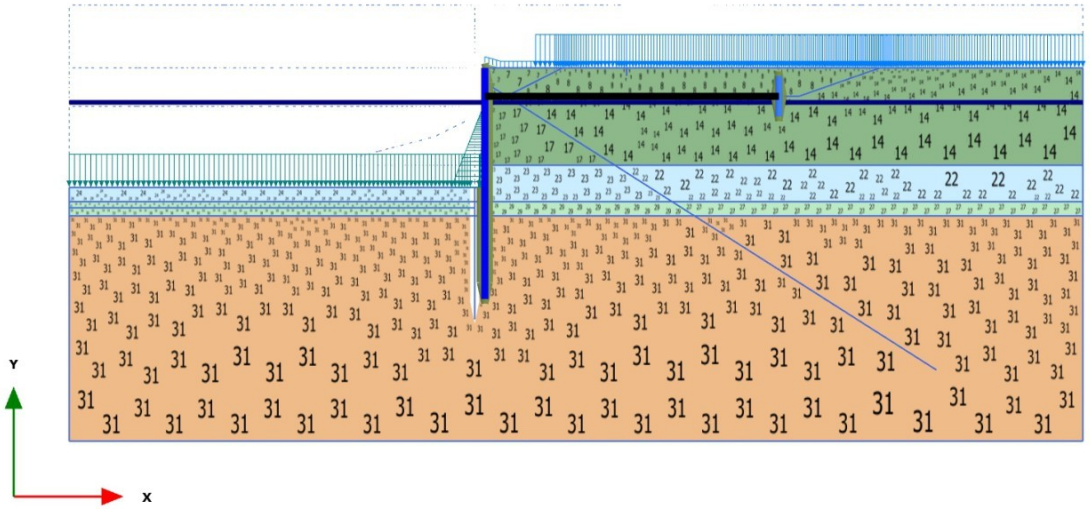
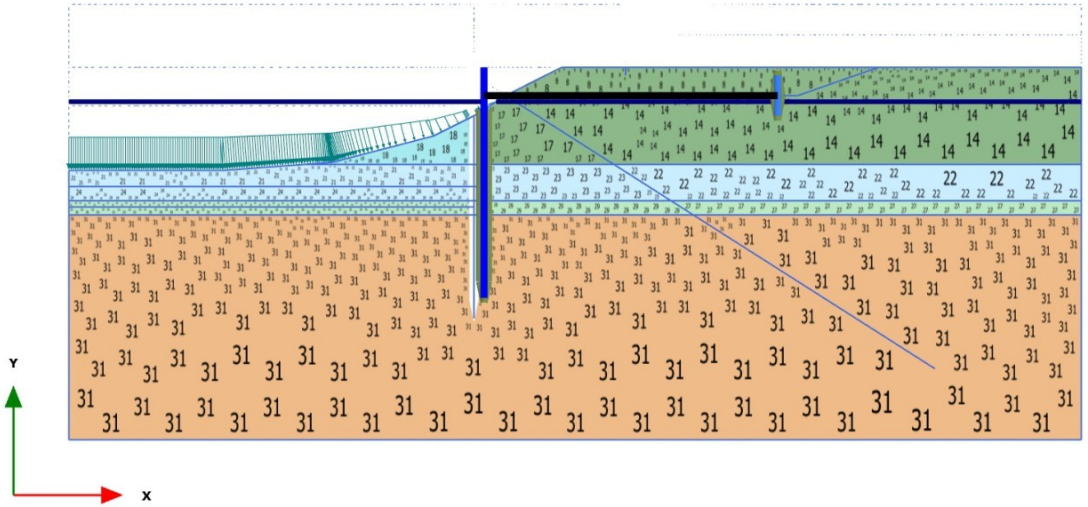
PLAXIS Report

