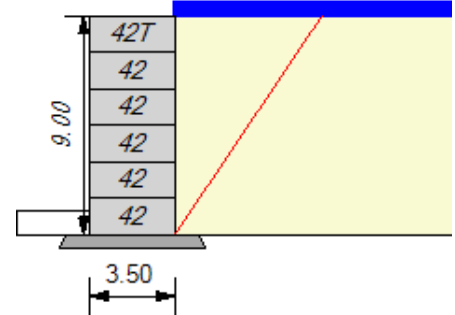




CDP Wall

Civil Design Professionals version 3.0

Project: LondonBoulder Sample Calcs
Location: United States
Designer: Curt Derichs, P.E.
Date: 2/24/2012
Section: 42" 0.0 Flat Back
Design Method: NCMA_09_3rd_Ed
Design Unit: LondonBoulder



SOIL PARAMETERS	Phi	coh	Gamma
Retained Soil:	30 deg	0 psf	120 pcf
Foundation Soil:	30 deg	0 psf	120 pcf

Leveling Pad: Crushed Stone

GEOMETRY

Design Height:	9.00 ft	Live Load:	50 psf
Wall Batter/Tilt:	0.00/ 0.00 deg	Live Load Offset:	0.00 ft
Embedment:	1.00 ft	Live Load Width:	50 ft
Leveling Pad Depth:	0.50 ft	Dead Load:	0 psf
Slope Angle:	0 deg	Dead Load Offset:	0 ft
Slope Length:	0 ft	Dead Load Width:	0 ft
Slope Toe Offset:	0 ft	Leveling Pad Width:	5.50 ft
Vertical Delta on Single Depth set to true			

FACTORS OF SAFETY

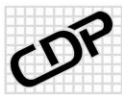
Sliding:	1.50	Overturning:	1.50
Bearing:	2.00		

RESULTS

FoS Sliding:	1.79 (fnd)	FoS Overturning:	1.52
Bearing	2436.24	FoS Bearing:	2.30

Name	Elev.	ka	Pa	Paq	Paqd	- PaC	PaT	FSSl (base of leveling pad)	FoS OT
42T	7.5	0.297	40	22	0	0	62	17.05	20.76
42	6	0.297	161	45	0	0	205	35.80	9.03
42	4.5	0.297	361	67	0	0	428	17.82	4.94
42	3	0.297	642	89	0	0	731	10.82	3.09
42	1.5	0.297	1003	111	0	0	1115	7.35	2.10
42	0	0.297	1445	134	0	0	1579	1.83 (1.79)	1.52

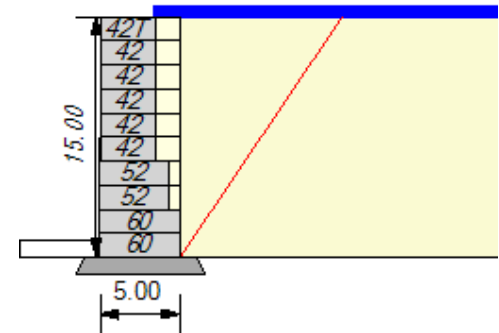
PRELIMINARY CALCULATIONS: NOT FOR CONSTRUCTION



CDP Wall

Civil Design Professionals version 3.0

Project: LondonBoulder Sample Calcs
Location: United States
Designer: Curt Derichs, P.E.
Date: 2/24/2012
Section: 60" 0.0 Flat Back
Design Method: NCMA_09_3rd_Ed
Design Unit: LondonBoulder



SOIL PARAMETERS	Phi	coh	Gamma
Retained Soil:	30 deg	0 psf	120 pcf
Foundation Soil:	30 deg	0 psf	120 pcf

Leveling Pad: Crushed Stone

GEOMETRY

Design Height:	15.00 ft	Live Load:	50 psf
Wall Batter/Tilt:	0.00/ 0.00 deg	Live Load Offset:	0.00 ft
Embedment:	1.00 ft	Live Load Width:	50 ft
Leveling Pad Depth:	1.00 ft	Dead Load:	0 psf
Slope Angle:	0 deg	Dead Load Offset:	0 ft
Slope Length:	0 ft	Dead Load Width:	0 ft
Slope Toe Offset:	0 ft	Leveling Pad Width:	7.00 ft
Vertical Delta on Single Depth set to true			

