

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	Univest, Ave. interchange

MSE WALL CHARACTERISTICS

MSE Wall at Bridge	Y	N	Bridge Number if applicable:		Wall Number	R-319-C
Surrounding Structures	-			Maximum Height of Wall (ft)	21 Ft	
Distance to Each Structure	-			One Stage, Two Stage or Block Wall	one stage	
State Route Number				Estimated Max Length of Wall Abutment:	560 Ft	
Approximate Mile Marker				Max Slope of Ground in front of wall:	3:1	
GPS Datum	WGS/84, NAD/83, or NAD/27			Max Height of wall burial line above surrounding level ground:	7ft	
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40°12'33.29"N 111°39'31.86"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: 150px; height: 100px; margin: 0 auto; position: relative;"> 8" 18" </div>			

Summary of Key Observations:

creeping vines climbing wall

32
8
56
12/25/08
2008

Plan View/Drainage:



B' B

A' A

x GPS



Cross Sections:



Cross Sections:

BASE WALL DRAINAGE

Required Tests	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
1-Is there an active water source near the base of the wall (i.e. the wall meet a body of water with water present)?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-If applicable, are the catch basins at the base of the wall blocked?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Are there obstructions protruding through the wall?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Are there vertical drains that extend through the backfill?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Is there evidence at the base of the wall of leveling sand? (Photo 12)	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Is there evidence along the wing walls?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Are there any signs of water flow along the base of the wall?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Is there less than 14 feet between impalpable particles and wall?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Does the backfill or joint fabric appear to be saturated?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Is there vegetation growing in panel joints? (Photo 8)	Y	N	N/A	UNKN	Blocked
11-Over the deck drains and outlets at the top of the wall blocked? (Photo 14)	Y	N	N/A	UNKN	Clear / 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12-Can water enter the wall between coping and slab (i.e. drain appropriately)?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
13-Is there evidence at discharge points of BFI washing through drain pipe?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

4 ft
From ground cloning

MSR WALL JOINTS

Required Tests	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
1-Is backfill missing out of joints or are there piles of backfill at the base of the wall? (Pictures 2 & 3)	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-Are the joints wide enough to see fabric or backfill behind panels when looking into joints? (Photo 5) If yes, record the approximate maximum joint width in inches.	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Do the joints have a non-uniform horizontal spacing/size? Are some horizontal joints larger/smaller than others? (Photo 6)	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Do the joints have a non-uniform vertical spacing/size? Are some vertical joints larger/smaller than others? (Photo 6)	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Are the joints 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	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MSR WALL FACING

Required Tests	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
1-Does the panel "pop-out" or chip off from contact with an adjacent panel? If yes record the incident in the R-2.	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-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	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-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	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Are the panel corners making contact with each other? If yes, record the approximate number in the wall.	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Does the panel corners "pop-out" or chip off from contact with an adjacent panel? If yes record the incident in the R-2.	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Does track spacing suggest Differential Settlement?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Does the overlying coping exhibit Vertical Offset?	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Are the coping and parapets loose or detaching? If yes, it may be appropriate to contact LUDOT if detachment seems imminent.	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Are the panels in danger of falling off? (If potential notes contact appropriate LUDOT region)	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Are the panels bulging (bowing horizontally)? If so, record maximum deformation from acceptable limits to existing joint. (Photo 11)	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11-Is there evidence of lifting from animals (e.g. raccoons) or other animals (e.g. birds) using vertical rod and attached area.	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

24:1

MSR TOP OF WALL OBSERVATIONS

Required Tests	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
1-Is there evidence of settlement at the top of the wall (government cracking, etc)	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-Are there any open cracks in the concrete coping (not hairline)? If yes record the approximate width.	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Is there construction joints in the concrete coping opened up? (Photo 5). If yes, record the maximum joint width.	Y	N	N/A	UNKN	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	N/A	UN	36-Is there a large gap between the approach slab and the approach pavement? (Photo 15) Other than producers bumping situations as the approach is crossed. Record the approximate maximum gap size.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	UN	37-Is the dimension that lies between the wall coping and the abutment opened up significantly? If so, record the approximate maximum opening.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	
Y	N	UN	38-Is the coping/wall pulling away from pavement/curbway section? Please record maximum displacement for wall.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	

MSE STABILITY

Required Tests:		Observations		Measurement/Extent of Problems/Location/Photo Numbers											
Y	N	N/A	UN	39-What is the location depth of leveling pad? Found Cracks/Spalls into wall located 2 inches from wall to a maximum depth of 24 inches (24 inches is the maximum depth for MSE Wall)	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	40-Is leveling pad exposed?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	41-Is there cracking in the leveling pad? If so, record maximum crack size with gaps.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	42-Is there a four foot "Spall" (level dips) directly along the wall before the slope changes? (Record Width)	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	43-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.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	44-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.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	45-Is there excessive degradation of paved face?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

MSE METAL CORROSION

Required Tests:		Observations		Measurement/Extent of Problems/Location/Photo Numbers											
Y	N	N/A	UN	46-Is there excessive corrosion on galvanized or other exposed metal that might indicate concrete condition?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	47-Are there major rust stains on the face panels? Along joints? If so, record total number.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	48-Are any internal straps exposed? Does there appear to be corrosion on these straps? If applicable please record the total number of straps affected.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	49-Was a random(s) sample taken of exposed soil? If so, please indicate depth in inches.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	50-Is there any indication of other corrosion (exposed bars, rust, exposed metal inside epoxy coating)? If so please record the total number of panels affected.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

MSE IMPACT/COLLISION PROTECTION

Required Tests:		Observations		Measurement/Extent of Problems/Location/Photo Numbers											
Y	N	N/A	UN	51-Are guardrails/wall protrusions in place at the base of the wall (to prevent it from potential traffic hazard)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	52-Does it appear that the wall has been involved in an accident (replaced panel, recent damage to the wall)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	53-Does it appear the wall functionality and integrity has been compromised by a collision or accident?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

MSE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

Required Tests:		Observations in Reinforcement Geometry		Measurement/Extent of Problems/Location/Photo Numbers											
Y	N	N/A	UN	54-Are there any wall inlets (<8")?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

MSE AS BUILT DIFFERENT FROM DESIGN

Required Tests:		Observations		Measurement/Extent of Problems/Location/Photo Numbers											
Y	N	N/A	UN	55-Are there any wall inlets (<8")?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	56-Is the layout in general accordance with drawings?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	57-Are the panels CIP (Cast in Place)? Does there appear to be excessive cracking in the panels?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	58-Was GED (formed) in the construction of the wall?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	59-Are there any structures on or near wall that were not included in initial drawings?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	60-Are there any fringing, utilities, or intrusions that are not part of the initial drawings?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	61-Have there been any excavations or evidence of excavations near the wall?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	62-Have local property owners changed the dynamics of the wall (additional structures, fringing, vegetation, etc.)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UN	63-Are there piles located in the wall (bridge abutment)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%