

North Walls

# 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

**Inspector Information**

Inspection Date	11/10/2007	Names Of Inspectors	Holly Griffin
Region	Z	Identifying Road/Intersection	Redwood + 201

**MSE WALL CHARACTERISTICS**

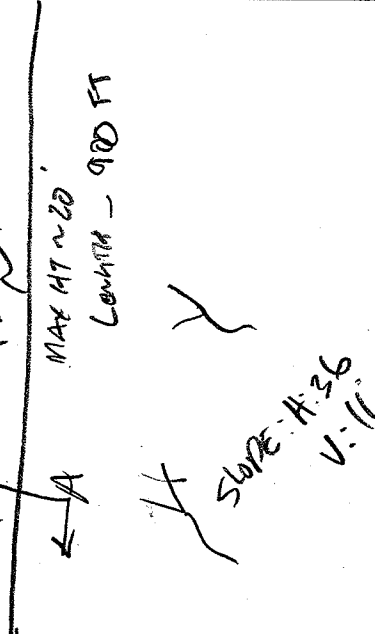
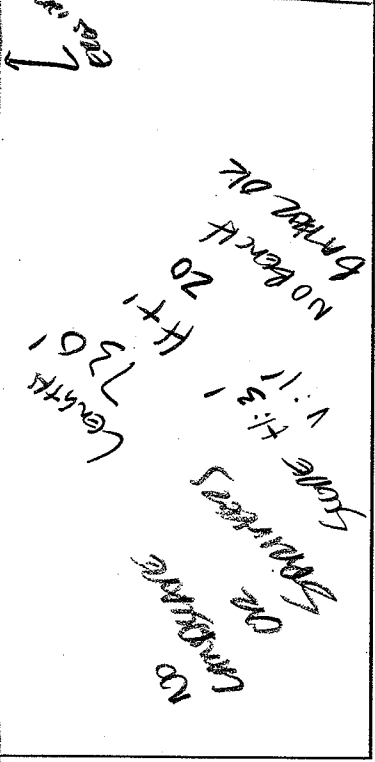
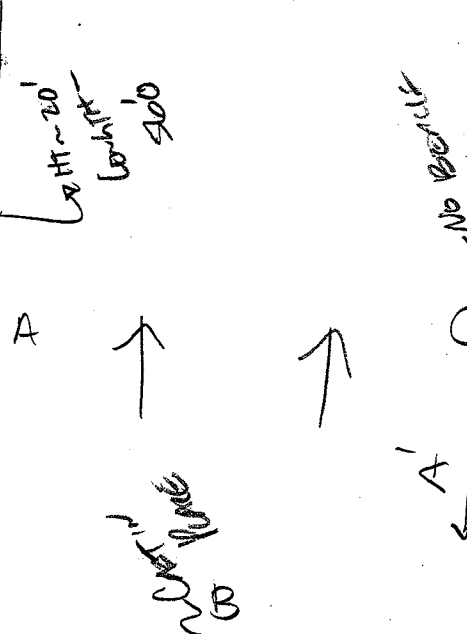
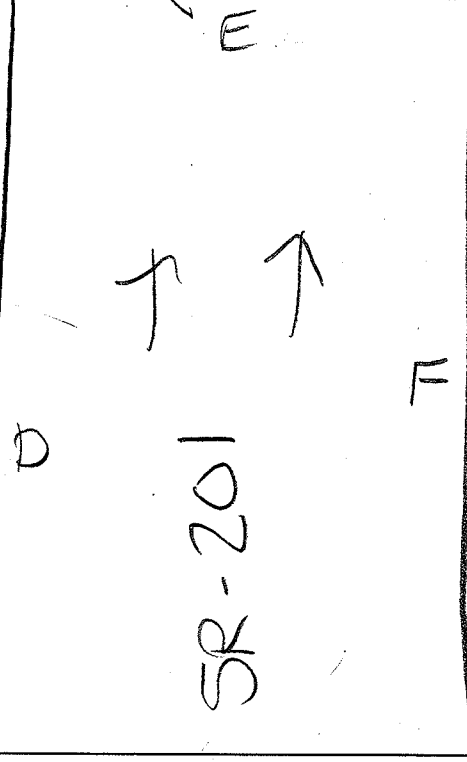
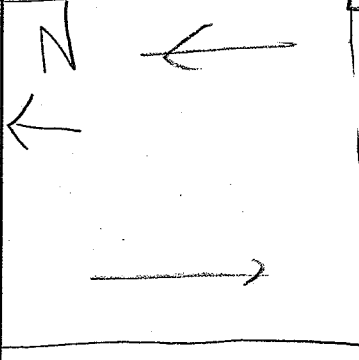
MSE Wall at Bridge	<input checked="" type="radio"/> Y <input type="radio"/> N	Bridge Number if applicable:	UKN	Wall Number	R-444
Surrounding Structures	Commercial			Maximum Height of Wall (ft)	20 FT
Distance to Each Structure	~ 30 FT			One Stage, Two Stage or Block Wall	VICW
State Route Number	201			Estimated Max Length of Wall Abutment:	900'
Approximate Mile Marker	159			Max Slope of Ground in front of wall:	H: 36 V: 18
GPS Datum	<u>WGS/84</u> NAD/83, or NAD/27			Max Height of wall burial line above surrounding level ground:	25 FT
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40° 43.495'			Please draw rough layout of panel with approximate dimensions in space provided below:	
	111° 56.319'				
If known, Panel or System Manufacturer	KL - Maxwarrant Construction				

