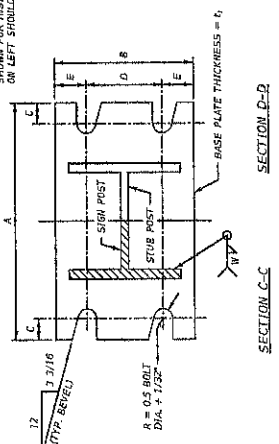
SECTION A-A

SECTION B-B

SIGN POST AND STUB POST DETAIL "A"



ELEVATION

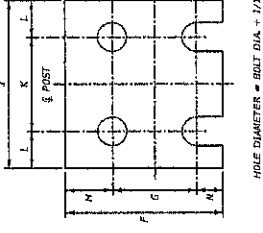


SECTION C-C

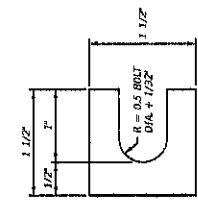
SECTION D-D

SIGN POST AND STUB POST DETAIL "B"

USE ONLY WITH SINGLE POST SIGNS

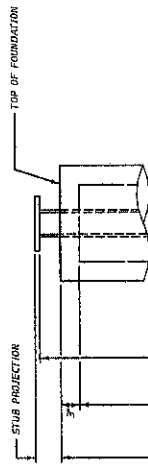


FRUCTION FUSE PLATE DETAIL

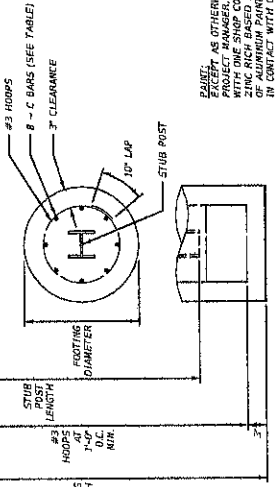


FRUCTION FUSE PLATE DETAIL

FINISH TWO 0.032\"/>



TOP OF FOUNDATION



FOUNDATION DETAIL

- NOTES:
- USE CLASS GENERAL CONCRETE WITH A SMOOTH FINISH ON TOP, FROM TOP 12 INCHES OF FOUNDATION.
 - SEE THE STANDARD SPECIFICATIONS FOR REQUIREMENTS OF CONCRETE AND REINFORCEMENT. PROVIDE REINFORCEMENT TO PROVIDE OVERSIGHT, NOTE THESE REQUIREMENTS ON THE SHOP DRAWINGS.
 - SUBMIT SHOP PLANS FOR APPROVAL BEFORE FABRICATION BEGINS.
 - FOR GUIDE SIGN PLACEMENT AND DETAILS, SEE SIGNING DTL DWG. NO. 618-08.
 - FRANGIBLE BOLT BREAKAWAY SYSTEMS LISTED ON THE DEPARTMENT'S QUALIFIED PRODUCTS LIST ARE ALLOWED TO BE USED IN PLACE OF THE DESIGN SHOWN HERE AS AN ALTERNATE OPTION (PICK PRODUCT MANAGER'S APPROVAL).
 - USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 714.

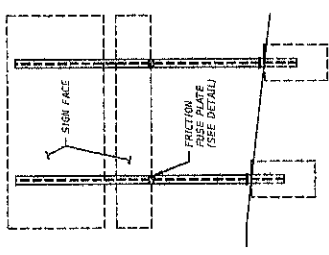
TABLE 18. AS APPLICABLE, APPROVED BY THE PROJECT MANAGER, PART STRUCTURAL STEEL WITH ONE SHOP COAT AND ONE FIELD COAT OF PRIMER. FINISH PART ON ALL SURFACES NOT IN CONTACT WITH CONCRETE.

DETAILED DRAWING
 REFERENCE
 SECTION 619-704
 619-13
 STANDARD SPEC.

STRUCTURAL STEEL
 SIGN POST DETAILS

MDTX
 IOWA DEPARTMENT
 OF TRANSPORTATION

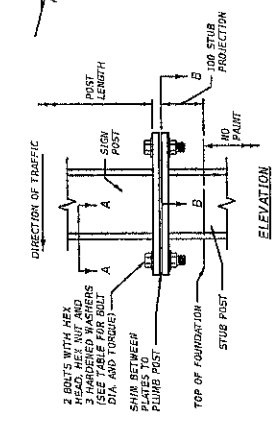
BASE CONNECTION DATA										FUSE PLATE DATA										FOUNDATION DATA							
POST SIZE (mm x kg/m)	BOLT SIZE	BOLT TORQUE	DIMENSIONS										BASE PLATES (kg)	FUSE DEVICES (kg)	BOLT DIA.	Y	L ₁	L ₂	L ₃	L ₄	L ₅	FUSE DEPTH	FUSE LENGTH	FUSE DIA.	BASE C. DIA.	POST SIZE (kg)	
			A	B	C	D	E	F	G	H	J	K															L
M100 x 19	M16 x 70	54 N m	715	125	18.6	69.8	27.6	19	8	9.79	95	50.8	28.2	100	57.2	21.4	16.0	10	20.6	M16	0.73	11.1	600	0.45 m	#16	1179	
M100 x 19.3	M16 x 70	54 N m	320	160	20.6	101.6	29.2	19	8	16.78	115	63.5	31.5	135	69.8	32.6	20.0	13	22.2	M20	1.48	17.1	750	0.60 m	#22	2641	
M200 x 27	M20 x 89	68 N m	330	190	19.0	127.0	31.5	25	6	27.61	130	63.5	36.5	150	88.8	36.6	20.0	14	23.6	M20	2.11	21.1	500	0.60 m	#20	3266	
M200 x 36	M20 x 89	68 N m	430	190	21.3	127.0	31.5	25	6	35.03	135	76.2	36.8	165	88.8	36.1	22.0	14	30.2	M22	2.46	24.6	900	0.75 m	#22	4082	
M310 x 45	M24 x 118	107 N m	305	205	20.0	134.0	16.3	16	6	4.70	80	39.1	29.9	65	65	38.0	13.5	12.0	6	17.5	M12	0.29	1.1	400	0.45 m	#12	3.88
M310 x 51	M24 x 118	107 N m	305	205	20.0	134.0	16.3	16	6	4.74	80	39.1	29.9	65	38.0	13.5	12.0	6	20.6	M12	0.29	1.1	450	0.45 m	#12	5.24	
M310 x 55	M24 x 118	107 N m	340	210	18.4	134.0	24.5	19	6	8.65	80	39.1	29.9	75	47.4	13.7	12.0	6	20.6	M12	0.30	1.1	450	0.45 m	#12	6.89	



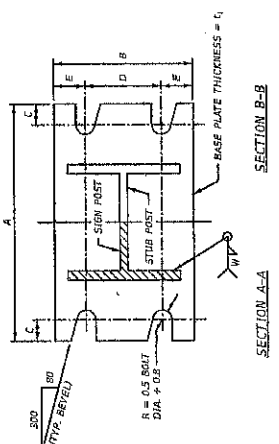
TYPICAL SIGN ELEVATION

- PROCEDURE FOR BASE CONNECTION ASSEMBLY**
- ASSEMBLE POST TO STUB WITH BOLTS AND ONE FLAT WASHER BETWEEN PLATES.
 - SHIM AS REQUIRED TO PLUMB POST.
 - TIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE (SEE TABLE).

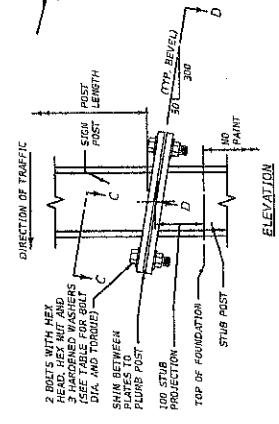
- LOOSEN EACH BOLT AND RETIGHTEN TO PRESCRIBED TORQUE IN THE SAME ORDER AS ORIGINAL TIGHTENING. DO NOT OVERTIGHTEN.
 - BURR THREADS AT JUNCTION WITH NOT USING A CENTER PUNCH TO PREVENT NOT LOOSENING.
- NOTE: BOLTS MUST BE ASTM A 325 AND BE TIGHTENED BY USE OF A DIRECT TENSION INDICATING DEVICE (LOAD INDICATING WASHER) ACCORDING WITH THE MANUFACTURER'S SPECIFICATIONS.



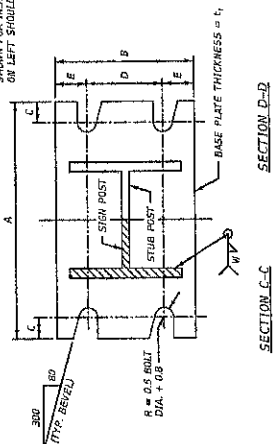
ELEVATION



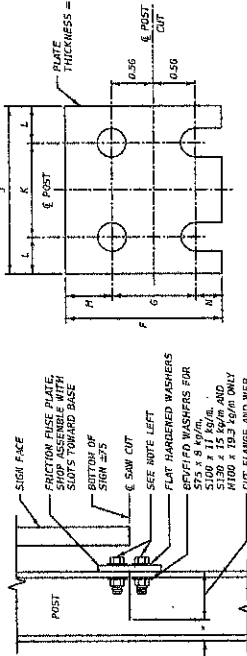
SECTION A-A



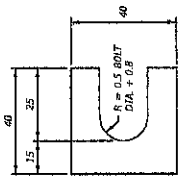
ELEVATION



SECTION B-B

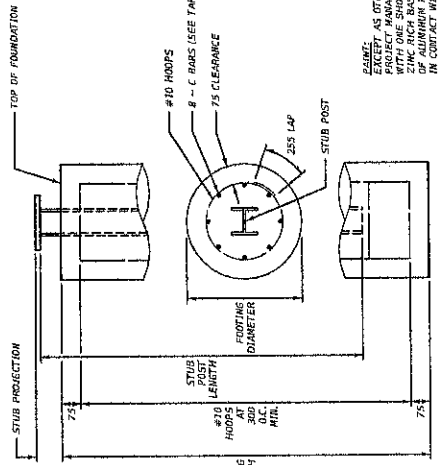


FRICITION FUSE PLATE DETAIL



SHIM DETAIL

FURNISH TWO 0.3 mm ± THICK AND TWO 0.8 mm ± THICK SHIMS PER POST. USE SHIMS FABRICATED FROM BRASS SHIM STOCK OR STAINLESS STEEL TO ASTM A 304.



FOUNDATION DETAIL

- NOTES:
- USE CLASS GENERAL CONCRETE WITH A SMOOTH FINISH ON TOP. FORM TOP 300 mm OF FOUNDATION.
 - SEE THE STANDARD SPECIFICATIONS FOR REQUIREMENTS FOR CONCRETE. REFER TO THE STANDARD SPECIFICATIONS FOR CONCRETE FOR THE SHIM DRAMINGS.
 - SUBMIT SHOP PLANS FOR APPROVAL BEFORE FABRICATION BEGINS.
 - FOR GUIDE SIGN PLACEMENT AND DETAILS, SEE SIGNING DETL. ONE, NO. 619-08.
 - FRANGIBLE BOLT BREAKAWAY SYSTEMS LISTED ON THE DEPARTMENT'S QUALIFIED PRODUCTS LIST ARE ALLOWED TO BE USED IN PLACE OF THE DESIGN SHOWN HERE AS AN ALTERNATE OPTION (PER PROJECT MANAGER'S APPROVAL).
 - USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

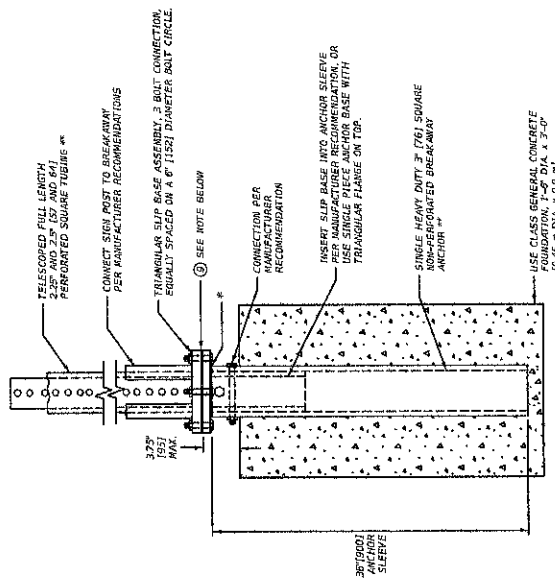
NOTE: AS OTHERWISE APPROVED BY THE PROJECT MANAGER, PAINT STRUCTURAL STEEL WITH ONE SHOP COAT AND ONE FIELD COAT OF AN APPROVED PAINT. PAINT ALL SURFACES NOT IN CONTACT WITH CONCRETE.

ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING
 REFERENCE: DMC NO. 619-13
 SECTION 619.704
 STRUCTURAL STEEL
 SIGN POST DETAILS
 (METRIC)

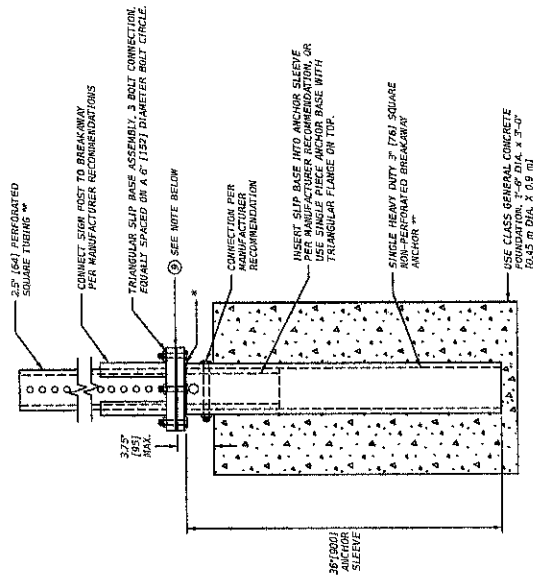


TELESCOPED SQUARE TUBES SIGN POST INSTALLATION ON SLIP BASE
AS NOTED BY THE STAR SYMBOL AS NOTED BY THE LOCATION AND SPECIFICATION SHEETS.



