

STATE OF UTAH MSE WALL INSPECTION FORM

Compiled As Part of Research By The Utah Department of Transportation

Instructions:

- 1-Fill out required sections for MSE Wall Inspector and Wall Characteristics.
- 2-Inspect the wall using the attached form. Questions that require a 'Yes' answer should be documented by noting the extent of the problem in the right most column and photo documentation. Photo documentation should consist of wall or bridge number, nature of problem, date, photo number for wall, and a size reference, which should be indicated in the photo (white board/paper). Photos taken should be placed on the Top View layout and indicated with the appropriate number. Note should be taken by the inspector that often anomalies are due to construction and should be distinguished from those that are a result of post-construction. If it is observable that they existed at the time of construction note should be taken in the space provided for drawings.
- 3- Shoot digital photos of the entire wall. This may require the use of a variety of shots and angles on each wall to cover the wall in its entirety.
- 4- Indicate Layout of MSE Wall in respect to major intersections, roadways, potential hazards, irrigation, vegetation, locations of conditions for which 'Yes' was marked, etc. in space provided below. Also Indicate approximate GPS Coordinates of Site of Interest in space provided below

Region	3	Identifying Road/Intersection	Moorh Set, Hwy 6
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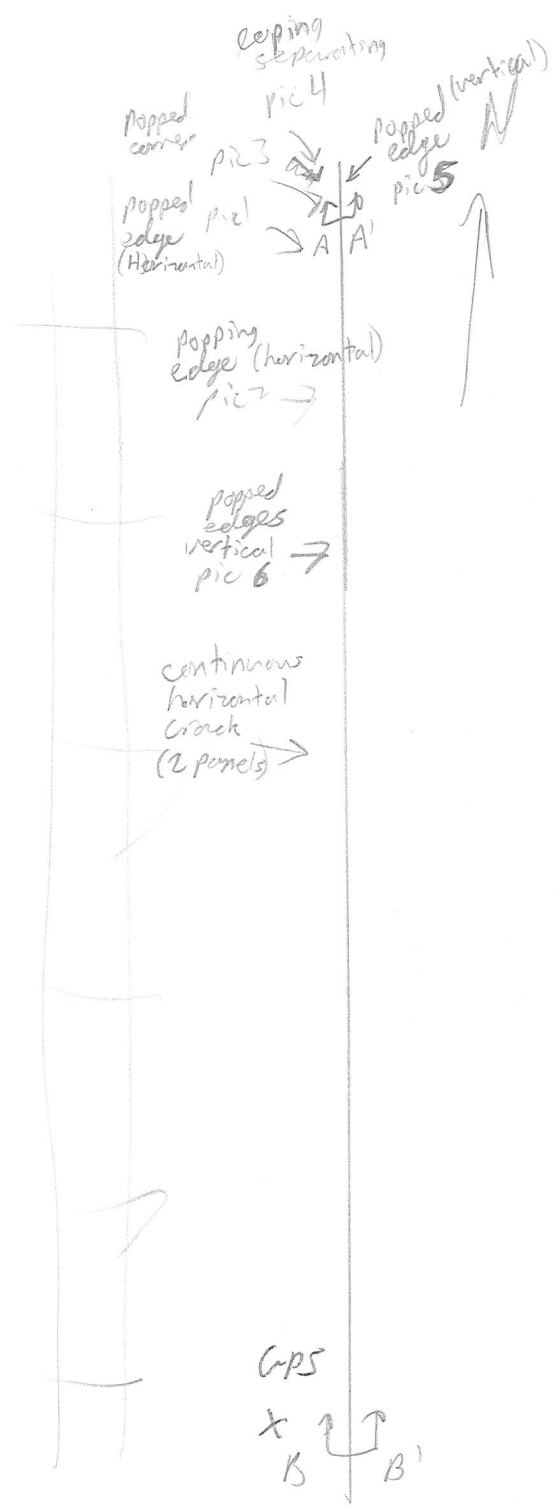
MSE WALL CHARACTERISTICS

MSE Wall at Bridge	(Y) N	Bridge Number if applicable:		Wall Number	R-387-B
Surrounding Structures				Maximum Height of Wall (ft)	32 ft
Distance to Each Structure				One Stage, Two Stage or Block Wall	1-stage
State Route Number				Estimated Max Length of Wall Abutment:	120 ft
Approximate Mile Marker				Max Slope of Ground in front of wall:	0
GPS Datum	WGS/84, NAD/83, or NAD/27			Max Height of wall burial line above surrounding level ground:	0
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40°4'52.27" N 111°35'10.47" W			Please draw rough layout of panel with approximate dimensions in space provided below:	
If known, Panel or System Manufacturer	<div style="border: 1px solid black; width: 200px; height: 100px; margin: 0 auto; position: relative;"> 5' 6' </div>				

