Office Mammoet Canada Western Ltd.
12920-33rd Street N.E.
T6S 1H6
Edmonton Alberta
Canada

Phone +1 7804490552
Fax +1 7804179623
Website www.mammoet.com

Fluor Canada

IORVL Module Transport
Montana Transportation Plan

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## Appendices

Appendix 1 - Route Maps

Appendix 2 - Traffic Clearing Locations / Time Duration Calculations with GIS Maps

Appendix 3 - MDT Traffic Count Data \& Traffic Delay Simulation

Appendix 4 - MDT Traffic Structure Modifications Required

Appendix 5 - Typical Turnout Drawings - Clear, Park, Park Overnight

Appendix 6 - Western Traffic Control Plans

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Appendix 8 - Typical Job Execution Analysis (JEA)

Appendix 9 - Equipment Information (Hydraulic Platform Trailers \& Prime Mover Tractor)

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### 1.0 Introduction

The purpose of this document is to communicate to the Montana Department of Transportation (MDT) the plan for the transport carrier to transport equipment modules from the Idaho / Montana State line at Lolo Summit via state and federal roads to the US / Canada border at Sweetgrass, Montana. This plan is based on the largest size module with the understanding that if it is planned for the largest the remainder of the equipment modules will be able to be transported under the same plan. The anticipated shipping window for transport of the approximately 200 modules is fall 2010 to fall 2011. The maximum size of the load measures $24^{\prime}$ wide, 25'-7" High, 122'-5" Long, and weighs $156,000 \mathrm{kgs} / 344,000 \mathrm{lbs}$ (dimensions do not include tractor and trailer, see Appendix 7) for Fluor Canada to the Kearl Project in the Fort McMurray region of Alberta.

The transport route through Montana follows US Highway (Hwy) 12 from Lolo Summit to Lolo, then follows US Hwy 93 through Missoula to I-90, then onto Hwy 200 at Bonner. Continue on from Bonner, the transport route will follow Hwy 200 through Lincoln and over Roger's Pass to Hwy 287. From the Junction of Hwy 200 \& 287, the transport route will follow Hwy 287 through Augusta and Choteau. From Choteau the transport route follows Hwy 89 northbound until it turns east on Hwy 44 to the town of Valier. From Valier, the transport route follows Hwy 358 and Hwy 2 to Cut Bank. From Cut Bank, the transport route follows Hwy 213/214 to Sweetgrass, MT at the US/Canada border.

Majority of the modules will be transported on steerable hydraulic platform trailers. Hydraulic platform trailers are among the most technologically advanced trailers and can be configured in many ways. Axle loads are hydraulically equalled out amongst the axle groups, as well as steering and levelling capabilities. (see appendix 9 for more trailer details).

The transport carrier has enlisted the expertise of Western Traffic Control to comply with the Montana State requirement for flag personnel signalling traffic around a load of this size while in transport. Detailed traffic control plans have been developed to safely control traffic around the loads as well as minimizing delays to the motoring public on highway and urban areas (see Appendix 6). The transport carrier has also contacted the Montana Highway Patrol and is working on an agreement to escort the loads through the State of Montana as an added extra safety precaution.

Included in Section 2.0 of this document is an Overall Transport Strategy, outlining the travel schedule and turnouts, and any other locations required to clear traffic, to wait out curfews, and for emergency parking. In Section 3.0 a detailed execution plan along with traffic control plans are included to identify how the transport carrier will safely move traffic around the load while adhering to Montana's 10 minute maximum traffic delay rule.. Section 4.0 includes an Emergency Response Plan to cover the transport carrier's safety procedures for the transport team to follow in the event of an emergency while in transport. Section 5.0 is an overview of the empty trailer return routes; a separate detailed transportation plan is to be created for this.

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It is the goal of the transport carrier to transport each module safely and efficiently through the state of Montana, while minimizing the impact to the public.

Note: This travel schedule is based on overhead obstructions being cleared or raised either permanently or temporarily prior to transporting the modules. All overhead utility lines are scheduled to be permanently raised.

Module in Transport Showing Typical Shipping Envelope:


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### 2.0 Overall Transport Strategy

The overall transport strategy is to move all modules safely through Montana while minimizing the impact to the public and adhering to Montana's 10 minute maximum traffic delay rule.

### 2.1 Transport Route



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Satellite Image of Route with Stages
(P indicates parking location)


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Outlined below is the transport route road number summary with corresponding counties that are travelled through, county contact information is provided in section 2.2 (also in Appendix 10) of this document.

| Road Number | From | To | County, MT |
| :--- | :--- | :--- | :--- |
| Hwy 12 | Lolo Pass Summit | Lolo | Missoula |
| Hwy 93 | Lolo | Missoula (I-90) | Missoula |
| I-90 | Missoula | Bonner | Missoula |
| Hwy 200 | Bonner | Jct 200 \& 287 | Missoula, Powell, Lewis \& Clark |
| Hwy 287 | Jct 200 \& 287 | Choteau | Lewis \& Clark, Teton |
| Hwy 89 | Choteau | Jct 89 \& 44 | Teton, Pondera |
| Hwy 44 | Jct 89 \& 44 | Valier | Pondera |
| Hwy 358 | Valier | Jct 358 \& 2 | Pondera, Glacier |
| Hwy 2 | Jct 358 \& 2 | Cut Bank | Glacier |
| Hwy 213 | Cut Bank | Jct 213 \& 214 | Glacier |
| Hwy 214 | Jct $213 \& 214$ | Sweetgrass | Glacier, Toole |

Throughout the route, all intersections and bends have been verified to accommodate the transport trailer (the largest dimensions). These are provided in Appendix 12 of the MTP.

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Curb Planking

In instances where the trailer must travel over curbs (as outlined on drawings in Appendix 12) the procedure is for the lead pilot car to place 3"x 12 "planking to allow the trailer tires to climb the curb. The following transport crew would then retrieve the planking. This process does not impede traffic. (See Appendix 12.24 for detailed drawing of planking procedure)


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### 2.2 County Contact Information

The primary contact for each county is county roads personnel as listed below (and Appendix 10) from the Directory of Montana County Officials 2009. Additional consultation has occurred with county commissioners and county sheriffs as appropriate.

## Missoula County

Greg Robertson, Missoula
Public Works Director/Surveyor
Phone: 406-258-4870
e-mail: groberts@co.missoula.mt.us

## Powell County

Duane C. Hoxworth, Ovando
Phone: 406-793-5737

Lewis \& Clark County
Eric Griffin, Helena
Director of Public Works
Phone: 406-447-1636
e-mail: egriffin@co.lewis-clark.mt.us

Teton County
Darin Johnson, Choteau
Supervisor
Phone: 406-466-2671
e-mail: tcrd@3rivers.net

Pondera County<br>John Stokes, Conrad<br>Phone: 406-279-3651<br>e-mail: pocova@3rivers.net<br>Glacier County<br>Bill Bandell, Cut Bank<br>Supervisor<br>Phone: 406-873-4362<br>e-mail: gcrddept@notherntel.net<br>Toole County<br>Jim Midboe, Shelby<br>Road Supervisor<br>Phone: 406-434-5742<br>e-mail: tcroad@3rivers.net<br>City of Missoula<br>Doug Harby<br>Public Work Construction Project Manager<br>Phone: 406-552-6091<br>e-mailL dharby@ci.missoula.mt.us

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### 2.3 Travel Speeds

The loaded hydraulic transport trailer can travel at maximum speed of 35 mph . For the transport plan, experienced drivers have estimated loaded hydraulic trailer travel speeds of 30 mph on straight stretches and 6 $\mathrm{mph}, 8 \mathrm{mph}, 10 \mathrm{mph}, 15 \mathrm{mph}, 20 \mathrm{mph}$ or 25 mph depending on the grade and other road conditions. Based on these estimated speeds and taking into account the transporter's acceleration and deceleration, turnout locations, and slowing down for bridge crossings at 5 mph and center of Bridge as per permit requirements have been identified to adhere to Montana's 10 minute maximum delay rule. This complete list can be found in Appendix 2.

All other public and commercial vehicles are assumed to travel at posted residential and highway speeds.

### 2.4 Local Partners

The transport carrier will use local knowledge and expertise to guide the load through Montana. Local partners give the transport team added confidence with experience and knowledge of the transportation route, local contacts, and Montana specific rules. The partners the transport carrier has made contact with are Western Traffic Control (for flag personnel and signage), Montana Highway Patrol* (support escort to ensure safety of the public and crews), and local pilot cars (for traffic warning and control).
*Note: MHP will be in uniform driving marked police cruisers

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### 2.5 Traffic Management Strategy

It is the goal of the transport carrier to transport each module safely and efficiently through the state of Montana, while minimizing the impact to the public.

The Montana Transportation Plan (MTP) is based on the traffic speeds as noted above, existing and new turnouts and peak traffic volumes as determined from traffic volume data supplied by MDT (see appendix 2 and 3 for details).

The transport carrier will use pilot vehicles as required by permit regulations and escorted by two uniformed officers in police cruisers to provide safe control of rear approaching and on coming traffic. The police cruisers will be located at the very front and very rear of the transporter as a visual reminder to follow all traffic laws and signs. The uniformed police escorts in police cruisers are also an integral part of the Emergency Response Plan. Western Traffic Control will provide flag personnel for traffic control at all traffic clearing opportunities along the route as per MDT regulations. In urban areas where the load encroaches on pedestrian walkways while making a turn, flag personnel will stop and control foot traffic while the load completes the turn (Approx. one minute delay per turn).

The MTP will utilize night travel through most of the state to minimize the impact on the public and to adhere to Montana's 10 minute maximum delay rule. The transport carrier will carefully monitor and remain in full compliance with the hour of service rules regulations for all transport employees accompanying the load. For any night time flag person stations, light plants are to be mounted in the back of the pilot cars to illuminate the area to ensure safety of the public and transportation crews. Flag persons and warning signage will not be set up in areas of limited visibility such as hills and blind curves, but will proceed further down the route to a safe setup location with clear visibility for motorists. The warning signage sequence will be set up at each traffic-clearing opportunity with the exceptions of urban areas, individual traffic control plans have developed for these areas for clarity. Also, all during hours of darkness, the flag persons will be illuminated by mobile light plants and all signage will have flashers mounted on the signs.

Weather will be continuously monitored. Modules will not travel in adverse weather conditions, as per permit requirements and based on the expertise of the transport supervisor and the transport team. The transport supervisor will check forecast and posted road conditions by checking with traveler information on the MDT website and National Weather Service, as well as scouting the route prior to moving each day. The transport should not leave the overnight parking locations if traffic cannot be stopped during any portion of the daily route due to poor weather. The transport supervisor will then check the complete list of turnouts (not only the planned turnouts) and will decide on the next best alternative should other vehicles be parked in the turnouts.

