



THEA FOSS AND WHEELER-OSGOOD WATERWAYS REMEDIATION PROJECT

YEAR 0 BASELINE MONITORING

LOW TIDE SLOPE CAP INSPECTION PRELIMINARY FINDINGS MEMORANDUM

OCTOBER 26, 2006



Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY

Prepared by:

CITY OF TACOMA
FLOYD|SNIDER

PRELIMINARY FINDINGS MEMORANDUM

LOW TIDE SLOPE CAP INSPECTIONS

Introduction

This memorandum presents the findings from Year 0, baseline low tide slope cap inspection performed in the Thea Foss and Wheeler-Osgood Waterways. Low tide slope cap inspections are required as part of Cap Integrity Monitoring specified in the EPA-approved Operations, Maintenance, and Monitoring Plan (OMMP) for the Thea Foss and Wheeler-Osgood Waterways Remediation Project (City of Tacoma 2006). The OMMP requires that low tide slope cap inspections be conducted during Years 0 (baseline), 2, 4, 7, and 10. This memorandum presents the findings from the Year 0, baseline low tide slope cap inspections.

The following sections summarize the low tide inspection requirements and the findings of low tide inspections performed. As described in the OMMP, slope caps were inspected during low tide conditions in RAs 1, 3, 8, 14, 19A, 19B, 20, and the Sheen Source Removal Area in the Wheeler-Osgood Waterway. The low tide slope cap inspections were performed in accordance with the OMMP. Provided with this memorandum are attachments that contain the field forms and photographs documenting observations during the inspections.

Summary of Low Tide Slope Cap Inspection Requirements

The OMMP specifies that low tide slope cap inspections be performed to verify the physical integrity of the intertidal portion of slope caps and containment of underlying contaminated sediment. Low tide slope cap inspections are to be performed on the exposed shoreline portion of slope caps (including grout mat caps) in RAs 1, 3, 8, 14, 19A, 19B, and 20 when tidal elevations are at or below 0.0 feet Mean Lower Low Water (MLLW) (Figure 1). Additionally, a low tide cap inspection is to be performed in the Sheen Source Removal Area located in the Wheeler-Osgood Waterway in accordance with the OMMP.

Standardized field forms and photographs are used to document observations of slope caps at approximate 100-foot monitoring intervals along the designated shoreline areas. The inspections are to document the following observations;

- Slope cap surface characteristics (i.e., rip rap, quarry spalls, habitat mix, etc.);
- Area of slope cap coverage;
- Presence/absence of habitat mix;
- Any areas of exposed sediment due to washout of the slope cap;
- Any areas of sediment accretion;
- Evidence of groundwater seepage;
- Any apparent loss of slope cap material;
- Any apparent down-slope movement of cap materials;
- Presence of debris on the cap surface;
- Indicators of potential contamination (i.e., sheen or staining) within the surface sediment; and

- Verification that grout mat slope cap areas are effectively containing the underlying contaminated sediments.

The OMMP requires that low tide slope cap inspections be conducted during Years 0 (baseline), 2, 4, 7, and 10.

Summary of Field Activities

Year 0, low tide slope cap inspections were initiated in July 2006 and completed in October 2006. Initial inspections were performed July 10-12, 2006, in RAs 1, 3, 8, 14, 19A, 19B, and 20 when tidal elevations were at or below 0.0 feet MLLW. Additional photographs were subsequently taken in several areas on August 9, 2006, as photographs for several monitoring intervals taken during the July monitoring were not of satisfactory quality (i.e., were too dark) or did not provide adequate coverage of specific areas. Finally, a low tide inspection was performed at the Sheen Source Removal Area on October 3, 2006, when the tidal elevation was 0.0 feet MLLW. The low tide inspection of the Sheen Source Removal Area was added to post-construction monitoring activities during finalization of the OMMP in September 2006.

Prior to initiation of inspection activities performed July 10-12, 2006, a quality control check was performed on coordinates recorded by the Global Positioning System (GPS) unit used to document monitoring interval endpoints and photograph points. The GPS readings were within 10 feet of the recorded benchmark coordinates as required in the OMMP.

The low tide inspections of RAs 1, 3, 8, 14, 19A, 19B, 20, and the Sheen Source Removal Area were begun from the southern boundary of each area. In each area, a 100-foot long rope sectioned into 25-foot intervals and marked with red and yellow buoys (i.e., red buoys at either end and yellow buoys at 25 foot intervals) was stretched out to identify the monitoring interval to be inspected. The monitoring interval was then inspected and observations were documented on field forms and with photographs. Coordinates for the ends of each monitoring interval and photograph location were recorded on the field forms. The procedure was repeated until each monitoring interval was inspected.

The following sections summarize the findings from the Year 0 low tide slope cap inspections.

RA 1

Low tide slope cap inspection of the shoreline in RA 1 was performed on July 12, 2006, at tidal elevations between approximately -1.7 feet MLLW and -3.0 feet MLLW. Five, approximately 100-foot monitoring intervals were established for inspection and documentation of the integrity of the slope cap and upper shoreline area in RA 1 (i.e., RA1-1 through RA1-5) (Figure 1).

Prior to remedial construction, the shoreline slope in RA 1 was comprised of rip rap armoring and concrete piers. A thick slope cap was constructed in RA 1 over the existing armoring from elevation 2.0 feet MLLW to the toe of the slope (i.e., approximately -33 feet MLLW) as part of remedial actions. Additionally, habitat mix was placed over the pre-existing rip rap armoring and the thick slope cap from 13 feet MLLW to -10 feet MLLW.

No deficiencies were identified upon inspection of the thick slope cap in RA 1. Rip rap, with habitat mix contained within the voids of the rip rap, was observed during inspection of RA 1 (Attachment A, RA 1). A benched area was observed at approximately 2.0 feet MLLW where the upper boundary of the slope cap intersects with the pre-existing rip rap slope. One apparent

piece of flotsam, a plastic pipe, was observed during the inspection. No response actions are warranted based on the Year 0, baseline low tide slope cap inspection.

RA 3

Low tide slope cap inspection of the shoreline in RA 3 was performed on July 12, 2006, at tidal elevations between approximately -1.0 feet MLLW and 0.0 feet MLLW. Four, approximately 100-foot monitoring intervals were established for inspection and documentation of the integrity of the slope cap in RA 3 (i.e., RA3-1 through RA3-4) (Figure 1).

The slope cap in RA 3 is comprised of a combination of an exposed grout mat and thick slope cap constructed from the top of the bank (i.e., an elevation of approximately 17.0 feet MLLW to approximately -22 feet MLLW). Additionally, habitat mix was placed over the thick slope cap (i.e., not the grout mat) from elevation 13 feet MLLW to -10 feet MLLW.

No deficiencies were identified upon inspection of the exposed grout mat as no visual signs of disruption (i.e., cracking, etc.) were observed (Attachment A, RA 3, Monitoring Intervals RA3-2 and RA3-3). Rip rap, with habitat mix contained within the voids of the rip rap, was observed during inspection of the thick slope cap portion of RA 3. No deficiencies were identified upon inspection of the thick slope cap in two of the four inspection intervals (i.e., Monitoring Intervals RA3-1 and RA3-4). In two small areas, one area on either side of the grout mat, underlying geotextile or metal and foundry slag material were observed to be exposed in the capped area (Attachment A, RA 3, Monitoring Intervals RA3-2 and RA3-3). Additional photographs were taken of the slope cap areas where geotextile or metal and foundry slag material were observed in RA 3 (Attachment B, RA 3).

South and adjacent to the grout mat, at an elevation predominantly between approximately 13.0 feet MLLW and 17.0 feet MLLW, geotextile material can be seen at the surface of the shoreline or through the slope cap material. Most of the area is above the ordinary high water (OHW) line so is not actually part of the confining slope cap (Attachment B, RA 3, Monitoring Interval RA3-2, Photographs 22 and 23). During remedial activities, geotextile was placed beneath the slope cap in the area extending from the south edge of the grout mat to approximately 40 feet south of the grout mat and from the top of the bank down to approximate elevations between 5.0 feet MLLW and 10.0 feet MLLW. Then the slope cap filter material, rip rap, and habitat mix were placed over the geotextile. Based on inspection observations, it appears that some material present in this upper slope area where the geotextile was placed has moved downslope. The underlying geotextile is exposed in places but is observed to be intact.

Approximately 50 feet north of the northern boundary of the grout mat, at an elevation between approximately 10.0 feet MLLW and 13.0 feet MLLW, a solid mass of metal and foundry slag material can be seen protruding through the cap (Attachment B, RA 3, Monitoring Interval RA3-3, Photographs 24, 25, and 263). During remedial activities, filter material, rip rap, and habitat mix were placed over the metal and foundry slag material. Based on inspection observations, it appears that the slope cap (i.e., filter material, armoring, and habitat mix) has settled around the material exposing the underlying mass of metal or foundry slag. The area where this material can be observed through the cap is approximately 10 feet in diameter.

The two areas of the slope cap in RA 3 where geotextile and metal or foundry slag material are observed at the cap surface require repair to confine the exposed materials and stabilize the slope in the area of the exposed geotextile. A plan for repair of these areas will be submitted to the Environmental Protection Agency (EPA) for review in a separate memorandum.

RA 8

Low tide slope cap inspection of the shoreline in RA 8 was performed on July 10-12, 2006, at tidal elevations between approximately -3.2 feet MLLW and -0.1 feet MLLW. Sixteen, approximately 100-foot monitoring intervals and one 50-foot interval were established for inspection and documentation of the integrity of the slope cap in RA 8 (i.e., RA8-1 through RA8-17) (Figure 1).

The remedial action in RA 8 consists of a thick slope cap constructed from the top of the bank to the bottom of the shoreline slope except beneath the Colonial Fruit Warehouse and the wood esplanade at Foss Waterway Marina where habitat mix was placed over existing shoreline armoring.

No deficiencies were identified upon inspection of the thick slope cap in 15 of 17 monitoring intervals in RA 8 (Attachment A, RA 8, Monitoring Intervals RA8-1 through RA8-13, RA8-15, and RA8-17). Habitat mix or rip rap and quarry spalls with habitat mix contained within the voids of the rip rap and quarry spalls were observed during inspection of RA 8 including the areas beneath the Colonel Fruit Warehouse and wood esplanade at the Foss Waterway Marina. In two areas in the northern portion of RA 8, adjacent to the Foss Waterway Marina, piling or debris were observed at the cap surface (Attachment A, RA 8, Monitoring Intervals RA8-14 and RA8-16). Additionally, groundwater seeps were observed in the same general area as the piling (Attachment A, RA 8, Monitoring Interval RA8-14). Finally, a thin layer of sediment accretion and/or settlement of fines from capping material was observed in localized areas in RA 8 (Attachment A, RA8, Monitoring Intervals RA8-1, RA8-3 through RA8-5, RA8-11, RA8-12, RA8-14, and RA8-15). Additional photographs were taken of the areas in RA 8 where piling, debris, and seeps were observed at the surface of the slope cap (Attachment B, RA 8).

Beneath and adjacent to the southernmost Foss Waterway Marina gangway and southern end of the wood esplanade, two piling were observed to protrude between approximately one foot and two feet above the cap surface (Attachment B, RA 8, Monitoring Interval RA8-14, Photograph 10). The piling are present at approximate elevations of 2.5 feet MLLW and -3.0 feet MLLW. During remedial activities, slope cap filter material, quarry spalls, and habitat mix were placed on the slope to cap the area. Based on inspection observations, it appears that the piling may not have been cut off at an elevation that allowed complete coverage by cap materials. The piling that is at the approximate elevation of -3.0 feet MLLW does not appear to have been cut off and was likely submerged and not seen during construction. The piling at the approximate elevation of 2.5 feet MLLW was cut off during construction (i.e., a pre-construction photograph shows a full length piling at this location) but does not appear to have been cut off at an elevation that allowed complete coverage by cap material. It may also be that the slope cap materials have settled around the piling helping to expose the piling at the cap surface.

Several groundwater seeps were observed in the area at the southern end of the wood esplanade and adjacent to the southernmost Foss Waterway Marina gangway (Attachment B, RA 8, Monitoring Interval RA8-14, Photographs 9 and 11). The water discharging from the seeps was clear and the volume of water discharging was not observed to be causing erosion or disruption of cap materials.

At the northern end of RA 8, adjacent to the water-ward face of the wood esplanade, debris was observed protruding through the cap in an area approximately two feet high by three feet wide (Attachment B, RA 8, Monitoring Interval RA8-16, Photographs 7 and 8). The debris is a

cohesive mass that is orange indicating an iron component (i.e., oxidized iron or rust). The debris is present at an elevation of approximately 2.0 feet MLLW. Based on inspection observations, it appears that the cap materials have settled and/or moved downslope exposing the debris.

Sediment accretion and/or settlement of fines from capping material were observed intermittently in RA 8 (Attachment A, RA8, Monitoring Intervals RA8-1, RA8-3 through RA8-5, RA8-11, RA8-12, RA8-14, and RA8-15). The sediment accretion or fines are present as a thin layer (i.e., generally between 1/8 and 1/4-inch thick) in discontinuous, localized areas and were observed at elevations from approximately 2.0 feet MLLW to -2.0 feet MLLW. The sediment accretion or fines were generally observed in relatively flat areas where marina floats are present that are positioned parallel to the shoreline. The areas shoreward of where the marina floats are located parallel to the shoreline are likely quiescent and not subject to significant wave action allowing settlement of fines.

Finally, two boats were observed to be grounded on the slope cap in the Foss Waterway Marina (Attachment A, RA 8, Monitoring Interval RA8-15). Representatives of the Foss Waterway Marina were notified. The boats were subsequently relocated from the area where grounding on the cap had occurred.

The areas in RA 8 where piling and debris were observed at the cap surface require repair to remove or confine the materials. A plan for repair of these areas will be submitted to EPA for review in a separate memorandum. No other response actions are warranted at this time.

RA 14

Low tide slope cap inspection of the shoreline in RA 14 was performed on July 11, 2006, at tidal elevations between approximately -2.5 feet MLLW and -1.0 feet MLLW. Six monitoring intervals were established for inspection and documentation of the integrity of the slope cap in RA 14 (i.e., RA14-1 through RA14-6). Monitoring intervals in RA 14 were established based on structural features at Martinac Shipbuilding. A separate monitoring interval was established for each pier and shipway area (i.e., a separate interval for each of the three piers and two shipways) and a separate interval for the semi-circular cap area on the south side of the southernmost pier (Figure 1)

The remedial action in RA 14 consists of a thick slope cap constructed from bulkheads or shipways located beneath piers and buildings at Martinac Shipbuilding to the bottom of the shoreline slope in the navigation channel.

No deficiencies were identified upon inspection of the six monitoring intervals in RA 14 (Attachment A, RA 14, Monitoring Intervals RA14-1 through RA14-6). Habitat mix or rip rap and quarry spalls with habitat mix contained within the voids of the rip rap and quarry spalls were observed during inspection of RA 14.

Sediment accretion and/or settlement of fines from capping material were observed intermittently in RA 14 (Attachment A, RA14, Monitoring Intervals RA14-2 through RA14-6). The sediment accretion or fines are present as a thin layer (i.e., generally between 1/8 and 1/4-inch thick) in discontinuous, localized areas and were observed at elevations below approximately 5.0 feet MLLW. The sediment accretion or fines were generally observed in relatively flat areas where facility structures (i.e., piers, shipways, etc.) are present that enclose

or partially enclose portions of the shoreline. The enclosed shoreline areas are likely quiescent and not subject to significant wave action allowing settlement of fines.

Based on the inspections, no response actions are warranted in RA 14 at this time.

RA 19A

Low tide slope cap inspection of the shoreline in RA 19A was performed on July 10, 2006, at tidal elevations between approximately -2.8 feet MLLW and -1.1 feet MLLW. Ten, approximately 100-foot monitoring intervals and one 65-foot interval were established for inspection and documentation of the integrity of the slope cap in RA 19A (i.e., RA19A-1 through RA19A-11) (Figure 1).

The remedial action for the shoreline in RA 19A consists of a thick slope cap constructed from elevation 0.0 feet MLLW to the toe of the shoreline slope in the adjacent harbor / marina area. A pre-existing habitat enhancement area is present from elevation 0.0 feet MLLW to the top of the bank adjacent to the esplanade.

No deficiencies were identified upon inspection of 10 of 11 monitoring intervals in RA 19A (Attachment A, RA 19A, Monitoring Intervals RA19A-1, and RA19A-3 through RA19A-11). Habitat mix or rip rap and quarry spalls with habitat mix contained within the voids of the rip rap and quarry spalls were observed during inspection of RA 19A. Within the southern portion of RA 19A and the adjacent pre-existing habitat enhancement area, two depressions were present at the surface of the shoreline (Attachment A, RA 19A, Monitoring Interval RA19A-2). A piling was also present at the surface of the existing habitat enhancement area. Additional photographs were taken of the depressions and piling in RA 19A and the adjacent habitat enhancement area (Attachment B, RA 19A).

The two depressions are approximately 1.5 feet in depth and located at elevations between approximately 5.0 feet MLLW to -1.0 feet MLLW (Attachment B, RA 19A, Monitoring Interval RA19A-2, Photographs 1 through 4) primarily in the no action area where the pre-existing habitat enhancement was constructed. Based on inspection observations, it appears that the slope may have settled and/or material has been redistributed by tide and wave action creating the depressions.

The piling extends approximately 1.5 feet above the surface of the shoreline and is located at an approximate elevation of 5.0 feet MLLW (Attachment B, RA 19A, Monitoring Interval RA19A-2, Photographs 1 and 4 through 6). The piling is present in the pre-existing habitat enhancement area and was observed above the habitat surface during remedial activities. As the piling was not within the remedial action area it was not removed or cut off during construction.

Sediment accretion and/or settlement of fines from capping material were observed intermittently in RA 19A (Attachment A, RA19A, Monitoring Intervals RA19A-2 through RA19A-7). The sediment accretion or fines are present as a thin layer (i.e., generally between 1/8 and 1/4-inch thick) in discontinuous, localized areas and were observed at elevations from approximately 2.0 feet MLLW to -2.0 feet MLLW. The sediment accretion or fines were generally observed in relatively flat areas where marina floats are present that are positioned parallel to the shoreline. The areas shoreward of where the marina floats are located parallel to the shoreline are likely quiescent and not subject to significant wave action allowing settlement of fines.

The area where two depressions were present in RA 19A and the adjacent habitat enhancement area require monitoring to observe whether additional settlement or material movement is occurring. Additionally, a plan for removing the portion of the piling that is present above the surface of the habitat enhancement area will be submitted to EPA for review in a separate memorandum. No other response action is warranted in RA 19A at this time.

RA 19B

Low tide slope cap inspection of the shoreline in RA 19B was performed on July 10, 2006, at tidal elevations between approximately -2.6 feet MLLW and -0.25 feet MLLW. Eight, approximately 100-foot monitoring intervals were established for inspection and documentation of the integrity of the slope cap in RA 19B (i.e., RA19B-1 through RA19B-8) (Figure 1).

The remedial action for the shoreline in RA 19B consists of grout mat and thick slope capping. A grout mat cap was placed from approximately 3.0 feet MLLW along the shoreline and down to the harbor / marina area and out to the navigation channel from the southern boundary of RA 19B (i.e., Station 70+10) to approximate Station 65+50. Then a thick slope cap was constructed from the top of the bank to the bottom of the shoreline slope in the harbor / marina area including the area where the grout mat was placed.

No deficiencies were identified upon inspection of the eight monitoring intervals in RA 19B (Attachment A, RA 19B, Monitoring Intervals RA19B-1, through RA19B-8). Habitat mix or rip rap and quarry spalls with habitat mix contained within the voids of the rip rap and quarry spalls were observed during inspection of RA 19B.

Sediment accretion and/or settlement of fines from capping material were observed intermittently in RA 19B (Attachment A, RA19B, Monitoring Intervals RA19B-4 through RA19B-8). The sediment accretion or fines are present as a thin layer (i.e., generally between 1/8 and 1/4-inch thick) in discontinuous, localized areas and were observed at elevations from approximately 2.0 feet MLLW to -2.0 feet MLLW. The sediment accretion or fines were generally observed in relatively flat areas where marina floats are present that are positioned parallel to the shoreline. The areas shoreward of where the marina floats are located parallel to the shoreline are likely quiescent and not subject to significant wave action allowing settlement of fines.

No response actions are warranted in RA 19B at this time.

RA 20

Low tide slope cap inspection of the shoreline in RA 20 was performed on July 11, 2006, at tidal elevations between approximately -3.0 feet MLLW and 0.0 feet MLLW. Nine, approximately 100-foot monitoring intervals and one approximately 40-foot monitoring interval were established for inspection and documentation of the integrity of the slope cap in RA 20 (i.e., RA20-1 through RA20-10) (Figure 1).

The remedial action for the shoreline in RA 20 consists of a thick slope cap constructed from the top of the slope to the toe of the shoreline slope in the adjacent harbor / marina area except beneath the Johnny's Seafood Restaurant where habitat mix was placed over existing shoreline armoring. Additionally, a habitat enhancement area (i.e., Johnny's Dock Habitat Enhancement) is present on the shoreline and slope cap area between the Johnny's Dock and Foss Landing Marina's (Figure 1).

No deficiencies were identified upon inspection of 9 of 10 monitoring intervals in RA 20 (Attachment A, RA 20, Monitoring Intervals RA20-1 through RA20-8 and RA20-10). Habitat mix or rip rap and quarry spalls with habitat mix contained within the voids of the rip rap and quarry spalls were observed during inspection of RA 20 except at the habitat enhancement area where sand is present at the surface of the habitat. Within the southern portion of RA 20, a piling is present at the surface of the slope cap (Attachment A, RA 20, Monitoring Interval RA20-9). Additional photographs were taken of the piling in RA 20 (Attachment B, RA 20). Additional photographs were also taken in two monitoring intervals (i.e., Monitoring Intervals RA20-3 and RA20-4) where several photographs taken on July 11, 2006, were too dark to clearly document slope cap conditions.

The piling observed in RA 20 extends approximately six inches above the surface of the shoreline and is located at an approximate elevation of -2.5 feet MLLW (Attachment B, RA 20, Monitoring Interval RA20-9, Photographs 19 through 21). Based on inspection observations, it appears that the piling may not have been cut off at an elevation that allowed complete coverage by cap materials. The piling is at the approximate elevation of -2.5 feet MLLW and was likely submerged and not seen during construction. It may also be that the slope cap materials have settled around the piling helping to expose the piling at the cap surface.

Sediment accretion and/or settlement of fines from capping material were observed along the slope cap area in RA 20 (Attachment A, RA20, Monitoring Intervals RA20-1 through RA20-4 and RA20-6 through RA20-10). The sediment accretion or fines are present as a thin layer (i.e., generally between 1/8 and 1/4-inch thick) in the lower portions of the slope cap at elevations below approximately 5.0 feet MLLW. The sediment accretion or fines were generally observed in relatively flat areas where marina floats are present that are positioned parallel to the shoreline. The areas shoreward of where the marina floats are located parallel to the shoreline are likely quiescent and not subject to significant wave action allowing settlement of fines.

A plan for evaluating and repairing the area where the piling is present above the cap surface will be submitted to EPA for review in a separate memorandum. No other response actions are warranted in RA 20 at this time.

Sheen Source Removal Area

A low tide cap inspection of the Sheen Source Removal Area in the Wheeler-Osgood Waterway was performed on October 3, 2006, at a tidal elevation of approximately 0.0 feet MLLW. One, approximately 65-foot monitoring interval was established for inspection and documentation of the integrity of the cap in the Sheen Source Removal Area (i.e., Sheen Source-1) (Figure 1).

The remedial action in the Sheen Source Removal Area consists of a thick cap comprised of channel sand cap material from the toe of the shoreline slope to the northern boundary of RA 12 and from approximate Station 15+50 to Station 16+15.

No deficiencies were identified upon inspection of the monitoring interval for the Sheen Source Removal Area (Attachment A, Sheen Source Removal Area, Monitoring Interval Sheen Source-1). Channel sand cap material with a layer of sediment accretion on the surface was observed during inspection of the Sheen Source Removal Area. The sediment accretion is present as a thin layer (i.e., approximately 1/4-inch thick) covering the surface of the capped area. The Sheen Source Removal Area is relatively flat and the Wheeler-Osgood Waterway is relatively quiescent and not subject to significant wave action allowing settlement of fines.

No response action is warranted in the Sheen Source Removal Area at this time.

Summary of Preliminary Findings

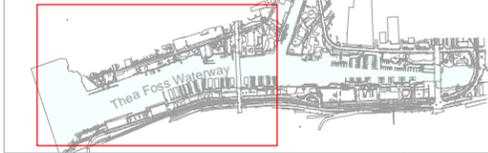
The following summarizes the preliminary findings from the Year 0, baseline low tide inspections:

- No deficiencies were identified upon inspection of RAs 1, 14, 19B, and the Sheen Source Removal Area.
- No deficiencies were identified in two of four monitoring intervals in RA 3. Two areas are present in RA 3 where geotextile or metal and foundry slag material are present at the surface of the capped area (Attachment A, RA 3, Monitoring Intervals RA3-2 and RA3-3).
- No deficiencies were identified upon inspection of 15 of 17 monitoring intervals in RA 8. Two areas are present in RA 8 where piling or debris are present at the surface of the capped area (Attachment A, RA 8, Monitoring Intervals RA8-14 and RA8-16).
- No deficiencies were identified upon inspection of 10 of 11 monitoring intervals in RA 19A. Two depressions are present at the surface of the shoreline in RA 19A and the adjacent habitat enhancement area. A piling is also present at the surface of the existing adjacent habitat enhancement area (Attachment A, RA 19A, Monitoring Interval RA19A-2).
- No deficiencies were identified upon inspection of 9 of 10 monitoring intervals in RA 20. A piling is present at the surface of the slope cap in the southern portion of RA 20 (Attachment A, RA 20, Monitoring Interval RA20-9).
- A thin layer of sediment accretion and/or fines from capping material was present on relatively flat, enclosed portions of the slope cap areas at elevations generally below 5.0 feet MLLW.
- A plan for evaluating and repairing the areas where the piling or debris are present above the surface of the cap in RAs 3, 8, 20 and the pre-existing habitat area adjacent to RA 19A will be prepared and submitted to EPA for review in a separate memorandum.
- No other response actions are warranted in at this time.

NOTES

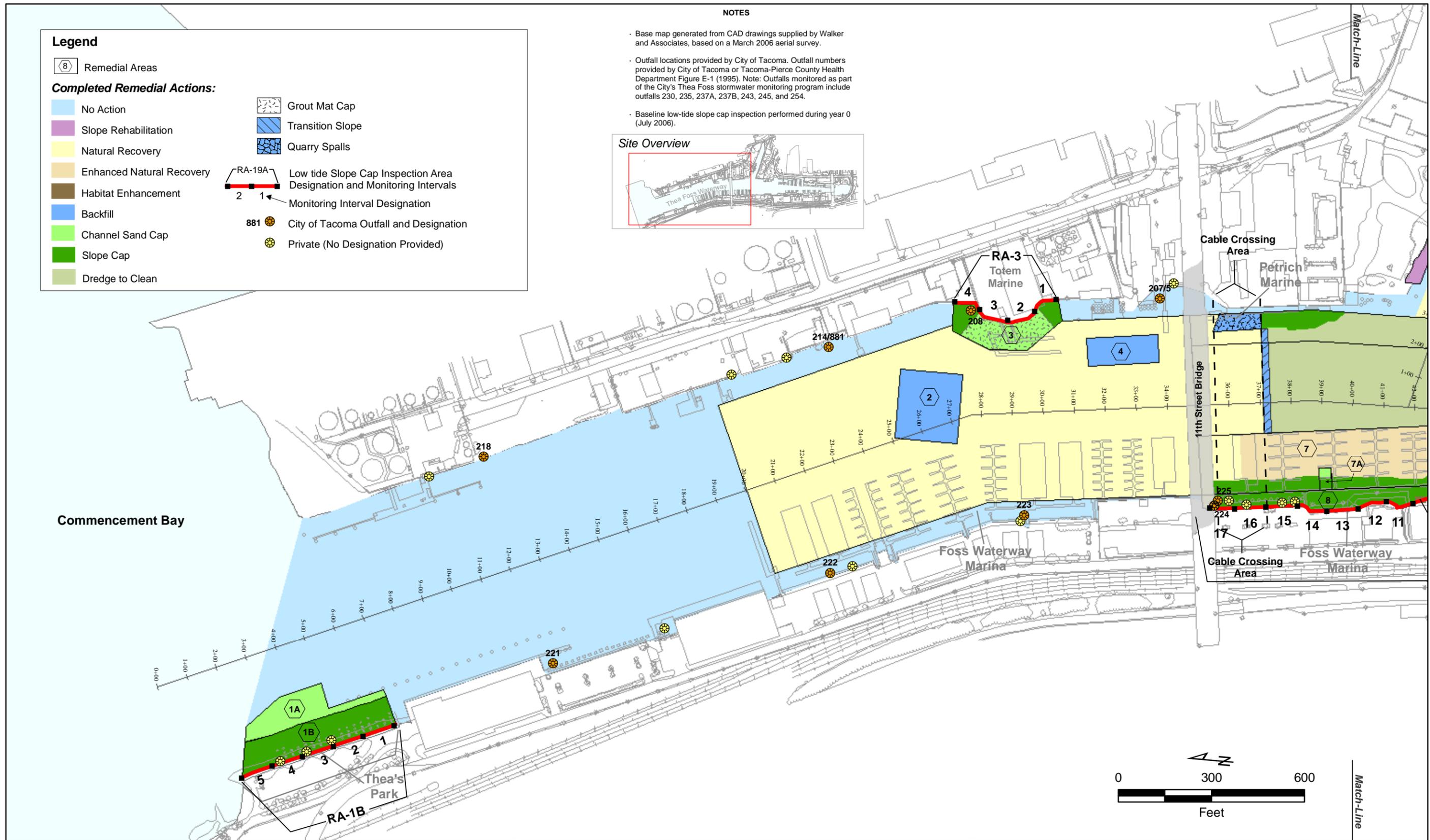
- Base map generated from CAD drawings supplied by Walker and Associates, based on a March 2006 aerial survey.
- Outfall locations provided by City of Tacoma. Outfall numbers provided by City of Tacoma or Tacoma-Pierce County Health Department Figure E-1 (1995). Note: Outfalls monitored as part of the City's Thea Foss stormwater monitoring program include outfalls 230, 235, 237A, 237B, 243, 245, and 254.
- Baseline low-tide slope cap inspection performed during year 0 (July 2006).

Site Overview



Legend

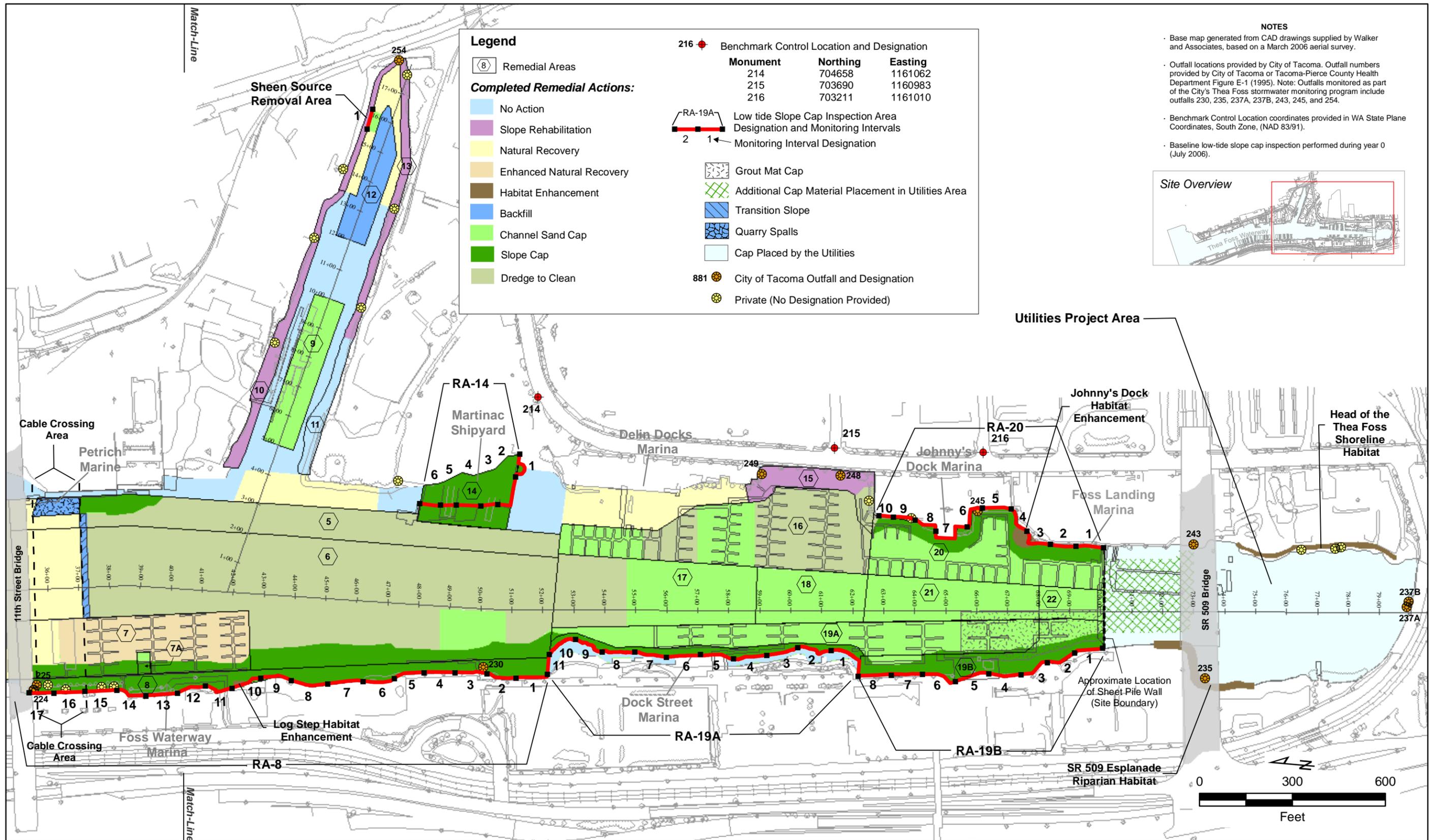
- 8 Remedial Areas
- Completed Remedial Actions:**
- No Action
- Slope Rehabilitation
- Natural Recovery
- Enhanced Natural Recovery
- Habitat Enhancement
- Backfill
- Channel Sand Cap
- Slope Cap
- Dredge to Clean
- Grout Mat Cap
- Transition Slope
- Quarry Spalls
- RA-19A Low tide Slope Cap Inspection Area Designation and Monitoring Intervals
- Monitoring Interval Designation
- 881 City of Tacoma Outfall and Designation
- Private (No Designation Provided)



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**Thea Foss and Wheeler-Osgood Waterways
OMMP**

**Figure 1 (Page 1 of 2)
Low Tide Slope Cap Inspection Monitoring Intervals**



Legend

⑧ Remedial Areas

Completed Remedial Actions:

- No Action
- Slope Rehabilitation
- Natural Recovery
- Enhanced Natural Recovery
- Habitat Enhancement
- Backfill
- Channel Sand Cap
- Slope Cap
- Dredge to Clean

216 Benchmark Control Location and Designation

Monument	Northing	Easting
214	704658	1161062
215	703690	1160983
216	703211	1161010

RA-19A Low tide Slope Cap Inspection Area Designation and Monitoring Intervals

2 Monitoring Interval Designation

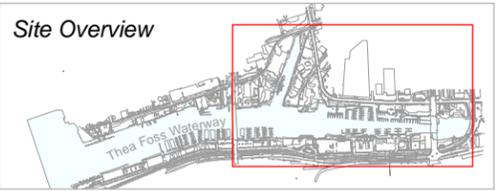
- Grout Mat Cap
- Additional Cap Material Placement in Utilities Area
- Transition Slope
- Quarry Spalls
- Cap Placed by the Utilities

881 City of Tacoma Outfall and Designation

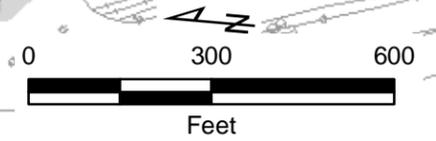
Private (No Designation Provided)

NOTES

- Base map generated from CAD drawings supplied by Walker and Associates, based on a March 2006 aerial survey.
- Outfall locations provided by City of Tacoma. Outfall numbers provided by City of Tacoma or Tacoma-Pierce County Health Department Figure E-1 (1995). Note: Outfalls monitored as part of the City's Thea Foss stormwater monitoring program include outfalls 230, 235, 237A, 237B, 243, 245, and 254.
- Benchmark Control Location coordinates provided in WA State Plane Coordinates, South Zone, (NAD 83/91).
- Baseline low-tide slope cap inspection performed during year 0 (July 2006).