* SHIMS AS REQUIRED PER MANUFACTURER RECOMMENDATION TO TAKE UP TOLERANCE BETWEEN SLIP BASE STUD AND ANCHOR SLEEVE.

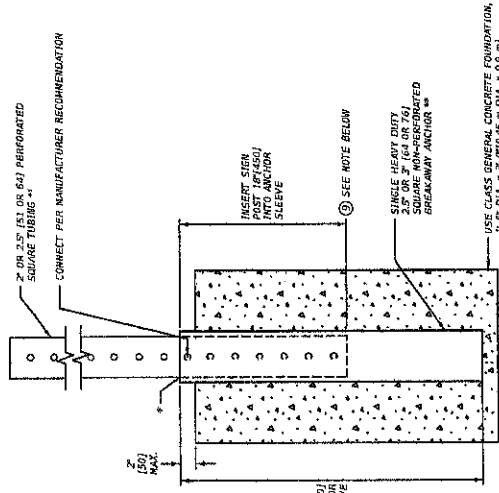
SINGLE SQUARE TUBE SIGN TO POST INSTALLATION ON SLIP BASE
AS NOTED BY THE TRIANGLE SYMBOL AS NOTED BY THE LOCATION AND SPECIFICATION SHEETS.



* SHIMS AS REQUIRED PER MANUFACTURER RECOMMENDATION TO TAKE UP TOLERANCE BETWEEN SLIP BASE STUD AND ANCHOR SLEEVE.

SINGLE SQUARE TUBE SIGN POST INSTALLATION
AS NOTED BY THE TRIANGLE SYMBOL AS NOTED BY THE LOCATION AND SPECIFICATION SHEETS.

PERFORMANCE CRITERIA LISTED ON THE DEPARTMENT'S QUALIFIED PRODUCTS LIST ARE ALLOWED TO BE USED IN PLACE OF THE DESIGN SHOWN HERE AS AN EQUAL OPTION.



* MINIMUM OF 2 SHIMS REQUIRED PER INSTALLATION TO TAKE UP TOLERANCE BETWEEN SUPPORT AND ANCHOR SLEEVE.

TUBE SIZE	SUPPORT		ANCHOR		WALL THICKNESS
	WEIGHT	THICKNESS	TUBE SIZE	WEIGHT	
2\"/>					

NOTES:

- BREAKAWAY DEVICES MUST BE LISTED ON THE DEPARTMENT'S QUALIFIED PRODUCTS LIST.
- USE CLASS GENERAL CONCRETE WITH WOOD FLOAT FINISH ON TOP. FORM TOP 6\"/>

- PAINT PIPE WITH ONE SHOP COAT AND ONE FIELD COAT OF ZINC RICH BASED PRIMER AND PRIMER/PAINT SYSTEMS SPECIFIED IN SECTION 710 ON ALL SURFACES NOT IN CONTACT WITH THE CONCRETE.
- CONFORM STEEL PIPE TO THE REQUIREMENTS OF ASTM A 53 TYPE E OR S, GRADE B.
- SUBMIT SHOP DRAWINGS TO BE APPROVED BY THE MONTANA DEPARTMENT OF TRANSPORTATION BEFORE FABRICATION HAS BEGUN.

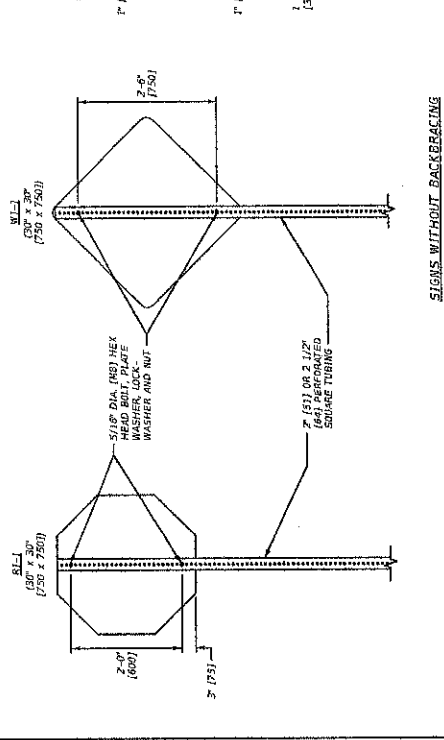
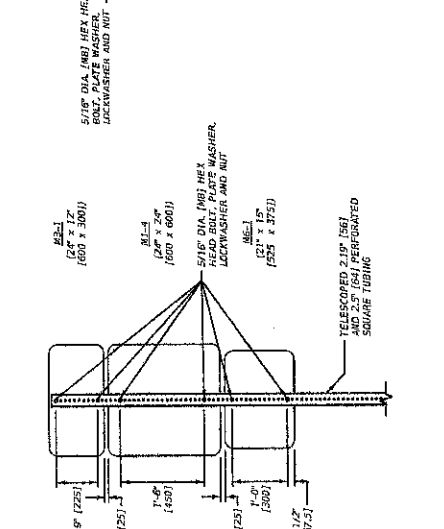
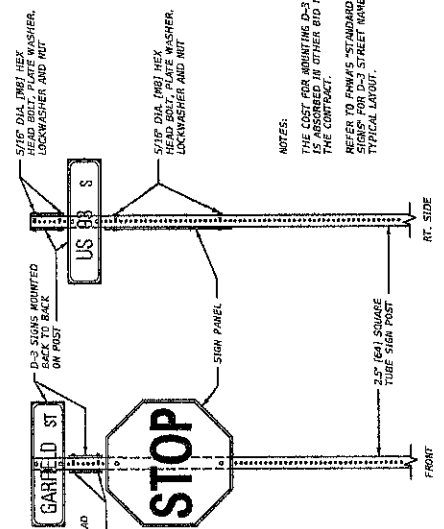
- STEEL POSTS AND FOOTINGS IN PLACE, INCLUDING ALL CONCRETE, WELDING IN PLACE UNIT PRICE BID PER FOUND FOR TUBULAR STEEL POSTS.
- USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.
- POST LENGTH IS MEASURED FROM POINT INDICATED TO TOP OF POST. TYPE OF POSTS AND FOUNDATIONS, AS WELL AS DETAILS ARE NOTED IN THE SHOPPING QUANTITIES.
- POST AND ANCHOR COMPONENTS MEASURED BY COMPONENT UNIT WEIGHT TABLE.

UNITS SHOWN IN BRACKETS () ARE METRIC AND ARE IN MILLIMETERS (MM) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING	DWS. NO.
REFERENCE	619-14
SECTION	556.619.704.710
SQUARE TUBULAR SIGN POST BREAKAWAY DEVICES	



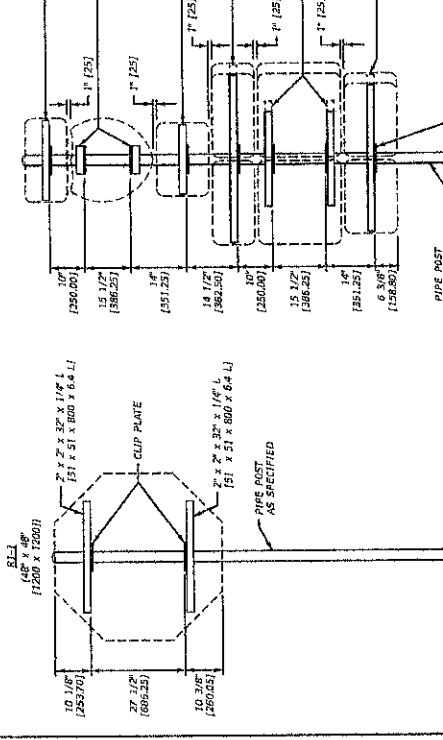
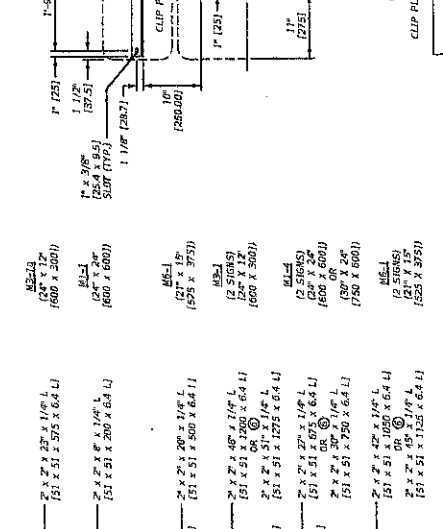
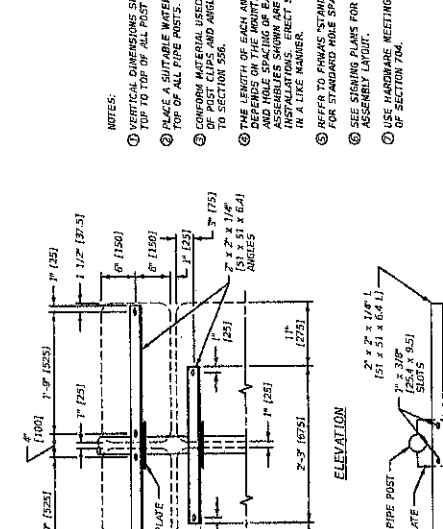
MONTANA DEPARTMENT OF TRANSPORTATION



STREET NAME SIGN INSTALLATION

SIGNS WITHOUT BACKBRACING
(SEE PLANS FOR BACKBRACING REQUIREMENTS)

SIGNS WITH BACKBRACING
(SEE PLANS FOR BACKBRACING REQUIREMENTS. SIGN FACE IS SHOWN IN FRONT OF BACKBRACING.)

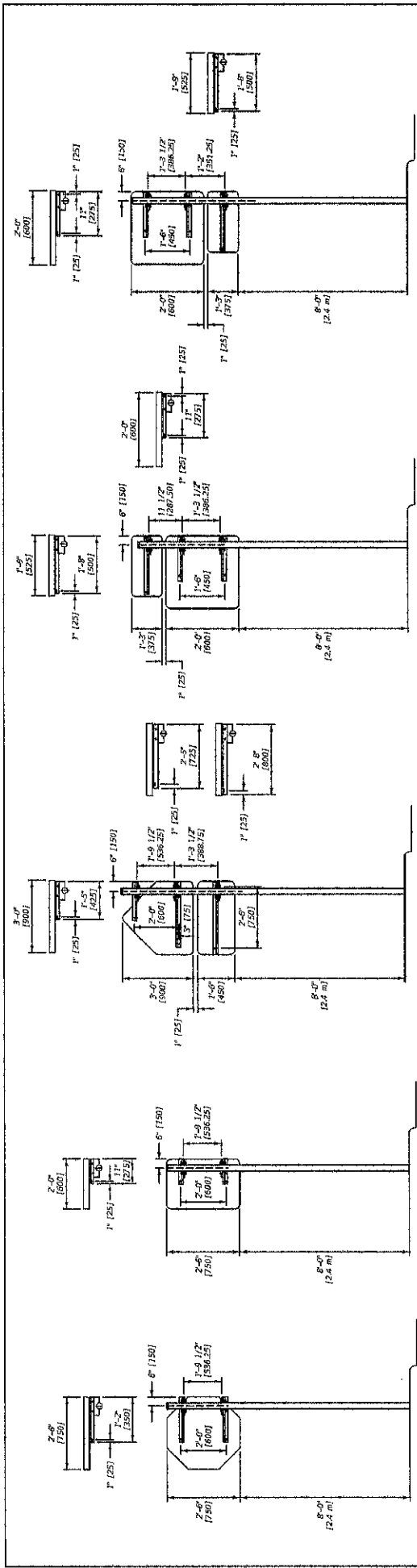


NOTES:
THE COST FOR MOUNTING D-3 SIGNS
SHALL BE INCLUDED IN OTHER BID ITEMS OF
THE CONTRACT.
REFER TO PHASIS STANDARD HIGHWAY
SIGNS FOR D-3 STREET NAME SIGN
TYPICAL LAYOUT.

NOTES:
① VERTICAL DIMENSIONS SHOWN ARE FROM
TOP TO TOP OF ALL POST CLIP PLATES,
FOR ALL PIPE POSTS.
② PLACE A SUITABLE WATERPROOF CAP ON
TOP OF ALL PIPE POSTS.
③ CONFORM MATERIAL USED IN FABRICATION
TO SECTION 556.
④ THE LENGTH OF EACH ANGLE BRACKET
DEPENDS ON THE MOUNTING ASSEMBLY
AND HOLE SPACING OF EACH SIGN. THE
INSTALLATION SHALL BE IDENTICAL TO
ASSEMBLIES IN A LIKE MANNER.
⑤ REFER TO PHASIS STANDARD HIGHWAY SIGNS
FOR STANDARD HOLE SPACING IN SIGNS.
⑥ SEE SIGNING PLANS FOR ROUTE MARKER
ASSEMBLY LAYOUT.
⑦ USE HARDWARE MEETING THE REQUIREMENTS
OF SECTION 704.