The transport carrier will utilize the expertise of local flag personnel who have escorted many over dimensional loads in the State of Montana. During transport, oncoming traffic will be stopped ahead of the

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turnout (see appendix 2 for complete list) and released once the load is pulled over into the turnout. While the module is at a current park turnout, a pilot car will leap frog to the next turnout ahead of the next park turnout and stop oncoming over dimensional loads. For further details, see Appendix 6-6.1.15. Another pilot car will always be two turnouts ahead to stop any oncoming oversized loads. Should an oversized load be encountered, the module transporter will be stopped at a park turnout, and allow the opposing over dimensional load to pass without delay. (See Appendix 6-6.1.15) Traffic coming from the rear will follow and be cleared out at appropriate turnouts and signaled to pass by the rear flag personnel when safe to do so. Rear flagging personnel will also be responsible for removing temporary signs placed along the route immediately after the load passes the clear location. For side roads, private approaches and private driveways, the pilot cars will stop any traffic and direct them to a safe location until the load has passed. This is a standard flag person / pilot car strategy for moving traffic around an extremely large load. (See Appendix 6.3, drawing 10039355-P042-D-T101)

As per Appendix 2.0 of the MTP, the travel route within Montana will have a combination of Park (two lane clear) and Clear (one lane clear) turnouts for the purpose of clearing traffic. Refer to Appendix 3.0 of the MTP for the simulation of traffic delay for oncoming and following traffic. This also demonstrates adherence to the 10 minute maximum traffic delay rule. The only exception to the 10 minute rule is oversized loads in the opposite direction. (Please refer to Section 6.1.15 for the traffic clearing procedure for such occurrence)

A maximum of two loads per day would be transported past any particular location. The maximum foreseeable delay for any driver would be 10 minutes per module. The planned night hauling on most of the route would minimize most impacts. A driver following the route could encounter multiple modules most of which would be on the route during the night travel.

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### 2.6 Traffic Control Plans

The traffic control plans within this document have been developed by Western Traffic Control of Missoula, MT. The traffic control company selected by the transport carrier will assist the transport carrier in executing traffic control for the State of Montana according to permit regulations. Traffic clearing turnouts have been identified and noted, the transport carrier has also identified suitable turnouts where the load can be completely pulled off the road (Appendix 2). It is planned to utilize 16' wide trailers for the heaviest loads (smaller trailers will be used for smaller loads), this allows for the load to overhang the ditch where possible thus leaving the oncoming lane clear for controlled traffic flow as well (load offset will always favor the ditch side to minimize overhang toward center of road). For reference, in this document a "side road" is any roadway intersecting the designated module route. (See Appendix 5 for Typical Turnout Drawings)

Typical Module in Transport with Ditch Side Overhang:


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Detailed highway traffic control plans have been developed in Section 6.1. Namely, Clear, Clear on Shoulder, Park, 3 Lane Clear and 4 Lane Clear. As an example, a traffic control plan for clear turnout is provided below. (See 6.1.1 in Appendix 6 for larger version. Refer to 6.1 for other Traffic Control Plans and Other Traffic Control Procedures)

$\frac{\text { Notes: }}{1 .}$ For details on Traffic Clearance Procedure, refer to Sheet 6.1.7 in this section.
2. Each Flagger will be certified by the American Traffic Safety Services Association (ATSSA)
3. Nighttime flag stations will be illuminated by lighting according to MDT standards.
4. Advanced warning signing will be placed so that the traffic queue does not extend beyond the flagger sign.
5. Flag station signing will be mounted in sign brackets on post mounted signs.
6. Crew traveling with module will consist of a minimum of one Certified Traffic Supervisor, three certified Traffic Control Technicians and three Certified Flaggers. All members of crew will have Flagger Certifications.
All members of crew will be equipped with business band radios on a common frequency to maintain communications between traffic crew and transport crew.


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### 2.7 Communications

Prior to approval of this transport plan, communication with governments, state and municipal, will be through the prime contractor and the owner. Following approval of this transport plan the prime contractor and transport carrier will conduct communications with MDT and local communities of transport schedules and such, as well as any required notifications for utility escorts, light turning, sign turning, etc.

Clear communication is the key for the module to travel safely across the State of Montana. The transport carrier has experience in setting up communication systems for the transport of extremely large modules where flag personnel, police escorts, and pilot cars are required.

Primary communication is by two way radios. The transport carrier will designate frequencies that will be utilized during the transport. For this transport, the transport carrier will use two channels, one will be for the actual transport trucks, trailer operator and transport supervisor for the operations of the trucks and trailer. The second channel will be the flag persons, police, pilots and transport supervisor. The transport supervisor will carry two radios and be the link between the two parties when required. The pilot cars in the middle will act as relay messengers from the very front flag persons when a message is needed to get to the rear flag person / pilot car. The transport carrier radio channel frequency will be available for pilots and Highway Patrol to program into their radios. Hand held spare radios will also be available. Consideration will be given to use of headsets if radio's are to be used outside at night.

The highway patrol escort will monitor mutual aid radio, or equivalent, and will advise the transportation supervisor of any emergency vehicle callouts that the module may potentially interfere with and advise accordingly (this is covered in greater detail under the Emergency Response Plan in Section 4 of this document).

As cellular coverage can be intermittent through the route, the transport carrier will ensure that the transport supervisor has communication available during the transport by way of satellite communications (either satellite phone or 2 way GPS locating software).

Prior to moving each day the entire crew (flag persons, pilots, escorts, and transport crew) will take part in a pre-job meeting (toolbox talk) where the communications will be reviewed and potential issues identified and resolved prior to transport. At the toolbox meeting the previous day will be reviewed. The toolbox talk also covers the review of the plan for the day including, traffic control, any potential issues that may come up and how they are to be resolved. Any other third party operations required for transport of module (as per permit requirements) will be contacted and plans reviewed (See Appendix 8 for an example of a typical Job Execution Analysis and Toolbox Talk)

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Communication with various groups and communities along the route will be required as well. Fluor will issue a 30 day and a 7 day notice for module shipments and the transport carrier will issue notifications as required by any department, organization, or group of load status as required.

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### 3.0 Major Stages of Travel

Below is a summary outlining the major stages of travel indicating the:

- scheduled time of travel,
- start and end points,
- estimated travel time
- number of traffic clearing opportunities
- main segments of travel within each stage and,
- total distance travelled.

The travel times and the maximum public and commercial vehicle delay are based on:

- estimated transporter travel speed between traffic clearing opportunities,
- distance between traffic clearing opportunities,
- public and commercial vehicle travel speed based on posted speed limits
- estimated time to clear traffic after being stopped for module transport and
- peak traffic volumes along the module transportation route as determined from traffic volume data supplied by MDT.

Appendix 2 presents the traffic clearing locations and travel time calculations for all traffic.

Appendix 3 presents day and night time peak hourly traffic volumes along the module transportation route. Also provides transport simulation of traffic delay for oncoming and following traffic.

To ensure minimum public impact, night time travel as noted below is planned for Stage 1 through 5 with day time travel planned for Stage 6

| Stage 1 |  |  | Scheduled Times |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | 02:30am | 05:00am |
| Montana State Line to Lolo Weigh Station |  |  |  |  |
| Appendix 2 for calculations) |  |  |  | ding contin |
| 13 Intermediate Traffic Clearing Opportunities |  |  |  |  |
| HWY | MP | Desc |  |  |
| 12 | 0 | Idaho | tana State |  |
| 12 / 93 | 32.5 / 83.4 | Lolo | Station |  |
| Total Dis | 5miles |  |  |  |

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## Stage 2

## Scheduled Times

12:00am to 04:00am
Lolo Weigh Station to MP 1.9 Hwy 200
Total scheduled travel time is estimated to be about 4 hours including contingency. (Refer to Appendix 2 for calculations)

| Traffic will be continuously moving around the load <br> HWY | MP | Description |
| :--- | :--- | :--- |
| $12 / 93$ | 83.4 | Lolo Weight Scale |
| 93 | $90.9 / 0.0$ | Junction of Hwy 93 \& Reserve St. |
| I-90 | $5.4 / 101$ | Junction of Reserve St. \& I-90 |
| I-90 / 200 | $109 / 0$ | Junction of I-90 \& Hwy 200 |
| 200 | 1.9 | Overnight Parking North of Bonner, MT |

Total Distance 22.8 miles

## Stage 3

## Scheduled Times

12:00am to 05:00am

MP 1.9 Hwy 200 to MP 75.0 Hwy 200
Total scheduled travel time is estimated to be about 5 hours including contingency. (Refer to Appendix 2 for calculations)

| 25 Intermediate Traffic Clearing Opportunities |  |  |
| :--- | :--- | :--- |
| HWY | MP | Description |
| 200 | 1.9 | Overnight Parking North of Bonner, MT |
| 200 | 71.5 | Lincoln, MT |
| 200 | 75.0 | Parking at Snowmobile Area |

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## Stage 4

Scheduled Times
11:00pm to 05:30am

MP 75.0 Hwy 200 to MP 63.6 Hwy 287
Total scheduled travel time is estimated to be about 6 hours 30 minutes including contingency. (Refer to Appendix 2 for calculations)

| 31 Intermediate Traffic Clearing Opportunities |  |  |
| :---: | :---: | :---: |
| HWY | MP | Description |
| 200 | 75.0 | Parking at Snowmobile Area |
| 200 | 106.5 | Overnight Parking Near Jct Hwy 200 \& 287 |
| 200 / 287 | 109.8 / 20.4 | Jct of Hwy 200 \& 287 (Bowman's Corner) |
| 287 | 40.5 | Augusta, MT |
| 287 | 63.6 | Parking just South of Choteau, MT |

Total Distance 78.0 miles

Stage 5
Scheduled Times
11:00pm to 05:30am

MP 63.6 Hwy 287 to MP 3.0 Hwy 358
Total scheduled travel time is estimated to be about 6 hours 30 minutes including contingency. (Refer to Appendix 2 for calculations)

20 Intermediate Traffic Clearing Opportunities

| HWY | MP | Description |
| :--- | :--- | :--- |
| 287 | 63.6 | Parking just South of Choteau, MT |
| $287 / 89$ | $64.8 / 41.2$ | Junction of Hwy 287 \& 89 |
| $89 / 44$ | $83.1 / 0.0$ | Junction of Hwy 89 \& 44 |
| $44 / 358$ | $13.9 / 0.0$ | Junction of Hwy 44 \& 358 |
| 358 | 3.0 | Parking on Buena Vista Rd |

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## Stage 6

## Scheduled Times

09:00am
to

## 04:00pm

MP 3.0 Hwy 358 to U.S. / Canada Border (Sweet Grass, MT)
Total scheduled travel time is estimated to be about 7 hours including contingency. (Refer to Appendix 2 for calculations)

26 Intermediate Traffic Clearing Opportunities

| HWY | MP | Description |
| :--- | :--- | :--- |
| 358 | 3.0 | Parking on Buena Vista Rd |
| $358 / 2$ | $27.8 / 253.4$ | Junction of Hwy 358 \& 2 at Cut Bank, MT |
| 2 | 254.4 | Cut Bank, MT |
| $2 / 213$ | $254.4 / 0.0$ | Junction of Hwy 2 \& 213 ( Cut Bank, MT) |
| $213 / 214$ | $7.4 / 0.0$ | Hwy 213 turns into Hwy 214 |
| 214 | 33 | US / Canada Border (Sweetgrass, MT) |

