

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

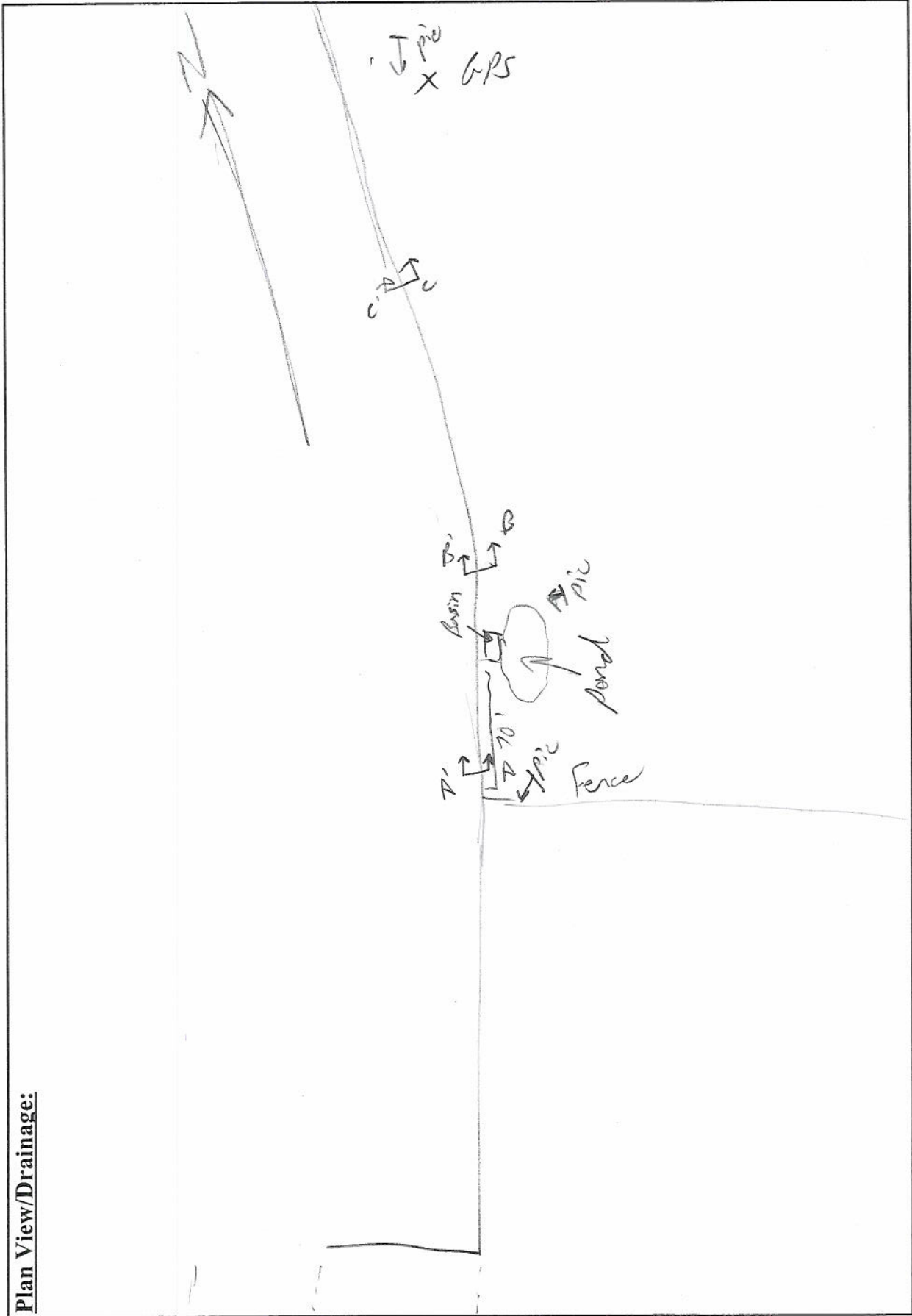
Region	2	Identifying Road/Intersection	North Temple & I-15
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MSE WALL CHARACTERISTICS