Utilities Project Area



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**Thea Foss and Wheeler-Osgood Waterways
OMMP**

**Figure 1 (Page 2 of 2)
Low Tide Slope Cap Inspection Monitoring Intervals**

Attachment A

Low Tide Slope Cap Inspection Field Forms and Photographs

Remedial Area 1

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: RA 1B (page 1 of 1) Date: 7/12/2008
 Datum (Horiz/Vert): W. TIDE RA 1B E 30.04 (1988.371) / GROUND Weather: PARTLY NCS F
 Benchmark(s) Used for Location Control: # 214 & # 215 Field Personnel: M. W. GORMAN

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Time	Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH			
RA 1B-1	100	708802/1159078	708895/1159037	1304	-3.0'	V. LARGE DEBRIS W/ HAB MIX. 30' WIDE
RA 1B-2	100	708895/1159037	708985/1159008	1318	-2.9'	V. LARGE DEBRIS W/ HAB MIX. 30' WIDE
RA 1B-3	100	708985/1159008	709080/1158999	1329	-2.5'	V. LARGE DEBRIS W/ HAB MIX. 30' WIDE
RA 1B-4	100	709080/1158999	709172/1158922	1340	-2.0'	W. HAB MIX W/ HAB MIX. 30' WIDE
RA 1B-5	100	709172/1158922	709257/1158892	1350	-1.7'	HAB MIX & HAB MIX. 30' WIDE

Monitoring Interval	CHECK ALL THAT APPLY										Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion	Seepage	Underlying Sediment Exposed	Erosion (Cap Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement or Cracking			
RA 1B-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	V. LARGE DEBRIS W/ HAB MIX. 30' WIDE
RA 1B-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	V. LARGE DEBRIS W/ HAB MIX. 30' WIDE
RA 1B-3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	V. LARGE DEBRIS W/ HAB MIX. 30' WIDE
RA 1B-4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	V. LARGE DEBRIS W/ HAB MIX. 30' WIDE
RA 1B-5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HAB MIX & HAB MIX. 30' WIDE

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterway MMP

PHOTO DOCUMENTATION

Date: 7/12/2006

Weather: Sprinkles

Remedial Area: P.A-1

Field Personnel: Bill Esslinger, Tim Chanda, Kelly Mack, Bobo

Monitoring Interval	Photograph Number	Location Along Transect (in feet)	Direction	Latitude/Longitude (Northing/Easting)	Time	Notes
RAT-1	1495	-10 South	NW	708799 / 1159102	1309	0-40' Stream bank
	1496	45	NW	708846 / 1159086	1309	50-70'
	1497	65	NW	708865 / 1159071	1313	75-100'
RAT-2	1498	-10 South	NW	708890 / 1159064	1318	0-35'
	1499	40	NW	708938 / 1159044	1322	50-100'
RAT-3	1500	-10 South	NW	708983 / 1159022	1328	0-60'
	1501	25	NW	709026 / 1159011	1333	50-100'
	1502	60	SE	709037 / 1158971	1337	Shows bench between concrete pillars
	1503	60	N	709039 / 1158970	1338	"
RAT-4	1504	-10 South	NW	709078 / 1158987	1345	0-70'
	1505	60	NW	709132 / 1158959	1347	70-100'
RAT-5	1506	-10 South	NW	709171 / 1158939	1350	0-90'

Additional Notes: (For additional photo points, identify reason for taking additional photograph)

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06

Field Personnel: T. G. Hensley

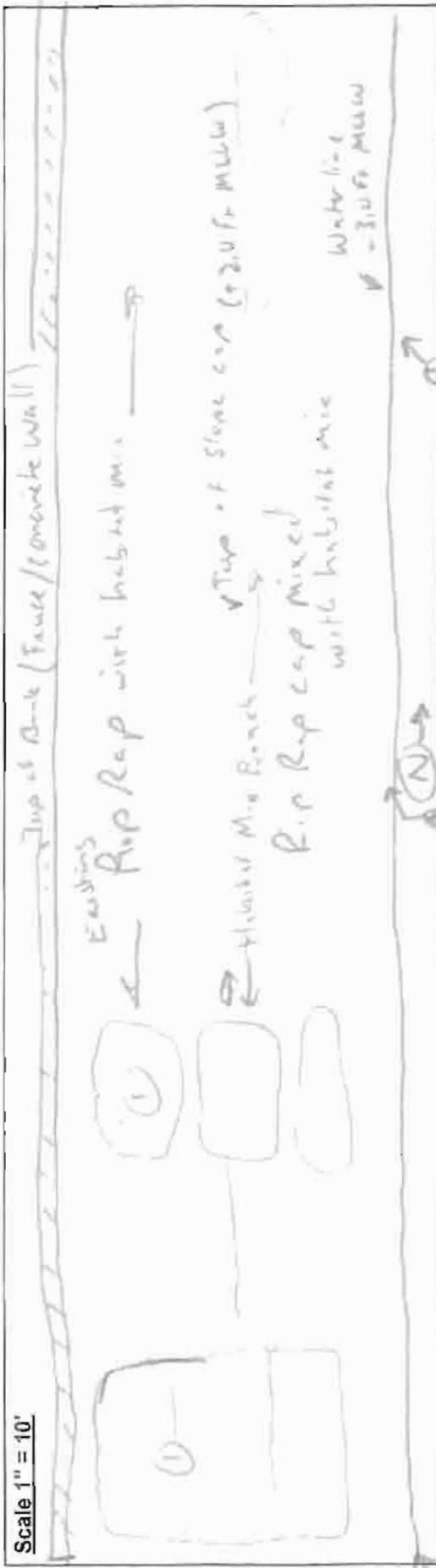
Monitoring Interval: RA1-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint 10 ft S. of Interval Start

Photopoint 45 ft

Photopoint 60 ft

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Concrete materials

Note: Habitat mix has settled into the cracks of the Rip Rap



P0001495 7/12/2006 1:04:11 PM



P0001496 7/12/2006 1:09:38 PM



P0001497 7/12/2006 1:13:18 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

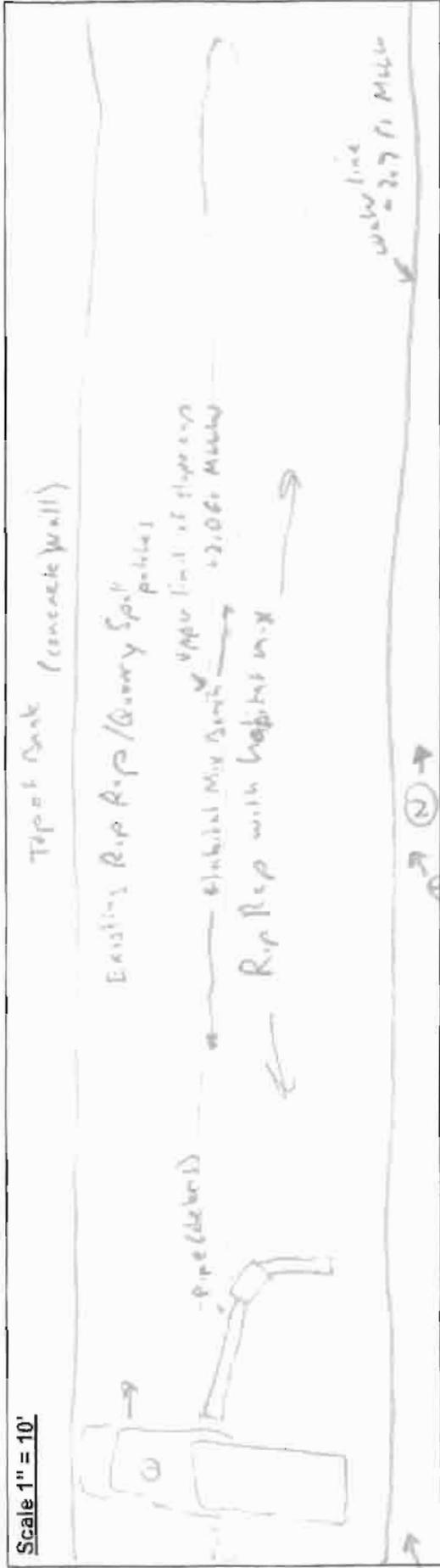
Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06
 Field Personnel: T. C. Hunter & F. Kelly
 Monitoring Interval: RA1-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Photopoint @ 10 ft S of Interval Start

Photopoint @ 40 ft

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Concrete monitoring (these are found throughout interval/RA2)



P0001498 7/12/2006 1:18:36 PM



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LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-16

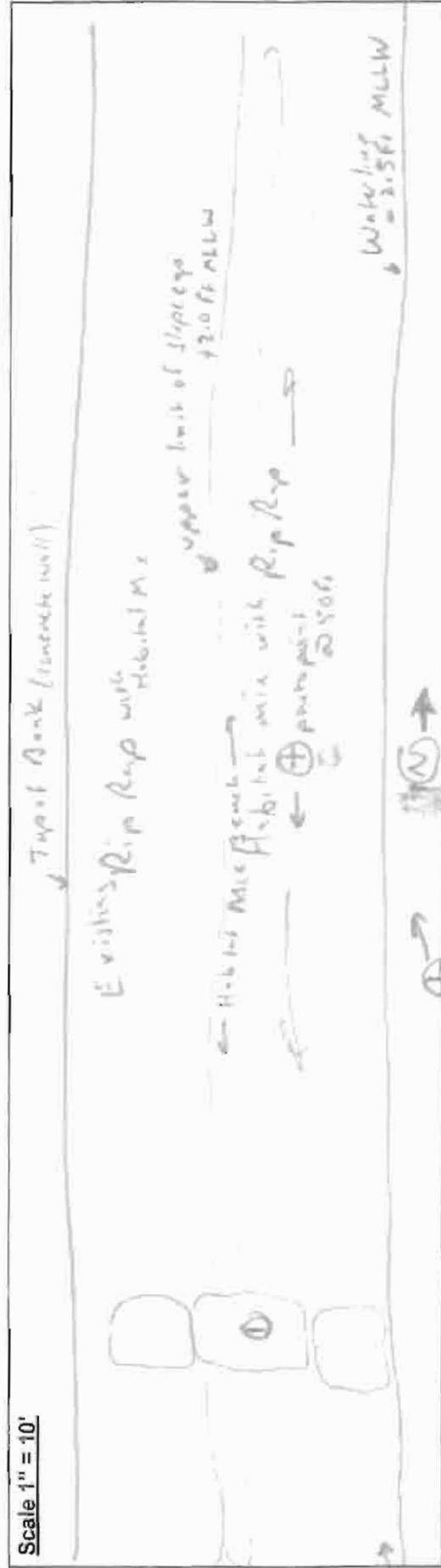
Field Personnel: T. Chantrelly, J. L...

Monitoring Interval: 2.1-3

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint @ 15ft S. of Southern Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Concrete mounds through out interval

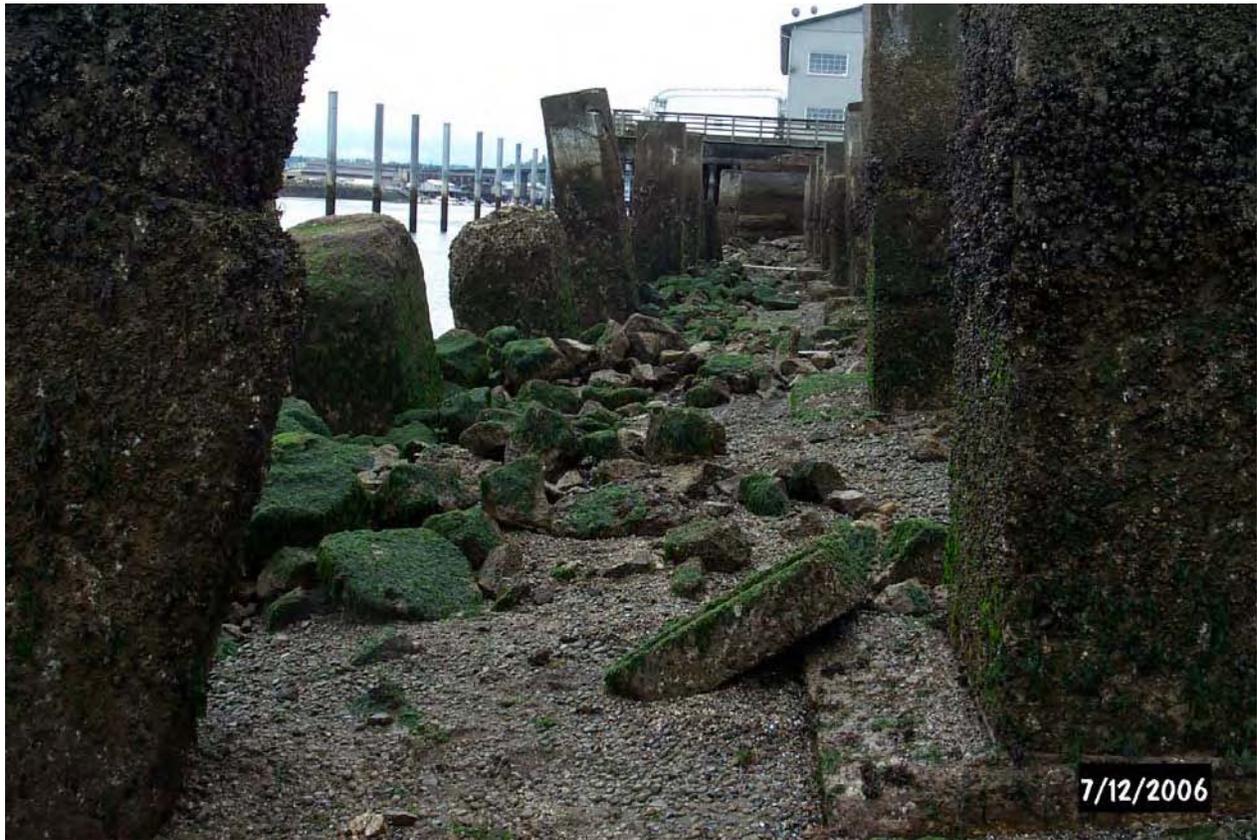
Note: A photopoint was taken @ 50ft of the habitat mats bench. It was taken on the slope



P0001500 7/12/2006 1:28:02 PM



P0001501 7/12/2006 1:33:03 PM



P0001502 7/12/2006 1:37:13 PM



P0001503 7/12/2006 1:40:18 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06

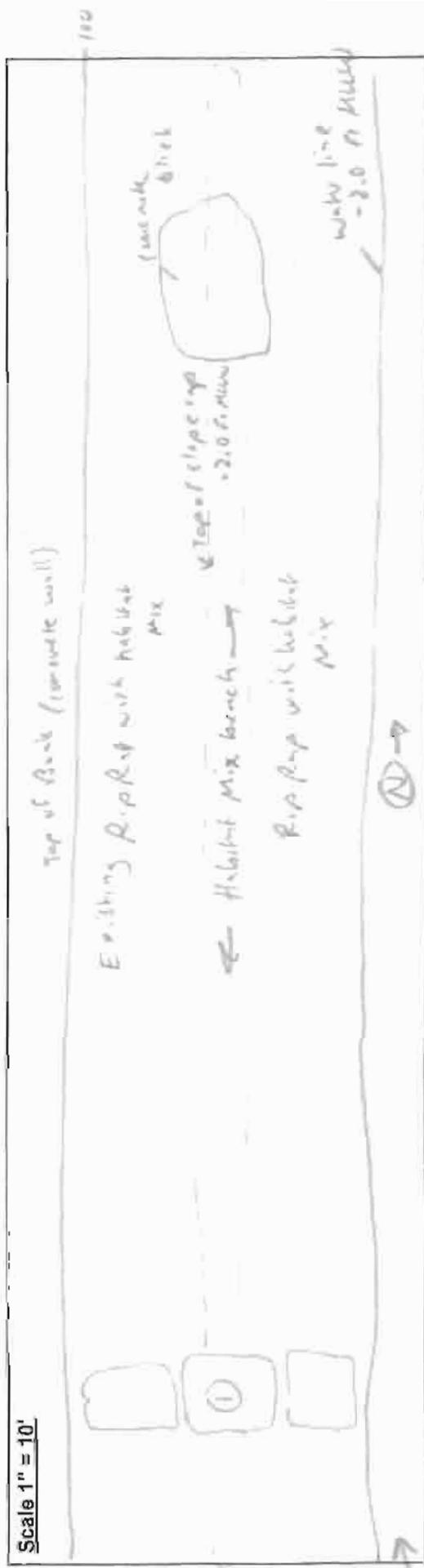
Field Personnel: T. C. Gumbus, K. S. Kelly

Monitoring Interval: RA1-4

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint 1 left S of Interval Start

Additional Notes: (if cap disturbance is observed, discuss potential causes and extent of disturbance)

1) concrete monolith

Note: H-bitul pine bench increases in size after 75 ft.



P0001504 7/12/2006 1:45:18 PM



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LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06

Field Personnel: T. Chontofelsky

Monitoring Interval: RA1-5

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint 56 S. of Interval start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: Habitat mix bench extends in this interval, concrete monoliths are not present in this interval



P0001506 7/12/2006 1:50:43 PM

Remedial Area 3

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: RA 3 (page 1 of 1) Date: 7/12/2000
 Datum (Horiz/Vert): W. STATE PLANE SOUTH (NAD 83/91) / MLLW Weather: Cloudy w/LSF
 Benchmark(s) Used for Location Control: #24 & #25 Field Personnel: M. WILKINSON

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Time	Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH			
RA 3-1	100	706830/1160524	706834/1160524	1407	-1.1	LARGE CRIP CAP W/HABITAT MIX
RA 3-2	100	706834/1160524	706930/1160498	1415	-0.8	SP CAP W/HABITAT MIX. GROUT MAT 0.25' W/THICKENED
RA 3-3	100	706930/1160498	706924/1160520	1424	-0.4	GROUT MAT W/SP ON SURFACE. ASP CAP / MAT TO DO
RA 3-4	100	706924/1160520	706912/1160526	1450	-0.1	CRIP CAP W/HABITAT MIX

Monitoring Interval	CHECK ALL THAT APPLY										Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion	Seepage	Underlying Sediment Exposed	Erosion (Cap Matl. Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement	Cracking or Cracking		
RA 3-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HABITAT RECONTAMINATED IN SMALL CRIP CAP VOIDS 1)
RA 3-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	POSSIBLE GROUT MAT TO BE SEEN NEAR GROUT MAT
RA 3-3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	UNDERLYING SEDIMENT EXPOSED & W/THICKENED (<)
RA 3-4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HABITAT MIX W/CRIP CAP RECONTAMINATED (<)

NOTES: 1) WHILE SOME REAR END OF HABITAT - GEOTECHNICAL VISIBILITY IS LIMITED. POTENTIAL ANNEAL HABITAT MIX DOWN TO ELEV. 0.745 FT?
 2) APPEARS TO BE SLAG BELT OR SOMETHING SIMILAR
 3) UTILITY @ 4.75' ALTITUDE

LA EXAMINERS VERIFIED W/CONSTRUCTION PLAN DRAWINGS -

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

PHOTO DOCUMENTATION

Date: 7/12/2006

Weather: Cloudy

Remedial Area: RA-3

Field Personnel: Bill Essimony, Tom Chy, Mark Borcher

Monitoring Interval	Photograph Number	Location Along Transect (in feet)	Direction	Latitude/Longitude (Northing/Easting)	Time	Notes
RA3-1	1507	2.5	E	706782 / 1160479	1407	16-50' from boat tied to docks
↓	1508	2.5	NE	706781 / 1160479	1410	" "
RA3-2	1509	-2.0 South	NE	706789 / 1160477	1416	from boat
↓	1510	1.0 S	E	706922 / 1160450	1421	75-100' from dock North of channel
RA3-3	1511	2.0	NE	706926 / 1160447	1423	20-75' "
↓	1512	7.5	NE	706976 / 1160455	1426	75-100' "
RA3-4	1513	0	NE	707010 / 1160529	1435	Taken from shore above cap base
↓	1514	+2.5 North	S	707132 / 1160509	1441	0-50' from boat beyond rope
↓	1515	+2.5 North	SE	707132 / 1160509	1443	50-100' from boat

Additional Notes: (For additional photo points, identify reason for taking additional photograph)

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

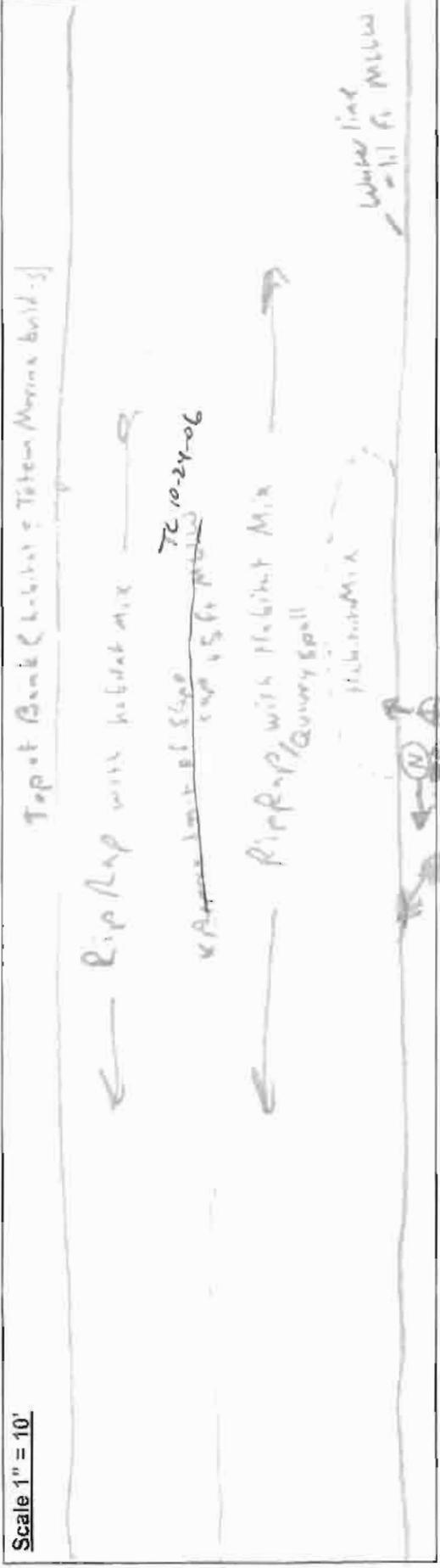
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06
 Field Personnel: T. Foss & W. Wheeler
 Monitoring Interval: RA3-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001507 7/12/2006 2:07:44 PM



P0001508 7/12/2006 2:10:06 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06
 Field Personnel: T. C. Heathfield
 Monitoring Interval: RA3-2

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint 2 100ft

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Walking onto flat

Photopoint
 200ft S. of
 Transect
 Street



P0001509 7/12/2006 2:16:03 PM



P0001510 7/12/2006 2:21:02 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

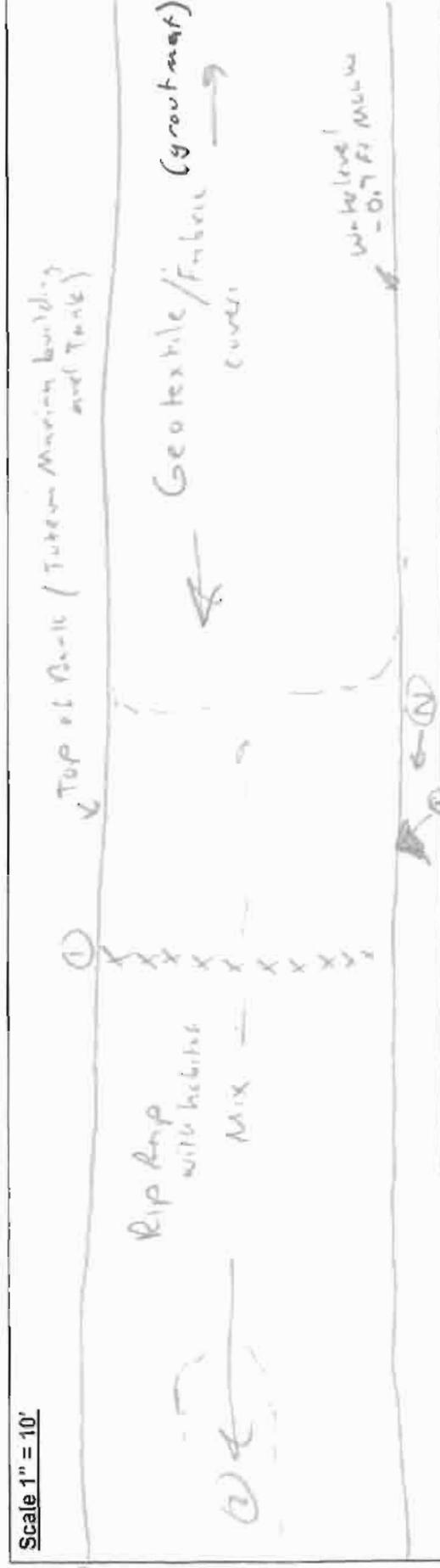
Date: 7-12-06
 Field Personnel: T. F. Houtzfeldt
 Monitoring Interval: RA2-3

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- 1) Fence
- 2) Underlying slope pile



P0001511 7/12/2006 2:23:28 PM



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LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

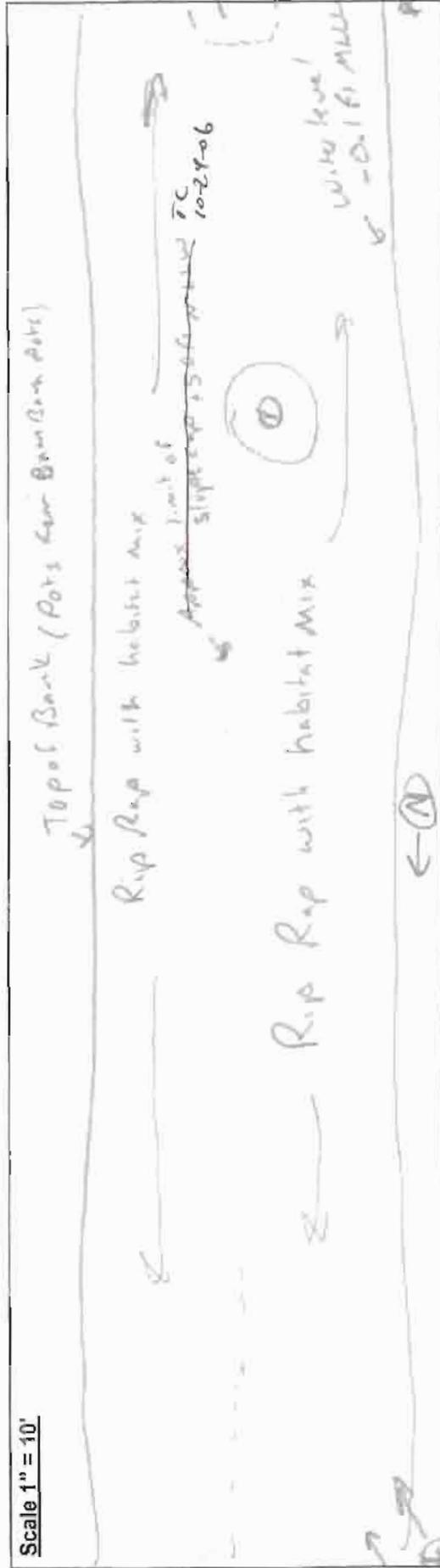
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-17-06
 Field Personnel: T. Chantrelle
 Monitoring Interval: RA3-V

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint @ end of Interval

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Outfill structure

Photopoint @ top S. of Interval Start



P0001513 7/12/2006 2:35:17 PM



P0001514 7/12/2006 2:41:29 PM



P0001515 7/12/2006 2:43:41 PM

Remedial Area 8

20080422

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: RAB (PAGE 1 OF 1) Date: 7/10/2006
 Datum (Horiz/Vert): NAD83/91 (IN STATE PLANE SOUTH) Weather: cloudy ~ 65°F
 Benchmark(s) Used for Location Control: #214, #216 Field Personnel: M. WOLTMAN

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH		
RAB-1	100	704564/1160212	704678/1160196	-1.0'	HAB. MIX @ O.C.L. RIP RAP (IN. RIP RAP @ LOWER END)
RAB-2	100	704678/1160196	704781/1160187	-0.8'	HAB. MIX ABOVE ELEV TO / MOUTH QUARRY SPALL BELOW
RAB-3	100	704781/1160187	704834/1160172	-0.4'	HAB. MIX @ RIP RAP BELOW SHEET PILE WALL
RAB-4	100	704874/1160172	704970/1160161	-0.1'	HAB. MIX @ RIP RAP BELOW SHEET PILE WALL

* *

Monitoring Interval	CHECK ALL THAT APPLY								Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion*	Seepage	Underlying Sediment Exposed	Erosion (Cap Matl. Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement or Cracking	
RAB-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INCREASING RIP RAP / QUARRY SPALLS @ LOWER END
RAB-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PARTIAL AREA OF IRREGULAR QUARRY SPALL MAT. BELOW
RAB-3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GOOD COVERAGE OF HAB. MIX OVER RIP RAP SURFACE.
RAB-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GOOD HABITAT COVERAGE OVER RIP RAP SURFACE.

* THIN ACCRETION NEAR HEAD SURFACE.
 NOTE: CUTAW. #230 @ END OF RAB-2.

LOW-TIDE SLOPE CAP INSPECTION FORM

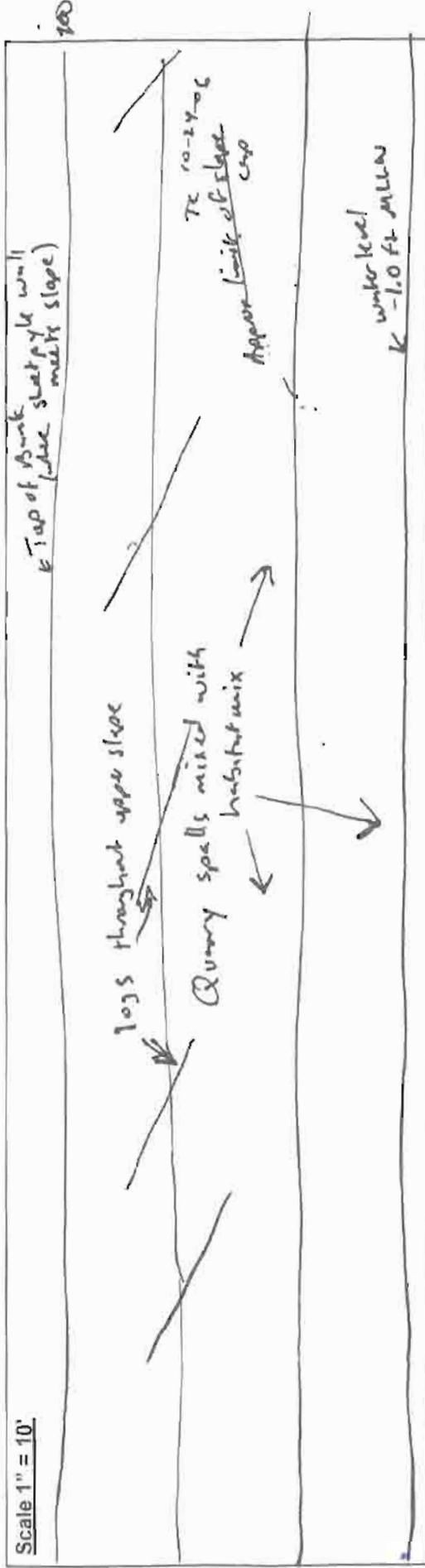
Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06
 Field Personnel: T. Chantofsky
 Monitoring Interval: RA8-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Photopoint approx. 10ft south of Internal Skirt

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: Logs throughout upper slope



P0001408 7/10/2006 12:37:26 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06

Field Personnel: T. Chonko & S. K. Ky

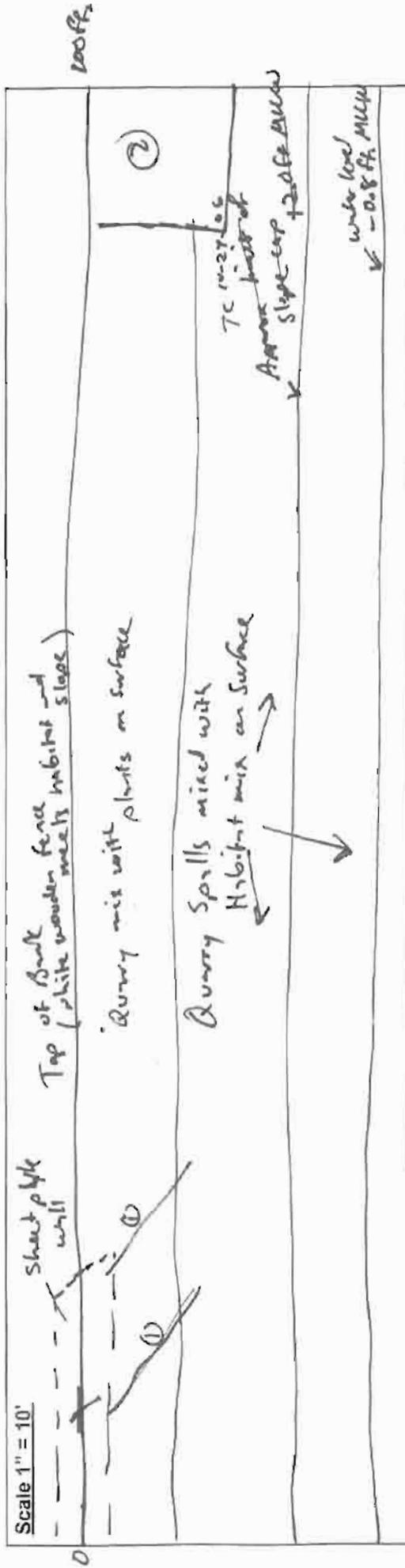
Monitoring Interval: RA 8-2

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)

- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



⊕ photopoint approx 10 ft South of Interval Start.

