



May 1, 2018

City of Bainbridge Island
Planning Division
280 Madison Avenue North
Bainbridge Island, WA 98110

Re: Fisher Residence - Final Letter for Geotechnical Special Inspections
12400 Sunrise Dr. NE, Bainbridge Island, Washington – Permit No. BLD22704
Aspect Consulting Project No. 160350

To Whom It May Concern:

As requested by the Planning Division at City of Bainbridge Island (City), Aspect Consulting, LLC (Aspect) is submitting this final letter covering all special inspections permit requirements. The project plans were approved and special inspections were required under Permit No. BLD22704.

Aspect has made site visits during construction (final field reports attached) spanning from November 16, 2017 to April 9, 2018. We have completed geotechnical special inspections for this project in the following areas:

1. **Monitor Slope Stability.** We did not observe indications of slope instability as a result of the construction activities during our site visits.
2. **Erosion Control (Temporary and Permanent).** Temporary erosion control was maintained throughout grading and stabilization in accordance with the project plans. Permanent erosion control consisting of anchored wire mesh, erosion control blanket, and vegetation plantings have been installed.
3. **Other Geotechnical – Vegetation Clearing and Restoration.** Vegetation clearing and restoration by planting vegetation has been completed by Sound Native Plants in accordance with the approved planting plan.
4. **Other Geotechnical – Soil Nail and Anchored Mesh.** We observed the installation of 28 soil nails and approximately 550 square feet of anchored mesh and permanent erosion control blanket on the slope in accordance with the approved project plans. Soil nails bars consisted of SUPANCHOR T40/20 bars with an outside diameter of 1.575 inches. Within the anchored timber cribbing wall with shotcrete facing, soil nails were installed to a length of 19 feet. In the anchored mesh areas on the slope, soil nails were 14 feet in length.

Please find attached all the field reports related to the above inspections. Based on the results of our site visits, the work we observed was constructed in general accordance with the geotechnical engineering recommendations made by Aspect, and the approved plans.

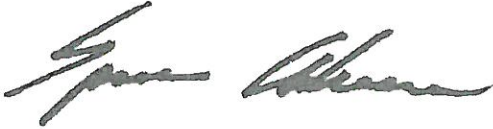
If you have any questions, please do not hesitate to call (206) 838-5852.

City of Bainbridge Island
May 1, 2018

Project No. 160350

Sincerely,

Aspect Consulting, LLC



Spencer Ambauen, EIT
Project Engineer
sambauen@aspectconsulting.com



Henry H. Haselton, PE, PMP
Principal Geotechnical Engineer
hhaselton@aspectconsulting.com

Attachments: Geotechnical Field Reports

cc: Mark Fisher

V:\160350 Fisher Residence Geotechnical Reconnaissance\Deliverables\Final Letter Geotech Special Inspections.doc



FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 11/16/2017 (THU) Field Report #001	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Partly cloudy, 50's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:


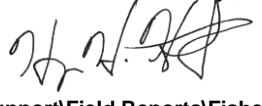
Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed. It is our understanding that due to the emergency repair status of the building permit, no pre-construction meeting was required by the City of Bainbridge Island. Therefore, no formal meeting was conducted.

Construction Notes:

The landscaper, Reyes Lawn Service, previously installed the temporary erosion control measures (i.e. silt fence) and cleared the construction area of vegetation. The contractor, GeoStabilization International (GSI), began drilling yesterday, November 15th, with 1 perimeter anchor in the Southern Stabilization Area, numbered A1_L (see attached installation schematic for 11/15). The contractor drilled 4 soil nails today in the Southern Stabilization Area, numbered A1, A2, B1, and B2 (see attached installation schematic for 11/16). Drill logs were recorded for each nail and the encountered soil conditions during drilling were consistent with project design assumptions and plans. All nail lengths, bar diameters, and materials were installed in accordance with the project plans. The soil nails and perimeter anchors were laid out using field measurements according to the approved plans. All 5 nails and anchors were grouted today. Grout test samples were collected for compression testing, to be completed by MTC, contracted to GSI. Results from the grout compression testing will be included in future reports.

Temporary Erosion and Sediment Control:

All earthwork is interior to the site. All temporary erosion control measures are functioning appropriately. A silt fence is in place along the downslope edge and sides of the project area. No sediment was observed passing over or under the silt fence. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment (see photo). The only vehicles entering or leaving the site today were driving exclusively on clean pavement. In our opinion, the work area is appropriately stabilized for erosion control; the TESC elements are generally performing as intended, and if properly

COPIES TO: File	FIELD REP: Spencer Ambauen, Senior Staff Engineer
DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 3	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: NOV 16, 2017

maintained, will minimize the chance for erosion and off-site sediment transport.



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: NOV 16, 2017





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 11/17/2017 (FRI) Field Report #002	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Partly cloudy, 50's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:


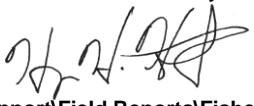
Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed.

