

Modular Block Retaining Wall Calculations

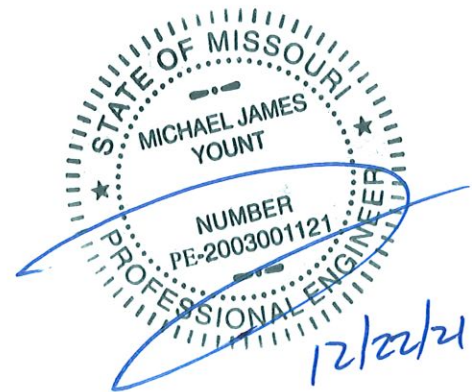
Hampton Manor of O'Fallon
Mexico and Sonderen Street
O'Fallon, MO 63376

Prepared By:

Engineering
Solutions, P.C.

5393 Old Baumgartner Rd
St. Louis, Mo. 63129
(314) 280-7748

Michael J. Yount, P.E.



STATE OF TEXAS
COUNTY OF DALLAS
NOTARY PUBLIC
My Comm. Expires 08/31/2011
I hereby certify that the foregoing is a true and correct copy of the original as the same appears in my records.
Notary Public
[Signature]

SRWall (Version 4) Report**Project Identification**

Project ID :
 Project Name :
 Owner :
 Client :
 Prepared By :
 Company : **Retaining Wall Solutions, inc.**
 Address : **5393 Old Baumgartner Rd, St. Louis, Mo. 63129**
 Telephone : **314-842-8200**
 Section :
 Project File : **aaa RWS Clean.prj**
 Vendor Data File : **GEOSTAR.vdf**
 Date and Time : **06/05/2019 15:30:48**

Type of Structure : **Reinforced Wall**

Wall Geometry

Design Wall Height(ft) : **14.00**
 Embedment Wall Height(ft) : **0.67**
 Exposed Wall Design Height(ft) : **13.33**
 Number of Segmental Wall Units : **21**
 Wall Inclination(degrees) : **7.13**

Grades

Top Slope(degrees) : **0.00**

Uniform Distributed Surcharge

Live Load Surcharge(Psf) : **250.00**
 Live Load Surcharge Setback(ft) : **4.00**
 Dead Load Surcharge(Psf) : **0.00**

Soil Data

Soil Zone	Description	Cohesion (c) (psf)	Friction Angle(Φ) (degrees)	Unit Weight (γ)(pcf)
Reinforced Soil	1"-2" Clean	N/A	40.00	100.00
Retained Soil	Low Plastic Silty Clay	N/A	26.00	120.00
Leveling Pad Soil	1" clean or minus	N/A	38.00	100.00
Foundation Soil	Low Plastic Silty Clay	100.00	26.00	120.00

Segmental Unit Data

Segmental Unit Name	: Rockwood Classic 8
Cap Height (Inches)	: 4.00
Unit Height (Hu)(Inches)	: 8.00
Unit Width (Wu)(Inches)	: 12.00
Unit Length (Inches)	: 18.00
Setback (Inches)	: 1.00
Weight (Infilled)(lb)	: 120.00
Unit Weight (Infilled)(pcf)	: 120.00
Center of Gravity(Inches)	: 6.00

Geosynthetic Reinforcement Type and Number

Supplier	Product Name	Number
Geostar Technologies, LLC	HP200	6
Geostar Technologies, LLC	HP300	0
Geostar Technologies, LLC	HP500	0
Geostar Technologies, LLC	HP700	0

Geosynthetic Properties

Geosynthetic Product	Tult (lb/ft)	RFcr	RFd	RFid	LTDS (lb/ft)	Ci	Cds
HP200	3373.00	1.55	1.10	1.25	1582.64	0.85	0.85
HP300	4650.00	1.55	1.10	1.25	2181.82	0.85	0.85
HP500	7952.00	1.55	1.10	1.25	3731.14	0.85	0.85
HP700	10688.00	1.55	1.10	1.25	5014.90	0.85	0.85

Unit-Unit Interface Properties

Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
585.00	56.00	6000.00

Geosynthetic-SRW Unit Connection Strength properties

Geosynthetic Product	Minimum Conn. Capacity (lb/ft)	1st Inflection Point (lb/ft)		2nd Inflection Point (lb/ft)	
		Normal Load (lb/ft)	Connection Capacity (lb/ft)	Normal Load (lb/ft)	Max Connection Capacity (lb/ft)
HP200	1055.00	1799.00	1633.00	1800.00	1634.00
HP300	1235.00	2999.00	2553.00	3000.00	2554.00
HP500	1530.00	4199.00	3899.00	4200.00	3900.00
HP700	2445.00	5999.00	4475.00	6000.00	4476.00

Geosynthetic-SRW Unit Shear Strength properties

Geosynthetic Product	Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
HP200	585.00	56.00	6000.00
HP300	585.00	56.00	6000.00
HP500	585.00	56.00	6000.00
HP700	585.00	56.00	6000.00

Vertical Components

Vertical Components of Earth Pressures Used : No

Coefficients of Earth Pressure and Failure Plane Orientation

Reinforcement Soil(Static)(Ka)	: 0.155
Reinforcement Soil(Static)(Kah Horizontal Component)	: 0.146
Internal Modified Back Slope(Bint)	: 0.000
Orientation of failure plane from horizontal(degrees) for Internal Stability	: 59.139
Retained Soil(Static)(Ka)	: 0.292
Retained Soil(Static)(Kah Horizontal Component)	: 0.276
External Modified Back Slope(Bext)	: 0.000
Orientation of failure plane from horizontal(degrees) for External Stability	: 49.571

Result of External Stability Static Analysis

	Calculated	Design Criteria
FOS Sliding	1.58	> 1.50
FOS Overturning	2.76	> 2.00
FOS Bearing Capacity	3.79	> 2.00
Base Reinforcement Length (L)(ft)	8.50	
Base Reinforcement Ratio (L/H)	0.61	> 0.60

Detailed Result of External Stability Analysis

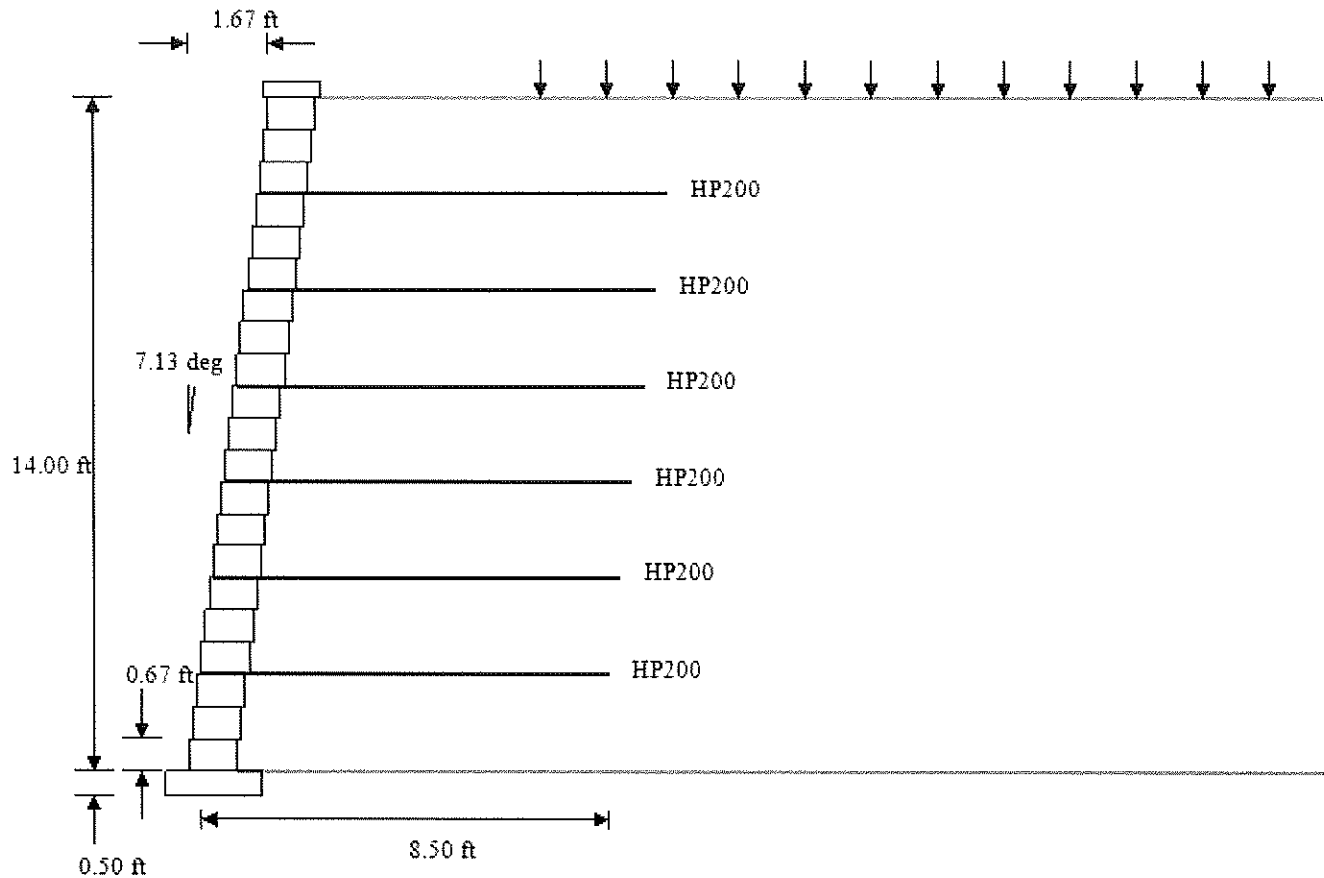
	Calculated
Total Horizontal Force (lb/ft)	4211.57
Total Vertical Force (lb/ft)	11900.00
Sliding Resistance (lb/ft)	6654.02
Driving Moment (lb-ft/ft)	21907.88
Resisting Moment (lb-ft/ft)	60491.67
Bearing Capacity (psf)	8057.13
Base Eccentricity (e)(ft.)	1.01
Eccentricity Ratio (e/L-2e)	0.16
Maximum Bearing Pressure (psf)	2124.24