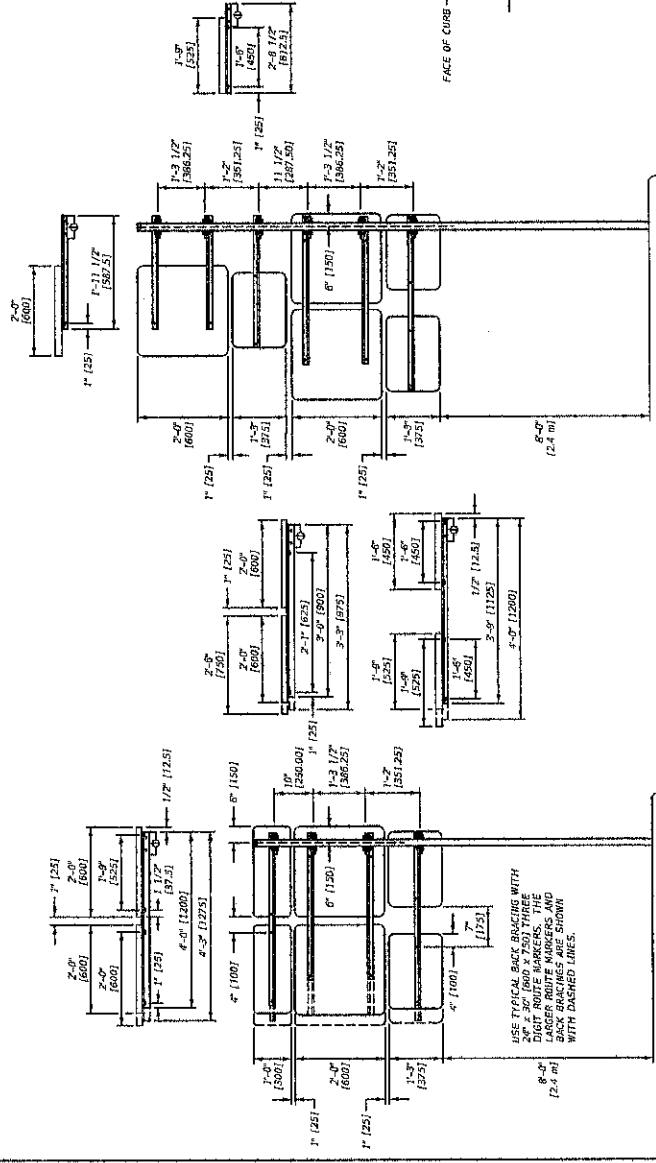
UNITS SHOWN IN BRACKETS [] ARE
METRIC AND ARE IN MILLIMETERS (MM)
UNLESS OTHER UNITS ARE SHOWN.

REFERENCE STANDARD SPEC SECTION 556.11.704	DWG. NO. 619-16
TYPICAL STEEL POST MOUNTING DETAILS	
MDTA MICHIGANA DEPARTMENT OF TRANSPORTATION	

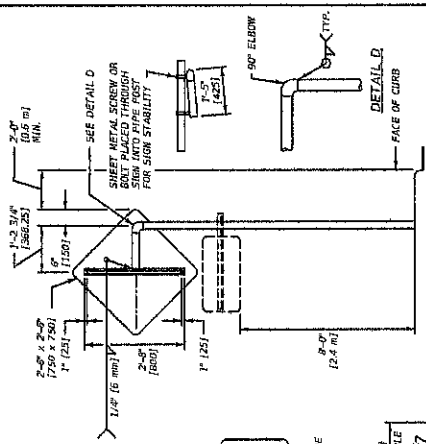


NOTES:

- 1 REFER TO FHWA'S MANUAL "STANDARD HIGHWAY SIGNS FOR STANDARD HOLE SPACING IN SIGNS."
- 2 USE POST CLIPS AS SHOWN IN SIGNS DETAILED DRAWING NO. 610-12 WHEN CANTILEVER MOUNTING IS NECESSARY.
- 3 USE POSTS ONE SIZE LARGER THAN THOSE REQUIRED FOR STANDARD MOUNTINGS.
- 4 DIMENSIONS FOR POST CLIP SPACING ARE SHOWN TO THE TOP OF EACH CLIP.
- 5 ALTERNATE MOUNTING MUST BE APPROVED BY THE PROJECT MANAGER.
- 6 USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

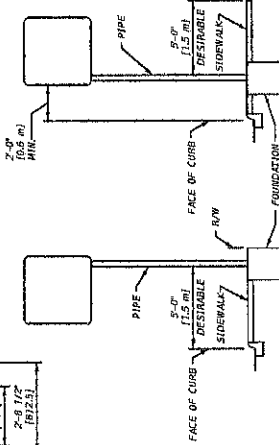


USE TYPICAL BACK BRACING WITH DIGIT ROUTE MARKERS. THE LARGER ROUTE MARKERS AND BACK BRACKETS ARE SHOWN WITH DASHED LINES.

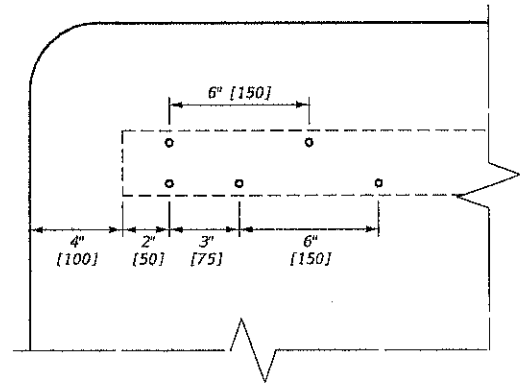
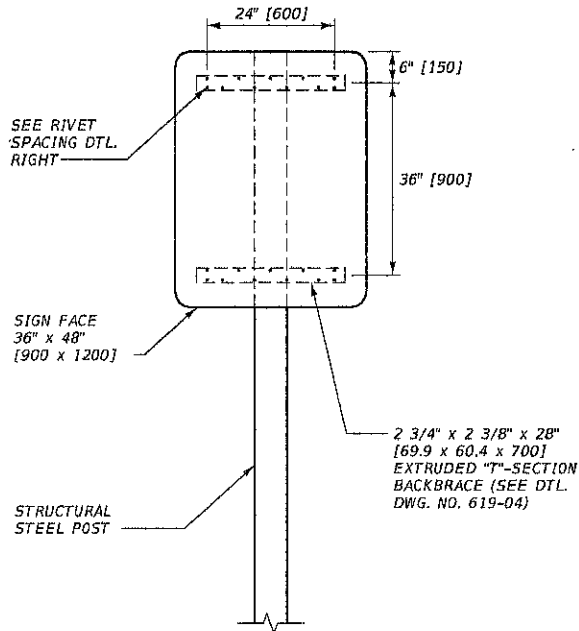


DETAIL C

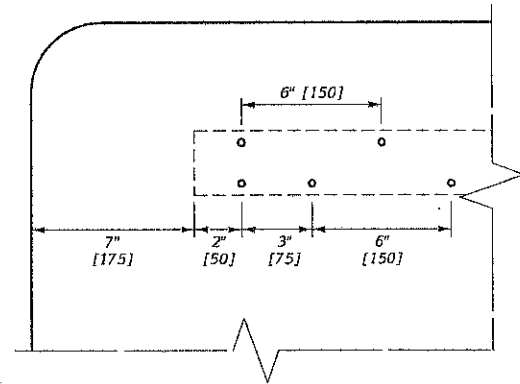
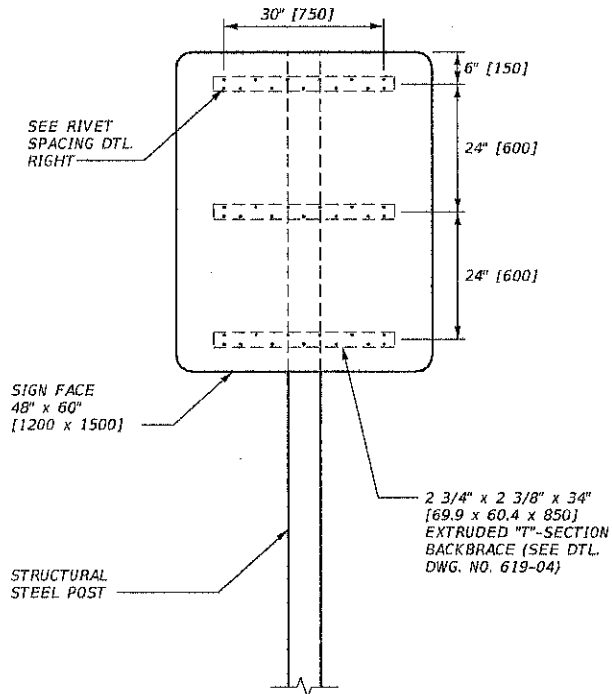
UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.
 REFERENCED DRAWINGS
 STANDARD SPEC. DIVISION NO. 613-18
 SECTION 555.219.204



ALTERNATE A
 USE THE STANDARD TYPE MOUNTING BEHIND SIDEWALKS FROM UNITS USED BEHIND SIDEWALKS OR IN THE SIDEWALK NEXT TO A BUILDING. IF CONDITIONS ARE SUCH THAT THE SIGN CANNOT BE MOUNTED ON THE BACKSIDE OF THE SIDEWALK THEN USE ALTERNATE B.



RIVET SPACING



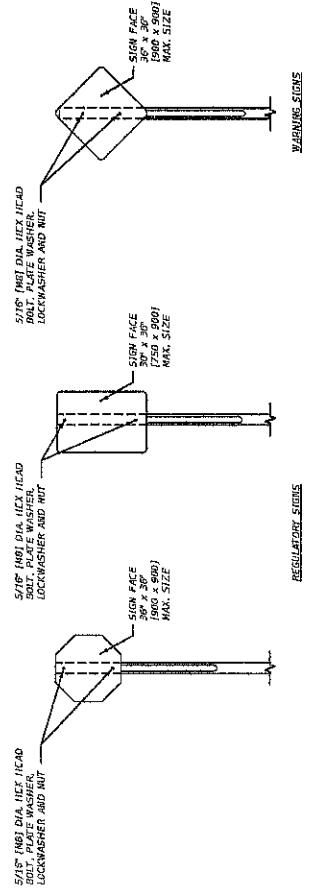
RIVET SPACING

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

NOTES:

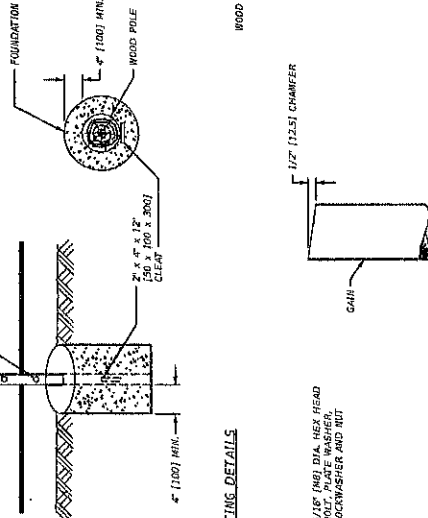
- ① SEE THE PLANS FOR BACKBRACING REQUIREMENTS.
- ② USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	619-19
SECTION 619.704	
STRUCTURAL STEEL POST SIGN MOUNTING DETAILS	
MDT MONTANA DEPARTMENT OF TRANSPORTATION	



TYPICAL SIGN MOUNTINGS

- NOTES:**
- CONFORM ALL WOOD POLES TO THE REQUIREMENTS OF SECTION 704.
 - GAIN ALL POLES ON THE SIGN SIDE THE MINIMUM WIDTH SHOWN IN THE TABLE, FOR HALF THE LENGTH OF EACH POLE.
 - BREAKAWAY DETAILS ARE STANDARD FOR ALL WOOD POLES LISTED IN THE TABLE, ON SINGLE AND MULTIPLE SIGN SUPPORTS.
 - USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.
 - REGULATORY SIGNS: 1/2" (12.7) DIA. (100, 200, 300) BORDERS BY 100% FROM THE BOTTOM OF THE POLE TO THE POINT OF SIGN ATTACHMENT. TWO 1/4" WALLS THROUGH THE CLEAR AND INTO THE POLE. TREAT THE LEVEL MAY NOT EXCEED 3/4" SQUARE INCHES (19.05 mm²) EXCLUSIVE OF THE SIGN FACE. THE SIGN FACE SHALL BE 1/2" (12.7) DIA. THE HOLE DIAMETER MAY BE ENLARGED IF NECESSARY TO ENSURE THIS REQUIREMENT IS MET.
 - USE SOIL CENTER FOR THE FOUNDATION - PER SECTION 619.
 - FOR SIGNS REQUIRING BACKSUPPORTING, CONSULT DET. DRG. MS. 619-21 AND 619-22 FOR BACKSUPPORTING OPTIONS AND DETAILS.



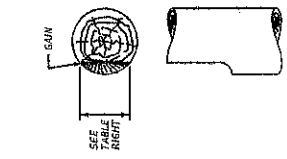
BREAKAWAY AND FOOTING DETAILS

SIGN MOUNTING DETAIL

POLE SIZE (mm)	SIGN MOUNTING DIMENSIONS			EMBEDMENT (mm)	GAIN
	A (mm)	B (mm)	C (mm)		
3" TOP DIA.	-	-	-	3-4"	2-3/4"
4" TOP DIA.	-	-	-	3-4"	3-1/2"
5" TOP DIA.	-	12"	4"	3-5"	4"
6" TOP DIA.	-	12"	4"	2-1/2"	4"
CLASS 4	-	12"	4"	3-3"	4"
CLASS 3	-	12"	4"	2-1/2"	3-3"
CLASS 2	6"	6"	4"	6-3"	4"
CLASS 1	8"	6"	4"	2-1/2"	6-5"

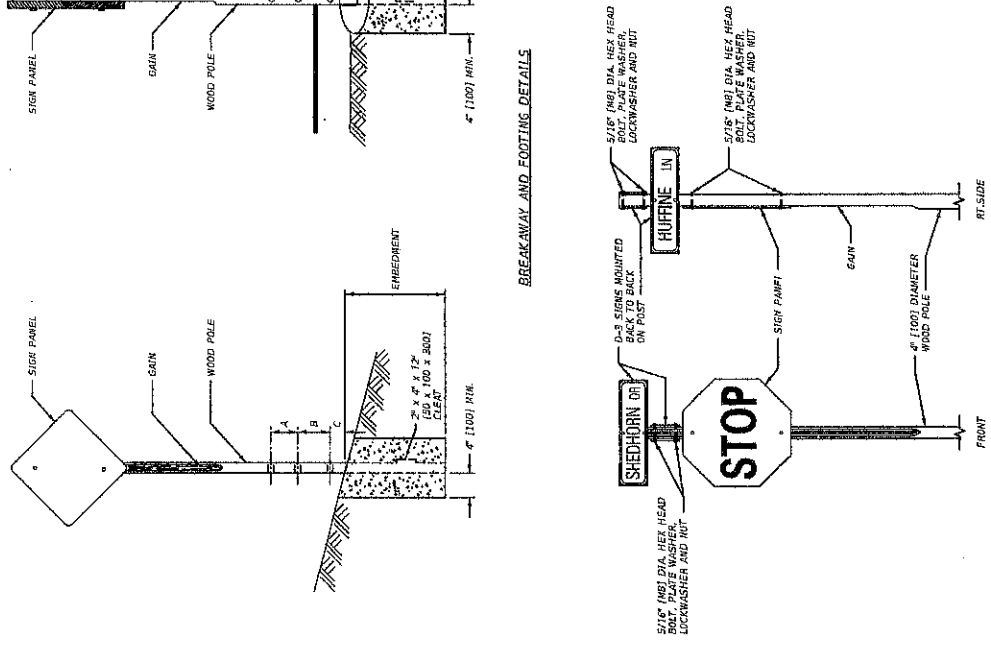
POLE SIZE (mm)	METRIC SIGN MOUNTING DIMENSIONS			EMBEDMENT (mm)	GAIN (mm)
	A (mm)	B (mm)	C (mm)		
75 TOP DIA.	-	-	-	0.9 m	70
100 TOP DIA.	-	-	-	0.9 m	90
150 TOP DIA.	300	100	100	1.1 m	100
CLASS 4	300	100	100	1.4 m	100
CLASS 3	300	100	100	1.5 m	100
CLASS 2	150	100	100	1.7 m	100
CLASS 1	150	100	100	2.0 m	100