FACTORS OF SAFETY

Sliding:	1.50	Overturning:	1.50
Bearing:	2.00		

RESULTS

FoS Sliding:	1.87 (fnd)	FoS Overturning:	1.54
Bearing	3898.85	FoS Bearing:	2.17

Name	Elev.	ka	Pa	Paq	Paqd	- PaC	PaT	FSSl (base of leveling pad)	FoS OT
42T	13.5	0.297	40	22	0	0	62	17.05	20.76
42	12	0.297	161	45	0	0	205	35.80	9.03
42	10.5	0.297	361	67	0	0	428	17.82	4.94
42	9	0.297	642	89	0	0	731	10.82	3.09
42	7.5	0.297	1003	111	0	0	1115	7.35	2.10
42	6	0.297	1445	134	0	0	1579	5.37	1.52
52	4.5	0.297	1967	156	0	0	2123	4.46	2.17
52	3	0.297	2569	178	0	0	2747	3.60	1.75
60	1.5	0.297	3251	201	0	0	3452	3.12	1.83
60	0	0.297	4014	223	0	0	4237	1.90 (1.87)	1.54

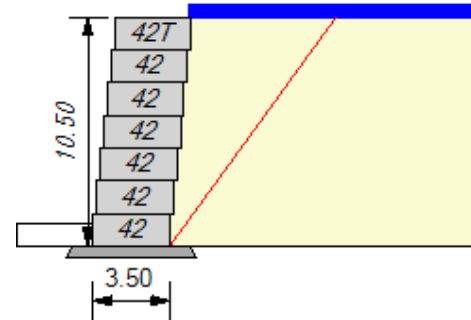
PRELIMINARY CALCULATIONS: NOT FOR CONSTRUCTION



CDP Wall

Civil Design Professionals version 3.0

Project: LondonBoulder Sample Calcs
Location: United States
Designer: Curt Derichs, P.E.
Date: 2/24/2012
Section: 42" 6.3 Flat Back
Design Method: NCMA_09_3rd_Ed
Design Unit: LondonBoulder



SOIL PARAMETERS	Phi	coh	Gamma
Retained Soil:	30 deg	0 psf	120 pcf
Foundation Soil:	30 deg	0 psf	120 pcf

Leveling Pad: Crushed Stone

GEOMETRY

Design Height:	10.50 ft	Live Load:	50 psf
Wall Batter/Tilt:	6.30/ 0.00 deg	Live Load Offset:	0.00 ft
Embedment:	1.00 ft	Live Load Width:	50 ft
Leveling Pad Depth:	0.50 ft	Dead Load:	0 psf
Slope Angle:	0 deg	Dead Load Offset:	0 ft
Slope Length:	0 ft	Dead Load Width:	0 ft
Slope Toe Offset:	0 ft	Leveling Pad Width:	5.50 ft
Vertical Delta on Single Depth set to true			

FACTORS OF SAFETY

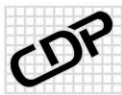
Sliding:	1.50	Overturning:	1.50
Bearing:	2.00		

RESULTS

FoS Sliding:	1.74 (fnd)	FoS Overturning:	1.64
Bearing	2207.71	FoS Bearing:	2.86

Name	Elev.	ka	Pa	Paq	Paqd	- PaC	PaT	FSSl (base of leveling pad)	FoS OT
42T	9	0.255	34	19	0	0	53	18.95	22.44
42	7.5	0.254	137	42	0	0	179	37.47	10.28
42	6	0.254	308	61	0	0	369	18.12	5.94
42	4.5	0.254	549	80	0	0	629	10.64	3.89
42	3	0.254	858	99	0	0	957	6.99	2.77
42	1.5	0.254	1236	118	0	0	1354	4.94	2.09
42	0	0.254	1682	137	0	0	1819	1.81 (1.74)	1.64