Results of Internal Stability Static Analysis

SRW Unit #	Geosynthetic Product	Elevation (ft)	Length (ft)	Anchor Length (ft)	FOS Overstress ≥ 1.50	FOS Pullout ≥ 1.50	FOS Slide ≥ 1.50	Layer Spacing (ft) ≥ 2.00
19	HP200	12.00	8.50	1.83	9.04	2.98	9.85	OK
16	HP200	10.00	8.50	2.77	8.34	8.35	6.35	OK
13	HP200	8.00	8.50	3.72	6.38	12.84	4.81	OK
10	HP200	6.00	8.50	4.66	5.17	17.38	3.90	OK
7	HP200	4.00	8.50	5.61	4.34	21.94	3.29	OK
4	HP200	2.00	8.50	6.55	2.41	17.09	2.84	OK

Results of Facing Stability Static Analysis

SRW Unit #	Heel Elev (ft)	Geosynthetic Product	FOS Crest Toppling ≥ 1.50	FOS Connection ≥ 1.50
19	12.00	HP200	7.20	17.24
16	10.00	HP200		10.36
13	8.00	HP200		7.35
10	6.00	HP200		5.84
7	4.00	HP200		4.94
4	2.00	HP200		2.31

Wall Reinforcement Layout**Project Identification**

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Type of Structure : **Reinforced Wall**

Wall Geometry

Design Wall Height(ft) : **9.33**
 Embedment Wall Height(ft) : **0.50**
 Exposed Wall Design Height(ft) : **8.83**
 Number of Segmental Wall Units : **14**
 Wall Inclination(degrees) : **7.13**

Grades

Top Slope(degrees) : **0.00**

Uniform Distributed Surcharge

Live Load Surcharge(Psf) : **250.00**
 Live Load Surcharge Setback(ft) : **4.00**
 Dead Load Surcharge(Psf) : **0.00**

Soil Data

Soil Zone	Description	Cohesion (c) (psf)	Friction Angle(Φ) (degrees)	Unit Weight (γ)(pcf)
Reinforced Soil	1"-2" Clean	N/A	40.00	100.00
Retained Soil	Low Plastic Silty Clay	N/A	26.00	120.00
Leveling Pad Soil	1" clean or minus	N/A	38.00	100.00
Foundation Soil	Low Plastic Silty Clay	100.00	26.00	120.00

Segmental Unit Data

Segmental Unit Name	: Rockwood Classic 8
Cap Height (Inches)	: 4.00
Unit Height (Hu)(Inches)	: 8.00
Unit Width (Wu)(Inches)	: 12.00
Unit Length (Inches)	: 18.00
Setback (Inches)	: 1.00
Weight (Infilled)(lb)	: 120.00
Unit Weight (Infilled)(pcf)	: 120.00
Center of Gravity(Inches)	: 6.00

Geosynthetic Reinforcement Type and Number

Supplier	Product Name	Number
Geostar Technologies, LLC	HP200	4
Geostar Technologies, LLC	HP300	0
Geostar Technologies, LLC	HP500	0
Geostar Technologies, LLC	HP700	0

Geosynthetic Properties

Geosynthetic Product	Tult (lb/ft)	RFcr	RFd	RFid	LTDS (lb/ft)	Ci	Cds
HP200	3373.00	1.55	1.10	1.25	1582.64	0.85	0.85
HP300	4650.00	1.55	1.10	1.25	2181.82	0.85	0.85
HP500	7952.00	1.55	1.10	1.25	3731.14	0.85	0.85
HP700	10688.00	1.55	1.10	1.25	5014.90	0.85	0.85

Unit-Unit Interface Properties

Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
585.00	56.00	6000.00

Geosynthetic-SRW Unit Connection Strength properties

Geosynthetic Product	Minimum Conn. Capacity (lb/ft)	1st Inflection Point (lb/ft)		2nd Inflection Point (lb/ft)	
		Normal Load (lb/ft)	Connection Capacity (lb/ft)	Normal Load (lb/ft)	Max Connection Capacity (lb/ft)
HP200	1055.00	1799.00	1633.00	1800.00	1634.00
HP300	1235.00	2999.00	2553.00	3000.00	2554.00
HP500	1530.00	4199.00	3899.00	4200.00	3900.00
HP700	2445.00	5999.00	4475.00	6000.00	4476.00

Geosynthetic-SRW Unit Shear Strength properties

Geosynthetic Product	Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
HP200	585.00	56.00	6000.00
HP300	585.00	56.00	6000.00
HP500	585.00	56.00	6000.00
HP700	585.00	56.00	6000.00

Vertical Components

Vertical Components of Earth Pressures Used : No

Coefficients of Earth Pressure and Failure Plane Orientation

Reinforcement Soil(Static)(Ka)	: 0.155
Reinforcement Soil(Static)(Kah Horizontal Component)	: 0.146
Internal Modified Back Slope(Bint)	: 0.000
Orientation of failure plane from horizontal(degrees) for Internal Stability	: 59.139
Retained Soil(Static)(Ka)	: 0.292
Retained Soil(Static)(Kah Horizontal Component)	: 0.276
External Modified Back Slope(Bext)	: 0.000
Orientation of failure plane from horizontal(degrees) for External Stability	: 49.571

Result of External Stability Static Analysis

	Calculated	Design Criteria
FOS Sliding	1.52	> 1.50
FOS Overturning	2.41	> 2.00
FOS Bearing Capacity	3.62	> 2.00
Base Reinforcement Length (L)(ft)	5.70	
Base Reinforcement Ratio (L/H)	0.61	> 0.60

Detailed Result of External Stability Analysis

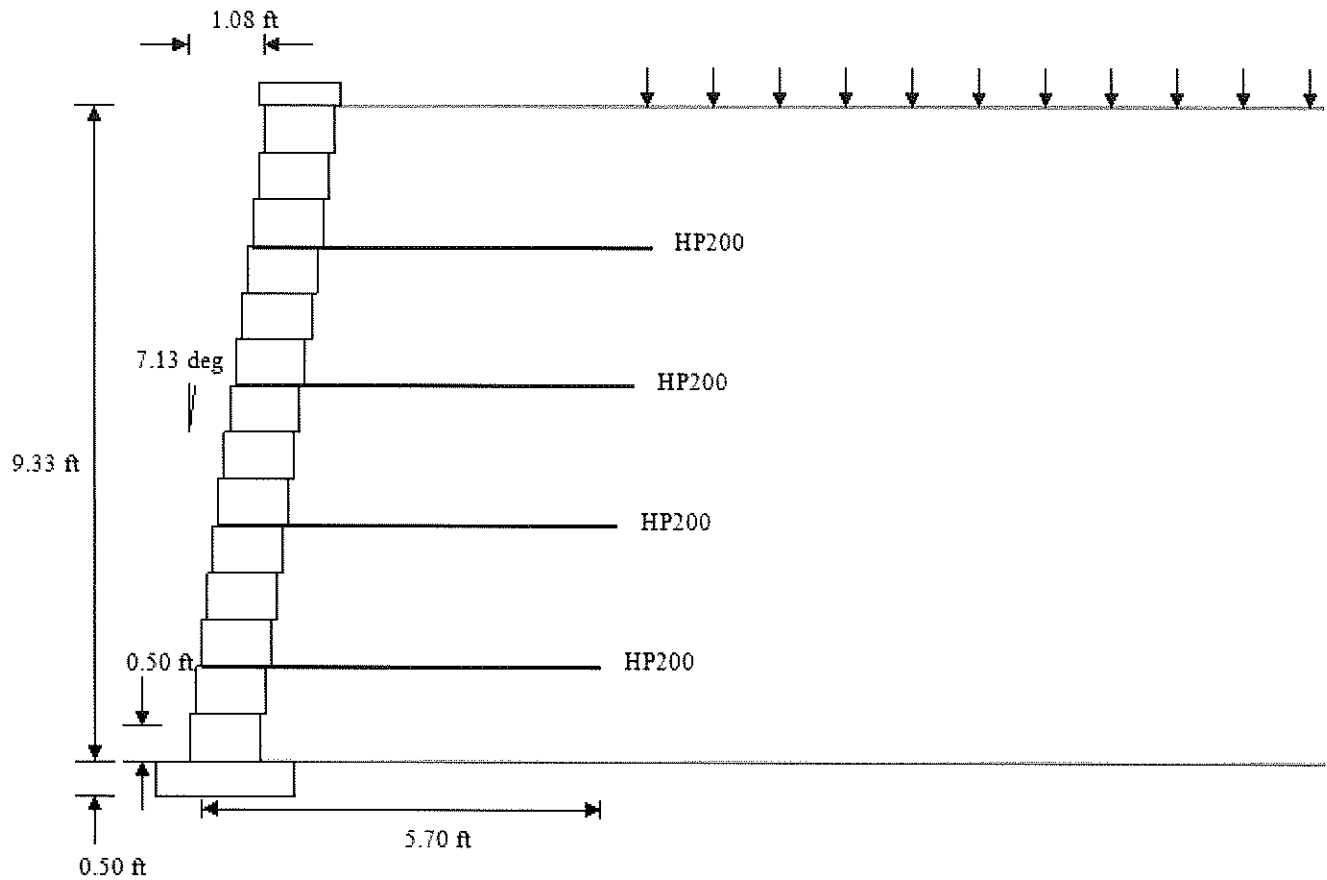
	Calculated
Total Horizontal Force (lb/ft)	2086.47
Total Vertical Force (lb/ft)	5320.00
Sliding Resistance (lb/ft)	3164.74
Driving Moment (lb-ft/ft)	7492.96
Resisting Moment (lb-ft/ft)	18043.67
Bearing Capacity (psf)	5920.76
Base Eccentricity (e)(ft.)	0.87
Eccentricity Ratio (e/L-2e)	0.22
Maximum Bearing Pressure (psf)	1637.49