Total Distance $\mathbf{6 6 . 2}$ miles

Montana Stages of Travel

| Stage No | Start point | Start time | End Point | End Time | Time Frame | Total Miles | Remarks | Contingency Night Parkings Available |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stage 1 | HWY 12 - MP 0.0 | 2:30 AM | Lolo (JN Hwy 12 / US 93) | 5:00 AM | Night | 32.5 | Day Park At Lolo Weight Station | MP 1.8 Hwy 12 |
| Stage 2 | Lolo (JN Hwy 12 / US 93) | 12:00 AM | MP 1.9 HWY 200 | 4:00 AM | Night | 22.8 | Through Misoula / Milltown and Bonner | None |
| Stage 3 | MP 1.9 HWY 200 | 12:00 AM | MP 75.0 HWY 200 | 5:00 AM | Night | 73.1 | Through town of Lincoln, At Snow Mobile Area | MP 40.2 / 62.9 / 65.3/ 67.5 HWY200. Optional Night Park available before Lincoln |
| Stage 4 | MP 75.0 HWY 200 | 11:00 PM | MP 61.4 HWY 287 | 5:30 AM | Night | 75.8 | HWY200-34.8 Miles / HWY287-41 Miles - Over Rogers Pass and through Augusta, park just before Choteau | MP 106.5 HWY 200 before we continue on HWY 287 - One more Night Park before Augusta |
| Stage 5 | MP 61.4 HWY 287 | 11:00 PM | MP 3.0 HWY 358 | 5:30 AM | Night | 62.2 | HWY 287-3.4 miles / HWY 89-41.9 Miles / HWY 44 13.9 Miles / HWY 358-3.0 Miles - Through Choteau, Dupeyer and Valier. Park just after the town of Valier | MP 79.5 HWY 89 before we continue on HWY 44. One more Night Park before Dupeyer |
| Stage 6 | MP 3.0 HWY 358 | 9:00 AM | Sweet Grass Border | 4:00 PM | Day time | 66.2 | HWY 358-24.8 Miles / HWY 2-1.0 Mile / HWY 213 - 7.4 Miles / HWY 214-33 Miles - Through Valier and Cutbank. | MP 25.0 HWY 358 before we move into HWY 2 towards Cut Bank |

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### 3.1 Stage One - Montana State Line to Lolo Weigh Scale

Stage one is 32.5 miles from the Idaho / Montana state line to Lolo, MT on US Hwy 12 in Missoula County. The stage ends with a planned stop at the Lolo scale before travelling through Missoula at night. Travel will began at MP 128 on the Idaho side. The Lolo Pass Summit tourist area is 0.44 miles on the Idaho side of the state line. The terrain starts with a steep and curvy down grade at beginning of the stage and decreases towards the town of Lolo, MT. The total descent is 1,940 ' with an 814 ' elevation drop in the first 3.7 miles. Due to the curves and grade in the first segment travel speed will average 8 to 10 mph (dependant on conditions, see Appendix 2 for travel speed details) and will pick up during the second segment to approximately 30 mph and the final segment will average 30 mph for the straightest and flattest portion of this stage.

Traffic management will be achieved by thirteen intermediate traffic clearing opportunities which are appropriately spaced to adhere to Montana's 10 minute maximum delay rule. (please see the individual segment descriptions for the exact plans). Based on peak traffic volumes as determined from traffic volume data supplied by MDT, it is expected to encounter the maximum of about 1 car in each direction at each traffic clearing opportunity during the night. For public safety and due to the steep grades, wide turnouts have been chosen so that the load can pull over in and open up two lanes to clear traffic. In safer (more visible) areas a single lane will be utilized to clear traffic. To avoid stopping general traffic on the decline of the hill, traffic will be stopped at MP - 0.5 (Lolo Pass Visitor Center, ID) and at MP 3.5 with the load stopping at pullouts in between. This procedure is calculated to add about 30 minutes onto the travel time of the segment. This activity must be conducted in a slow and controlled manner. For the decent from Lolo Pass, the prime movers will select an appropriate gear and maintain at that gear till the turnout at MP 3.5 on the east side of the pass.

Stage one has been divided into three segments. The first being the steep downgrade portion, second is the shallower decline portion leading to Lolo, and the third is entering Lolo and the procedure for parking at the Lolo scale. The largest challenges for this stage are weather, and public travel. For public travel the data has been analyzed and an effective traffic management strategy using night travel has been developed to create minimal impact to the travelling public on this route. In inclement weather where visibility is limited and/or road surface has insufficient traction the load would not be able to travel as per permit regulation. When required the transport prime mover tractors (see Appendix 9 for description of prime mover) would install tire chains on the uphill side of the pass and would remove them at either MP 6.9 or 8.4 depending on road conditions. The decision would be made by the transportation supervisor and driver collectively. Prior to moving the load at the beginning of the day the transport supervisor will pre-inspect the road to ensure all permit issued parameters have been met to begin travel.

The Montana Highway Patrol will monitor all emergency channels to communicate and notify the transport team if an emergency vehicle is on its way. The transport team will then stop the load at the nearest turnout and wait for the emergency vehicle to pass without delaying the emergency vehicle. A 10 minute (or 10

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mile) warning is required and this will be communicated at the morning tailgate meeting with the Montana Highway Patrol prior to starting the day. (See Appendix 6 - Emergency Vehicle Clearing)

The transport schedule will have the load crossing the state line at approximately 2:30 am and arriving at the Lolo Scale at approximately 5:00 am same day.

## Overall Satellite/Map of Stage One

(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications / $P$ indicates parking locations)


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## Overall Map of Stage One



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### 3.1.1 Segment 1 - Lolo Summit, ID to MP 8.4

- Leaving Summit at Approx. 2:30 am

The distance of this segment is 8.4 miles to the wide pullout at MP 8.4 passing Lolo Hot Springs at MP 7.5 on US Hwy 12. There are seven traffic clearing opportunities during this segment. The Lolo Pass (an elevation of 5125 ' at road surface) is a 5.2 mile grade reduction towards the end. The transport may utilize a push tractor to maintain pace (for heaviest modules only) should it be deemed necessary. The transport team is estimated at crossing the border between Idaho and Montana at approx. 2:30 am and continuing onto Lolo, MT.

The Lolo Summit traffic clearing portion has been included here even though it is on the Idaho side of the state line, this is because it is part of the first traffic clearing section. There is 814 ' of elevation drop from the border to MP 4.1 and another 194' to MP 8.4 for a total of 1,008 ' of descent. Pilot cars / flag personnel will monitor and control traffic exiting Lolo Hot Springs traveling west after the turnout at MP 6.9.

Prior to the day beginning, the transport supervisor will pre-inspect the road surface, and check the weather to ensure the best possible data to plan the transport for the day.

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## Overall Satellite/Map of Segment 1

(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications / $P$ indicates parking locations)


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Overall Satellite/Map of Lolo Pass Summit and Traffic Clearing Location (Shown For Reference - Location is in Idaho)


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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :---: | :---: | :---: |
| -0.4 (Idaho) | Large Turning Lane Own Side | Park and Clear (2 lanes open) |
| 1.0 (Hwy 12) | Large Parking Opp Side ( 220 'x 30 ) | Park and Clear (2 lanes open) |
| 1.8 | Large Parking Own Side ( 531 'x 41 ') | Park and Clear (2 lanes open) |
| 2.0 | Large Parking Own Side ( 463 ' $\times 40$ ) | Park and Clear (2 lanes open) |
| 3.5 | Large Parking Own Side ( 150 'x 30 ) | Park and Clear (2 lanes open) |
| 6.9 | New Turnout | Park and Clear (2 lanes open) |
| 8.4 | Large Parking Spot Opp Side (262 | Park and Clear (2 lanes open) |

Traffic control plans for this segment are shown in Appendix 6.1

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### 3.1.2 Segment 2 -MP 8.4 to MP 27.9

The distance for this section is 19.5 miles on US Hwy 12 ending 4.7 miles from Lolo, MT. Elevation begins at 3,973 ' and ends at an elevation of 3,356 ' for a total descent of 617 'over 19.5 miles. The segment ends at MP 27.9 for final preparation to enter Lolo Scale and cross US 93.

The segment is from MP 8.4 to MP 27.9 has a planned travel speed of 30mph. Traffic clearing opportunities have been planned around these speeds.

Overall Satellite/Map of Segment 2
(Green balloons indicate existing turnouts / Blue indicates turnouts that require modifications)


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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :---: | :---: | :---: |
| 8.4 (Hwy 12) | Large Parking Spot Opp Side (262' | Park and Clear (2 lanes open) |
| 12.5 | Large Parking Spot Own Side (265'x | ')Park and Clear (2 lanes open) |
| 16.4 | Large Parking Spot Own Side (265 | ${ }^{\text {') Park }}$ and Clear (2 lanes open) |
| 19.1 | Large Parking Opp Side (275’x30') | Park and Clear (2 lanes open) |
| 20.3 | Large Parking Own Side ( 214 'x 30') | Park and Clear (2 lanes open) |
| 21.8 | Large Parking Opp Side (180' x $30^{\prime}$ ) | Clear (1 lane open) |
| 25.2 | Large Parking Own Side (175'x 25 ') | Clear (1 lane open) |
| 27.9 | Large Parking Opp Side (210'x 20') | Park and Clear (2 x lanes open) |

Traffic control plans for this segment are shown in Appendix 6.1

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### 3.1.3 Segment 3 -MP 27.9 to Lolo Scale

Segment 3 is a total distance of 4.6 miles and is to be traveled at a speed of 30 mph and descends $171^{\prime}$ towards the town of Lolo, MT. Population increases as the route gets closer to the scale. The scale was selected as the parking area to wait until night travel through Missoula because it is the safest location for the traveling public. It is well off the roadway and cannot interfere with commuter traffic to the homes in the area. The potential disturbance to public is the crossing of US 93 to access the scale, the mitigation of the disturbance is outlined below under the traffic control plan for entering the scale.

Entrance to the Lolo weigh scale parking lot would be through the Exxon gas station entrance, followed by a right turn into the second opening to the scale. The load would then loop around and park along side the scale. Exiting would be to complete the loop and exit through the access road west of the Pilot Scales Sign and enter onto the roadway. Two rotating bases will be installed for this. Transport supervisor to check ahead to ensure there is adequate parking at the scale ahead of time and barricade a designated parking spot for the load to ensure it is able to be moved off the roadway until nightfall.

## Traffic Control

When the load leaves MP 27.9, US 12 westbound traffic would be parked at Lolo for approximately 9 minutes while the load travels towards the scale at 30 mph . Flagging crews will be in place on US 93 (northbound, southbound, and as mentioned, westbound on US 12. The load will zigzag around the traffic lights leading into Lolo Scale. As the load approaches the intersection the transport crew would notify the flagging crew to stop all traffic flow at the intersection and the load would then proceed into the scale yard without needing to stop. As the load leaves the last turnout, westbound traffic will be held at the intersection turning lanes. Traffic would be released as soon as the module cleared the intersection. north and south bound traffic on US 93 would be impeded for no more than 5 minutes.

Lolo Weigh Scale


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Satellite Image/Map of Segment 3
(Green balloons indicate existing turnouts / P indicates parking locations)


## Map of Segment 3



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## Travel Path Entering Lolo Scale



## Traffic Control Plan for Entering Lolo Scale

Traffic Control Plan shows load path and traffic control procedure to enter from US 12 and exiting Pilot Scale to US 93. Flag personnel will control traffic while the traffic lights are not operational.

Note: No Traffic Lights require turning to enter the scale yard, only to leave.

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### 3.2 Stage Two - Lolo Weigh Scale to Hwy 200 at MP 1.9

The distance for this stage is 22.8 miles. The transport team will assemble one hour prior to departure in order perform safety and equipment checks. The plan is to travel this portion at night to minimize impact to traffic as the load clears a number of obstacles (which are listed per intersection in the segments for stage two). Within the city of Missoula, there are adequate existing street lights available to illuminate and increase the visibility of the transportation crew to oncoming motorists. Increased lighting will be provided should it be deemed necessary. Although this is a short segment, the logistics of turning the traffic lights and temporary sign removal needs to be coordinated with the module movement through the area. Once this stage of the journey is complete, the module will be parked at MP 1.9 on Hwy 200.