1.1.1.1 Calculation results, 7. Bestaande toestand [Phase_7] (7/154), Connectivity plot



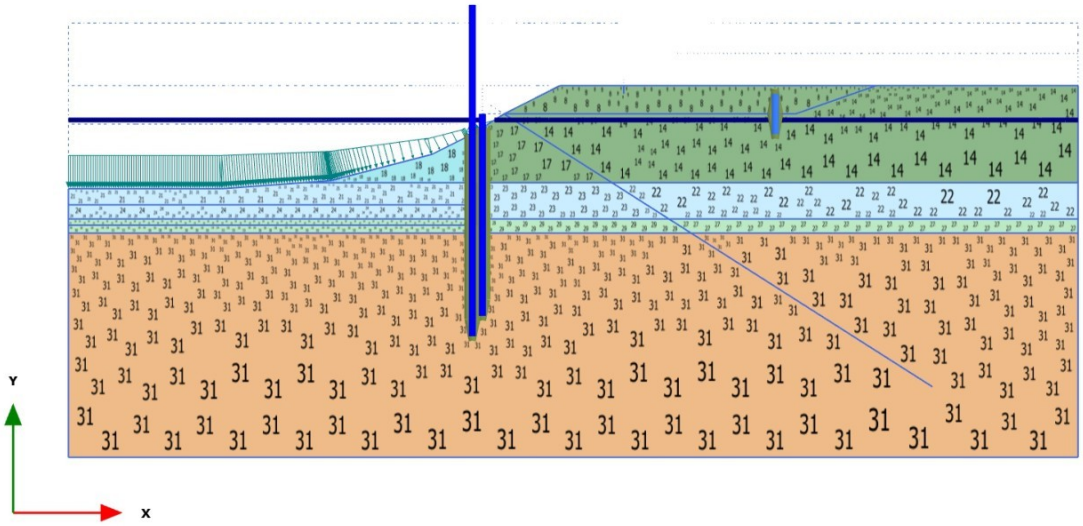
Connectivity plot

1.1.1.2 Calculation results, 8. Ontgraven en steunberm [Phase_8] (8/197), Connectivity plot



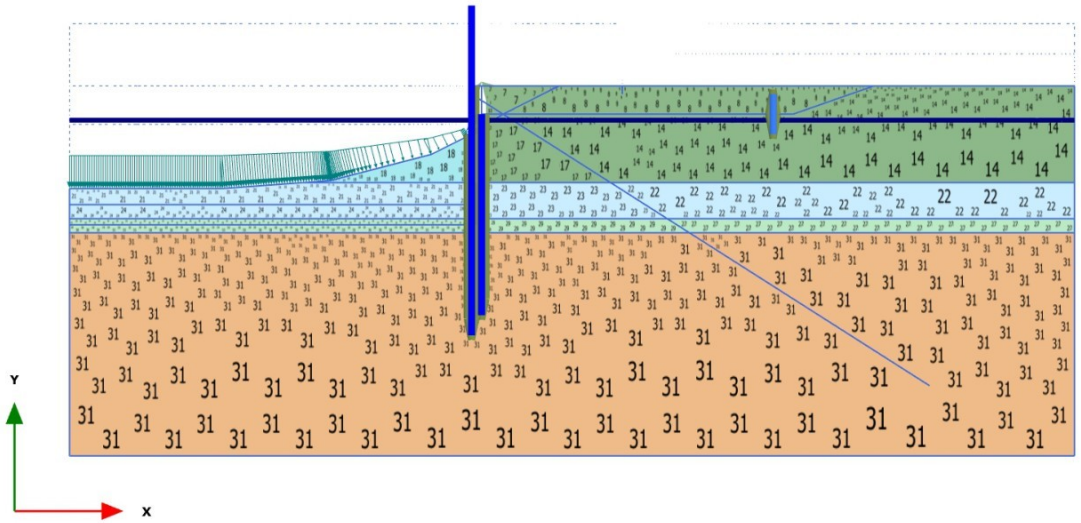
Connectivity plot

1.1.1.3 Calculation results, 9. Installeren nieuwe damwand [Phase_9] (9/202), Connectivity plot



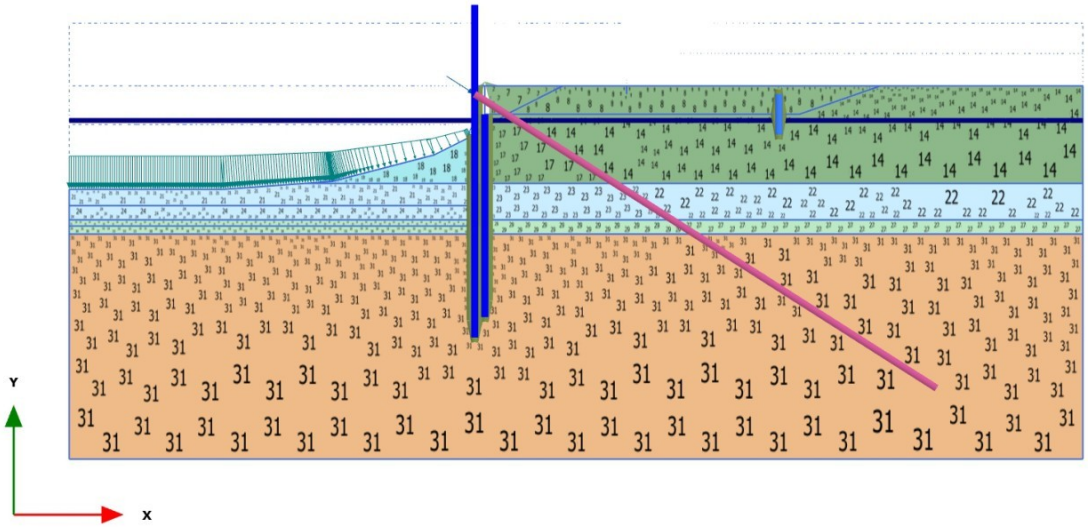
Connectivity plot

1.1.1.4 Calculation results, 10. Aanvullen ter installatei ankers [Phase_10] (10/206), Connectivity plot



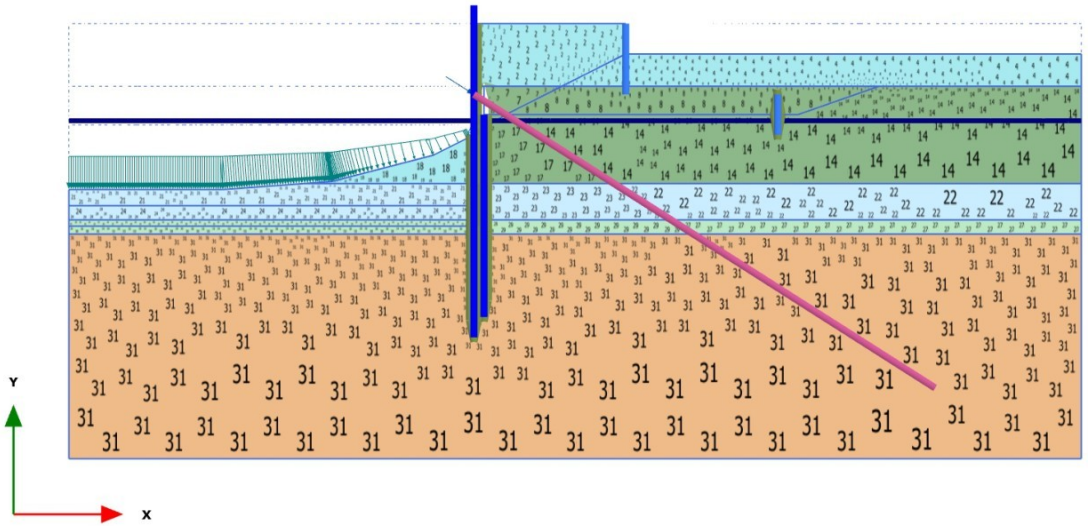
Connectivity plot

1.1.1.5 Calculation results, 11. Installeren ankers [Phase_11] (11/211), Connectivity plot



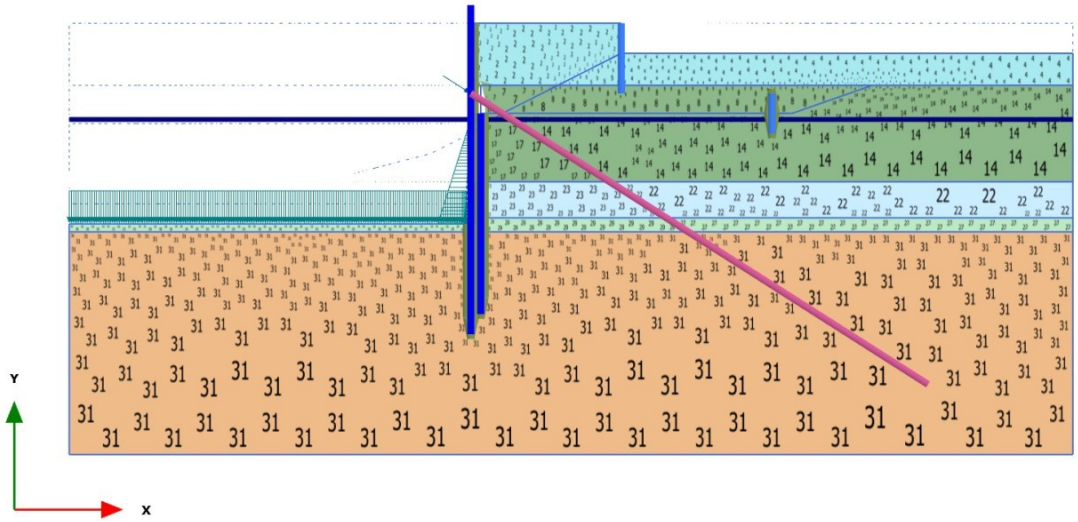
Connectivity plot

1.1.1.6 Calculation results, 12. Aanvullen tot maaiveld [Phase_12] (12/235), Connectivity plot



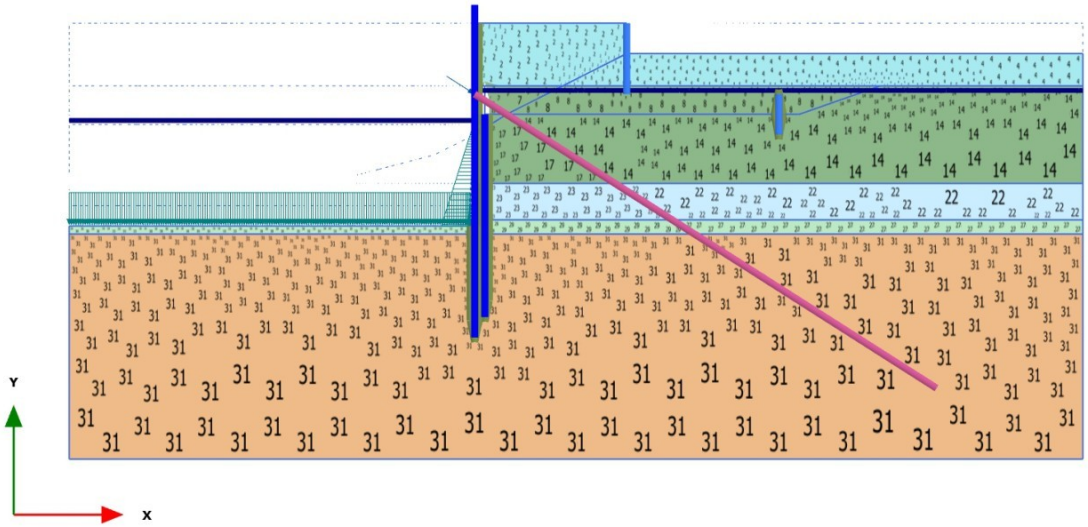
Connectivity plot

1.1.1.7 Calculation results, 13. Uitbaggeren en bodembescherming [Phase_13] (13/242), Connectivity plot



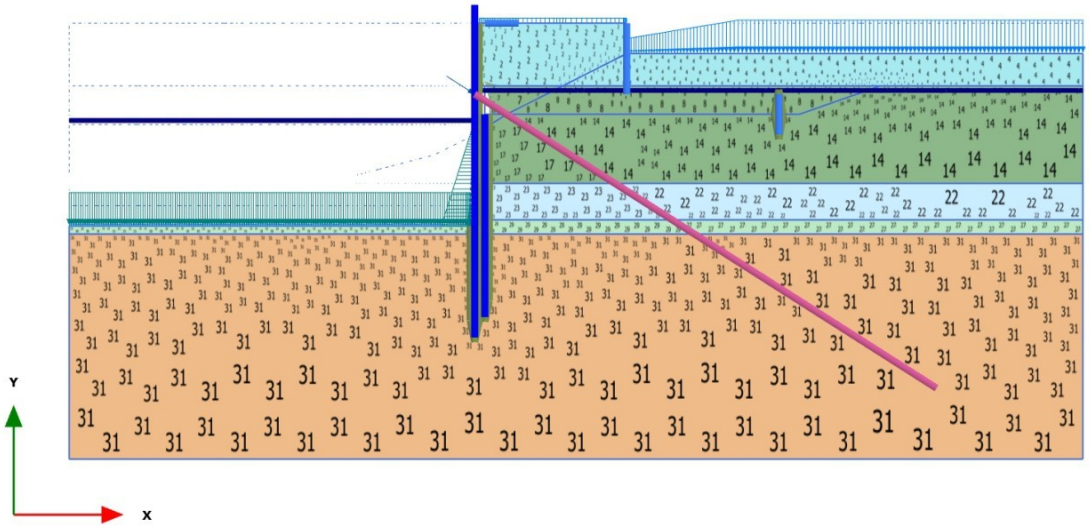
Connectivity plot

1.1.1.8 Calculation results, 14. Waterpeilverschil [Phase_14] (14/245), Connectivity plot



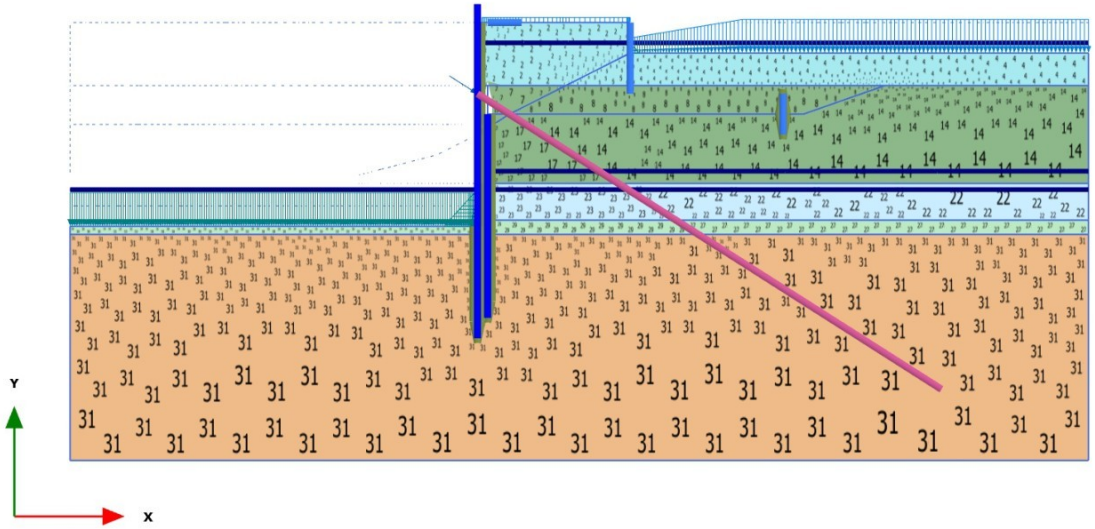
Connectivity plot

1.1.1.9 Calculation results, 15.H: Terreinbelasting [Phase_15] (15/284), Connectivity plot



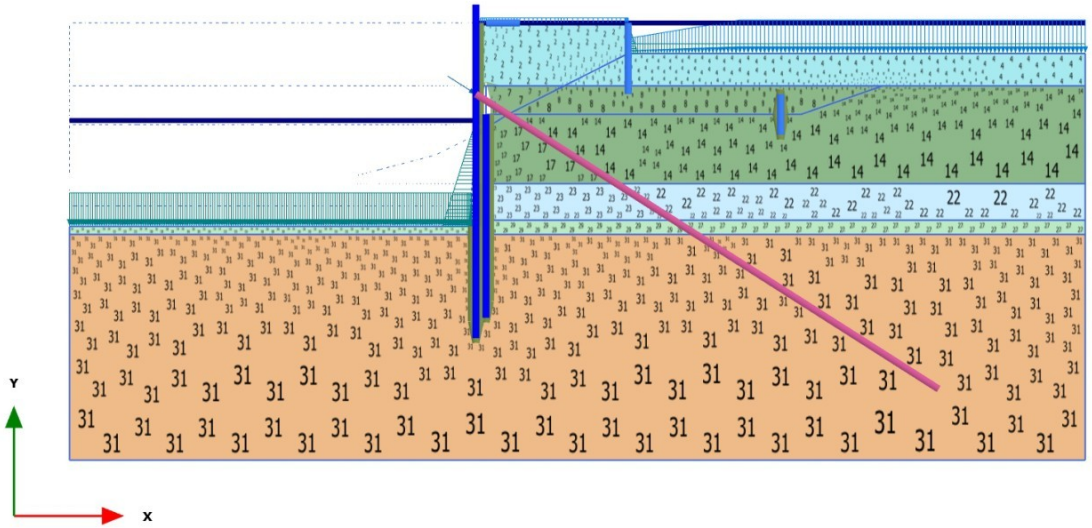
Connectivity plot

1.1.1.10 Calculation results, 16. Val ELW [Phase_16] (16/312), Connectivity plot



Connectivity plot

1.1.1.11 Calculation results, 17. Val na MHW [Phase_17] (17/340), Connectivity plot



Connectivity plot

1.1.2.1.1.1 Materials - Soil and interfaces - Hardening Soil (1/2)

Identification number		1	2	3	4	5
Identification		2A. Zand, los gepakt	1C. Klei, zwak zandig, SLAP	2E. Zand, sterk siltig/kleiig	2B. Zand, schoon, matig	2D. Zand, zwak siltig
Soil model		Hardening Soil	Hardening Soil	Hardening Soil	Hardening Soil	Hardening Soil
Drainage type		Drained	Drained	Drained	Drained	Drained
Colour						