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Logs from 0-25ft.

② Outfall structure at end of Interval

⊕ photo point approx 75 ft.



P0001409 7/10/2006 12:42:22 PM



P0001410 7/10/2006 12:46:10 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

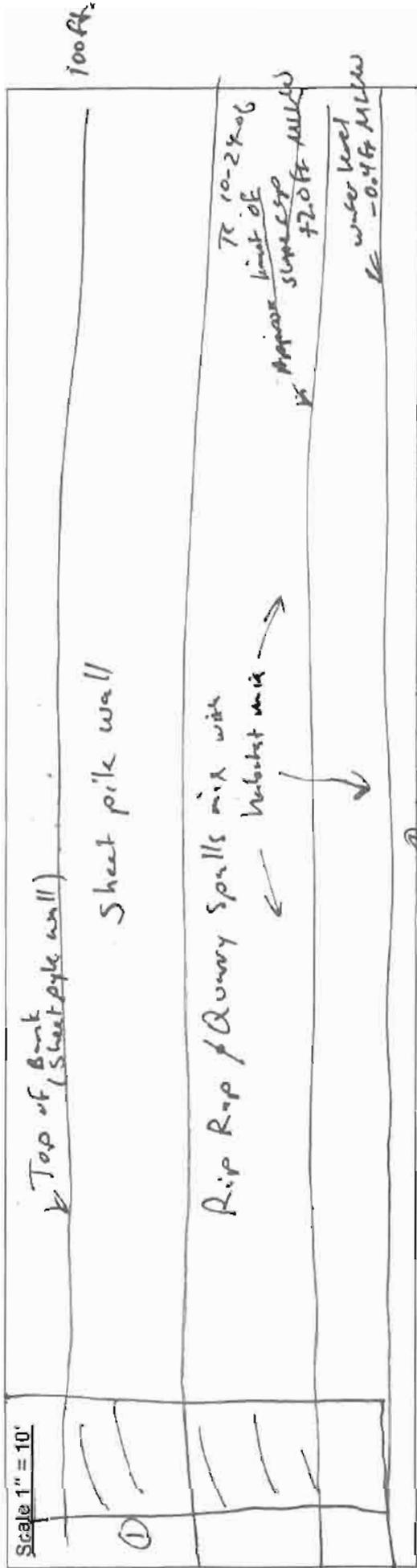
Date: 7-10-06

Field Personnel: T. Chontoglsky

Monitoring Interval: RA8-3

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

1 Dark structure



P0001411 7/10/2006 12:51:50 PM



P0001412 7/10/2006 12:54:16 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06

Field Personnel: T. Chontakulky

Monitoring Interval: RA8-4

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

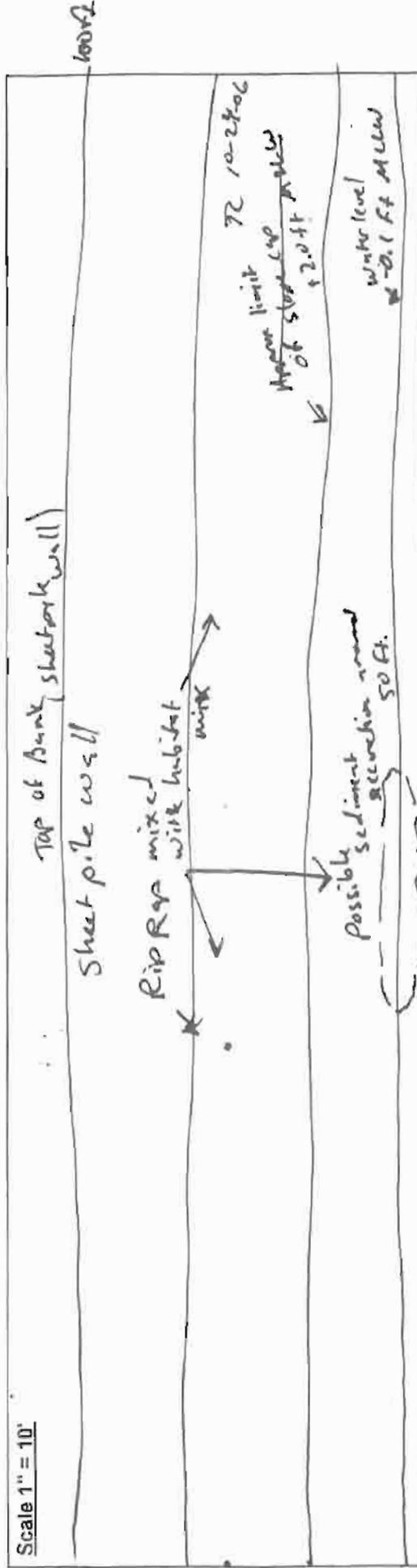


photo point appears at 10ft south from Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: No observed transition between slope cap and existing habitat



P0001413 7/10/2006 12:58:18 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: RAB (PAGE 2 OF 3) Date: 7/12/06
 Datum (Horiz/Vert): WA STATE CANE (NAD 83/91) SOUTH / MLLW Weather: 15 RAIN ~ 60°F
 Field Personnel: M. WILDMAN
 Benchmark(s) Used for Location Control: # 24 & 25

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH		
RAB-5	100'	705159/1160150	705200/1160147	-0.2'	RIP RAP / HABITAT MIX
RAB-6	100'	705200/1160147	705160/1160147*	-0.7'	RIP RAP & QUARRY SPALLS w/ HAB. MIX
RAB-7	100'	705160/1160147*	705200/1160147*	-1.2'	HAS MIX WITH RIB. QUARRY SPA & HABITAT MIX
RAB-8	100'	705200/1160147*	705338/1160103	-1.5'	QUARRY SPALL, RIP RAP & HABITAT MIX
RAB-9	100'	705338/1160103	705442/1160099	-1.9'	QUARRY SPA, RIP RAP & HABITAT MIX
RAB-10	100'	705442/1160099	705539/1160077	-2.3'	RIP RAP & SCATTERED HABITAT MIX
RAB-11	100'	705539/1160077	705619/1160061	-2.9'	HABITAT MIX w/ QUARRY SPA & DEL. CAP
RAB-12	100'	705619/1160061	705732/1160050	-2.9'	HABITAT MIX w/ QUARRY SPA

Monitoring Interval	CHECK ALL THAT APPLY										Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment * Accretion	Seepage	Underlying Sediment Exposed	Erosion (Cap Mat. Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement	Cracking or Cracking		
RAB-5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SLOPE CAP APPEARS SOUND
RAB-6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	APPEARS TO ONLY SPALLS. NO SED. ACCRETION
RAB-7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NO SPALLS. ONLY RIB. RIP RAP APPEARS SOUND
RAB-8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	UNDER LIP AREA. QUARRY SPALL (LAST SECTION)
RAB-9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SCAPE APPEARS SOUND
RAB-10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SMALL AND NOT AFFECTED AREA. QUARRY SPALL (SEE SECTION 10)
RAB-11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HAS SED. UNDER. QUARRY SPALL & RIB. CAP
RAB-12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SCAPE APPEARS SOUND. SLOPE CAP APPEARS SOUND

* THIS WEREAL SEDIMENT ACCRETION (VISIBLE IN RAB 11) @ WALLEYS
 * GET WALLEYS ESTIMATED RIB TO ONE - WERE SOUNDER SCAPE

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: RA B (PAGE 3 OF 3) Date: 7/12/06
 Datum (Horiz/Vert): WA STATE PLANE SOUTH (NAD83/NA) / MLLW Weather: FAIRLY W/COOL
 Benchmark(s) Used for Location Control: #24, #25 Field Personnel: M. W. D. M. W.

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH		
RA B-13	100	705752/1160050	705840/1160040	-3.0'	HABITAT MIX & GRAP
RA B-14	100	705840/1160040	705925/1160036	-3.1'	HABITAT MIX & GRAP
RA B-15	100	705925/1160045	706005/1160045	-5.2'	HABITAT MIX & GRAP (HABITAT MIX ONLY UNDER CAP)
RA B-16	100	706005/1160045	706125/1160045	-3.2'	HABITAT MIX, QUARRY SPALL & GRAP
RA B-17	50	706125/1160045	706175/1160045	-3.2'	HABITAT MIX, QUARRY SPALL & GRAP

Monitoring Interval	CHECK ALL THAT APPLY							Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion*	Seepage	Underlying Sediment Exposed	Erosion (Cap Missing)	Debris	Downslope Movement	Grout Mat Exposed	
RA B-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DISCONTINUED SLOPE APPEARS STABLE
RA B-14	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MINOR DISCONTINUED SLOPE APPEARS STABLE
RA B-15	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NO SEEPAGE, SOME GRAP
RA B-16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GRAVELLED DEBRIS UNDER FOOT AREA
RA B-17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GRAVELLED DEBRIS UNDER FOOT

* NOTE: THIS SEDIMENT ACCRETION NEAR WAVE LINE
 RA BOUNDARY C. CURRENT ADJACENT TO 11th ST BRIDGE
 * GPS COORDINATE ESTIMATED AND OVER-WAVE STRUCTURE INTERFERENCE

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways MIMP

PHOTO DOCUMENTATION

Date: 7/12/2006

Weather: Spinkling

Remedial Area: RA-8

Field Personnel: Bill Esslinger, Don Ch, Mark Butler

Monitoring Interval	Photograph Number	Location Along Transect (in feet)	Direction	Latitude/Longitude (Northing/Easting)	Time	Notes
RA8-5	1466	-2.5' South	NW	704940 / 1160182	10:33	75' 50' of Int. from dock.
↓	1467	2.5	NW	704988 / 1160177	10:38	2nd 50' of Int. from dock.
RA8-6	1468	-2.5' South	NW	705042 / 1160168	10:47	1st 50' of Int. from boat.
↓	1469	40	NW	705094 / 1160152	10:50	2nd 50' of Int. from boat.
RA8-7	1470	-2.0' South	NW	705137 / 1160150	10:50	1st 50' of Int. from boat.
↓	1471	40	NW	705191 / 1160144	11:01	2nd 50' of Int. from boat.
RA8-8	1472	-2.0' South	NW	705236 / 1160137	11:03	1st 50' of Int. from boat.
↓	1473	2.5	NW	705278 / 1160134	11:08	50-80' of Int. from boat.
RA8-9	1474	-2.0' South	NW	705327 / 1160127	11:17	1st 50' of Int. from boat.
↓	1475	2.5	NW	705372 / 1160129	11:19	2nd 50' of Int. from boat.
RA8-10	1476	-1.5' South	NW	705435 / 1160131	11:27	1st 50' of Int. from boat.
↓	1477	+3.0' North	SW	705570 / 1160101	11:28 11:40	2nd 50' from dock.
RA8-11	1478	-2.5' South	NW	705520 / 1160106	11:44	0-35' of Int. from dock.
↓	1479	0	NW	705552 / 1160101	11:48	40-100' of Int. from dock.
RA8-12	1480	-4.0' South	NW	705601 / 1160092	11:51	0-50' of Int. from dock.
↓	1481	2.0	NW	705631 / 1160079	11:54	50-100' of Int. from dock.

Additional Notes: (For additional photo points, identify reason for taking additional photograph)

#1468 taken from boat touching shore, 1469, 1470, 1471, 1472, 1473
 1473 boat touch South East piling southeast in waterway under Colonial Fruit.

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways MIMP

PHOTO DOCUMENTATION

Date: 7/22/2006

Weather: Rain

Remedial Area: RA-8

Field Personnel: Bill Essinger, Tom Ch, Matt Bazler

Monitoring Interval	Photograph Number	Location Along Transect (in feet)	Direction	Latitude/Longitude (Northing/Easting)	Time	Notes
RA8-13	1482	-30 South	NW	705707/1160079	1201	0-50' at end from dock
↓	1483	28	NW	705764/1160068	1204	50-100' from dock
RA8-14	1484	-25 South	NW	705806/1160065	1208	0-50' from dock
↓	1485	30	NW	705867/1160054	1210	50-100' from dock
↓	1486	35	NW	705925/1160047	1214	Piling at 80' from dock
RA8-15	1487	-25 South	NW	705920/1160046	1217	0-50' from dock
↓	1488	-25 South	N	705903/1160032	1220	Along Shore showing grounded pilings
↓	1489	30	SW	706017/1160034	1226	50-75' from dock
RA8-16	1490	60	NW	706004/1160035	1228	75-100' from dock
↓	1491	65	SW	706085/1160026	1233	0-50' from dock
↓	1492	45	NW	706072/1160029	1238	50-75' from dock
↓	1493	50	NW	706070/1160030	1239	75-100' from dock
RA8-17	1494	-15 South	NW	706105/1160026	1243	0-50' from dock

Additional Notes: (For additional photo points, identify reason for taking additional photograph)

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06

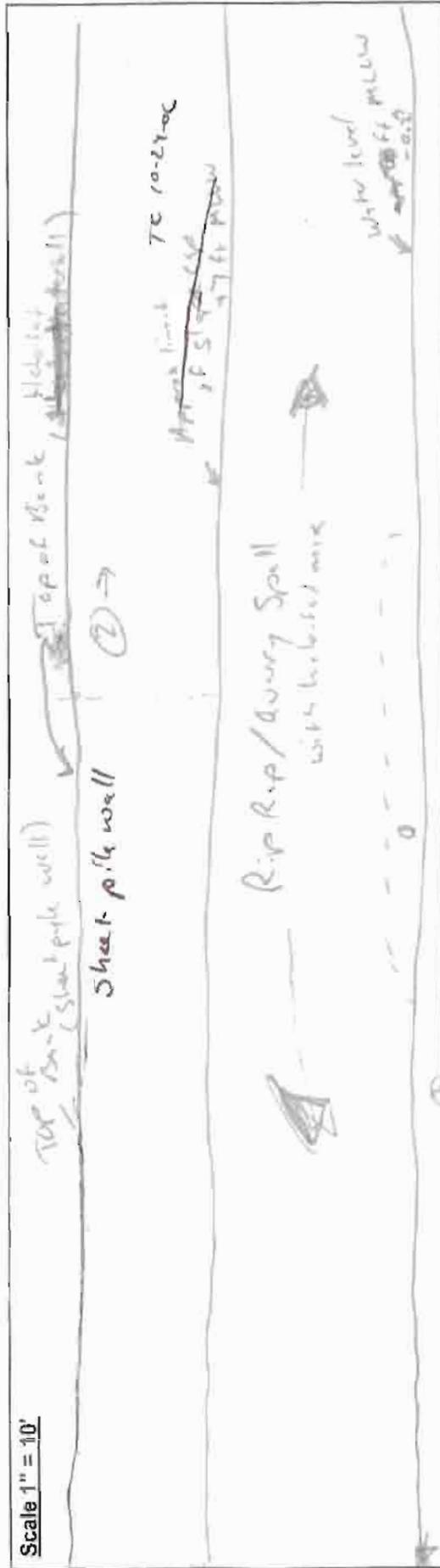
Field Personnel: J. Chantofelsky

Monitoring Interval: R&R-5

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- ① possible sediment excavation
- ② Street-pierced sheet pile wall ends @ 50 ft



P0001466 7/12/2006 10:33:55 AM



P0001467 7/12/2006 10:38:10 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

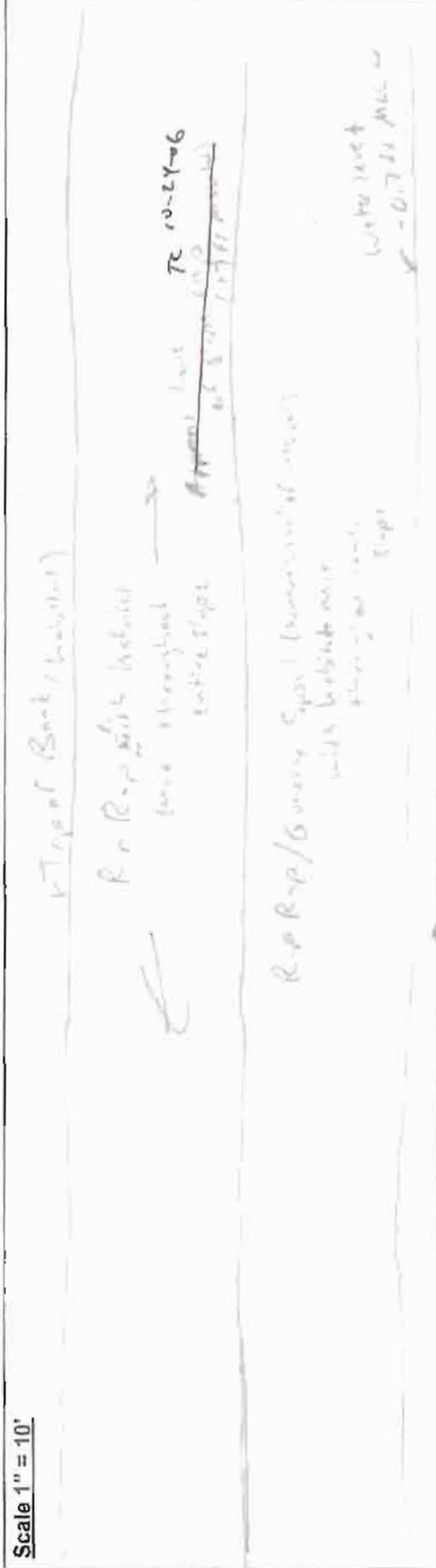
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06
 Field Personnel: T. F. Osgood
 Monitoring Interval: RAB-6

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

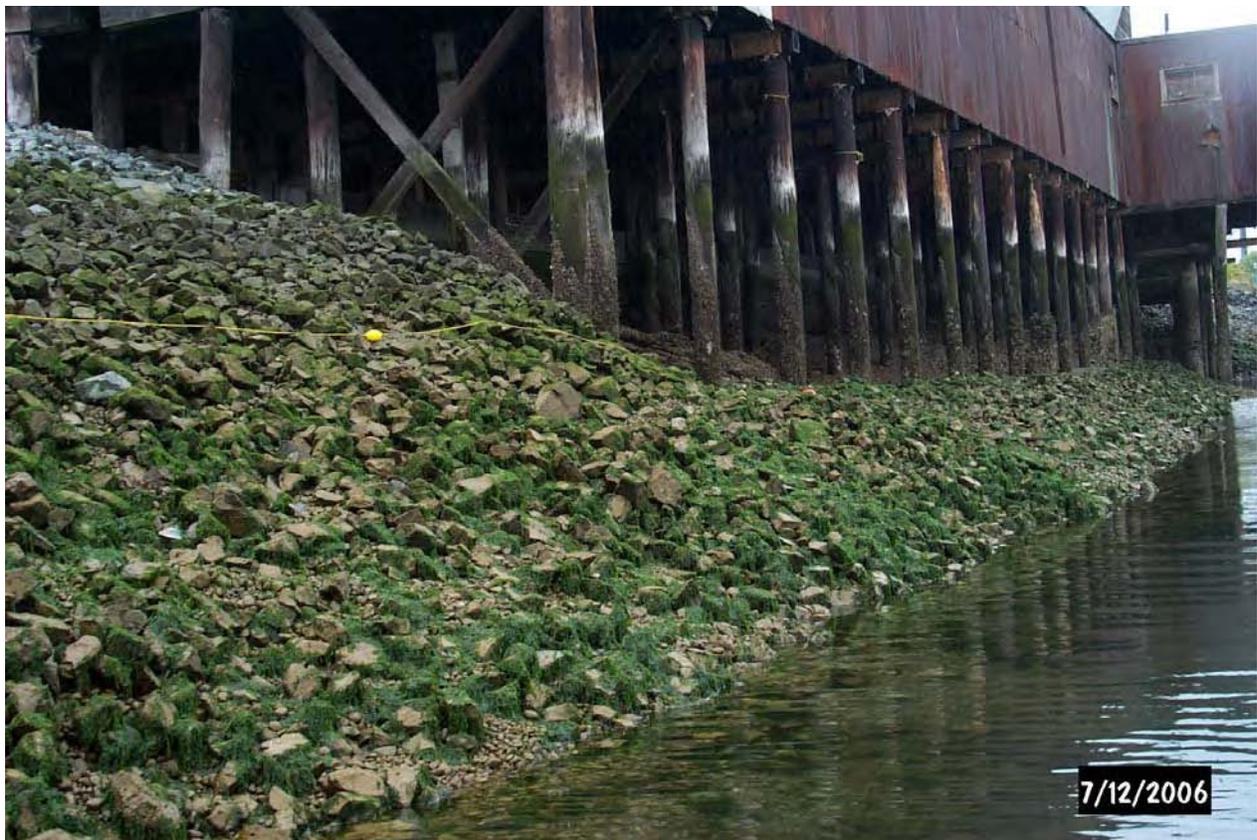
Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001468 7/12/2006 10:47:27 AM



P0001469 7/12/2006 10:50:57 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-17-06

Field Personnel: T. Chertkofsky

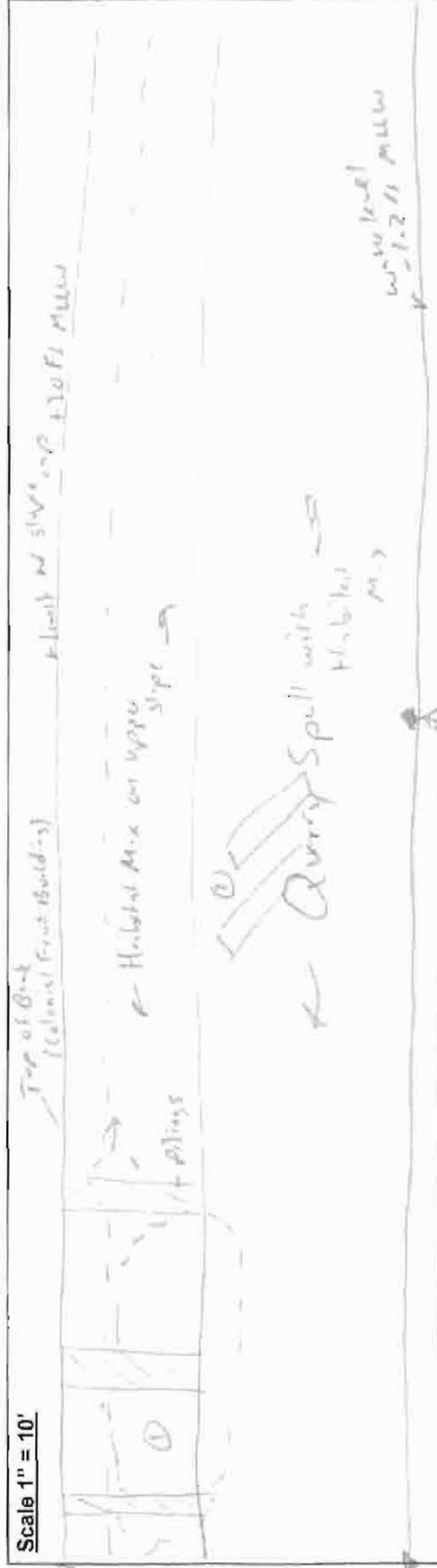
Monitoring Interval: RA8-7

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



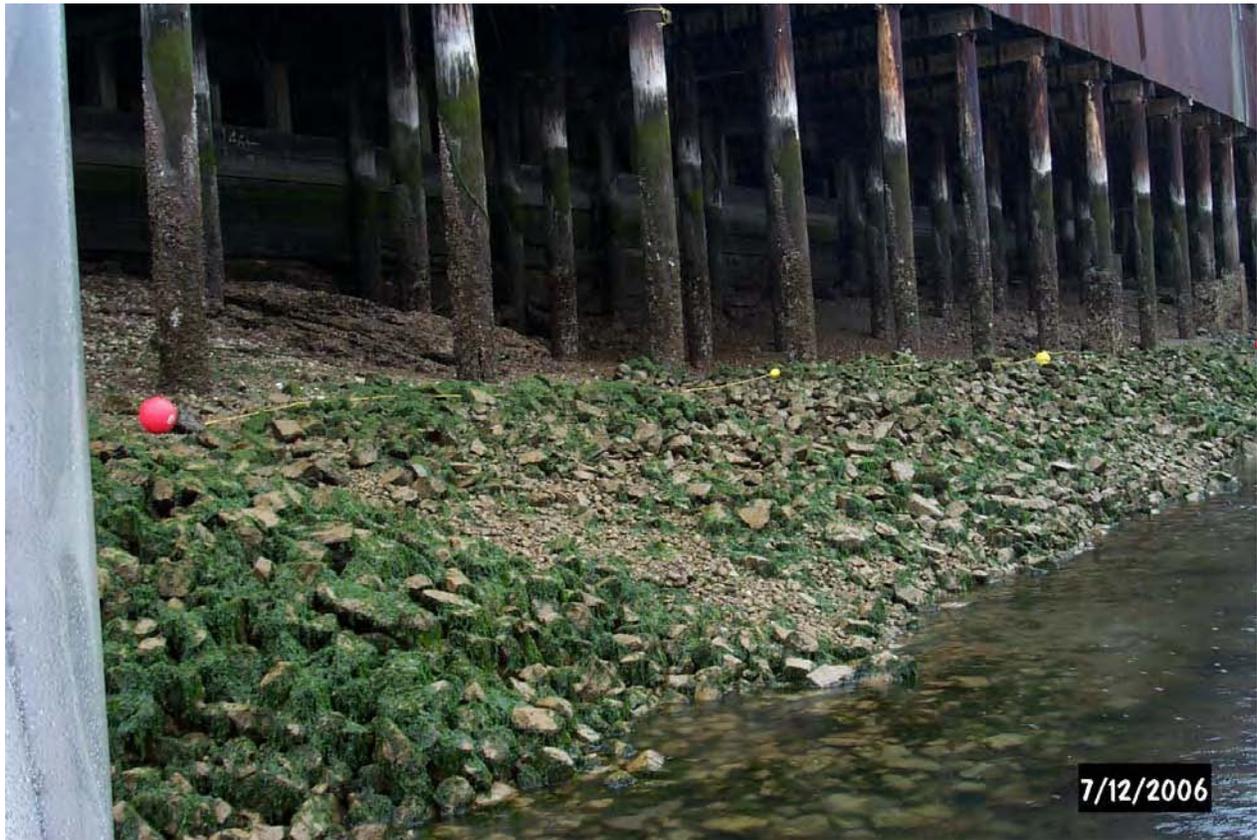
Photopoint @ 10ft S of Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

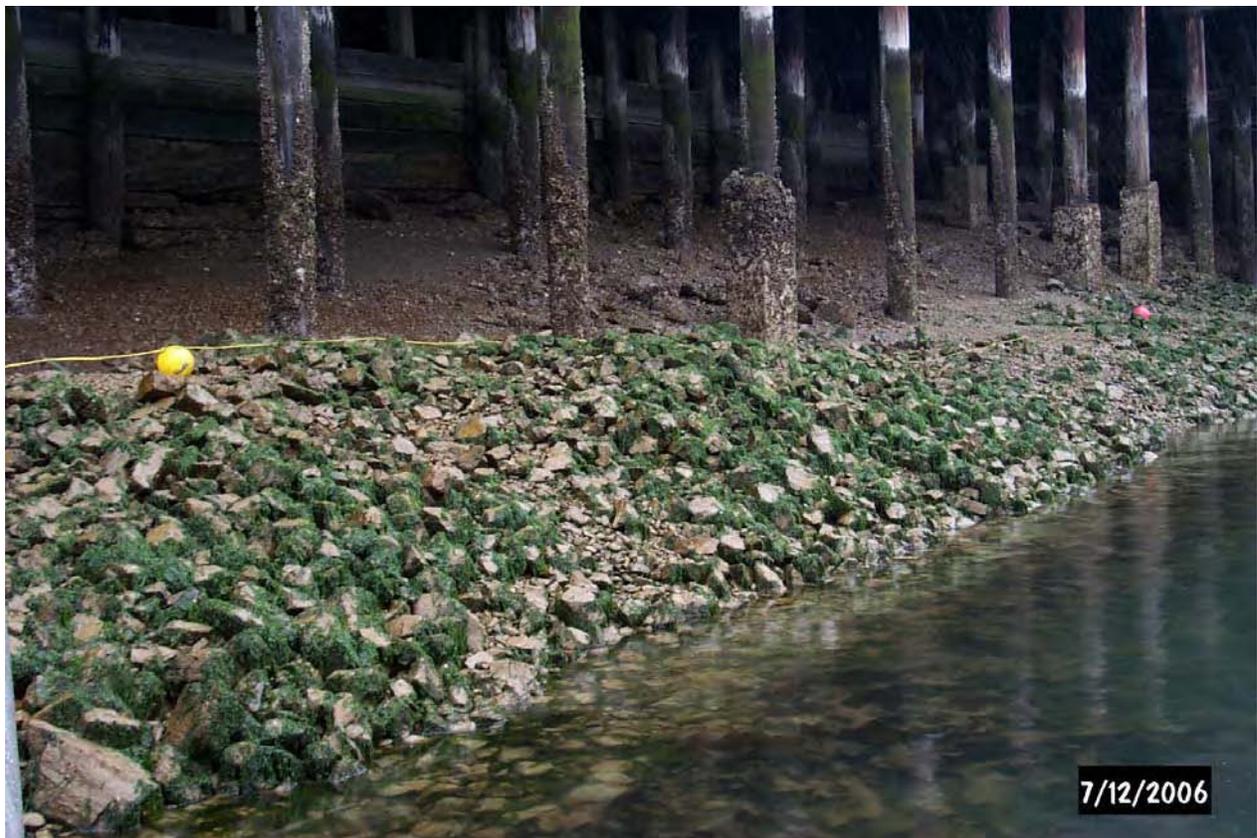
① Concrete runoff

② Note: Bulkhead on upper slope above habitat area

③ 2 stacks of metal debris



P0001470 7/12/2006 10:56:11 AM



P0001471 7/12/2006 11:01:09 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-17-06

Field Personnel: J. C. Lumbefeldt

Monitoring Interval: RA 8-9

Monitoring Interval Transect Notes:

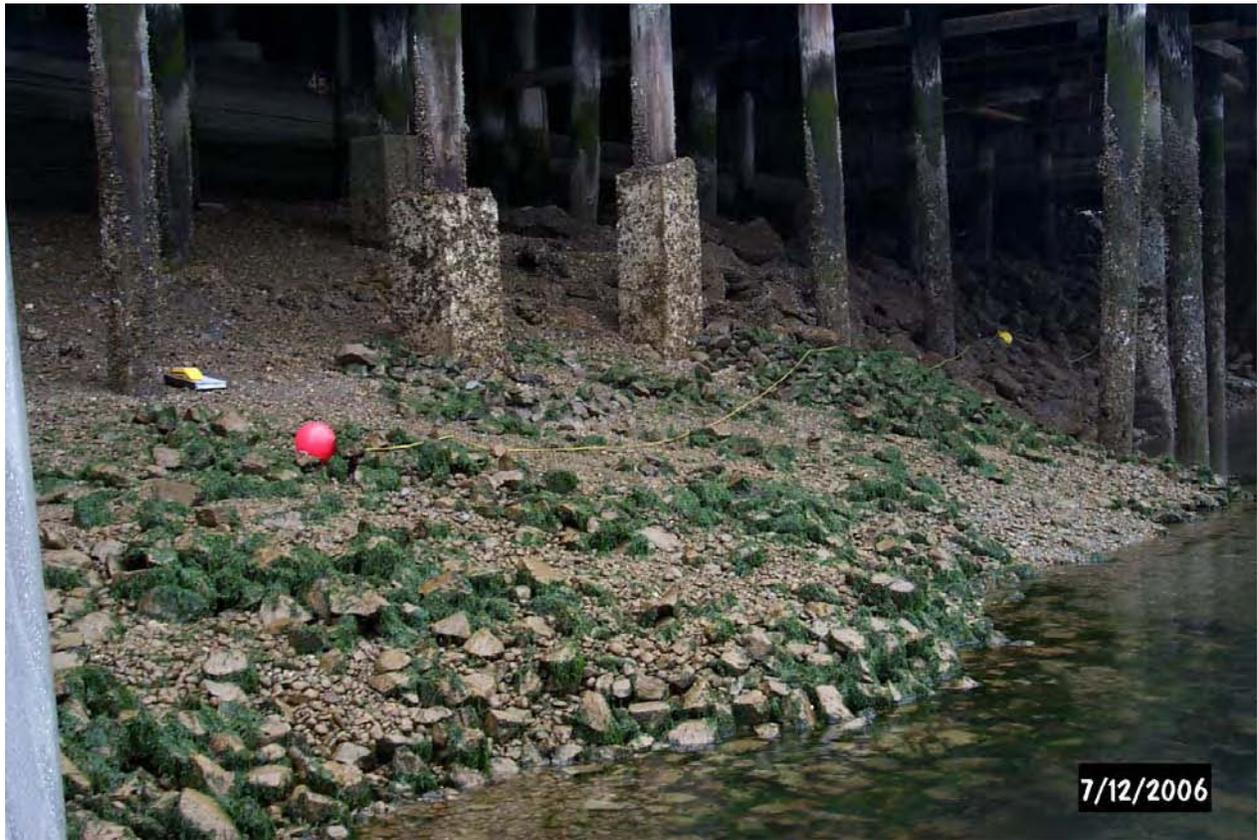
- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Block debris



P0001472 7/12/2006 11:03:44 AM



P0001473 7/12/2006 11:08:07 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-17-06
 Field Personnel: J. C. Houtteville
 Monitoring Interval: P.A.S.-9

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint @ 10ft S. of Interval Start (1) Photopoint @ 25ft (2) →

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- (1) Buckle (debris)
- (2) Concrete Structure
- (3) Fence



P0001474 7/12/2006 11:17:02 AM



P0001475 7/12/2006 11:19:50 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-17-06

Field Personnel: T. Chantafalsky

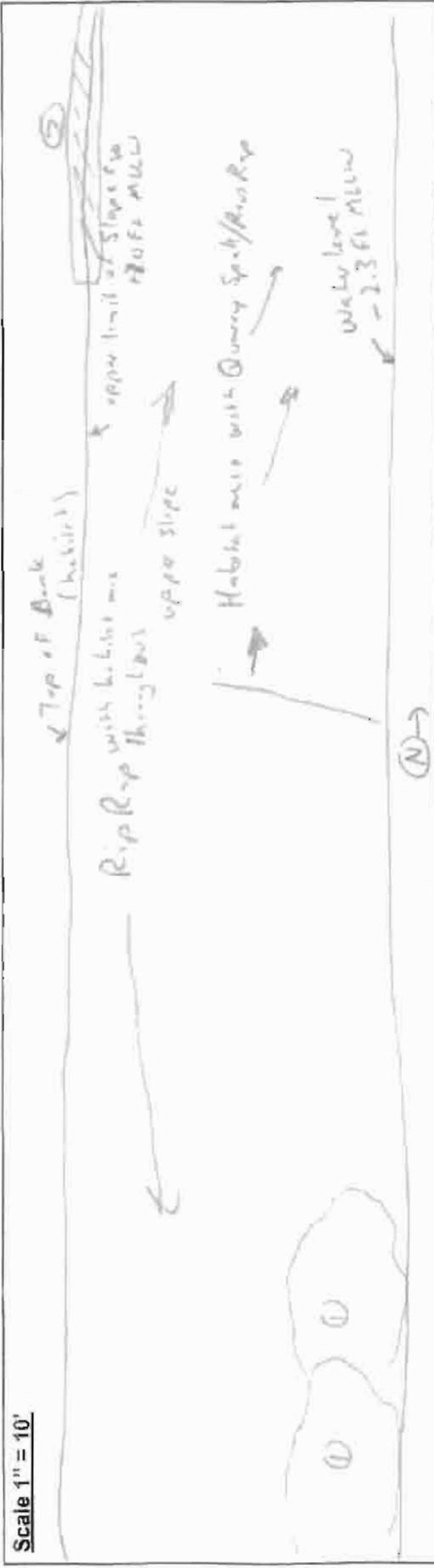
Monitoring Interval: RA8-10

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint 1 @ 10ft S of Interval Start