Detailed measurements have been taken of overhead obstructions such as luminaires and traffic lights. Any interfering obstacles are to be altered with rotating bases, or permanently cleared to allow safe travel of modules through the city. "

Traffic management has been simplified by focusing on keeping the module in transport in its own lane (eastbound and northbound) as much as possible. This will reduce the need for transport crews to "zigzag" signs or lights which is safer for oncoming motorists. The road has sufficient width to allow the passage of northbound traffic in their proper northbound lane. The module will not move until after a pre-transport meeting with all parties involved including light turning crews*, traffic control crew*, and transport crew. Everybody will be aware of what their tasks are and how to perform them. With all crews in place, the load should travel through Lolo/Missoula without having to stop, thus impacting public traffic the least amount possible. For night time traveling hours, a traffic signal procedure will be developed with the city of Missoula and MDT for module movement on Reserve Street.

The stage has been divided into one segment for each intersection. A satellite image with load path and traffic control plan is provided for each.
*Note - Light Turning and Traffic Control companies are yet to be named.
**Alternate staging available at the old Lolo Scale north of Lolo on US 93, see Appendix 1

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Map of Stage Two


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## Map of Lolo



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Map of Lolo to Missoula on US 93


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Map of Missoula


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Map of Missoula to Bonner - (Parking at MP 1.9 on Hwy 200)


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### 3.2.1 Segment 4 - Intersection US Hwy 12 \& US Hwy 93

When Re-entering US 12/93, Traffic control will shut down the entire intersection, turn the east bound traffic lights and north bound traffic lights. The crew will then return the lights to their normal position once load has passed through the intersection. Southbound traffic will then resume. The load can continue to travel northbound. Traffic control personnel will coordinate northbound and eastbound traffic while traffic lights are not operating.

Travel Path Leaving Lolo Scale


Traffic Control Plan for Segment 4 is shown in Appendix 6.2

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### 3.2.2 Segment 5 - Intersection US Hwy 12/93 \& Tyler Way

When approaching this intersection, traffic control to shut down westbound traffic on Tyler Way. Turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection allowing traffic to resume.


Traffic Control Plan for Segment 5 is shown in Appendix 6.2

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### 3.2.3 Segment 6 - Intersection US Hwy 12/93 \& Ridgeway Dr./Glacier Dr

When approaching this intersection, traffic control to shut down east \& westbound traffic on Ridgeway / Glacier Dr. turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


Traffic Control Plan for Segment 6 is shown in Appendix 6.2

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### 3.2.4 Segment 7 - US Hwy 12/93 - "Curve Ahead" Sign Board

When approaching this obstacle, turn sign board to allow free-flow of load, return to normal position when load has cleared.


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### 3.2.5 Segment 8 - US Hwy 12/93 - "Lane Marker" Sign Board

When approaching Blue Mountain Rd., turn "Lane Marker" sign board to allow free-flow of load, return to normal position when load has cleared.


Traffic Control Plan for Segment 8 is shown in Appendix 6.2

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### 3.2.6 Segment 9 - Intersection US Hwy 12/93 \& Blue Mountain Rd.

When approaching this intersection, traffic control to shut down eastbound traffic on Blue Mountain Rd. Turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared Intersection. Allow traffic to resume.


Traffic Control Plan for Segment 9 is shown in Appendix 6.2

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### 3.2.7 Segment 10 - US Hwy 12/93 - "Lane Marker" Sign Board

When approaching Miller Creek Road, turn "Lane Marker" sign board to allow free-flow of load; return sign board to normal position when load has cleared.


Traffic Control Plan for Segment 10 is shown in Appendix 6.2

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### 3.2.8 Segment 11 - Intersection US Hwy 12/93 \& Miller Creek Rd.

When approaching this intersection, traffic control to shut down north and southbound traffic on Miller Creek Rd. Turn eastbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


Traffic Control Plan for Segment 11 is shown in Appendix 6.2

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### 3.2.9 Segment 12 - US Hwy 12/93-2 Sign Boards

When approaching Reserve St., turn both sign boards to allow free-flow of load, return to normal position when load has cleared.


Traffic Control Plan for Segment 12 is shown in Appendix 6.2

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### 3.2.10 Segment 13 - Intersection US Hwy 12/93 (Brooks St.) \& Reserve St.

When approaching this intersection, traffic control to shut down westbound traffic on Brooks St., north and southbound traffic on Reserve St. Turn northbound traffic lights (one set detailed in traffic control plan) to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


View of the intersection of Brooks St. and Reserve St.


Traffic Control Plan for Brooks St. and Reserve is shown in Appendix 6.2

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### 3.2.11 Segment 14 - Intersection Reserve St. \& South Ave

When approaching this intersection, traffic control to close down east \& westbound traffic on South Ave. turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


Traffic Control Plan Segment 14 is shown in Appendix 6.2

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### 3.2.12 Segment 15 - Intersection Reserve St. \& Mount Ave.

When approaching this intersection, traffic control to shut down east \& westbound traffic on Mount Ave. turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


Traffic Control Plan Segment 15 is shown in Appendix 6.2

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### 3.2.13 Segment 16 - Intersection Reserve St. \& $3^{\text {rd }}$ St.

When approaching this intersection, traffic control to shut down east \& westbound traffic on $3^{\text {rd }}$ Avenue. turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


Traffic Control Plan Segment 16 is shown in Appendix 6.2

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### 3.2.14 Segment 17 - Intersection Reserve St. \& Mullan Rd.

When approaching this intersection, traffic control to shut down east \& westbound traffic on Mullan Rd. Turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


Traffic Control Plan for Segment 17 is shown in Appendix 6.2

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### 3.2.15 Segment 18 - Intersection Reserve St. \& Union Pacific St.

When approaching this intersection, traffic control to shut down east \& westbound traffic on Union Pacific St. Turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


Traffic Control Plan for Segment 18 is shown in Appendix 6.2

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### 3.2.16 Segment 19 - Intersection Reserve St. \& North Pacific St.

When approaching this intersection, traffic control to shut down east \& westbound traffic on North Pacific St. Turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared the intersection. Allow traffic to resume.


Traffic Control Plan for Segment 19 is shown in Appendix 6.2

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### 3.2.17 Segment 20 - Intersection Reserve St. \& Howard Raser Ave.

When approaching this intersection, traffic control to shut down east \& westbound traffic on Howard Raser Ave. Turn northbound traffic lights to allow free-flow of load, return to normal position when load has cleared intersection. Allow traffic to resume.


Traffic Control Plan for Segment 20 is shown in Appendix 6.2

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### 3.2.18 Segment 21 - Reserve St. - "Coeur d'Alene / Butte" Sign Board

When approaching this intersection, the northbound sign board will be turned to allow free-flow of load and returned to normal position when load has cleared the intersection.


Traffic Control Plan for Segment 21 is shown in Appendix 6.2

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### 3.2.19 Segment 22 - Reserve St. \& Interstate 90

Prior to load arriving at this intersection crews shall place planking to protect island curb. Travel over curb while turning right onto Interstate 90. Ensure traffic median is clear of obstacles prior to load arriving. Remove planking when load has passed.


Traffic Control Plan for Segment 22 is shown in Appendix 6.2

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### 3.2.20 Segment 23 - Travel Eastbound on Interstate 90

The 8 mile stretch of travel on I-90 will be during night time to minimize impact on the motoring public. The load will travel as far right as possible on the interstate with proper pilot cars and Montana Highway Patrol to warn motorists. By travelling as far to the right on the road surface as possible one of the two driving lanes is able to be left open so traffic can safely pass by the load.

Eastbound night time traffic will be impeded at 8 bridge crossings. The load must travel down the center of these structures for adequate clearance to the guardrails at 5 mph as per permit requirements. Flag personnel and pilot cars will give ample warning to following motorists to slow down and be aware of the load travelling in the far right lane. For bridge crossings the flag personnel / pilot cars will stop any following traffic momentarily for the load to cross and get back over to the far right thus allowing traffic to proceed past the module. As for all sign bridges through Segment 23 will be permanently removed. (Refer to Appendix 4)

## Map of I-90 Route



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Satellite Image/Map of I-90 Route
(P indicates parking locations / Red pins indicate bridge locations)


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### 3.2.21 Segment 24 - Interstate 90 \& US Hwy 200

As the load approaches the Hwy 200 exit, traffic control to shut down on-coming traffic before the 190 overpass. When the load has cleared overpass and is safely onto wider roadway, traffic can resume. See specific traffic control plan below.


Traffic Control Plan for Intersection of I-90 \& Hwy 200 see Appendix 6.2

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### 3.2.22 Segment $\mathbf{2 5}$ - US Hwy 200 - US Hwy $\mathbf{2 0 0}$ MP 1.9

(P indicates parking locations / Yellow pins indicate bridge locations)
As load approaches Bonner, MT all oncoming traffic to be stopped north of the Stimson Mill turnout. Once load has passed Stimson Mill highway traffic control can resume. Railroad crews will be notified and be in position to rotate the rail crossing signals on the train tracks in Bonner.


Park Overnight (Refer to Appendix 5)

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### 3.3 Stage Three - US Hwy 200 MP 1.9 to MP 75 on Hwy 200

The distance for Stage Three is 73.1 miles from MP 1.9 on Hwy 200 (Bonner, MT) to MP 75.0 after the town of Lincoln for parking. The transport will pass through the town of Lincoln on Hwy 200. The travel day will begin at 12:00 midnight during lowest traffic volume. It has been calculated that the total duration of travel is approximately 5 hours including travel time, clearing traffic and contingencies.

The terrain starts with a long gentle climb leaving Bonner (elevation 3307') continues through the town of Lincoln (elevation 4537').

Traffic management will be achieved by 26 intermediate traffic clearing locations throughout Stage Three, which have been appropriately spaced to maintain the 10 minute traffic delay rule (see the individual segment descriptions for the exact plans).

The main challenges for the stage are weather and public traffic. As the load travels further from Missoula / Bonner area, MDT traffic volume data shows declining traffic counts. The area is known to have the potential for extremely inclement weather at times. As per the permit requirements the load is not allowed to travel during periods of inclement weather. Prior to moving the load at the beginning of the day the transport supervisor will pre-inspect the road to ensure all permit issued parameters have been met to begin travel and check the local weather forecast.

The Montana Highway Patrol will monitor all emergency channels to communicate and notify the transport team if an emergency vehicle is on its way. The transport team will then stop the load at the nearest turnout and wait for the emergency vehicle to pass without delaying the emergency vehicle. A 10 minute (or 10 mile) warning is required and this will be communicated at the morning tailgate meeting with the Montana Highway Patrol prior to starting the day (see Appendix 6.1.14 for Emergency Vehicle Clearing Procedure)

Stage three has been divided into 2 segments. The first is the long flat stretch leading out of Bonner, MT to Lincoln, second is through the town of Lincoln, MT to MP 75.0 on Hwy 200 and includes the procedure for parking the load.

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Overall Map of Stage Three


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Overall Satellite Image/Map of Stage Three
(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications / P indicates parking locations)


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### 3.3.1 Segment 26 - MP 1.9 (US 200), Bonner, MT to MP 67.5

Distance for segment 26 is 65.6 miles. This segment of the stage has been broken out due to the terrain leading up to Lincoln, MT. This segment will start after daytime traffic has slowed at 12:00 midnight. Highway 200 from mile 1 to mile 32 is 40 ' wide. The load will be stopped at all base plan locations, as listed below, and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates that traffic will lessen as the load travels further away from Missoula..

The segment starts at an elevation of 3307' and is $4514^{\prime}$ at MP 67.5 for total elevation climb of 1207 ' over 65.6 miles which equals an average uphill grade of $0.3 \%$.