Construction Notes:

The contractor, GeoStabilization International (GSI), drilled 2 soil nails and 1 perimeter anchor today in the Southern Stabilization Area, numbered A3, B3, and B3_V (see attached installation schematic). Drill logs were recorded for each nail and the encountered soil conditions during drilling were consistent with project design assumptions and plans. All nail lengths, bar diameters, and materials were installed in accordance with the project plans. The soil nails and perimeter anchors were laid out using field measurements according to the approved plans. All 3 nails and anchors were grouted today. Grout test samples were collected for compression testing, to be completed by MTC, contracted to GSI. Results from the grout compression testing will be included in future reports. Excess grout used for priming was placed into impervious bags to be removed from the site once set (see photo). Drilling production was cut short today when the compressor broke down (see photo).

Temporary Erosion and Sediment Control:

All earthwork is interior to the site. All temporary erosion control measures are functioning appropriately. A silt fence is in place along the downslope edge and sides of the project area. No sediment was observed passing over or under the silt fence. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment. The only vehicles entering or leaving the site today were driving exclusively on clean pavement. In our opinion, the work area is appropriately stabilized for erosion control; the TESC elements are generally performing as intended, and if properly maintained, will minimize the chance for erosion and off-site sediment transport.

COPIES TO: File	FIELD REP: Spencer Ambauen, Senior Staff Engineer
DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 3	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: NOV 17, 2017



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: NOV 17, 2017





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 11/29/2017 (WED) Field Report #003	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Fog, 40's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:

Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed.


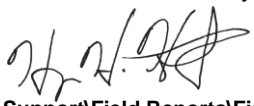
Construction Notes:

On November 27, the contractor, GeoStabilization International (GSI), previously drilled 1 soil nail and 4 perimeter anchors in the Southern Stabilization Area, numbered A4, A1_V, B1_L, B1_V, and B3_L (see attached installation schematic). On November 28, GSI also previously drilled 2 perimeter anchors in the Southern Stabilization Area, numbered A4_V and A4_L.

GSI drilled 2 perimeter anchors today in the Northern Stabilization Area, numbered A1_V and A1_L. Drill logs were recorded for each nail and the encountered soil conditions during drilling were consistent with project design assumptions and plans. All nail lengths, bar diameters, and materials were installed in accordance with the project plans. The soil nails and perimeter anchors were laid out using field measurements according to the approved plans. All nails and anchors were grouted on the same day as they were drilled. Grout test samples were collected for compression testing, to be completed by MTC, contracted to GSI. Results from the grout compression testing will be included in future reports. Excess grout used for priming was placed into impervious bags to be removed from the site once set.

Load Testing:

A proof test was performed today on a production soil nail (B2 in the Southern Stabilization Area) following the FHWA Soil Nail Walls Manual, 2015, NHI-14-007 (see photos). The location of the proof tested soil nail is shown on the attached installation schematic. Aspect observed and recorded the total displacement and creep displacement as the nail was loaded to a test load of 42 kips, which was then held for 10 minutes. The observed total displacement and creep displacement were within project specifications.

COPIES TO: File	FIELD REP: Spencer Ambauen, Senior Staff Engineer
DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 3	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

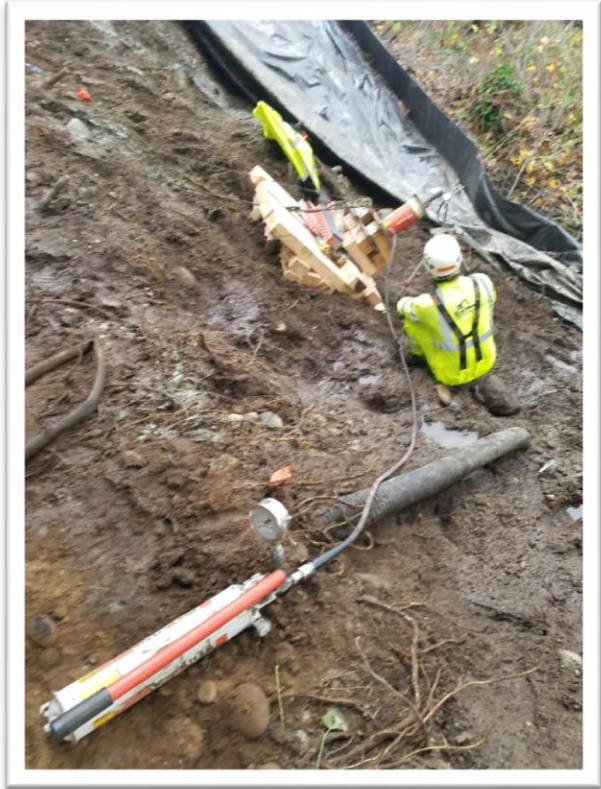
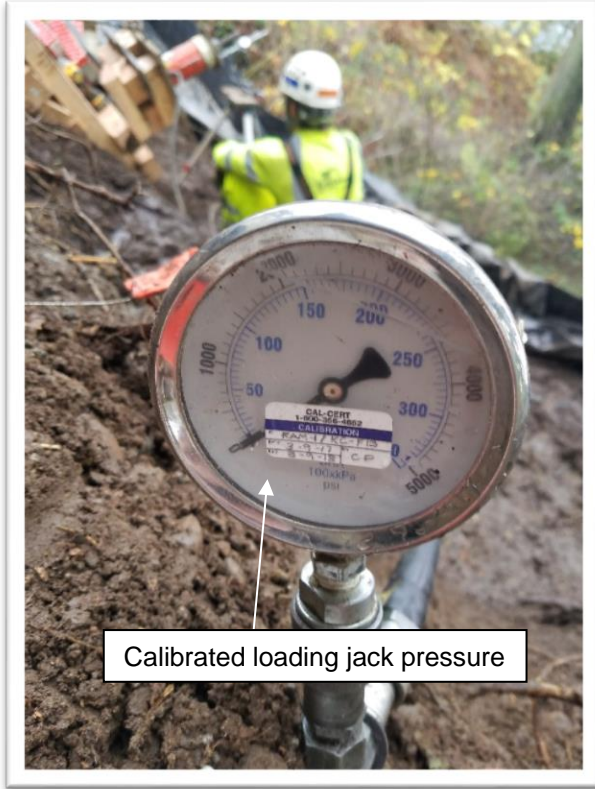
DATE: NOV 29, 2017

