

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.

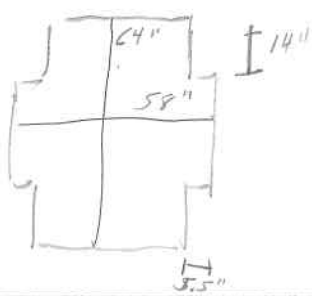
2-Inspect the wall using the attached form. Questions that require a 'Yes' answer should be documented by noting the extent of the problem in the right most column and photo documentation. Photo documentation should consist of wall or bridge number, nature of problem, date, photo number for wall, and 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	
		800 N, SR-189 (East side)	

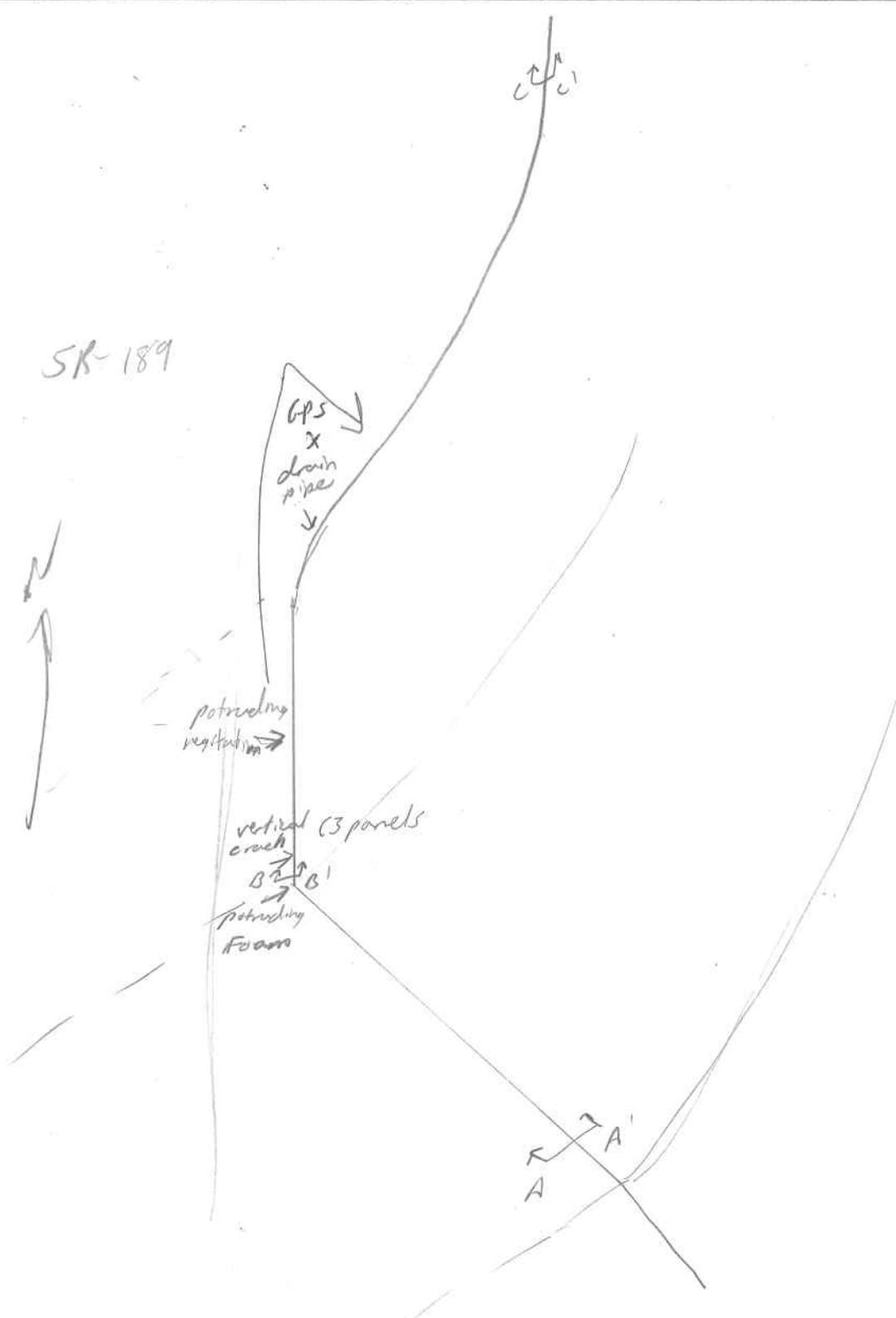
MSE WALL CHARACTERISTICS

MSE Wall at Bridge	<input checked="" type="radio"/> Y <input type="radio"/> N	Bridge Number if applicable:		Wall Number	
Surrounding Structures				Maximum Height of Wall (ft)	29 ft
Distance to Each Structure			One Stage, Two Stage or Block Wall		1 stage
State Route Number			Estimated Max Length of Wall Abutment:		
Approximate Mile Marker			Max Slope of Ground in front of wall:		4:1
GPS Datum	WGS/84, NAD/83, or NAD/27		Max Height of wall burial line above surrounding level ground:		12 ft
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40° 18' 48.02" N 111° 39' 38.39" W		Please draw rough layout of panel with approximate dimensions in space provided below:		
If known, Panel or System Manufacturer					