Comments						
γ_unsat	kN/m³	17.00	15.00	18.00	18.00	18.00
γ_sat	kN/m³	19.00	15.00	20.00	20.00	20.00
e_init		0.5000	0.5000	0.5000	0.5000	0.5000
n_init		0.3333	0.3333	0.3333	0.3333	0.3333
E_50^ref	kN/m²	15.00E3	2000	15.00E3	45.00E3	35.00E3
E_oed^ref	kN/m²	15.00E3	2000	15.00E3	45.00E3	35.00E3
E_ur^ref	kN/m²	45.00E3	6000	45.00E3	135.0E3	105.0E3
v_ur		0.2000	0.2000	0.2000	0.2000	0.2000
Use alternatives		False	False	False	False	False
C_c		0.02303	0.1727	0.02303	7.675E-3	9.868E-3
C_s		0.01382	0.08392	0.01196	4.976E-3	5.422E-3
e_init		0.5000	0.5000	0.5000	0.5000	0.5000
power (m)		0.5000	1.000	0.5000	0.5000	0.5000
p_ref	kN/m²	100.0	100.0	100.0	100.0	100.0
c'_ref	kN/m²	0.000	0.000	0.000	0.000	0.000
φ' (phi)	°	30.00	22.50	25.00	32.50	27.00

Identification number		1	2	3	4	5
ψ (psi)	°	0.000	0.000	0.000	0.000	0.000
c'_inc	kN/m²/m	0.000	0.000	0.000	0.000	0.000
y_ref	m	0.000	0.000	0.000	0.000	0.000
Dilatancy cut-off		False	False	False	False	False
e_min		1.000E-9	1.000E-9	1.000E-9	1.000E-9	1.000E-9
e_max		999.0	999.0	999.0	999.0	999.0
Tension cut-off		True	True	True	True	True
Tensile strength	kN/m²	0.000	0.000	0.000	0.000	0.000
Use defaults		True	True	True	True	True
K_0^nc		0.5000	0.6173	0.5774	0.4627	0.5460
R_f		0.9000	0.9000	0.9000	0.9000	0.9000
Determination		v-undrained definition	v-undrained definition	v-undrained definition	v-undrained definition	v-undrained definition
v_u definition method		Direct	Direct	Direct	Direct	Direct
v_u,equivalent (nu)		0.4950	0.4950	0.4950	0.4950	0.4950
Skempton B		0.9866	0.9866	0.9866	0.9866	0.9866
K_w,ref/n	kN/m²	1.844E6	245.8E3	1.844E6	5.531E6	4.302E6
Classification type		Standard	Standard	Standard	Standard	Standard
Soil class (Standard)		Coarse	Coarse	Coarse	Coarse	Coarse
< 2 µm	%	10.00	10.00	10.00	10.00	10.00
2 µm - 50 µm	%	13.00	13.00	13.00	13.00	13.00
50 µm - 2 mm	%	77.00	77.00	77.00	77.00	77.00
Use defaults		False	False	False	False	False
k_x	m/day	0.000	0.000	0.000	0.000	0.000
k_y	m/day	0.000	0.000	0.000	0.000	0.000
Void ratio dependency		False	False	False	False	False