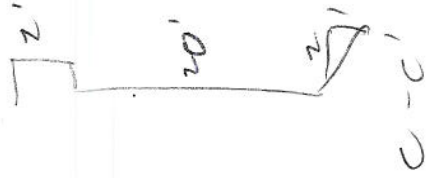
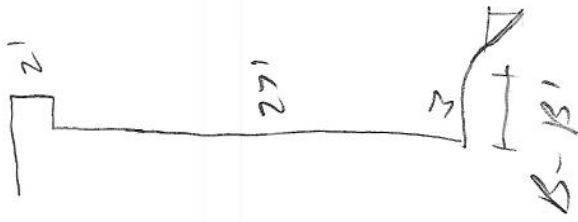
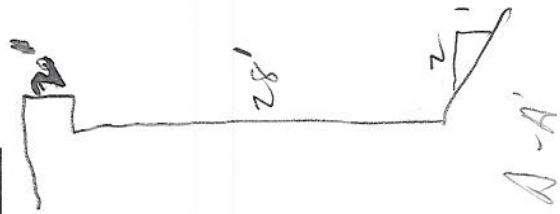
MSE Wall at Bridge	<input checked="" type="checkbox"/> N	Bridge Number if applicable:		Wall Number	R-351-26
Surrounding Structures	None			Maximum Height of Wall (ft)	32 ft
Distance to Each Structure				One Stage, Two Stage or Block Wall	2 stage
State Route Number				Estimated Max Length of Wall Abutment:	650 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:	3 ft
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40°46'16.72"N 111°54'36.86"W			Please draw rough layout of panel with approximate dimensions in space provided below:	
If known, Panel or System Manufacturer					

Summary of Key Observations:
 First 340' from North end accessible, other 290 not accessible

Plan View/Drainage:



Cross Sections:



Cross Sections:

		MSE WALL DRAINAGE									
		Required Items: N/A=Not Inspected; B=Backfill; C=Crack									
Required Item	Yes	No	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
1-Is there an active water source near the toe of the wall (i.e. the wall near a body of water with minor potential)?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
2-If applicable, are the cracks located at the base of the wall blocked?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
3-Are there conduits protruding through the wall?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
4-Are there vertical drains that level through the backfill?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
5-Is there evidence at the base of the wall or footing pad? (Photo 12)	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
6-Is there evidence along the wing wall?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
7-Are there any signs of water flow along the base of the wall?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
8-Is there less than 14 feet between irrigation sprinklers and wall?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
9-Does the backfill or joint fabric appear to be saturated?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
10-Is there vegetation growing in paved joints? (Photo 8)?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
11-Are the deck drains and outlets at the top of the wall blocked? (Photo 14)	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
12-Can water enter the wall between coping and slab (i.e. Drain appropriately)?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
13-Is there evidence at discharge point of fill washing through drain pipes?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
MSE WALL JOINTS											
Required Items: Long Level=Long Concrete/Cure; Joints											
14-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Photos 2 & 3)	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
15-Are the joints wide enough to see fabric or backfill behind panels when looking into joints? (Photo 5) If yes, record the approximate maximum joint width in inches.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
16-Is there evidence of water leaking through? (Do not include the joints in the photo)	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
17-Do the joints have a non-saturated horizontal spacing clear? Are some horizontal joints larger than others? (Photo 6)	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
18-Do the joints have a non-saturated vertical spacing clear? Are some vertical joints larger than others? (Photo 6)	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
19-Are the panels offset at the joint either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
20-Are the panels offset at the joint either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
21-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
MSE WALL FACING											
Required Items: Long Level=Long Concrete/Cure; Wall Facing											
22-Are there cracks that require vertically through adjacent panels? (Photos 9 & 10) If yes, record the approximate number of panels in the wall with cracking.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
23-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	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
24-Are the panel corners making contact with each other? If yes, record the approximate number in the wall.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
25-Are the panel corners "jagged-off" or clipped from contact with an adjacent panel? If yes record the number in the wall.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
26-Does the overlying coping exhibit Vertical Offset?	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
27-Are the coping and supports loose or dislodging? If yes, it may be appropriate to contact LDOT if dislodgment seems imminent.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
28-Are the panels in danger of falling off? (If possible, video should appropriate LDOT region).	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
29-Is there tipping at the top or bottom of the wall? (Record maximum degree of tipping from vertical using vertical level and record video)	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
MSE TOP OF WALL OBSERVATIONS											
Required Items: Long Level=Long Concrete/Cure; Top Of Wall											
30-Is there evidence of settlement at the top of the wall? (settlement, cracking, etc)	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
31-Are there any open cracks in the concrete coping (not bedding)? If yes record the approximate maximum crack width.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN
32-Is there construction joints in the concrete coping opened up? (Photo 6). If yes, record the maximum joint width.	Y	N	N/A	UKN	UKN	UKN	UKN	UKN	UKN	UKN	UKN