Results of Internal Stability Static Analysis

SRW Unit #	Geosynthetic Product	Elevation (ft)	Length (ft)	Anchor Length (ft)	FOS Overstress ≥ 1.50	FOS Pullout ≥ 1.50	FOS Slide ≥ 1.50	Layer Spacing (ft) ≥ 2.00
12	HP200	7.33	5.70	1.24	9.03	2.02	7.88	OK
9	HP200	5.33	5.70	2.18	8.34	6.56	4.87	OK
6	HP200	3.33	5.70	3.13	6.38	10.79	3.63	OK
3	HP200	1.33	5.70	4.07	4.36	12.82	2.91	OK

Results of Facing Stability Static Analysis

SRW Unit #	Heel Elev (ft)	Geosynthetic Product	FOS Crest Toppling ≥ 1.50	FOS Connection ≥ 1.50
12	7.33	HP200	7.18	17.21
9	5.33	HP200		10.35
6	3.33	HP200		7.34
3	1.33	HP200		4.91

Wall Reinforcement Layout**Project Identification**

Project ID	:
Project Name	:
Owner	:
Client	:
Prepared By	:
Company	: Retaining Wall Solutions, inc.
Address	: 5393 Old Baumgartner Rd, St. Louis, Mo. 63129
Telephone	: 314-842-8200
Section	:
Vendor Data File	: GEOSTAR.vdf
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Project File : **aaa RWS Clean.prj**
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Date and Time : **06/05/2019 15:30:48**

Type of Structure : **Reinforced Wall**

Wall Geometry

Design Wall Height(ft) : **7.33**
Embedment Wall Height(ft) : **0.50**
Exposed Wall Design Height(ft) : **6.83**
Number of Segmental Wall Units : **11**
Wall Inclination(degrees) : **7.13**

Grades

Top Slope(degrees) : **0.00**

Uniform Distributed Surcharge

Live Load Surcharge(Psf) : **250.00**
Live Load Surcharge Setback(ft) : **4.00**
Dead Load Surcharge(Psf) : **0.00**

Soil Data

Soil Zone	Description	Cohesion (c) (psf)	Friction Angle(Φ) (degrees)	Unit Weight (γ)(pcf)
Reinforced Soil	1"-2" Clean	N/A	40.00	100.00
Retained Soil	Low Plastic Silty Clay	N/A	26.00	120.00
Leveling Pad Soil	1" clean or minus	N/A	38.00	100.00
Foundation Soil	Low Plastic Silty Clay	100.00	26.00	120.00

Segmental Unit Data

Segmental Unit Name : **Rockwood Classic 8**
 Cap Height (Inches) : **4.00**
 Unit Height (Hu)(Inches) : **8.00**
 Unit Width (Wu)(Inches) : **12.00**
 Unit Length (Inches) : **18.00**
 Setback (Inches) : **1.00**
 Weight (Infilled)(lb) : **120.00**
 Unit Weight (Infilled)(pcf) : **120.00**
 Center of Gravity(Inches) : **6.00**

Geosynthetic Reinforcement Type and Number

Supplier	Product Name	Number
Geostar Technologies, LLC	HP200	3
Geostar Technologies, LLC	HP300	0
Geostar Technologies, LLC	HP500	0
Geostar Technologies, LLC	HP700	0

Geosynthetic Properties

Geosynthetic Product	Tult (lb/ft)	RFcr	RFd	RFid	LTDS (lb/ft)	Ci	Cds
HP200	3373.00	1.55	1.10	1.25	1582.64	0.85	0.85
HP300	4650.00	1.55	1.10	1.25	2181.82	0.85	0.85
HP500	7952.00	1.55	1.10	1.25	3731.14	0.85	0.85
HP700	10688.00	1.55	1.10	1.25	5014.90	0.85	0.85

Unit-Unit Interface Properties

Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
585.00	56.00	6000.00

Geosynthetic-SRW Unit Connection Strength properties

Geosynthetic Product	Minimum Conn. Capacity (lb/ft)	1st Inflection Point (lb/ft)		2nd Inflection Point (lb/ft)	
		Normal Load (lb/ft)	Connection Capacity (lb/ft)	Normal Load (lb/ft)	Max Connection Capacity (lb/ft)
HP200	1055.00	1799.00	1633.00	1800.00	1634.00
HP300	1235.00	2999.00	2553.00	3000.00	2554.00
HP500	1530.00	4199.00	3899.00	4200.00	3900.00
HP700	2445.00	5999.00	4475.00	6000.00	4476.00

Geosynthetic-SRW Unit Shear Strength properties

Geosynthetic Product	Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
HP200	585.00	56.00	6000.00
HP300	585.00	56.00	6000.00
HP500	585.00	56.00	6000.00
HP700	585.00	56.00	6000.00

Vertical Components

Vertical Components of Earth Pressures Used : No

Coefficients of Earth Pressure and Failure Plane Orientation

Reinforcement Soil(Static)(Ka)	: 0.155
Reinforcement Soil(Static)(Kah Horizontal Component)	: 0.146
Internal Modified Back Slope(Bint)	: 0.000
Orientation of failure plane from horizontal(degrees) for Internal Stability	: 59.139
Retained Soil(Static)(Ka)	: 0.292
Retained Soil(Static)(Kah Horizontal Component)	: 0.276
External Modified Back Slope(Bext)	: 0.000
Orientation of failure plane from horizontal(degrees) for External Stability	: 49.571

Result of External Stability Static Analysis

	Calculated	Design Criteria
FOS Sliding	1.51	> 1.50
FOS Overturning	2.27	> 2.00
FOS Bearing Capacity	3.72	> 2.00
Base Reinforcement Length (L)(ft)	4.60	
Base Reinforcement Ratio (L/H)	0.63	> 0.60

Detailed Result of External Stability Analysis

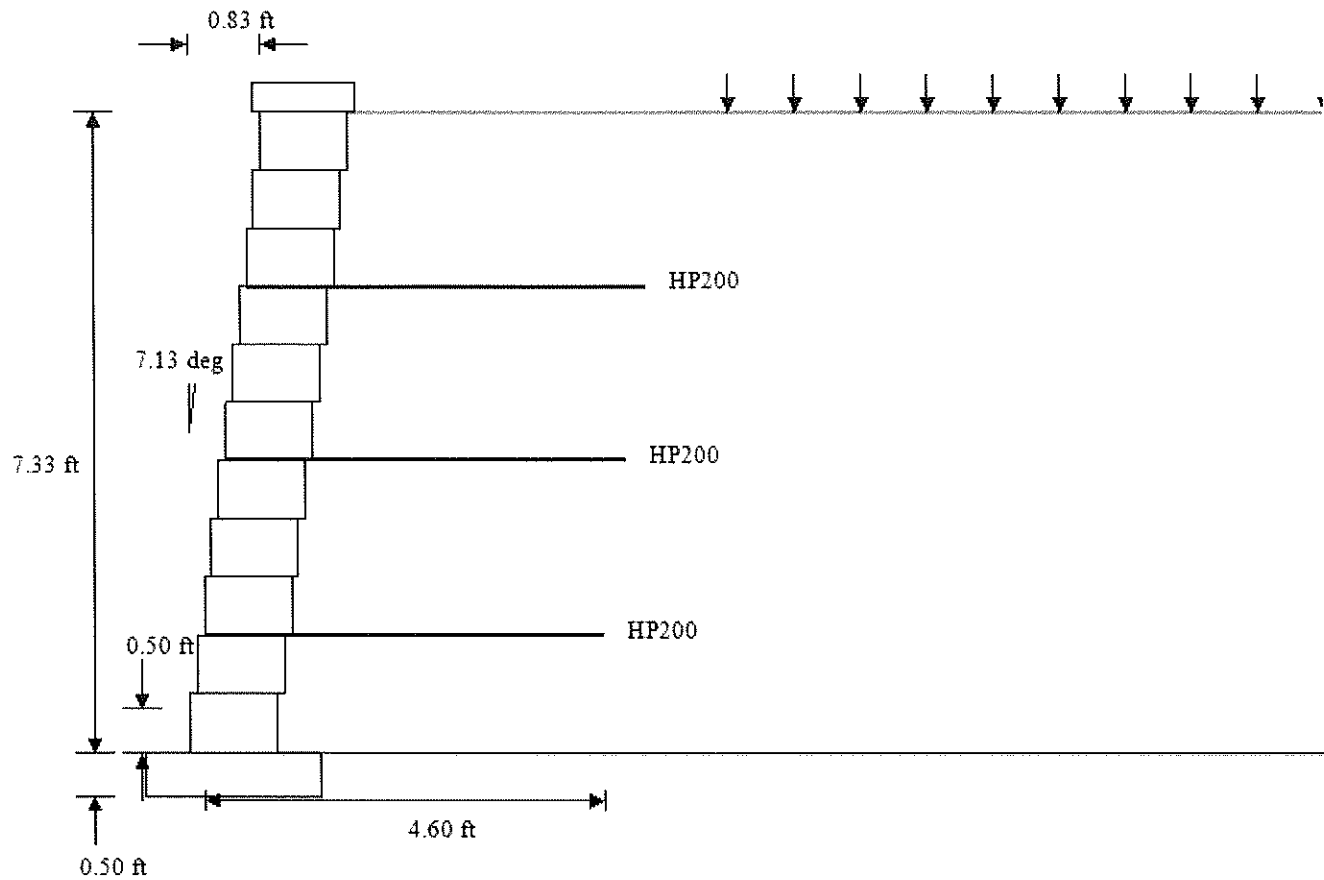
	Calculated
Total Horizontal Force (lb/ft)	1396.50
Total Vertical Force (lb/ft)	3373.33
Sliding Resistance (lb/ft)	2105.28
Driving Moment (lb-ft/ft)	4032.07
Resisting Moment (lb-ft/ft)	9164.22
Bearing Capacity (psf)	5225.86
Base Eccentricity (e)(ft.)	0.78
Eccentricity Ratio (e/L-2e)	0.26
Maximum Bearing Pressure (psf)	1404.42

Results of Internal Stability Static Analysis

SRW Unit #	Geosynthetic Product	Elevation (ft)	Length (ft)	Anchor Length (ft)	FOS Overstress ≥ 1.50	FOS Pullout ≥ 1.50	FOS Slide ≥ 1.50	Layer Spacing (ft) ≥ 2.00
9	HP200	5.33	4.60	1.08	9.03	1.76	7.11	OK
6	HP200	3.33	4.60	2.03	8.34	6.10	4.29	OK
3	HP200	1.33	4.60	2.97	5.37	8.64	3.16	OK