Photopoint 2 @ 10ft N of Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- 1) Concrete manhole
- 2) log on top of slope bank



P0001476 7/12/2006 11:27:28 AM



P0001477 7/12/2006 11:40:24 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

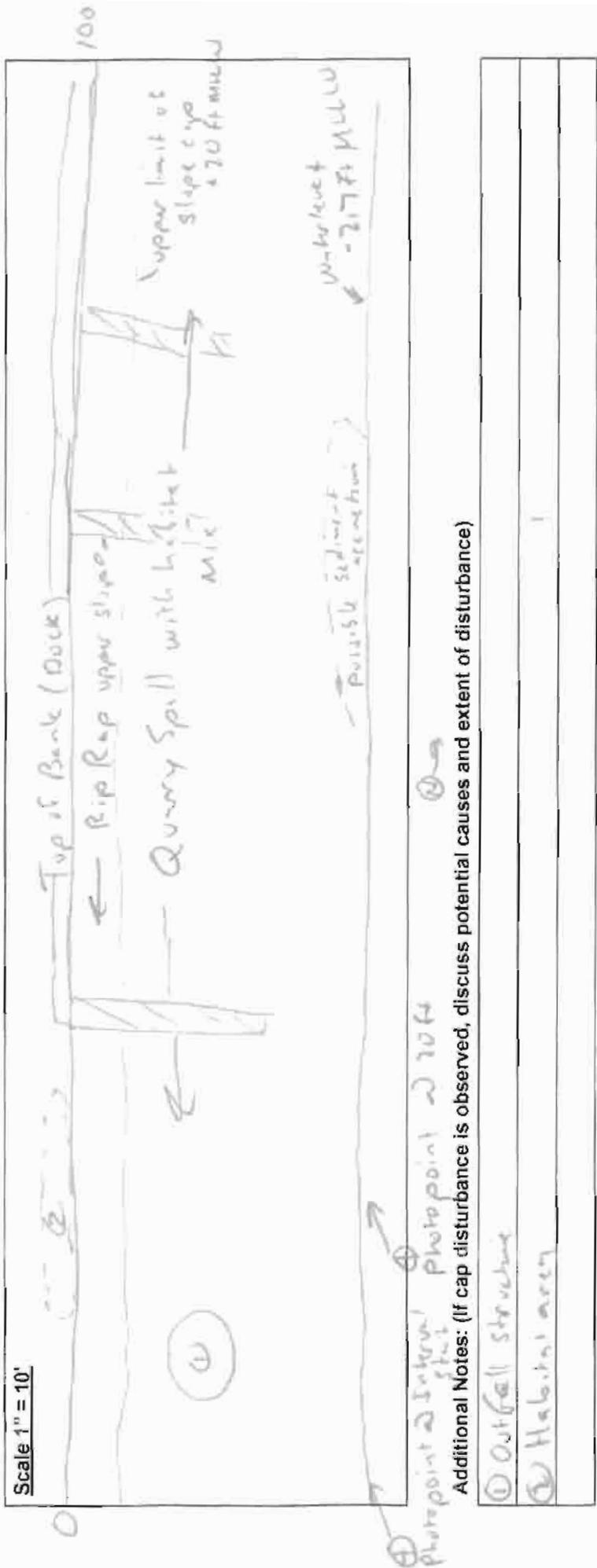
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-17-06
 Field Personnel: T. Chumbley
 Monitoring Interval: RAB-1

Monitoring Interval Transect Notes:

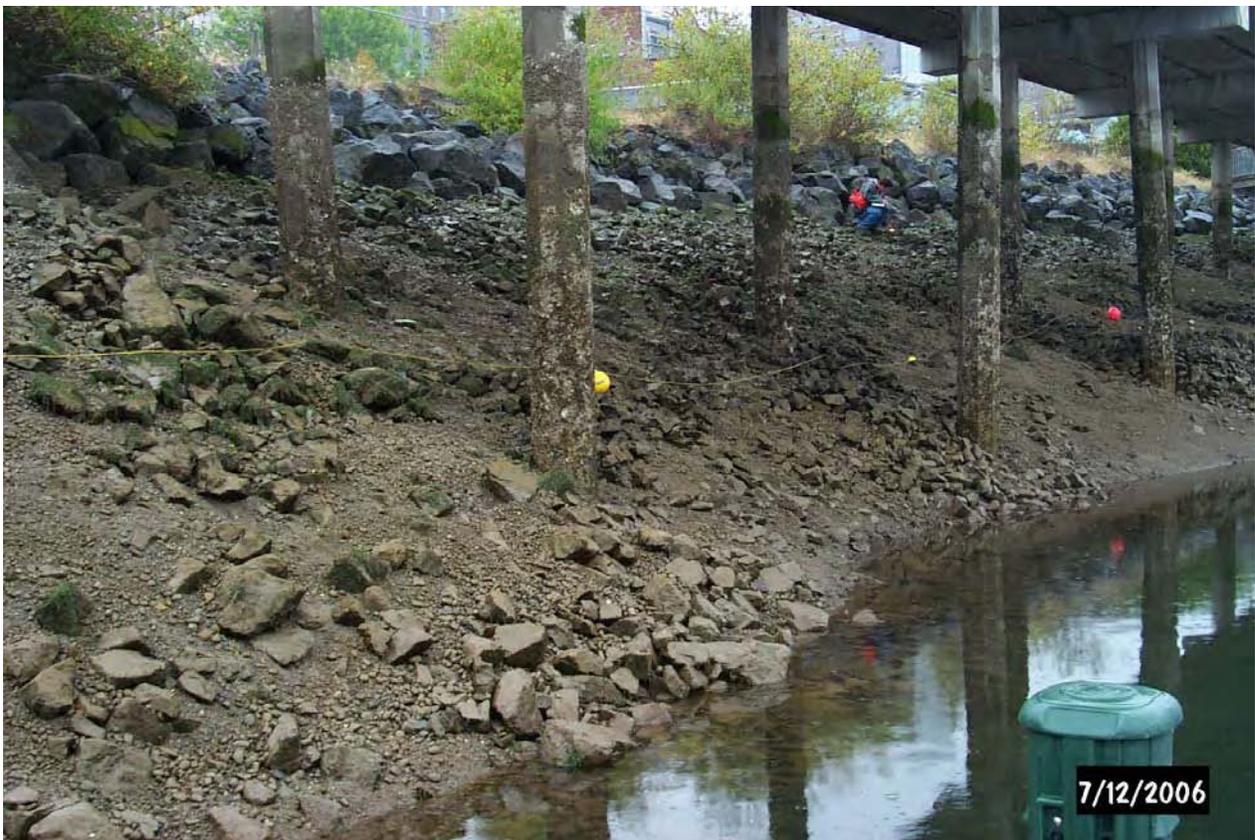
- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)





P0001478 7/12/2006 11:44:42 AM



P0001479 7/12/2006 11:48:35 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

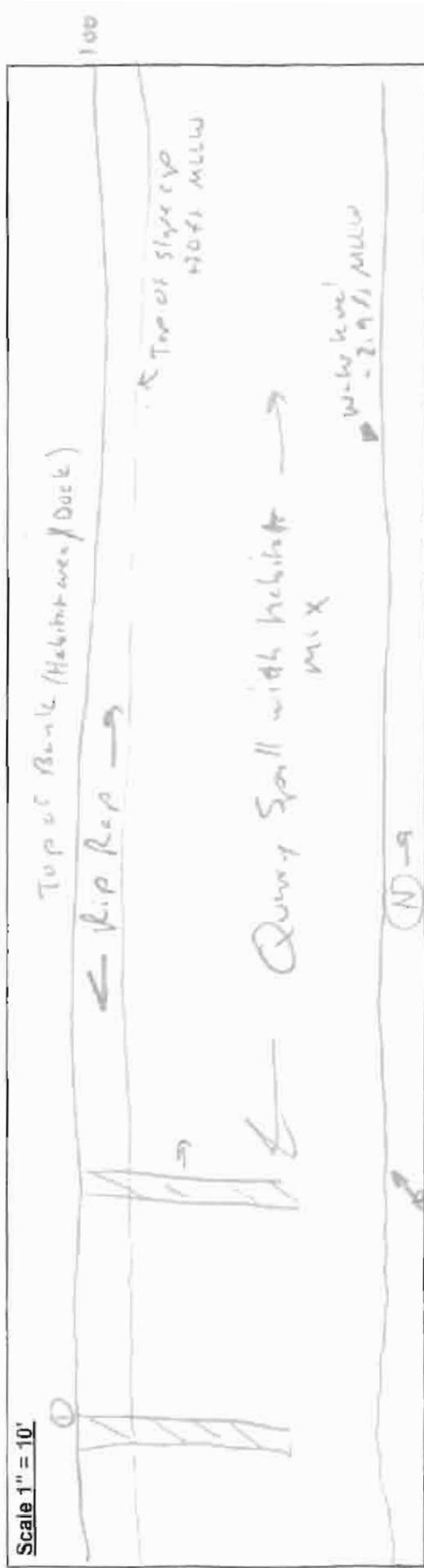
Thea Foss and Wheeler Osgood Waterways OMMIP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06
 Field Personnel: T. Chuntakulsky
 Monitoring Interval: RA9-12

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Photopoint @ 15ft S. of E-View Shot
 Photopoint @ 10ft

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Piling's throughout interval



P0001480 7/12/2006 11:51:36 AM



P0001481 7/12/2006 11:54:25 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06

Field Personnel: T. Chantrelsky

Monitoring Interval: RAB-13

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'

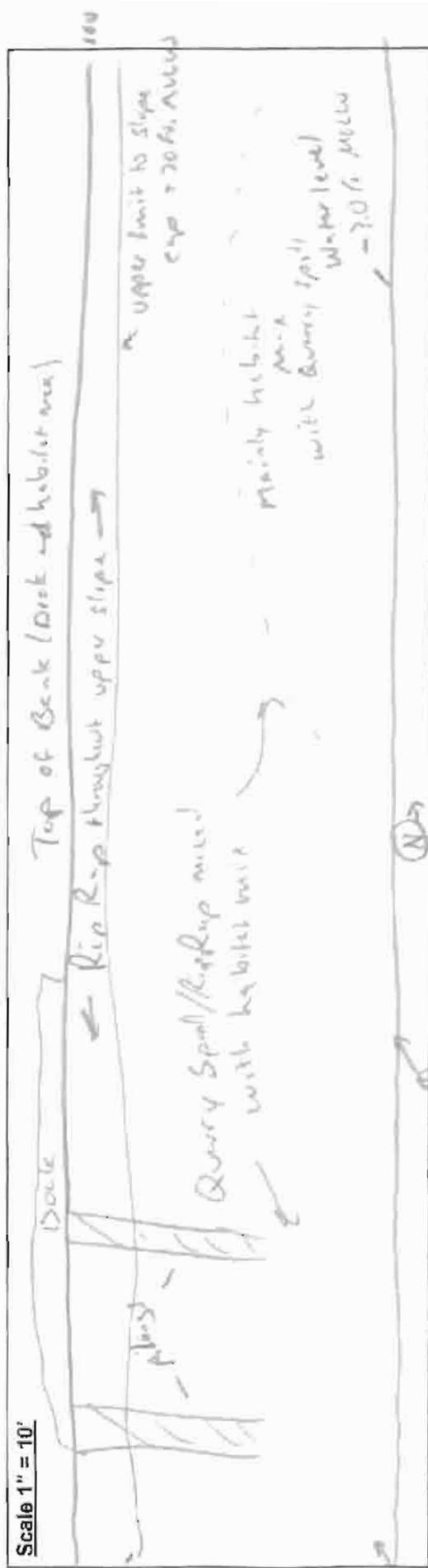


Photo point at 30 ft S. of Interval Start photopoint 230ft

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: Fibrous mat found on habitat mat. This is not accretion



P0001482 7/12/2006 12:01:23 PM



P0001483 7/12/2006 12:04:43 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OIMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06

Field Personnel: T. & Wheeler Osgood

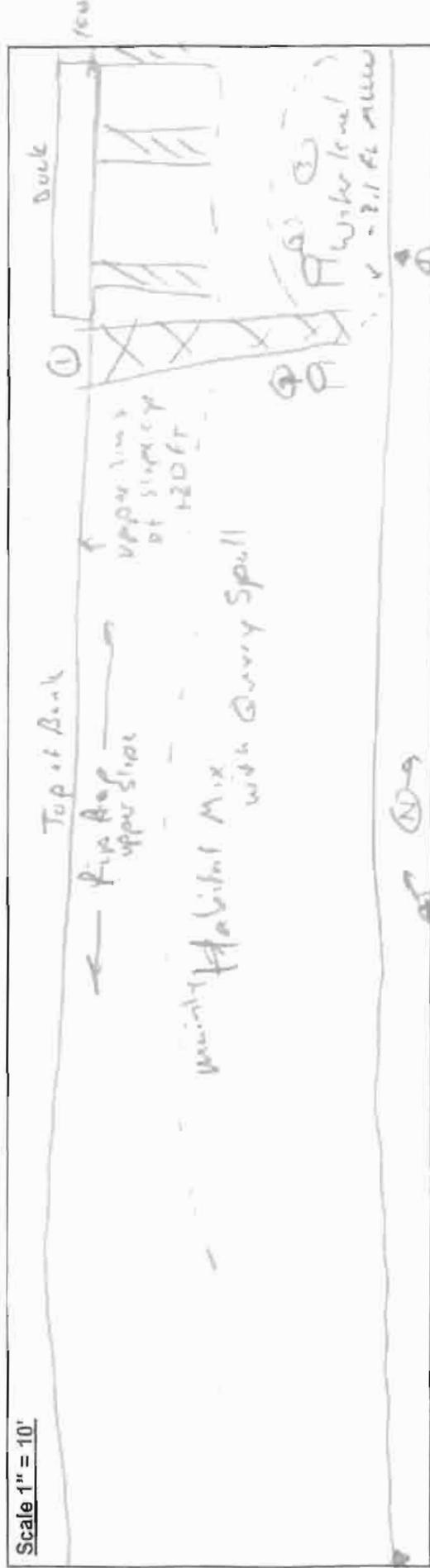
Monitoring Interval: RAB-14

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint @ 40ft

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- 1) Walkway from Top of Bank to Duck
- 2) Old broken pilings
- 3) Possible sediment accretion

Note: Some ground water seepage @ 85ft



P0001484 7/12/2006 12:08:04 PM



P0001485 7/12/2006 12:10:46 PM



P0001486 7/12/2006 12:14:18 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-17-06

Field Personnel: T. & M. Tompkins

Monitoring Interval: RAS-15

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap integrity issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint @ 15 ft S. of Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Groundwater seepage and used debris

② Concrete

③ Boats along water line

* Photopoint taken at Interval Start of Boats on water line



P0001487 7/12/2006 12:17:52 PM



P0001488 7/12/2006 12:20:10 PM



P0001489 7/12/2006 12:26:09 PM



P0001490 7/12/2006 12:28:46 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06

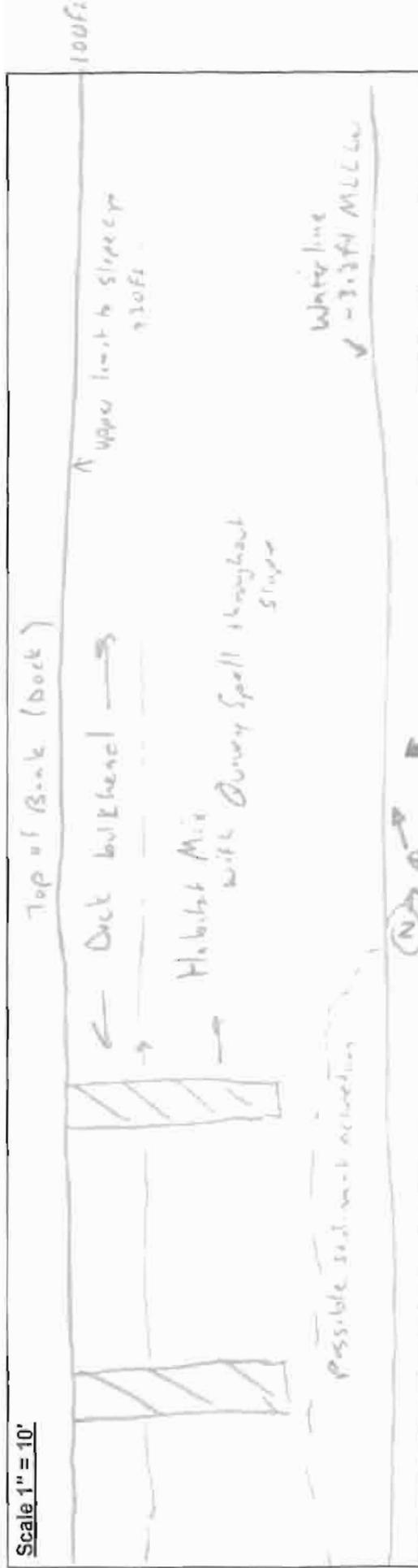
Field Personnel: T. Chantafelakos

Monitoring Interval: 205-16

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note - Piling throughout this interval



P0001491 7/12/2006 12:33:41 PM



P0001492 7/12/2006 12:38:08 PM



P0001493 7/12/2006 12:39:44 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-12-06

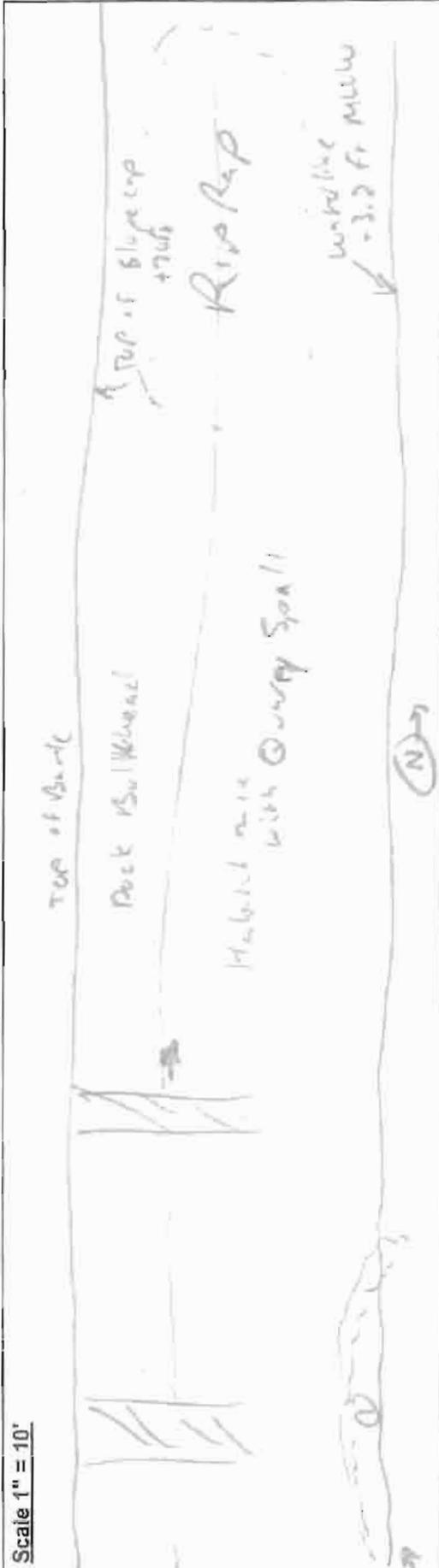
Field Personnel: T. Foss, J. Foss, J. Foss

Monitoring Interval: PAS-17

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint @ 15 ft S. of Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: 50ft transect

Possible sediment accumulation



P0001494 7/12/2006 12:43:49 PM

Remedial Area 14

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMIMP

Date: 7/11/2006
 Weather: Sunny ~ 70°F
 Field Personnel: M. WISSEMAN

Remedial Area: RA 14 (PAGE 1 OF 1)
 Datum (Horiz/Vert): NA STATE PLANE SOUTH (NAD 83/91) / MLLW
 Benchmark(s) Used for Location Control: # 214 & # 215

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH		
RA 14-1	100	704675 / 116083	704706 / 1160782	1227	HABITAT MIX W/ SOME RIP RAP
RA 14-2	NA	NA	NA	1240	QUARRY SPALLS W/ HABITAT MIX CONIFER LOG
RA 14-3	NA	NA	NA	1247	QUARRY SPALLS & HABITAT MIX
RA 14-4	NA	NA	NA	1258	QUARRY SPALLS, SMALL RIP RAP & HABITAT MIX
CA 14-5	NA	NA	NA	1307	QUARRY SPALLS & HABITAT MIX
RA 14-6	NA	NA	NA	1315	HABITAT MIX, QUARRY SPALLS & RIP RAP

Monitoring Interval	CHECK ALL THAT APPLY							Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion	Seepage	Underlying Sediment Exposed	Erosion (Cap Mat. Missing)	Debris	Downslope Movement	Grout Mat Exposed	
RA 14-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SOME DEBRIS PELED AROUND RAPOR WERE FEAK. CAP APPEARS SMOOTH. NO DEBRIS IN UNDER PIER AREA.
RA 14-2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CAP LOWER THAN UNDER PIER AREAS - APPEARS INTACT
RA 14-3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	THICK CAP, NO DEBRIS. CONTINUOUS UNDER-PIER COVERAGE
RA 14-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CAP LOWER THAN UNDER PIER AREAS - APPEARS INTACT
CA 14-5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HABITAT MIX, QUARRY SPALLS & RIP RAP W/ HABITAT MIX ABOVE
RA 14-6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

NOTES: RA 14-1 ON SOUTH END OF FACILITY (SEE FIGURE FOR PLAN LOCATION).
 RA 14-2 UNDER PIER AREA OF WHARF NO. 2
 RA 14-3 IN SOUTH SHIPWAY NORTH OF WHARF 2
 RA 14-4 UNDER PIER AREA OF WHARF NO. 1
 RA 14-5 IN NORTH SHIPWAY SOUTH OF PIER 3.
 RA 14-6 UNDER PIER 3 AREA @ NORTH END OF RA

* NORTH BOUNDARY RA 14 @
 NORTHERN EXTENT OF PIER 3
 @ MARITIME SHEPARD SITE.

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways ~MMP

PHOTO DOCUMENTATION

Date: 7/11/2006

Weather: Clear 70°F

Remedial Area: RA-14

Field Personnel: Bill Eastman, Tom Co, CG

Monitoring Interval	Photograph Number	Location Along Transect (in feet)	Direction	Latitude/Longitude (Northing/Easting)	Time	Notes
RA14-1	1450	0	NE	704667 / 1160804	1230	3 photos taken from 1 location
"	1451	0	N	704667 / 1160804	1231	
"	1452	0	NW	704667 / 1160804	1234	
RA14-2	1453	22	E	704739 / 1160702	1241	Setup on West end of Wharf #2
"	1454	22	E	704747 / 1160702	1245	Just North of photo 1453.
RA14-3	1455	22	E	704785 / 1160586	1250	South ship way, South side
"	1456	22	E	704791 / 1160684	1254	South ship way, North side
RA14-4	1457	22	E	704799 / 1160680	1257	South side of Wharf #1
"	1458	-	NW	704808 / 1160710	1301	"
"	1459	-	E	No Coordinates	1306	Beneath Wharf #1, (355' North of GPS #2)
RA14-5	1460	-	E	No Coordinates	1314	South side of North Shipway
"	1461	-	E	704938 / 1160677	1319	North side of North Shipway
RA14-6	1462	-	E	22	1321	South side of Wharf #3.
"	1463	-	NE	22	1323	"
"	1464	-	NW	22	1324	"

Additional Notes: (For additional photo points, identify reason for taking additional photograph)

RA14-1 is pie-shaped raised area on South west corner.
 RA14-2 is under Wharf #2. Measure points are 3' SW of camera location.
 RA14-3 is South Shipway. RA14-4 is Wharf #1.
 RA14-5 is North Shipway. First shot is 20' South of 1467 (704918 / 1160672)
 RA14-6 is under Wharf #3.

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

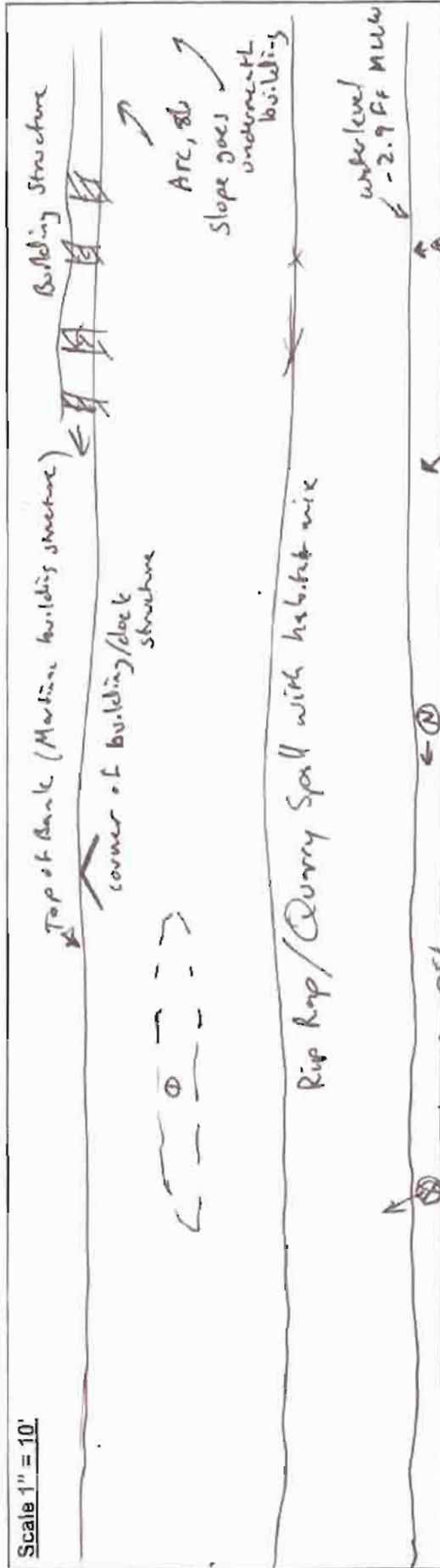
Field Personnel: T. Chantrelly

Monitoring Interval: RA14-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

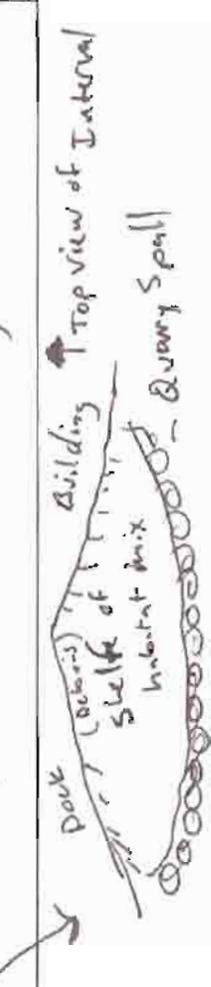
Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

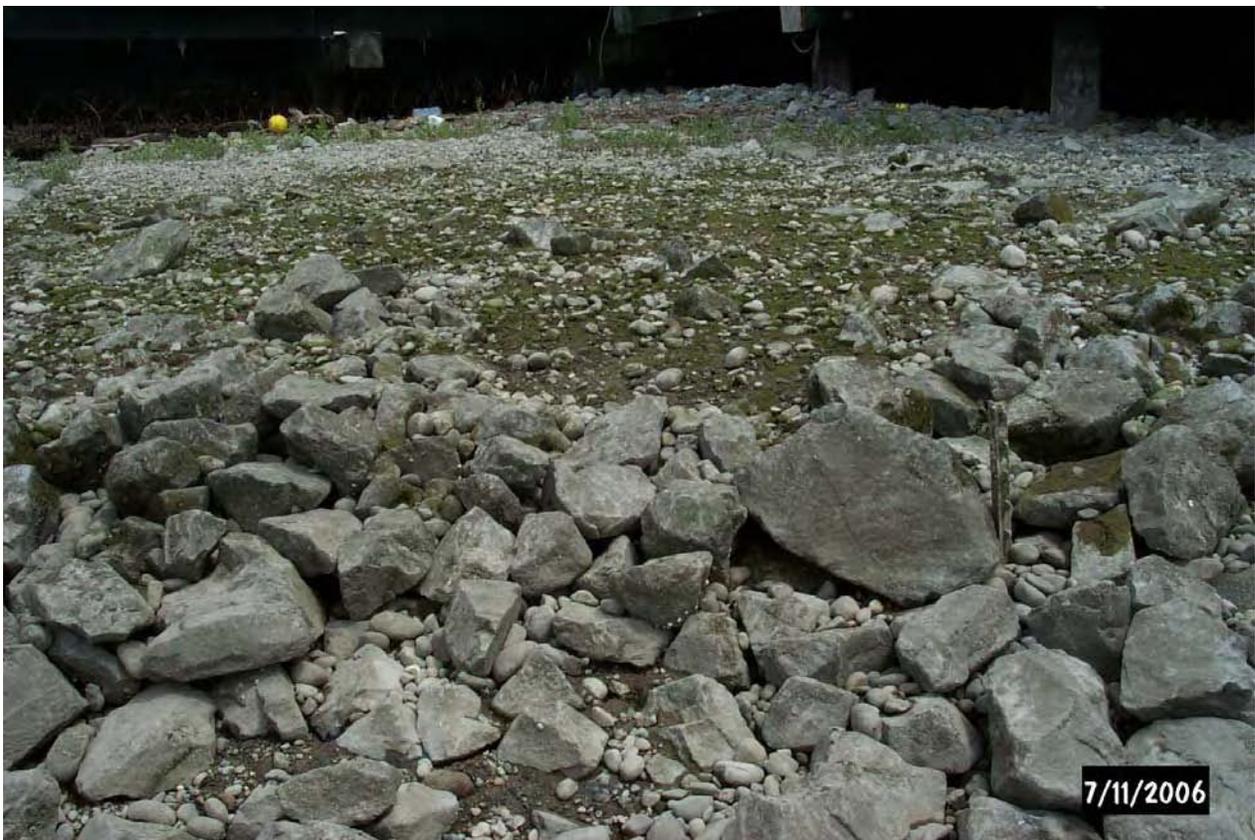
Debris collects in corner of interval approx 40-50ft

Note: Interval covers an area where it "shelves" as it goes under the building.





