

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	2	Identifying Road/Intersection	E-13 Frontage Rd. Pickett Cr.
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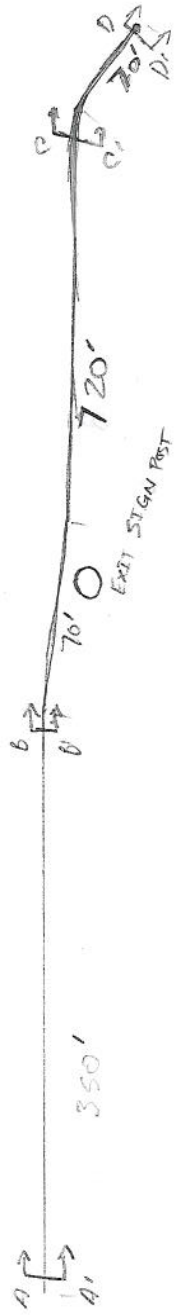
MSE WALL CHARACTERISTICS

MSE Wall at Bridge	Y <input checked="" type="radio"/> N	Bridge Number if applicable:		Wall Number	R-350-12
Surrounding Structures	sign pole		Maximum Height of Wall (ft)	24.	
Distance to Each Structure	~ 2'		One Stage, Two Stage or Block Wall	2 stage	
State Route Number			Estimated Max Length of Wall Abutment:	12.0	
Approximate Mile Marker			Max Slope of Ground in front of wall:	flat	
GPS Datum	WGS/84, NAD/83, or NAD/27		Max Height of wall burial line above surrounding level ground:		
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40°44'04.83"N 111°54'19.61"W		Please draw rough layout of panel with approximate dimensions in space provided below:		
If known, Panel or System Manufacturer					

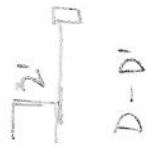
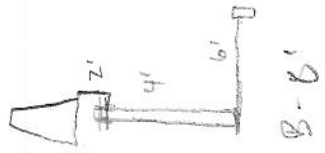
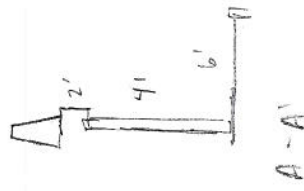
Summary of Key Observations:

Nothing outstanding

Plan View/Drainage:



Cross Sections:



Cross Sections:

MISE WALL DRAINAGE

Required Topic:		Yes	No	N/A	UKN	Measurement/Extent of Problem/Location/Photo Numbers
Drainage						
Y	1-Is there an active water source near the toe of the wall (i.e. the wall near a body of water with seepage potential)?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	2-If applicable, are the catch basins at the base of the wall blocked?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	3-Are there culverts protruding through the wall?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	4-Are there vertical drains that extend through the backfill?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	5-1a: Are there emulsion at the base of the wall or leveling pad? (Photo 12)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	6-1a: Are there emulsion along the wing wall?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	7-Are there any signs of water flow along the base of the wall?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	8-1a: Are there less than 14 feet between irrigation sprinklers and wall?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	9-Does the backfill or joint fabric appear to be saturated?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	10-Is there vegetation growing in joint (Photo 8)?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	11-Are the deck drains and outlets at the top of the wall blocked? (Photo 14)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	12-Can water enter the wall between coping and slab (i.e., Drain appropriately)?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	13-1a: Is there evidence at discharge point of fill washing through drain pipe?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE WALL JOINTS

Required Topic:		Yes	No	N/A	UKN	Measurement/Extent of Problem/Location/Photo Numbers
Joints						
Y	1-1a: Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Photos 2 & 3)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	2-1a: Are the joints wider than they are clear? Are backfill behind panels been backing into joints? (Photo 5) If yes, record the approximate maximum joint width in inches.					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	3-1a: Is there evidence of horizontal joint width in inches?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	4-1a: Are there visible tears in the fabric? Is there evidence of backfill or water backing through joint? (Do not include additional damage to fabric)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	5-1a: Do the joints have a non-uniform horizontal spacing size? Are some horizontal joints larger than others? (Photo 6)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	6-1a: Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger than others? (Photo 6)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	7-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE WALL FACING