TOP END TREATMENT



GAIN DETAIL

STREET NAME SIGN INSTALLATION

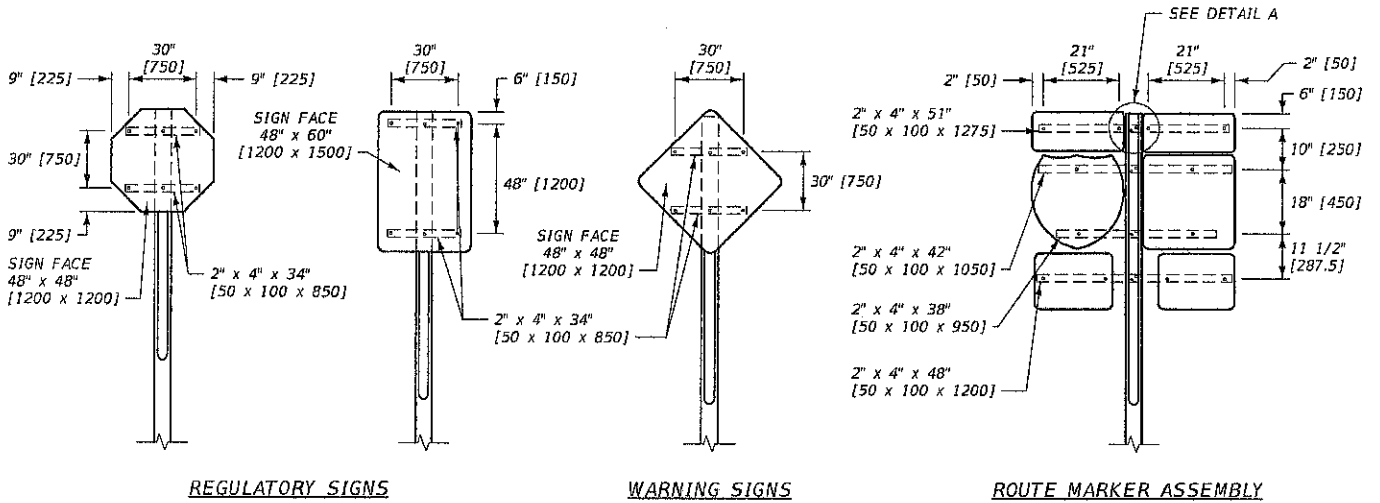


- NOTES:**
- THE COST FOR MOUNTING D-3 SIGNS IS ABSORBED IN OTHER BID ITEMS OF THE CONTRACT.
 - REFER TO FHWA'S STANDARD HIGHWAY SIGNS FOR D-3 STREET NAME SIGN TYPICAL LENGTH.

UNITS SHOWN IN BRACKETS () ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING
 REFERENCE: DWG. NO. 619-20
 SECTION 619.204
 TREATED WOOD POLE
 SIGN MOUNTING AND
 SUPPORT DETAILS





REGULATORY SIGNS

WARNING SIGNS

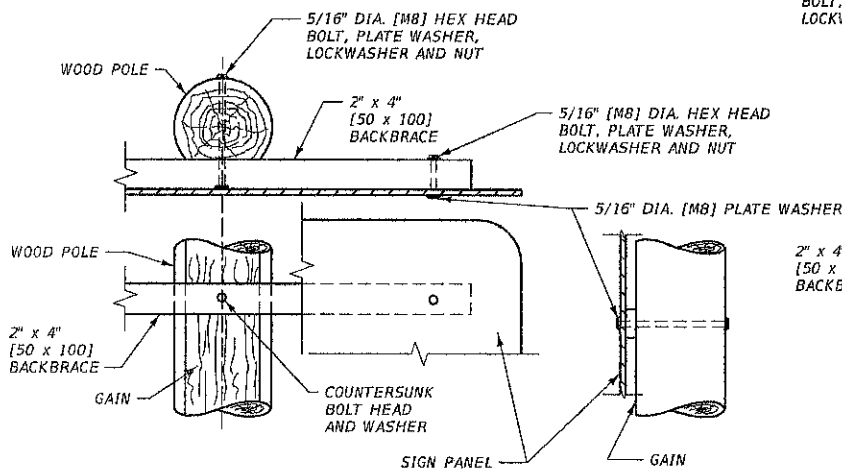
ROUTE MARKER ASSEMBLY

NOTE:

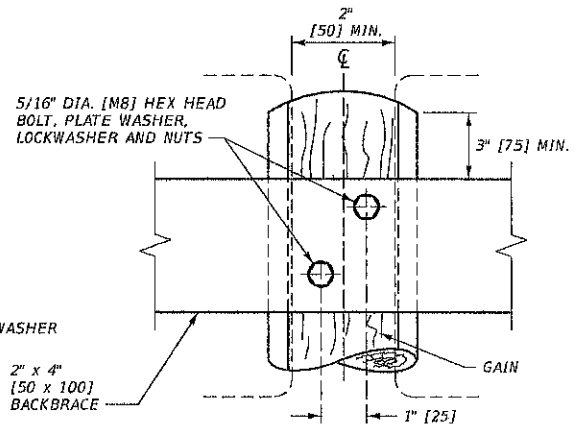
① SIGNS OF THESE SIZES AND LARGER REQUIRE WOOD BACKBRACING.

② SMALLER SIGNS MAY REQUIRE BACKBRACING IF THE CONDITIONS WARRANT (SEE SIGNING PLANS). IN THIS CASE, THE CONTRACTOR HAS THE OPTION OF USING WOOD OR STEEL BACKBRACING (SEE DTL. DWG. NO. 619-22).

WOOD BACKBRACE INSTALLATIONS



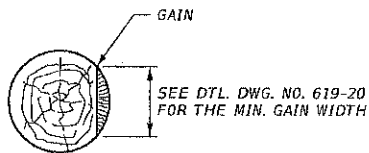
SIGN MOUNTING DETAIL



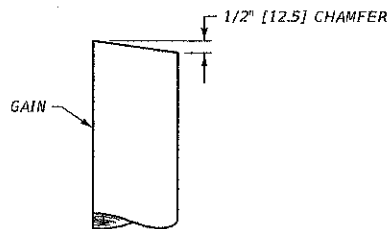
DETAIL A
(BACKBRACE)

NOTES:

- ① CONFORM ALL WOOD POLES TO THE REQUIREMENTS OF SECTION 704.
- ② GAIN ALL POLES ON THE SIGN SIDE THE MINIMUM WIDTH SHOWN IN THE TABLE ON DTL. DWG. NO. 619-20, FOR HALF THE LENGTH OF EACH POLE.
- ③ USE TREATED 2" x 4" [50 x 100] 54S LUMBER FOR ALL WOOD BACKBRACING, CONFORMING TO THE REQUIREMENTS OF SECTION 704.
- ④ USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.
- ⑤ SEE DTL. DWG. NO. 619-20 FOR BREAKAWAY AND SUPPORT DETAILS.



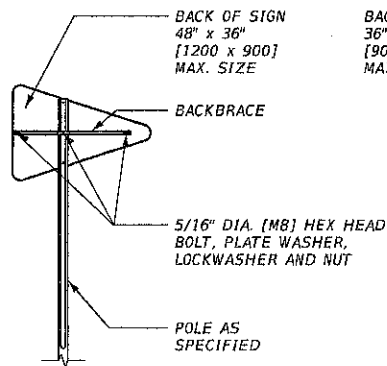
GAIN DETAIL



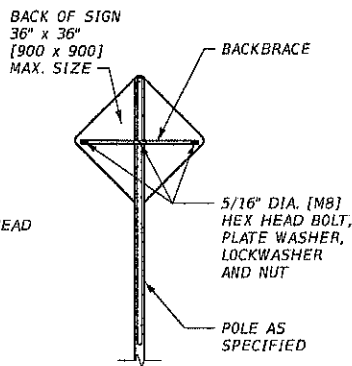
TOP END TREATMENT

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

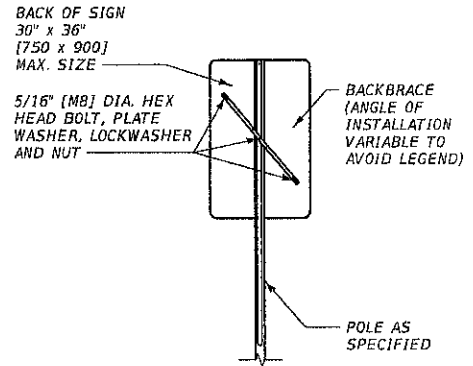
DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 619.704	DWG. NO. 619-21
TREATED WOOD POLE SIGN MOUNTING DETAILS	
MDTA MONTANA DEPARTMENT OF TRANSPORTATION	



NO PASSING PENNANTS

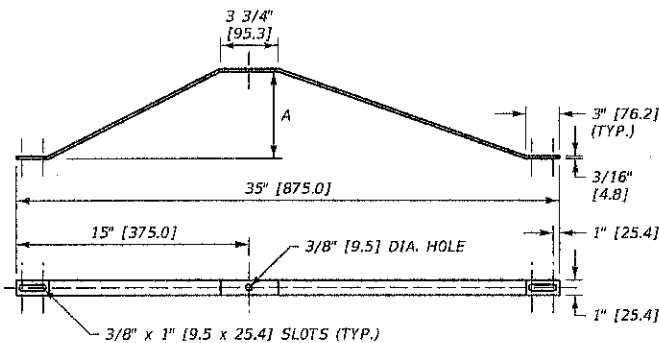


WARNING SIGNS

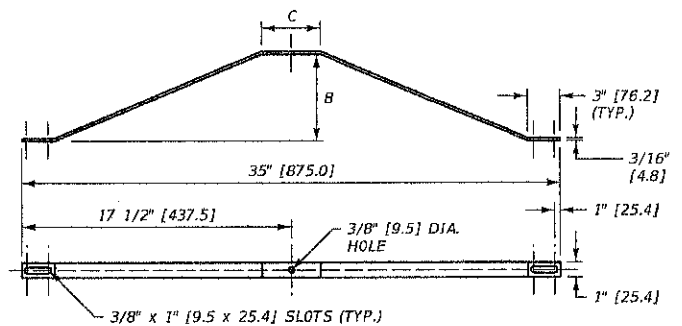


REGULATORY SIGNS

STEEL BACKBRACE INSTALLATIONS



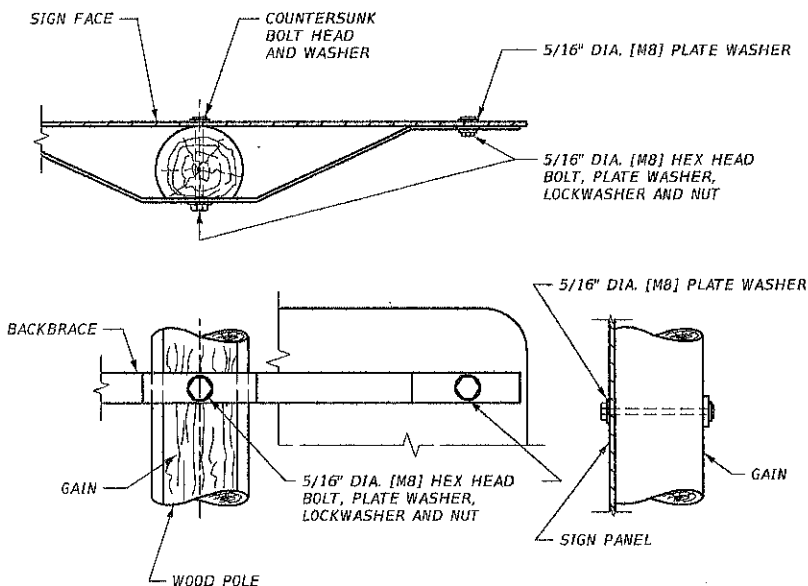
NO PASSING PENNANTS



REGULATORY AND WARNING SIGNS

POLE DIA.	A	B	C
3" [75]	2 1/8" [54.0]	2 1/8" [54.0]	3 3/4" [95.3]
4" [100]	3" [76.2]	3" [76.2]	3 3/4" [95.3]
5" [130]	~	4" [101.6]	4 1/4" [108.0]
6" [150]	~	5 1/4" [133.4]	4 1/4" [108.0]

STEEL BACKBRACE DETAILS



SIGN MOUNTING DETAIL

NOTES:

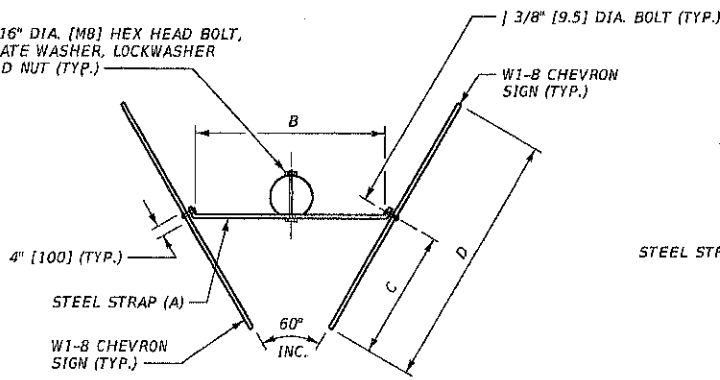
- ① USE COMMERCIAL QUALITY, MILD STEEL, THAT IS HOT-DIPPED AFTER FABRICATION. GALVANIZE IN ACCORDANCE WITH SUBSECTION 711.08.
- ② SEE DTL. DWG. NO. 619-20 FOR ADDITIONAL SIGN MOUNTING REQUIREMENTS. MOUNT SIGN FACE TO POLE BEFORE INSTALLING BACKBRACING.
- ③ SEE DTL. DWG. NO. 619-20 FOR BREAKAWAY AND SUPPORT DETAILS.
- ④ USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 619, 704, 711	DWG. NO. 619-22

TREATED WOOD POLE
OPTIONAL BACKBRACE

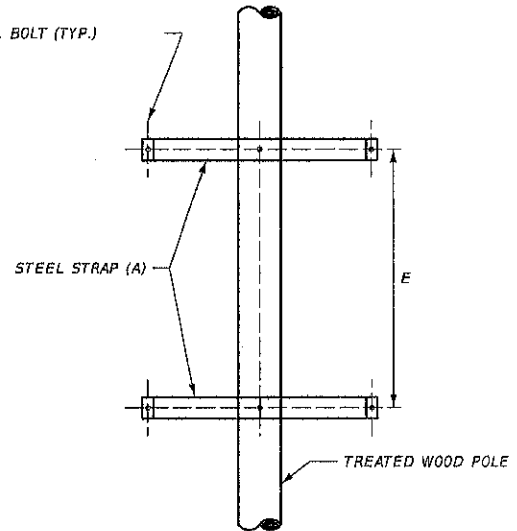
5/16" DIA. [M8] HEX HEAD BOLT,
PLATE WASHER, LOCKWASHER
AND NUT (TYP.)