Identification number		1	2	3	4	5
c_k		1000E12	1000E12	1000E12	1000E12	1000E12
n_init		0.3333	0.3333	0.3333	0.3333	0.3333
-ψ_unsat	m	10.00E3	10.00E3	10.00E3	10.00E3	10.00E3
c_s	kJ/t/K	0.000	0.000	0.000	0.000	0.000
λ_s	kW/m/K	0.000	0.000	0.000	0.000	0.000
ρ_s	t/m³	2.600	2.600	2.600	2.600	2.600
Thermal expansion type		Isotropic	Isotropic	Isotropic	Isotropic	Isotropic
α_sv	1/K	0.000	0.000	0.000	0.000	0.000
Phase change		False	False	False	False	False
D_v	m²/day	0.000	0.000	0.000	0.000	0.000
f_Tv		0.000	0.000	0.000	0.000	0.000
Stiffness determination		Derived	Derived	Derived	Derived	Derived
Strength determination		Manual	Manual	Manual	Manual	Manual
R_inter		0.9000	0.9000	0.9000	0.9000	0.9000
Consider gap closure		True	True	True	True	True
δ_inter	m	0.000	0.000	0.000	0.000	0.000
Cross permeability		Impermeable	Impermeable	Impermeable	Impermeable	Impermeable
Drainage conductivity, dk	m³/day/m	0.000	0.000	0.000	0.000	0.000
R_thermal	m² K/kW	0.000	0.000	0.000	0.000	0.000
K_0 determination		Automatic	Automatic	Automatic	Automatic	Automatic
K_0,x		0.5000	0.6173	0.5774	0.4627	0.5460
K_0,z		0.5000	0.6173	0.5774	0.4627	0.5460
POP	kN/m²	0.000	0.000	0.000	0.000	0.000
OCR		1.000	1.000	1.000	1.000	1.000

1.1.2.1.1.2 Materials - Soil and interfaces - Hardening Soil (2/2)

Identification number		6	7	8	9
Identification		3A. Grind, vast	test	1C. Klei, zwak zandig, SLAP-coh	1B-Klei, schoon, matig
Soil model		Hardening Soil	Hardening Soil	Hardening Soil	Hardening Soil
Drainage type		Drained	Drained	Drained	Drained
Colour					
Comments					
γ_unsat	kN/m³	18.00	17.00	15.00	17.00
γ_sat	kN/m³	20.00	19.00	15.00	17.00
e_init		0.5000	0.5000	0.5000	0.5000
n_init		0.3333	0.3333	0.3333	0.3333
E_50^ref	kN/m²	75.00E3	30.00E3	1500	3000
E_oed^ref	kN/m²	75.00E3	30.00E3	1500	3168
E_ur^ref	kN/m²	225.0E3	60.00E3	4500	9000
v_ur		0.2000	0.2000	0.2000	0.2000
Use alternatives		False	False	False	False
C_c		4.605E-3	0.01151	0.2303	0.1090
C_s		3.240E-3	0.01036	0.1119	0.04939
e_init		0.5000	0.5000	0.5000	0.5000
power (m)		0.5000	0.5000	1.000	1.000

Identification number		6	7	8	9
p_ref	kN/m²	100.0	100.0	100.0	100.0
c'_ref	kN/m²	0.000	0.000	10.00	5.000
φ' (phi)	°	35.00	30.00	22.50	17.50
ψ (psi)	°	0.000	0.000	0.000	0.000
c'_inc	kN/m²/m	0.000	0.000	0.000	0.000
y_ref	m	0.000	0.000	0.000	0.000
Dilatancy cut-off		False	False	False	False
e_min		1.000E-9	1.000E-9	1.000E-9	1.000E-9
e_max		999.0	999.0	999.0	999.0
Tension cut-off		True	True	True	True
Tensile strength	kN/m²	0.000	0.000	0.000	0.000
Use defaults		True	True	True	True
K_0^nc		0.4264	0.5000	0.6173	0.6993
R_f		0.9000	0.9000	0.9000	0.9000
Determination		v-undrained definition	v-undrained definition	v-undrained definition	v-undrained definition
v_u definition method		Direct	Direct	Direct	Direct
v_u,equivalent (nu)		0.4950	0.4950	0.4950	0.4950
Skempton B		0.9866	0.9866	0.9866	0.9866
K_w,ref/n	kN/m²	9.219E6	2.458E6	184.4E3	368.7E3
Classification type		Standard	Standard	Standard	Standard
Soil class (Standard)		Coarse	Coarse	Coarse	Coarse
< 2 µm	%	10.00	10.00	10.00	10.00

Identification number		6	7	8	9
2 µm - 50 µm	%	13.00	13.00	13.00	13.00
50 µm - 2 mm	%	77.00	77.00	77.00	77.00
Use defaults		False	False	False	False
k_x	m/day	0.000	0.000	0.000	0.000
k_y	m/day	0.000	0.000	0.000	0.000
Void ratio dependency		False	False	False	False
c_k		1000E12	1000E12	1000E12	1000E12
n_init		0.3333	0.3333	0.3333	0.3333
-ψ_unsat	m	10.00E3	10.00E3	10.00E3	10.00E3
c_s	kJ/t/K	0.000	0.000	0.000	0.000
λ_s	kW/m/K	0.000	0.000	0.000	0.000
ρ_s	t/m³	2.600	2.600	2.600	2.600
Thermal expansion type		Isotropic	Isotropic	Isotropic	Isotropic
α_sv	1/K	0.000	0.000	0.000	0.000
Phase change		False	False	False	False
D_v	m²/day	0.000	0.000	0.000	0.000
f_Tv		0.000	0.000	0.000	0.000
Stiffness determination		Derived	Derived	Derived	Derived
Strength determination		Manual	Rigid	Manual	Manual
R_inter		0.9000	1.000	0.9000	0.9000
Consider gap closure		True	True	True	True
δ_inter	m	0.000	0.000	0.000	0.000

Identification number		**6**	**7**	**8**	**9**
Cross permeability		Impermeable	Impermeable	Impermeable	Impermeable
Drainage conductivity, dk	m³/day/m	0.000	0.000	0.000	0.000
R_thermal	m² K/kW	0.000	0.000	0.000	0.000
K_0 determination		Automatic	Automatic	Automatic	Automatic
K_0,x		0.4264	0.5000	0.6173	0.9239
K_0,z		0.4264	0.5000	0.6173	0.9239
POP	kN/m²	0.000	0.000	0.000	0.000
OCR		1.000	1.000	1.000	1.500

1.1.2.2 Materials - Plates

Identification number		**1**	**2**
Identification		AZ-26-700	dummy
Material type		Elastic	Elastic
Colour			
Comments			
w	kN/m/m	1.470	0.000
Prevent punching		False	False
Isotropic		True	True
EA_1	kN/m	3.931E6	100.0E6
EA_2	kN/m	3.931E6	100.0E6
E_1	kN/m²	6.353E6	91.29E6
E_2	kN/m²	6.353E6	91.29E6
EI	kN m²/m	125.4E3	10.00E6
v (nu)		0.000	0.000
d	m	0.6187	1.095
c	kJ/t/K	0.000	0.000
λ	kW/m/K	0.000	0.000

Identification number		1	2
ρ	t/m³	0.000	0.000
α	1/K	0.000	0.000
A_eff,T	m²	0.000	0.000

1.1.2.3 Materials - Anchors

Identification number		**1**
Identification		Legankers
Material type		Elastic
Colour		
Comments		E = 200 GPa, A = 2463 mm2 ? (aanname M64/56 o.g.)
L_spacing	m	2.520
EA	kN	492.6E3
c	kJ/t/K	0.000
λ	kW/m/K	0.000
ρ	t/m³	0.000
α	1/K	0.000
A_eff,T	m²	0.000

