

STATE OF UTAH MSE WALL INSPECTION FORM

Compiled As Part of Research By The Utah Department of Transportation

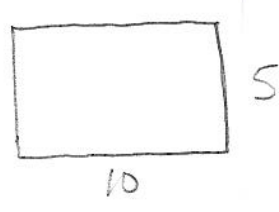
Instructions:

- 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	Z	Identifying Road/Intersection	Colin & Adam 2100 S ON RAMP TO 201

MSE WALL CHARACTERISTICS

MSE Wall at Bridge	(Y) N	Bridge Number if applicable:		Wall Number	R-349-15
Surrounding Structures	none			Maximum Height of Wall (ft)	9'
Distance to Each Structure			One Stage, Two Stage or Block Wall		
State Route Number			Estimated Max Length of Wall Abutment:		45'
Approximate Mile Marker			Max Slope of Ground in front of wall:		3 to 1
GPS Datum	WGS/84, NAD/83, or NAD/27		Max Height of wall burial line above surrounding level ground:		15'

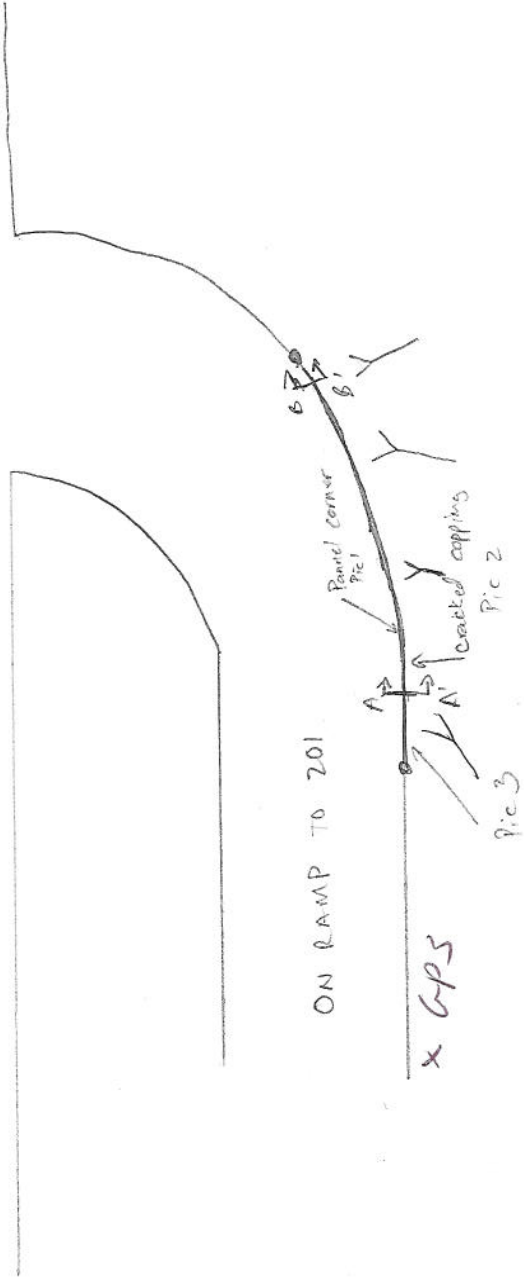
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40° 43' 29.46" N 110° 54' 43.19" W	Please draw rough layout of panel with approximate dimensions in space provided below:
If known, Panel or System Manufacturer		

Summary of Key Observations:

- cracking of coping
- one pannel with exposed rebar

Plan View/Drainage:

2100 S



Cross Sections:



Cross Sections:

RISE WALL DRAINAGE

Required Note	Yes	No	Measurement/Extent of Problem/Location/Photo Numbers
1-Is there an active water source near the toe of the wall (or the wall near a body of water with seepage)?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-If applicable, are the cracks located at the base of the wall block?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Are there elements protruding through the wall?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Are there vertical drains that travel through the backfill?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Is there evidence at the base of the wall or footing panel? (Photo 12)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Is there erosion along the wing wall?	Y	N/A	UNSN / 0-No 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/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Is there less than 14 feet between infill piles and the wall?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Does the backfill or joint fabric appear to be saturated?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Is there vegetation growing in panel joints? (Photo 8)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11-Are the deck drains and outlets at the top of the wall blocked? (Photo 14)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12-Can water enter the wall between coping and slab (i.e. drains appropriately)?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
13-Is there evidence of discharge points of fill washing through drains pipe?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE WALL JOINTS