Results of Facing Stability Static Analysis

SRW Unit #	Heel Elev (ft)	Geosynthetic Product	FOS Crest Toppling ≥ 1.50	FOS Connection ≥ 1.50
9	5.33	HP200	7.18	17.21
6	3.33	HP200		10.35
3	1.33	HP200		6.14

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Type of Structure : **Reinforced Wall**

Wall Geometry

Design Wall Height(ft) : **6.00**
Embedment Wall Height(ft) : **0.50**
Exposed Wall Design Height(ft) : **5.50**
Number of Segmental Wall Units : **9**
Wall Inclination(degrees) : **7.13**

Grades

Top Slope(degrees) : **0.00**

Uniform Distributed Surcharge

Live Load Surcharge(Psf) : **250.00**
Live Load Surcharge Setback(ft) : **4.00**
Dead Load Surcharge(Psf) : **0.00**

Soil Data

Soil Zone	Description	Cohesion (c) (psf)	Friction Angle(Φ) (degrees)	Unit Weight (γ)(pcf)
Reinforced Soil	1"-2" Clean	N/A	40.00	100.00
Retained Soil	Low Plastic Silty Clay	N/A	26.00	120.00
Leveling Pad Soil	1" clean or minus	N/A	38.00	100.00
Foundation Soil	Low Plastic Silty Clay	100.00	26.00	120.00

Segmental Unit Data

Segmental Unit Name	: Rockwood Classic 8
Cap Height (Inches)	: 4.00
Unit Height (Hu)(Inches)	: 8.00
Unit Width (Wu)(Inches)	: 12.00
Unit Length (Inches)	: 18.00
Setback (Inches)	: 1.00
Weight (Infilled)(lb)	: 120.00
Unit Weight (Infilled)(pcf)	: 120.00
Center of Gravity(Inches)	: 6.00

Geosynthetic Reinforcement Type and Number

Supplier	Product Name	Number
Geostar Technologies, LLC	HP200	2
Geostar Technologies, LLC	HP300	0
Geostar Technologies, LLC	HP500	0
Geostar Technologies, LLC	HP700	0

Geosynthetic Properties

Geosynthetic Product	Tult (lb/ft)	RFcr	RFd	RFid	LTDS (lb/ft)	Ci	Cds
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Unit-Unit Interface Properties

Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
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Geosynthetic-SRW Unit Connection Strength properties

Geosynthetic Product	Minimum Conn. Capacity (lb/ft)	1st Inflection Point (lb/ft)		2nd Inflection Point (lb/ft)	
		Normal Load (lb/ft)	Connection Capacity (lb/ft)	Normal Load (lb/ft)	Max Connection Capacity (lb/ft)
HP200	1055.00	1799.00	1633.00	1800.00	1634.00
HP300	1235.00	2999.00	2553.00	3000.00	2554.00
HP500	1530.00	4199.00	3899.00	4200.00	3900.00
HP700	2445.00	5999.00	4475.00	6000.00	4476.00

Geosynthetic-SRW Unit Shear Strength properties

Geosynthetic Product	Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
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Vertical Components

Vertical Components of Earth Pressures Used : No

Coefficients of Earth Pressure and Failure Plane Orientation

Reinforcement Soil(Static)(Ka)	: 0.155
Reinforcement Soil(Static)(Kah Horizontal Component)	: 0.146
Internal Modified Back Slope(Bint)	: 0.000
Orientation of failure plane from horizontal(degrees) for Internal Stability	: 59.139
Retained Soil(Static)(Ka)	: 0.292
Retained Soil(Static)(Kah Horizontal Component)	: 0.276
External Modified Back Slope(Bext)	: 0.000
Orientation of failure plane from horizontal(degrees) for External Stability	: 49.571

Result of External Stability Static Analysis

	Calculated	Design Criteria
FOS Sliding	1.55	> 1.50
FOS Overturning	2.30	> 2.00
FOS Bearing Capacity	4.12	> 2.00
Base Reinforcement Length (L)(ft)	4.00	
Base Reinforcement Ratio (L/H)	0.67	> 0.60

Detailed Result of External Stability Analysis

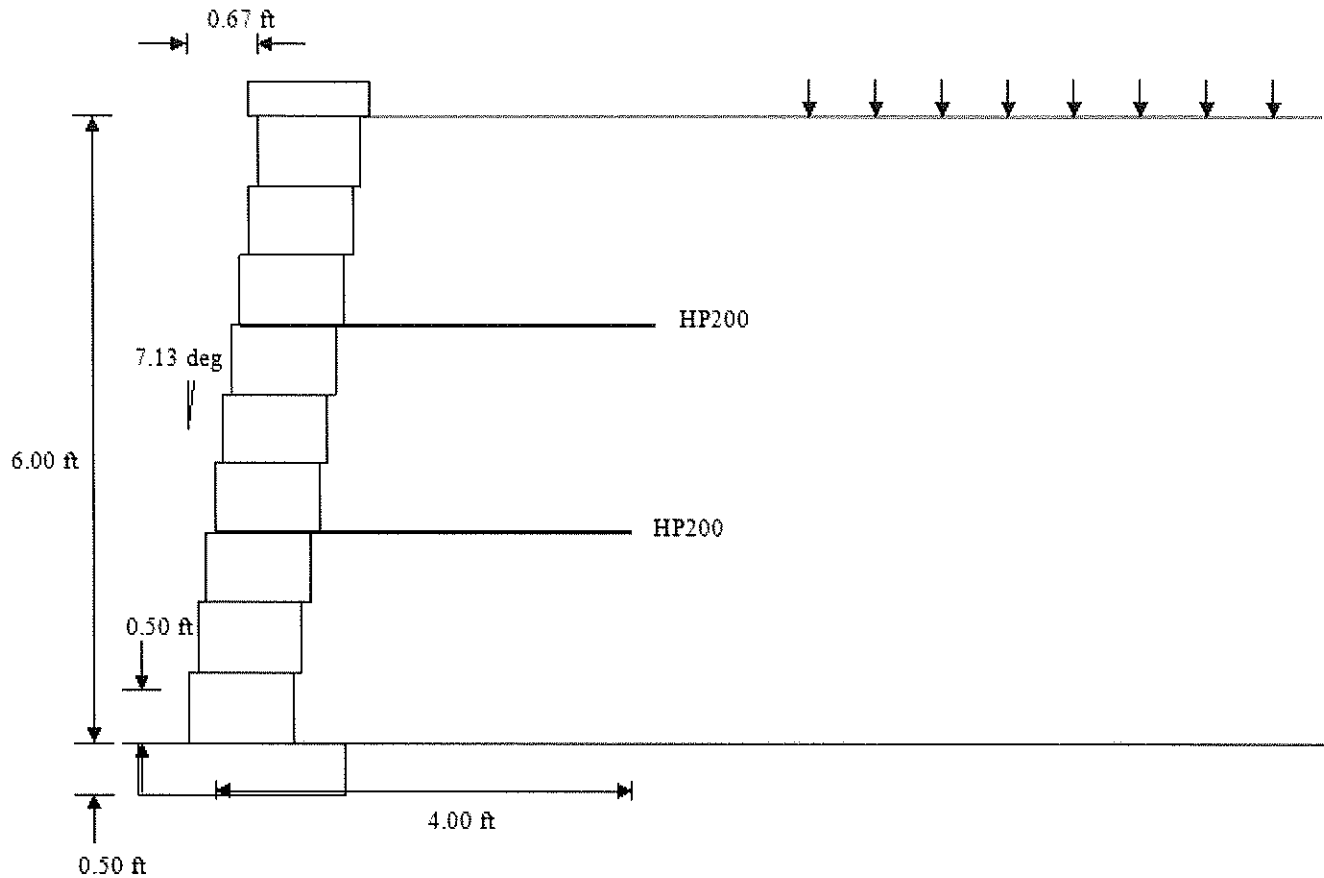
	Calculated
Total Horizontal Force (lb/ft)	1010.11
Total Vertical Force (lb/ft)	2400.00
Sliding Resistance (lb/ft)	1570.56
Driving Moment (lb-ft/ft)	2434.21
Resisting Moment (lb-ft/ft)	5600.00
Bearing Capacity (psf)	4921.46
Base Eccentricity (e)(ft.)	0.68
Eccentricity Ratio (e/L-2e)	0.26
Maximum Bearing Pressure (psf)	1194.01

Results of Internal Stability Static Analysis

SRW Unit #	Geosynthetic Product	Elevation (ft)	Length (ft)	Anchor Length (ft)	FOS Overstress ≥ 1.50	FOS Pullout ≥ 1.50	FOS Slide ≥ 1.50	Layer Spacing (ft) ≥ 2.00
7	HP200	4.00	4.00	1.11	9.04	1.81	6.70	OK
4	HP200	2.00	4.00	2.05	5.17	3.83	3.98	OK

Results of Facing Stability Static Analysis

SRW Unit #	Heel Elev (ft)	Geosynthetic Product	FOS Crest Toppling ≥ 1.50	FOS Connection ≥ 1.50
7	4.00	HP200	7.20	17.24
4	2.00	HP200		6.14

Wall Reinforcement Layout**Project Identification**

Project ID :
 Project Name :
 Owner :
 Client :
 Prepared By :
 Company : **Retaining Wall Solutions, inc.**
 Address : **5393 Old Baumgartner Rd, St. Louis, Mo. 63129**
 Telephone : **314-842-8200**
 Section :
 Vendor Data File : **GEOSTAR.vdf**
 Project File : **aaa RWS Clean.prj**
 Date and Time : **06/05/2019 15:30:48**

SRWall (Version 4) Report**Project Identification**

Project ID :
Project Name :
Owner :
Client :
Prepared By :
Company : **Retaining Wall Solutions, inc.**
Address : **5393 Old Baumgartner Rd, St. Louis, Mo. 63129**
Telephone : **314-842-8200**
Section :
Project File : **aaa RWS Clean.prj**
Vendor Data File : **GEOSTAR.vdf**
Date and Time : **06/05/2019 15:30:48**