PLAN VIEW

SIGN SIZE	DIMENSIONS				
	A	B	C	D	E
18" x 24"	1/4" x 2" x 1'-11"	15"	9"	18"	18"
24" x 30"	1/4" x 2" x 2'-2"	18"	12"	24"	24"
30" x 36"	1/4" x 2" x 2'-5"	21"	15"	30"	30"
36" x 48"	1/4" x 2" x 2'-8"	24"	18"	36"	36"

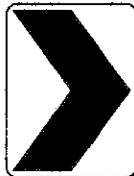
SIGN SIZE (mm)	METRIC DIMENSIONS (mm)				
	A	B	C	D	E
450 x 600	6 x 50 x 580	380	225	450	450
600 x 750	6 x 50 x 655	455	300	600	600
750 x 900	6 x 50 x 735	535	375	750	750
900 x 1200	6 x 50 x 810	610	450	900	900



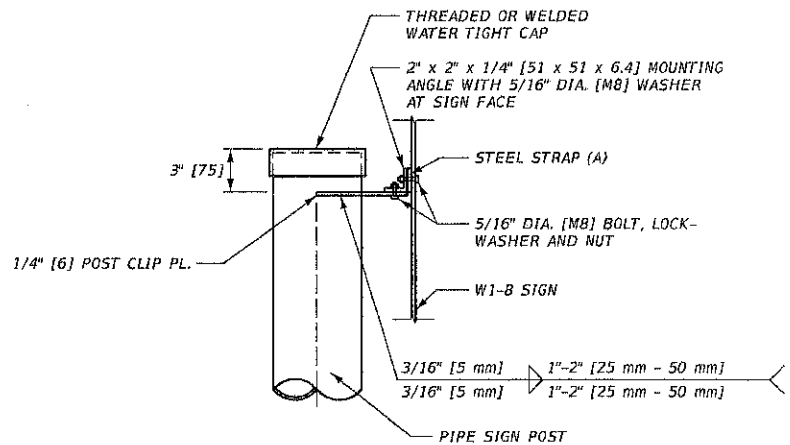
ELEVATION

WOOD POST MOUNTING

MOUNT 2 CHEVRON SIGNS ON EACH POST WITH EACH PANEL ADJUSTED TO APPROXIMATE RIGHT ANGLE TO ROADWAY CENTERLINE. EXACT LOCATION AND ANGLE TO BE DETERMINED BY THE PROJECT MANAGER.



W1-B CHEVRON ALIGNMENT SIGNS MAY BE USED AS AN ALTERNATE OR AS A SUPPLEMENT TO DELINEATION TO PROVIDE ADDITIONAL EMPHASIS AND GUIDANCE WHEN A CHANGE IN HORIZONTAL ALIGNMENT EXISTS IN THE ROADWAY.



STEEL PIPE MOUNTING

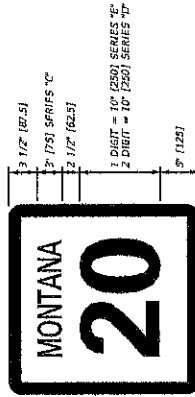
NOTES:

1. INSTALL CHEVRONS WITH A MINIMUM 10'-0" [3.1 m] HORIZONTAL CLEARANCE AND A 9'-0" [1.5 m] VERTICAL MOUNTING HEIGHT.
2. SPACING FOR DESIGN PURPOSES IS DOUBLE THE SPACING SHOWN IN THE TABLE ON DTL. DWG. NO. 619-36, UP TO A MAXIMUM CHEVRON SPACING OF 200' [60 m]. A MINIMUM OF 3 VISIBLE CHEVRONS ARE REQUIRED THROUGH A CURVE.
3. FIELD INSPECT THE CHEVRONS AT NIGHT AND ADJUST THEIR LOCATIONS TO ACHIEVE 500' [150 m] OF VISIBILITY.
4. USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

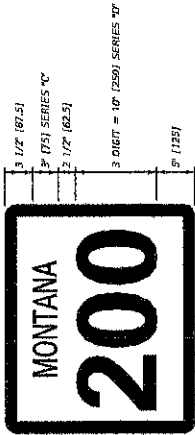
DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 619, 704	DWG. NO. 619-24
CHEVRON MOUNTING DETAILS	
MDTA MONTANA DEPARTMENT OF TRANSPORTATION	

PANELS
FOR USE ON ROUTE MARKER ASSEMBLIES



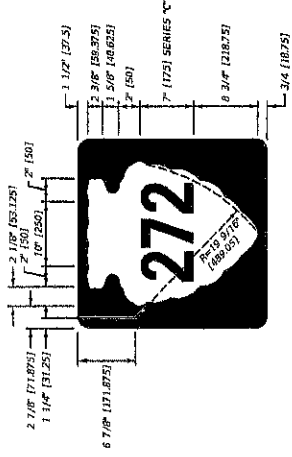
N1-5
24" x 24" (600 x 600)
MARGIN = NONE
BORDER = 1 1/2" (37.5)
CORNER RADIUS = 1 1/2" (37.5)

BLACK LEGEND AND BORDER ON A RETRO-REFLECTORIZED WHITE BACKGROUND.



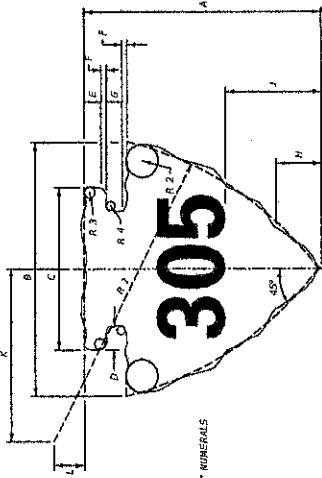
N1-5
30" x 24" (750 x 600)
MARGIN = NONE
BORDER = 1 1/2" (37.5)
CORNER RADIUS = 1 1/2" (37.5)

BLACK LEGEND AND BORDER ON A RETRO-REFLECTORIZED WHITE BACKGROUND.

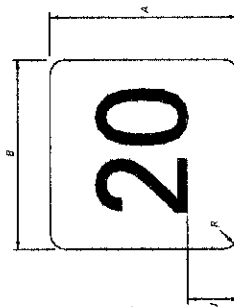


N1-12
24" x 24" (600 x 600)
MARGIN = NONE
BORDER = SEE DESIGN ABOVE
CORNER RADIUS = 1 1/2" (37.5)

BLACK LEGEND AND BORDER ON A RETRO-REFLECTORIZED WHITE BACKGROUND.



SHIELDS
FOR USE ON GUIDE SIGNS



- NOTES:**
- ① CENTER ALL NUMERALS USED ON PANELS AND SHIELDS OPTICALLY ABOUT VERTICAL CENTERLINE.
 - ② SEE SIGNS AND SIGNING MATERIALS CATALOG FOR COMPLETE LISTING OF SIGNS, AND SIGN SIZES. METRIC AND U.S. UNITS ARE SHOWN. ENGINEERING SIGNING UNIT FOR SIGNS BUDDIE TO HORIZONTAL.
 - ③ USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

SIGN DIMENSIONS	10" NUMERALS			12" NUMERALS			18" NUMERALS		
	2 DIGIT	3 DIGIT	3 DIGIT	2 DIGIT	3 DIGIT	3 DIGIT	2 DIGIT	3 DIGIT	3 DIGIT
A	21"	24"	24"	24"	24"	36"	36"	36"	36"
B	24"	24"	24"	36"	36"	36"	45"	45"	45"
J	6"	6"	6"	6 1/2"	6 1/2"	9 1/2"	9 1/2"	9 1/2"	9 1/2"
R	1 1/2"	1 1/2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
METRIC SIGN DIMENSIONS (mm)									
250 mm NUMERALS	300 mm NUMERALS	450 mm NUMERALS	450 mm NUMERALS	300 mm NUMERALS	450 mm NUMERALS	450 mm NUMERALS	300 mm NUMERALS	450 mm NUMERALS	450 mm NUMERALS
A	525	600	600	600	600	900	900	900	900
B	600	600	600	900	900	900	1125	1125	1125
J	150	150	150	162.5	162.5	237.5	237.5	237.5	237.5
R	37.5	37.5	50	50	50	62.5	62.5	62.5	62.5

BLACK LEGEND ON A RETRO-REFLECTORIZED WHITE BACKGROUND WITH NO BORDER.

SIGN DIMENSIONS	SIGN DIMENSIONS										METRIC DIMENSIONS (mm)					
	A	B	C	D	E	F	G	H	J	K	L	R 1	R 2	R 3	R 4	
8" NUMERALS	26"	26"	18 1/2"	2 5/16"	5"	5/16"	2"	5 1/2"	1 1/2"	17"	2 1/4"	32"	1 3/4"	5/8"	5/16"	
10" NUMERALS	32"	32"	22 1/2"	3 1/4"	3 5/8"	3 3/8"	2 1/2"	6 3/4"	1 3/4"	20 1/2"	3 1/2"	38 1/2"	2"	3/4"	3/8"	
12" NUMERALS	40"	42"	28"	4 1/2"	4 1/2"	4 1/2"	3"	8 7/16"	1 7/8"	25"	2 7/8"	48"	2 1/2"	7/8"	1 1/2"	
200 mm NUMERALS	650	700	462.5	65.025	75	7.8	50	137.5	37.5	425	56.25	800	43.75	19.225	7.8	
250 mm NUMERALS	800	850	562.5	81.25	90.625	93.75	62.5	168.75	93.75	512.5	50	962.5	50	18.75	9.375	
300 mm NUMERALS	1000	1050	700	100	112.5	125	75	210.9	425	625	71.875	1200	62.5	25	12.5	

BLACK LEGEND ON A RETRO-REFLECTORIZED WHITE BACKGROUND.

* USE WITH STANDARD 24" (600) U.S. SHIELD.

** USE WITH STANDARD 30" (750) AND 36" (900) U.S. SHIELD.

*** USE WITH STANDARD 42" (1069) U.S. SHIELD AND ALL INTERNATIONAL USE.

UNITS SHOWN IN BRACKETS () USE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

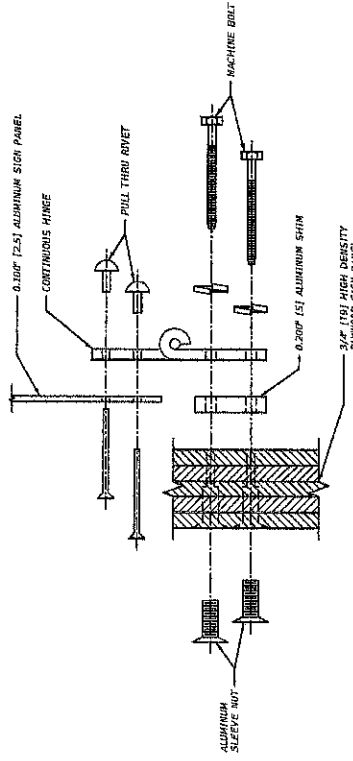
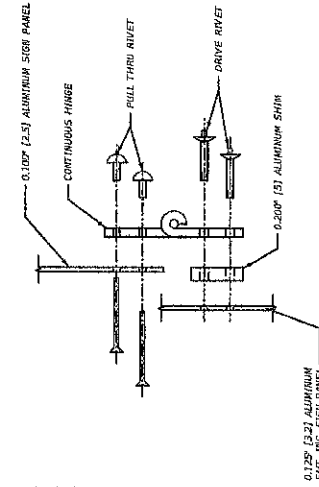
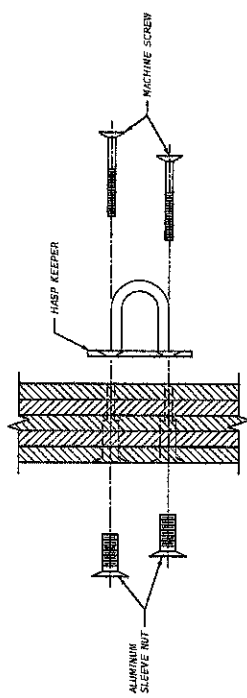
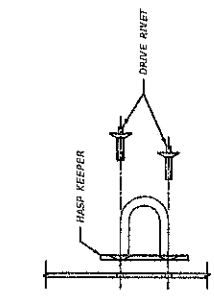
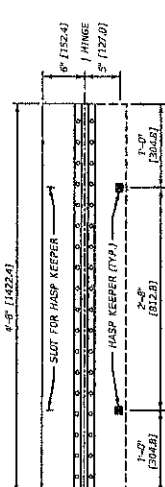
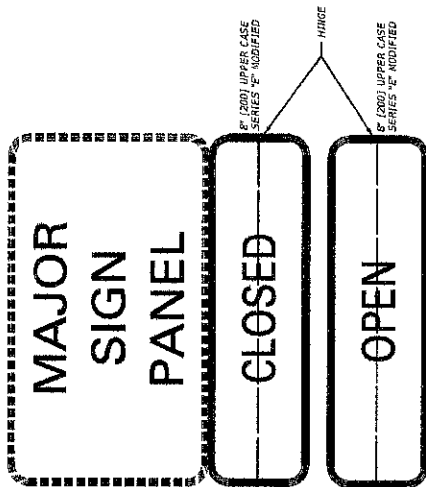
DETAILED DRAWING NO. 619-26
STANDARD SPEC. SECTION 619.704