1.1.2.4 Materials - Geogrids

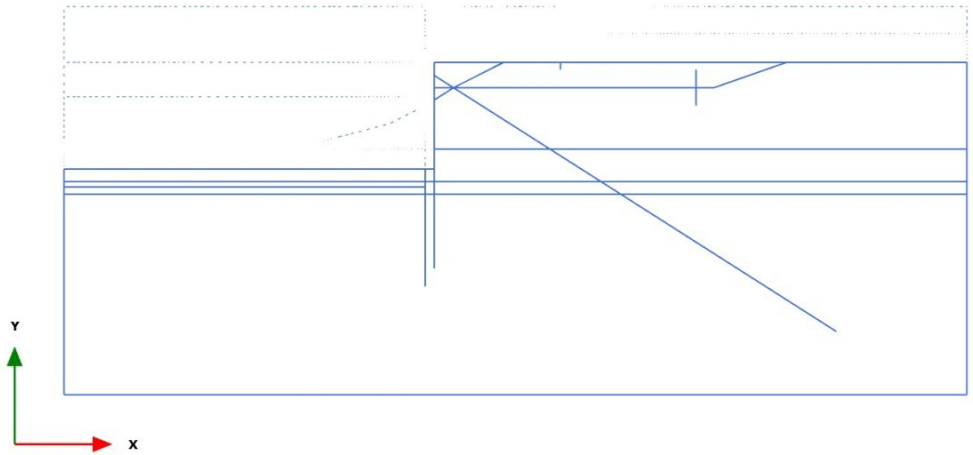
Identification number		**1**
Identification		Groutprop
Material type		Elastic
Colour		
Comments		
Isotropic		True
EA_1	kN/m	77.78E3
EA_2	kN/m	77.78E3
c	kJ/t/K	0.000
λ	kW/m/K	0.000
ρ	t/m³	0.000
α	1/K	0.000
A_eff,T	m²	0.000

1.1.2.5 Materials - Embedded beams

Identification number		1	2	3
Identification		Groutlichaam boven	Groutlichaam onder	SI-anker
Material type		Elastic	Elastic	Elastic
Colour				
Comments				
γ	kN/m³	0.000	0.000	0.000
L_spacing	m	2.520	2.520	2.800
Cross section type		Predefined	Predefined	Predefined
Predefined cross section type		Solid circular beam	Solid circular beam	Circular tube
Diameter	m	0.2000	0.2000	0.1142
Thickness	m	0.000	0.000	0.02500
A	m²	0.03142	0.03142	7.006E-3
I	m	0.07854E-3	0.07854E-3	7.515E-6
E	kN/m²	10.00E6	10.00E6	195.0E6
Axial skin resistance		Linear	Linear	Multi-linear
T_skin, start, max	kN/m	149.0	130.0	0.000
T_skin, end, max	kN/m	149.0	130.0	0.000

Identification number		**1**	**2**	**3**
Lateral resistance		Unlimited	Unlimited	Unlimited
F_max	kN	0.000	0.000	0.000
Default values		True	True	True
Axial stiffness factor		0.3738	0.3738	0.2269
Lateral stiffness factor		0.3738	0.3738	0.2269
Base stiffness factor		3.738	3.738	2.269

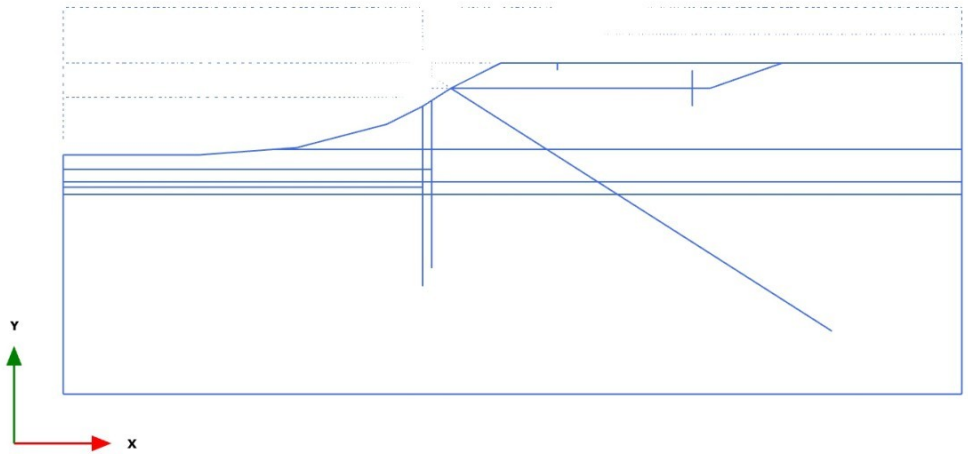
3.1.1.1.1 Calculation results, Embedded beam, 7. Bestaande toestand [Phase_7] (7/154), Shear forces Q



Shear forces Q (scaled up 1.00 times) per structural element

No results

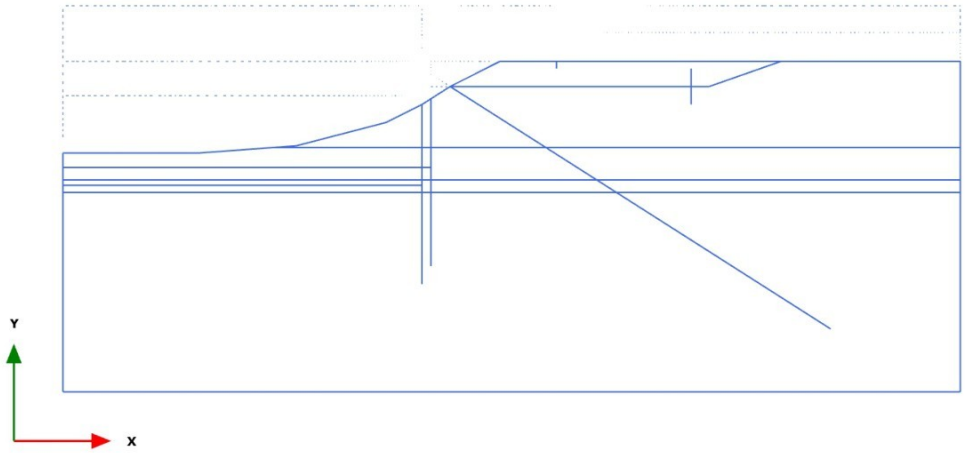
3.1.1.1.2 Calculation results, Embedded beam, 8. Ontgraven en steunberm [Phase_8] (8/197), Shear forces Q



Shear forces Q (scaled up 1.00 times) per structural element

No results

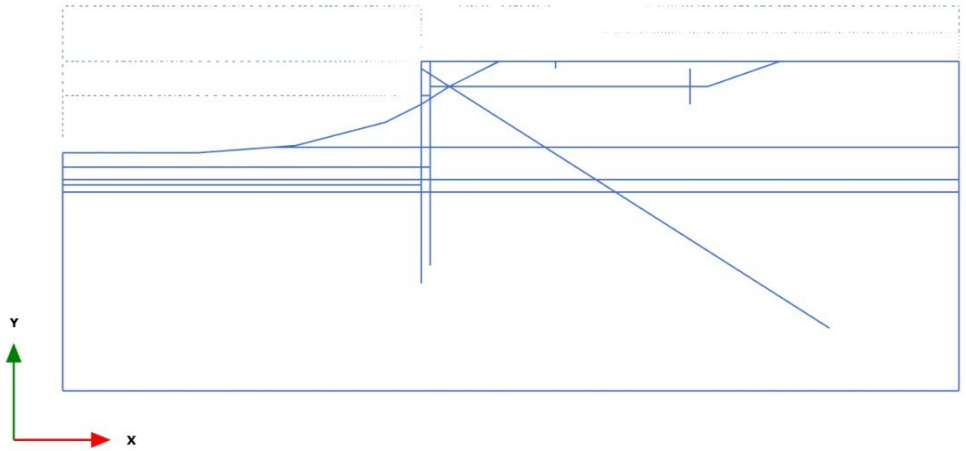
3.1.1.1.3 Calculation results, Embedded beam, 9. Installeren nieuwe damwand [Phase_9] (9/202), Shear forces Q



