

# 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

<b>Region</b>	3	<b>Identifying Road/Intersection</b>	I-15 & P.G. Exit East side
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## MSE WALL CHARACTERISTICS

MSE Wall at Bridge	(Y) N	Bridge Number if applicable:		Wall Number	W-377 CD
Surrounding Structures				Maximum Height of Wall (ft)	6 ft
Distance to Each Structure				One Stage, Two Stage or Block Wall	one stage
State Route Number				Estimated Max Length of Wall Abutment:	250
Approximate Mile Marker				Max Slope of Ground in front of wall:	2.5:1
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°21' 0.78"N 111°46' 7.40" 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;"> <span style="position: absolute; top: -20px; left: 50%; transform: translate(-50%, -50%);">18'</span> <span style="position: absolute; left: -20px; top: 50%; transform: translateY(-50%);">8'</span> </div>				

**Summary of Key Observations:**

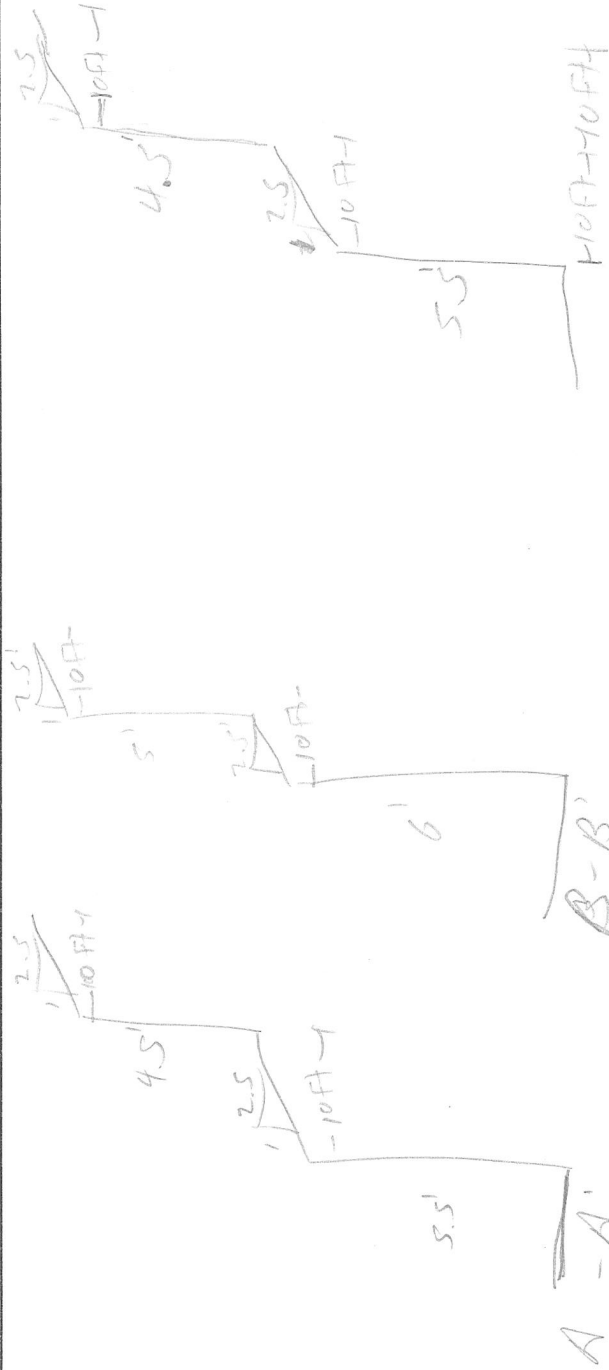


Plan View/Drainage:





Cross Sections:



Cross Sections:



MISE WALL DRAINAGE

Required Topic	Notes	Measure/Extent of Problem/Location/Photo Numbers
Yes	N/A	UKN
Y	1-4: there is active water source near the toe of the wall (to the wall near a body of water with seepage potential)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	5: 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	6: Are there subsents protruding through the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	7: Are there vertical drains that travel through the backfill?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	8: Are there erosion at the base of the wall or leveling pad? (Photo 12)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	9: Are there erosion along the wing wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	10: 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	11: Are there less than 14 feet between irrigation sprinklers and wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	12: Does the backfill or joint fabric appear to be annotated?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	13: Is there vegetation growing in panel joints (Photo 9)?	Partial / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	14: Are the back, bottom and outlets at the top of the wall blocked? (Photo 14)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	15: 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	16: Is there evidence at discharge point of fill washing through drain pipes?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE WALL JOINTS