SPECIAL DESIGN ROUTE MARKER PANELS AND SHIELDS

MDTA MONTANA DEPARTMENT OF TRANSPORTATION

ALUMINUM SHEET MOUNTING

PLYWOOD MOUNTING



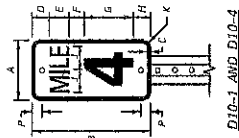
- NOTES:
- SEE SIGNS AND SIGNING MATERIALS CATALOG FOR COMPLETE LISTING OF SIGNS AND SIGN SIZES. DESIGNS ARE AVAILABLE FROM THE TRAFFIC ENGINEERING SIGNING UNIT FOR SIGNS UNIQUE TO MONTANA.
 - THE SIGN PANEL CONSISTS OF 3/4" (191) HIGH DENSITY PLYWOOD OR 0.125" (3.2) ALUMINUM SHEET (INCREMENT AS SPECIFIED ON THE PLANS). THE HINGED PANEL CONSISTS OF 0.100" (2.5) SHEET ALUMINUM.
 - PAIN ALL HARDWARE VISIBLE ON THE SIGN FACE OR COVER WITH METRO-REFLECTIVE SHEETING, THE SAME COLOR AS THE SIGN.
 - SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.
 - SUPPLEMENTAL SIGN PANEL BEHIND MAJOR SIGN PANEL MUST HAVE REFLECTORIZED LEGEND AND BACKGROUND MATCHING COLOR OF MAJOR PANEL.
 - THE HINGING MOUNTING HEIGHT TO THE BOTTOM OF THE SECONDARY PANEL IS 3'-0" (1.8) M.
 - USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

DETAILED DRAWING
 REFERENCE
 STANDARD SPEC.
 SECTION 619-704

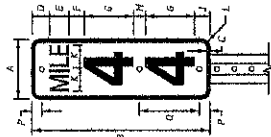
DWG. NO.
 619-30
 SIGN HINGE
 DETAILS

UNITS SHOWN IN BRACKETS ARE METRIC EQUIVALENTS (MM) UNLESS OTHER UNITS ARE SHOWN.

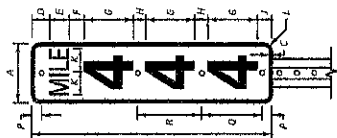
MDTA
 MONTANA DEPARTMENT
 OF TRANSPORTATION



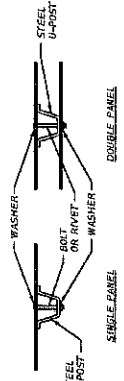
D10-1 AND D10-4



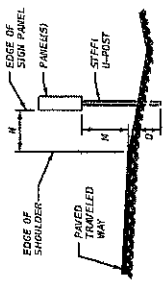
D10-2 AND D10-5



D10-3 AND D10-6



TYPICAL PANEL MOUNTING



TYPICAL PLACEMENT

PANEL DIMENSION INFORMATION

DIMENSION	INTERSTATE		
	D10-1 (1 DIGIT)	D10-2 (2 DIGIT)	D10-3 (3 DIGIT)
A	12.0"	12.0"	12.0"
B	18.0"	24.0"	36.0"
C	0.5"	0.5"	0.5"
D	3.0"	3.0"	3.0"
E	4.0" SERIES "D"	4.0" SERIES "D"	4.0" SERIES "D"
F	3.0"	3.0"	3.0"
G	3.5"	3.5"	3.5"
H	4.0"	4.0"	4.0"
I	1.5"	1.5"	1.5"
J	2.0"	2.0"	2.0"
K	1.5"	1.5"	1.5"
L	1.5"	1.5"	1.5"
M	12.5"	12.5"	12.5"
N	12.5"	12.5"	12.5"
O	12.5"	12.5"	12.5"
P	12.5"	12.5"	12.5"
Q	12.5"	12.5"	12.5"
R	12.5"	12.5"	12.5"

⊙ OPTICALLY CENTER DIGITS ON VERTICAL & OF PANEL.

METRIC PANEL DIMENSION INFORMATION

DIMENSION	INTERSTATE		
	D10-4 (1 DIGIT)	D10-5 (2 DIGIT)	D10-6 (3 DIGIT)
A	300	300	300
B	600	600	1200
C	10	10	10
D	98	75	75
E	100 SERIES "D"	100 SERIES "D"	100 SERIES "D"
F	75	75	75
G	250 SERIES "D"	250 SERIES "D"	250 SERIES "D"
H	87	75	75
I	98	75	75
J	60	60	60
K	40	40	40
L	40	40	40
M	30	30	30
N	313	313	313
O	313	313	313
P	313	313	313
Q	313	313	313
R	313	313	313

⊙ OPTICALLY CENTER DIGITS ON VERTICAL & OF PANEL.
ALL UNITS ARE IN MILLIMETERS (mm)

DIMENSION	NON-INTERSTATE		
	D10-1 (1 DIGIT)	D10-2 (2 DIGIT)	D10-3 (3 DIGIT)
A	10.0"	10.0"	10.0"
B	15.0"	21.0"	36.0"
C	0.5"	0.5"	0.5"
D	3.0"	3.0"	3.0"
E	4.0" SERIES "D"	4.0" SERIES "D"	4.0" SERIES "D"
F	2.0"	2.0"	2.0"
G	6.0" SERIES "D"	6.0" SERIES "D"	6.0" SERIES "D"
H	3.0"	3.0"	3.0"
I	4.0"	4.0"	4.0"
J	1.5"	1.5"	1.5"
K	1.5"	1.5"	1.5"
L	1.5"	1.5"	1.5"
M	1.5"	1.5"	1.5"
N	9.0"	9.0"	9.0"
O	9.0"	9.0"	9.0"
P	9.0"	9.0"	9.0"
Q	9.0"	9.0"	9.0"
R	9.0"	9.0"	9.0"

⊙ OPTICALLY CENTER DIGITS ON VERTICAL & OF PANEL.

DIMENSION	PLACEMENT DIMENSIONS	
	INTERSTATE	NON-INTERSTATE
M	4'	4'
N	5' MIN.	7' TO 6"
O	5' MIN.	5' MIN.
METRIC PLACEMENT DIMENSIONS		
DIMENSION	INTERSTATE	NON-INTERSTATE
M	1.2 m	1.2 m
N	1.8 m	0.6 m TO 1.8 m *
O	0.9 m MIN.	0.9 m MIN.

* NORMALLY IN LINE WITH DELINEATORS

NOTES:

- MILEPOST PANELS CONSIST OF A RETRO-REFLECTORIZED SHEET BACKGROUND.
- POST ALL MILEPOSTS ON STEEL U-POSTS (MIN. 3 LB. WT. (1.36 kg)) AND WASHER AND JAM THREADS AFTER TIGHTENING. USE 5/16" (8) DIA. ALUMINUM OR CHROMIUM PLATED BOLT HEADS OR PAINT RIVET HEADS WITH BRILLIANT GREEN SIGN ENAMEL.
- DO NOT RELOCATE OR MOVE A MILEPOST ONCE IT HAS BEEN PROPERLY PLACED.
- USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

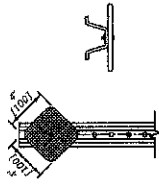
UNITS SHOWN IN BRACKETS (I) ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

QUALIFIED DRAWINGS
DRAWING NO. 619-32
SECTION 619.704
MILEPOST (REFERENCE POST)
DETAILS



DESIGN A USAGE:
USE FOR CONTINUOUS DELINEATOR AND RT. APPROACHES OF ALL RAMPWAYS.

DESIGN H USAGE:
USE AT INTERSECTIONS OF INTERSTATE ROUTES.

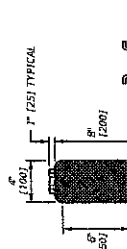


DESIGN A (WHITE)
DESIGN H (YELLOW)

DESIGN B USAGE:
USE ON LT. SHOULDER OF INTERSTATE ROUTES FOR APPROACHES OF AUTHORIZED VEHICLE ONLY CROSSOVERS.

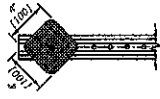
DESIGN G USAGE:
USE ON RT. SHOULDER OF INTERSTATE RAMPWAYS.

DESIGN J USAGE:
USE FOR TRUCK ESCAPE RAMP AND INTERCHANGE OFF RAMP FROM MID-POINT TO SIDE LT. & RT. FOR TRUCK WAY TRAVELERS.

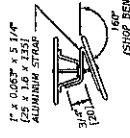


DESIGN B (YELLOW)
DESIGN G (WHITE)
DESIGN J (RED)

DESIGN C USAGE:
USE FOR CURVES WITH RADIUS OF 100 FT. OR LESS, BOTH INSIDE AND OUTSIDE OF CURVE.

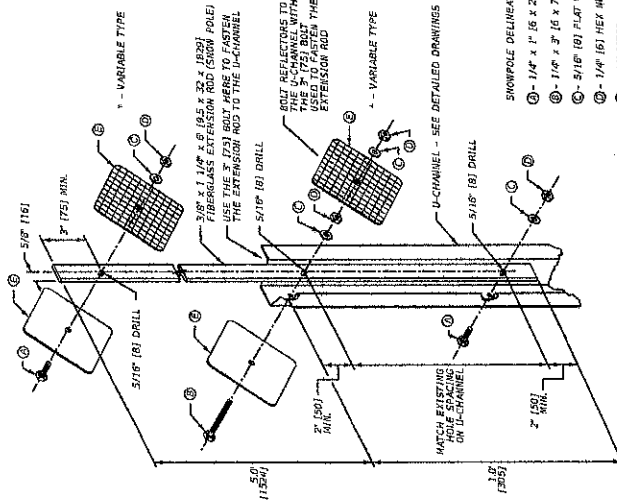


DESIGN C (WHITE)



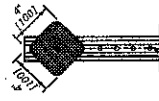
NOTES:
① SOME TYPES USES ARE SHOWN IN EACH DESIGN REFER TO THE AUTOC FOR SPECIFIC GUIDANCE.
② USE APPROPRIATE MEETING THE REQUIREMENTS OF SECTION 70A.

SNOWPOLE DELINEATOR NOTES:
① - 1/4" x 1/8" x 25' BOLT
② - 1/4" x 3/8" x 25' BOLT
③ - 5/16" (8) PLAT WASHER
④ - 1/4" (8) HEX NUT
⑤ - REFLECTOR
* = MATCH SNOWPOLE DELINEATOR WITH ROADWAY DELINEATOR



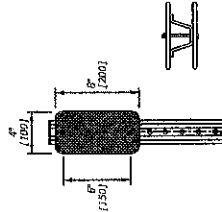
SNOWPOLE DELINEATOR DETAIL

DESIGN E USAGE:
USE FOR CURVES WITH RADIUS GREATER THAN 573 TO 763 FT. RADIUS OUTSIDE ONLY.
① - 573 TO 763 FT. RADIUS OUTSIDE AND INSIDE OF CURVE.



DESIGN E (WHITE)

DESIGN D USAGE:
NON-INTERSTATE RAMPWAYS USE AT APPROACHES WITH STOP OR YIELD SIGNS.
USE AT INTERSECTION OF RAMP AND CROSSROAD.



DESIGN D (YELLOW)

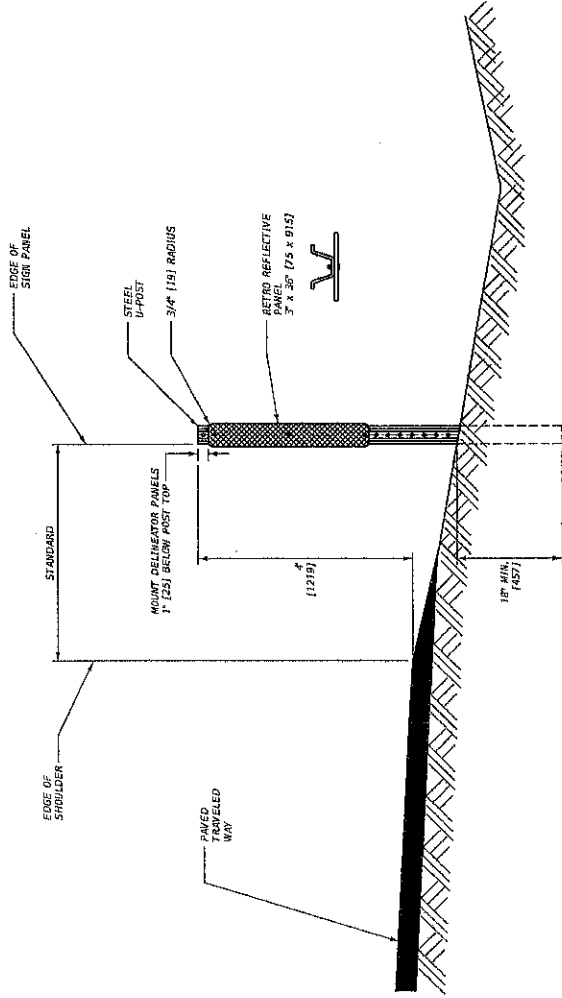
DELINEATOR LEGEND	
DESIGN "A"	↑
DESIGN "B"	↑
DESIGN "C"	↑
DESIGN "D"	↑
DESIGN "E"	↑
DESIGN "F"	↑
DESIGN "G"	↑
DESIGN "H"	↑
DESIGN "J"	↑
DESIGN "K"	↑
DESIGN "L"	↑

UNITS SHOWN IN BRACKETS () ARE METRIC AND ARE IN MILLIMETERS (MM) UNLESS OTHER UNITS ARE SHOWN.