Map of Segment 26


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Overall Satellite Image/Map of Segment 26
(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications / $P$ indicates parking locations)


Traffic will be cleared out at:

## MP

1.9
4.9
8.6
12.1
15.0
18.5
22.1
26.7
28.4
32.4
35.2
36.8
40.2
43.0

## Description

(Hwy 200) Large Overnight Parking Own Side (252'x 29')
Wide Road (40'wide) Park on Shoulder
Large Parking Own Side (191’x 56')
New Parking Own Side
Wide Road (40'wide) Park on Shoulder
Wide Road (40'wide) Park on Shoulder
New Parking Opp Side (Extend)
Wide Road (40'wide) Park on Shoulder
Wide Road (40'wide) Park on Shoulder
Large Parking Own Side ( $334^{\prime} \times 30^{\prime}$ )
Narrow Parking Own Side ( $180^{\prime} \times 10^{\prime}$ )
New Parking Own Side
Large Parking Own Side ( $200^{\prime} \times 60^{\prime}$ )
New Parking Own Side

## Method of Clearing Traffic

Park and Clear (2 lanes open)

3 Lane Clear (1 lane open)
Clear (1 lane open)
Park and Clear (2 lanes open)
3 Lane Clear (1 lane open)
3 Lane Clear (1 lane open)
Park and Clear (2 lanes open)
3 Lane Clear (1 lane open)
3 Lane Clear (1 lane open)
Park and Clear (2 lanes open)
Clear (1 lane open)
Clear (1 lane open)
Park and Clear (2 lanes open)
Clear (1 lane open)

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Traffic control plans for this segment is shown in Appendix 6.1

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### 3.3.2 Segment 27 - MP 67.5 to MP 75.0 (Through Lincoln, MT)

Distance for segment 27 is 7.5 miles. This segment is leading up to, going through, and leaving the town of Lincoln, MT. At MP 67.5 the transport supervisor will check with the flag personnel ahead to ensure that they are prepared for the load to travel through town. When flaggers have been set up in town the transport will proceed. The overhead light at the intersection of Semple Pass Road and Hwy 200 is to be changed to a rotating base light and will be swung out of the way for transport. Traffic control will control traffic while the light is turned. While traveling through town the load will be in the two eastbound lanes, traffic will be allowed to free flow westbound and free to follow/lead the load eastbound.

After going through town the transport will continue onto MP 75.0. to be sure the pullout at MP 75.0 is clear, the transport supervisor will check the area at MP 75.0 before leaving MP 67.5 to make sure that the module can pull in. If the turnout cannot be used due to congestion the transport crew would decide on which alternate turnout will be used.

Traffic control through Lincoln is free flowing. Traffic will be cleared at MP 70.1 before Lincoln, and 71.5 in Lincoln. To handle traffic from side streets and parking lots, the pilot cars will travel closer to the load then when travelling on the highway to ensure that no traffic can get in between the warning pilot cars and the load, barricades will also be set out to control traffic from entrances to the highway.

Map of Segment 27


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Overall Satellite Image/Map Segment 27
(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / P indicates parking locations)


Traffic will be cleared out at:

| MP | Description <br> (Hwy 200) | Method of Clearing Traffic <br> Me.1 |
| :--- | :--- | :--- |
| 71.5 | Wide Road (2 lanes + shoulder) | Clear on Shoulder (1 lane open) |
| 72.9 | Lincoln (4 Lanes Wide) | Specific Traffic Control Plan |
| 75.0 | (Hwy 200) Large Parking Opp Side <br> (snowmobile area) | Park and Clear (2 x lanes open) |

Traffic control plans for this segment is shown in Appendix 6.1 \& 6.2.5 (Lincoln)

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### 3.4 Stage Four- MP 75.0 on Hwy 200 to MP 63.6 on Hwy 287

The distance for Stage Four is 78.0 miles from MP 75 on Hwy 200 (Lincoln, MT) to MP 63.6 on Hwy 287 before the City of Choteau for parking. The transport will cross the continental divide at Roger's Pass, turn north onto Hwy 287, and travel through the town of Augusta on Hwy 287. The transport route goes through the counties of Lewis and Clark, and Teton (Contacts in Appendix 10). The travel day will begin at 11:00 pm after daytime traffic has subsided. It has been calculated that the total duration of travel is approximately 6.5 hours including contingencies.

The terrain starts near the town of Lincoln (elevation 4537') and onto the Roger's Pass. The climb up Roger's Pass begins at MP 85.0, peaks at MP 89.8 for a vertical climb of 538 ' over 4.8 miles . The descent down Roger's Pass is very steep and curvy, 886 ' feet down over 3.7 miles. The stage finishes off near Choteau at 3851' elevation.

Traffic management will be achieved by 32 intermediate traffic clearing locations throughout Stage Three, which have been appropriately spaced to maintain the 10 minute traffic delay rule (see the individual segment descriptions for the exact plans).

The main challenges for the stage are weather and public traffic. As the load travels further from the Lincoln area, MDT traffic volume data shows declining traffic counts. Roger's Pass is known to have the potential for extremely inclement weather at times. As per the permit requirements the load is not allowed to travel during periods of inclement weather. Prior to moving the load at the beginning of the day the transport supervisor will pre-inspect the road to ensure all permit issued parameters have been met to begin travel and check the local weather forecast.

The Montana Highway Patrol will monitor all emergency channels to communicate and notify the transport team if an emergency vehicle is on its way. The transport team will then stop the load at the nearest turnout and wait for the emergency vehicle to pass without delaying the emergency vehicle. A 10 minute (or 10 mile) warning is required and this will be communicated at the morning tailgate meeting with the Montana Highway Patrol prior to starting the day (see appendix 6 for Emergency Vehicle Clearing Procedure)

Stage four has been divided into 6 segments. The first is up to Roger's Pass, second is over the pass, third leads up to 106.5 on Hwy 200, fourth is the long flat stretch leading north from MP 106.5 on Hwy 200 corner to Augusta, fifth is through the town of Augusta, and the sixth leads to Choteau and includes the procedure for parking the load for the night.

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## Overall Map of Stage Four



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Overall Satellite Image/Map of Stage Four
(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications / $P$ indicates parking locations)


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### 3.4.1 Segment 28 - MP 75.0 to MP 85.0 (Beginning of Roger's Pass Climb)

Distance for segment 28 is 10.0 miles. The segment of the stage has been broken out due to the terrain leading up to Roger's Pass from Lincoln, MT. This segment starts at the snowmobile unloading area (MP 75.0) and continues onto MP 85.0. At MP 85.0 the climb up Roger's pass will get steeper and continue to it's steepest near the summit. Prior to leaving Lincoln, the transport supervisor will re-verify road conditions on Roger's Pass. The transporter should not leave Lincoln if the road conditions are anything other then bare and dry on Roger's Pass.

The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates minimal traffic during the planned night time travel. This breaks down to an expected 1 car per direction for each clearing opportunity. The segment has 4 base plan traffic clearing points.

Elevation starts at 4645 'and is 5095 'at MP 85.0 for total elevation climb of 450 'over 10 miles which equals an average uphill grade of $0.9 \%$ over the segment.

## Map of Segment 28



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Overall Satellite Image/Map Segment 28
(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications)


Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 75.0 | (Hwy 200) Large Parking Opp Side <br> (snowmobile area) | Park and Clear (2 x lanes open) |
| 77.9 | New Pullout | Clear (1 lane open) |
| 82.7 | Turnouts (Both Sides) | Park and Clear (2 lanes open) |
| 85.0 | Large Parking Own Side (195'x 43') | Park and Clear (2 lanes open) |

Traffic control plans for this segment is shown in Appendix 6.

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### 3.4.2 Segment 29 - MP 85.0 to MP 93.4 (Summit of Roger's Pass MP 89.9)

Distance for segment 29 is 8.4 miles. This portion of the trip is segmented because it isolates the climb and descent of Roger's Pass (this is also the continental divide). The segment starts at MP 85.0, crests the pass and continues onto MP 93.4. MP 89.9 is the summit of the pass. The load will stop at the summit, clear traffic and continue down the other side. If for any reason the journey down would be deemed unsafe (ex. road conditions) the summit has sufficient area to park the load until it is safe to descend the pass. Weather can be extreme on Roger's Pass, heavy snow and extreme cold are common through the winter months. The pass will be pre-inspected by the transport supervisor before leaving the last safe parking area (MP 85.0) to ensure it is safe to begin the journey over the continental divide. For minor snowfall conditions all prime mover tractors (see Appendix 9 for description of prime mover) are equipped for winter conditions including tire chains.

The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data shows minimal traffic during the planned night time travel hours. It calculates to an expected 1 car per direction for each clearing opportunity. The segment has 4 base plan traffic clearing points. To avoid stopping general traffic on the incline / decline of the hill traffic will be stopped at MP 86.8 and at MP 89.9 with the load stopping at turnouts in between and the reverse is also the plan for the decline at MP 89.9 and 93.4 . This procedure is calculated to add about 40 minutes onto the travel time of the module and comply with the 10 minute rule. Both activities must be conducted in a slow and controlled manner. For the climb the prime movers will select an appropriate gear and will not up-shift while climbing the steep grade, similarly, the drivers will pre-select their descent gear and hold that gear until at the unchain area on the east side of the pass (MP 93.5).

Elevation starts at 5095 ' at MP $85.0,5633^{\prime}$ at the summit, and is 4747 ' at MP 93.5. This is a climb of 538 'over 4.8 miles, and a descent of 886 ' over 3.7 miles. This is an up hill average grade of $2.1 \%$ and a downhill average grade of $4.5 \%$ which has very sharp corners to be navigated on the way down.

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Map of Segment 29


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Overall Satellite Image/Map Segment 29
(Green balloons indicate existing turnouts / Blue indicates turnouts that require modifications)


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Traffic will be cleared out at:

| MP <br> 85.0 | Description <br> $($ Hwy 200) Large Parking Own Side <br> $\left(262^{\prime} \times 39^{\prime}\right)$ | Method of Clearing Traffic <br> Park and Clear (2 lanes open) |
| :--- | :--- | :--- |
| 86.8 | Large Parking Own Side $\left(450^{\prime} \times 29^{\prime}\right)$ | Park and Clear (2 lanes open) |
| 88.4 | Large Parking Opp Side $\left(262^{\prime \prime} \times 39^{\prime}\right)$ | Park and Clear (2 lanes open) |
| 89.8 | Large Parking Own Side (432' x $\left.26^{\prime}\right)$ | Park and Clear (2 lanes open) |
| 90.7 | Turnout Own Side | Park and Clear (2 lanes open) |
| 91.3 | Turnout Own Side | Clear (1 lane open) |
| 92.1 | Turnout Own Side | Park and Clear (2 lanes open) |
| 93.1 | Large Parking Own Side $\left(340^{\prime} \times 56^{\prime}\right)$ | Park and Clear (2 lanes open) |
| 93.4 | Large Parking Own Side $\left(571^{\prime} \times 22^{\prime}\right)$ | Park and Clear (2 lanes open) |

Traffic control plans for this segment is shown in Appendix 6.1

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### 3.4.3 Segment 30 - MP 93.4 to MP 106.5 (Near Jct of Hwy 200/287, Bowman's Corner)

Distance for segment 30 is 13.1 miles. The segment of the stage has been broken out due to the terrain after crossing Roger's Pass to the junction of hwy 200/287, also called Bowman's Corner. This segment starts at the unchain area (MP 93.4) and continues onto MP 106.5. This will bring an end to Stage Three and an end to the travel day at approximately 5:00pm.

The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates that traffic will decrease as the load travels further away from Lincoln. The segment has 5 base plan traffic clearing points.