P0001450 7/11/2006 12:30:24 PM



P0001451 7/11/2006 12:32:14 PM



P0001452 7/11/2006 12:34:26 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

Field Personnel: T. Chantrelsky

Monitoring Interval: RA14-2 (Wharf 2)

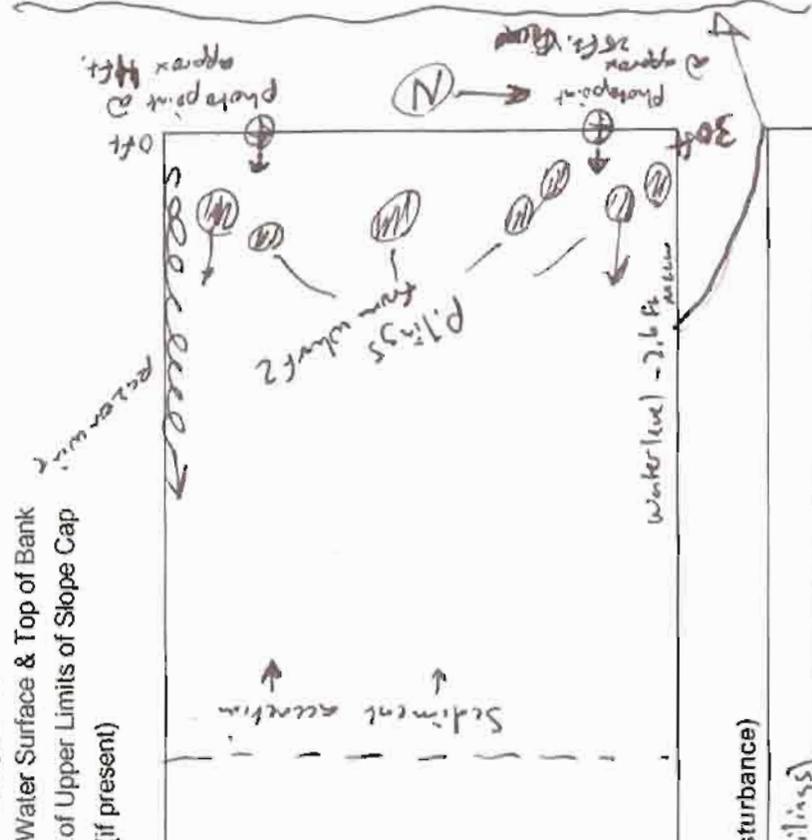
Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'

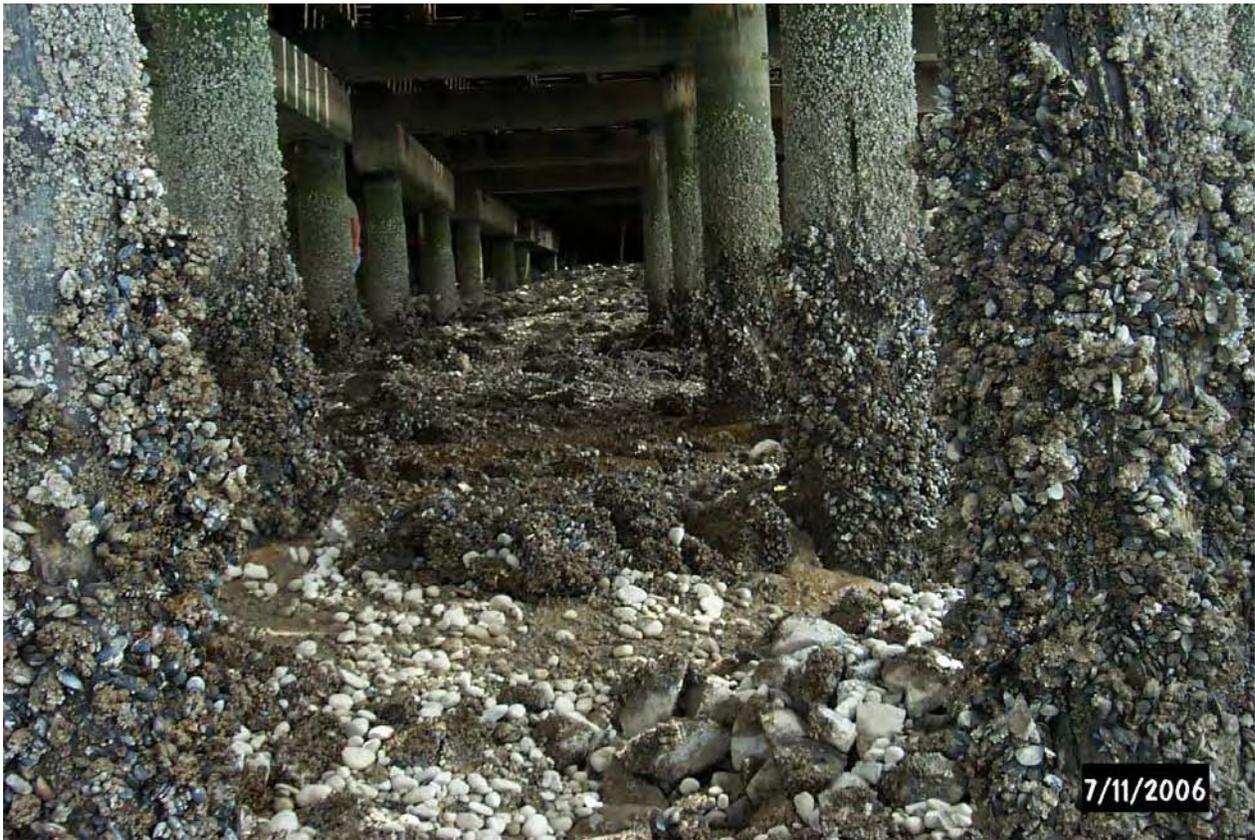
Quarry Spill cap
with hydrofilm
with hydrofilm
on top

Sediment accretion

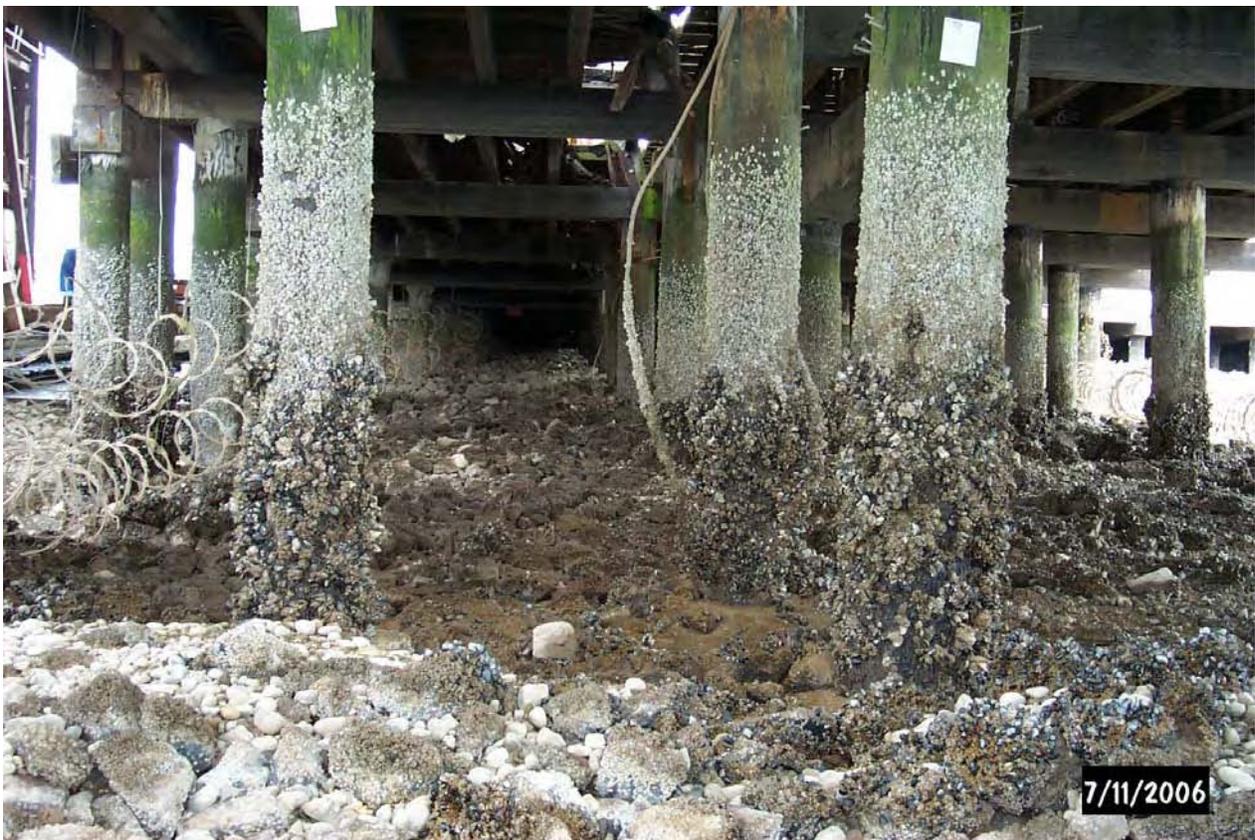


Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: Under wharf 2 - pillings throughout area. (did not draw all pillings)



P0001453 7/11/2006 12:42:18 PM



P0001454 7/11/2006 12:45:42 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

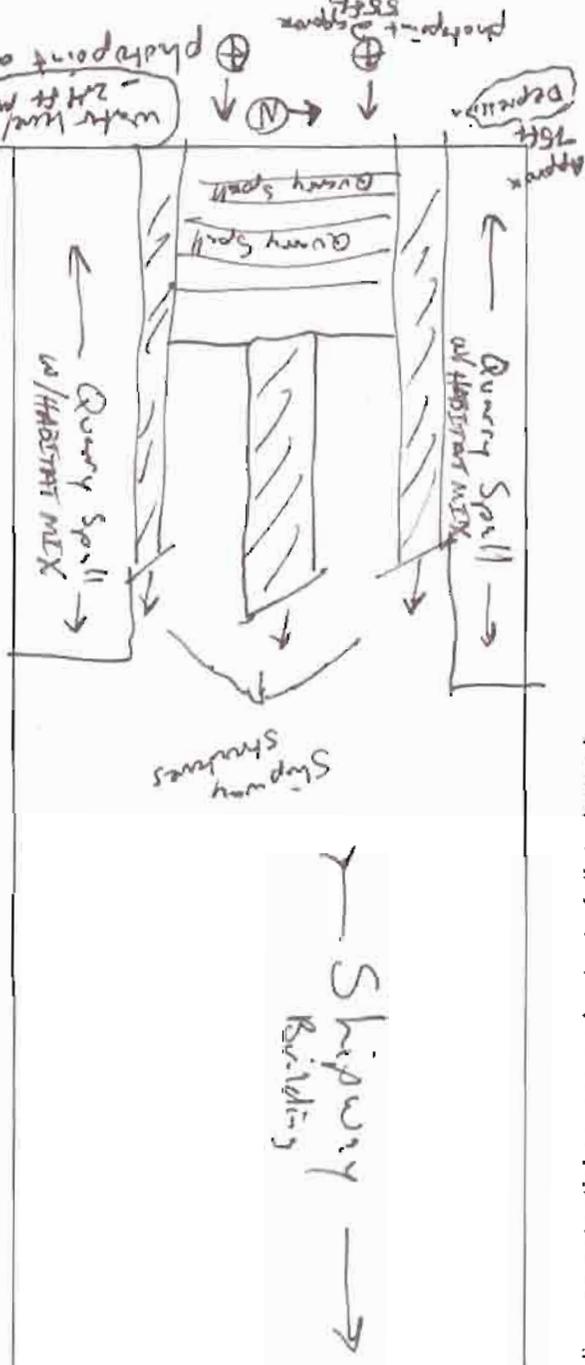
Field Personnel: J. Chantafsky
Monitoring Interval: RAM-3 (Shipway)

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001455 7/11/2006 12:51:14 PM



P0001456 7/11/2006 12:54:44 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

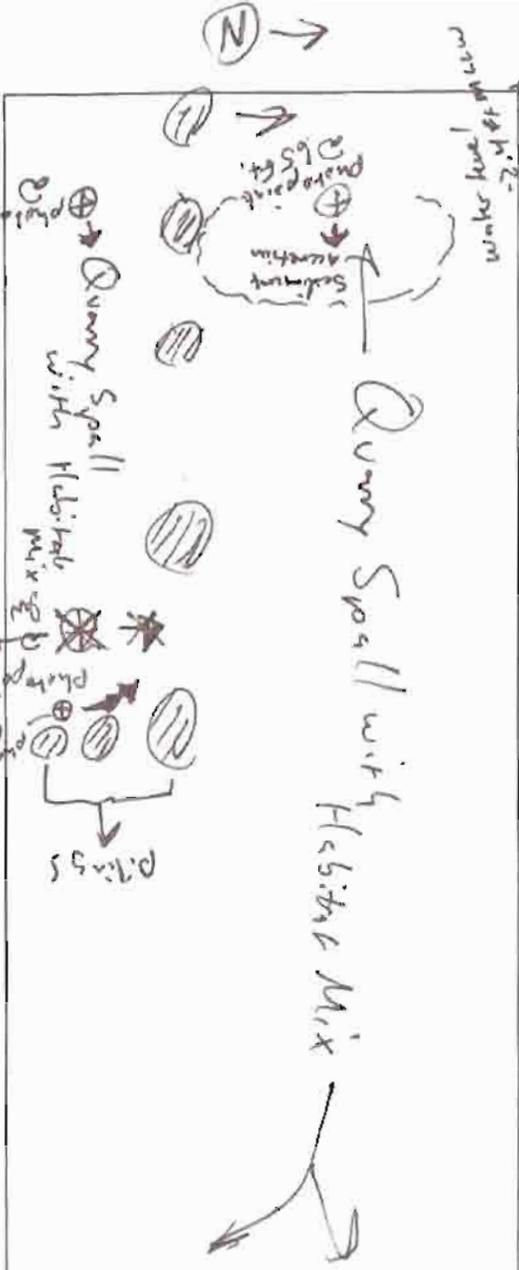
Date: 7-11-06
 Field Personnel: T. Chontro Filsley
 Monitoring Interval: RA14-4 (Wharf 1)

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (if cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: Interval is under a wharf. All pilings are not shown. Mainly Quarry Spill with habitats mix



P0001457 7/11/2006 12:57:54 PM



P0001458 7/11/2006 1:01:56 PM



P0001459 7/11/2006 1:06:46 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

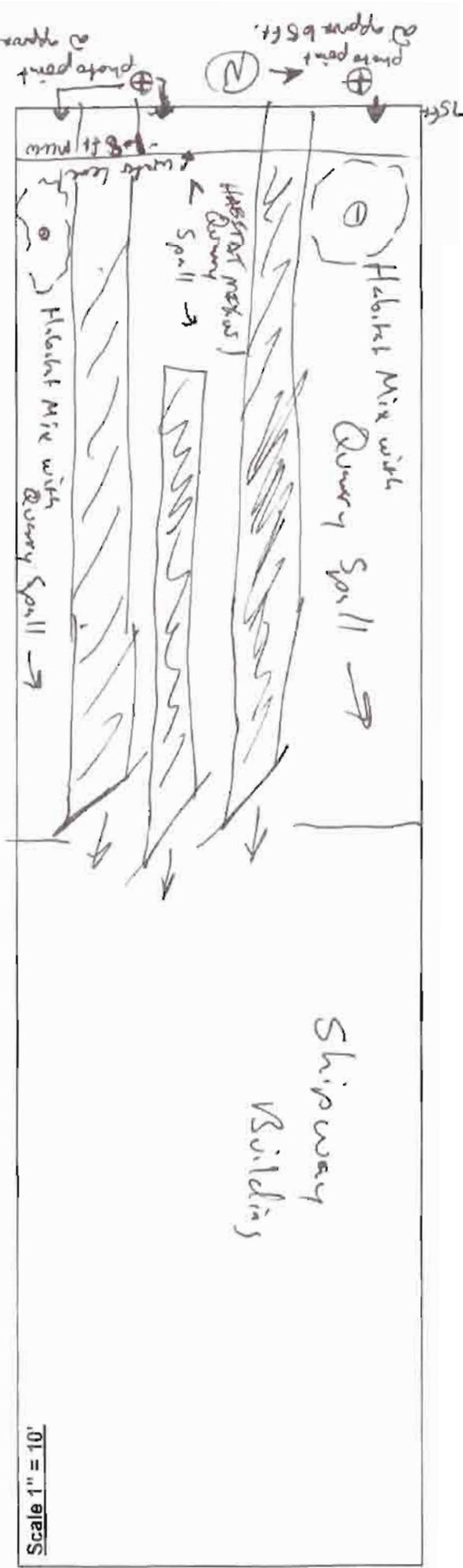
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

Field Personnel: T. Chantafsky, M. West
Monitoring Interval: RAIN-5 (Shipway B)

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Possible sediment accretion (from the waterline up into the Shipway Building)



P0001460 7/11/2006 1:14:56 PM



P0001461 7/11/2006 1:19:36 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMNIP

MONITORING INTERVAL TRANSECT DIAGRAM

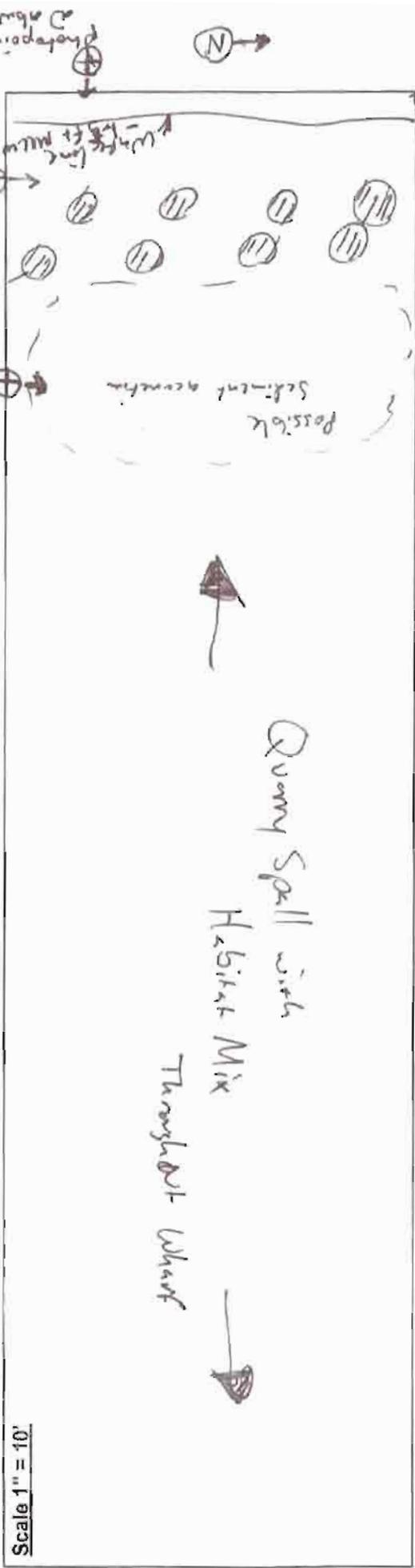
Date: 7-11-06

Field Personnel: T. Chontofalsky

Monitoring Interval: RA14-6 (Wharf 3)

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (if cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: Interval is underneath a Wharf. Mainly Quarry Spill with habitat mix. Some sediment accretion towards the water line



P0001462 7/11/2006 1:21:28 PM



P0001463 7/11/2006 1:23:42 PM



P0001464 7/11/2006 1:24:56 PM

Remedial Area 19A

160413
1000000

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: 19A (PAGE 1 OF 2) Date: 7/10
 Datum (Horiz/Vert): NAD 83 (VA STATE PLANE SOUTH) / MLLW Weather: LOUD & WINDY
 Benchmark(s) Used for Location Control: # 214 ±, # 216 Field Personnel: M. WILSON

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Time	Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH			
RA 19A-1	100	70354 / 1160258	703631 / 1160330	10:35	-2.8'	HABITAT MIX w/ OCCASIONAL RIP RAP / QUARRY SPALL
RA 19A-2	100	703631 / 1160330	703724 / 1160320	10:58	-2.9'	HABITAT MIX w/ SILE. RIP RAP @ ~ 75%
RA 19A-3	100	703724 / 1160320	703822 / 1160304	11:15	-2.9'	RIP RAP / MIXED QUARRY SPALL (W) HABITAT MIX
RA 19A-4	100	703822 / 1160304	703921 / 1160288	11:25	-2.8'	20% HYPHANT HABITAT MIX (W) OUSA. RIP RAP
RA 19A-5	100	703921 / 1160288	704008 / 1160276	11:42	-2.6'	HABITAT MIX (W) OCCASIONAL RIP RAP
RA 19A-6	100	704008 / 1160276	704122 / 1160277	11:52	-2.4'	PRECONCRETE HABITAT MIX (W) OUSA. RIP RAP
RA 19A-7	100	704122 / 1160277	704223 / 1160264	12:00	-2.2'	"
RA 19A-8	100	704223 / 1160264	704325 / 1160260	12:08	-2.0'	HABITAT MIX w/ OUSA. RIP RAP

Monitoring Interval	CHECK ALL THAT APPLY								Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion*	Seepage	Underlying Sediment Exposed	Erosion (Cap Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement or Cracking	
RA 19A-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NO VISIBLE THIN SLOPE CAP MATL → GOOD HABITAT MIX COVERAGE
RA 19A-2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	POSSIBLE SETTLEMENT. 2 DEPRESSIONS ABOVE TUNNEL (SEE DRAWING)
RA 19A-3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GOOD HABITAT MIX COVERAGE. SLOPE CAP APPEARS INTACT
RA 19A-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MINOR ACCRETION @ CAP SURFACE BEHIND PARACOLA FLOATS
RA 19A-5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MINOR ACCRETION @ CAP SURFACE BEHIND PARACOLA FLOATS
RA 19A-6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	THIN ACCRETION NEAR H2O SURFACE BEHIND FLOATS
RA 19A-7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"
RA 19A-8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GOOD HAB. MIX COVERAGE DOWN TO H2O LINE.

* SEDIMENT ACCRETION IN RA 19A-2 IS UNLINED IN SETTLEMENT AREA.

*

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: RA19A (PAGE 2 OF 2) Date: 7/10/2006
 Datum (Horiz/Vert): NAD 83/NA STATE PLANE SOUTH / MLLW Weather: CLOUDY ~ 65°F
 Benchmark(s) Used for Location Control: #214, #216 Field Personnel: M. WERTMAN

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Time	Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH			
RA19A-9	100	704325/1160260	704424/1160265	12:15	-1.7'	HAB. MIX @ SURFACE. RIP RAP C ~ 60' MAX
RA19A-10	100	704424/1160265	704519/1160266	12:20	-1.5'	HAB. MIX ABOVE ELEV. +2'. RIP RAP BELOW ELEV. +2'
RA19A-11	65	704519/1160266	704564/1160272	12:30	-1.2'	HAB. MIX ABOVE ELEV. +2' / RIP RAP BELOW ELEV. +2'

Monitoring Interval	CHECK ALL THAT APPLY										Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion	Seepage	Underlying Sediment Exposed	Erosion (Cap Mail. Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement or Cracking			
RA19A-9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ABUNDANT RIP RAP C ~ ELEV. 2' NEAR END OF TRANSVERSE
RA19A-10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NO HABITAT MIX OBSERVED @ SURFACE BELOW ELEV. +2 FT
RA19A-11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NO HABITAT MIX OBSERVED @ SURFACE BELOW ELEV. +2 FT
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

NOTE: END OF RA19A @ RA B @ NORTHERN EDGE AND SOUTHERN STEPS (SEE MAP)

★ ★

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

PHOTO DOCUMENTATION

Date: 7/10/2006

Weather: Cloudy ~60°C

Remedial Area: RA-19A

Field Personnel: Bill Essmeyer, Tom Ch, C G

Monitoring Interval	Photograph Number	Location Along Transect (in feet)	Direction	Latitude/Longitude (Northing/Easting)	Time	Notes
RA19A-1	1393 / 13	-15 South	N	703549 / 1160258	10:41	1st Half Interval on shore.
"	1394 / 14	40	NE	703578 / 1160308	10:46	2nd Half Interval on shore
2 RA19A-2	1395 / 15	-10 South	N	703622 / 1160330	11:07	Complete Interval on shore
3 "	1396 / 16	8	NW	703633 / 1160331	11:09	Depression #1.
4 "	1397 / 17	2.5	N	703654 / 1160327	11:12	Depression #2. (Great Depression)
5 RA19A-3	1398 / 18	-10 South	N	703710 / 1160327	11:16	Complete Interval minus low tide side
6 "	1399 / 19	0	N	703720 / 1160334	11:19	Shore line Rip Rap Quarry spalls
RA19A-4	1400 / 20	-8 South	N	703816 / 1160306	11:30	Complete Interval
RA19A-5	1398	-17 South	N	703905 / 1160298	11:42	Complete Interval
RA19A-6	1399	-6 South	N	704007 / 1160287	11:53	Complete Int.
"	1400	-2 South	N	703975 / 1160299	11:55	Slightly down shore by 5'
RA19A-7	1401	-12 South	N	704111 / 1160281	12:02	Complete Int.
RA19A-8	1402	-10 South	N	704217 / 1160266	12:08	Complete Int.
RA19A-9	1403	-10 South	N	704313 / 1160263	12:15	Complete Int.
RA19A-10	1404	-10 South	NW	704415 / 1160268	12:24	1st Half Int. up shore
"	1405	-10 South	N	"	12:24	1st Half Int. down shore
"	1406	40'	N	704465 / 1160283	12:27	2nd Half Int.

Ex 002
Ex 003
Ex 004
Ex 005
Ex 006

Additional Notes: (For additional photo points, identify reason for taking additional photograph)

* During Photo 1400/20 the Kodak DC290 camera started mixing-up photo serial numbers. The time stamp seems O.K.

RA19A-11 1407 -8 South NW 704519 / 1160276 1230 Complete Int = 6 S'

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMIP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06

Field Personnel: Iain Wingard

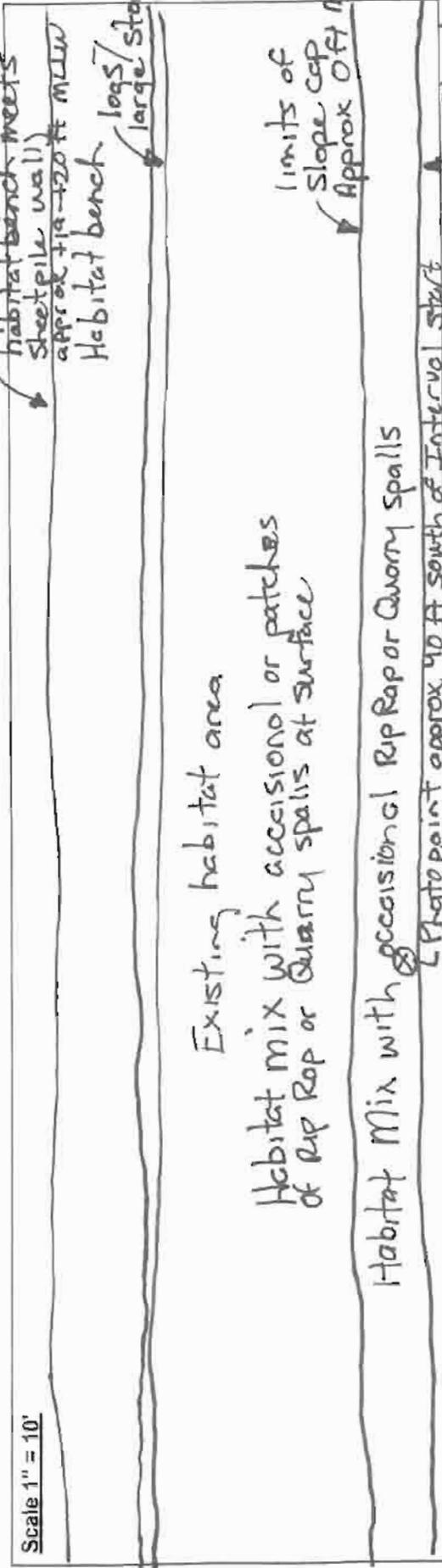
Monitoring Interval: RA19A-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Photopoint 15 ft South of Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

No observed difference or transition from existing habitat area to Slope Cap



P0001393 7/10/2006 10:41:22 AM



P0001394 7/10/2006 10:46:36 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06

Field Personnel: Tim Wingard

Monitoring Interval: RA19A-2

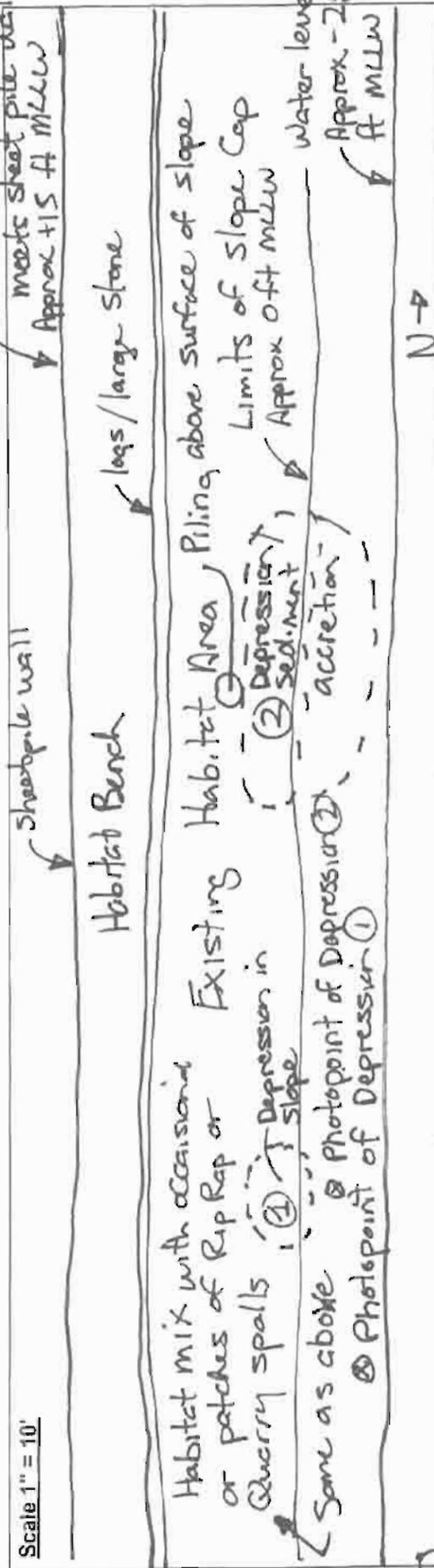
Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

top of bank
(where habitat bench
meets sheet pile wall)
Approx +15 ft MLLW

Scale 1" = 10'



Photopoint approx 15 ft south of Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Depression in slope at approx upper limits of slope cap (dimension 5ft wide)

② Depression in slope at between approx 55 to 75 ft South of interval start

Note: No observed difference or transition between slope cap and existing habitat



EX000002 7/10/2006 11:07:26 AM



EX000003 7/10/2006 11:10:16 AM



EX000004 7/10/2006 11:12:56 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

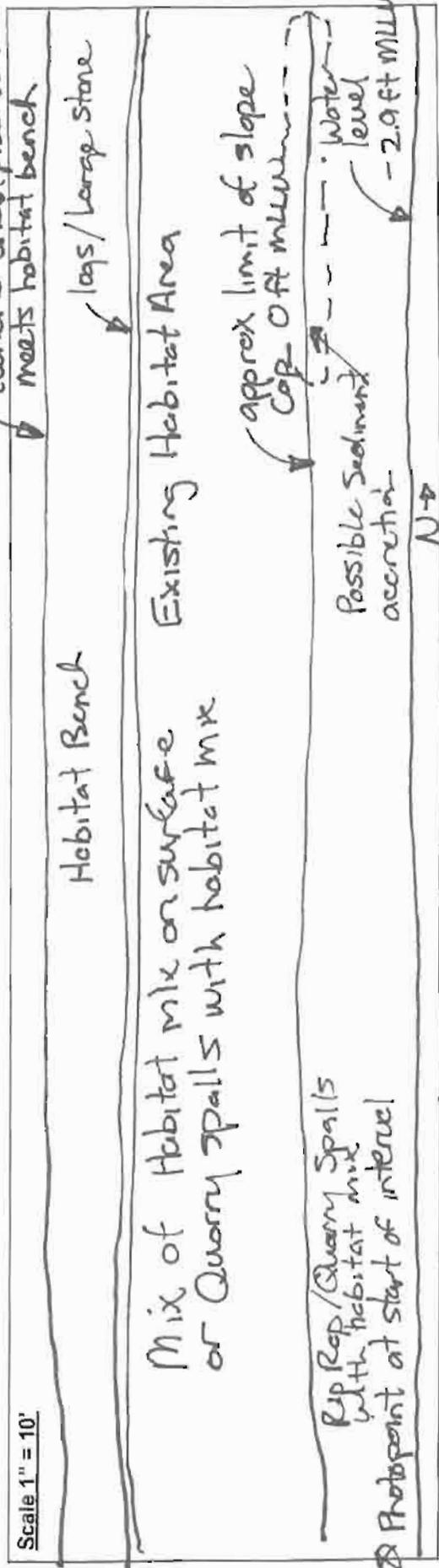
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06
 Field Personnel: Tara Wingard
 Monitoring Interval: RA19A-3

Monitoring Interval Transect Notes:

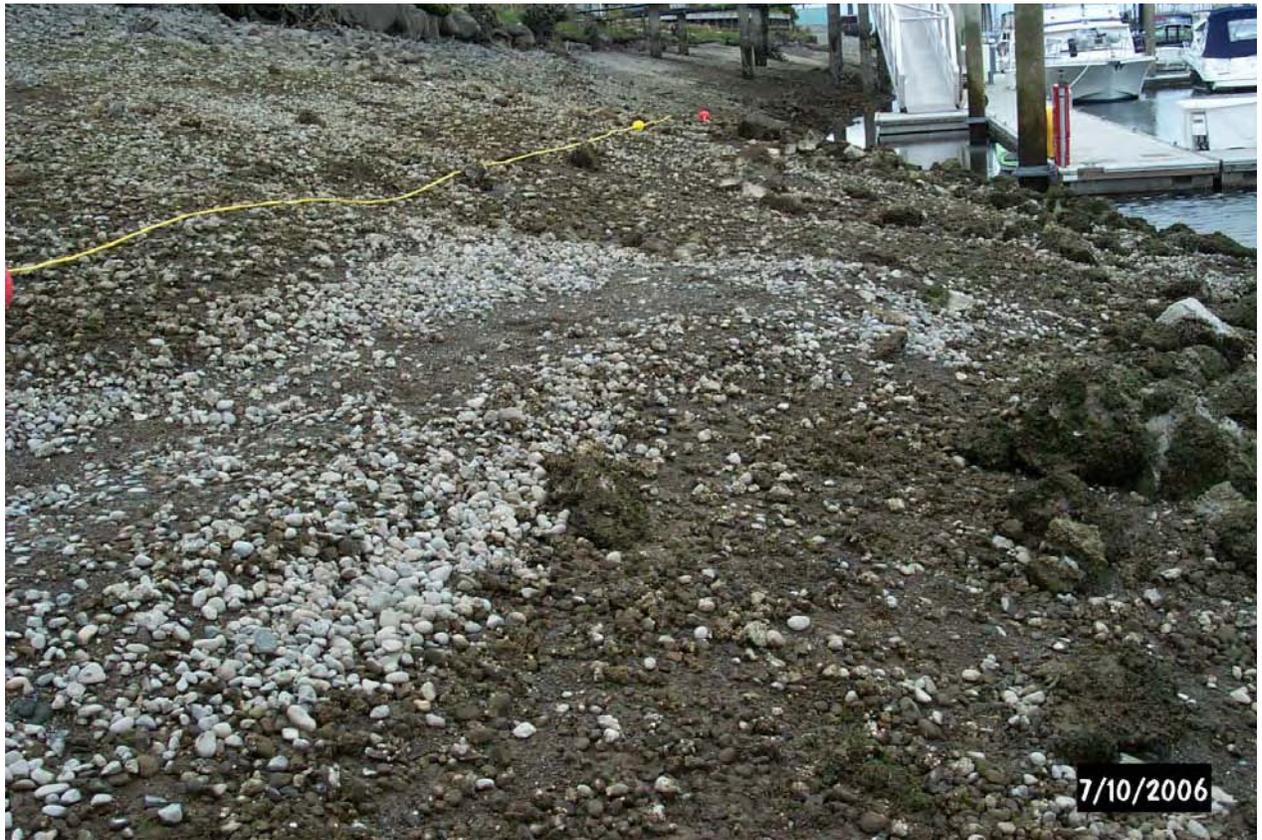
- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: No observed transition of difference between slope cap and existing habitat



EX000005 7/10/2006 11:17:08 AM



EX000006 7/10/2006 11:19:54 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06

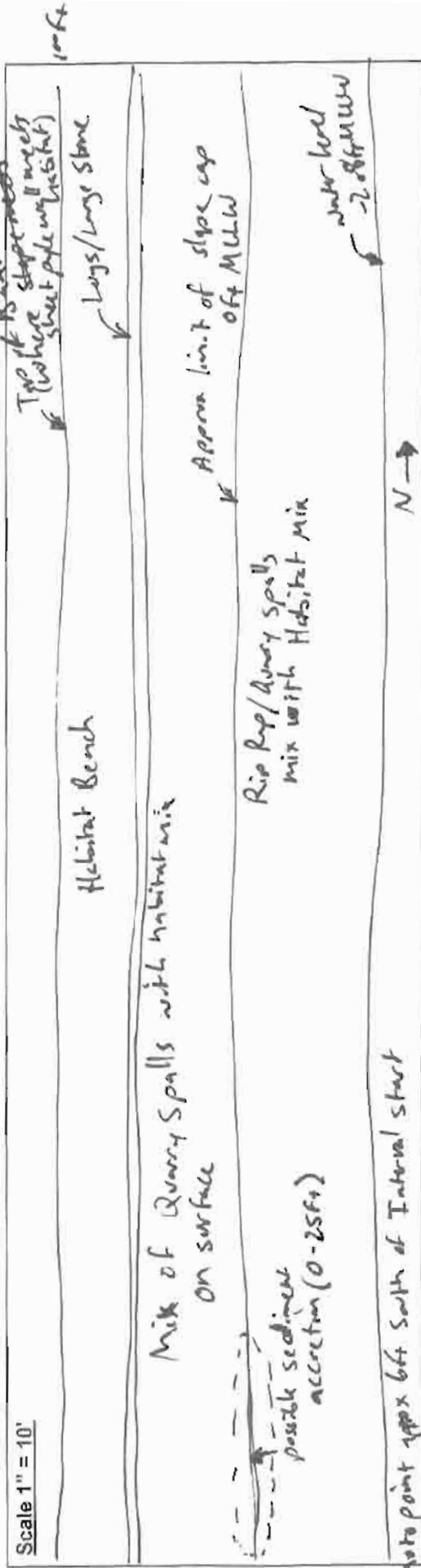
Field Personnel: T. Chantrelsky

Monitoring Interval: RA17A-4

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: No observed transition between slope cap and existing habitat



P0001396 7/10/2006 11:31:12 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06

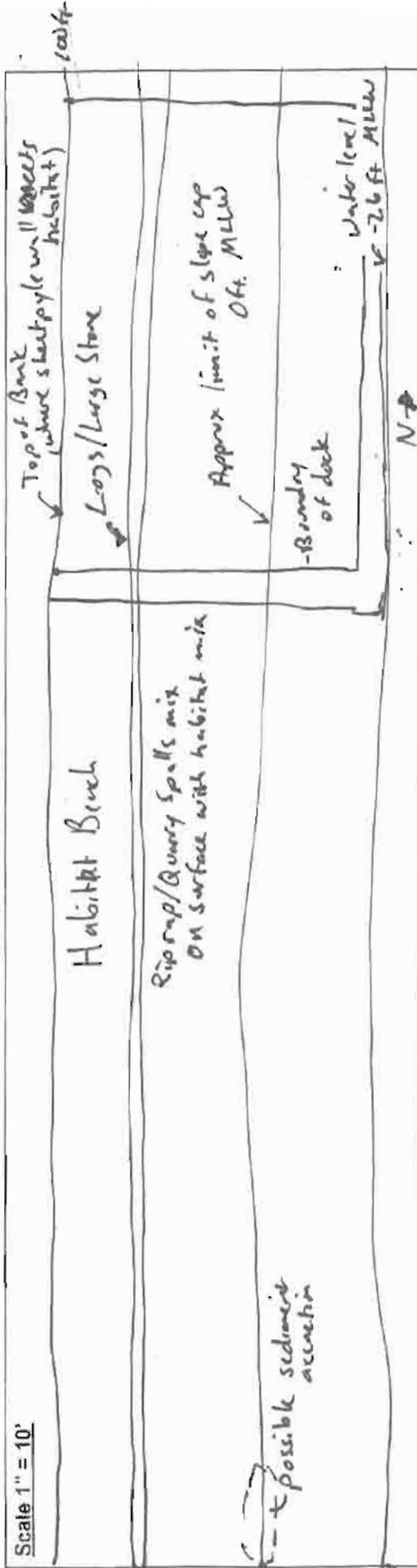
Field Personnel: T. Chumchalisky

Monitoring Interval: RA19A-5

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



⊕ photopoint approx 10ft South of Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: possible sediment accretion along lower slope.