Temporary Erosion and Sediment Control:

All earthwork is interior to the site. All temporary erosion control measures are functioning appropriately. A silt fence is in place along the downslope edge and sides of the project area. No sediment was observed passing over or under the silt fence. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment. The only vehicles entering or leaving the site today were driving exclusively on clean pavement. In our opinion, the work area is appropriately stabilized for erosion control; the TESC elements are generally performing as intended, and if properly maintained, will minimize the chance for erosion and off-site sediment transport.



PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection	DATE: NOV 29, 2017
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FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 11/30/2017 (THU) Field Report #004	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Cloudy, 40's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:

Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed.


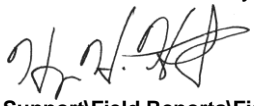
Construction Notes:

The contractor, GeoStabilization International (GSI), drilled 4 soil nails today in the Northern Stabilization Area, numbered A1, A2, B1, and C1. GSI also drilled 1 soil nail in the Shotcrete Wall, numbered B1 (see attached installation schematic and photo). Drill logs were recorded for each nail and the encountered soil conditions during drilling were consistent with project design assumptions and plans. All nail lengths, bar diameters, and materials were installed in accordance with the project plans. The soil nails and perimeter anchors were laid out using field measurements according to the approved plans (see photo). All nails and anchors were grouted today. Grout test samples were collected for compression testing, to be completed by MTC, contracted to GSI. Results from the grout compression testing will be included in future reports. Excess grout used for priming was placed into impervious bags to be removed from the site once set.

The contractor installed TECCO mesh over the entire Southern Stabilization Area today. Plates and bolts were set on the top row of soil nails, and the top lateral perimeter cable was installed (see photo). No pre-tensioning was completed. The TECCO mesh was installed in conformance with the project plans.

Temporary Erosion and Sediment Control:

All earthwork is interior to the site. All temporary erosion control measures are functioning appropriately. A silt fence is in place along the downslope edge and sides of the project area. No sediment was observed passing over or under the silt fence. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment. The only vehicles

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DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 4	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: NOV 30, 2017

entering or leaving the site today were driving exclusively on clean pavement. In our opinion, the work area is appropriately stabilized for erosion control; the TESC elements are generally performing as intended, and if properly maintained, will minimize the chance for erosion and off-site sediment transport.



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

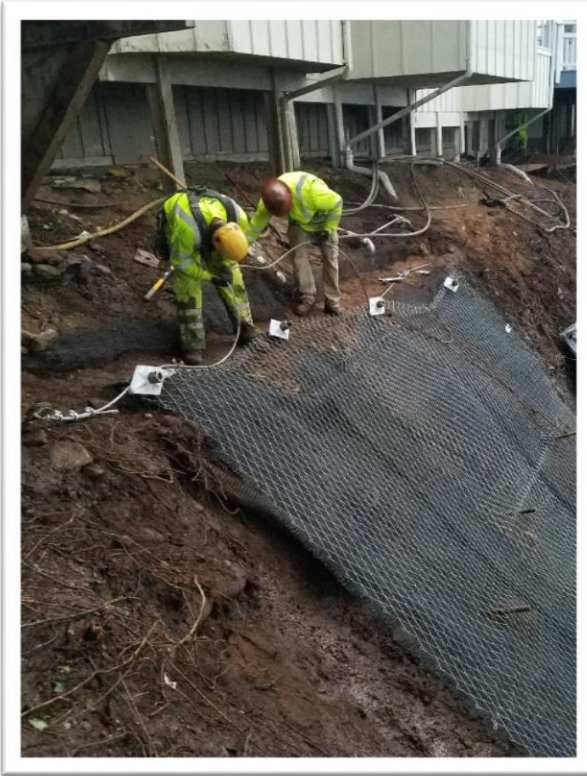
DATE: NOV 30, 2017



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: NOV 30, 2017





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 12/01/2017 (FRI) Field Report #005	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Cloudy, 40's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:


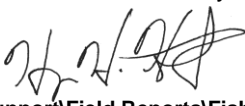
Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed.