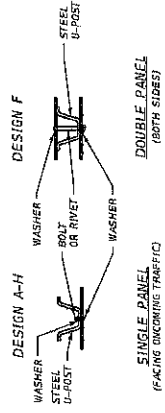
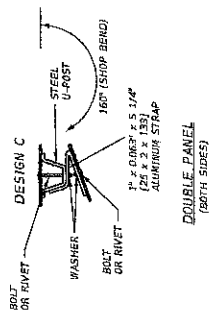
DETAILED DRAWING
REF: 619-34
STANDARD SPEC.
SECTION 619-204

DELINEATOR DETAILS

MDTA MONTANA DEPARTMENT OF TRANSPORTATION



- NOTES:
- FURNISH RETRO-REFLECTIVE SHEETING ACCORDING TO THE STANDARD SPECIFICATIONS FOR RETRO-REFLECTIVE SHEETING IN (HIGH INTENSITY). POSITION DELINEATOR FACES PERPENDICULAR TO THE TANGENT TO CURVE CENTERLINE.
 - MOUNT PANEL DELINEATOR ON METAL U-POSTS (1.2 LB./FT. MIN. AND 2 LB./FT. MAX.). USE 2 1/2" (63.5) DIA. U-POSTS TO PREVENT REMOVAL. INSTALL PANEL TO POST USING BOLTS AT PANEL TOP, MIDDLE, AND BOTTOM.
 - PLACE DELINEATORS AT A CONSTANT CLEARANCE DISTANCE FROM THE EDGE OF THE PAVEMENT EXCEPT WHERE GUARDRAIL OR OTHER OBSTRUCTIONS INTERFERE. ALIGN THE DELINEATORS WITH THE INSIDE EDGE OF THE OBSTRUCTION. CLEARANCE FOR DELINEATORS IS TO BE DETERMINED BY THE ENGINEER. THE STANDARD MOUNTING HEIGHT IS 4'-0" (1219) TO THE TOP OF THE POST. SUPPLY POST LENGTHS TO MAINTAIN THE PROPER MOUNTING HEIGHT AND A MINIMUM OF 18" (457) EMBEDMENT.
 - SPACE DELINEATORS ACCORDING TO DETAILED DRAWING 619-36. UNDER NORMAL SPACING, SHOULD A DELINEATOR FALL WITHIN A CROSSROAD OR APPROACH, IT MAY BE MOVED IN EITHER DIRECTION A DISTANCE OF 10' (3048) FROM THE CENTERLINE OF THE ROAD. IN SUCH A SITUATION, A DISTANCE OF 10' (3048) BETWEEN THE NORMAL SPACING, ELIMINATE DELINEATORS STILL FALLING IN SUCH AREAS.



NOTE: TYPE 'C' & 'F' DELINEATORS TO HAVE STRIPS ON BOTH SIDES OF POSTS.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (MM) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING
 REFERENCE
 STANDARD SPEC.
 SECTION 619.704

DWG. NO.
 619-35

PANEL DELINEATOR DETAIL

DELINEATOR PLACEMENT DETAILS

DETAILED DRAWING REFERENCE DWG. NO. 619-36 STANDARD SPEC. SECTION 619.704

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

- ① PURNISH RETRO-REFLECTIVE SHEETING ACCORDING TO THE STANDARD SPECIFICATIONS FOR RETRO-REFLECTIVE SHEETING AS PERPENDICULAR TO THE TANGENT TO CURVE CENTERLINE AS SHOWN IN FIGURE B.
- ② MOUNT DELINEATORS ON METAL U-POSTS (1.12 LB./FT. [1.7 kg/m] MIN. AND 2 LB./FT. [3 kg/m] MAX.) WITH 3/16" [5] DIA. CADMIUM PLATED BOLTS), DRILL OR PUNCH TWELVE 3/8" [9.5] MAXIMUM DIAMETER HOLES ON 1 INCH [25] CENTERS MEASURED FROM THE TOP OF THE POST. 1/4" [6.4] SQUARE HOLES MAY BE USED, IF SQUARE HOLES ARE USED, USE A LARGE HEADED BOLT OR AN APPROPRIATE WASHER. JAM THREADS AFTER TIGHTENING THE NUT TO PREVENT REMOVAL.
- ③ PLACE DELINEATORS AT A CONSTANT CLEARANCE DISTANCE FROM THE EDGE OF THE PAVEMENT EXCEPT WHERE GUARDRAIL OR OTHER OBSTRUCTIONS INTERFERE. ALIGN THE DELINEATORS WITH THE INSIDE EDGE OF THE OBSTRUCTION. CLEARANCE FOR DELINEATORS IS 6'-0" [1.8 m] ON INTERSTATE HIGHWAYS, 2'-0" TO 6'-0" [0.6 m TO 1.8 m] ON PRIMARY AND SECONDARY HIGHWAYS OR AS DETERMINED BY THE PROJECT MANAGER. THE STANDARD MOUNTING HEIGHT IS 4'-0" [1.2 m] TO THE TOP OF THE POST. SUPPLY POST LENGTHS TO MAINTAIN THE PROPER MOUNTING HEIGHT AND A MINIMUM OF 18" [0.45 m] EMBEDMENT.

- ④ SPACE DELINEATORS ACCORDING TO THE DISTANCES FOUND IN THE TABLE ABOVE OR AS SPECIFIED IN THE PLANS. IN FIGURE A, IF "E" IS GREATER THAN 20' [6 m] ADD ONE REGULAR DELINEATOR IN AT "A" SPACING. UNDER NORMAL SPACING, SHOULD A DELINEATOR FALL WITHIN A CROSSROAD OR APPROACH, IT MAY BE MOVED IN EITHER DIRECTION A DISTANCE NOT TO EXCEED ONE QUARTER OF THE NORMAL SPACING. ELIMINATE DELINEATORS STILL FALLING IN SUCH AREAS.
- ⑤ ALL DELINEATOR REFLECTORS HAVE 3/4" [18.75] CORNER RADIUS EXCEPT DESIGN "E".
- ⑥ MOUNT THE DELINEATOR REFLECTOR 1" [25] BELOW THE TOP OF THE METAL U-POST.
- ⑦ USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

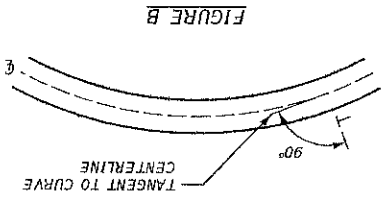
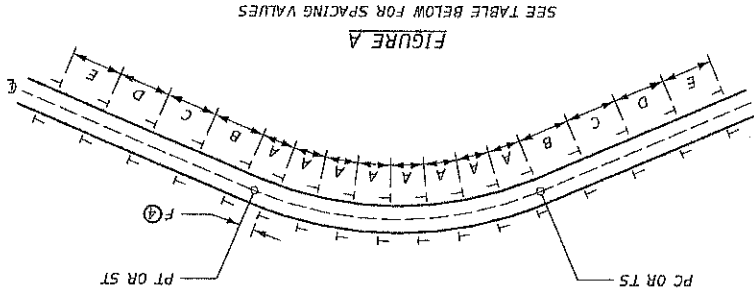
NOTES:

METRIC HORIZONTAL CURVE SPACING TABLE

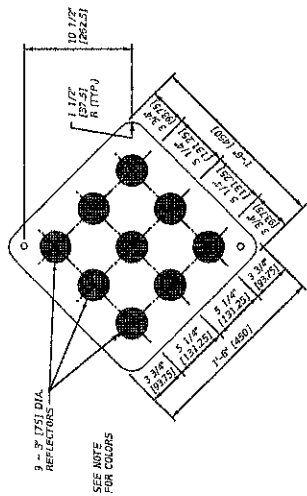
RADIUS (m)	SPACING ON CURVE (m)				
	A	B	C	D	E
0 - 99	15	25	40	80	120
100 - 149	20	35	55	90	120
150 - 199	20	45	70	90	120
200 - 299	25	55	80	120	120
300 - 449	35	65	100	120	120
450 - 599	40	75	120	120	120
600 - 899	50	95	120	120	120
900 - 1749	65	120	120	120	120
1750 & UP	90	120	120	120	120

HORIZONTAL CURVE SPACING TABLE

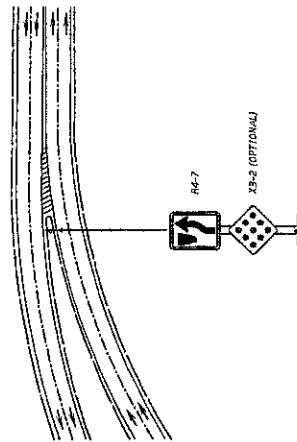
RADIUS	SPACING ON CURVE				
	A	B	C	D	E
0 - 286	45	90	140	275	400
287 - 477	60	125	185	300	400
478 - 715	75	150	230	300	400
716 - 954	90	185	275	400	400
955 - 1432	110	220	330	400	400
1433 - 1909	130	260	400	400	400
1910 - 2864	160	320	400	400	400
2865 - 5729	225	400	400	400	400
5730 & UP	300	400	400	400	400



TYPE 1
A3-2

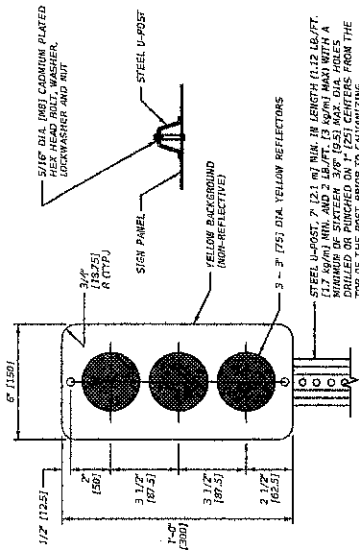


NOTE:
TYPE 1 OBJECT MARKERS HAVE YELLOW REFLECTORS ON A YELLOW BACKGROUND. TYPE 2 OBJECT MARKERS HAVE YELLOW REFLECTORS ON A BLACK BACKGROUND.
TYPE 1 MARKERS ARE RETRO-REFLECTORIZED RED OR HAVE RED REFLECTORS ON A RED OR BLACK BACKGROUND.

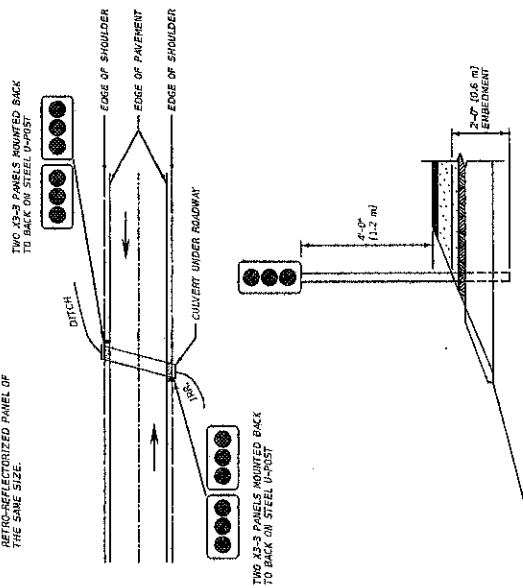


TYPICAL USE AND PLACEMENT
PLACEMENT OF 35-2 IS USED ONLY WHEN THE TARGET VALUE WHEN NEEDED.

TYPE 2
A3-3

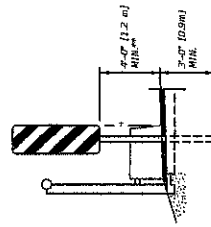
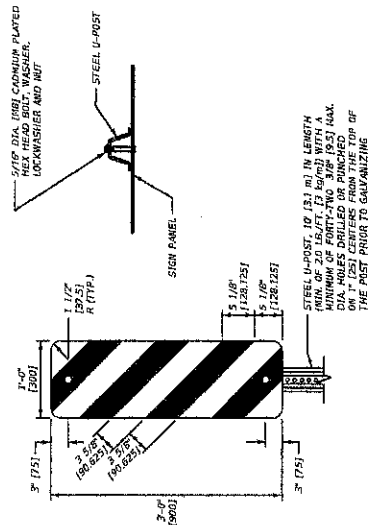


ALTERNATE DESIGN FOR TYPE 2 OBJECT MARKERS. THESE MARKERS ARE RETRO-REFLECTORIZED PANEL OF THE SAME SIZE.



TYPICAL USE AND PLACEMENT
PLACE PAST AND PANEL(S) OR PANEL(S) ADJACENT TO INNER-MOST EDGE OF OBJECT NEAREST TRAVELED WAY.

TYPE 3
OW-3
(OM-3L SHOWN)



* PLACE POST AND PANEL SO THAT PANEL EDGE IS FLUSH WITH FACE OF OBJECT NEAREST TRAVELED WAY.
** WHEN MOUNTED 6'-0" (2.4 m) OR MORE FROM CURB OR SHOULDER, THE MARKERS SHOULD BE PLACED ON THE INSIDE OF THE SHOULDER OR THE EDGE OF PAVEMENT.