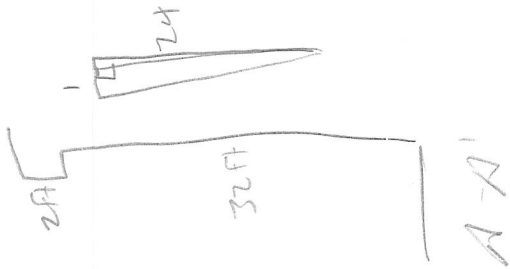
Summary of Key Observations:

worst of the four
 - ~~pep~~ separating coping from abutment,
 - cracking panels

Plan View/Drainage:



Cross Sections:



Cross Sections:

System Master Water Releif-DRS Camera

Required	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
	Y	N	N/A	UNKN	1-Is there an active water source near the toe of the wall (if the wall near a body of water with scour potential)?
	Y	N	N/A	UNKN	2-If applicable, are the catch basins at the base of the wall blocked?
	Y	N	N/A	UNKN	3-Are there culverts protruding through the wall?
	Y	N	N/A	UNKN	4-Are there vertical drains that travel through the backfill?
	Y	N	N/A	UNKN	5-Is there evidence at the base of the wall or leveling post? (Photo 12)
	Y	N	N/A	UNKN	6-Is there erosion along the wing wall?
	Y	N	N/A	UNKN	7-Are there any signs of water flow along the base of the wall?
	Y	N	N/A	UNKN	8-Are there less than 14 feet between irrigation sprinklers and wall?
	Y	N	N/A	UNKN	9-Does the backfill or joint fabric appear to be saturated?
	Y	N	N/A	UNKN	10-Is there vegetation growing in post-joints (Photo 3)?
	Y	N	N/A	UNKN	11-Are the deck drains and outlets at the top of the wall blocked? (Photo 14)
	Y	N	N/A	UNKN	12-Can water enter the wall between coping and slab (i.e., drain inappropriately)?
	Y	N	N/A	UNKN	13-Is there evidence at discharge point of fill washing through drain pipe?

Long Leveling Concrete/CRS

Required	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
	Y	N	N/A	UNKN	1-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Photos 2 & 3)
	Y	N	N/A	UNKN	2-Are the joints wide enough to see fabric or backfill behind panels when looking into joints? (Photo 2) If yes, record the approximate maximum joint width in inches.
	Y	N	N/A	UNKN	3-Is exposed backfill visible in the horizontal joint? (Photo 4)
	Y	N	N/A	UNKN	4-Are there visible signs of fabric or water leaking through joint? (Do not include additional damage to fabric)
	Y	N	N/A	UNKN	5-Do the joints have a non-uniform horizontal spacing? Are some horizontal joints larger than others? (Photo 6)
	Y	N	N/A	UNKN	6-Do the joints have a non-uniform vertical spacing? Are some vertical joints larger than others? (Photo 6)
	Y	N	N/A	UNKN	7-Are the panel offset at the joints either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.
	Y	N	N/A	UNKN	8-Does the fabric appear brittle, or appear as if it has undergone UV exposure?

Long Leveling CRCS Camera/Crack

Required	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
	Y	N	N/A	UNKN	1-Is there excessive cracking in the panel?
	Y	N	N/A	UNKN	2-Do the panels "tilt-up"? Is there excessive cracking in the panel?
	Y	N	N/A	UNKN	3-Are there cracks that continue vertically through adjacent panels (Photos 9 & 10)? If yes, record the approximate number of panels in the wall with cracking.
	Y	N	N/A	UNKN	4-Are there cracks that continue horizontally through adjacent panels (Photos 9 & 10)? If yes, record the approximate number of panels in the wall with cracking.
	Y	N	N/A	UNKN	5-Are the panel corners making contact with each other? If yes, record the approximate number in the wall.
	Y	N	N/A	UNKN	6-Are the panel corners "popped-off" or clipped from contact with an adjacent panel? If yes, record the number in the wall.
	Y	N	N/A	UNKN	7-Does crack spacing suggest Differential Settlement?
	Y	N	N/A	UNKN	8-Does the overlying coping exhibit Vertical Offset?
	Y	N	N/A	UNKN	9-Are the coping and restraints loose or detaching? If yes, it may be appropriate to contact UDOT if detachment seems erratic.
	Y	N	N/A	UNKN	10-Are the panels in danger of falling off? (If potential exists contact appropriate UDOT region).
	Y	N	N/A	UNKN	11-Are the panels bulging (bowing horizontally)? If so, record maximum deformation from accessible coping to leveling post. (Photo 11)
	Y	N	N/A	UNKN	12-Is there "flipping" at the top or bottom of the wall? (Record maximum degree of flipping from minimum joint vertical level and defined area).

