

\*under construction\*

# STATE OF UTAH MSE WALL INSPECTION FORM

Compiled As Part of Research By The Utah Department of Transportation

### Instructions:

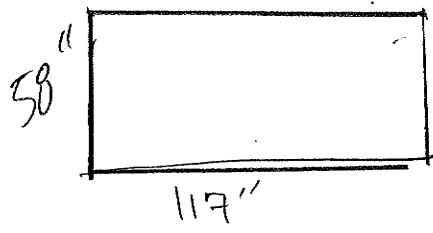
- 1-Fill out required sections for MSE Wall Inspector and Wall Characteristics.
- 2-Inspect the wall using the attached form. Questions that require a 'Yes' answer should be documented by noting the extent of the problem in the right most column and photo documentation. Photo documentation should consist 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	7/27/07	Names Of Inspectors	Holly Griffin Ryan maw
Region	1		

### MSE WALL CHARACTERISTICS

MSE Wall at Bridge:	<input checked="" type="radio"/> Y <input type="radio"/> N	Bridge Number if applicable:	Wall Number	R-495/496
Surrounding Structures	N/A		Maximum Height of Wall (ft)	4 1/2 panels high (261")
Distance to Each Structure	—		<input checked="" type="radio"/> One Stage <input type="radio"/> Two Stage or Block Wall	
State Route Number	31st street and I-15 Ogden		Estimated Max Length of Wall Abutment	5 panels long (585")
Approximate Mile Marker	342		Max Slope of Ground in front of wall	0-10 vel
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)	N 41° 12.345'		Please draw rough layout of panel with approximate dimensions in space provided below:	
W 111° 59.643' X				
If known, Panel or System Manufacturer				

