

# STATE OF UTAH MSE WALL INSPECTION FORM

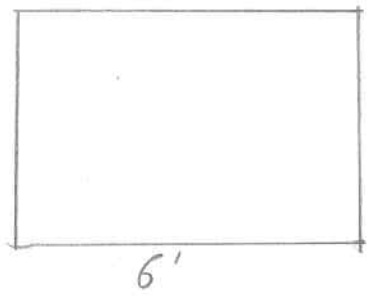
Compiled As Part of Research By The Utah Department of Transportation

**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>	4	<b>Identifying Road/Intersection</b>	I-15, Washington Interchange, St. George
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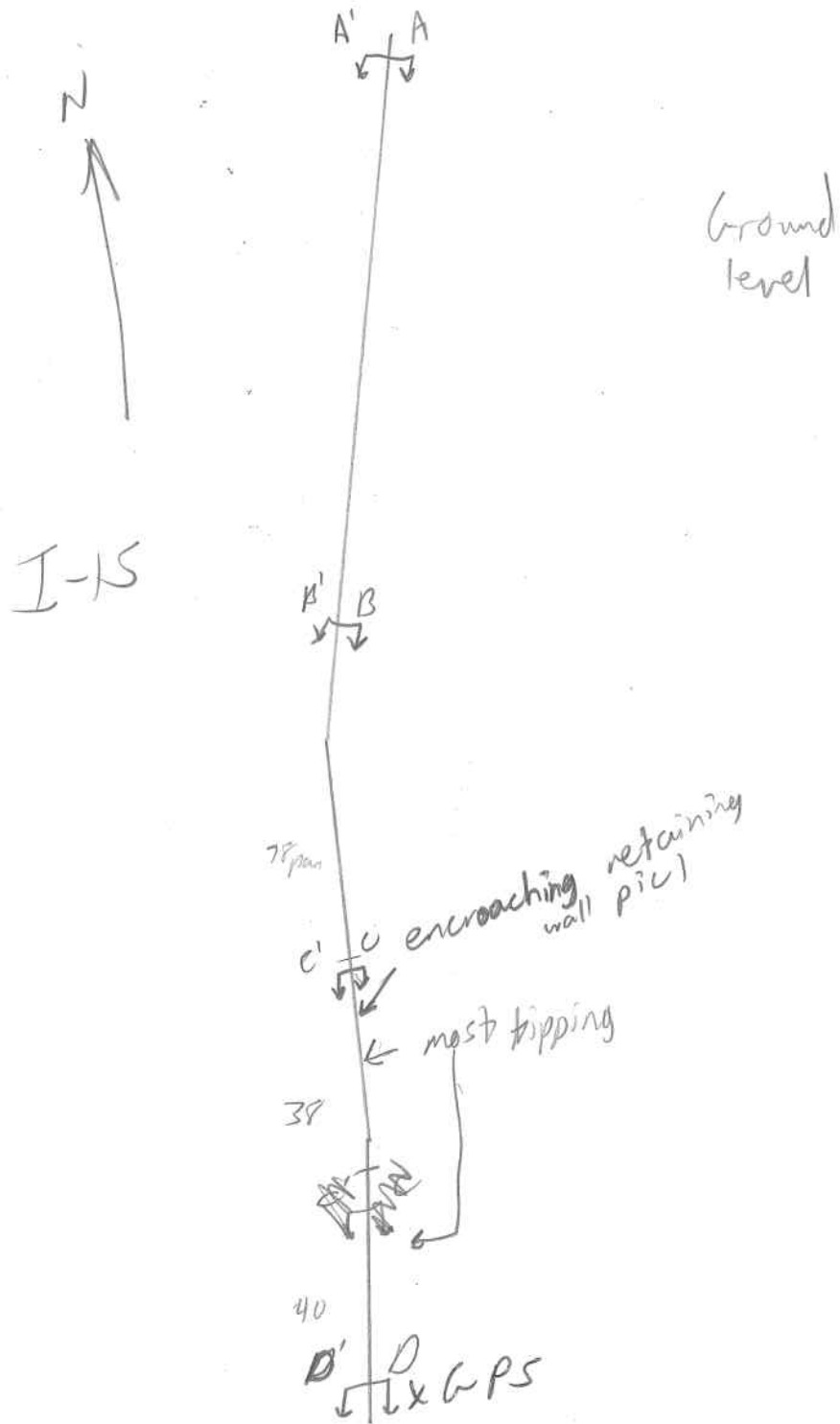
## MSE WALL CHARACTERISTICS