Type of Structure : **Reinforced Wall**

Wall Geometry

Design Wall Height(ft) : **6.67**
Embedment Wall Height(ft) : **0.50**
Exposed Wall Design Height(ft) : **6.17**
Number of Segmental Wall Units : **10**
Wall Inclination(degrees) : **7.13**

Grades

Top Slope(degrees) : **0.00**

Uniform Distributed Surcharge

Live Load Surcharge(Psf) : **0.00**
Live Load Surcharge Setback(ft) : **0.00**
Dead Load Surcharge(Psf) : **0.00**

Soil Data

Soil Zone	Description	Cohesion (c) (psf)	Friction Angle(ϕ) (degrees)	Unit Weight (γ)(pcf)
Reinforced Soil	1"-2" Clean	N/A	40.00	100.00
Retained Soil	Low Plastic Silty Clay	N/A	26.00	120.00
Leveling Pad Soil	1" clean or minus	N/A	38.00	100.00
Foundation Soil	Low Plastic Silty Clay	100.00	26.00	120.00

Segmental Unit Data

Segmental Unit Name	: Rockwood Classic 8
Cap Height (Inches)	: 4.00
Unit Height (Hu)(Inches)	: 8.00
Unit Width (Wu)(Inches)	: 12.00
Unit Length (Inches)	: 18.00
Setback (Inches)	: 1.00
Weight (Infilled)(lb)	: 120.00
Unit Weight (Infilled)(pcf)	: 120.00
Center of Gravity(Inches)	: 6.00

Geosynthetic Reinforcement Type and Number

Supplier	Product Name	Number
Geostar Technologies, LLC	HP200	2
Geostar Technologies, LLC	HP300	0
Geostar Technologies, LLC	HP500	0
Geostar Technologies, LLC	HP700	0

Geosynthetic Properties

Geosynthetic Product	Tult (lb/ft)	RFcr	RFd	RFid	LTDS (lb/ft)	Ci	Cds
HP200	3373.00	1.55	1.10	1.25	1582.64	0.85	0.85
HP300	4650.00	1.55	1.10	1.25	2181.82	0.85	0.85
HP500	7952.00	1.55	1.10	1.25	3731.14	0.85	0.85
HP700	10688.00	1.55	1.10	1.25	5014.90	0.85	0.85

Unit-Unit Interface Properties

Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
585.00	56.00	6000.00

Geosynthetic-SRW Unit Connection Strength properties

Geosynthetic Product	Minimum Conn. Capacity (lb/ft)	1st Inflection Point (lb/ft)		2nd Inflection Point (lb/ft)	
		Normal Load (lb/ft)	Connection Capacity (lb/ft)	Normal Load (lb/ft)	Max Connection Capacity (lb/ft)
HP200	1055.00	1799.00	1633.00	1800.00	1634.00
HP300	1235.00	2999.00	2553.00	3000.00	2554.00
HP500	1530.00	4199.00	3899.00	4200.00	3900.00
HP700	2445.00	5999.00	4475.00	6000.00	4476.00

Geosynthetic-SRW Unit Shear Strength properties

Geosynthetic Product	Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
HP200	585.00	56.00	6000.00
HP300	585.00	56.00	6000.00
HP500	585.00	56.00	6000.00
HP700	585.00	56.00	6000.00

Vertical Components

Vertical Components of Earth Pressures Used : No

Coefficients of Earth Pressure and Failure Plane Orientation

Reinforcement Soil(Static)(Ka)	: 0.155
Reinforcement Soil(Static)(Kah Horizontal Component)	: 0.146
Internal Modified Back Slope(Bint)	: 0.000
Orientation of failure plane from horizontal(degrees) for Internal Stability	: 59.139
Retained Soil(Static)(Ka)	: 0.292
Retained Soil(Static)(Kah Horizontal Component)	: 0.276
External Modified Back Slope(Bext)	: 0.000
Orientation of failure plane from horizontal(degrees) for External Stability	: 49.571

Result of External Stability Static Analysis

	Calculated	Design Criteria
FOS Sliding	2.31	> 1.50
FOS Overturning	3.87	> 2.00
FOS Bearing Capacity	7.38	> 2.00
Base Reinforcement Length (L)(ft)	4.00	
Base Reinforcement Ratio (L/H)	0.60	> 0.60

Detailed Result of External Stability Analysis

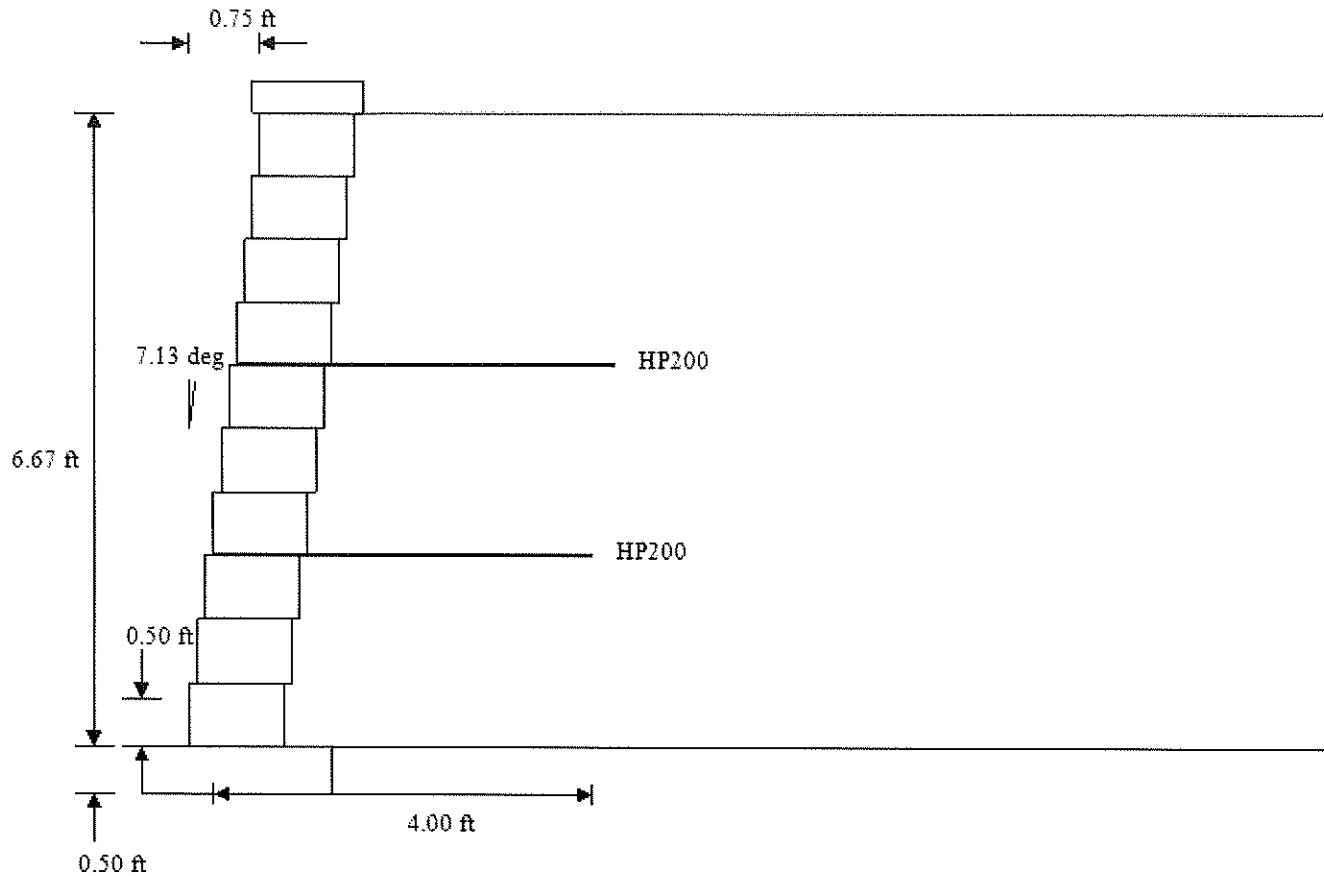
	Calculated
Total Horizontal Force (lb/ft)	735.97
Total Vertical Force (lb/ft)	2666.67
Sliding Resistance (lb/ft)	1700.62
Driving Moment (lb-ft/ft)	1635.48
Resisting Moment (lb-ft/ft)	6333.33
Bearing Capacity (psf)	5587.44
Base Eccentricity (e)(ft.)	0.24
Eccentricity Ratio (e/L-2e)	0.07
Maximum Bearing Pressure (psf)	756.85

Results of Internal Stability Static Analysis

SRW Unit #	Geosynthetic Product	Elevation (ft)	Length (ft)	Anchor Length (ft)	FOS Overstress >=1.50	FOS Pullout >=1.50	FOS Slide >=1.50	Layer Spacing (ft) >=2.00
7	HP200	4.00	4.00	1.11	16.14	4.30	13.84	OK
4	HP200	2.00	4.00	2.05	7.00	6.05	6.69	OK

Results of Facing Stability Static Analysis

SRW Unit #	Heel Elev (ft)	Geosynthetic Product	FOS Crest Toppling ≥ 1.50	FOS Connection ≥ 1.50
7	4.00	HP200	4.34	11.81
4	2.00	HP200		5.46

Wall Reinforcement Layout**Project Identification**

Project ID	:
Project Name	:
Owner	:
Client	:
Prepared By	:
Company	: Retaining Wall Solutions, inc.
Address	: 5393 Old Baumgartner Rd, St. Louis, Mo. 63129
Telephone	: 314-842-8200
Section	:
Vendor Data File	: GEOSTAR.vdf
Project File	: aaa RWS Clean.prj
Date and Time	: 06/05/2019 15:30:48

SRWall (Version 4) Report**Project Identification**

Project ID :
Project Name :
Owner :
Client :
Prepared By :
Company : **Retaining Wall Solutions, inc.**
Address : **5393 Old Baumgartner Rd, St. Louis, Mo. 63129**
Telephone : **314-842-8200**
Section :
Project File : **aaa RWS Clean.prj**
Vendor Data File : **GEOSTAR.vdf**
Date and Time : **06/05/2019 15:30:48**