Required Note	Yes	No	Measurement/Extent of Problem/Location/Photo Numbers
1-Is backfill coming out of joint or are there piles of backfill at the base of the wall? (Photos 2 & 3)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-Do the joints wide enough to see fabric or backfill behind panels when looking into joint? (Photo 3) If yes, record the approximate maximum joint width in inches.	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Do the joints appear to be uniform in width? (Photo 4)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Do the joints appear to be uniform in depth? (Photo 4)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Do the joints have a non-uniform horizontal spacing size? Are some horizontal joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
13-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
14-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
15-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
16-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
17-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
18-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
19-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
20-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
21-Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger and wider than others? (Photo 6)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE WALL FINISH

Required Note	Yes	No	Measurement/Extent of Problem/Location/Photo Numbers
1-Is there evidence of cracking in the panels?	Y	N/A	UNSN / 0-No 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/A	UNSN / 0-No 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/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Are the panel corners "pop-out" or chipped from contact with an adjacent panel? If yes, record the number in the wall.	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Does the existing coping exhibit Vertical Offset?	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Are the coping and parapet loose or delaminating? If yes, it may be appropriate to contact UDOT if delamination occurs.	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Are the panels in danger of falling off? (If possible, include evidence of falling, UDOT region)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Are there any open cracks in the concrete coping (not bottom)? If so, record maximum deflection from accessible coping to footing joint. (Photo 11)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Is there evidence of cracking in the concrete coping (not bottom)? If so, record maximum degree of flipping from within coping to footing joint. (Photo 11)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE TOP OF WALL OBSERVATIONS

Required Note	Yes	No	Measurement/Extent of Problem/Location/Photo Numbers
1-Is there evidence of settlement at the top of the wall? (pavement cracking, etc)	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-Are there any open cracks in the concrete coping (not bottom)? If yes, record the approximate maximum crack width.	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Is there the connection joints in the existing coping opened up? (Photo 6) If yes, record the maximum joint width.	Y	N/A	UNSN / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	UNKN	15-Is there a large gap between the approach slab and the approach pavement? (Phase 1) Often this produces a bumping sensation as the vehicle is entered. Record the approximate maximum gap size.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	UNKN	17-At the abutment, has the joint between the wall coping and the abutment opened up significantly? If so, record the maximum depth of the opening.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	UNKN	18-Is the coping/wall pulling away from pavement/roadway section? Please record maximum displacement for wall.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

MSE STABILITY

Required Items: Structural Integrity														
Y	N	UNKN	19-What is the location depth of leveling pad? Found Close-Probe into soil located 2 inches from wall to a maximum depth of 24 inches (24 inches is the minimum depth for MSE walls)	24"	/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	40-Is leveling pad exposed?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	41-Is there cracking in the leveling pad? If so, record maximum crack size with gauge.		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	42-Is there a four foot back (level slope) directly along the wall before the slope changes (Record Width)?	1 ft	/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	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%	100%
Y	N	UNKN	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%	100%
Y	N	UNKN	45-Is there excessive degradation of panel faces?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%

MSE METAL CORROSION

Required Items: Metal Corrosion														
Y	N	UNKN	46-Is there excessive corrosion on guardrails or other exposed metal that might indicate concrete condition?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	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%	100%
Y	N	UNKN	48-Are any internal straps exposed? Does this 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%	100%
Y	N	UNKN	49-Was a redoxivity sample taken of exposed wall? If so, please indicate depth in inches.		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	50-Is there any indication of water corrosion (see filling bars, rust, exposed metal inside epoxy coating)? If so, please indicate the water source.		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%

MSE IMPACT COLLISION PROTECTION

Required Items: Impact Collisions														
Y	N	UNKN	51-Are guardrails wall protrusions in place at the base of the wall (to protect it from potential traffic hazards)?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	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%	100%
Y	N	UNKN	53-Does it appear the walls functionality and integrity has been compromised by a collision or accident?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%

MSE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

Required Items: Obstructions in Reinforcement Geometry														
Y	N	UNKN	54-Are there some wall voids (CSO)?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%

MSE AS BUILT DIFFERENT FROM DESIGN

Required Items: Drawings														
Y	N	UNKN	55-Is wall different than design?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	56-Are there available drawings for the wall? Please indicate type (Foundation and Layout, Design, As Built, etc.)	As Built	/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	56-Is the layout in general accordance with drawings?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	57-Is the panel CIP? (Cast in Place) Does there appear to be excessive cracking in the panel?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	58-Was GED form used in the construction of the wall?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	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%	100%
Y	N	UNKN	60-Are there any impactions, utilities, or structures that are not part of the initial drawing?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	61-Have there been any excavations or evidence of excavation near the wall?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	62-How good property owners changed the dynamics of the wall (additional structures, impactions, vegetation, etc.)?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%
Y	N	UNKN	63-Are there piles located in the wall (bridge abutment)?		/	0-No	1%	5%	10%	25%	50%	75%	90%	100%