MSE Wall at Bridge	Y	(N)	Bridge Number if applicable:		Wall Number	R-383-H
Surrounding Structures				Maximum Height of Wall (ft)	15 FT	
Distance to Each Structure				One Stage, Two Stage or Block Wall		
State Route Number				Estimated Max Length of Wall Abutment:	940 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:	10ft	
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	37° 7' 14.58" N 113° 31' 24.18" W			Please draw rough layout of panel with approximate dimensions in space provided below:		
If known, Panel or System Manufacturer						

**Summary of Key Observations:**

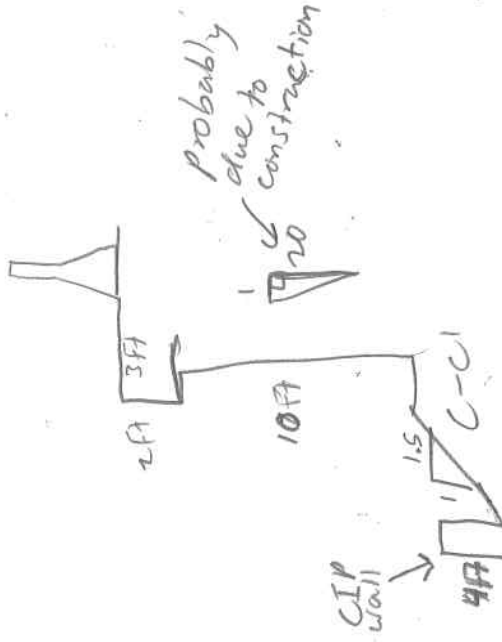
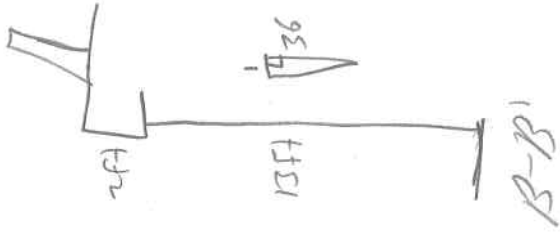
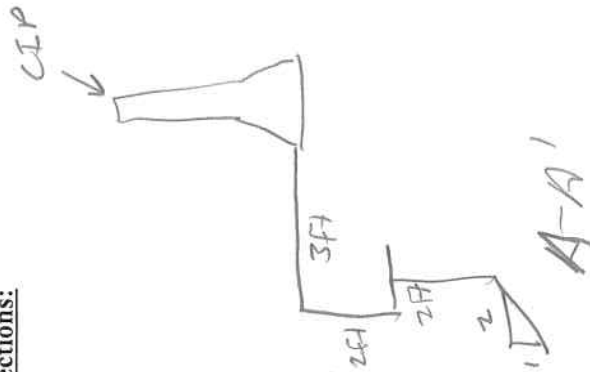
encroaching retaining wall at a clearance distance of 16' with a minimum distance of 11 ft. Wall height at narrowest portion between walls is 12 ft.

Plan View/Drainage:

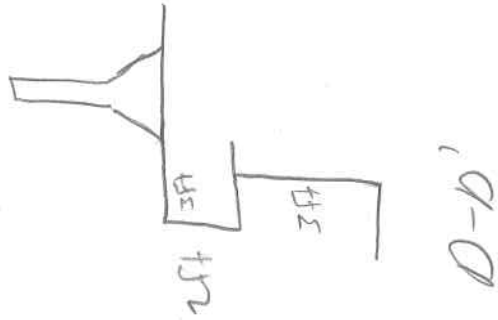


3 3  
156  
9 28

Cross Sections:



Cross Sections:



11ft  
at closest  
16 average

RISE WALL DRAINAGE

Required Item	Yes	No	N/A	UNS	Measurement/Extent of Problem/Location/Photo Numbers
1-Is there an active water source near the toe of the wall (i.e. the wall near a body of water with seepage)?	Y	N	N/A	UNS	0-No 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	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Are there culverts providing through the wall?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Are there vertical drains that extend through the backfill?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Is there evidence at the base of the wall of leveling pads? (Photo 12)	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Is there evidence along the wing walls?	Y	N	N/A	UNS	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	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Is there less than 18 feet between irrigation sprinklers and a wall?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Does the backfill or joint fabric appear to be saturated?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Is there vegetation growing in panel joints (Photo 8)?	Y	N	N/A	UNS	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	N/A	UNS	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	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
13-Is there evidence of discharge point of fill washing through drain pipe?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE WALL JOINTS

Required Item	Yes	No	N/A	UNS	Measurement/Extent of Problem/Location/Photo Numbers
1-Is the backfill running out of joints or are there joints of backfill at the base of the wall? (Photos 2 & 3)	Y	N	N/A	UNS	0-No 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 joint? (Photo 3) If not, are there joints with in excess of 1/2 inch of loose material?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Is there evidence of backfill or water backing through joint? (Do not include additional damage to fabric)	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Do the joints have a non-uniform horizontal spacing/size? Are some horizontal joints larger than others? (Photo 6)	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Do the joints have a non-uniform vertical spacing/size? Are some vertical joints larger than others? (Photo 6)	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-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	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE WALL FACING