Type of Structure : **Reinforced Wall**

Wall Geometry

Design Wall Height(ft) : **10.67**
Embedment Wall Height(ft) : **0.51**
Exposed Wall Design Height(ft) : **10.16**
Number of Segmental Wall Units : **16**
Wall Inclination(degrees) : **0.00**

Grades

Top Slope(degrees) : **5.00**

Uniform Distributed Surcharge

Live Load Surcharge(Psf) : **0.00**
Dead Load Surcharge(Psf) : **0.00**

Soil Data

Soil Zone	Description	Cohesion (c) (psf)	Friction Angle(Φ) (degrees)	Unit Weight (γ)(pcf)
Reinforced Soil	1"-2" Clean	N/A	40.00	100.00
Retained Soil	Low Plastic Silty Clay	N/A	26.00	120.00
Leveling Pad Soil	1" clean or minus	N/A	38.00	100.00
Foundation Soil	Low Plastic Silty Clay	100.00	26.00	120.00

Segmental Unit Data

Segmental Unit Name : **Rockwood Classic 8**
 Cap Height (Inches) : **4.00**
 Unit Height (Hu)(Inches) : **8.00**
 Unit Width (Wu)(Inches) : **12.00**
 Unit Length (Inches) : **18.00**
 Setback (Inches) : **0.00**
 Weight (Infilled)(lb) : **120.00**
 Unit Weight (Infilled)(pcf) : **120.00**
 Center of Gravity(Inches) : **6.00**

Geosynthetic Reinforcement Type and Number

Supplier	Product Name	Number
Geostar Technologies, LLC	HP200	5
Geostar Technologies, LLC	HP300	0
Geostar Technologies, LLC	HP500	0
Geostar Technologies, LLC	HP700	0

Geosynthetic Properties

Geosynthetic Product	Tult (lb/ft)	RFcr	RFd	RFid	LTDS (lb/ft)	Ci	Cds
HP200	3373.00	1.55	1.10	1.25	1582.64	0.85	0.85
HP300	4650.00	1.55	1.10	1.25	2181.82	0.85	0.85
HP500	7952.00	1.55	1.10	1.25	3731.14	0.85	0.85
HP700	10688.00	1.55	1.10	1.25	5014.90	0.85	0.85

Unit-Unit Interface Properties

Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
585.00	56.00	6000.00

Geosynthetic-SRW Unit Connection Strength properties

Geosynthetic Product	Minimum Conn. Capacity (lb/ft)	1st Inflection Point (lb/ft)		2nd Inflection Point (lb/ft)	
		Normal Load (lb/ft)	Connection Capacity (lb/ft)	Normal Load (lb/ft)	Max Connection Capacity (lb/ft)
HP200	1055.00	1799.00	1633.00	1800.00	1634.00
HP300	1235.00	2999.00	2553.00	3000.00	2554.00
HP500	1530.00	4199.00	3899.00	4200.00	3900.00
HP700	2445.00	5999.00	4475.00	6000.00	4476.00

Geosynthetic-SRW Unit Shear Strength properties

Geosynthetic Product	Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
HP200	585.00	56.00	6000.00
HP300	585.00	56.00	6000.00
HP500	585.00	56.00	6000.00
HP700	585.00	56.00	6000.00

Vertical Components

Vertical Components of Earth Pressures Used : No

Coefficients of Earth Pressure and Failure Plane Orientation

Reinforcement Soil(Static)(Ka)	: 0.210
Reinforcement Soil(Static)(Kah Horizontal Component)	: 0.187
Internal Modified Back Slope(Bint)	: 5.000
Orientation of failure plane from horizontal(degrees) for Internal Stability	: 61.150
Retained Soil(Static)(Ka)	: 0.369
Retained Soil(Static)(Kah Horizontal Component)	: 0.332
External Modified Back Slope(Bext)	: 5.000
Orientation of failure plane from horizontal(degrees) for External Stability	: 50.204

Result of External Stability Static Analysis

	Calculated	Design Criteria
FOS Sliding	1.63	> 1.50
FOS Overturning	2.45	> 2.00
FOS Bearing Capacity	3.20	> 2.00
Base Reinforcement Length (L)(ft)	6.40	
Base Reinforcement Ratio (L/H)	0.60	> 0.60

Detailed Result of External Stability Analysis

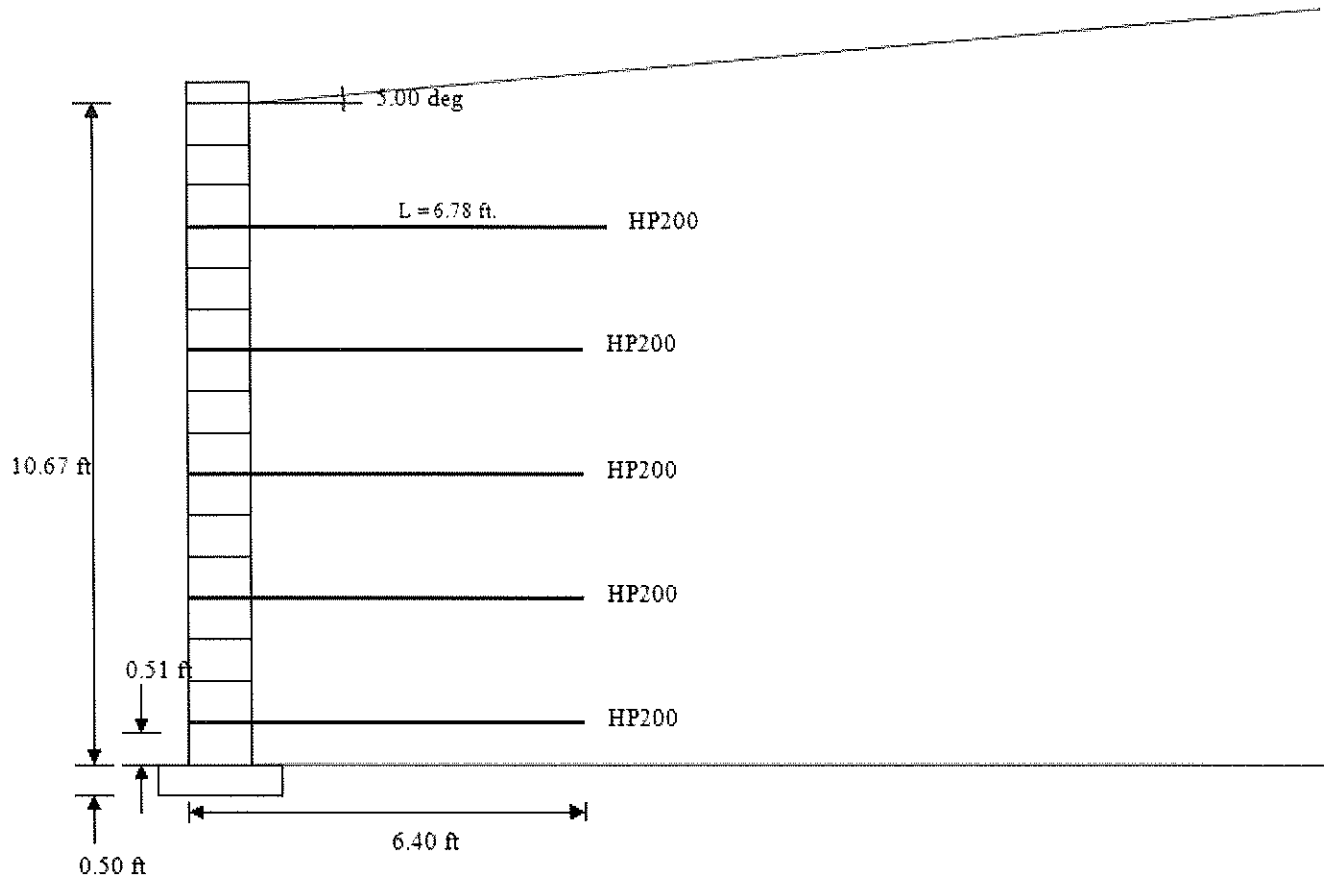
	Calculated
Total Horizontal Force (lb/ft)	2466.22
Total Vertical Force (lb/ft)	6954.23
Sliding Resistance (lb/ft)	4031.80
Driving Moment (lb-ft/ft)	9157.16
Resisting Moment (lb-ft/ft)	22432.10
Bearing Capacity (psf)	5823.17
Base Eccentricity (e)(ft.)	1.29
Eccentricity Ratio (e/L-2e)	0.34
Maximum Bearing Pressure (psf)	1821.52

Results of Internal Stability Static Analysis

SRW Unit #	Geosynthetic Product	Elevation (ft)	Length (ft)	Anchor Length (ft)	FOS Overstress ≥ 1.50	FOS Pullout ≥ 1.50	FOS Slide ≥ 1.50	Layer Spacing (ft) ≥ 2.00
14	HP200	8.67	6.78	1.00	18.82	4.19	14.86	OK
11	HP200	6.67	6.40	1.73	10.57	7.22	7.37	OK
8	HP200	4.67	6.40	2.83	7.04	11.39	4.87	OK
5	HP200	2.67	6.40	3.93	5.28	15.52	3.63	OK
2	HP200	0.67	6.40	5.03	5.15	23.92	2.89	OK

Results of Facing Stability Static Analysis

SRW Unit #	Heel Elev (ft)	Geosynthetic Product	FOS Crest Toppling ≥ 1.50	FOS Connection ≥ 1.50
14	8.67	HP200	4.82	13.46
11	6.67	HP200		8.08
8	4.67	HP200		5.73
5	2.67	HP200		4.55
2	0.67	HP200		4.68

Wall Reinforcement Layout**Project Identification**

Project ID :
 Project Name :
 Owner :
 Client :
 Prepared By :
 Company : **Retaining Wall Solutions, inc.**
 Address : **5393 Old Baumgartner Rd, St. Louis, Mo. 63129**
 Telephone : **314-842-8200**
 Section :
 Vendor Data File : **GEOSTAR.vdf**
 Project File : **aaa RWS Clean.prj**
 Date and Time : **06/05/2019 15:30:48**