Top Of Wall

Required	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
	Y	N	N/A	UNKN	1-Is there evidence of settlement at the top of the wall? (prevention cracking, etc.)
	Y	N	N/A	UNKN	2-Are there any open cracks in the concrete coping (out-bellies)? If yes, record the approximate maximum crack width.
	Y	N	N/A	UNKN	3-Do the connection joints in the concrete coping appear open? (Photo 6) If yes, record the maximum joint width.

MISE WALL DRAINAGE

Required	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
	Y	N	N/A	UNKN	1-Is there an active water source near the toe of the wall (if the wall near a body of water with scour potential)?
	Y	N	N/A	UNKN	2-If applicable, are the catch basins at the base of the wall blocked?
	Y	N	N/A	UNKN	3-Are there culverts protruding through the wall?
	Y	N	N/A	UNKN	4-Are there vertical drains that travel through the backfill?
	Y	N	N/A	UNKN	5-Is there evidence at the base of the wall or leveling post? (Photo 12)
	Y	N	N/A	UNKN	6-Is there erosion along the wing wall?
	Y	N	N/A	UNKN	7-Are there any signs of water flow along the base of the wall?
	Y	N	N/A	UNKN	8-Are there less than 14 feet between irrigation sprinklers and wall?
	Y	N	N/A	UNKN	9-Does the backfill or joint fabric appear to be saturated?
	Y	N	N/A	UNKN	10-Is there vegetation growing in post-joints (Photo 3)?
	Y	N	N/A	UNKN	11-Are the deck drains and outlets at the top of the wall blocked? (Photo 14)
	Y	N	N/A	UNKN	12-Can water enter the wall between coping and slab (i.e., drain inappropriately)?
	Y	N	N/A	UNKN	13-Is there evidence at discharge point of fill washing through drain pipe?

MISE WALL JOINTS

Required	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
	Y	N	N/A	UNKN	1-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Photos 2 & 3)
	Y	N	N/A	UNKN	2-Are the joints wide enough to see fabric or backfill behind panels when looking into joints? (Photo 2) If yes, record the approximate maximum joint width in inches.
	Y	N	N/A	UNKN	3-Is exposed backfill visible in the horizontal joint? (Photo 4)
	Y	N	N/A	UNKN	4-Are there visible signs of fabric or water leaking through joint? (Do not include additional damage to fabric)
	Y	N	N/A	UNKN	5-Do the joints have a non-uniform horizontal spacing? Are some horizontal joints larger than others? (Photo 6)
	Y	N	N/A	UNKN	6-Do the joints have a non-uniform vertical spacing? Are some vertical joints larger than others? (Photo 6)
	Y	N	N/A	UNKN	7-Are the panel offset at the joints either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.
	Y	N	N/A	UNKN	8-Does the fabric appear brittle, or appear as if it has undergone UV exposure?

MISE WALL FACING

Required	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
	Y	N	N/A	UNKN	1-Is there excessive cracking in the panel?
	Y	N	N/A	UNKN	2-Do the panels "tilt-up"? Is there excessive cracking in the panel?
	Y	N	N/A	UNKN	3-Are there cracks that continue vertically through adjacent panels (Photos 9 & 10)? If yes, record the approximate number of panels in the wall with cracking.
	Y	N	N/A	UNKN	4-Are there cracks that continue horizontally through adjacent panels (Photos 9 & 10)? If yes, record the approximate number of panels in the wall with cracking.
	Y	N	N/A	UNKN	5-Are the panel corners making contact with each other? If yes, record the approximate number in the wall.
	Y	N	N/A	UNKN	6-Are the panel corners "popped-off" or clipped from contact with an adjacent panel? If yes, record the number in the wall.
	Y	N	N/A	UNKN	7-Does crack spacing suggest Differential Settlement?
	Y	N	N/A	UNKN	8-Does the overlying coping exhibit Vertical Offset?
	Y	N	N/A	UNKN	9-Are the coping and restraints loose or detaching? If yes, it may be appropriate to contact UDOT if detachment seems erratic.
	Y	N	N/A	UNKN	10-Are the panels in danger of falling off? (If potential exists contact appropriate UDOT region).
	Y	N	N/A	UNKN	11-Are the panels bulging (bowing horizontally)? If so, record maximum deformation from accessible coping to leveling post. (Photo 11)
	Y	N	N/A	UNKN	12-Is there "flipping" at the top or bottom of the wall? (Record maximum degree of flipping from minimum joint vertical level and defined area).