Required Item	Yes	No	N/A	UNS	Measurement/Extent of Problem/Location/Photo Numbers
1-Long Level Crack (Length > 25' across)	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-Will Facing	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Are there cracks that continue vertically through adjacent panels? (Photos 8 & 10) If yes, record the approximate number of panels in the wall with cracking.	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
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	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Are the panel corners meeting contact with each other? If yes, record the approximate number in the wall.	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Does the panel corners "rippled-off" or chipped from contact with an adjacent panel? If yes, record the number in the wall.	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Does crack spacing suggest Differential Settlement?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Does the overlying coping exhibit Vertical Offset?	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Are the coping and parapets loose or detaching? If yes, it may be appropriate to contact UDOT if detachment occurs.	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Are the panels in danger of falling off? (If potential exists contact appropriate UDOT region).	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11-Are there any open cracks in the concrete coping (not hairline)? If so, record maximum length from accessible coping to leveling pad. (Photo 11)	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12-Is there evidence of the top or bottom of the wall? (Record maximum degree of flipping from stratum below.)	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

TOP OF WALL OBSERVATIONS

Required Item	Yes	No	N/A	UNS	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	UNS	0-No 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 maximum crack width.	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Is the construction joint in the mounting coping opened up? (Photo 6). If yes, record the maximum joint width.	Y	N	N/A	UNS	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	UN	UN	15-Is there a large gap between the approach slab and the approach pavement? (Please list other the producer bumping situation as the approach is crossed. Record the approximate maximum gap size.)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	X	UN	17-Is the abutment, 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		UN	18-Is the coping wall pulling away from pavement under any section? Please record maximum displacement for wall.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

**RISE STABILITY**

Required Item:		Inspected	Compliance	Measurement/Extent of Problem/Location/Photo Numbers	Pass/Fail
Yes	No	N/A	UN	Structural Integrity	
Y		N/A	UN	19-What is the location depth of leveling pad? Found One-Three (one wall) located 2 inches from wall in a 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/A	UN	40-Is leveling pad exposed?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	41-Is there encroachment 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/A	UN	22-Is there a four foot bench (level depth) directly along the wall before the slope changes (Record Width)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		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/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/A	UN	45-Is there excessive degradation of panel face?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

**RISE METAL CORROSION**

Required Item:		Inspected	Compliance	Measurement/Extent of Problem/Location/Photo Numbers	Pass/Fail
Yes	No	N/A	UN	Next Corrosion	
Y		N/A	UN	46-Is there extensive corrosion on guardrails or other exposed metal that might indicate corrosion conditions?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		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/A	UN	48-Are any internal slope repairs? Does there appear to be corrosion on these repairs? If applicable please record the total number of repairs affected.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	49-What is the maximum depth of exposed soil? If so, please indicate depth in inches.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	50-Is there any indication of other corrosion (swelling, bare, void, 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% /

**RISE IMPACT/COLLISION PROTECTION**

Required Item:		Inspected	Compliance	Measurement/Extent of Problem/Location/Photo Numbers	Pass/Fail
Yes	No	N/A	UN	Impact Collisions	
Y		N/A	UN	11-Are guardrails wall protrusions in place at the base of the wall (to prevent it from potential wall failure)?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	12-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/A	UN	13-Does it appear that 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% /

**RISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY**

Required Item:		Inspected	Compliance	Measurement/Extent of Problem/Location/Photo Numbers	Pass/Fail
Yes	No	N/A	UN	Obstructions in Reinforcement Geometry	
Y		N/A	UN	14-Are there any wall angles (90°)?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

**RISE AS BUILT DIFFERENT FROM DESIGN**

Required Item:		Inspected	Compliance	Measurement/Extent of Problem/Location/Photo Numbers	Pass/Fail
Yes	No	N/A	UN	Designs/Constructs	
Y		N/A	UN	15-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/A	UN	16-Is the layout in general accordance with drawings?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	17-Are the panels C/P (Cast in Place)? Does there appear to be excessive encroachment in the panels?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	18-Has GED/geom used in the construction of the wall?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	19-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/A	UN	20-Are there any inclusions, utilities, or obstructions that are not part of the initial drawings?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	21-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/A	UN	22-How local property owners changed the dynamics of the wall (additional structures, inclusions, vegetation, etc.)?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y		N/A	UN	20-Are there piles located in the wall (bridge abutment)?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

*pic 1 cross section C-C' removed right-of-way fence*