P0001398 7/10/2006 11:42:50 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

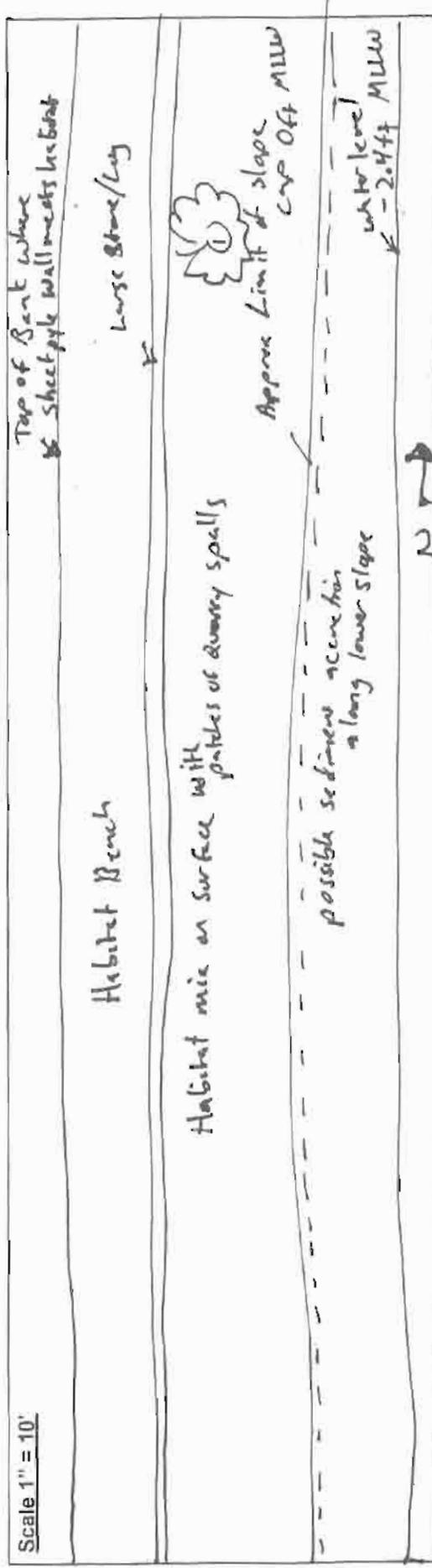
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06
 Field Personnel: T. Chantrelsky
 Monitoring Interval: RA19A-6

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Scale 1" = 10'
 Photo point approx 5ft South of Interval Start
 Photo point approx 10ft South of Interval Start
 Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Log rest embedded in upper slope



P0001399 7/10/2006 11:53:48 AM



P0001400 7/10/2006 11:56:20 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06

Field Personnel: T. Chouinard & S. Kelly

Monitoring Interval: RA19A-7

Monitoring Interval Transect Notes:

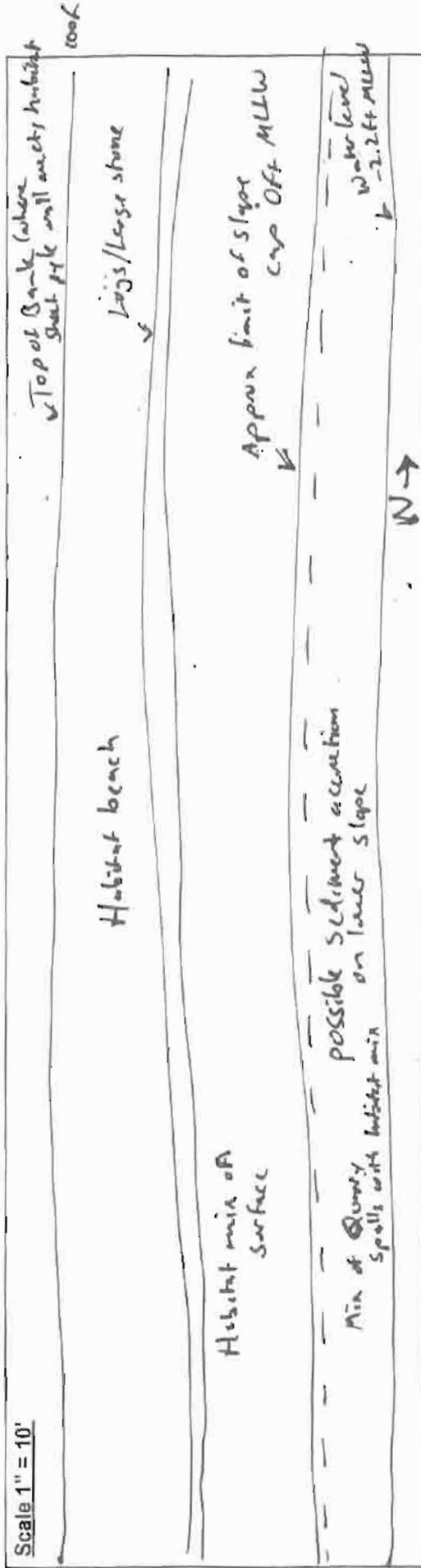
- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)

6) Note Approximate Location of Water Surface & Top of Bank

7) Provide Approximate Location of Upper Limits of Slope Cap

8) Delineate Presence of Debris (if present)



Photopoint approx 12ft from Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: Min of finer sand in upslope, outside of marine float: sandy beach



P0001401 7/10/2006 12:02:34 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06

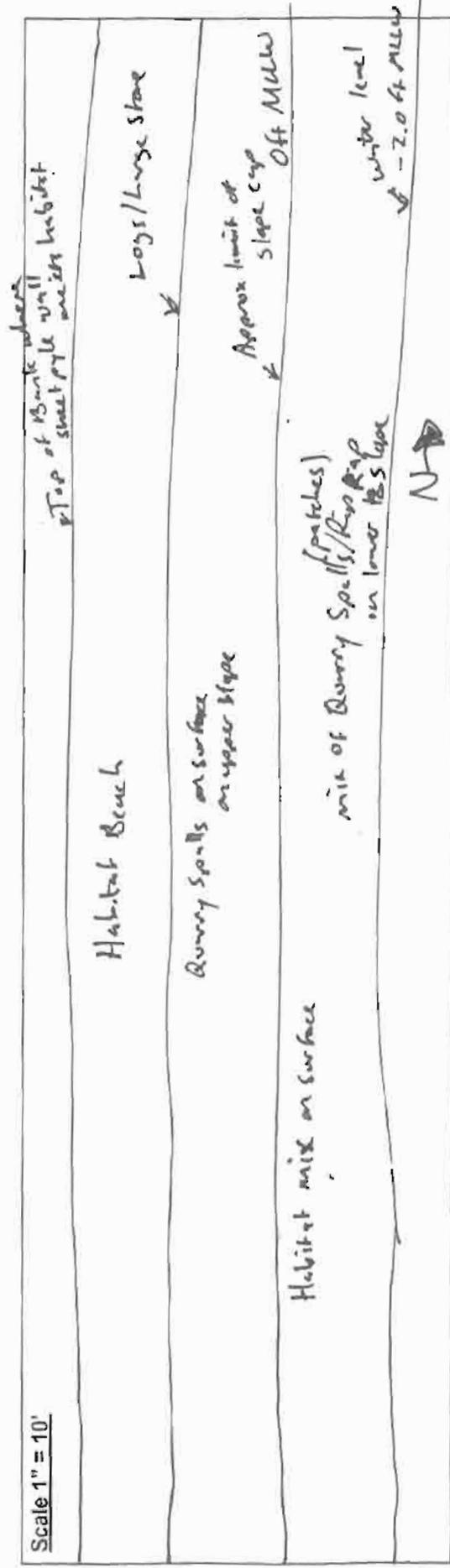
Field Personnel: T. Chontafsky

Monitoring Interval: RA19A-8

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Photopoint near 10ft South of Interval Start.

Additional Notes: (if cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: No observed transition between slope cap and existing habitat



P0001402 7/10/2006 12:09:14 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

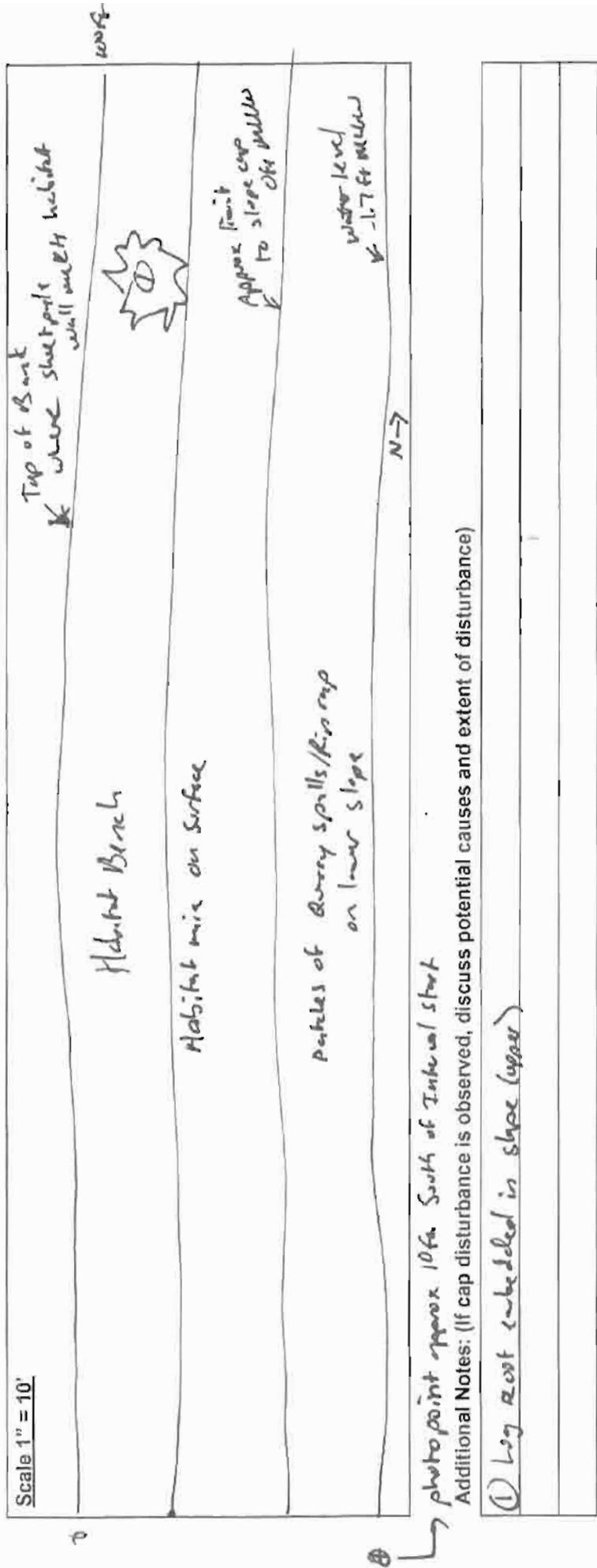
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06
 Field Personnel: T. Chonoforsky
 Monitoring Interval: RA17A-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)





P0001403 7/10/2006 12:15:34 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06

Field Personnel: T. Choufala/Sky

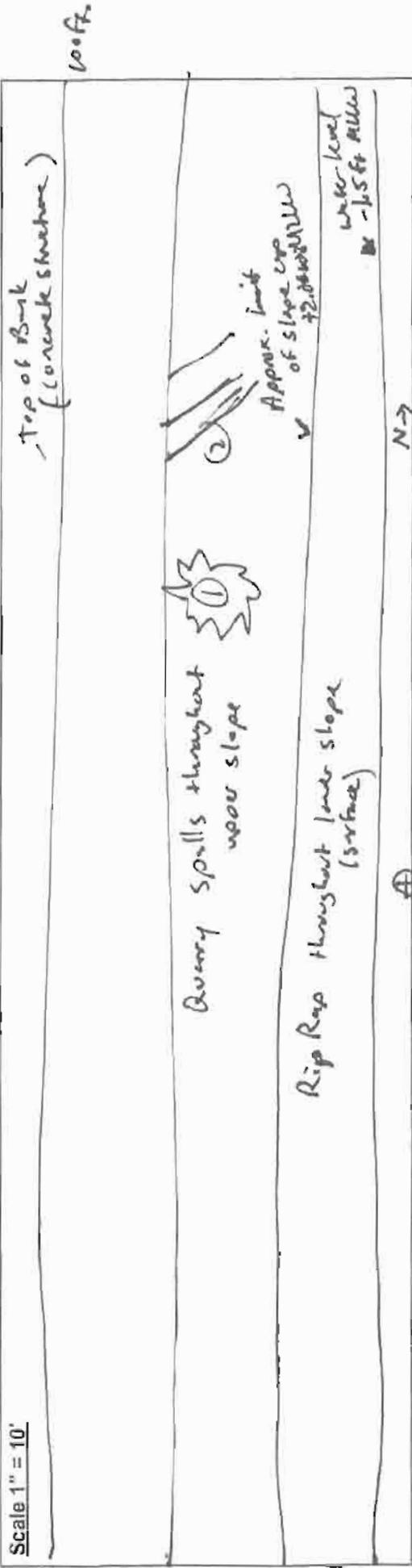
Monitoring Interval: RA17A-10

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



⊕ Photopoint approx 10 ft. South of Internal Start photo point approx at 40 ft

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- ① Log root embedded in slope
- ② logs on surface of upper slope



P0001404 7/10/2006 12:24:36 PM



P0001405 7/10/2006 12:24:58 PM



P0001406 7/10/2006 12:28:10 PM

LOW-TIDE SLOPE CAP INSPECTION FORM

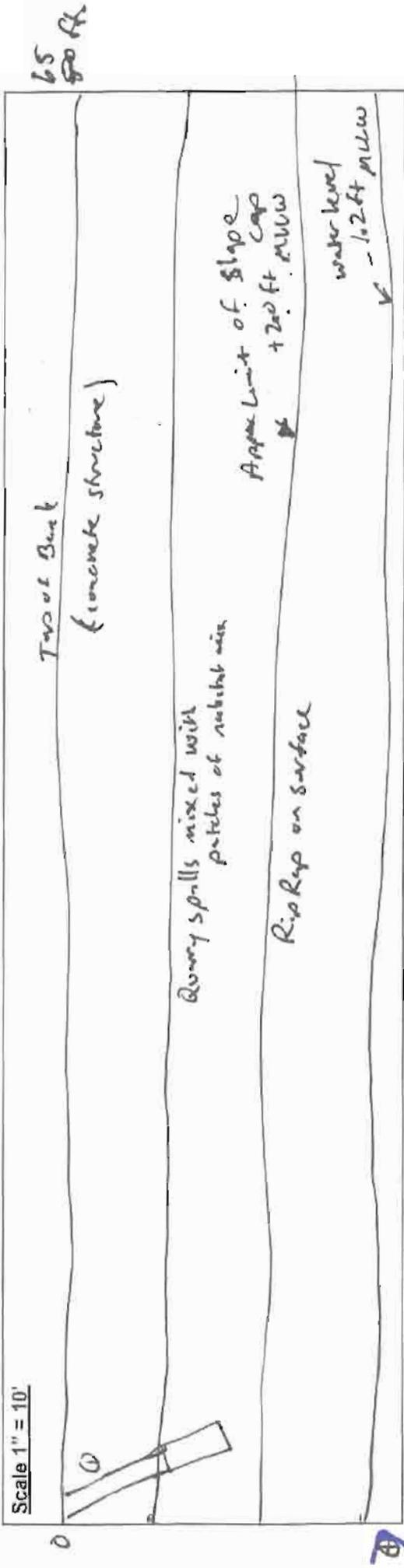
Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-10-06
 Field Personnel: T. Chontobolsky
 Monitoring Interval: RA17A-11

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Photopoint at start of interval

Note: Interval is 65ft in length



P0001407 7/10/2006 12:31:16 PM

Remedial Area 19B

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: 19B (PAGE 1 OF 1)

Date: 7/10/06

Weather: CLOUDY N USF

Datum (Horiz/Vert): NAD 83 (STATE PLANE WA SOUTH) / MLLW

Field Personnel: M. WOLTMAN

Benchmark(s) Used for Location Control: #214 & #216

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Time	Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START				
RA19B-1	100	702779/1160426	702879/1160409	9:05	-0.4'	Rip Rap / Quarry Spalls @ Habitat mix
RA19B-2	100	702879/1160409	702969/1160373	9:20	-0.8'	"
RA19B-3	100	702969/1160373	703063/1160344	9:30	-1.3'	"
RA19B-4	100	703063/1160344	703104/1160329	9:40	-1.7'	"
RA19B-5	100	703104/1160329	703257/1160311	9:52	-2.0'	RIP RAP / QUARRY SPALLS @ HABITAT MIX
RA19B-6	100	703257/1160311	703357/1160279	10:02	-2.2'	RECONTAMINANT RIP RAP @ HABITAT MIX
RA19B-7	100	703357/1160279	703448/1160268	10:15	-2.5'	"
RA19B-8	100	703448/1160268	703547/1160257	10:23	-2.7'	RE RAP / QUARRY SPALLS @ HABITAT MIX

Monitoring Interval	CHECK ALL THAT APPLY								Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion	Seepage	Underlying Sediment Exposed	Frostion (Cap Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement or Cracking	
RA19B-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No apparent disruptions
RA19B-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"
RA19B-3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NB APPARENT DESICCATIONS / GOOD UNDER PIER COVERLAGE.
RA19B-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	GOOD UNDER - PIER COVERLAGE / CAP APPEARS INTACT
RA19B-5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	STEEP THREE SLOPE CAP APPEARS INTACT
RA19B-6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	" MAKE ACCRETION (SED) @ WATERLINE
RA19B-7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	" MAKE ACCRETION @ WATERLINE
RA19B-8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	" MAKE ACCRETION @ WATERLINE

NOTE: TRANSITION OF RA19B / RA19A BOUNDARY REFINED
 C NORTH WESTERN CORNER OF NORTHERN - MOST
 MAGNANA FURAT.

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

PHOTO DOCUMENTATION

Date: 7/10/2006
 Weather: Cloudy ~58°F
 Field Personnel: Bill Essmer, Tom Chantrellesky, CG

Remedial Area: RA-19B

Monitoring Interval	Photograph Number	Location Along Transect (in feet)	Direction	Latitude/Longitude (Northing/Easting)	Time	Notes
RA-19B-1	1381 / 1	-10 South	N	702763.24 / 1160453.55	0905	1st Photo of Internal rope
"	1382 / 2	~40	N	702815 / 1160437	0910	2nd Half of Internal rope
RA-19B-2	1383 / 3	-10 South	N	702868 / 1160416	0922	Complete interval
RA-19B-3	1384 / 4	-10 South	N	702967 / 1160383	0930	Complete interval
RA-19B-4	1385 / 5	-10 South	N	703052 / 1160353	0939	Most of interval, Some is hidden
"	1386 / 6	~40 on Dock	NW	703113 / 1160373	0949	2nd Half of Interval
RA-19B-5	1387 / 7	~20 South	NW	703143 / 1160365	0952	Complete interval, from dock.
RA-19B-6	1388 / 8	~15 South	NW	703236 / 1160337	1003	1st half interval from dock.
"	1389 / 9	~10	NW	703262 / 1160336	1007	2nd half interval from Gangway.
RA-19B-7	1390 / 10	~10 South	NW	703352 / 1160325	1017	1st half interval from dock.
"	1391 / 11	~40	NW	703396 / 1160317	1020	2nd half interval from dock.
RA-19B-8	1392 / 12	30 South	NW	703430 / 1160313	1023	Complete interval from dock.

Additional Notes: (For additional photo points, identify reason for taking additional photograph)

Internal Rope is 100' with Red ball at each end, Yellow ball at 50', Yellow bumper at 25', 75'
 RA-19B-4 (1386) taken from dock. RA-19B-5 (1387) from dock. (1388) 15 south of dock.

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06

Field Personnel: Jan Wingard

Monitoring Interval: RAB-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Photopoint - 10 ft South of interval

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001381 7/10/2006 9:05:56 AM



P0001382 7/10/2006 9:10:54 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06

Field Personnel: JAIN WINGARD

Monitoring Interval: PA19B-2

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

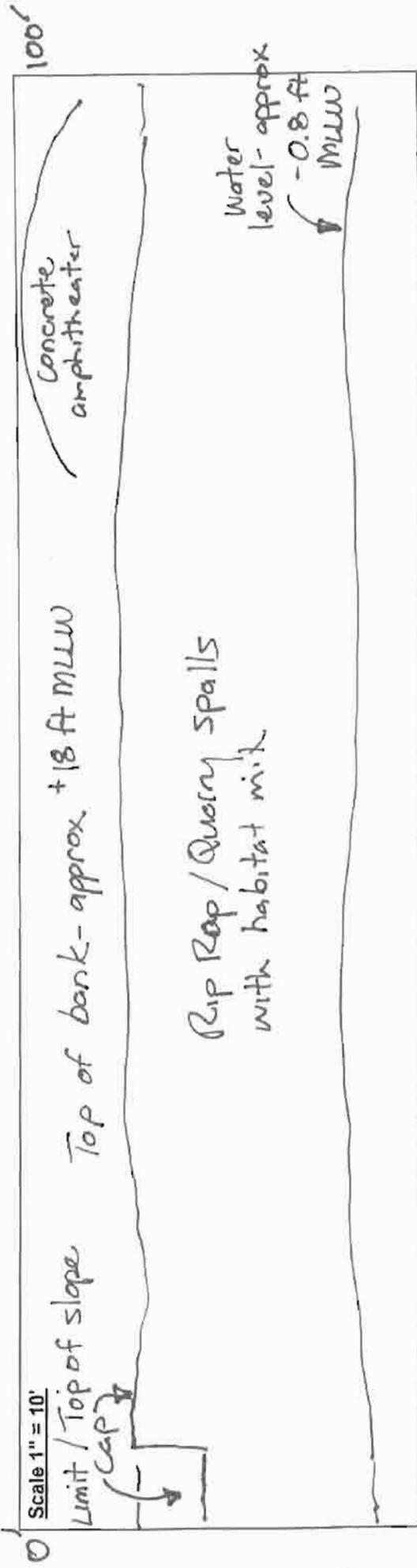


photo point 10ft south of interval

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001383 7/10/2006 9:22:02 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

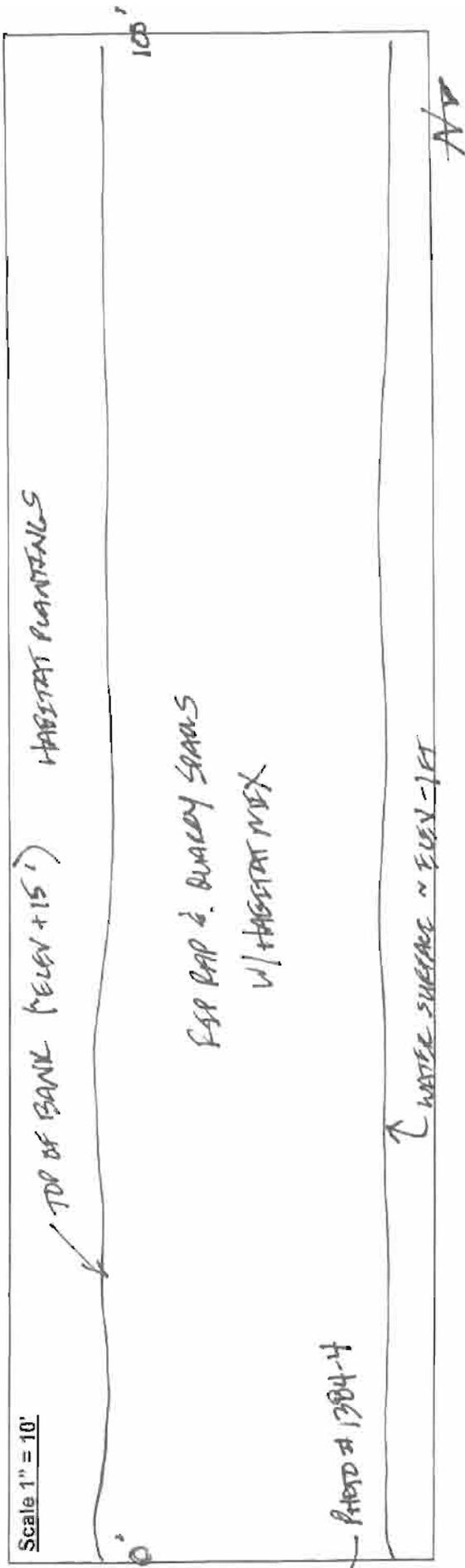
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/16/06
Field Personnel: Matt Woltman
Monitoring Interval: RMB-3

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001384 7/10/2006 9:30:24 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/00

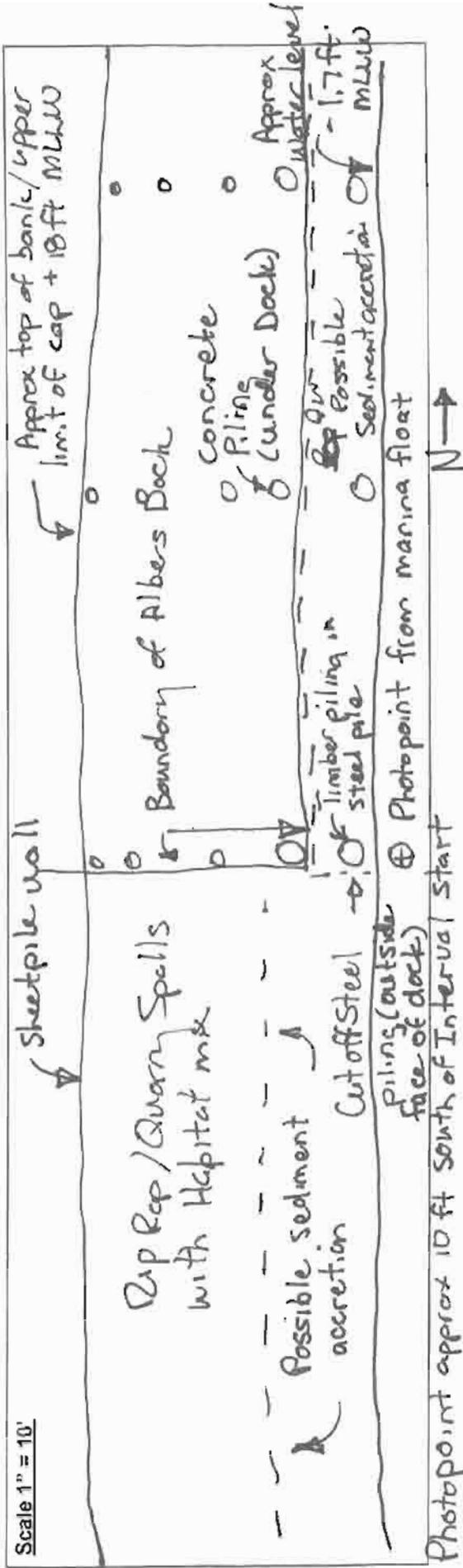
Field Personnel: Ian Wingard

Monitoring Interval: 0219B-4

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001385 7/10/2006 9:39:50 AM



P0001386 7/10/2006 9:49:48 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

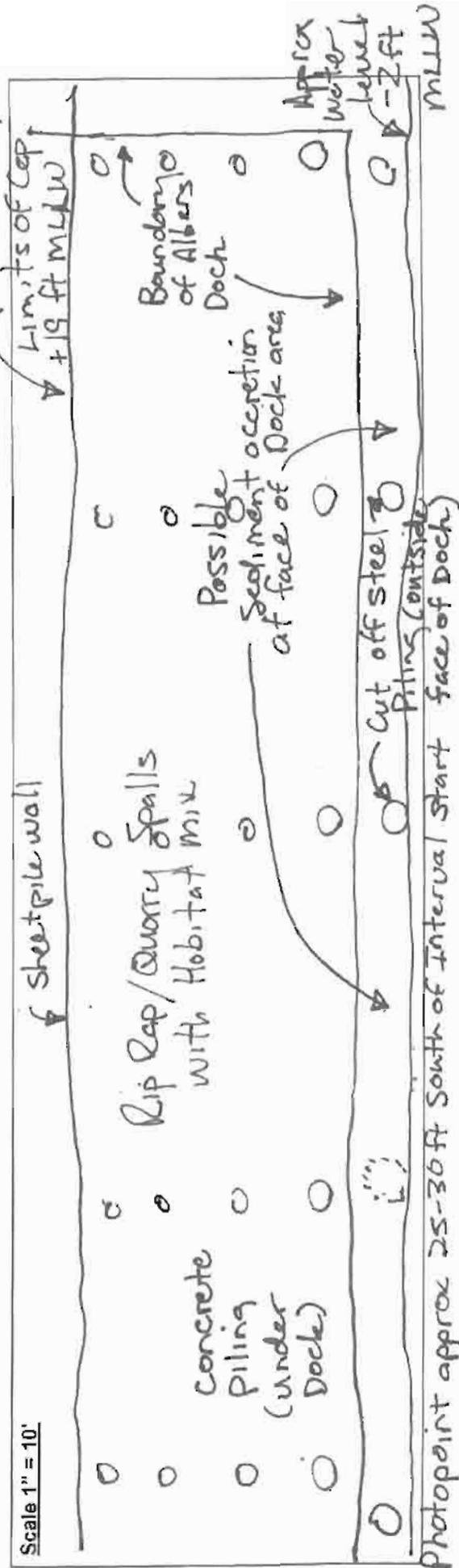
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06
 Field Personnel: Jan Wingard
 Monitoring Interval: RA19B-S

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Photopoint approx 25-30 ft South of Interval Start

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001387 7/10/2006 9:52:50 AM

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06
Field Personnel: Jan Wingard
Monitoring Interval: RA19B-6

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Concrete foundation
 Top of bank limits of cap
 Approx +19ft MLLW
 Surface water -2.2ft MLLW

Scale 1" = 10'

Rap / Quarry Spills
with Habitat mix

Possible Sediment accretion

Photopoint 10 ft from South end of transect (marina float)
 Photopoint approx 15 ft South of Interval Start (from N →)

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001388 7/10/2006 10:04:04 AM



P0001389 7/10/2006 10:08:10 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMFP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06

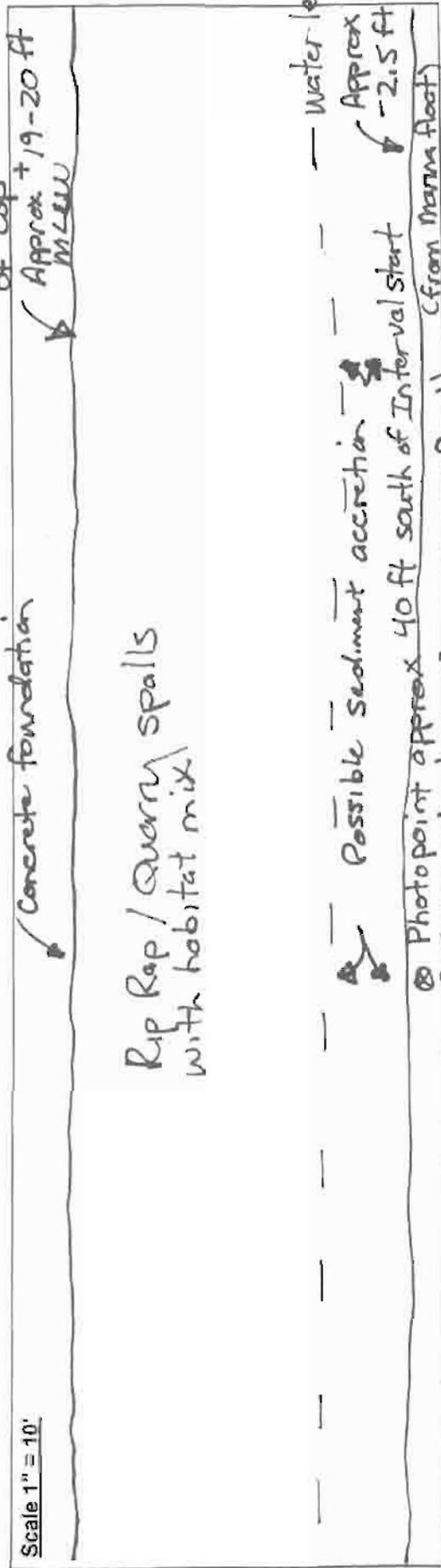
Field Personnel: T. G. Wingerd

Monitoring Interval: RA19B-7

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (if cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001390 7/10/2006 10:18:12 AM



P0001391 7/10/2006 10:21:20 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7/10/06

Field Personnel: J. A. Wingard

Monitoring Interval: RA19B-B

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'

✓ concrete foundation.