Construction Notes:

The contractor, GeoStabilization International (GSI), drilled 2 soil nails and 2 perimeter anchors today in the Northern Stabilization Area, numbered A3, B2, C1_L, and C1_V. GSI also drilled 1 soil nail in the Shotcrete Wall, numbered A1 (see attached installation schematic and photo). Drill logs were recorded for each nail and the encountered soil conditions during drilling were consistent with project design assumptions and plans. All nail lengths, bar diameters, and materials were installed in accordance with the project plans. The soil nails and perimeter anchors were laid out using field measurements according to the approved plans. All nails and anchors were grouted today. Grout test samples were collected for compression testing, to be completed by MTC, contracted to GSI. Results from the grout compression testing will be included in future reports. Excess grout used for priming was placed into impervious bags to be removed from the site once set.

Temporary Erosion and Sediment Control:

All earthwork is interior to the site. We observed that the bottom edge of the silt fence in the northeastern corner of the work area had been exposed and was no longer buried by soil (see photo). We brought this to the attention of the contractor. We were informed that the landscaper will repair the silt fence tomorrow. We recommended that the contractor postpone work in this area until the section of silt fence is repaired. Besides the exposed section of silt fence, all temporary erosion control measures are functioning appropriately. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment. The only vehicles entering or leaving the site today were driving exclusively on clean pavement.

COPIES TO: File	FIELD REP: Spencer Ambauen, Senior Staff Engineer
DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 2	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 01, 2017





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 12/04/2017 (MON) Field Report #006	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Partly cloudy, 40's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:


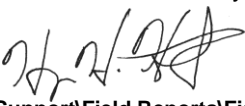
Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed.

Construction Notes:

On December 2, the contractor, GeoStabilization International (GSI), previously drilled 2 soil nails in the Northern Stabilization Area, numbered B3 and C2, and 2 soil nails in the Shotcrete Wall, numbered A2 and B2 (see attached installation schematic).

GSI drilled 1 soil nail today in the Northern Stabilization Area, numbered A4, and 3 soil nails in the Shotcrete Wall, numbered A3, A4, and B3 (see attached installation schematic and photo). Drill logs were recorded for each nail and the encountered soil conditions during drilling were consistent with project design assumptions and plans. All nail lengths, bar diameters, and materials were installed in accordance with the project plans. The soil nails and perimeter anchors were laid out using field measurements according to the approved plans (see photo). All nails and anchors were grouted today. Grout test samples were collected for compression testing, to be completed by MTC, contracted to GSI. Results from the grout compression testing will be included in future reports. Excess grout used for priming was placed into impervious bags to be removed from the site once set.

The contractor finished TECCO mesh in the Southern Stabilization Area today. Plates and bolts were set on the bottom row of soil nails, and the remaining perimeter cables were installed (see photo). The soil nails were pre-tensioned according to the approved plans. The TECCO mesh was extended downslope of the Southern Stabilization Area indicated in the plans. Erosion control matting was installed beneath all of the mesh. The TECCO mesh was installed in conformance with the project plans.

COPIES TO: File	FIELD REP: Spencer Ambauen, Senior Staff Engineer
DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 3	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350**PROJECT NAME:** Fisher Residence Slope Protection**DATE:** DEC 04, 2017**Temporary Erosion and Sediment Control:**

All earthwork is interior to the site. All temporary erosion control measures are functioning appropriately. The section of silt fence that was exposed has been repaired (see photo). No sediment was observed passing over or under the silt fence. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment. The only vehicles entering or leaving the site today were driving exclusively on clean pavement. In our opinion, the work area is appropriately stabilized for erosion control; the TESC elements are generally performing as intended, and if properly maintained, will minimize the chance for erosion and off-site sediment transport.



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 04, 2017





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 12/05/2017 (TUE) Field Report #007	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Scattered clouds, 40's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:


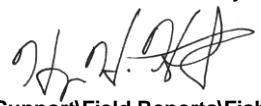
Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed.

Construction Notes:

The contractor, GeoStabilization International (GSI), drilled 2 soil nails and 2 perimeter anchors today in the Northern Stabilization Area, numbered B4, C3, C3_L, and C3_V, and 2 soil nails in the Shotcrete Wall, numbered A5 and B4 (see attached installation schematic). Drill logs were recorded for each nail and the encountered soil conditions during drilling were consistent with project design assumptions and plans. All nail lengths, bar diameters, and materials were installed in accordance with the project plans. The soil nails and perimeter anchors were laid out using field measurements according to the approved plans. All nails and anchors were grouted today. Grout test samples were collected for compression testing, to be completed by MTC, contracted to GSI. Results from the grout compression testing will be included in future reports. Excess grout used for priming was placed into impervious bags to be removed from the site once set.