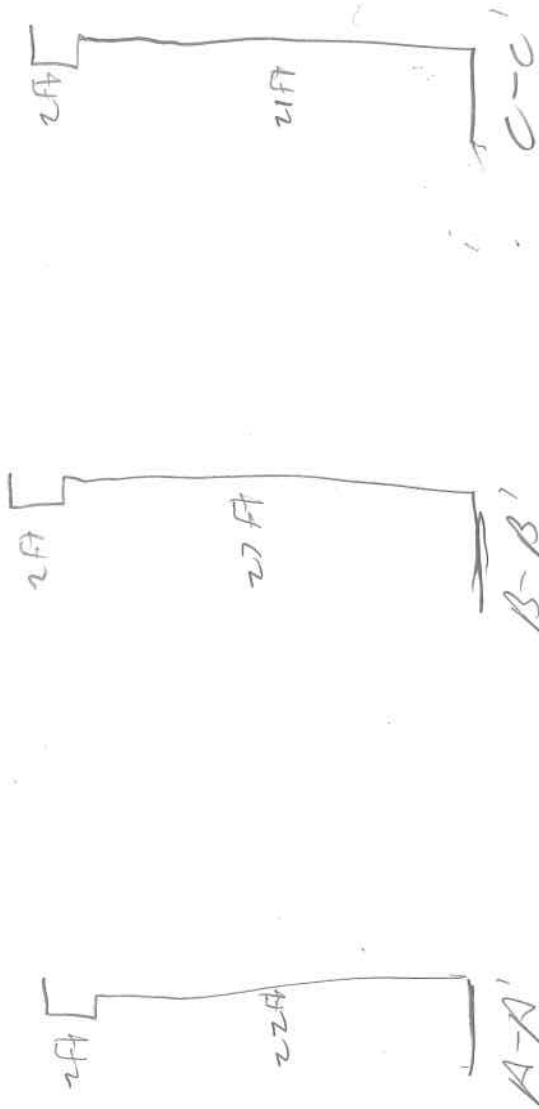
Summary of Key Observations:

plants growing from cracks
panel corrosion
panel cracking

Plan View/Drainage:



Cross Sections:



Cross Sections:

BASE WALL DRAINAGE

Required Tests	Pass/Fail/No Test	Measurements/Extent of Problem/Location/Photo Numbers
1- Are there any signs of water flow near the base of the wall (in the wall near a body of water with seepage potential)?	Y	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	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3- Are there culverts protruding through the wall?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4- Are there vertical drains that travel through the backfill?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5- Are there cracks at the base of the wall or leveling post? (Photo 12)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6- Do these cracks have any signs of water flow along the base of the wall?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7- Are there any signs of water flow between originators/spillways and wall?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8- Does the backfill or joint fabric appear to be saturated?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9- Are there applications growing in paved joints (Photo 8)?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10- Are the back drains and outlets at the top of the wall blocked? (Photo 14)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11- Are the back drains and outlets at the top of the wall blocked? (Photo 14)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12- Can water enter the wall between coping and slab (i.e., drain appropriate)?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
13- Is there evidence of discharge point of fill washing through drain pipes?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE WALL JOINTS

Required Tests	Pass/Fail/No Test	Measurements/Extent of Problem/Location/Photo Numbers
14- Is backfill missing out of joints or are there piles of backfill at the base of the wall? (Photos 2 & 3)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
15- Are the joints wide enough to see fabric or backfill behind panels when looking (see Photo 5) if yes, record the approximate maximum joint width in inches.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
16- Is exposed backfill visible in the horizontal joint? (Photo 4)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
17- Are there visible tears in the fabric? Is there evidence of backfill or water leaking through here? (Do not record damage to fabric)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
18- Do the joints have non-uniform vertical spacing gaps? Are some horizontal joints larger than others? (Photo 6)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
19- Do the joints have non-uniform vertical spacing gaps? Are some vertical joints larger/wider than others? (Photo 6)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
20- Are the panels offset at the joints either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
21- Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE WALL FACING