MISE TOP OF WALL OBSERVATIONS

Required	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
	Y	N	N/A	UNKN	1-Is there evidence of settlement at the top of the wall? (prevention cracking, etc.)
	Y	N	N/A	UNKN	2-Are there any open cracks in the concrete coping (out-bellies)? If yes, record the approximate maximum crack width.
	Y	N	N/A	UNKN	3-Do the connection joints in the concrete coping appear open? (Photo 6) If yes, record the maximum joint width.

- no picture, not visible with camera

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- Pic #4

Required Item:	Drawings	Photographs	Measurements/Extent of Problem/Location/Photo Numbers
15c: Is there a large gap between the approach slab and the approach pavement? (Photo 15) Other than this, are there any voids or areas of concern? Record the approximate maximum gap size.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
17: Are the base and sub-base joint between the wall coping and the abutment opened up significantly? If so record maximum distance.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
18: Is the coping wall pulling away from pavement (readily visible)? Please record maximum displacement for wall.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required Item:	Drawings	Photographs	Measurements/Extent of Problem/Location/Photo Numbers
19: What is the location depth of leveling pad? Found Once Probe into wall located 2 inches from wall to a maximum depth of 24 inches (24 inches is the minimum depth for MSE Wall)	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
20: Is leveling pad exposed?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
21: Is there any cracking in the leveling pad? If so, record maximum crack size with gage.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
22: Is there a four foot bend (lead slope) directly along the wall before the slope changes (Record Width)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
23: Is there a slope steeper than V: 1.5 to H:1 in front of the wall? Please record slope and height of backfill above top of wall.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
24: Is there a slope greater than V: 1.5 to H:1 below the wall? Please record slope and height of backfill below the wall.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
25: Is there excessive degradation of panel faces?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required Item:	Drawings	Photographs	Measurements/Extent of Problem/Location/Photo Numbers
26: Is there excessive corrosion on guardrail or other exposed metal that might indicate concrete conditions?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
27: Are there major rust stains on the face panels? Along joints? If so, record total number.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
28: Are any internal straps exposed? Does there appear to be corrosion on these straps? If applicable please record the total number of straps affected.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
29: Was a readily visible sample taken of exposed wall? If so, please indicate depth in inches.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
30: Is there any indication of other corrosion (swelling bars, rust, exposed metal inside epoxy coating)? If so please record the total number of panels affected.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required Item:	Drawings	Photographs	Measurements/Extent of Problem/Location/Photo Numbers
31: Are panels/wall protrusions in place at the base of the wall (to protect it from potential traffic hazards)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
32: Does it appear that the wall has been involved in an accident (replaced panel, recent dig in the wall)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
33: Does it appear the walls functionality and integrity has been compromised by a collision or accident?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required Item:	Drawings	Photographs	Measurements/Extent of Problem/Location/Photo Numbers
34: Are there acute wall angles (90)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required Item:	Drawings	Photographs	Measurements/Extent of Problem/Location/Photo Numbers
35: Are there any differences than design etc.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
36: Is the layout in general accordance with drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
37: Are the panels CIP (Cast in Place)? Does there appear to be concrete encasing in the panels?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
38: Was GEFoam used in the construction of the wall?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
39: Are there any structures on or near wall that were not included in initial drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
40: Are there any impingement, utilities, or obstructions that are not part of the initial drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
41: Have there been any excavations or evidence of excavations near the wall?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
42: Have local property owners changed the dynamics of the wall (additional structures, impingement, vegetation, etc.)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
43: Are there piles located in the wall (bridge abutment)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required Item:	Drawings	Photographs	Measurements/Extent of Problem/Location/Photo Numbers
44: Are there any differences than design etc.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
45: Is the layout in general accordance with drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
46: Are the panels CIP (Cast in Place)? Does there appear to be concrete encasing in the panels?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
47: Was GEFoam used in the construction of the wall?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
48: Are there any structures on or near wall that were not included in initial drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
49: Are there any impingement, utilities, or obstructions that are not part of the initial drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
50: Have there been any excavations or evidence of excavations near the wall?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
51: Have local property owners changed the dynamics of the wall (additional structures, impingement, vegetation, etc.)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
52: Are there piles located in the wall (bridge abutment)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required Item:	Drawings	Photographs	Measurements/Extent of Problem/Location/Photo Numbers
53: Are there any differences than design etc.	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
54: Is the layout in general accordance with drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
55: Are the panels CIP (Cast in Place)? Does there appear to be concrete encasing in the panels?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
56: Was GEFoam used in the construction of the wall?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
57: Are there any structures on or near wall that were not included in initial drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
58: Are there any impingement, utilities, or obstructions that are not part of the initial drawing?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
59: Have there been any excavations or evidence of excavations near the wall?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
60: Have local property owners changed the dynamics of the wall (additional structures, impingement, vegetation, etc.)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
61: Are there piles located in the wall (bridge abutment)?	Y	N/A	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