Shear forces Q (scaled up 1.00 times) per structural element

No results

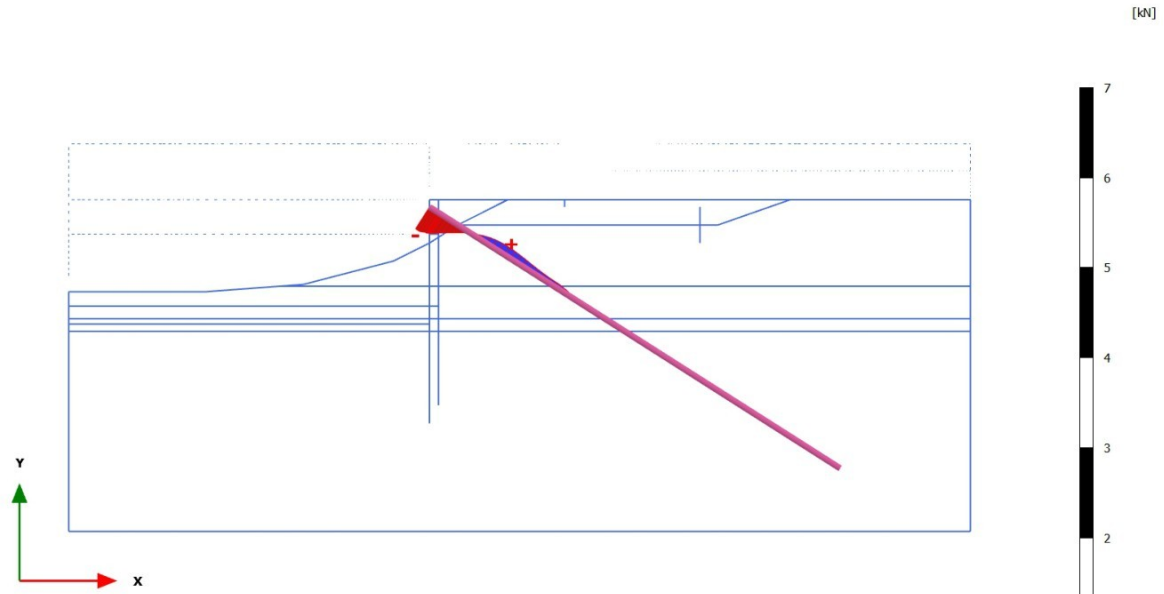
3.1.1.1.4 Calculation results, Embedded beam, 10. Aanvullen ter installatei ankers [Phase_10] (10/206), Shear forces Q



Shear forces Q (scaled up 1.00 times) per structural element

No results

3.1.1.1.5 Calculation results, Embedded beam, 11. Installeren ankers [Phase_11] (11/211), Shear forces Q

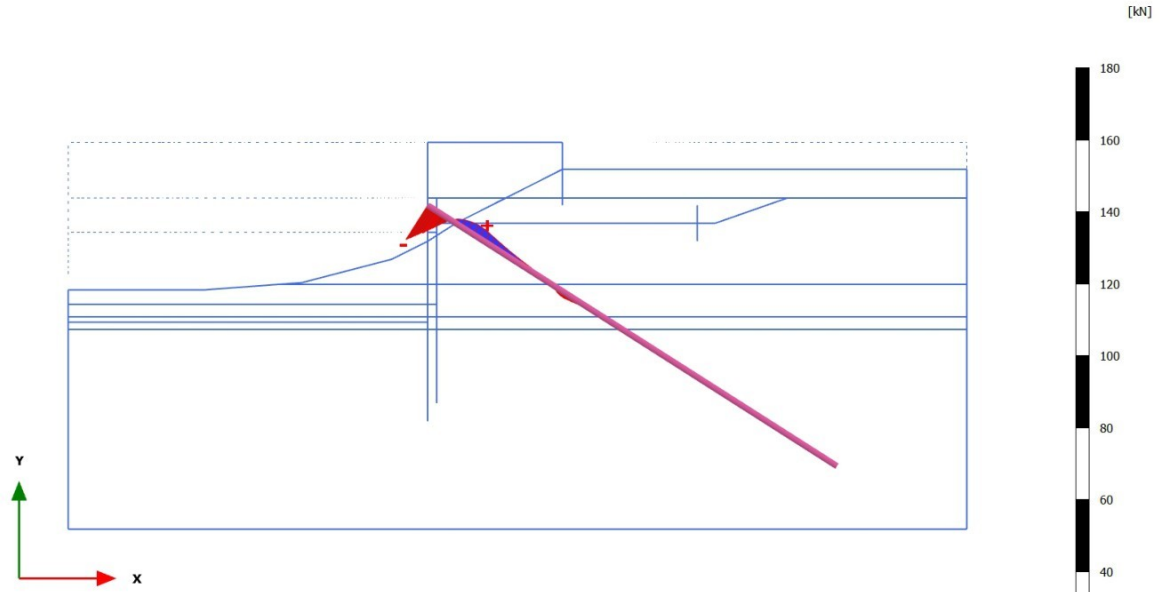


Shear forces Q (scaled up 5.00 times) per structural element

Maximum value = 0.09881 kN (Element 6 at Node 16606)

Minimum value = -0.2889 kN (Element 1 at Node 16586)

3.1.1.1.6 Calculation results, Embedded beam, 12. Aanvullen tot maaiveld [Phase_12] (12/235), Shear forces Q

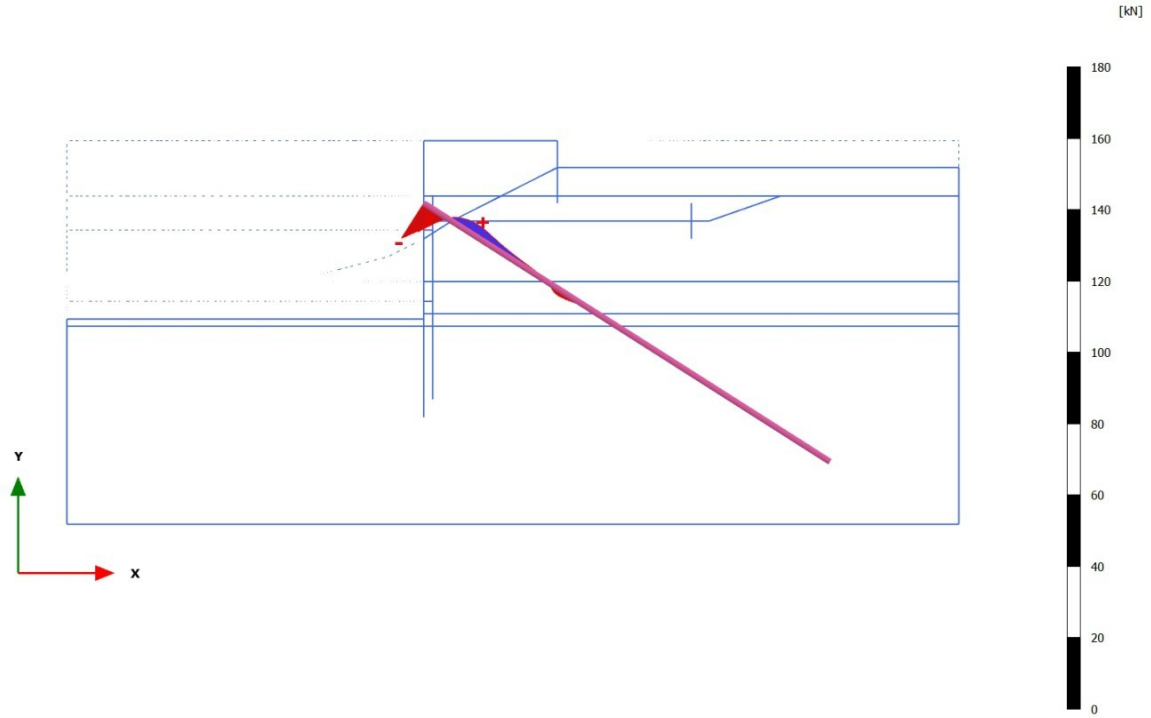


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 2.987 kN (Element 5 at Node 16602)

Minimum value = -11.27 kN (Element 1 at Node 16585)