SRWall (Version 4) Report**Project Identification**

Project ID :
Project Name :
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Section :
Project File : **aaa RWS Clean.prj**
Vendor Data File : **GEOSTAR.vdf**
Date and Time : **06/05/2019 15:30:48**

Type of Structure : **Reinforced Wall**

Wall Geometry

Design Wall Height(ft) : **8.67**
Embedment Wall Height(ft) : **0.50**
Exposed Wall Design Height(ft) : **8.17**
Number of Segmental Wall Units : **13**
Wall Inclination(degrees) : **0.00**

Grades

Top Slope(degrees) : **5.00**

Uniform Distributed Surcharge

Live Load Surcharge(Psf) : **0.00**
Dead Load Surcharge(Psf) : **0.00**

Soil Data

Soil Zone	Description	Cohesion (c) (psf)	Friction Angle(Φ) (degrees)	Unit Weight (γ)(pcf)
Reinforced Soil	1"-2" Clean	N/A	40.00	100.00
Retained Soil	Low Plastic Silty Clay	N/A	26.00	120.00
Leveling Pad Soil	1" clean or minus	N/A	38.00	100.00
Foundation Soil	Low Plastic Silty Clay	100.00	26.00	120.00

Segmental Unit Data

Segmental Unit Name : **Rockwood Classic 8**
 Cap Height (Inches) : **4.00**
 Unit Height (Hu)(Inches) : **8.00**
 Unit Width (Wu)(Inches) : **12.00**
 Unit Length (Inches) : **18.00**
 Setback (Inches) : **0.00**
 Weight (Infilled)(lb) : **120.00**
 Unit Weight (Infilled)(pcf) : **120.00**
 Center of Gravity(Inches) : **6.00**

Geosynthetic Reinforcement Type and Number

Supplier	Product Name	Number
Geostar Technologies, LLC	HP200	4
Geostar Technologies, LLC	HP300	0
Geostar Technologies, LLC	HP500	0
Geostar Technologies, LLC	HP700	0

Geosynthetic Properties

Geosynthetic Product	Tult (lb/ft)	RFcr	RFd	RFid	LTDS (lb/ft)	Ci	Cds
HP200	3373.00	1.55	1.10	1.25	1582.64	0.85	0.85
HP300	4650.00	1.55	1.10	1.25	2181.82	0.85	0.85
HP500	7952.00	1.55	1.10	1.25	3731.14	0.85	0.85
HP700	10688.00	1.55	1.10	1.25	5014.90	0.85	0.85

Unit-Unit Interface Properties

Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
585.00	56.00	6000.00

Geosynthetic-SRW Unit Connection Strength properties

Geosynthetic Product	Minimum Conn. Capacity (lb/ft)	1st Inflection Point (lb/ft)		2nd Inflection Point (lb/ft)	
		Normal Load (lb/ft)	Connection Capacity (lb/ft)	Normal Load (lb/ft)	Max Connection Capacity (lb/ft)
HP200	1055.00	1799.00	1633.00	1800.00	1634.00
HP300	1235.00	2999.00	2553.00	3000.00	2554.00
HP500	1530.00	4199.00	3899.00	4200.00	3900.00
HP700	2445.00	5999.00	4475.00	6000.00	4476.00

Geosynthetic-SRW Unit Shear Strength properties

Geosynthetic Product	Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
HP200	585.00	56.00	6000.00
HP300	585.00	56.00	6000.00
HP500	585.00	56.00	6000.00
HP700	585.00	56.00	6000.00

Vertical Components

Vertical Components of Earth Pressures Used : No

Coefficients of Earth Pressure and Failure Plane Orientation

Reinforcement Soil(Static)(Ka)	: 0.210
Reinforcement Soil(Static)(Kah Horizontal Component)	: 0.187
Internal Modified Back Slope(Bint)	: 5.000
Orientation of failure plane from horizontal(degrees) for Internal Stability	: 61.150
Retained Soil(Static)(Ka)	: 0.369
Retained Soil(Static)(Kah Horizontal Component)	: 0.332
External Modified Back Slope(Bext)	: 5.000
Orientation of failure plane from horizontal(degrees) for External Stability	: 50.204

Result of External Stability Static Analysis

	Calculated	Design Criteria
FOS Sliding	1.70	> 1.50
FOS Overturning	2.46	> 2.00
FOS Bearing Capacity	3.58	> 2.00
Base Reinforcement Length (L)(ft)	5.20	
Base Reinforcement Ratio (L/H)	0.60	> 0.60

Detailed Result of External Stability Analysis

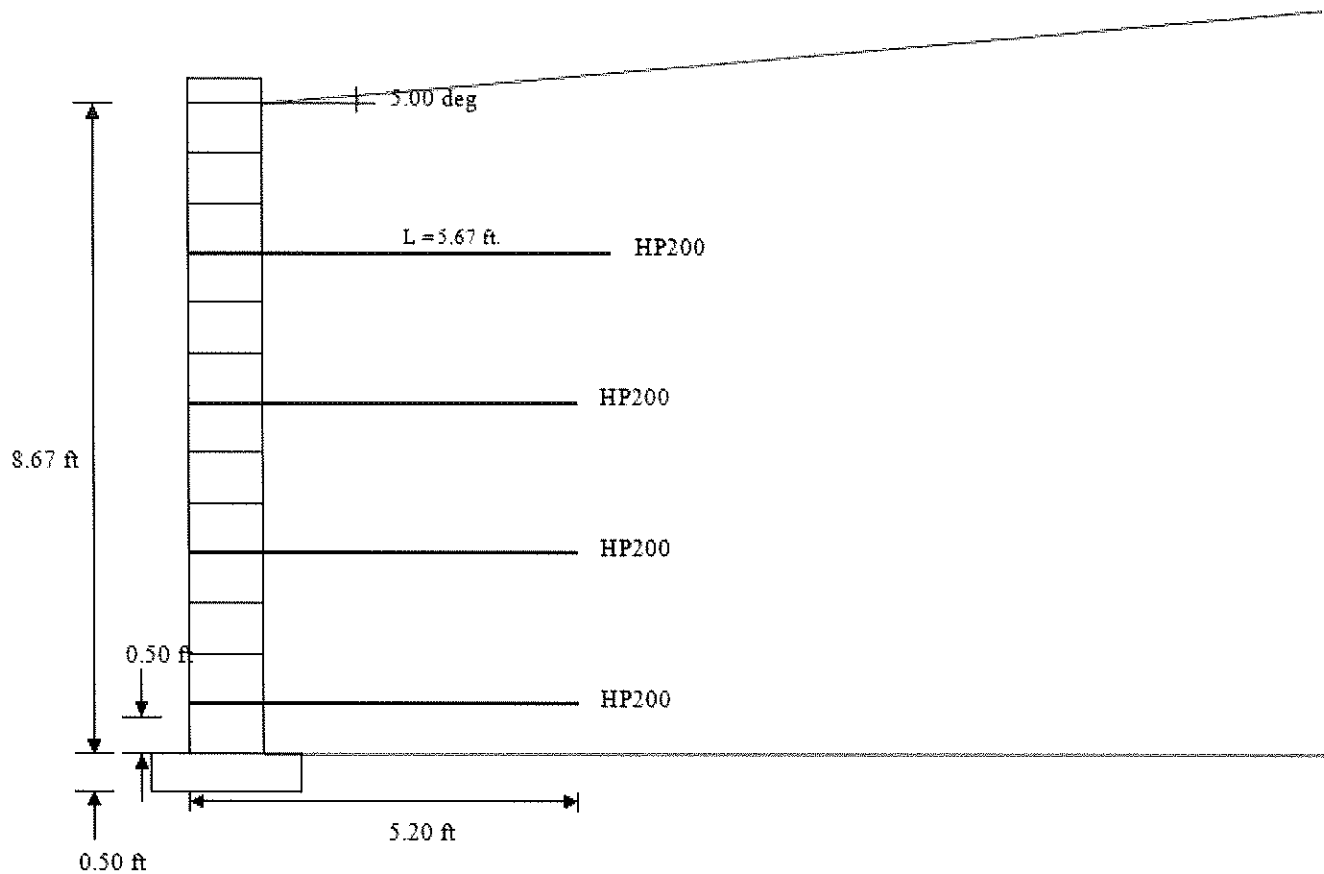
	Calculated
Total Horizontal Force (lb/ft)	1622.19
Total Vertical Force (lb/ft)	4583.83
Sliding Resistance (lb/ft)	2755.68
Driving Moment (lb-ft/ft)	4885.03
Resisting Moment (lb-ft/ft)	12010.56
Bearing Capacity (psf)	5275.67
Base Eccentricity (e)(ft.)	1.05
Eccentricity Ratio (e/L-2e)	0.34
Maximum Bearing Pressure (psf)	1474.38

Results of Internal Stability Static Analysis

SRW Unit #	Geosynthetic Product	Elevation (ft)	Length (ft)	Anchor Length (ft)	FOS Overstress ≥ 1.50	FOS Pullout ≥ 1.50	FOS Slide ≥ 1.50	Layer Spacing (ft) ≥ 2.00
11	HP200	6.67	5.67	1.00	18.82	4.01	14.34	OK
8	HP200	4.67	5.20	1.63	10.57	6.66	6.73	OK
5	HP200	2.67	5.20	2.73	7.04	10.82	4.35	OK
2	HP200	0.67	5.20	3.83	6.46	18.28	3.21	OK

Results of Facing Stability Static Analysis

SRW Unit #	Heel Elev (ft)	Geosynthetic Product	FOS Crest Toppling ≥ 1.50	FOS Connection ≥ 1.50
11	6.67	HP200	4.82	13.46
8	4.67	HP200		8.08
5	2.67	HP200		5.73
2	0.67	HP200		5.56

Wall Reinforcement Layout**Project Identification**

Project ID :
 Project Name :
 Owner :
 Client :
 Prepared By :
 Company : **Retaining Wall Solutions, inc.**
 Address : **5393 Old Baumgartner Rd, St. Louis, Mo. 63129**
 Telephone : **314-842-8200**
 Section :
 Vendor Data File : **GEOSTAR.vdf**
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 Date and Time : **06/05/2019 15:30:48**