right against

Y	N	N/A	UKN	16-18 there is a large gap between the approach slab and the approach pavement? (Photos 13) Does this produce a bumping sensation as the vehicle crosses it? Record the approximate maximum gap size.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	17-18 Are 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	N/A	UKN	18-19 Is the coping wall pulling away from pavement (due to accident)? Please record maximum displacement for wall.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

MSE STABILITY

Required Tests: Show GED-type															
Y	N	N/A	UKN	Structural Integrity	Measurement/Extent of Problem/Location/Photo Numbers										
Y	N	N/A	UKN	19-20 Is the location depth of wall coping or structural integrity less than 2 inches from wall to a maximum 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	UKN	40-41 Is leveling pad exposed?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	41-42 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	UKN	42-43 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	UKN	43-44 Is there a slope steeper than V: 1.5 to H:1 in front of the wall? Please record slope and height of bench fill above top of wall.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	44-45 Is there a slope greater than V: 1.5 to H:1 below the wall? Please record slope and height of bench fill below the wall.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	45-46 Is there excessive degradation of panel face?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

244
377 along pond

MSE METAL CORROSION

Required Tests: N/A on Metal/Concrete/Rebar/Zip Lock Bag/Leak															
Y	N	N/A	UKN	Metal Corrosion	Measurement/Extent of Problem/Location/Photo Numbers										
Y	N	N/A	UKN	46-47 Is there excessive corrosion on part/all or other exposed metal that might indicate corrosive conditions?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	47-48 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	UKN	48-49 Are any (panels) drilled through? Does there appear to be corrosion on these strips? If applicable please record the total number of strips affected.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	49-50 Was a relatively simple patch 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	50-51 Were any indications 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/CFR															
Y	N	N/A	UKN	Impact/Collision	Measurement/Extent of Problem/Location/Photo Numbers										
Y	N	N/A	UKN	51-52 Are guardrails/wall protections in place at the base of the wall (to protect it from potential traffic loads)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	52-53 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	UKN	53-54 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															
Y	N	N/A	UKN	Obstructions in Reinforcement Geometry	Measurement/Extent of Problem/Location/Photo Numbers										
Y	N	N/A	UKN	54-55 Are there acute wall angles (<90°)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

MSE AS BUILT DIFFERENT FROM DESIGN

Required Tests: Drawings/Concrete/CFR															
Y	N	N/A	UKN	MSE as built different than design	Measurement/Extent of Problem/Location/Photo Numbers										
Y	N	N/A	UKN	55-56 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	56-57 Is the layout in general accordance with drawings?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	57-58 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	58-59 Was GED/Form used in the construction of the wall?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	59-60 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	60-61 Are there any irrigation, utilities, or interferences that are not part of the initial drawings?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	61-62 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	62-63 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	63-64 Are there piles located in the wall (bridge abutment)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

Report