Elevation starts at 4747 ' and is $4180^{\prime}$ at the junction. This is a descent of $567^{\prime}$ over 14.4 miles which equals an average downhill grade of $0.8 \%$ over the segment.

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Map of Segment 30


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Overall Satellite Image/Map Segment 30
(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications)


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Traffic will be cleared out at:

| MP <br> 93.4 | Description <br> $\left(H^{\prime} w y ~ 200\right)$ | Method of Clearing Traffic |
| :--- | :--- | :--- |
|  | $\left(571^{\prime} \times 22^{\prime}\right)$ | Park and Clear (2 lanes open) |

Traffic control plans for this segment is shown in Appendix 6.1

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### 3.4.4 Segment 31 - MP 106.5 (Hwy 200) to MP 38.1 (Hwy 287)

Distance for segment 31 is 20.4 miles. This segment of the stage has been broken out due to the terrain leading up to Augusta. This segment will start at dawn before the junction of highway 200/287 as there is little to no expected night time traffic. The turning maneuver executed by the transporter should only take one to two minutes, as the preceding transport convoy will prepare the intersection in advance. Hwy 287 is a narrow highway with low traffic counts. The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates that traffic will decrease as the load travels further north.

This Segment uses the standard highway traffic clearing plans that have been devised. Grade is negligible for this segment, slope is $0.3 \%$ uphill towards MP 27 and $0.1 \%$ downhill towards Augusta.

Map of Segment 31


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Overall Satellite Image/Map of Segment 31
(Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications)


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Overall Satellite Image/Map at Junction of Hwy 200/287


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Traffic will be cleared out at:
MP Description Method of Clearing Traffic
106.5 (Hwy 200)Large Parking Overnight (New)Park and Clear (2 lanes open)
109.8 Junction of Hwy 200 \& 287 Specific Traffic Plan
24.1
28.1
(Hwy 287) Parking Own Side (New)
Clear (1 lane open)
32.4

Large Parking Own Side (New)
Park and Clear (2 lanes open)
Parking Own Side (New)
Clear (1 lane open)
35.5
38.1

Parking Own Side (New)
Clear (1 lane open)
Large Parking Own Side (New)
Park and Clear (2 lanes open)

Traffic control plans for this segment are shown in Appendix 6.2

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### 3.4.5 Segment 32 - MP 38.1 to MP 40.5 (Through Augusta, MT)

Distance for segment 32 is 2.4 miles. This segment is leading up to, going through, and leaving the town of Augusta. At MP 38.1 the transport supervisor will check with the flag personnel ahead to ensure that they are prepared for the load to travel through town. Flaggers have been set up in town, stop sign removed and that there are no cars parked on corner of Main St. (so the load can make the corner) the transport will proceed. Traffic control through town will be set up at this intersection to control traffic and detoured (see traffic control plan) while the load proceeds through town. While traveling through town the load will be in the center of Main St. Flaggers will lead and follow the load to ensure the no traffic encounters the load through town (see traffic control plan below for exact details)

After going through town the transport will continue onto MP 40.5 at the Gillman Historical Turnoff. Any oncoming or following traffic will be cleared at this time.

The traffic control plan through Augusta is prepared and outlined below.
Map of Segment 32


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Overall Satellite Image/Map of Segment 32
(Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications)


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## Map of Route Through Augusta



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Overall Satellite Image/Map of Route through Augusta


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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 38.1 | (Hwy 287) Large Parking Own Side (New) | Park / Night (2 lanes open) |
|  | Town Of Augusta | Specific Traffic Control Plan |
| 40.5 | Large Parking (Extend Gillman Historical Site) | Park and Clear (2 lanes open) |

Traffic control plans for this segment are shown Appendix $6.1 \& 6.2 .6$ (Augusta)

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### 3.4.6 Segment 33 - MP 40.5 to MP 63.6

Distance for segment 33 is 23.1 miles. This segment has been broken out due to the similar road conditions from Augusta to Choteau. This segment will begin at approximately 4:00am at MP 40.5 (Gillman Historical Site). Hwy 287 is a narrow highway with low traffic counts. The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates that traffic is slightly higher than segment 31 (leading to Augusta). While MDT data shows that there is a slim chance of encountering traffic in this section during the night, the transport crew will be prepared to clear a car in each direction per traffic clearing opportunity as a precaution.

This Segment uses the standard highway traffic clearing plans that have been devised.

Grade is uphill for the first 13.1 miles with a grade of $0.5 \%$ to a peak elevation of 4583 'and a downhill slope of $1.7 \%$ leading towards Choteau. At MP 57.2 there is a downhill slope of approximately $4 \%$ for 0.75 miles.

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Map of Segment 33


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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 40.5 | (Hwy 287) Large Parking <br> (Extend Gillman Historical Site) | Park and Clear (2 lanes open |
| 44.7 | Parking Own Side (New) | Clear (1 lane open) |
| 46.0 | Parking (Junction 408/287) | Specific Traffic Control Plan |
| 50.3 | Large Parking Opp Side (New) | Park and Clear (2 lanes open) |
| 54.7 | Parking Own Side (New) | Clear (1 lane open) |
| 57.5 | Parking Own Side (New) | Clear (1 lane open) |
| 61.4 | Parking Own Side (New) | Clear (1 lane open) |
| 63.6 | Large Parking Own Side (New) | Park / Park Overnight |

Traffic control plans for this segment are shown in Appendix 6.1

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### 3.5 Stage Five - MP 63.6 on Hwy 287 to MP 3.0 on Hwy 358

The distance for Stage Five is 60.0 miles from the parking location at MP 63.6 on Hwy 287 near Choteau to MP 3.0 on Hwy 358 near Valier for parking. The transport will pass through Choteau on Hwy 287 and change to Hwy 89 at Choteau, proceed north on Hwy 89 to the junction of Hwy 89/44 to Valier, make another corner onto Hwy 358 to MP 3.0 north of Valier. The load will park after traveling through Valier. The transport route goes through the counties of Teton, and Pondera (Contacts in Appendix 10). The travel time will begin at 11:00 am ending at approximately 5:30 am which includes travel time, traffic clearing time and contingency. There is no expected commuter traffic during the night time hours. The main challenges for the stage will be narrow roads and public traffic, including traveling through the mentioned towns.

For the majority of Stage Five, the terrain is flat prairie with a few valleys and river crossings. The stage starts at Choteau at 3851' elevation, the stage finishes near Valier with an elevation of 3740'.

Traffic management will be achieved by 24 intermediate traffic clearing opportunities throughout Stage Five which have been appropriately spaced to maintain the 10 minute traffic delay rule (see the individual segment descriptions for the exact plans). As the load travels further north AADT data shows minimal traffic during the night time travel. Prior to moving the load at the beginning of the day the transport supervisor will preinspect the road to ensure all permit issued parameters have been met to begin travel.

The Montana Highway Patrol will monitor all emergency channels to communicate and notify the transport team if an emergency vehicle is on its way. The transport team will then stop the load at the nearest turnout and wait for the emergency vehicle to pass without delaying the emergency vehicle. A 10 minutes(or 10 mile) warning is required and this will be communicated at the morning tailgate meeting with the Montana Highway Patrol prior to starting the day.

Stage five has been divided into three segments. The first is through Choteau, second is from Choteau to Valier, and third is through Valier to MP 3.0 on Hwy 358 parking.

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## Overall Map of Stage Five



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## Overall Satellite/Map of Stage Five

(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications / P indicates parking locations)


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### 3.5.1 Segment 34 - MP 63.6 on Hwy 287 to MP 43.3 on Hwy 89(Through Choteau, MT)

Distance for segment 34 is 3.2 miles. This segment is leading up to, going through, and leaving the town of Choteau. Before leaving MP 63.6 the transport supervisor will check with the flag personnel ahead to ensure that they are prepared for the load to travel through town. Flag personnel have been set up in town and are prepared to counter flow the courthouse traffic circle and the traffic light is ready to be swung out of the way, the transport will proceed. Traffic control through town will be set up to apply a detour for public traffic. While traveling through town the load will travel north on $7^{\text {th }}$ Ave, take the gradual curve onto West Division St., counter flow the traffic circle and continue north on Main St. out of town. Flaggers will lead and follow the load to ensure that no traffic encounters the load through town (see traffic control plan below for exact details)

After going through town the transport will continue onto MP 43.3 north of Choteau on Highway 89, any oncoming or following traffic will be cleared at this opportunity.

The traffic control plan through Choteau is prepared and outlined below.
Map of Segment 34


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Overall Satellite Image/Map of Segment 34
(Green balloons indicate existing turnouts / P indicates parking locations)


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## Satellite Image/Map Through Choteau



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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 61.4 | (Hwy 287) Large Parking | Park and Clear (2 lanes open) |
| 63.6 | Large Park Own Side | Park / Night (2 lanes open) |
| Town | Town of Choteau | 3 Specific Traffic Control Plans |
| 43.3 | (Hwy 89) Large Parking | Park and Clear (2 lanes open) |
|  | (Scale - Extended) |  |

Traffic control plans for this segment is shown in Appendix 6.1 \& 6.2.7 (Choteau)

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### 3.5.2 Segment 35 - MP43.3 on Hwy 89 to MP13.2 on Hwy 44

Distance for segment 35 is 53.2 miles. This segment of the stage has been broken out due to the similar road conditions leading from Choteau to Valier. This segment will begin at approximately 12:00 midnight at MP 43.3 north of Choteau. The route will follow Hwy 89 to the junction of Hwy 89/44 where the transport will make a right turn towards Valier on Hwy 44. The load will travel through the towns of Bynum and Dupuyer, and will also travel through the counties of Teton and Pondera.

The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates that night time traffic will be minimal leaving Choteau. Based on the data from MDT the transport crew should not encounter traffic but are prepared to clear traffic at all planned clearing opportunities along this segment. The Dupuyer rest area is planned to be used as a vehicle detour to clear waiting traffic. The scout ahead of the load will advise motorists in the rest area of the plan and verify that it is cleared for use as a detour before the load leaves the turnout at MP 71.2 on Hwy 89.

This Segment uses the standard highway traffic clearing plans that have been devised.

Grade is negligible for this segment. It begins at $3802^{\prime}$ and finishes at $3822^{\prime}$ with a gradual climb to a maximum elevation of 4321' and back down.