Rip Rap / Quarry spalls
with habitat mix

← Possible Sediment accretion →

--- water level
--- approx -2.7 ft mllw

Top of bank / limits of cap
✓ Approx +19 - +20 ft mllw

Photopoint approx 30 ft south of interval start (from mooring float)

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)





P0001392 7/10/2006 10:24:12 AM

Remedial Area 20

11/20/06

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Date: 7/11/2006
 Weather: Sunny w/Co.F
 Field Personnel: M. WOLTMAN

Remedial Area: RA 20 (PAGE 1 OF 2)
 Datum (Horiz/Vert): NA STATE PLANE SOUTH (NAD 83/94) / MLLW
 Benchmark(s) Used for Location Control: # 214 & # 215

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Time	Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH			
RA 20-1	100	702800/1160732	702904/1160724	0935	0.0'	REP CAP W/HABITAT MIX (THEN SILT & LOWER ELEV.)
RA 20-2	100	702904/1160724	703001/1160726	0940	-0.1'	REP CAP W/HAB. MIX (THEN SILT & ALGAE @ LOWER ELEV.)
RA 20-3	100	703001/1160726	703079/1160737	0947	-0.4'	0.75' EXPOSED HAB. MIX. SAND & GRAVEL (TO 100')
RA 20-4	100	703079/1160737	703188/1160811	1007	-1.2'	SAND & GRAVEL w/COAS REP CAP TO ~ 35'. REP CAP HAS MIX TO 100'
RA 20-5	100	703188/1160811	703212/1160860	1018	-1.6'	QUARRY SPALL & REP CAP AB REAST SHEET PRE WALL
RA 20-6	100	703212/1160860	703242/1160731	1029	-2.0'	REP CAP W/HABITAT MIX
RA 20-7	100	703242/1160731	703362/1160731	1042	-2.4'	REP CAP W/HABITAT MIX
RA 20-8	100	703362/1160731	703390/1160781	1056	-2.8'	REP CAP W/HABITAT MIX

Monitoring Interval	CHECK ALL THAT APPLY										Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion *	Seepage	Underlying Sediment Exposed	Erosion (Cap Mat, Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement	Cracking or Cracking		
RA 20-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HABITAT MIX COVERAGE BEGINS @ STA 70+10 (NORTH 200')
RA 20-2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HAB. MIX IS WEAVE FROM N EL 7.5' DOWN. SLOPE APPEARS STABLE.
RA 20-3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HABITAT AREA STAYS @ N 25' ON TRANSVERSE & WEARS AROUND CORNER.
RA 20-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HABITAT AREA STAYS @ N 35' ON TRANSVERSE. SLOPE CAP APPEARS INTACT.
RA 20-5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AREA FACE SHEET PRE WALL ADS TO JOINT'S ROCK.
RA 20-6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SLOPE CAP APPEARS INTACT. TRANSVERSE TO FRONT OF JOINT'S ROCK.
RA 20-7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HABITAT MIX TO TOP OF SLOPE & UNDER RESTRAINT.
RA 20-8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HABITAT MIX EXTENDS TO TOP OF SLOPE THROUGHOUT TRANSVERSE.

* VERY THIN LAYER SILT ACCRETION OBSERVED @ WATERLINE (BELOW ELEV ~+5 FT)

NOTE: GPS LOCATIONS FOR RA 20-5 MAY HAVE SOME ERROR DUE TO LOCATION ADJ. TO SHEET PRE WALL.

11866834

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

Remedial Area: RA20 (RAVE TAIL) Date: 7/11/2006
 Datum (Horiz/Vert): NA STATE PLANE SOUTH (NAD83/91) / MLLW Weather: SUNNY ~ 70°F
 Benchmark(s) Used for Location Control: # 214 & # 215 Field Personnel: M. WOLSTAN

Monitoring Interval	Monitoring Interval Length (in feet)	End Point Coordinates (Latitude/Longitude or Northing/Easting)		Tide Elevation (MLLW)	Material at Surface of Slope Cap (Silt, Sand, Habitat Mix, Rip Rap, Quarry Spalls, Grout Mat, Other)
		START	FINISH		
RA 20-9	100	703390/1160774	703500/1160774	-2.9	REP RAP & QUARRY SPALLS w/ SOME HAB. MIX
RA 20-10	40	703500/1160774	703539/1160773	-3.0	REP RAP & QUARRY SPALLS w/ SOME HAB. MIX

Monitoring Interval	CHECK ALL THAT APPLY										Other Observations (Include Potential Evidence of Recontamination; Sheen, Discoloration, Odor, Etc.)
	Sediment Accretion	Seepage	Underlying Sediment Exposed	Erosion (Cap Mat. Missing)	Debris	Downslope Movement	Grout Mat Exposed	Grout Mat Settlement	Cracking or Cracking		
RA 20-9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	REINFORCE REPAIR(S) SURFACE w/ HAB. MIX IN ENTIRE TRENCHES OF CAP
RA 20-10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MAINTAIN REPAIR w/ HAB. MIX IN ENTIRE TRENCHES
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

* VERY MINOR ACCRETION @ WATERLINE

NOTE: RA ENDS INTO NO ACTION AREA THAT BENDS AROUND NORTH FACE OF SHEET PILE WALL.
 RA 15 BEGINS @ WEST SLOPE WHERE SHEET PILE WALL ENDS.

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

PHOTO DOCUMENTATION

Date: 7/11/2006

Weather: Part Cloudy, clear

Remedial Area: RA-20

Field Personnel: Bill Esmaier

Monitoring Interval	Photograph Number	Location Along Transect (in feet)	Direction	Latitude/Longitude (Northing/Easting)	Time	Notes
RA20-1	1416	12	E	702813 / 1160701	0923	1st 25' of interval on dock.
"	1417	18	NE	702817 / 1160686	0930	2nd 25' of Int from dock
"	1418	45	NE	702839 / 1160689	0935	Last 50' of Int from dock
RA20-2	1419	20 25 South	NE	702886 / 1160684	0940	1st 50' of Int from dock
"	1420	35	NE	702937 / 1160685	0944	2nd 50' Int from dock.
RA20-3	1421	-10 South	NE	702984 / 1160678	0949	1st 50' Int from dock.
RA20-3	1422	45	NE	703036 / 1160675	0955	50-75' of Int from dock.
"	1423	60	SE	703108 / 1160660	1008	Last 40' of Int from dock.
RA20-4	1424	-20 West	SE	703114 / 1160717	1012	1st 50' of Int from dock
"	1425	25	E	703121 / 1160757	1015	2nd 50' of Int from dock
RA20-5	1426	60	SE	703168 / 1160809	1022	1st 50' from dock
"	1427	40	NE	703170 / 1160812	1025	2nd 50' from dock
RA20-6	1428	60	E	703200 / 1160764	1031	1st 40' from dock
"	1429	40	NW	703199 / 1160786	1034	40-75' from dock
"	1430	75	NW	703198 / 1160746	1037	75-100' of Int from dock
-22-	GO	to next page				

Additional Notes: (For additional photo points, identify reason for taking additional photograph)

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

Field Personnel: T. Chontafolsky

Monitoring Interval: RA20-1

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- 1) Boat Slings
- 2) Walkway for dock
- 3) Outfall structure (35) depression around area of outfall structure



P0001416 7/11/2006 9:23:42 AM



P0001417 7/11/2006 9:30:46 AM



P0001418 7/11/2006 9:36:20 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

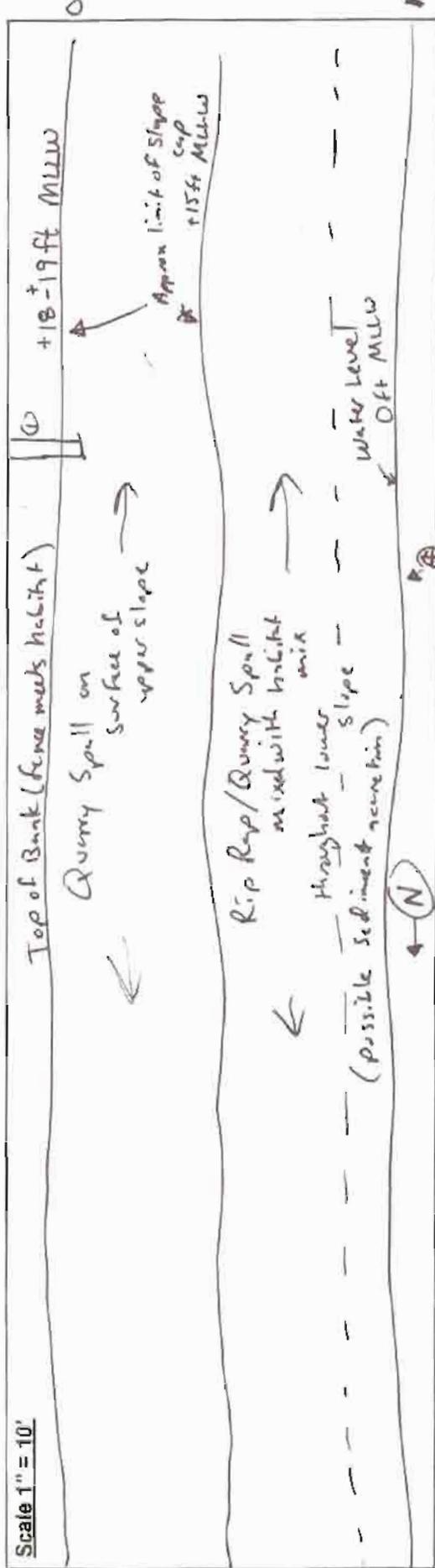
Date: 7-11-06

Field Personnel: T. Chontolalsky

Monitoring Interval: RA20-2

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Light structure



P0001419 7/11/2006 9:41:00 AM



P0001420 7/11/2006 9:45:22 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

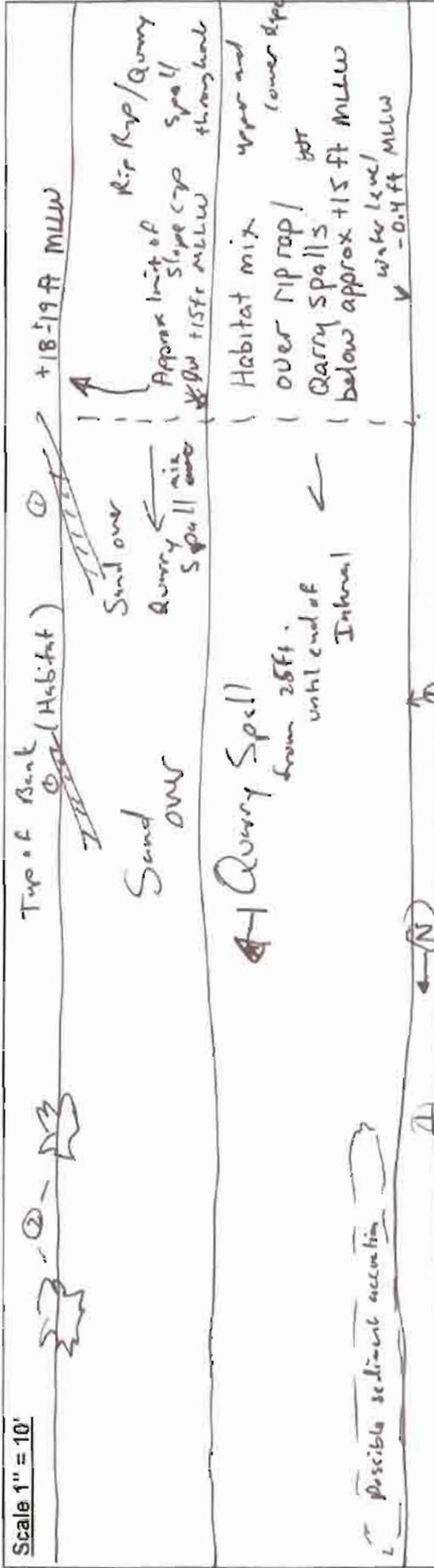
Field Personnel: T. Chontos-Felby

Monitoring Interval: RA20-3

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- ① 2 logs at top of slope
- ② log roots embedded in habitat

Photopoint at 10 ft S. of habitat stake



P0001421 7/11/2006 9:50:10 AM



P0001422 7/11/2006 9:55:42 AM

7/11/2006

P0001423 7/11/2006 10:09:04 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

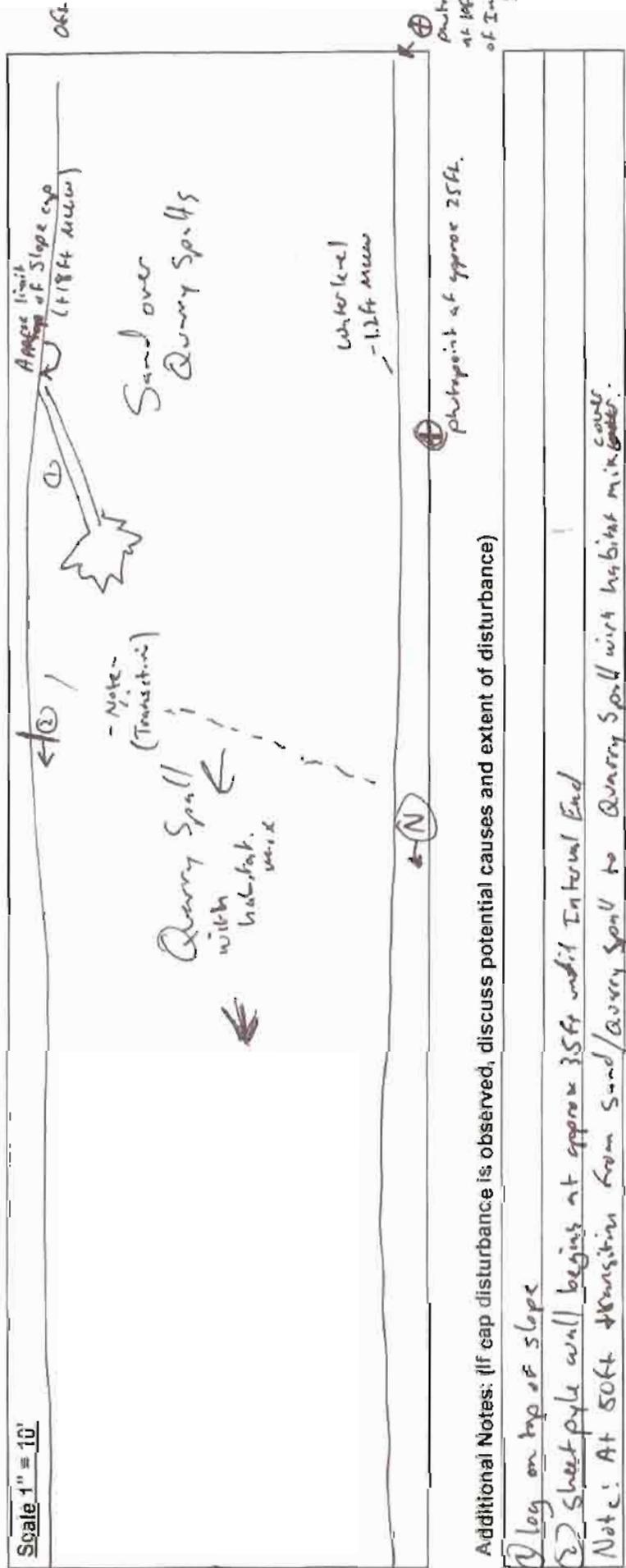
Date: 7-11-06

Field Personnel: T. C. Gault & J. S. Kelly

Monitoring Interval: RA20-4

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)





P0001424 7/11/2006 10:12:58 AM



P0001425 7/11/2006 10:15:34 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

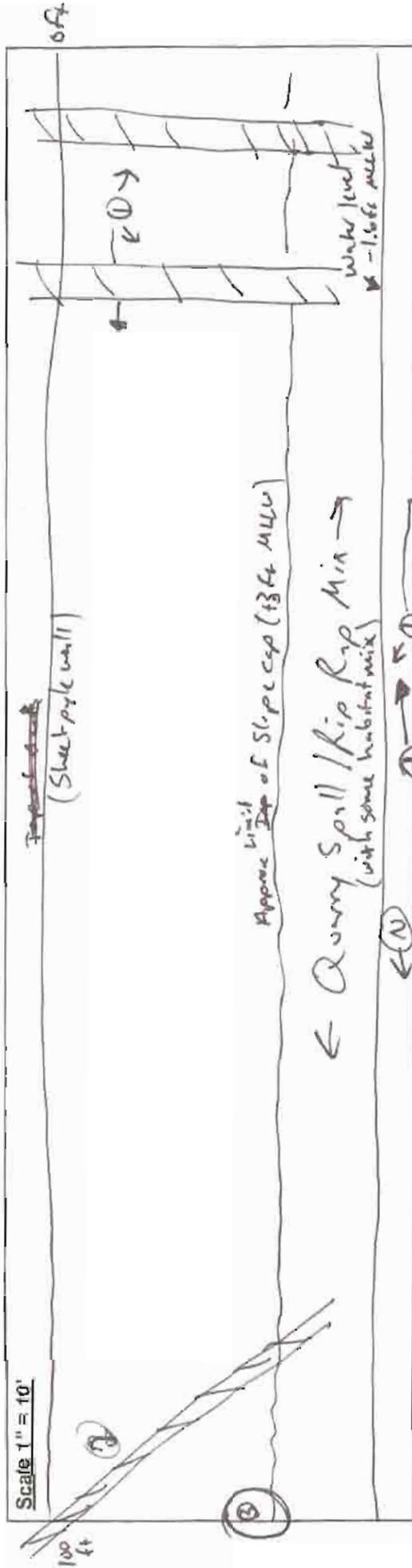
Date: 7-11-06

Field Personnel: J. Chontofsky

Monitoring Interval: RA 20-5

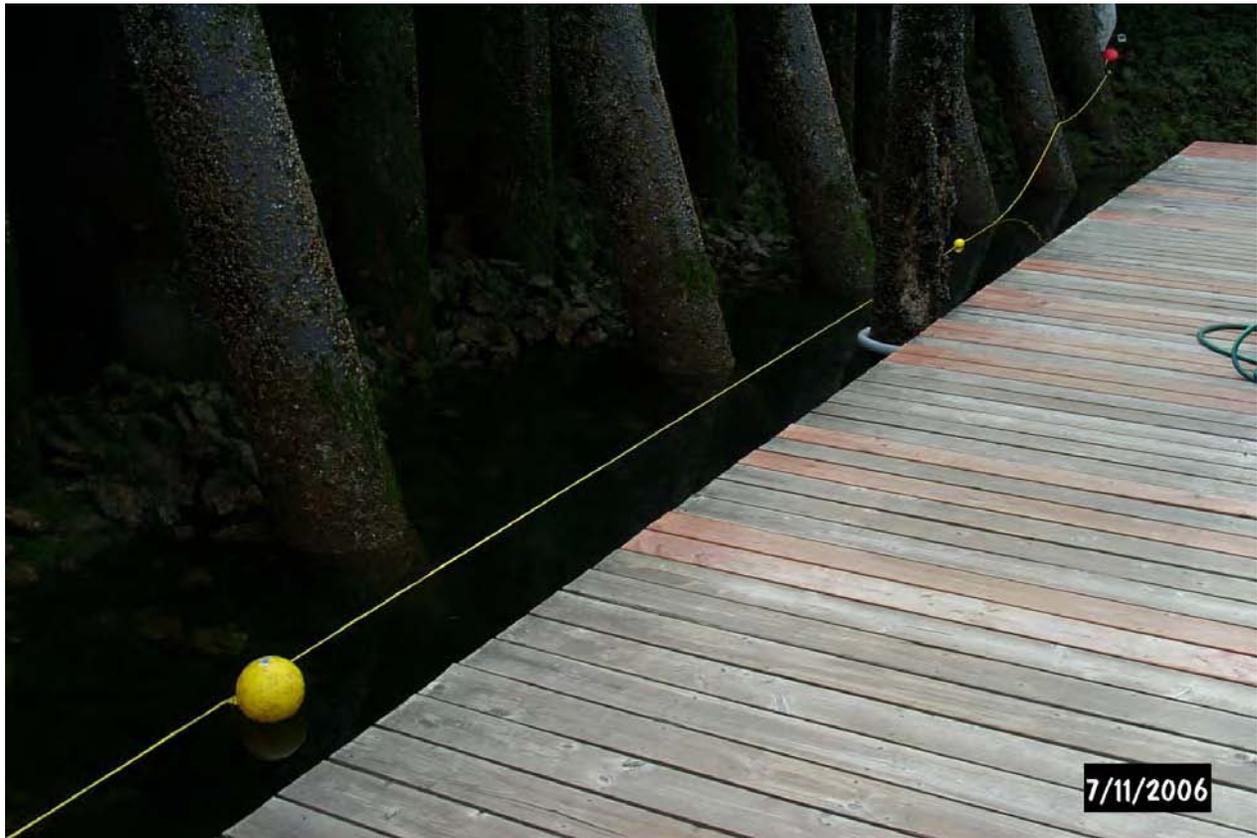
Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
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- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

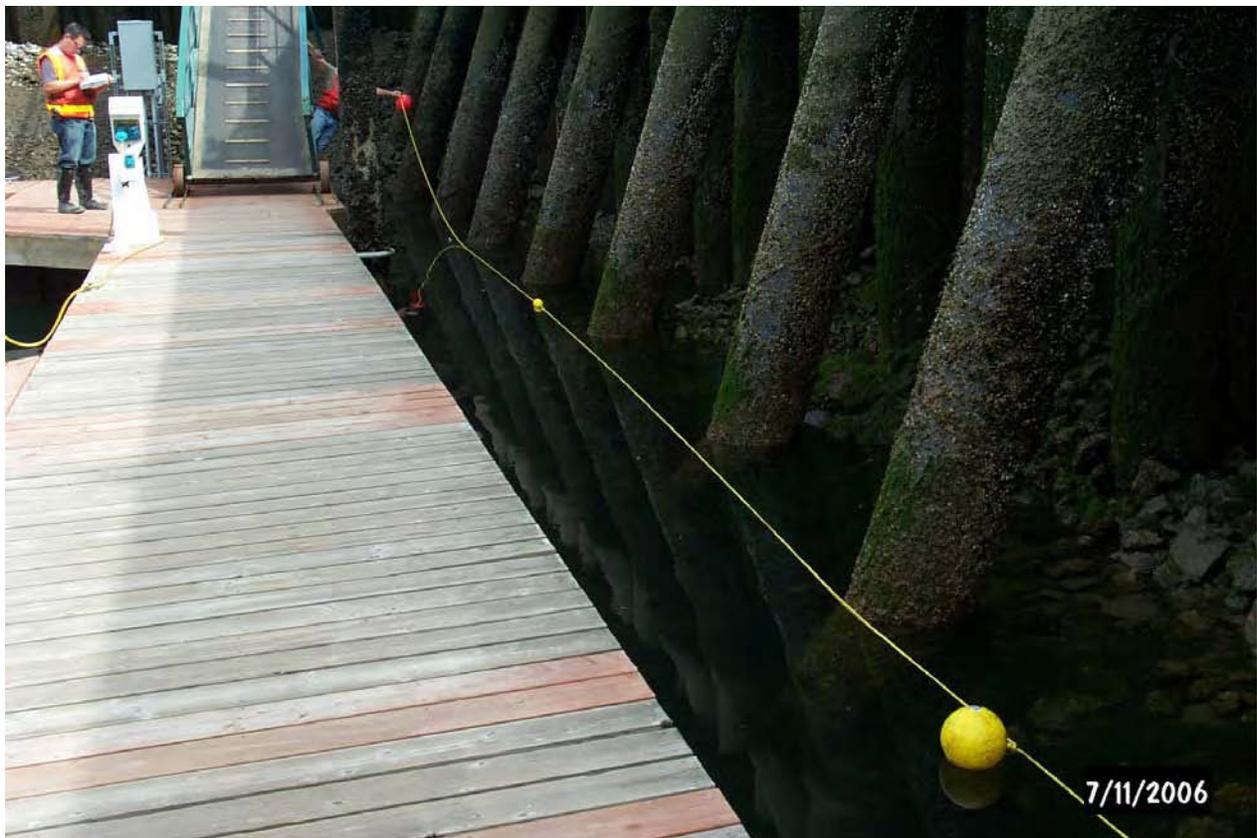


Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

- ① Piling's throughout this interval
- ② walking to divine flood
- ③ Outfall 245 at approx 100ft



P0001426 7/11/2006 10:22:56 AM



P0001427 7/11/2006 10:25:28 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

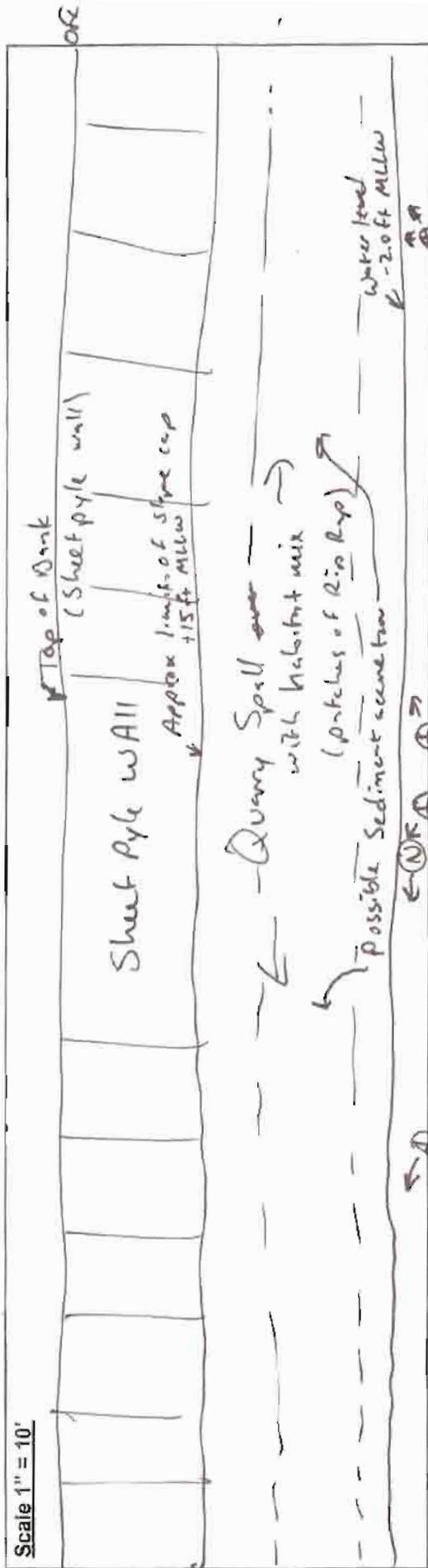
Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-1-06
 Field Personnel: T. Chomkowski
 Monitoring Interval: RA20-6

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



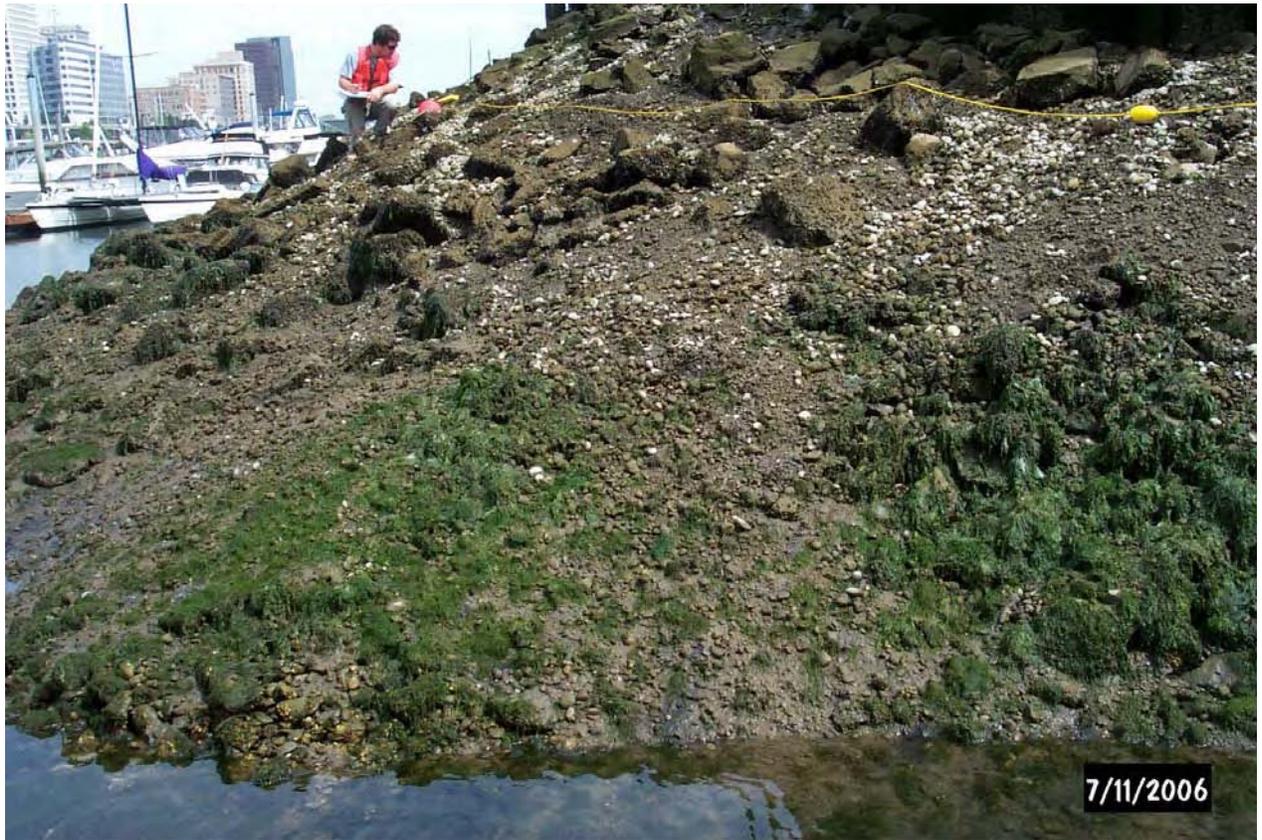
Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)



P0001428 7/11/2006 10:31:44 AM



P0001429 7/11/2006 10:34:48 AM



P0001430 7/11/2006 10:38:00 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

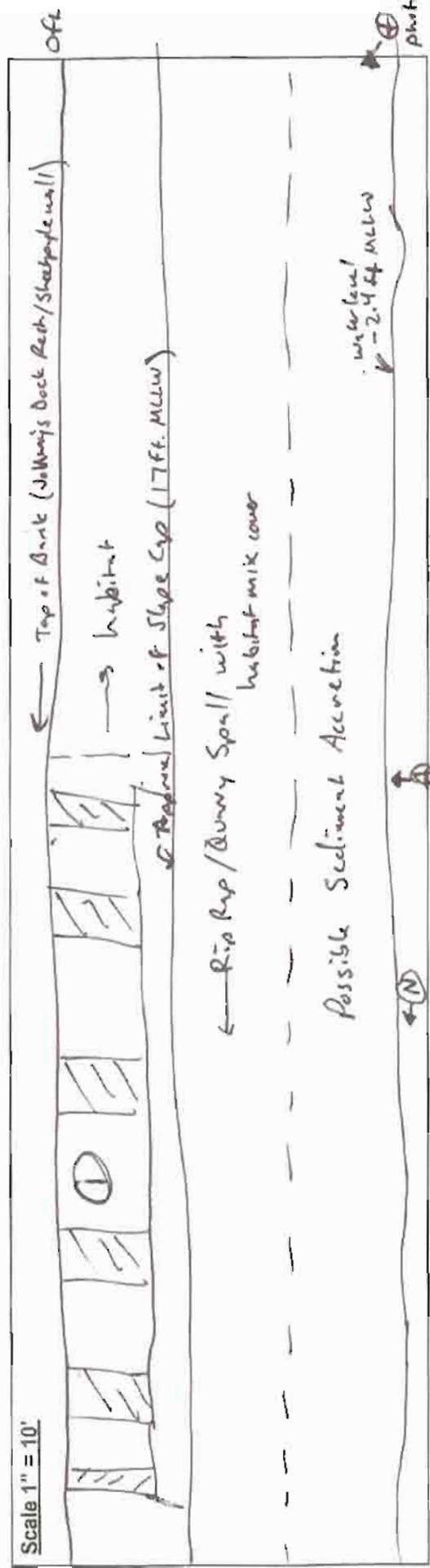
Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06
 Field Personnel: T. Chantrel (slg)
 Monitoring Interval: RA 20-7

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

① Piling's from restaurant



P0001431 7/11/2006 10:47:00 AM



P0001432 7/11/2006 10:51:06 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

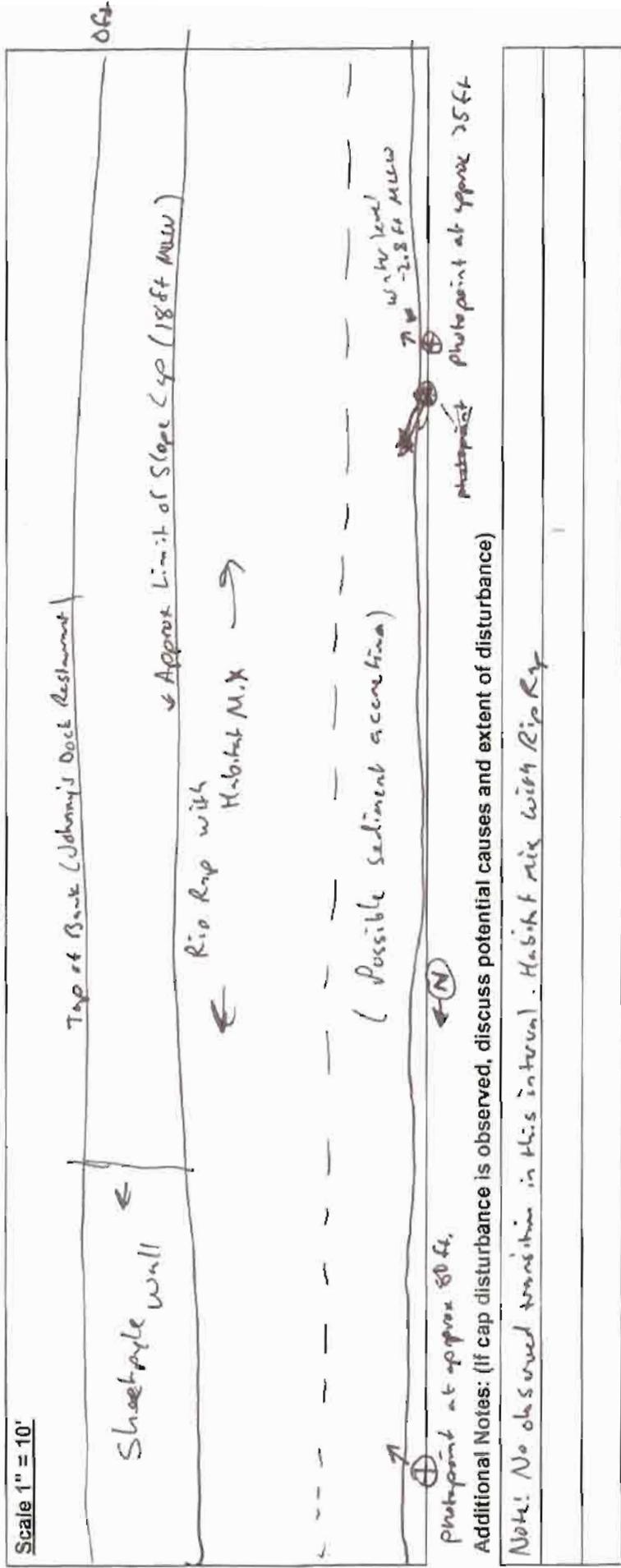
Field Personnel: T. Chumbley & S. G.