SRWall (Version 4) Report**Project Identification**

Project ID :
Project Name :
Owner :
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Company : **Retaining Wall Solutions, inc.**
Address : **5393 Old Baumgartner Rd, St. Louis, Mo. 63129**
Telephone : **314-842-8200**
Section :
Project File : **aaa RWS Clean.prj**
Vendor Data File : **GEOSTAR.vdf**
Date and Time : **06/05/2019 15:30:48**

Type of Structure : **Reinforced Wall**

Wall Geometry

Design Wall Height(ft) : **5.33**
Embedment Wall Height(ft) : **0.50**
Exposed Wall Design Height(ft) : **4.83**
Number of Segmental Wall Units : **8**
Wall Inclination(degrees) : **0.00**

Grades

Top Slope(degrees) : **5.00**

Uniform Distributed Surcharge

Live Load Surcharge(Psf) : **0.00**
Dead Load Surcharge(Psf) : **0.00**

Soil Data

Soil Zone	Description	Cohesion (c) (psf)	Friction Angle(Φ) (degrees)	Unit Weight (γ)(pcf)
Reinforced Soil	1"-2" Clean	N/A	40.00	100.00
Retained Soil	Low Plastic Silty Clay	N/A	26.00	120.00
Leveling Pad Soil	1" clean or minus	N/A	38.00	100.00
Foundation Soil	Low Plastic Silty Clay	100.00	26.00	120.00

Segmental Unit Data

Segmental Unit Name : **Rockwood Classic 8**
 Cap Height (Inches) : **4.00**
 Unit Height (Hu)(Inches) : **8.00**
 Unit Width (Wu)(Inches) : **12.00**
 Unit Length (Inches) : **18.00**
 Setback (Inches) : **0.00**
 Weight (Infilled)(lb) : **120.00**
 Unit Weight (Infilled)(pcf) : **120.00**
 Center of Gravity(Inches) : **6.00**

Geosynthetic Reinforcement Type and Number

Supplier	Product Name	Number
Geostar Technologies, LLC	HP200	2
Geostar Technologies, LLC	HP300	0
Geostar Technologies, LLC	HP500	0
Geostar Technologies, LLC	HP700	0

Geosynthetic Properties

Geosynthetic Product	Tult (lb/ft)	RFcr	RFd	RFid	LTDS (lb/ft)	Ci	Cds
HP200	3373.00	1.55	1.10	1.25	1582.64	0.85	0.85
HP300	4650.00	1.55	1.10	1.25	2181.82	0.85	0.85
HP500	7952.00	1.55	1.10	1.25	3731.14	0.85	0.85
HP700	10688.00	1.55	1.10	1.25	5014.90	0.85	0.85

Unit-Unit Interface Properties

Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
585.00	56.00	6000.00

Geosynthetic-SRW Unit Connection Strength properties

Geosynthetic Product	Minimum Conn. Capacity (lb/ft)	1st Inflection Point (lb/ft)		2nd Inflection Point (lb/ft)	
		Normal Load (lb/ft)	Connection Capacity (lb/ft)	Normal Load (lb/ft)	Max Connection Capacity (lb/ft)
HP200	1055.00	1799.00	1633.00	1800.00	1634.00
HP300	1235.00	2999.00	2553.00	3000.00	2554.00
HP500	1530.00	4199.00	3899.00	4200.00	3900.00
HP700	2445.00	5999.00	4475.00	6000.00	4476.00

Geosynthetic-SRW Unit Shear Strength properties

Geosynthetic Product	Minimum Shear Capacity(lb/ft)	Shear Friction Angle	Maximum Shear Capacity (lb/ft)
HP200	585.00	56.00	6000.00
HP300	585.00	56.00	6000.00
HP500	585.00	56.00	6000.00
HP700	585.00	56.00	6000.00

Vertical Components

Vertical Components of Earth Pressures Used : No

Coefficients of Earth Pressure and Failure Plane Orientation

Reinforcement Soil(Static)(Ka)	: 0.210
Reinforcement Soil(Static)(Kah Horizontal Component)	: 0.187
Internal Modified Back Slope(Bint)	: 5.000
Orientation of failure plane from horizontal(degrees) for Internal Stability	: 61.150
Retained Soil(Static)(Ka)	: 0.369
Retained Soil(Static)(Kah Horizontal Component)	: 0.332
External Modified Back Slope(Bext)	: 5.000
Orientation of failure plane from horizontal(degrees) for External Stability	: 50.204

Result of External Stability Static Analysis

	Calculated	Design Criteria
FOS Sliding	2.35	> 1.50
FOS Overturning	3.78	> 2.00
FOS Bearing Capacity	7.06	> 2.00
Base Reinforcement Length (L)(ft)	4.00	
Base Reinforcement Ratio (L/H)	0.75	> 0.60

Detailed Result of External Stability Analysis

	Calculated
Total Horizontal Force (lb/ft)	622.38
Total Vertical Force (lb/ft)	2172.70
Sliding Resistance (lb/ft)	1459.70
Driving Moment (lb-ft/ft)	1160.90
Resisting Moment (lb-ft/ft)	4384.78
Bearing Capacity (psf)	5169.32
Base Eccentricity (e)(ft.)	0.52
Eccentricity Ratio (e/L-2e)	0.17
Maximum Bearing Pressure (psf)	732.14

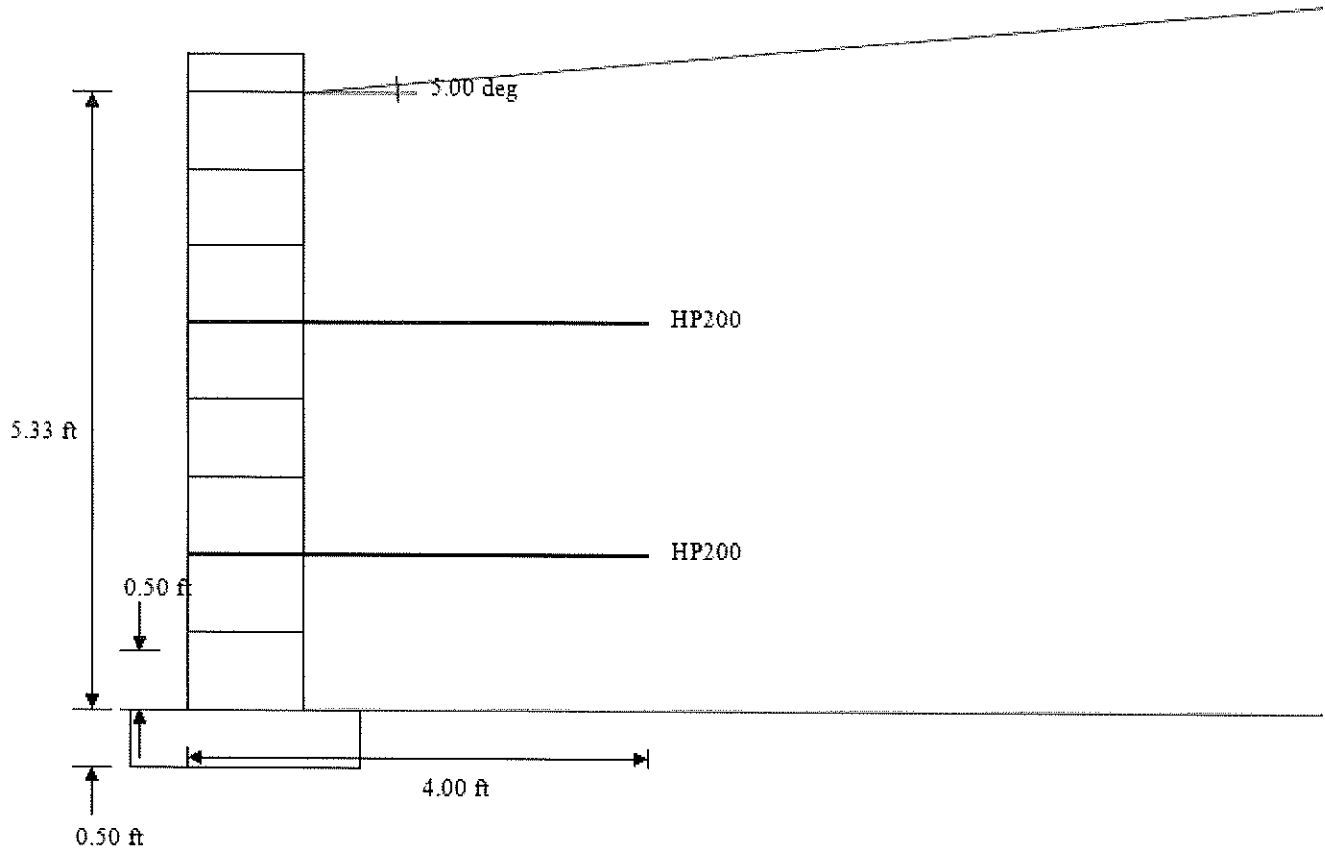
Results of Internal Stability Static Analysis

SRW Unit #	Geosynthetic Product	Elevation (ft)	Length (ft)	Anchor Length (ft)	FOS Overstress ≥ 1.50	FOS Pullout ≥ 1.50	FOS Slide ≥ 1.50	Layer Spacing (ft) ≥ 2.00
6	HP200	3.33	4.00	1.17	18.73	4.36	13.70	OK
3	HP200	1.33	4.00	2.27	8.70	7.41	6.03	OK

Results of Facing Stability Static Analysis

SRW Unit #	Heel Elev (ft)	Geosynthetic Product	FOS Crest Toppling ≥ 1.50	FOS Connection ≥ 1.50
6	3.33	HP200	4.79	13.40
3	1.33	HP200		6.65

Wall Reinforcement Layout



Project Identification

Project ID :
 Project Name :
 Owner :
 Client :
 Prepared By :
 Company : **Retaining Wall Solutions, inc.**
 Address : **5393 Old Baumgartner Rd, St. Louis, Mo. 63129**
 Telephone : **314-842-8200**
 Section :
 Vendor Data File : **GEOSTAR.vdf**
 Project File : **aaa RWS Clean.prj**
 Date and Time : **06/05/2019 15:30:48**