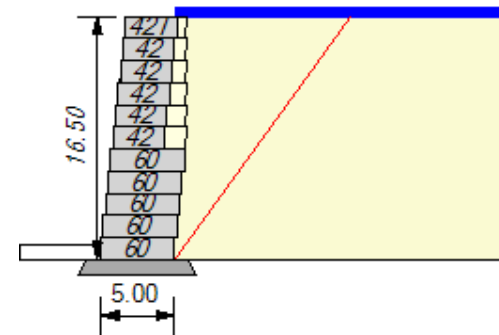
PRELIMINARY CALCULATIONS: NOT FOR CONSTRUCTION



CDP Wall

Civil Design Professionals version 3.0

Project: LondonBoulder Sample Calcs
Location: United States
Designer: Curt Derichs, P.E.
Date: 2/24/2012
Section: 60" 6.3 Flat Back
Design Method: NCMA_09_3rd_Ed
Design Unit: LondonBoulder



SOIL PARAMETERS	Phi	coh	Gamma
Retained Soil:	30 deg	0 psf	120 pcf
Foundation Soil:	30 deg	0 psf	120 pcf

Leveling Pad: Crushed Stone

GEOMETRY

Design Height:	16.50 ft	Live Load:	50 psf
Wall Batter/Tilt:	6.30/ 0.00 deg	Live Load Offset:	0.00 ft
Embedment:	1.00 ft	Live Load Width:	50 ft
Leveling Pad Depth:	1.00 ft	Dead Load:	0 psf
Slope Angle:	0 deg	Dead Load Offset:	0 ft
Slope Length:	0 ft	Dead Load Width:	0 ft
Slope Toe Offset:	0 ft	Leveling Pad Width:	7.00 ft
Vertical Delta on Single Depth set to true			

FACTORS OF SAFETY

Sliding:	1.50	Overturning:	1.50
Bearing:	2.00		

RESULTS

FoS Sliding:	1.75 (fnd)	FoS Overturning:	1.53
Bearing	3577.48	FoS Bearing:	2.46

Name	Elev.	ka	Pa	Paq	Paqd	- PaC	PaT	FSSl (base of leveling pad)	FoS OT
42T	15	0.255	34	19	0	0	53	18.95	22.44
42	13.5	0.254	137	42	0	0	179	39.78	10.28
42	12	0.254	308	61	0	0	369	19.99	5.94
42	10.5	0.254	549	80	0	0	629	12.18	3.89
42	9	0.254	858	99	0	0	957	8.29	2.77
42	7.5	0.254	1236	118	0	0	1354	6.06	2.09
60	6	0.297	1967	156	0	0	2123	4.50	2.76
60	4.5	0.297	2569	178	0	0	2747	3.66	2.32
60	3	0.297	3251	201	0	0	3452	3.06	1.98
60	1.5	0.255	3439	191	0	0	3630	2.88	1.75
60	0	0.253	4136	245	0	0	4380	1.77 (1.75)	1.53

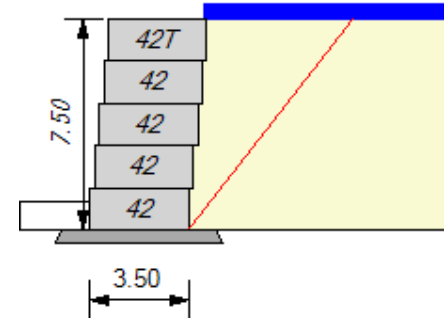
PRELIMINARY CALCULATIONS: NOT FOR CONSTRUCTION



CDP Wall

Civil Design Professionals version 3.0

Project: LondonBoulder Sample Calcs
 Location: United States
 Designer: Curt Derichs, P.E.
 Date: 2/24/2012
 Section: 42" 6.3 Lean Clay
 Design Method: NCMA_09_3rd_Ed
 Design Unit: LondonBoulder



SOIL PARAMETERS	Phi	coh	Gamma
Retained Soil:	26 deg	0 psf	120 pcf
Foundation Soil:	26 deg	0 psf	120 pcf