3.1.1.1.7 Calculation results, Embedded beam, 13. Uitbaggeren en bodembescherming [Phase_13] (13/242), Shear forces Q

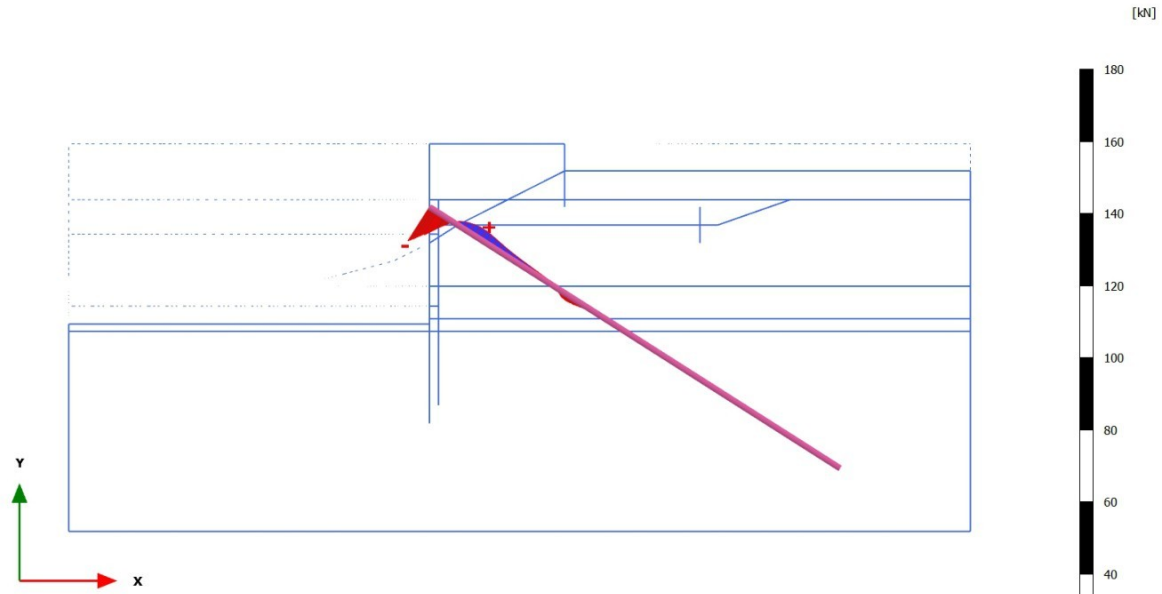


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 3.159 kN (Element 5 at Node 16602)

Minimum value = -11.63 kN (Element 1 at Node 16585)

3.1.1.1.8 Calculation results, Embedded beam, 14. Waterpeilverschil [Phase_14] (14/245), Shear forces Q

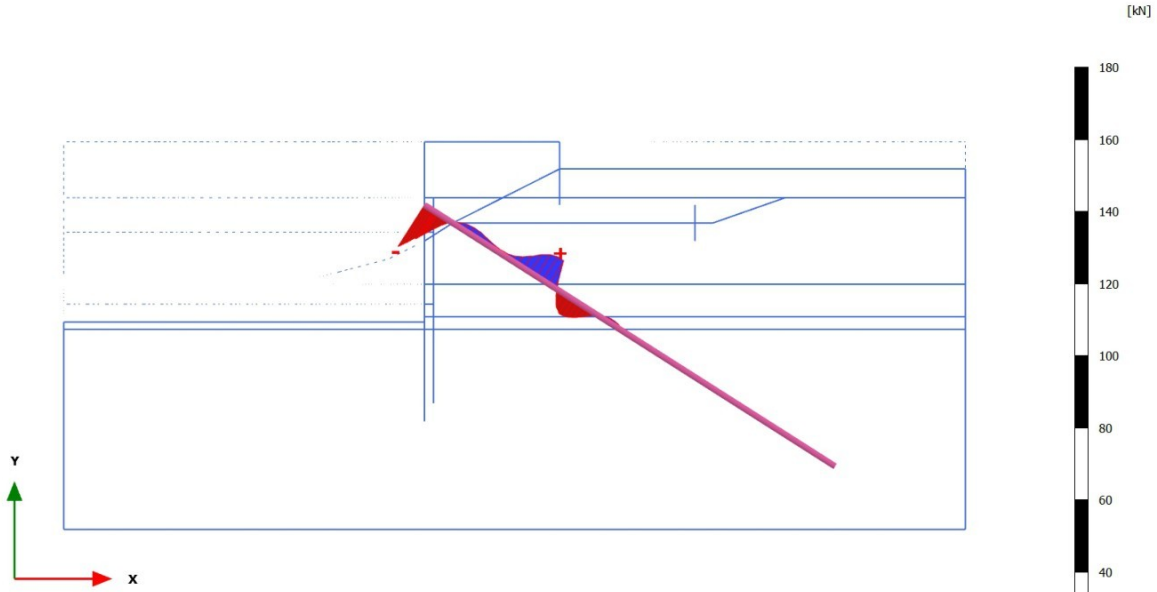


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 2.960 kN (Element 5 at Node 16602)

Minimum value = -11.14 kN (Element 1 at Node 16585)

3.1.1.1.9 Calculation results, Embedded beam, 15.H: Terreinbelasting [Phase_15] (15/284), Shear forces Q

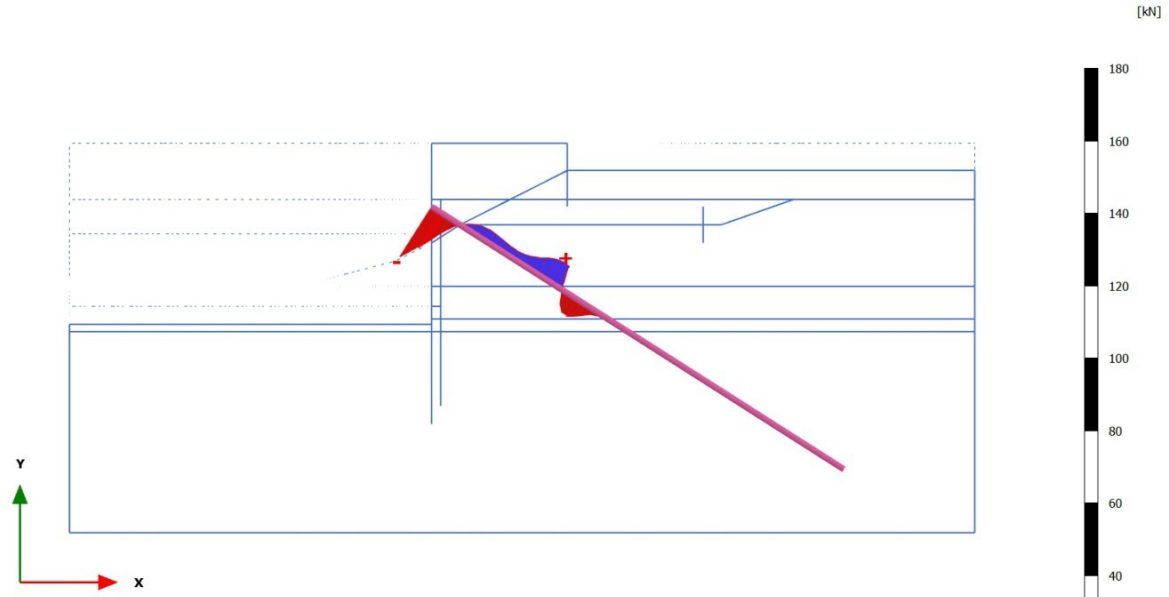


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 7.737 kN (Element 7 at Node 16613)

Minimum value = -13.71 kN (Element 1 at Node 16585)

