

STATE OF UTAH MSE WALL INSPECTION FORM

Compiled As Part of Research By The Utah Department of Transportation

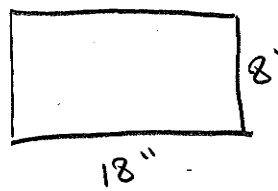
Instructions:

- 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 | 7/31/07 | Names Of Inspectors | Ryan Maw, Holly Griffin |
| Region | 2 | Identifying Road/Intersection | I-215 MP 40 |

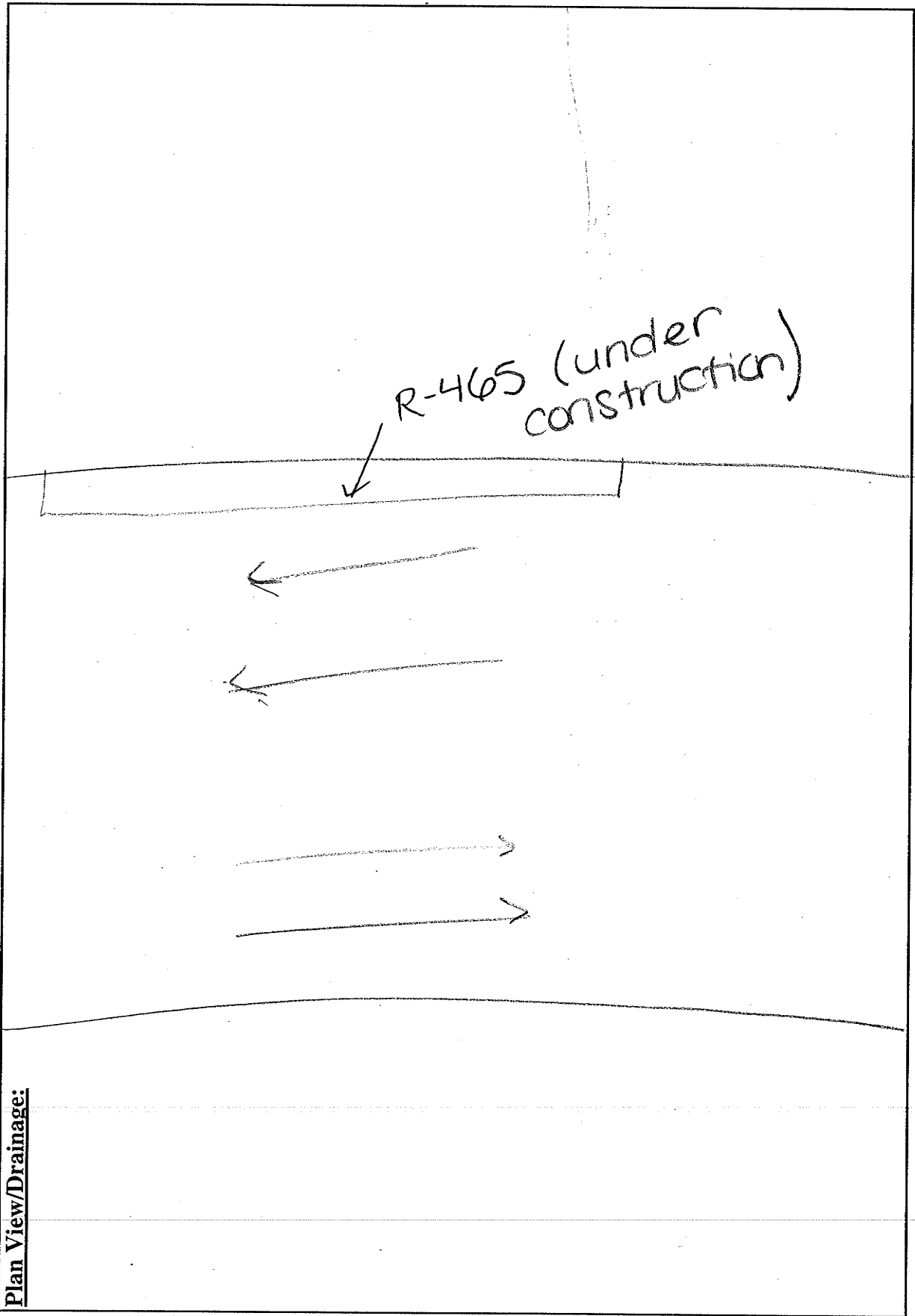
MSE WALL CHARACTERISTICS

| | | | | | |
|---|--------------------------------------|------------------------------|--|-------------|-------|
| MSE Wall at Bridge | Y <input checked="" type="radio"/> N | Bridge Number if applicable: | C-941 | Wall Number | R-465 |
| Surrounding Structures | pedestrian walkway | | Maximum Height of Wall (ft) | | |
| Distance to Each Structure | 10 ft. | | One Stage, Two Stage <input checked="" type="radio"/> Block Wall | | |
| State Route Number | I-215 | | Estimated Max Length of Wall Abutment: | | |
| Approximate Mile Marker | MP 4 | | Max Slope of Ground in front of wall: | level | |
| GPS Datum | WGS/84, NAD/83, or NAD/27 | | Max Height of wall burial line above surrounding level ground: | | |
| MSE Wall GPS Coordinates (Location of Measurement shown on plan view) | N 40° 42.505 | | Please draw rough layout of panel with approximate dimensions in space provided below: | | |
| | W 111° 47.907 | | | | |
| If known, Panel or System Manufacturer | unknown | |  | | |

Summary of Key Observations:

* under construction *

Plan View/Drainage:



Cross Sections:

Cross Sections:

MSE WALL DRAINAGE

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

MSE WALL JOINTS

| Required Tools: Long Level-String-Camera-GPS | | Joints | Measurement/Extent of Problem/Location/Photo Numbers | | | | | | | | | |
|--|----|---|--|------|----|-----|-----|-----|-----|-----|------|------|
| Yes | No | | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% | |
| Y | N | 14-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Pictures 2 & 3) | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% |
| Y | N | 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. | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% |
| Y | N | 16-Is exposed backfill visible in the horizontal joints? (Photo 4) | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% |
| Y | N | 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) | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% |
| Y | N | 18-Do the joints have a non-uniform horizontal spacing/size? Are some horizontal joints larger/smaller than others? (Photo 6) | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% |
| Y | N | 19-Do the joints have a non-uniform vertical spacing/size? Are some vertical joints larger/smaller than others? (Photo 6) | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% |
| Y | N | 20-Are the panels offset at the joints either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset. | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% |
| Y | N | 21-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure? | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 100% |

MSE METAL CORROSION

| Required Tools: Nylon Mallet-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% | 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% | 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% | 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% | 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% | 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% | 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% | 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% | 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% | 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% | 100% |
| Y | N | N/A | UKN | 56-Is the layout in general accordance with drawings? | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 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% | 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% | 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% | 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% | 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% | 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% | 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% | 100% |