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Map of Segment 35


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Overall Satellite Image/Map of Segment 35
(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / Blue indicates turnouts that require modifications)


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Traffic will be cleared out at:

| MP <br> 43.3 | Description <br> (Hwy 89) Large Parking <br> (Scale - 240'x 30') | Method of Clearing Traffic <br> Park and Clear (2 lanes open) |
| :--- | :--- | :--- |
| 46.5 | Large Parking Opp Side (182'x 20') | Clear (1 lane open) |
| 50.6 | Parking Own Side (New) | Clear (1 lane open) |
| 54.8 | Large Parking Own Side (New) | Park and Clear (2 lanes open) |
| 59.2 | Parking Own Side (New) | Clear (1 lane open) |
| 62.5 | Large Parking Own Side (New) | Park and Clear (2 lanes open) |
| 64.9 | Parking Own Side (New) | Clear (1 lane open) |
| 66.1 | Parking Own Side (New) | Clear (1 lane open) |
| 68.3 | Parking Opp Side (New) | Clear (1 lane open) |
| 70.0 | Parking Own Side (New) | Clear (1 lane open) |
| 71.2 | Large Parking Own Side (New) | Park / Night (2 lanes open) |
| 73.6 | Parking Own Side (New) | Clear (1 lane open) |
| 75.1 | Detour Traffic at Rest Area | Specific Traffic Control Plan |
| 79.5 | Large Parking Own Side (New) | Park and Clear (2 lanes open) |
| $83.1 / 0$ | Junction of Hwy 89/44 | Specific Traffic Control Plan |
| 3.2 | (Hwy 44) Parking Own Side | Clear (1 lane open) |
| 6.6 | Large Parking Own Side (New) | Park and Clear (2 lanes open) |
| 10.4 | Parking Own Side (New) | Clear (1 lane open) |
| 13.2 | Large Parking Own Side (New) | Park / Night (2 lanes open) |

Traffic control plans for this segment are shown in Appendix 6.1

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Pilot cars to stop and direct traffic at each end of rest area


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### 3.5.3 Segment 36 - MP 13.2 on Hwy 44 to MP 3.0 on Hwy 358 (Through Valier, MT)

Distance for segment 36 is 3.7 miles. This segment is leading up to, going through, and leaving the town of Valier. At MP 13.2 the transport supervisor will check with the flag personnel ahead to ensure that they are prepared for the load to travel through town. Once flaggers have been set up in town, and the travel path is checked for any new obstructions (example parked cars), the transport will proceed. Traffic control through town will be set up with flaggers to stop cross traffic as well on oncoming until the load passes through. While traveling through town the load will be in the center of Valier Hwy and Cut Bank Hwy. Flaggers will lead and follow the load to ensure the no traffic encounters the load through town (see traffic control plan below for exact details)

After going through town the transport will continue onto MP 3.0 on Hwy 358 (Cut Bank Hwy) and park. Any oncoming or following traffic will be uninterrupted at this time.

The traffic control plan through Valier is prepared and outlined below.

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Map of Segment 36


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Overall Satellite Image/Map of Segment 36
(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / P indicates parking locations)


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Satellite Image/Map of Route Through Valier


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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 13.2 | (Hwy 44) Large Parking Own Side | Park / Night (2 lanes open) |
| Town | Town of Valier | Specific Traffic Control Plan |
| 0.2 | (Hwy 358) Wide Roadway in Valier | 4 Lane Clear (2 lanes open) |
|  | (Park on Shoulder) |  |
| 3.0 | Park on Buena Vista Rd | Traffic Detour |

Traffic control plans for this segment are show in Appendix 6.1 \& 6.2.8 (Valier)

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## Parking at MP 3.0 (from 5:30 am to 9:00 am)

See Appendix 6.1.8 b for Traffic Detour Details


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### 3.6 Stage Six - MP 3.0 on Hwy 358 to Sweetgrass, MT (US/Canada Border)

Stage 6 is the start of day travel. The distance for Stage Six is 66.2 miles from the parking location north of Valier (MP 3.0 on Hwy 358) to Sweetgrass where the load will clear customs and cross the border into Canada. The module will travel north on Hwy 358, travel through Cut Bank, then proceed north on Santa Rita Road (State Road 213 turning into State Rd 214). Santa Rita Road changes direction to the east and leads directly to the Sweetgrass/Coutts border crossing. The load will travel through the counties of Glacier and Toole (county contacts are in Appendix 10). The module will leave at 9:00am and is expected to reach the border around $4: 00 \mathrm{pm}$, this includes additional time added for contingencies. There is slight commuter traffic directly north of Cut Bank for approximately 4.5 miles (where residential properties subside). The main challenges for the stage will be narrow roads, public traffic, and traveling a section of gravel state road.

Stage Six is flat prairie. The stage starts north of Valier and is at 3740 ' elevation and the stage finishes at Sweetgrass, MT with an elevation of 3451'.

Traffic management will be achieved by 31 intermediate traffic clearing opportunities throughout Stage Six which have been appropriately spaced to maintain the 10 minute traffic delay rule (see the individual segment descriptions for the exact plans). As the load travels further north AADT data shows that traffic counts continue to get decrease. Prior to moving the load at the beginning of the day the transport supervisor will pre-inspect the road to ensure all permit issued parameters have been met to begin travel and gravel road surface is in adequate condition.

The Montana Highway Patrol will monitor all emergency channels to communicate and notify the transport team if an emergency vehicle is on its way. The transport team will then stop the load at the nearest turnout and wait for the emergency vehicle to pass without delaying the emergency vehicle. A 10 minute (or 10 mile) warning is required and this will be communicated at the morning tailgate meeting with the Montana Highway Patrol prior to starting the day. (See Appendix 6.1.14 for Emergency Vehicle Clearing Procedure)

Stage Six has been divided into four segments. The first is Hwy 358 leading to Cut Bank, second is through Cut Bank, the third is the long flat stretch leading north from Cut Bank to Glacier / Toole County line, the fourth segment is a gravel road section leading to the Sweetgrass border crossing.

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## Map of Stage 6



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## Overall Satellite Image/Map of Stage 6

(Green balloons indicate existing turnouts / Pink balloons indicate new turnouts / P indicates parking locations)


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### 3.6.1 Segment 37 - MP 3.0 on Hwy 358 to MP 25.0 on Hwy 358

Distance for segment 37 is 22.0 miles. This segment of the stage has been broken out due to the similar conditions from Valier to Cut Bank. This segment will begin at approximately $1: 30 \mathrm{pm}$ at MP 3.0 on Hwy 358 north of Valier. The route will follow Hwy 358 (Cut Bank Hwy) to MP 25.0 on Hwy 358. The load will travel through the counties of Pondera, Glacier and pass through the Blackfeet Indian Reservation.

The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates that traffic is very light on this section of highway. Based on this data from MDT, the transport crew should encounter approximately 1 car each direction at each traffic clearing opportunity between Valier and Cut Bank.

This Segment uses the standard highway traffic clearing plans that have been devised.

The segment begins at 3812'and finishes at 3671', there are two valleys to cross on Hwy 358. The first one has a $5 \%$ grade for 0.5 mile and the second valley has $6 \%$ grade for 0.5 mile. The short half mile descent and climb will be slower than the average travel speed for the segment (see Appendix 2). Average travel speed on the flat sections will be 20 to 30 mph . There is currently a "washout" location along this segment that has a small detour built around it. The detour has been checked to ensure the transport can maneuver through without issue.

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## Map of Segment 37



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Overall Satellite Image/map of Segment 37
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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 3.0 | (Hwy 358) Detour Traffic on Corner | Specific Traffic Control Plan |
| 6.4 | Parking Own Side (New) | Clear (1 lane open) |
| 8.4 | Parking Own Side (New) | Clear (1 lane open) |
| 11.8 | Large Parking (New) | Park and Clear (2 lanes open) |
| 15.2 | Parking Opp Side (New) | Clear (1 lane open) |
| 17.7 | Large Parking Opp Side (175'x 65') | Park and Clear (2 lanes open) |
| 19.9 | Parking Own Side (New) | Clear (1 lane open) |
| 22.5 | Parking Opp Side (New) | Clear (1 lane open) |
| 25.0 | Large Parking Own Side (New) | Park and Clear (2 lanes open) |

Traffic control plans for this segment are shown in Appendix 6.1

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### 3.6.2 Segment 38 - MP 25.0 on Hwy 358 to MP 0.1 on Hwy 213 (Cut Bank, MT)

Distance for segment 38 is 4.6 miles. This segment is leading up to, and going through the town of Cut Bank. At MP 25.0 the transport supervisor will check with the flag personnel ahead to ensure that they are prepared for the load to travel through town. Flag personnel have been set up in town and are prepared to control traffic as per plan, the load will proceed through town. Traffic control will be set up throughout the town to apply a detour for public traffic. While traveling through town the load will stay on Hwy 2 (which becomes West Main St. until West Railroad St. to the intersection of Railroad and Center Ave, leading north onto Hwy 213. Flaggers and pilot cars will lead and follow the load to ensure that no traffic encounters the load through town (see traffic control plan below for exact details)

The traffic control plan through Cut Bank is prepared and outlined below.
Map of Segment 38


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Overall Satellite Image/Map of Segment 38
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Satellite Image of Downtown Cutbank (Chrysler Corner)


Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 25.0 | (Hwy 358) Large Parking Own Side | Park and Clear (2 lanes open) |
| 253.5 | (Hwy 2) 4 Lanes Wide | Specific Traffic Control Plan |
| 253.9 | (Hwy 2) 4 Lanes Wide | 4 Lane Clear (2 lanes open) |
|  | Cut Bank | See Specific Traffic Control Plan |
| 0.1 (Hwy 213) | 4 Lanes Wide | 4 Lane Clear (2 lanes open) |

Traffic control plans for this Segment are shown in Appendix 6.1 \& 6.2.9 (Cut Bank)
Specific traffic control plan for Cut Bank is shown in Appendix 6.2.5

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### 3.6.3 Segment 39 - MP 0.1 in Cut Bank, MT to MP 24.0 (Glacier/Toole County Line)

Distance for segment 39 is 29.0 miles. This segment of the stage has been broken out due to the terrain leading up to the gravel road section that begins at the Glacier/Toole County Line. This segment will start early morning at the overnight parking spot in south of Cut Bank. There is no heavy commuter traffic, the transport for this segment will begin at approximately 11:00am. Passing through Cut Bank includes flag personnel and barricades to be set up to control cross traffic as the load enters onto North Central Ave. and continues north down Hwy 213 (Santa Rita Rd.). State Road 213 turns into State Road 214 at the Chalk Butte Road intersection, but still called the Santa Rita Rd. The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates that traffic is extremely light north of Cut Bank and continues to decline as the load approach Sweetgrass. Based on MDT data it is expected that up to 1 car will be met in each direction per traffic clearing opportunity.

This Segment uses the standard highway traffic clearing plans that have been devised. There is a $1 \%$ gradual grade for the first 6 miles of the segment, then proceeds to be downhill for the rest. Elevation starts at $3753^{\prime}$ in Cut Bank rises to 4058 ' at MP 5.9 and is 3723 ' at MP 24.0 (County Line)

Road conditions have been inspected and slower travel speeds will be required to travel sections of the segment (see appendix 2)

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Map of Segment 39


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Overall Satellite Image/Map of Segment 39
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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 0.1 | (Hwy 213) 4 Lanes Wide | 4 Lane Clear (2 lane open) |
| 2.5 | Parking Opp Side (New) | Clear (1 lane open) |
| 5.0 | Parking Own Side (New) | Clear (1 lane open) |
| 7.4 / 0 | Hwy 213 becomes Hwy 214 | Reference |
| 0.3 | (Hwy 214) Parking Own Side (New) | Clear (1 lane open) |
| 2.9 | Parking Own Side (New) | Clear (1 lane open) |
| 4.6 | Large Parking Opp Side (New) | Park and Clear (2 lanes open) |
| 8.3 | Parking Own Side (New) | Clear (1 lane open) |
| 11.9 | Parking Own Side (New) | Clear (1 lane open) |
| 14.7 | Parking Opp Side (New) Clear (1 lane open) |  |
| 16.8 | Intersection Detour | Clear on a Curve |
| 19.5 | Junction of 214 \& Sweetgrass Rd. | Specific Traffic Control Plan |
| 21.6 | Large Parking (New) | Clear |
| 24.0 | Intersection at County Line | Clear (1 lane open) |

Traffic control plans for this segment are shown in Appendix 6.1

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### 3.6.4 Segment 40 - (Glacier/Toole County Line) to US/Canada Border (Sweetgrass, MT)

Distance for segment 40 is 12.1 miles. This segment of the stage has been broken out because State Rd 214 (Santa Rita Rd.) is a gravel road section that begins at the Glacier/Toole County Line and leads to the US/Canada Border at Sweetgrass. This segment will continue from segment 39 at approximately 10:00am. State Road 214 is a 40 ' wide road surface which allows for a CLEAR opportunity wherever it may be required. The load will be stopped at all base plan locations as listed below and traffic will be cleared as per the corresponding traffic control plan. MDT traffic volume data indicates that traffic is extremely light east of the Glacier/Toole County Line. MDT data indicates that the transport crew may not see any cars at the traffic clearing opportunities. The transport crew will expect 2 cars for the entire 12.1 miles that will require clearing.