Monitoring Interval: RA 20-8

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (if cap disturbance is observed, discuss potential causes and extent of disturbance)

Note: No observed transition in this interval. Habitat mix with Rio Rmp



P0001433 7/11/2006 10:58:06 AM



P0001434 7/11/2006 11:01:28 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

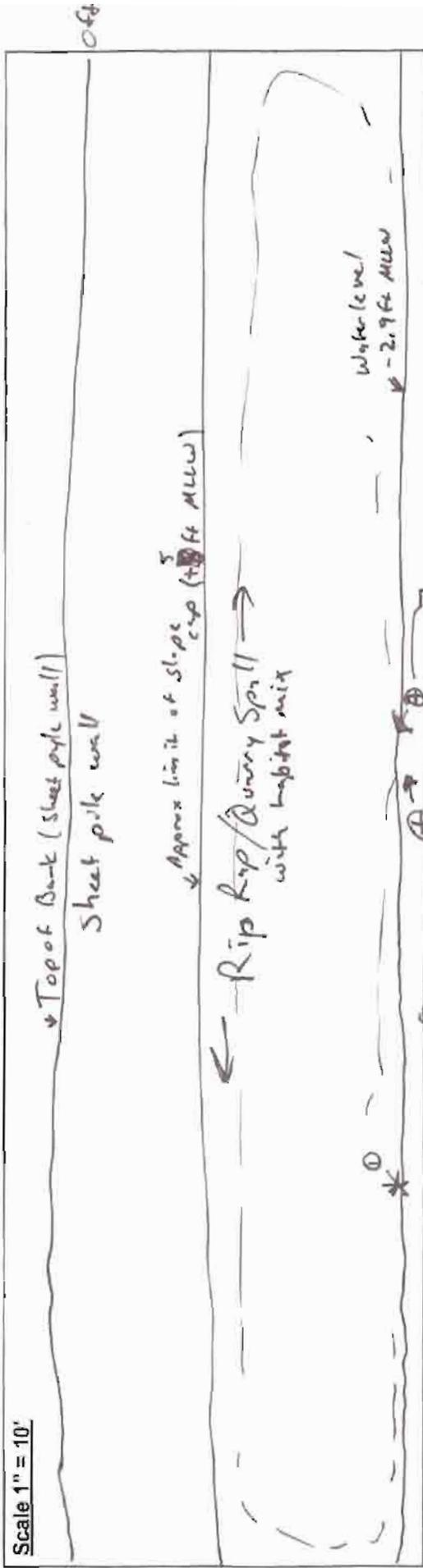
Field Personnel: T. Chertokolsky

Monitoring Interval: RA20-9

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

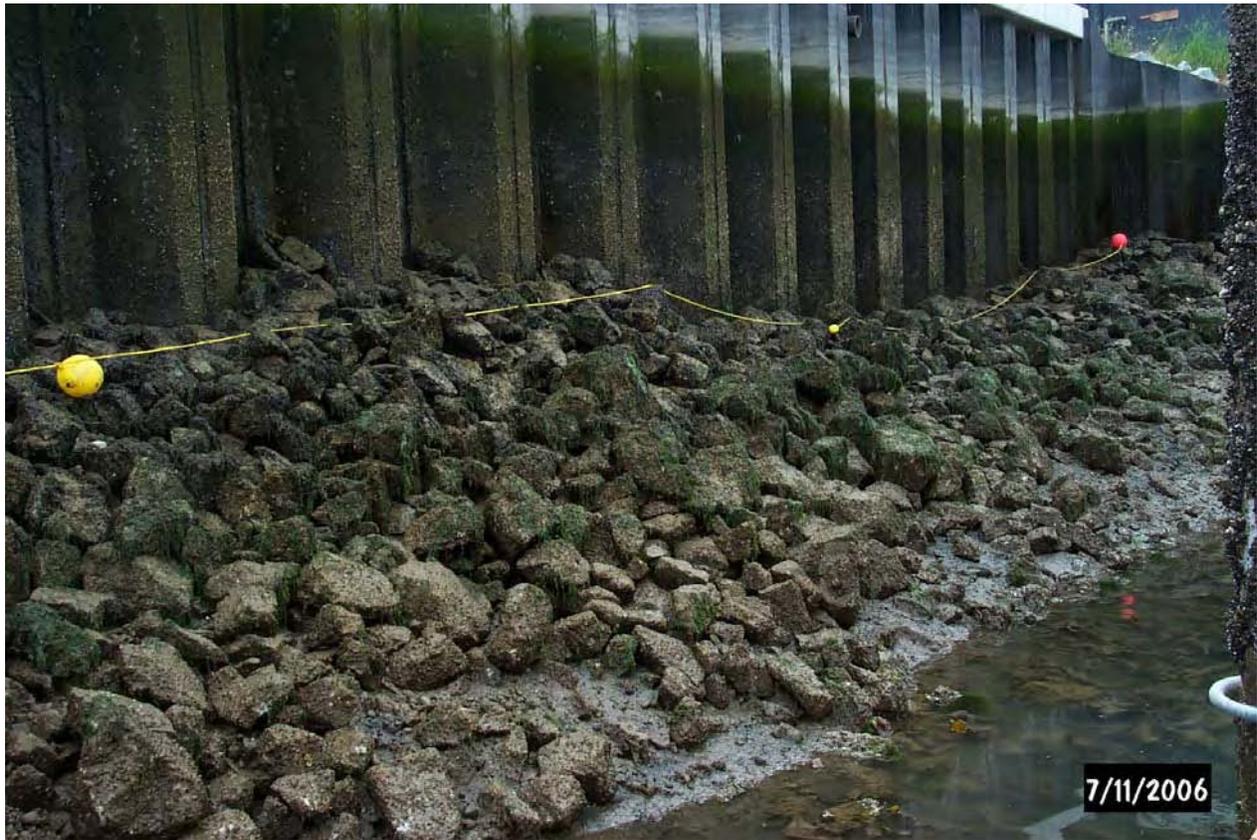
Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

⊙ Broken remains of ~~piling~~ old piling at water level (-2.9 ft MLLW)

Note: Sediment Accretion throughout lower slope



P0001435 7/11/2006 11:07:58 AM



P0001436 7/11/2006 11:10:02 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMIP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 7-11-06

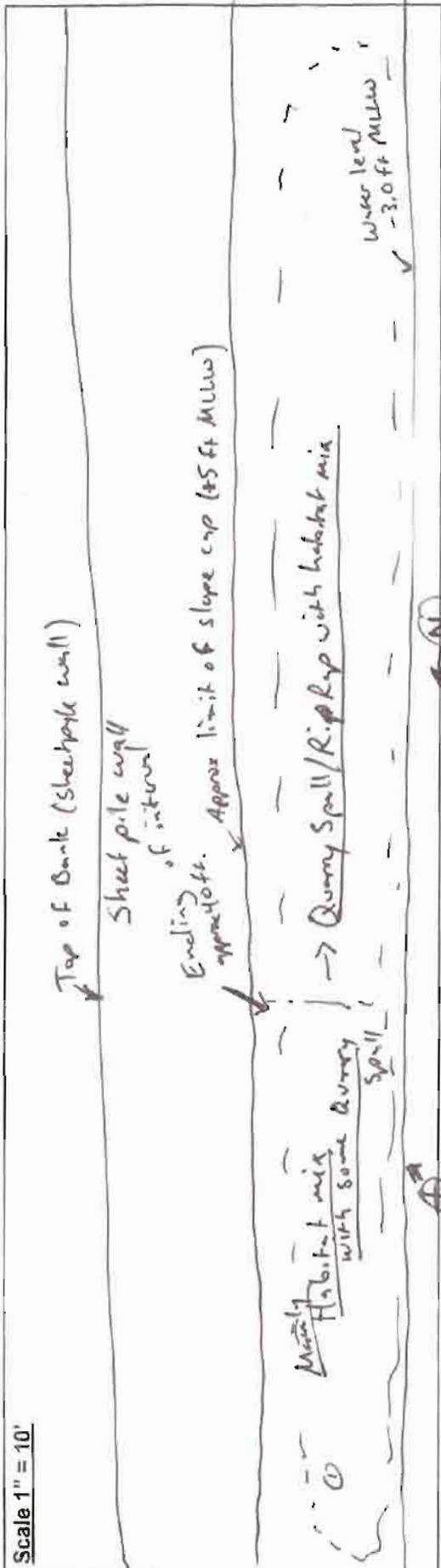
Field Personnel: T.C. Lenthofsky

Monitoring Interval: RA20-10

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

Note @ possible sediment accretion

↳ Transect is only 40 ft. (from 40 - 60ft - "No Action Area")



P0001437 7/11/2006 11:15:42 AM

Sheen Source Removal Area



IMG_0253 10/3/2006 10:13:45 AM



IMG_0254 10/3/2006 10:13:46 AM



IMG_0255 10/3/2006 10:13:47 AM

Attachment B

Additional Photo Documentation

Remedial Area 3

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

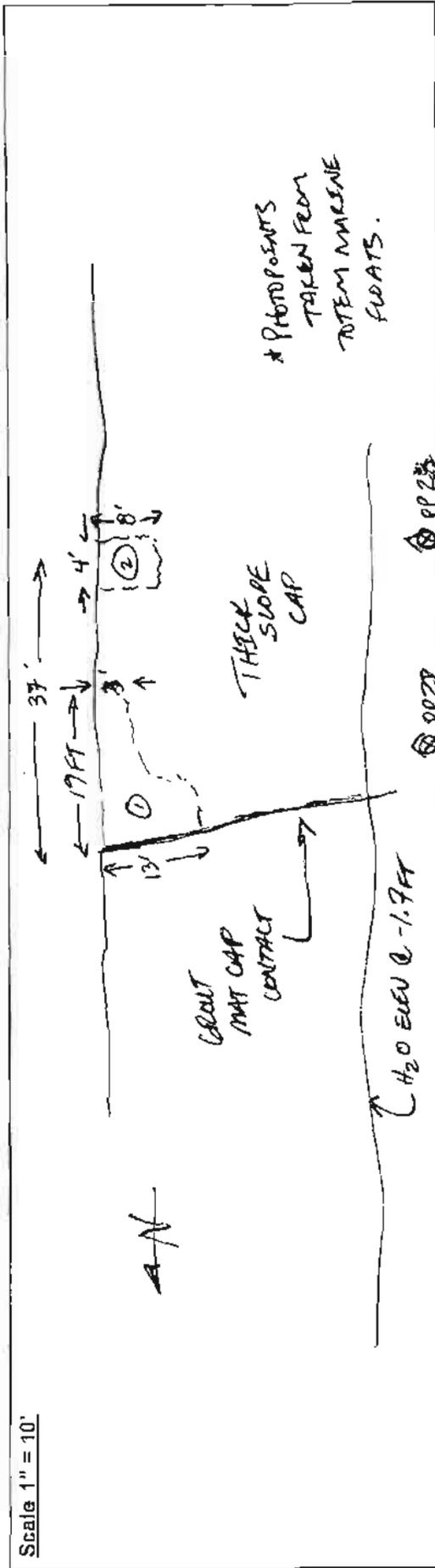
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 8/9/2006
 Field Personnel: M. WOLTMAN
 Monitoring Interval: RA3-1 & RA3-2

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Scale 1" = 10'

Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

1238 - TIDE @ ELEV -1.7 FT. ① & ② TWO AREAS WHERE THICK SLOPE CAP WAS PUT DOWN THEN OR HAS COMED TO EXPOSE UNDERLYING GEOTEXTILE FABRIC. SOME HABITAT NOT OBSERVED IN THESE AREAS. AREAS OF EXPOSED GEOTEXTILE AT APPROX ELEVATIONS +13-FT TO +16-FT.



RA 3_Photopoint 22_102506 10/26/2006 10:00:17 AM



RA 3_Photopoint 23_102506 10/26/2006 10:00:17 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMIMP

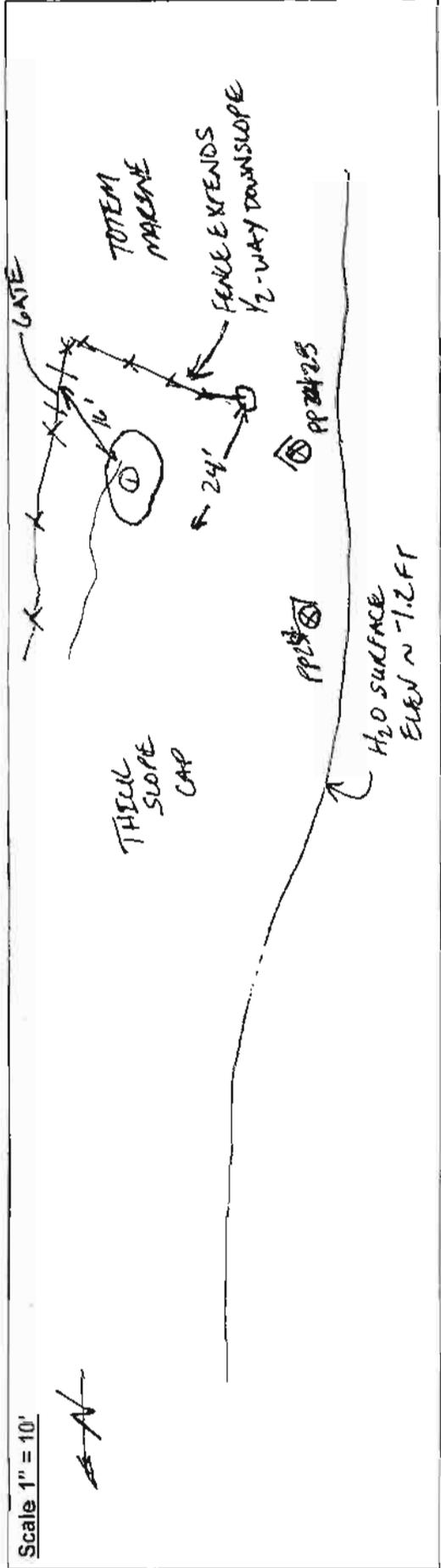
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 8/9/2006
 Field Personnel: M. WOLTMAN
 Monitoring Interval: RA3-3

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

1300 - TIDE ~ 1.2 FT. ① EXPOSED DEBRIS MOUND APPROXIMATELY 10-FT DIAMETER LOCATED BETWEEN
 ELEV'S TIDET ± 1.3 FT. MOUND RED-ISH COLOR w/ VISIBLE SMALL KERNELS BEING IN SALED MATRIX

LOW-T. SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 10/13/06

Field Personnel: Jain Wingard

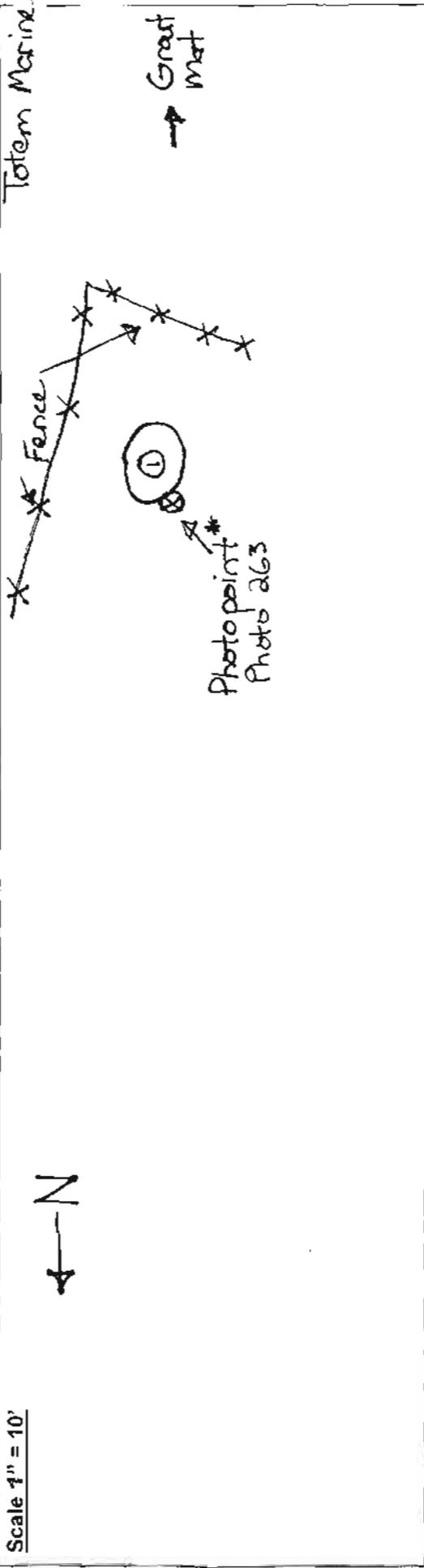
Monitoring Interval: RA3-3

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)

Scale 1" = 10'



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

1 Mass of metal and slag - Solidified mass appears to be predominantly iron based (i.e. red/rust)
 * Additional photo taken at close proximity to show nature of exposed material

08/09/06 Photopoint #24 12:54pm



RA 3_Photopoint 24_102506 10/26/2006 10:00:17 AM

08/09/06 Photopoint #25 12:55pm



RA 3_Photopoint 25_102506 10/26/2006 10:01:17 AM



IMG_0263 10/13/2006 3:51:13 PM

Remedial Area 8

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OIRMP

MONITORING INTERVAL TRANSECT DIAGRAM

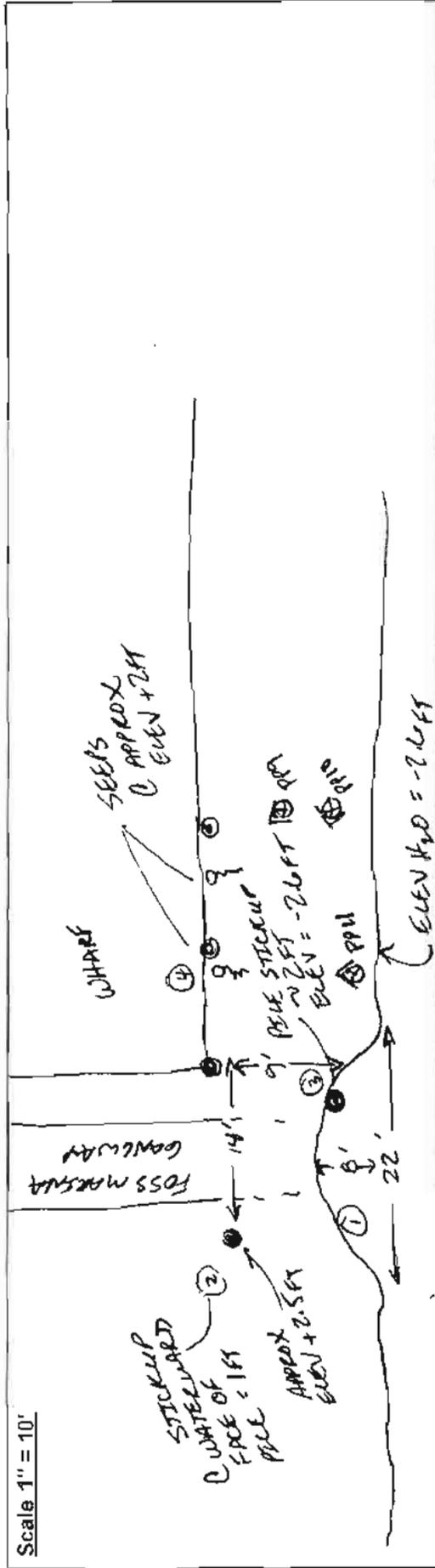
Date: 8/9/2006

Field Personnel: M. WOLTMAN

Monitoring Interval: RA B-14

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

1107 - TYPE EVEN - 2.6 FT. ① CUT BACK INTO SLOPE TO ALLOW GANTRY & PIER ACCESS. ② & ③ TIMER PILING.
 ④ WATER SEEDS OBSERVED C. FACE OF FRONT OF WHARF PILING... MODERATE SEPALE OBSERVED. BOATS OBSERVED
 COORDINATE ON LAND- SIDE OF MARSHA FLOATS



RA 8_Photopoint 9_102506 10/26/2006 10:01:17 AM



RA 8_Photopoint 10_102506 10/26/2006 10:01:17 AM



RA 8_Photopoint 11_102506 10/26/2006 10:01:13 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

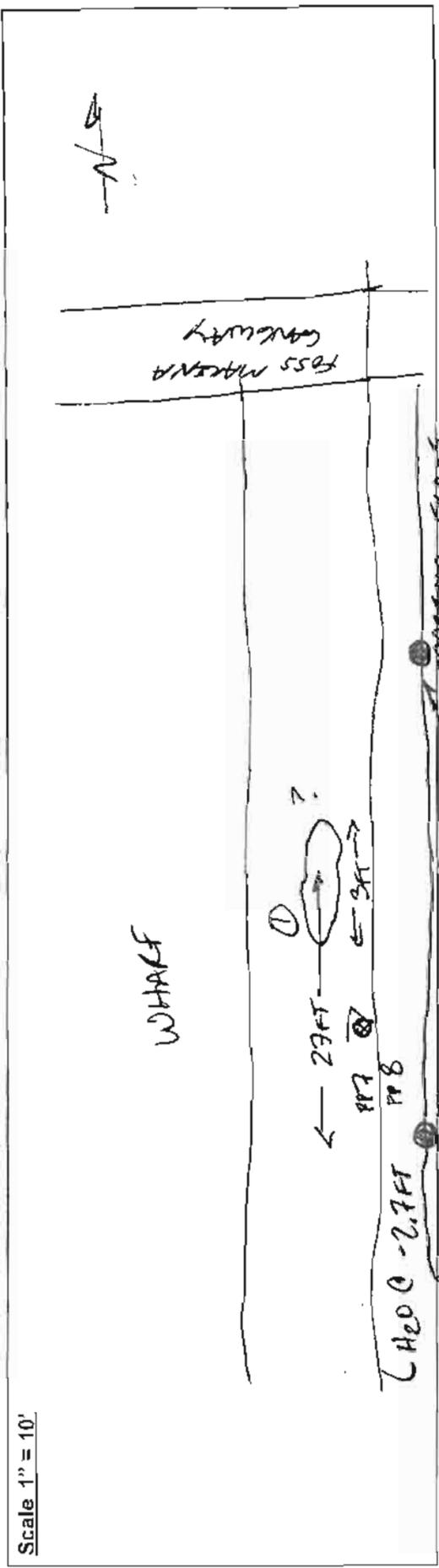
Thea Foss and Wheeler Osgood Waterways OMMMP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 8/09/06
 Field Personnel: M. WILKINSON
 Monitoring Interval: RA B-16

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow
- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

117.0 - TIDE ELEV. 0 - 2.7' . ① EXPOSED ORANGE MATERIAL, POSSIBLE DEBRIS BENEATH SLOPE CAP, EXPOSED AREA ~ 3 FT LONG APPROX. FLEW + 2 FT. SLOPE CAP VERY STEEP HERE (COVERED W/ QUARRY SPALL & REEFER HAD. MEX).



RA 8_Photopoint 7_102506 10/26/2006 10:01:17 AM



RA 8_Photopoint 8 8/11/2006 9:33:11 AM

Remedial Area 19A

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMIP

MONITORING INTERVAL TRANSECT DIAGRAM

Date: 8/9/06

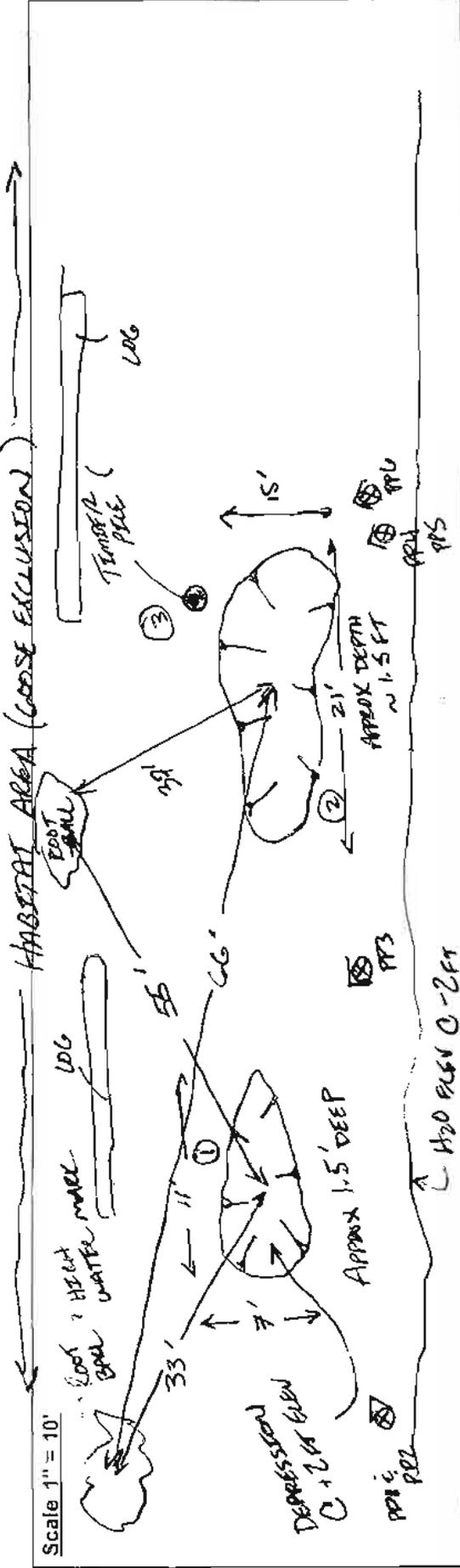
Field Personnel: M. WOLFFMAN

Monitoring Interval: RA194-3

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

1034 - TIDE 0-2 FT ONLY. TWO SHALLOW DEPRESSIONS & ONE TIMBER PILE ALONG TRANSECT. MEASURE POINTS FOR LOCATION TAKEN FROM ROOT BALL. SOUTH END OF TRANSECT. BOTTOM OF ① FILLED W/HABITAT MIX & QUARRY SPALLS. BOTTOM OF ② FILLED W/HAB. MIX & FINE DARK SEDIMENT. PILE STICKS UP ABOVE MAXIMUM APPROX 1.5 FT. WATERWARD FACE OF PILE



RA19A_Photopoint 1_102506 10/26/2006 10:00:17 AM



RA19A_Photopoint 2 8/11/2006 9:20:58 AM



RA19A_Photopoint 3 8/11/2006 9:24:41 AM



RA19A_Photopoint 4 8/11/2006 9:26:27 AM



RA19A_Photopoint 5 8/11/2006 9:27:27 AM



RA19A_Photopoint 6 8/11/2006 9:28:19 AM

Remedial Area 20

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

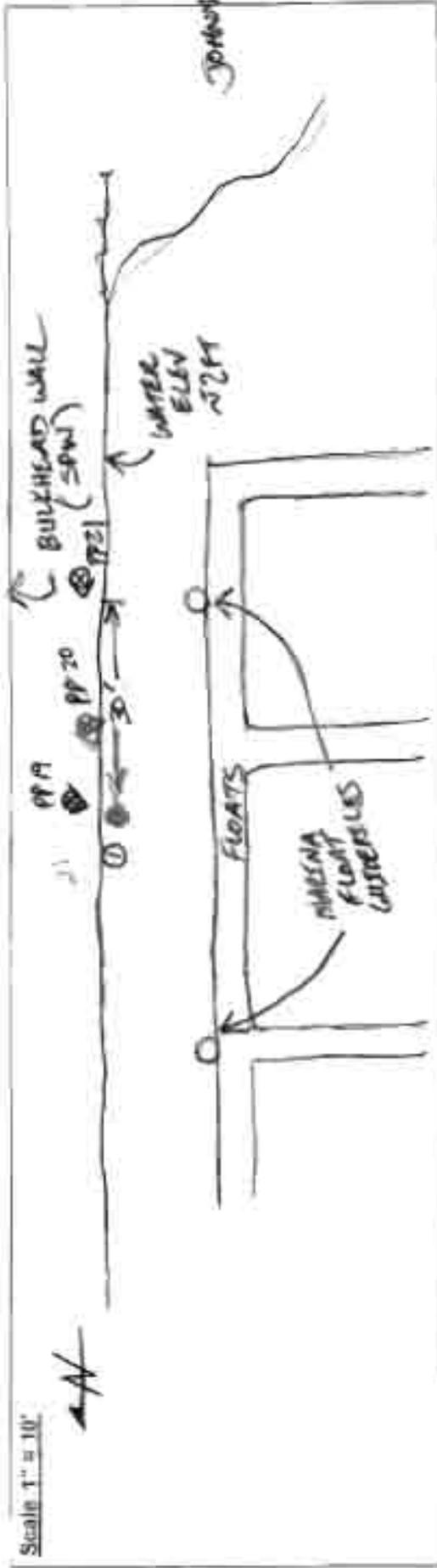
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 8/17/2006
 Field Personnel: M. Winters
 Monitoring Interval: PA 20-9

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap Integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (if cap disturbance is observed, discuss potential causes and extent of disturbance)

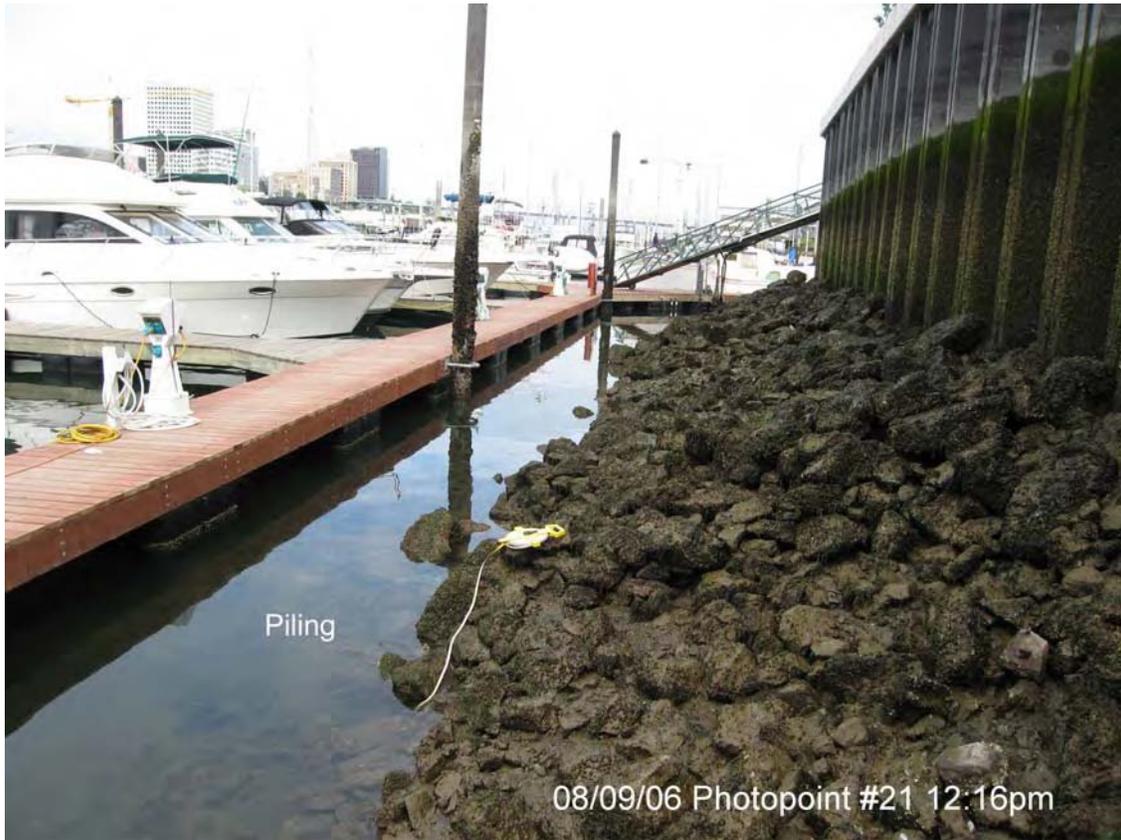
RIS - BOEC. ELEV - 2 FT. ① SUBMERGED W/OUT BEING PROTRUDING THROUGH THE CAP / HAS NET CAP
 FILL C APPROX. ELEV - 2.5 FT.



RA 20_Photopoint 19_102506 10/26/2006 10:01:13 AM



RA 20_Photopoint 20_102506 10/26/2006 10:01:13 AM



RA 20_Photopoint 21_102506 10/26/2006 10:01:13 AM

LOW-TIDE SLOPE CAP INSPECTION FORM

Thea Foss and Wheeler Osgood Waterways OMMMP

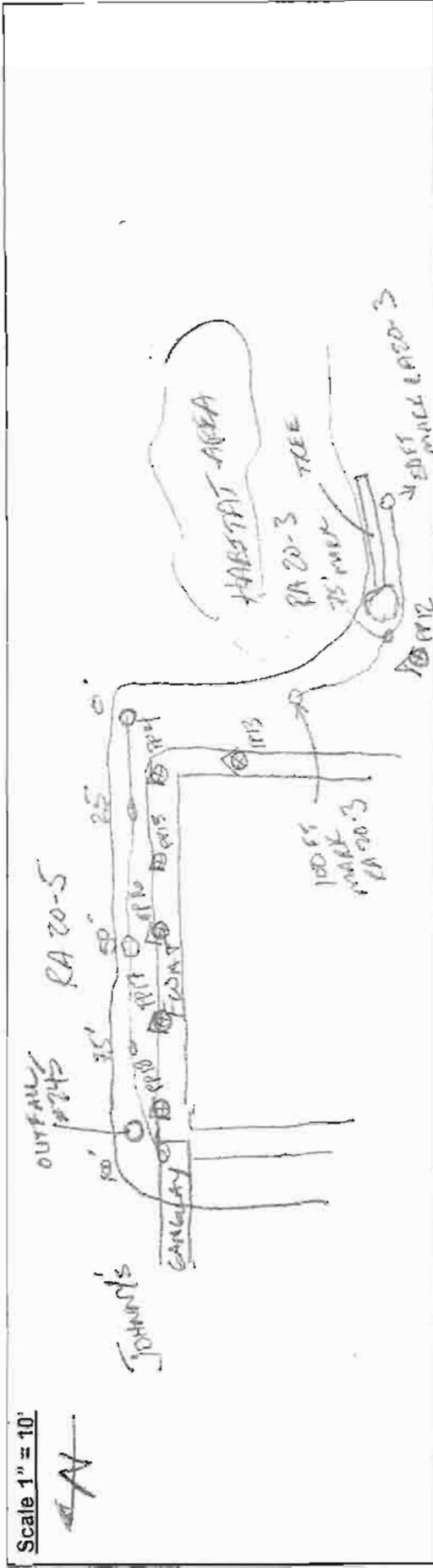
MONITORING INTERVAL TRANSECT DIAGRAM

Date: 8/9/06
 Field Personnel: M. WATMAN
 Monitoring Interval: RA 20-5 & RA 20-5

Monitoring Interval Transect Notes:

- 1) Provide General Sketch of Observations Along Transect
- 2) Delineate Extent of Cap integrity Issues (if present)
- 3) Label Photopoint Locations
- 4) Label North Arrow

- 5) Draw Diagram So That Monitoring Interval Fills Diagram Box (i.e., Monitoring Interval Endpoints are Shown at Sides of Diagram Box)
- 6) Note Approximate Location of Water Surface & Top of Bank
- 7) Provide Approximate Location of Upper Limits of Slope Cap
- 8) Delineate Presence of Debris (if present)



Additional Notes: (If cap disturbance is observed, discuss potential causes and extent of disturbance)

NEW PHOTOPOINTS FOR END OF RA 20-5 (PP1, PP2, PP3, PP4, PP5) & ALL OF RA 20-5 (PP13-PP18) & PP 18 ALSO CAPTURES PHOTO OF OUTFALL # 245



RA 20_Photopoint 12 8/11/2006 9:39:34 AM



RA 20_Photopoint 13 8/11/2006 9:41:15 AM



RA 20_Photopoint 14 8/11/2006 9:44:28 AM



RA 20_Photopoint 15 8/11/2006 9:45:47 AM



08/09/06 Photopoint #16 12:01pm

RA 20_Photopoint 16 8/11/2006 9:46:43 AM



08/09/06 Photopoint #17 12:01pm

RA 20_Photopoint 17 8/11/2006 9:47:34 AM



RA 20_Photopoint 18 8/11/2006 9:48:27 AM