Load Testing:

A proof test was performed today on a production soil nail (B1 in the Shotcrete Wall) following the FHWA Soil Nail Walls Manual, 2015, NHI-14-007 (see photos). The location of the proof tested soil nail is shown on the attached installation schematic. Aspect observed and recorded the total displacement and creep displacement as the nail was loaded to a test load of 42 kips, which was then held for 10 minutes. The observed total displacement and creep displacement were within project specifications.

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DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 3	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 05, 2017

Temporary Erosion and Sediment Control:

All earthwork is interior to the site. All temporary erosion control measures are functioning appropriately. A silt fence is in place along the downslope edge and sides of the project area. No sediment was observed passing over or under the silt fence. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment. The only vehicles entering or leaving the site today were driving exclusively on clean pavement. In our opinion, the work area is appropriately stabilized for erosion control; the TESC elements are generally performing as intended, and if properly maintained, will minimize the chance for erosion and off-site sediment transport.



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 05, 2017





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 12/07/2017 (THU) Field Report #008	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Scattered clouds, 40's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:

Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed.


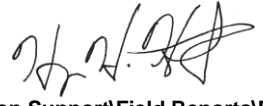
Construction Notes:

On December 6, the contractor, GeoStabilization International (GSI), previously drilled 1 soil nail and 2 perimeter anchors in the Northern Stabilization Area, numbered A5, A5_L, and A5_V (see attached installation schematic). Drill logs were recorded for each nail and the encountered soil conditions during drilling were consistent with project design assumptions and plans. All nail lengths, bar diameters, and materials were installed in accordance with the project plans. The soil nails and perimeter anchors were laid out using field measurements according to the approved plans. All nails and anchors were grouted today. Grout test samples were collected for compression testing, to be completed by MTC, contracted to GSI. Results from the grout compression testing will be included in future reports. Excess grout used for priming was placed into impervious bags to be removed from the site once set.

The contractor installed TECCO mesh over the entire Northern Stabilization Area today. No plates, bolts, or perimeter cables have yet been installed (see photo). No pre-tensioning for the Northern Stabilization Area was completed today. The TECCO mesh was installed in conformance with the project plans.

Shotcrete Facing:

The contractor finished installing the reinforcement for the Shotcrete Wall today (see photo). The wall will be faced with 4-inch-thick shotcrete reinforced with welded wire mesh (WWM), steel bearing plates, and horizontal and vertical rebar. We observed the reinforcement and drainage strips were installed according to the approved plans. A PVC drainage pipe that daylighted out the face of the Shotcrete Wall was extended and capped during shotcrete application (see photos). This pipe

COPIES TO: File	FIELD REP: Spencer Ambauen, Senior Staff Engineer
DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 5	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
P:_GEOTECH\Yue Pre-Sale Reconnaissance_Sunrise\Construction Support\Field Reports\Fisher Residence - FR08_120717.docx	

PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 07, 2017

will be tied into the drainage system later. We observed shotcrete being applied to the entire wall face and being pumped into the void space within the timber cribbing (see photos).

Temporary Erosion and Sediment Control:

All earthwork is interior to the site. All temporary erosion control measures are functioning appropriately. A silt fence is in place along the downslope edge and sides of the project area. No sediment was observed passing over or under the silt fence. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment. The only vehicles entering or leaving the site today were driving exclusively on clean pavement. In our opinion, the work area is appropriately stabilized for erosion control; the TESC elements are generally performing as intended, and if properly maintained, will minimize the chance for erosion and off-site sediment transport.