Required Tests	Pass/Fail/No Test	Measurements/Extent of Problem/Location/Photo Numbers
22- Are the panels "blubby"? Is there excessive cracking in the panels?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
23- Are there cracks that continue vertically through adjacent panels (Photos 9 & 10)? If yes, record the approximate number of panels in the wall with cracks.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
24- Are there horizontal cracks between panels (Photos 9 & 10)? If yes, record the approximate number of panels in the wall with cracks.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
25- Are the panel corners making contact with each other? If yes, record the approximate number in the wall.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
26- Are the panel corners "popped-out" or chipped from contact with an adjacent panel? If yes, record the number in the wall.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
27- Does crack spacing suggest Differential Settlement?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
28- Does the existing coping exhibit Vertical Offset?	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
29- Are the coping and parapets loose or detaching? If yes, it may be appropriate to contact UDOT if detachment occurs en masse.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
30- Are the panels in danger of falling off? (If potential exist contact appropriate UDOT region).	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
31- Are the panels "bulging" (showing horizontal)? If so, record maximum deformation from acceptable coping to leveling pad. (Photo 11)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
32- Is there lifting at the top or bottom of the wall? (Record maximum degree of lifting from extrinsic using vertical level and reference rods)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE TOP OF WALL OBSERVATIONS

Required Tests	Pass/Fail/No Test	Measurements/Extent of Problem/Location/Photo Numbers
33- Is there evidence of settlement at the top of the wall? (if present crackling, see)	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
34- Are there any open cracks in the concrete coping (not hairline)? If yes, record the approximate maximum crack width.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
35- Are the construction joints in the concrete coping spaced up? (Photo 6) If yes, record the maximum joint width.	Y	0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	N/A	UN	16-Is there a large gap between the approach slab and the approach pavement? (Photo 15) Other than the limiting width, is the approach pavement, for the approach, approximately 1/2" wider than the main deck? (Photo 16) Is the joint between the wall coping and the structure exposed or significantly? If so, record maximum distance.	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UN	17-Is the coping wall pulling away from pavement (miskey) section? Please record maximum displacement for wall.	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UN	18-Is the coping wall pulling away from pavement (miskey) section? Please record maximum displacement for wall.	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE STABILITY

Required Tests:		Structural Integrity	Measurement/Extent of Problems/Location/Photo Numbers
Y	N	UN	19-What is the location depth of leveling pad? Found One Probe into well located 2 inches from wall to a maximum depth of 24 inches (24 inches is the minimum depth for RISE Wall)
Y	N	N/A	20-Is leveling pad exposed?
Y	N	N/A	41-Is there cracking in the leveling pad? If so, record maximum crack size with gap.
Y	N	N/A	42-Is there a four foot back (road slope) directly along the wall before the slope changes? Record Width?
Y	N	N/A	43-Is there a slope steeper than V:1.5 or H:1 in front of the wall? Please record slope and height of backfill above top of wall.
Y	N	N/A	44-Is there a slope greater than V: 1.5 or H: 1 below the wall? Please record slope and height of backfill below the wall.
Y	N	N/A	45-Is there excessive degradation of panel face?

RISE METAL CORROSION

Required Tests:		Steel Corrosion	Measurement/Extent of Problems/Location/Photo Numbers
Y	N	UN	46-Is there excessive corrosion on guardrail or other exposed metal that might reduce service conditions?
Y	N	N/A	47-Are there major rust stains on the face panels? Along joints? If so, record total number.
Y	N	N/A	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.
Y	N	N/A	49-Was a readability sample taken of exposed wall? If so, please indicate depth in inches.
Y	N	N/A	50-Is there any indication of rust corrosion (swelling bars, rust, exposed metal inside epoxy coating)? If so, please record location of rust.

RISE IMPACT/COLLISION PROTECTION

Required Tests:		Impact/Collision	Measurement/Extent of Problems/Location/Photo Numbers
Y	N	UN	51-Are guardrails wall protrusions in place at the base of the wall (to prevent it from potential traffic loads)?
Y	N	N/A	52-Does it appear that the wall has been involved in an accident (exploded panel, recent dips in the wall)?
Y	N	N/A	53-Does it appear the walls functionality and integrity has been compromised by a collision or accident?

RISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

Required Tests:		Obstructions in Reinforcement Geometry	Measurement/Extent of Problems/Location/Photo Numbers
Y	N	UN	54-Are there any wall angle (90°)?

RISE AS BUILT DIFFERENT FROM DESIGN

Required Tests:		Drawings/Construction	Measurement/Extent of Problems/Location/Photo Numbers
Y	N	UN	55-Are there any available drawings for the wall? Please indicate type (Situation and Layout, Design, As Built, etc.)
Y	N	N/A	56-Is the layout in general accordance with drawings?
Y	N	N/A	57-Are the panels C/P (Cast in Place)? Does there appear to be excessive cracking in the panels?
Y	N	N/A	58-Was a GED form used in the construction of the wall?
Y	N	N/A	59-Are there any anomalies on or near wall that were not included in initial drawings?
Y	N	N/A	60-Are there any irregularities, utilities, or inspection that are not part of the initial drawings?
Y	N	N/A	61-Have there been any excavations or evidence of excavations near the wall?
Y	N	N/A	62-Have load (property) owners changed the dynamics of the wall (additional structures, intrusions, vegetation, etc.)?
Y	N	N/A	63-Are there piles located in the wall (bridge abutment)?