Required Topic:		Yes	No	N/A	UKN	Measurement/Extent of Problem/Location/Photo Numbers
Long Level String/CFS-Cement Crack Gauge						
Y	1-1a: Is there excessive cracking in the panels?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	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.					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	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.					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	4-Are the panel corners "popped-off" or chipped from contact with an adjacent panel? If yes, record the number in the wall.					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	5-Does crack spacing suggest Differential Settlement?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	6-Does the overlying coping exhibit Vertical Offset?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	7-Is there evidence of settlement at the top of the wall? (government cracking, etc)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	8-Are there any signs of water flow along the base of the wall?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	9-1a: Is there evidence of horizontal joint width in inches?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	10-1a: Are there visible tears in the fabric? Is there evidence of backfill or water backing through joint? (Do not include additional damage to fabric)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	11-1a: Do the joints have a non-uniform horizontal spacing size? Are some horizontal joints larger than others? (Photo 6)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	12-1a: Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger than others? (Photo 6)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	13-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE TOP OF WALL OBSERVATIONS

Required Topic:		Yes	No	N/A	UKN	Measurement/Extent of Problem/Location/Photo Numbers
Top Of Wall						
Y	1-1a: Is there evidence of settlement at the top of the wall? (government cracking, etc)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	2-1a: Are there any signs of water flow along the base of the wall?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	3-1a: Is there evidence of horizontal joint width in inches?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	4-1a: Are there visible tears in the fabric? Is there evidence of backfill or water backing through joint? (Do not include additional damage to fabric)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	5-1a: Do the joints have a non-uniform horizontal spacing size? Are some horizontal joints larger than others? (Photo 6)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	6-1a: Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger than others? (Photo 6)					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	7-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?					/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	N/A	UKN	36-Is there a large gap between the approach slab and the approach pavement? (Photo 13) Other slabs produce a bumping sensation as the vehicle is crossed. Record the approximate maximum gap size.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	UKN	37-Are the abutments, less the joint between the wall coping and the abutment, spaced up significantly? If so record maximum distance.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	UKN	38-Is the coping well 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 Tests: Shrink, Cracks, Erosion															
Yes	No	N/A	UKN	39-What is the location depth of leveling with respect to the wall? (Photo 14) Is the leveling within 2 inches from wall to maximum depth of 24 inches (24 inches is the minimum depth for MSE Wall)	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	40-Is leveling pad exposed?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	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%	95%	100%	/
Y	N	N/A	UKN	42-Is there a four foot bench (level slope) directly along the wall before the slope change? (Record Width)	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	43-Is there a slope steeper than V: 1.5 to H: 1 in front of the wall? Please record slope and height of above top of wall.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	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	UKN	45-Is there excessive degradation of panel board?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

MSE METAL CORROSION

Required Tests: Nylon Washer-Cement-Chip, Zip Lock Bag, Towel															
Yes	No	N/A	UKN	46-Is there excessive corrosion on garbails or other exposed metal that might indicate concrete condition?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	47-Are there major rust stains on the face panel? Along joints? If so, record total number.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	48-Are any internal drains present? Does there appear to be corrosion on these drains? If applicable please record the total number of drains affected.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	49-Was a readability 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	UKN	50-Is there any indication of rebar corrosion (swelling 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: Concrete-CHP															
Yes	No	N/A	UKN	51-Are guardrails/wall protections in place at the base of the wall (to protect it from potential traffic hazard)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	52-Does it appear that the wall has been involved in an accident (replaced panel, recent dig in the wall)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	53-Does it appear the wall's 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: Drawings, Cement-CHP															
Yes	No	N/A	UKN	54-Are there score wall angles (<90°)	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

MSE AS BUILT DIFFERENT FROM DESIGN

Required Tests: Drawings, Cement-CHP															
Yes	No	N/A	UKN	55-Are there available drawings for the wall? Please indicate type (Situation and Layout, Design, As Built, etc.)	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	56-Is the layout in general accordance with drawings?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	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	UKN	58-Was GEP (precast) in the construction of the wall?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	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	UKN	60-Are there any irrigation, utilities, or interlocks or interlocks that are not part of the initial drawings?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	61-Have there been any excavations or evidence of excavation near the wall?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	62-Have local property owners changed the dynamics of the wall (additional structures, irrigation, vegetation, etc.)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	63-Are there piles located in the wall (bridge abutment)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/