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

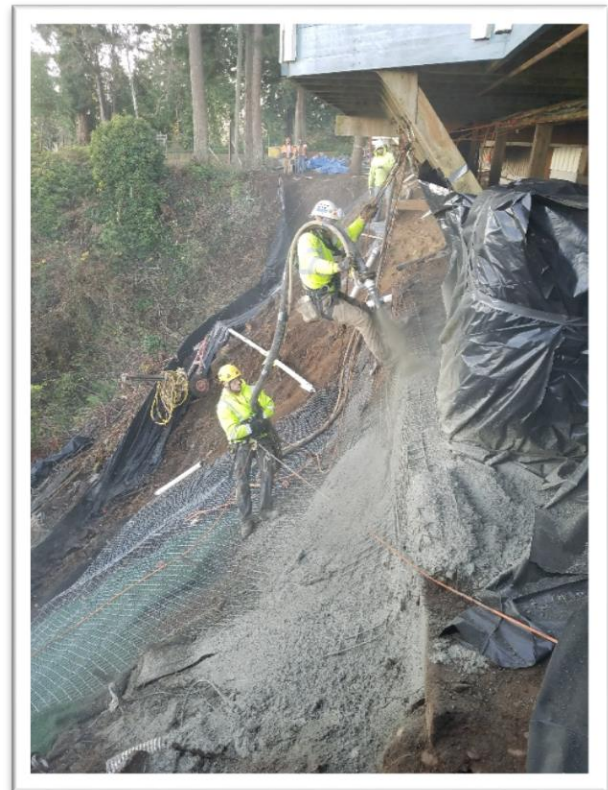
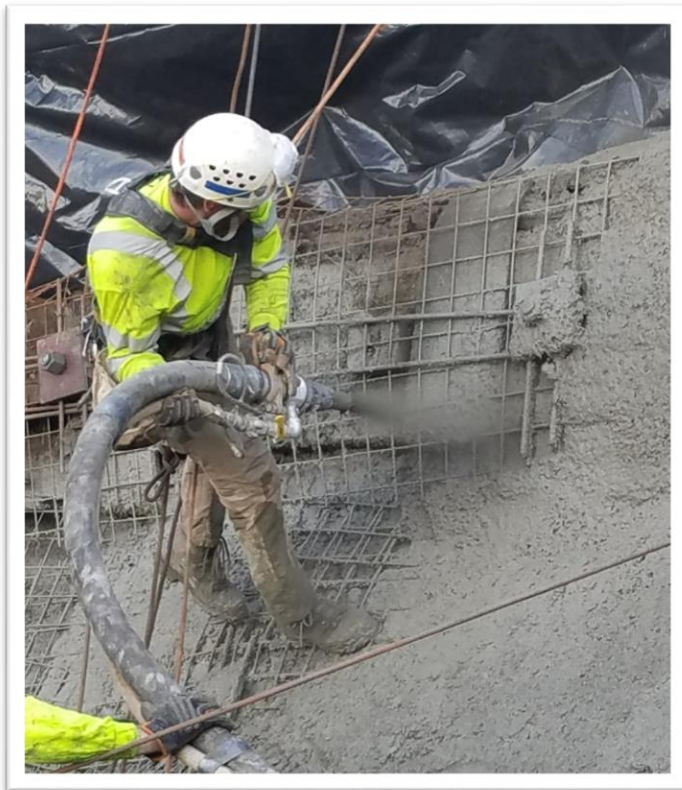
DATE: DEC 07, 2017



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

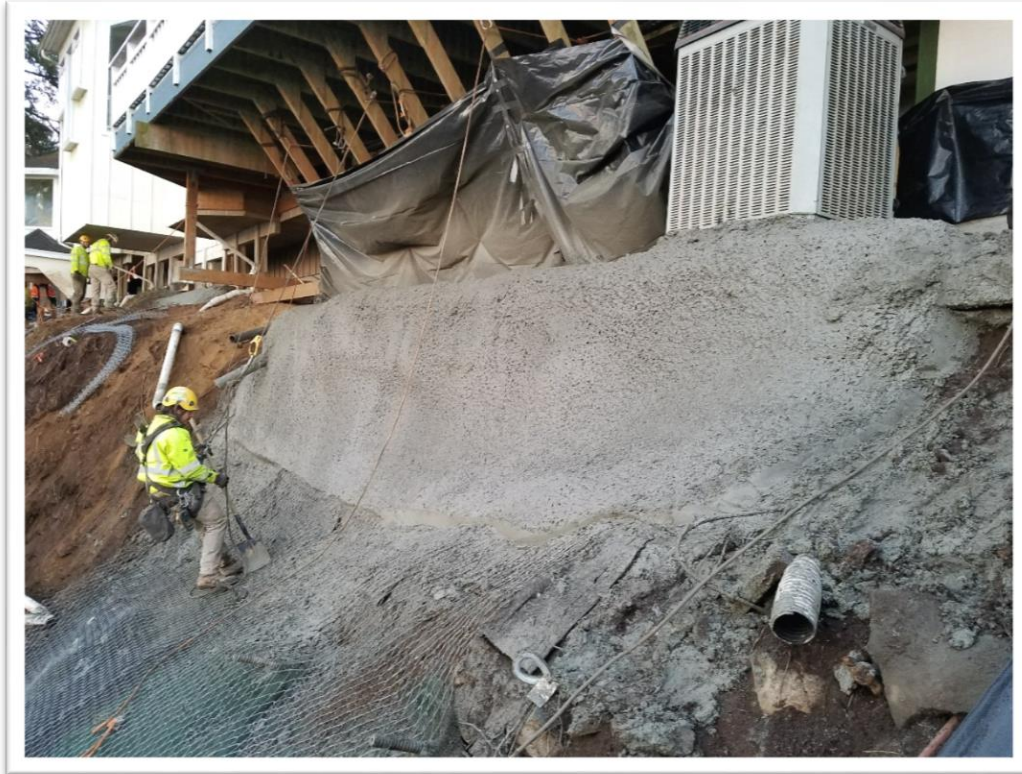
DATE: DEC 07, 2017



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 07, 2017





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 12/08/2017 (FRI) Field Report #009	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Cloudy, 40's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:

Aspect staff visited the site at the request of the client, Mark Fisher, to observe construction of the slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed. All construction activities for the slope protection system installation were completed today. The slope protection contractor began to mobilize off-site today.