**Summary of Key Observations:**

Plan View/Drainage:

Length  
330'  
HT = 20'  
BORIAL ~ 40'

NO SIGNIFICANT SCORE  
ON RAMP TO  
VEGETATION WITH DEEP  
NICER BOSS - FEET TO CORNER  
CANDOCK



Redwood Rd.

SR-201

NO SIGNIFICANT SCORE  
ON RAMP TO VEGETATION WITH DEEP NICER BOSS - FEET TO CORNER CANDOCK

HT ~ 20'  
Length 300

MAX HT ~ 20'  
Length 900 FT

SLOPE H:36  
V:16

NO SIGNIFICANT SCORE  
ON RAMP TO VEGETATION WITH DEEP NICER BOSS - FEET TO CORNER CANDOCK

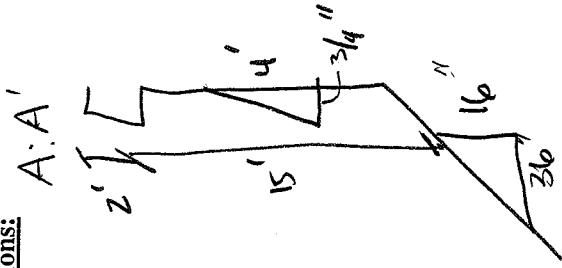
Length 130'  
HT 20'  
SLOPE H:3 V:1  
NO SIGNIFICANT SCORE

LAST IN AREA

LAST IN AREA

NO SIGNIFICANT SCORE

Cross Sections:



Cross Sections:

MSE WALL DRAINAGE

Required Tools: Nylon Mallet, Water Bottle, GPS, Camera

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

Runoff from pavement  
Drip leak

MSE WALL JOINTS

Required Tools: Long Level, String, Camera, GPS

Yes		No		N/A		UKN		Joints		Measurement/Extent of Problem/Location/Photo Numbers												
Y	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	14-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Pictures 2 & 3)	UKN					/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	100%
Y	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	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.	UKN					/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	100%
Y	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	16-Is exposed backfill visible in the horizontal joints? (Photo 4)	UKN					/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	100%
Y	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	17-Are there visible tears in the fabric? Is there evidence of backfill or water leaking through tear? (Do not induce additional damage to fabric)	UKN					/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	100%
Y	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	18-Do the joints have a non-uniform horizontal spacing/size? Are some horizontal joints larger/smaller than others? (Photo 6)	UKN					/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	100%
Y	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	19-Do the joints have a non-uniform vertical spacing/size? Are some vertical joints larger/smaller than others? (Photo 6)	UKN					/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	100%
Y	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	20-Are the panels offset at the joints either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.	UKN					/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	100%
Y	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	21-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?	UKN					/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	100%

MSE METAL CORROSION

Required Tools:		Nylon Mallot-Camera-GPS-Zip Lock-Bag-Trowel	Metal Corrosion	Measurement/Extent of Problem/Location/Photo Numbers											
Yes	No	N/A	UKN	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	
Y	N	N/A	UKN	46-Is there excessive corrosion on guardrails 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-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-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	UKN	49-Was a resistivity 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 Tools:		Camera-GPS	Impact/Collision	Measurement/Extent of Problem/Location/Photo Numbers											
Yes	No	N/A	UKN	/	0-No	1%	5%	10%	25%	50%	75%	90% <th>95% <th>100% </th></th>	95% <th>100% </th>	100%	
Y	N	N/A	UKN	51-Are guardrails/ wall protections 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	UKN	52-Does it appear that the wall has been involved in an accident (replaced panel, recent dings in the wall)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	N/A	UKN	53-Does it appear the walls 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 Tools:		Drawings	Obstructions in Reinforcement Geometry	Measurement/Extent of Problem/Location/Photo Numbers											
Yes	No	N/A	UKN	/	0-No	1%	5%	10%	25%	50%	75%	90% <th>95% <th>100% </th></th>	95% <th>100% </th>	100%	
Y	N	N/A	UKN	54-Are there acute wall angles (<90)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

MSE AS BUILT DIFFERENT FROM DESIGN

Required Tools:		Drawings-Camera-GPS	MSE as built different than design	Measurement/Extent of Problem/Location/Photo Numbers											
Yes	No	N/A	UKN	/	0-No	1%	5%	10%	25%	50%	75%	90% <th>95% <th>100% </th></th>	95% <th>100% </th>	100%	
Y	N	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 GEOFoam used 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 intrusions 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 excavations 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%

5+6  
back SOBION