Required Topic	Notes	Measure/Extent of Problem/Location/Photo Numbers
Yes	N/A	UKN
Y	17: Do the joints have a non-uniform horizontal spacing size? Are some horizontal joints larger/smaller than others? (Photo 9)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	18: Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger/smaller than others? (Photo 9)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	19: 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	20: 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	21: 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	Notes	Measure/Extent of Problem/Location/Photo Numbers
Yes	N/A	UKN
Y	22: Are the panels "tilt-up"? Is there excessive cracking in the panels?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	23: Are there cracks that combine 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	24: Are there cracks that combine 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	25: 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	26: Does the overlying coping exhibit Vertical Offset?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	27: Does the coping and parapet loose or delimiting? If yes, it may be appropriate to connect UDOT if delimiting occurs.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	28: Are the panels in danger of falling off? (If potential exist as contact appropriate UDOT region).	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	29: 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	30: 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	31: 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	32: 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	33: Are there any signs of water flow along the base of the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE TOP OF WALL OBSERVATIONS

Required Topic	Notes	Measure/Extent of Problem/Location/Photo Numbers
Yes	N/A	UKN
Y	34: 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	35: 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	36: 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	N	S/A	UKS	36-Is there a large gap between the approach slab and the approach pavement? (Photo 13) Often this produces 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		UKS	37-Ar the abutments, but the joint between the wall coping and the abutment opened up significantly? If so record maximum distance.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N		UKS	38-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%
<b>MSE STABILITY</b>															
<b>Required Items: USERR-GEOTECH</b>															
Y	N	N/A	UKS	39-What is the location depth of cavity and if present Class 1 (see wall located 2 inches from wall to a minimum depth of 24 inches (24 inches in the minimum depth for MSE Wall)	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	40-Is leveling pad exposed?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	41-Is there cracking in the leveling pad? If so, record maximum crack size with page.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	42-Is there a four foot bench (level slope) 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	UKS	43-Is there a slope steeper than V:1.2 to H:1 in front of the wall? Please record slope and height of slope above top of wall.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	44-Is there a slope greater than V:1.2 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	UKS	45-Is there excessive degradation of panel faces?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
<b>MSE METAL CORROSION</b>															
<b>Required Items: Nylon Meter-Corros-Zip Lock Bag-1 rowel</b>															
Y	N	N/A	UKS	46-Is there excessive corrosion on guardrail or other exposed metal that might indicate corrosive conditions?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	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	UKS	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	UKS	49-Is a reactivity sample taken of exposed wall? If so, please indicate depth in inches.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	50-Is there any indication of other corrosion (swelling bars, rust, exposed metal finish epoxy coating)? If so please record the total number of panels affected.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
<b>MSE IMPACT COLLISION PROTECTION</b>															
<b>Required Items: Concrete-ZPS</b>															
Y	N	N/A	UKS	51-Is the panel/wall wall protection in place at the base of the wall (to protect it from potential traffic hazards)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	52-Does it appear that the wall has been involved in an accident (replaced panel, recent dips in the wall)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	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%
<b>MSE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY</b>															
<b>Required Items: Drawings</b>															
Y	N	N/A	UKS	54-Are there acute wall angles (<90)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
<b>MSE AS BUILT DIFFERENT FROM DESIGN</b>															
<b>Required Items: Drawings-Corros-ZPS</b>															
Y	N	N/A	UKS	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	UKS	56-Is the layout in general accordance with drawing?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	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	UKS	58-Was GEFoam used in the construction of the wall?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	59-Are there any anomalies 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	UKS	60-Are there any irrigation, utilities, or functions that are not part of the initial drawing?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	61-Has there been any excavation or evidence of excavation near the wall?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	62-Has there been property owners changed the dynamics of the wall (additional structures, irrigation, signposts, etc.)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKS	63-Are there piles located in the wall (bridge abutment)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