TYPICAL USE AND PLACEMENT

GENERAL NOTES:
① USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

UNITS SHOWN IN BRACKETS [] ARE METRIC EQUIVALENTS UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING
REF: STANDARD SPEC. SECTION 619-3B
DWG. NO. 619-3B
SECTION 619-3B

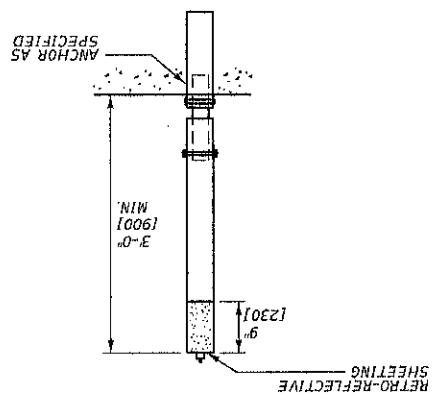
OBJECT MARKER DESIGN AND PLACEMENT DETAILS FOR OBSTRUCTIONS ADJACENT TO OR WITHIN HIGHWAYS

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UNITS SHOWN IN BRACKETS [] ARE
METRIC AND ARE IN MILLIMETERS (mm)
UNLESS OTHER UNITS ARE SHOWN.

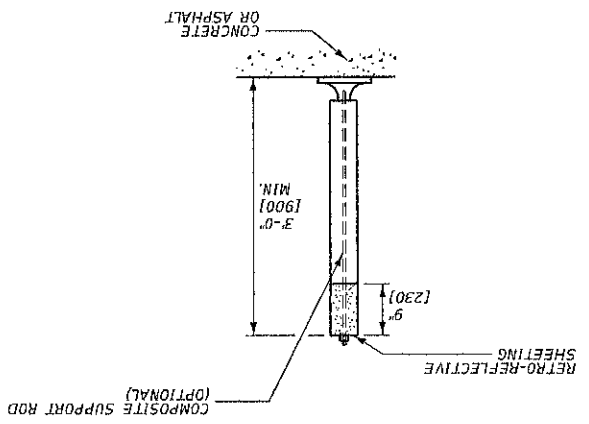
FLEXIBLE SURFACE-MOUNTED
DELINEATORS

DETAILS ARE REPRESENTATIVE ONLY.
ACTUAL DESIGN USED/SPECIFIED MAY
VARY (SEE PLANS).



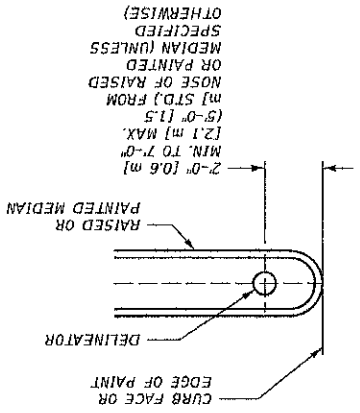
FLEXIBLE DRIVEABLE
DELINEATORS

DETAILS ARE REPRESENTATIVE ONLY.
ACTUAL DESIGN USED/SPECIFIED MAY
VARY (SEE PLANS).



- NOTES:
- ① MOUNT OR DRIVE FLEXIBLE DELINEATORS TO THE MANUFACTURERS SPECIFICATIONS.
 - ② THE EXACT LOCATION AND PLACEMENT OF THE FLEXIBLE DELINEATORS ARE SHOWN IN THE SIGNING PLANS.
 - ③ USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

TYPICAL USE AND PLACEMENT



RAISED OR
PAINTED MEDIAN

DELINATOR

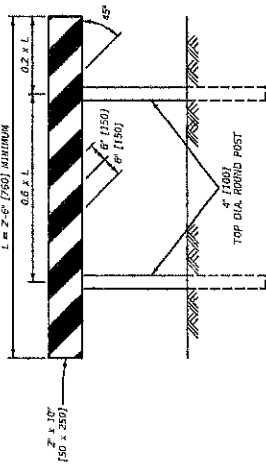
EDGE OF PAINT

CURB FACE OR
EDGE OF PAINT

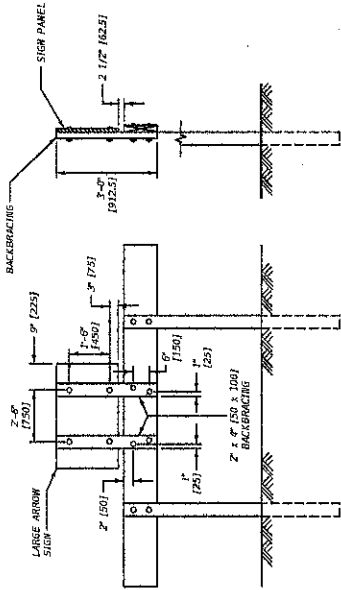
2-0" [66 mm]
MIN. TO 7-0"
[213 mm] MAX.

(5-0" [152 mm] STD.) FROM
NOSE OF RAISED
OR PAINTED
MEDIAN (UNLESS
SPECIFIED
OTHERWISE)

B1 BARRICADE
B(1)-L SHOWN



FRONT VIEW



REAR VIEW

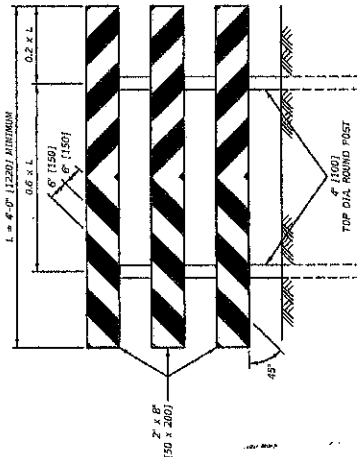
BARRICADE DETAILS

SIGN MOUNTING DETAILS

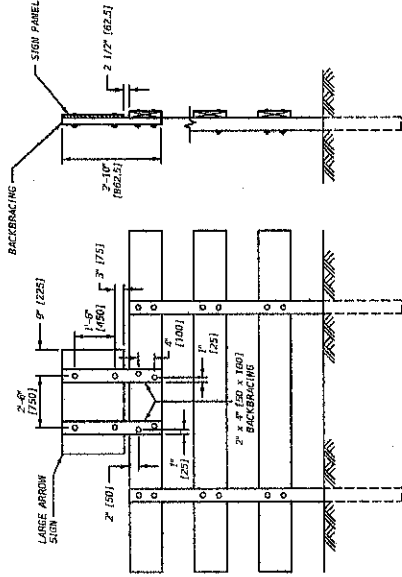
LEFT SIDE VIEW

RIGHT SIDE VIEW

B1L BARRICADE



FRONT VIEW



REAR VIEW

BARRICADE DETAILS

SIGN MOUNTING DETAILS

LEFT SIDE VIEW

RIGHT SIDE VIEW

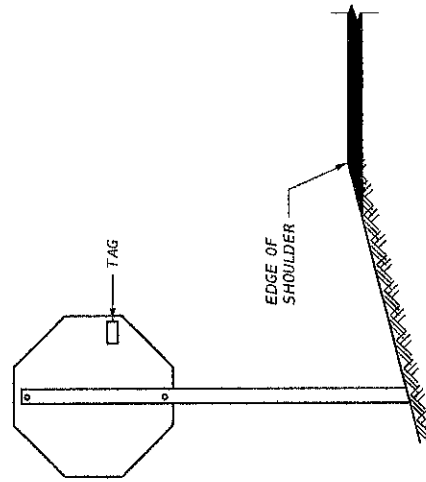
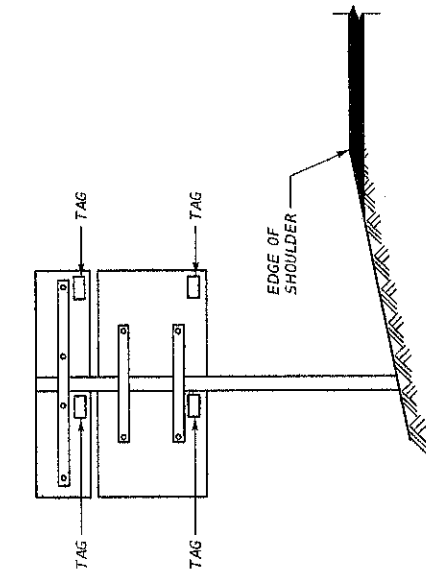
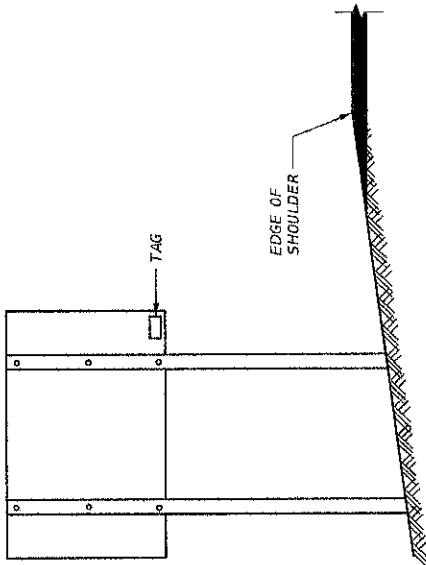
NOTES:

- CONSTRUCT ALL PORTIONS OF THE BARRICADE NOT IN GROUND CONTACT USING COMMON GRADE OR BETTER, USE LUMBER PAINT WHITE PAINT IN ACCORDANCE WITH SECTION 7.1A.
- BUSHING TREATED, ROUND WOOD PASTS, IN ACCORDANCE WITH 704.01.6. GAIN PASTS PER DETAIL DRAWING 619-20 AND FOR A LENGTH TO PROPERLY SEAT ALL PANELS OF THE BARRICADE.
- USE 3/8" (10) DIAMETER BOLTS, WASHERS, AND NUTS MEETING 704.01.13 FOR ALL CONNECTIONS.
- ALL BARRICADES HAVE ALTERNATING RETRO-REFLECTIVE RED AND WHITE STRIPES, 6" (150) IN WIDTH AT AN ANGLE OF 45° TO THE VERTICAL, SLANTING DOWNWARD TOWARD THE SIDE OR END OF THE BARRICADE. THE STRIPES SHALL BE MADE OF ROLL MATERIAL FOR STRIPES IS ACCEPTABLE.
- BARRICADES DESIGNATED "L" ARE PLACED ON THE LEFT SIDE OF APPROACHING TRAFFIC. BARRICADES DESIGNATED "R" ARE PLACED ON THE RIGHT SIDE OF APPROACHING TRAFFIC.
- RETRO-REFLECTORIZE ALL BARRICADES WITH THE SHEETING MOUNTED ON SHEET ALUMINUM BACKING AT LEAST 0.019" THICK. SECURE RETRO-REFLECTIVE ALUMINUM SHEETING WITH ALUMINUM NAILS.
- DETERMINE THE POST LENGTHS, IN THE FIELD, COMPLYING WITH THE MOUNTING HEIGHTS AND FOUNDATION DEPTHS LISTED ON THIS SHEET.
- USE MATERIALS FOR BARRICADE FRAMEWORK AND ASSEMBLY, INCLUDING ANY SIGNS AND MEANS OF ATTACHMENT, THAT MEET THE REQUIREMENTS OF SECTION 704.01.1. SIGNS AND BARRICADES MAY BE MOUNTED DIRECTLY BEHIND BARRICADES ON SEPARATE SIGN SUPPORTS MEETING MCHRP 350 CRITERIA.
- USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

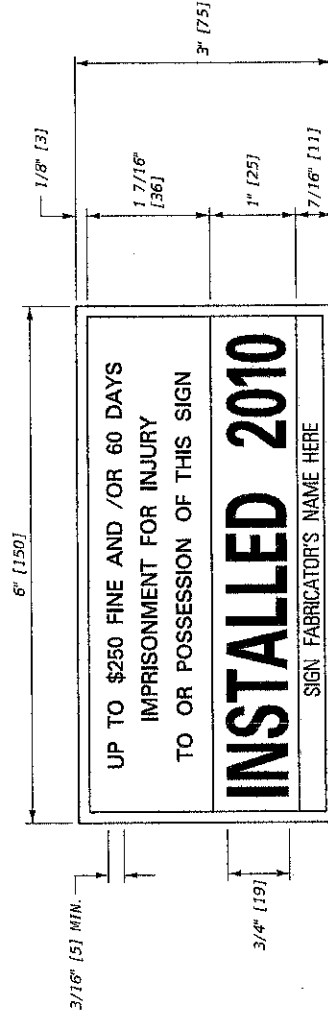
UNITS SHOWN IN BRACKETS () ARE METRIC EQUIVALENTS, UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING	DWG. NO.
REFERENCE	619-42
SECTION	619-704, 710
PERMANENT BARRICADE DESIGN DETAILS	





PLACEMENT DETAILS



DATE TAG DETAIL

DATE TAG COLOR SEQUENCE

DATE TAG COLOR CORRESPONDS TO THE LAST DIGIT OF THE INSTALLATION YEAR AS FOLLOWS:

- 0 - YELLOW
- 1 - WHITE
- 2 - LIGHT BLUE
- 3 - GOLD
- 4 - LIGHT GREEN
- 5 - RED
- 6 - PURPLE
- 7 - ORANGE
- 8 - BLUE
- 9 - GREEN

- NOTES:**
- ① FURNISH AND PLACE INSTALLATION DATE TAGS ON ALL SIGNS PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
 - ② THE TAGS DISPLAY THE YEARS IN WHICH THE SIGNS WERE INSTALLED. SEE THE COLOR SEQUENCE TABLE SHOWN ON THIS DRAWING FOR THE APPROPRIATE COLORS. DATE TAGS ARE TO BE RETRO-REFLECTIVE.
 - ③ PLACE A TAG ON THE BACK OF EACH SIGN, LOCATED NEAR THE LOWER CORNER OF THE SIGN NEAREST THE EDGE OF ROADWAY TO BE VISIBLE FROM THE ROADWAY AS SHOWN IN THE EXAMPLES ABOVE.
 - ④ PLACE TAGS ON ANY NEW SIGN INSTALLED IN THE FIELD AS ROUTINE MAINTENANCE BY HOT FORCES. MAINTENANCE DESIGN DATE TAGS CAN BE ORDERED FROM THE SIGN SHOP IN HELENA.
 - ⑤ USE HARDWARE MEETING THE REQUIREMENTS OF SECTION 704.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	619-44
SECTION 619.704	
INSTALLATION DATE TAGS	
MDTA MONTANA DEPARTMENT OF TRANSPORTATION	