Leveling Pad: Crushed Stone

GEOMETRY

Design Height:	7.50 ft	Live Load:	50 psf
Wall Batter/Tilt:	6.30/ 0.00 deg	Live Load Offset:	0.00 ft
Embedment:	1.00 ft	Live Load Width:	50 ft
Leveling Pad Depth:	0.50 ft	Dead Load:	0 psf
Slope Angle:	0 deg	Dead Load Offset:	0 ft
Slope Length:	50 ft	Dead Load Width:	0 ft
Slope Toe Offset:	0 ft	Leveling Pad Width:	5.50 ft
Vertical Delta on Single Depth set to true			

FACTORS OF SAFETY

Sliding:	1.50	Overturning:	1.50
Bearing:	2.00		

RESULTS

FoS Sliding:	1.68 (fnd)	FoS Overturning:	2.29
Bearing	1244.06	FoS Bearing:	3.41

Name	Elev.	ka	Pa	Paq	Paqd	- PaC	PaT	FSSl (base of leveling pad)	FoS OT
42T	6	0.305	41	23	0	0	64	15.67	18.54
42	4.5	0.303	164	49	0	0	213	33.00	8.53
42	3	0.303	369	72	0	0	441	16.57	4.93
42	1.5	0.304	656	95	0	0	751	10.09	3.22
42	0	0.304	1025	118	0	0	1143	1.98 (1.68)	2.29

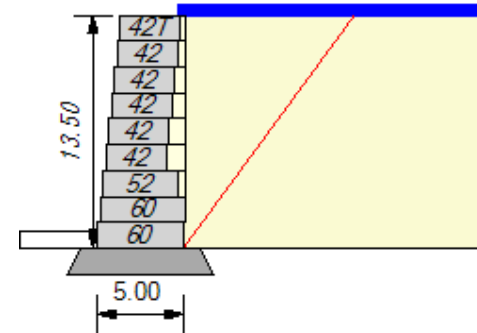
PRELIMINARY CALCULATIONS: NOT FOR CONSTRUCTION



CDP Wall

Civil Design Professionals version 3.0

Project: LondonBoulder Sample Calcs
 Location: United States
 Designer: Curt Derichs, P.E.
 Date: 2/24/2012
 Section: 60" 6.3 Lean Clay
 Design Method: NCMA_09_3rd_Ed
 Design Unit: LondonBoulder



SOIL PARAMETERS	Phi	coh	Gamma
Retained Soil:	26 deg	0 psf	120 pcf
Foundation Soil:	26 deg	0 psf	120 pcf

Leveling Pad: Crushed Stone

GEOMETRY

Design Height:	13.50 ft	Live Load:	50 psf
Wall Batter/Tilt:	6.30/ 0.00 deg	Live Load Offset:	0.00 ft
Embedment:	1.00 ft	Live Load Width:	50 ft
Leveling Pad Depth:	1.50 ft	Dead Load:	0 psf
Slope Angle:	0 deg	Dead Load Offset:	0 ft
Slope Length:	50 ft	Dead Load Width:	0 ft
Slope Toe Offset:	0 ft	Leveling Pad Width:	7.00 ft
Vertical Delta on Single Depth set to true			

FACTORS OF SAFETY

Sliding:	1.50	Overturning:	1.50
Bearing:	2.00		

RESULTS

FoS Sliding:	1.54 (fnd)	FoS Overturning:	1.61
Bearing	2567.53	FoS Bearing:	2.52

Name	Elev.	ka	Pa	Paq	Paqd	- PaC	PaT	FSSl (base of leveling pad)	FoS OT
42T	12	0.305	41	23	0	0	64	15.67	18.54
42	10.5	0.303	164	49	0	0	213	33.00	8.53
42	9	0.303	369	72	0	0	441	16.57	4.93
42	7.5	0.304	656	95	0	0	751	10.09	3.22
42	6	0.304	1025	118	0	0	1143	6.87	2.29
42	4.5	0.304	1477	141	0	0	1618	5.02	1.73
52	3	0.303	2002	182	0	0	2184	3.98	1.80
60	1.5	0.347	2999	208	0	0	3207	3.06	1.87
60	0	0.347	3796	234	0	0	4030	1.60 (1.54)	1.61

PRELIMINARY CALCULATIONS: NOT FOR CONSTRUCTION