Construction Notes:


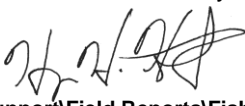
The contractor finished installed TECCO mesh over the entire Northern Stabilization Area today. All plates, bolts, and perimeter cables have been installed (see photo). Pre-tensioning for the Southern and Northern Stabilization Areas was completed today. The TECCO mesh was installed in conformance with the project plans.

Load Testing:

A proof test was performed today on a production soil nail (B4 in the Northern Stabilization Area) following the FHWA Soil Nail Walls Manual, 2015, NHI-14-007 (see photo). The location of the proof tested soil nail is shown on the attached installation schematic. Aspect observed and recorded the total displacement and creep displacement as the nail was loaded to a test load of 42 kips, which was then held for 10 minutes. The observed total displacement and creep displacement were within project specifications.

Temporary Erosion and Sediment Control:

All earthwork is interior to the site. All temporary erosion control measures are functioning appropriately. A silt fence is in place along the downslope edge and sides of the project area. No sediment was observed passing over or under the silt fence. The entrance/exit to the site and the nearby street are clear of tracking. We observed the contractor consistently using Duradeck traction plates and plywood to reduce soil disturbance and tracking by equipment. The only vehicles entering or leaving the site today were driving exclusively on clean pavement. In our opinion, the work area is

COPIES TO: File	FIELD REP: Spencer Ambauen, Senior Staff Engineer
DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 4	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 08, 2017

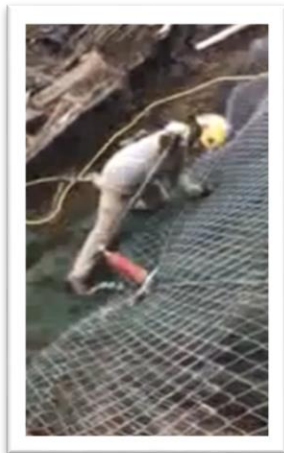
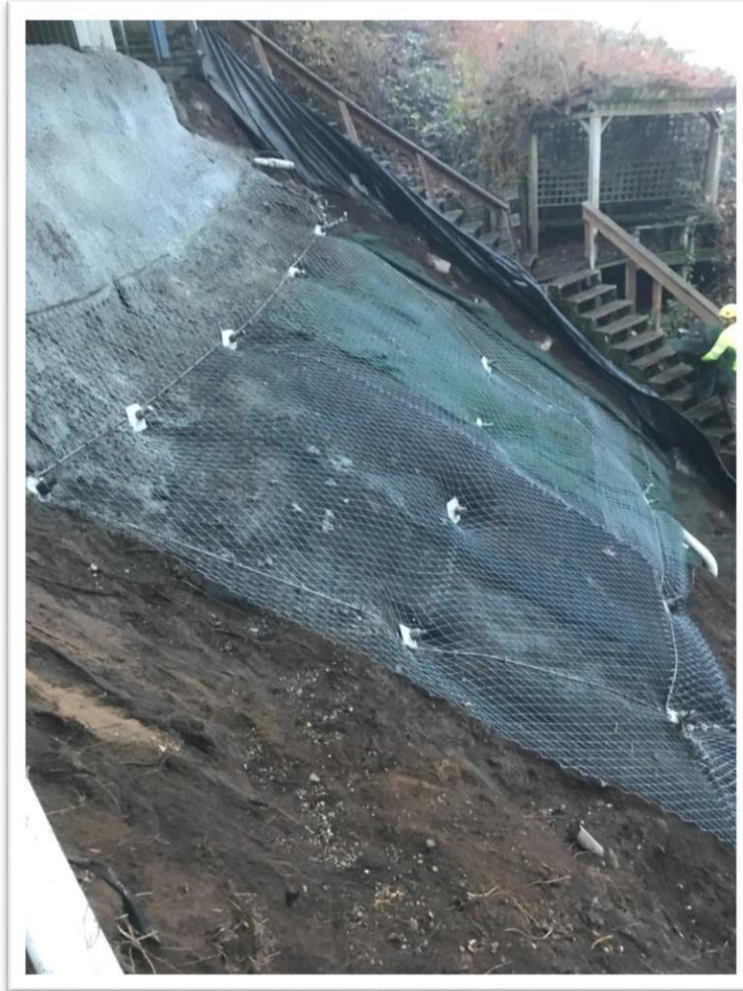
appropriately stabilized for erosion control; the TESC elements are generally performing as intended, and if properly maintained, will minimize the chance for erosion and off-site sediment transport.