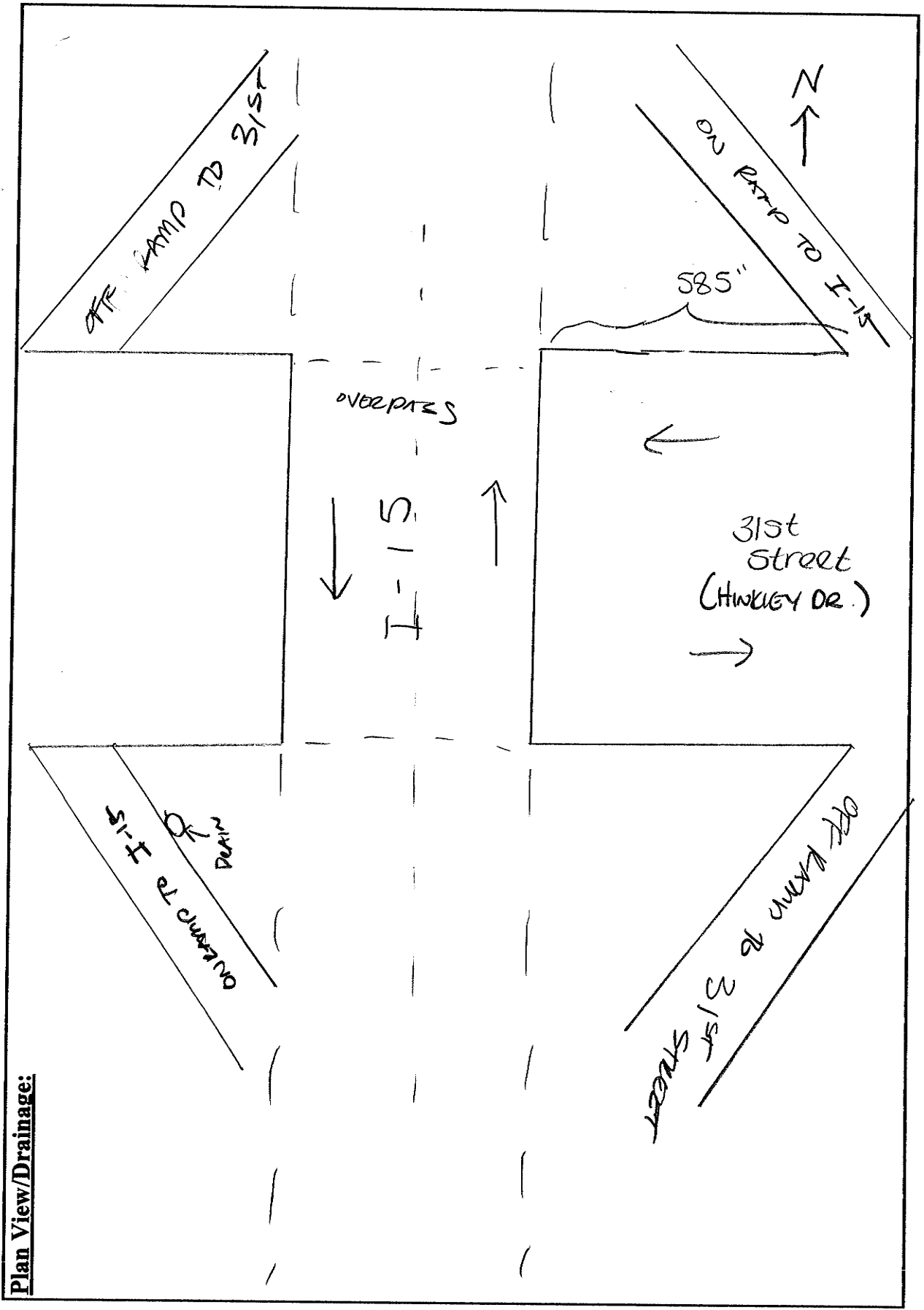


### Summary of Key Observations:

R-495 & 496  
 31st street & I-15  
 24th street & I-15

UNDER CONSTRUCTION - WALL ACCESS WAS LIMITED  
 DIDN'T ALLOW FULL INSPECTION

# 31st Street



**Plan View/Drainage:**

Cross Sections:

UNDER CONSTRUCTION COULD NOT  
ACCESS WALL

Cross Sections:

MSE WALL DRAINAGE

Required Items		Yes	No	N/A	UKN	Measure/Extent of Problem/Location/Photo Numbers
<b>Drainage</b>						
1	Is there an active water source near the toe of the wall (for the wall near a body of water with seepage)?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2	Are there any cracks in the concrete coping (on the wall) blocked?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3	Are there any drains providing through the wall?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4	Are there vertical drains that travel through the backfill?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5	Is there erosion at the base of the wall or leveling pad? (Photo 12)	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6	Are there cracks along the wing walls?	Y	N	N/A	UKN	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	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8	Are there less than 14 feet between irrigation sprinklers and wall?	Y	N	N/A	UKN	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	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10	Are there openings forming in joint fabric (Photo 9)?	Y	N	N/A	UKN	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	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12	Can water enter the wall between coping and slab (i.e. Drain appropriately)?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
13	Are there evidence of discharge point of fill washing through drain pipes?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MSE WALL JOINTS

Required Items		Yes	No	N/A	UKN	Measure/Extent of Problem/Location/Photo Numbers
<b>Joints</b>						
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	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
15	Are the joints wide enough to see fabric or backfill behind cracks when looking into joints? (Photo 5) If yes, record the approximate maximum joint width in inches.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
16	Is exposed backfill visible in the horizontal joints? (Photo 5)	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
17	Are there visible tears in the fabric? Is there evidence of backfill or water looking through tears? (Do not induce additional damage to fabric)	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
18	Do the joints have a non-uniform horizontal spacing? Are some horizontal joints larger/smaller than others? (Photo 6)	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
19	Do the joints have a non-uniform vertical spacing? Are some vertical joints larger/smaller than others? (Photo 6)	Y	N	N/A	UKN	0-No 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	N	N/A	UKN	0-No 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	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MSE WALL FACING

Required Items		Yes	No	N/A	UKN	Measure/Extent of Problem/Location/Photo Numbers
<b>Wall Facing</b>						
22	Are the panels "flat"? Is there excessive warping in the panels?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
23	Are there panels that are missing? (Photo 9 & 10) If yes, record the approximate number of panels in the wall with missing.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
24	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	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
25	Are the panel corners rubbing contact with each other? If yes, record the approximate number in the wall.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
26	Are the panel corners "popped-off" or chipped from contact with an adjacent panel? If yes record the approximate number.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
27	Does crack opening exceed Differential Settlement?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
28	Does the overlying coping exhibit Vertical Offset?	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
29	Are the coping and parapets loose or flaking? If yes, it may be appropriate to contact UDOT if long-term seems eminent.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
30	Are the panels in danger of falling off? If removal is not considered appropriate (DOT region).	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
31	Are the panels bulging (bowing horizontally)? If so, record maximum deformation (in, acceptable coping, leveling pad). (Photo 11)	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
32	Are there "lapping" at the top or bottom of the wall? Record maximum degree of lapping from 0 to 20 mm using vertical level and offsetted eye.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MSE TOP OF WALL OBSERVATIONS