This Segment uses the standard highway traffic clearing plans that have been devised. There is a $0.4 \%$ gradual downhill grade for the segment. Elevation starts at 3723 ' in at the county line and drops to 3451' at Sweetgrass.

The border agencies will be notified before the load arrives so they will be expecting the load. Once the load reaches Sweetgrass, the load will proceed east on $3^{\text {rd }}$ Ave. to Border Rd. where it will cross the border to Coutts, AB.

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Map of Segment 40


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Overall Satellite Image/Map of Segment 40 (Green balloons indicate existing turnouts)


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Satellite Image of Route Through Sweetgrass to Border Crossing


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Traffic will be cleared out at:

| MP | Description | Method of Clearing Traffic |
| :--- | :--- | :--- |
| 24.0 | (Hwy 213) Intersection at County Line | Clear (1 lane open) |
| 27.5 | Wide Road (40') Park on Shoulder | 3 Lane Clear (1 lanes open) |
| 30.5 | Wide Road (43') Park on Shoulder | 3 Lane Clear (1 lanes open) |
| 33.0 | Wide Road (43') Park on Shoulder | 3 Lane Clear (1 lanes open) |

Traffic control plans for this segment is shown in Appendix 6.1

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### 4.0 Emergency Response Plan

The purpose of this Emergency Response Plan (ERP) is to provide the necessary guidelines for the actions to be taken by the heavy haul carrier in the event that an emergency situation should arise during the transport of a module through the State of Montana. This plan addresses the most common emergency situations that could be encountered while the module is in transit. The Emergency Response Plan (ERP) will be reviewed daily with the transportation crew (including flagging / sign crews, escorts, wire lifting, and police) at the daily tailgate meeting and will also be attached to the Job Hazard Assessment (JHA). The transporter must rely on the expertise of the Transportation Supervisor and crews to follow the basic steps as outlined in their HSE manual for any emergency situations.

The Montana Highway Patrol (MHP) will be escorting the module transport team through the State of Montana and forms an integral part of the Emergency Response Plan (ERP). The MHP will be uniformed in police cruisers under contract to the carrier. The MHP will approve all ERPs prior to implementation and transport of the module. The MHP will be monitoring emergency channels while the module is in transit and is expected to receive advance notice of an emergency event which requires emergency vehicles to use the same route as the module. A 10 minute warning will be required to allow the module to be transported to the next location. Immediately upon receiving notice that an emergency is in progress, the MHP will alert the transport company and the transportation crews and will assist with the resulting ERP to be put in place to ensure emergency vehicles are able to travel unimpeded on the highways and that public safety is ensured at all times. It is expected that the Highway Patrol will instruct the transporter to exit the route using the nearest and safest pull out allowing the emergency vehicles to pass. The module will stay off the route until instructed to proceed by the Montana Highway Patrol.

The first priority in any emergency situation is the safety of the general public while minimizing any potential inconvenience to other road users and / or environmental and property damage.

An Incident Specific Emergency Response Plan has been developed, illustrating four specific incident scenarios that may be encountered during the transport of modules to the KOSP.

- Jack knifing situation with the transporter
- Load sliding partially off the trailer situation
- Rollover situation into water
- Private vehicle in an emergency situation

These are the four scenarios that have been evaluated under Appendix 14. The document found in Appendix 14 will provided the necessary guidelines for the heavy carrier to follow in the event that an emergency situation of the above mentioned nature may arise.

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### 4.1 Motor Vehicle Accident Directly or Indirectly Involving Transporter

Direct Accident Involving Transportation Company - Including Contact with Wildlife
Given that the transport will consist of three (3) flagging / sign crews strategically placed five (5) miles ahead of the load, directly in front of the transporter and directly behind the transporter; two (2) Highway Patrol escort; two (2) escort vehicles with flashing lights and signage; and a transport vehicle equipped with flashing lights, the potential for a direct accident is minimized. All transport personnel and Montana Highway Patrol are certified in First Aid and emergency contact will be established through police channels. All emergency contact numbers will be contained in the JHA. Itemized procedural steps are as follows:
4.1.1 The scene will be stopped and evaluated and the situation stabilized and safety checked.
4.1.1 Injuries shall be treated in accordance with the Medical Emergency Section of this document.
4.1.2 Contact shall be established immediately between police escort and load supervisor. The Load Supervisor will then contact IORVL, Transport company senior management and any other predetermined authorities as listed in the JHA providing a full description of the accident, location, damage, and contact information.
4.1.3 Transport supervisor in conjunction with the transport crew (including any escorts) will assess the situation, decide on the safest course of action and mitigate any possible public disruptions. A Job Hazard Assessment will be developed detailing the plan and executed on scene describing the steps to be taken, the possible hazards, and how hazards will be controlled. Note: In case of mechanical damage, the Mechanical Failure / Breakdown section of this document shall apply
4.1.4 After the accident has been resolved (and investigated as required) the JHA will be reviewed again and any possible changes to the plan would be added with the possible hazards assessed.

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### 4.2 Indirect Accident Not Involving Transporter

An indirect accident would be an accident that impedes the movement of the load but does not involve any vehicles traveling with the load (i.e.: A motor vehicle accident 10 miles ahead that is blocking the highway)
4.2.1 The scene will be stopped and evaluated and the situation stabilized and safety checked (this would include moving the load to a safe parking locations, out of traffic's way).
4.2.2 Injuries shall be treated in accordance with the Medical Emergency Section of this document.
4.2.3 Contact shall be established immediately between police escort and load supervisor. The Load Supervisor will then contact IORVL, transport company senior management and any other predetermined authorities as listed in the JHA providing a full description of the accident, location, damage, and contact information.
4.2.4 Transport supervisor in conjunction with the transport crew (including any escorts) will assess the situation, decide on the safest course of action and mitigate any possible public disruptions. A Job Hazard Assessment will be developed detailing the plan and executed on scene describing the steps to be taken, the possible hazards, and how hazards will be controlled.
4.2.5 In case of mechanical damage, the Mechanical Failure / Breakdown section of this document shall apply
b. In the case of a third party accident (accident that would impede the travel of the load on planned route) the Transportation Supervisor and police escort would decide on the nearest safe pullout, proceed there so that the load is not a traffic disturbance.
4.2.6 After the accident has been resolved (and investigated as required) the JHA will be reviewed again and any possible changes to the plan would be added with the possible hazards assessed.

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### 4.3 Mechanical Failure / Breakdown

The transporter carries various replacement parts and tools in case of mechanical failure or breakdown. Such items would include but not be limited to spare tires, valves, hoses, and a spare power pack.
4.3.1 Stop and evaluate the scene and ensure the situation is stable and safe.
4.3.2 Notify transportation supervisor and inform traffic control vehicles and police escort of the situation so that traffic can be directed accordingly, thus minimizing impact to the public taking into account the safety of people, the environment and damage to property.
4.3.4 Mechanical assessment will be performed by transportation crew. A technical support hotline is available 24 hours per day.
4.3.5 Transport supervisor in conjunction with the transport crew (including any escorts) will assess the situation and decide on the safest course of action and mitigation of any possible public disruptions. A Job Hazard Assessment will be developed and executed on scene describing the steps to be taken and detailing how hazards will be controlled. Possible solutions include temporarily repair (to clear roadway), repair, or call for required assistance (contact numbers for local towing companies and mobile mechanics will be attached to JHA)
a. Trailer operator and Transport Supervisor are qualified to make minor repairs as necessary.
b. Trailer and hitches are designed to be towed backwards if the need arises to back track to the nearest safe pullout eliminating the need to turn the load around. Prime Movers will be turned around in order to proceed.
c. If necessary, one Prime Mover has the enough power to move the load at a reduced speed to a safe location.
2. Continue to monitor repair throughout transport as per the execution plan.

### 4.4 Medical Emergency

4.4.1 Stop and evaluate the scene and ensure the situation is stable and safe.
4.4.2 Attend to the medical emergency and begin first aid (if trained to do so) and call emergency numbers immediately (all emergency numbers will be included with JHA). Continue with first aid until required emergency responders arrive on scene.
4.4.3 Notify transportation supervisor and he will inform traffic control vehicles and police escort of the situation so traffic can be directed accordingly, thus minimizing impact to the public taking into account the safety of people, the environment and damage to property.
4.4.4 Once Medical Emergency is attended to and removed, review and revise JHA and if possible continue with transport as per plan.

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### 4.5 Contact with Power Line

4.5.1 If load comes into contact with a power line, personnel will stay in the vehicles. Transport Supervisor will contact the power company for direction (contact information with JHA).

### 4.6 Fire

4.6.1 Vehicle Fires
4.6.1.1 All equipment is ABC fire extinguisher equipped. If personnel are comfortable with attempting to extinguish the fire, the fire extinguisher will be utilized. If personnel are not able to put the fire out or not trained with using the fire extinguisher, immediate contact will be established with the local fire department via the Montana Highway Patrol and the situation reported.
4.6.1.2 The Mechanical Failure Plan will apply.
4.6.2

Forest Fires
4.6.2.1 In case of local forest fires that may impede the safe transportation of the modules, transport will proceed to the nearest safe parking area immediately.
4.6.2.2 Transport will not proceed if the local area due to forest fires is deemed unsafe for travel by the transportation supervisor. This includes conditions that would reduce the visibility for the transport crew and the public.

### 4.7 Environmental Spill

(no dangerous goods will be shipped $\mathrm{in} /$ with process modules)
4.7.1 All Vehicles are equipped with spill kits. In case of environmental spill (hydraulic oil, fuel, antifreeze etc.) the spill kit will be utilized to contain and clean spill. Spill pans will also be utilized if necessary.
4.7.2 If transport crew cannot contain / clean spill, local environmental agency will be contacted for immediate clean up (contact number to be included with JHA)
4.7.3 The Mechanical Failure Plan will apply

### 4.8 Extreme Weather Conditions

4.8.1 Weather to be monitored by Transportation Supervisor and forecast communicated at daily tailgate meeting In addition to physical inspection of road conditions prior to module move, Module Transport Supervisor will look daily in to the following websites and make the final decision for module movement.

- Traveler Information provided on Montana Department of Transportation official website


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- Information available on National Weather Service by National Oceanic and Atmospheric Administration (NOAA)
4.8.2 In case of unexpected extreme weather, transport will proceed to the nearest safe parking area immediately.
4.8.3 Transport will not proceed if road conditions are deemed unsafe for travel by transportation supervisor. This includes conditions that would make a stopping situation dangerous for motorists.


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### 5.0 Empty Trailer Return Plan

Empty hydraulic platform trailers returning are still an oversize load traveling through the state of Montana and all applicable permits regulations apply. The two trailer widths returning for reload are 10' and 16'. An empty trailer can travel up to a speed of 50 mph on straight flat sections of highway. However, empty hydraulic trailers will be dismantled prior to entering the State of Montana and the trailer components will be shipped on legal conventional long haul transport trailers through the State of Montana to Idaho where they will be re-assembled, making the hydraulic platform trailers ready to return to the fleet for transporting modules back to the KOSP. The maximum dimensions of a legal load travelling through the State of Montana are $75^{\prime}$ long x $8^{\prime}-6$ " wide $\times 13^{\prime \prime}-6$ " high.

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APPENDICIES