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 08, 2017



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: DEC 08, 2017





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

DATE: 1/04/2018 (THU) Field Report #010	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Scattered clouds, 40's °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:



Aspect staff visited the site at the request of the client, Mark Fisher, to observe performance of temporary erosion and sedimentation control (TESC) measures and monitor the installed slope protection on the east-facing steep slope. In general, the slope appeared stable and no new groundwater seepage or indications of movement were observed.

Construction Notes:

All slope protection construction activities were completed on December 8, 2017. The slope protection system was installed in conformance with the project plans and appears to be functioning as intended.

Temporary Erosion and Sediment Control:

All temporary erosion control measures are functioning appropriately. A silt fence is in place along the downslope edge and sides of the project area. We observed that a section of the silt fence in the northeastern corner of the work area has been damaged and is no longer continuously enclosing the cleared area (see photos). We brought this to the attention of the contractor. We were informed that the landscaper will repair the silt fence in this area. Besides the damaged section of silt fence, all temporary erosion control measures are functioning appropriately.

COPIES TO: File	FIELD REP: Spencer Ambauen, Senior Staff Engineer
DATE MAILED: March 7, 2018	SIGNED: 
Page 1 of 3	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer 
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PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

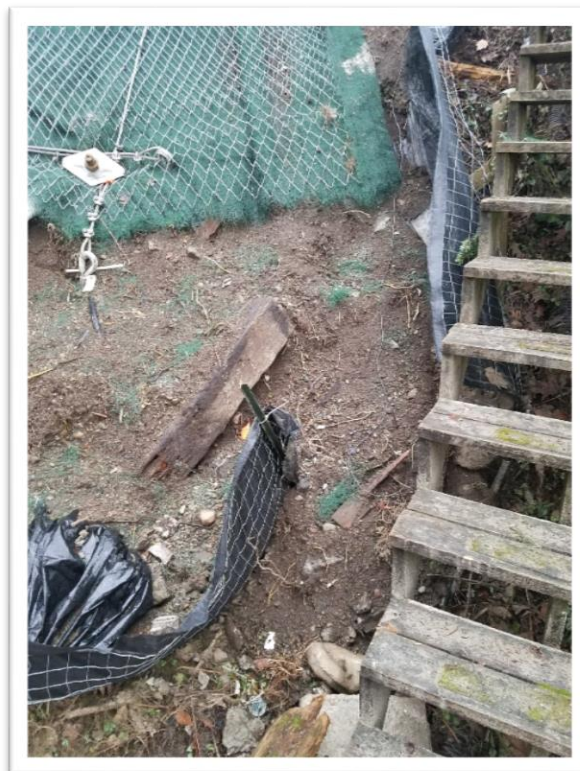
DATE: JAN 04, 2018



PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: JAN 04, 2018





FIELD REPORT

350 Madison Avenue North
Bainbridge Island, Washington 98110
(206) 780-9370

401 Second Avenue S, Suite 201
Seattle, Washington 98104
(206) 328-7443

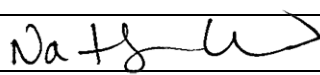
DATE: 04/09/2018 (MON) Field Report #011	PROJECT NO.: 160350	PROJECT NAME: Fisher Residence Slope Protection
WEATHER: Sunny, 50s °F		PROJECT LOCATION: 12400 Sunrise Dr. NE Bainbridge Island, Washington 98110
MUNICIPALITY: City of Bainbridge Island		
TO: Mark Fisher 12400 Sunrise Dr. NE, Bainbridge Island, WA 98110		ENGINEER: Aspect Consulting, LLC
		CONSTRUCTION MANGEMENT:
		GENERAL CONTRACTOR: GSI
		LANDSCAPER: Reyes Lawn Service
EQUIPMENT USED:		

THE FOLLOWING WAS NOTED:

Aspect staff visited the site at the request of the client, Mark Fisher, to observe performance of the permanent erosion control measures. We observed that erosion control blankets were in place underneath the mesh behind the soil nails, and that live stakes had been planted according to the approved planting plan by Sound Native Plants throughout the entire disturbed area of the slope face. The live stakes have not started budding or sprouting yet, but appear to have been properly installed through the mesh.

The silt fencing on the slope is still in place and appears to be functioning properly.

Based on our observations today, all appropriate permanent erosion control measures have been completed at the site. Upon approval by the City of Bainbridge Island inspector, temporary erosion control measures may be removed.

COPIES TO: File	FIELD REP: Na Hyung Choi, GIT; Staff Geologist
DATE MAILED: April 11, 2018	SIGNED: 
Page 1 of 2	GEOTECHNICAL REVIEW: Henry Haselton, PE, Principal Geotechnical Engineer
P:_GEOTECH\Yue Pre-Sale Reconnaissance_Sunrise\Construction Support\Field Reports\Fisher Residence - FR11_040918.docx	

PROJECT NO.: 160350

PROJECT NAME: Fisher Residence Slope Protection

DATE: APR 9, 2018