Required Items		Yes	No	N/A	UKN	Measure/Extent of Problem/Location/Photo Numbers
<b>Top of Wall</b>						
33	Is there evidence of settlement at the top of the wall? (Parapet cracking, etc)	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
34	Are there any open cracks in the concrete coping (on backfill)? If so, record the approximate maximum crack width.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
35	Are the construction joints in the uncuring coping opened up? (Photo 6). If yes, record the maximum joint width.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
36	Is there a large gap between the approach slab and the approach pavement? (Photo 13) Other than practices a humping surface at the location is correct. Record the approximate maximum gap size.	Y	N	N/A	UKN	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	URS	17-A) The abutments, has the joint between the wall coping and the abutment spaced by significantly? If so record maximum distance.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
N	URS	18-A) Is the coping wall pulling away from pavement/roadway sections? Please record maximum displacement for wall.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

**MSE STABILITY**

Required Items:		Drawings		Measurements/Extent of Problem/Location/Photo Numbers											
Y	URS	19-A) What is the foundation depth of existing panel? Please provide units and include 2 inches from wall to a maximum depth of 24 inches (24 inches is the maximum depth for MSE Wall).	Structural Integrity	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	19-B) Is leveling pad present?	Structural Integrity	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	19-C) Are there cracks in the leveling pad? If so, record maximum crack size with photo.	Structural Integrity	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	19-D) Is there a flow from "leak" level slope directly along the wall before the slope changes (level)?	Structural Integrity	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	19-E) Is there a slope steeper than V:1.5 in H:1 in front of the wall? Please record slope and height of backfill above top of wall.	Structural Integrity	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	19-F) Is there a slope greater than V:1.5 in H:1 below the wall? Please record slope and height of backfill away the wall.	Structural Integrity	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	19-G) Is there excessive degradation of panel face?	Structural Integrity	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

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**MSE METAL CORROSION**

Required Items:		Drawings		Measurements/Extent of Problem/Location/Photo Numbers											
Y	URS	20-A) Are there excessive corrosion on granulars or other exposed metal that might indicate corrosion condition?	Metal Corrosion	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	20-B) Are there rust stains on the face panels? Along joints? If so, record rust number.	Metal Corrosion	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	20-C) Are any internal steps exposed? Does this appear to be corrosion on these steps? If applicable please record the total number of steps affected.	Metal Corrosion	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	20-D) Was a reactivity sample taken of exposed soil? If so, please indicate depth in inches.	Metal Corrosion	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	20-E) Is there any indication of other corrosion (swelling, pits, rust, exposed metal inside epoxy coating)? If so please record the total number of panels affected.	Metal Corrosion	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

**MSE IMPACT COLLISION PROTECTION**

Required Items:		Drawings		Measurements/Extent of Problem/Location/Photo Numbers											
Y	URS	21-A) Are guardrail/wall protrusions in place at the base of the wall (to protect it from potential traffic liability)?	Impact/Collision	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	21-B) Does it appear that the wall has been involved in an accident (replaced panel, recent damage to the wall)?	Impact/Collision	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	21-C) Does it appear the walls functionality and integrity has been compromised by a collision or accident?	Impact/Collision	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

**MSE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY**

Required Items:		Drawings		Measurements/Extent of Problem/Location/Photo Numbers											
Y	URS	22-A) Are there noise wall angle (90°)?	Obstructions in Reinforcement Geometry	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

**MSE AS BUILT DIFFERENT FROM DESIGN**

Required Items:		Drawings		Measurements/Extent of Problem/Location/Photo Numbers											
Y	URS	23-A) Are there any conditions or evidence of excessive settling in the panels?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-B) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-C) Are there any conditions or evidence of excessive vegetation in the panels?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-D) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-E) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-F) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-G) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-H) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-I) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-J) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-K) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-L) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-M) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-N) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-O) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-P) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-Q) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-R) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-S) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-T) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-U) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-V) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-W) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-X) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-Y) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	URS	23-Z) Are there any conditions or evidence of excessive erosion of the wall?	MSE as Built Different from Design	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/