3.1.1.1.10 Calculation results, Embedded beam, 16. Val ELW [Phase_16] (16/312), Shear forces Q

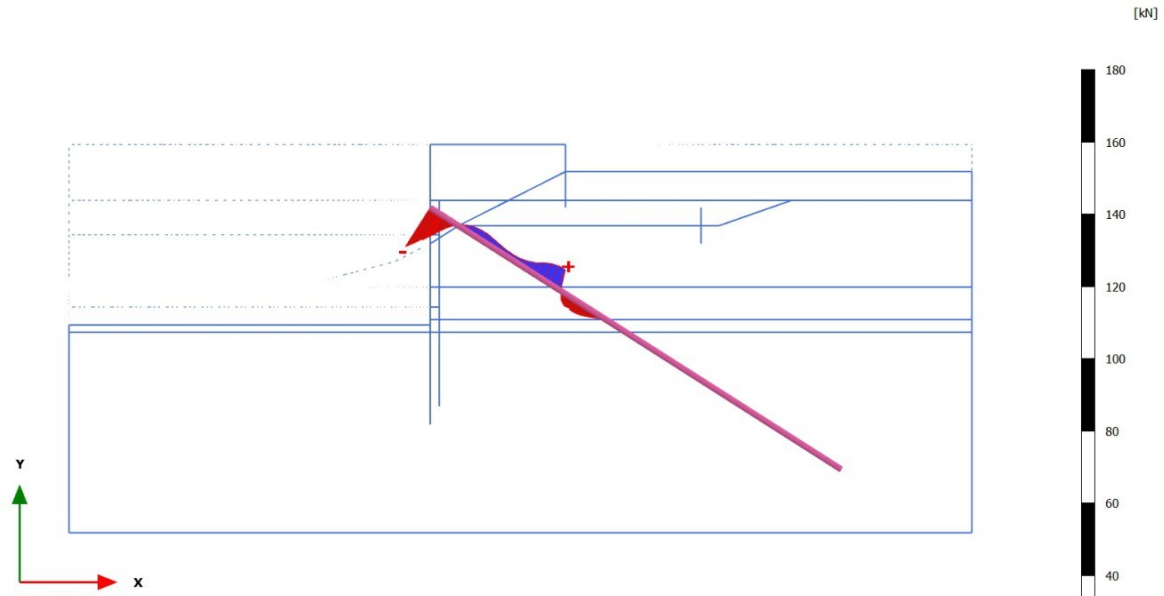


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 6.716 kN (Element 7 at Node 16613)

Minimum value = -16.45 kN (Element 1 at Node 16585)

3.1.1.1.11 Calculation results, Embedded beam, 17. Val na MHW [Phase_17] (17/340), Shear forces Q

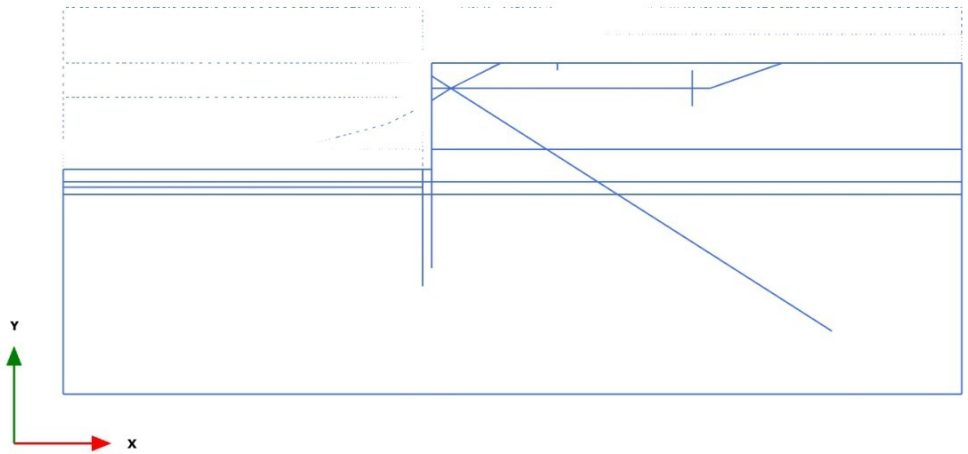


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 5.600 kN (Element 7 at Node 16614)

Minimum value = -12.80 kN (Element 1 at Node 16585)

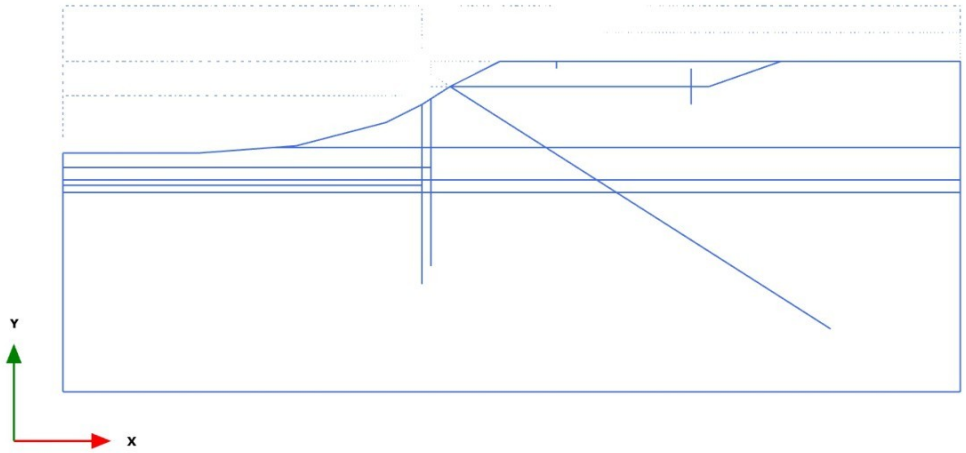
3.1.1.2.1 Calculation results, Embedded beam, 7. Bestaande toestand [Phase_7] (7/154), Bending moments M



Bending moments M (scaled up 1.00 times) per structural element

No results

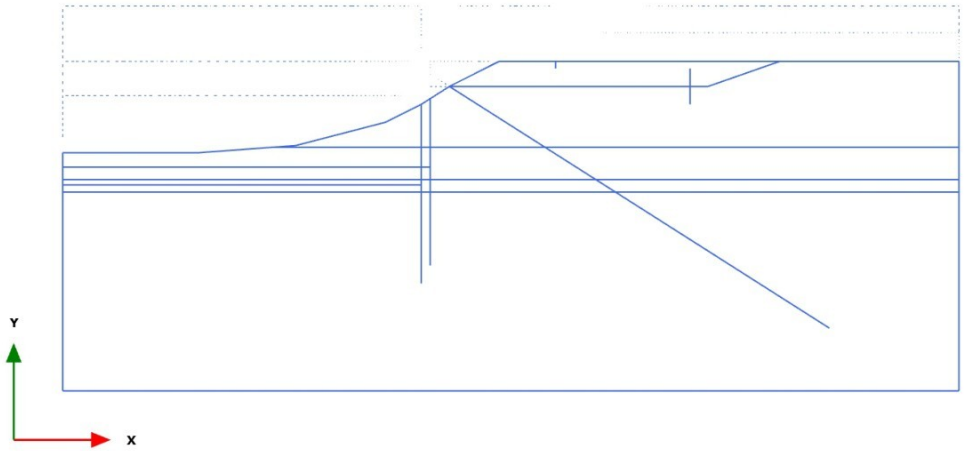
3.1.1.2.2 Calculation results, Embedded beam, 8. Ontgraven en steunberm [Phase_8] (8/197), Bending moments M



Bending moments M (scaled up 1.00 times) per structural element

No results

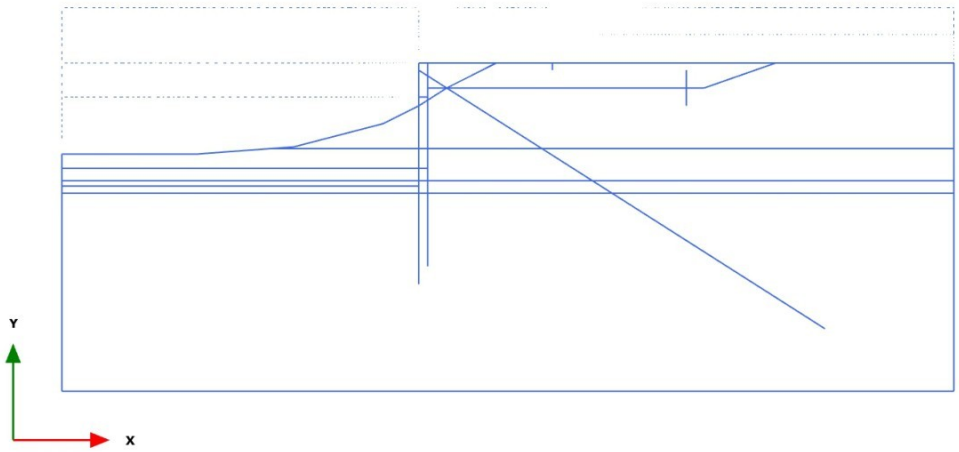
3.1.1.2.3 Calculation results, Embedded beam, 9. Installeren nieuwe damwand [Phase_9] (9/202), Bending moments M



Bending moments M (scaled up 1.00 times) per structural element

No results

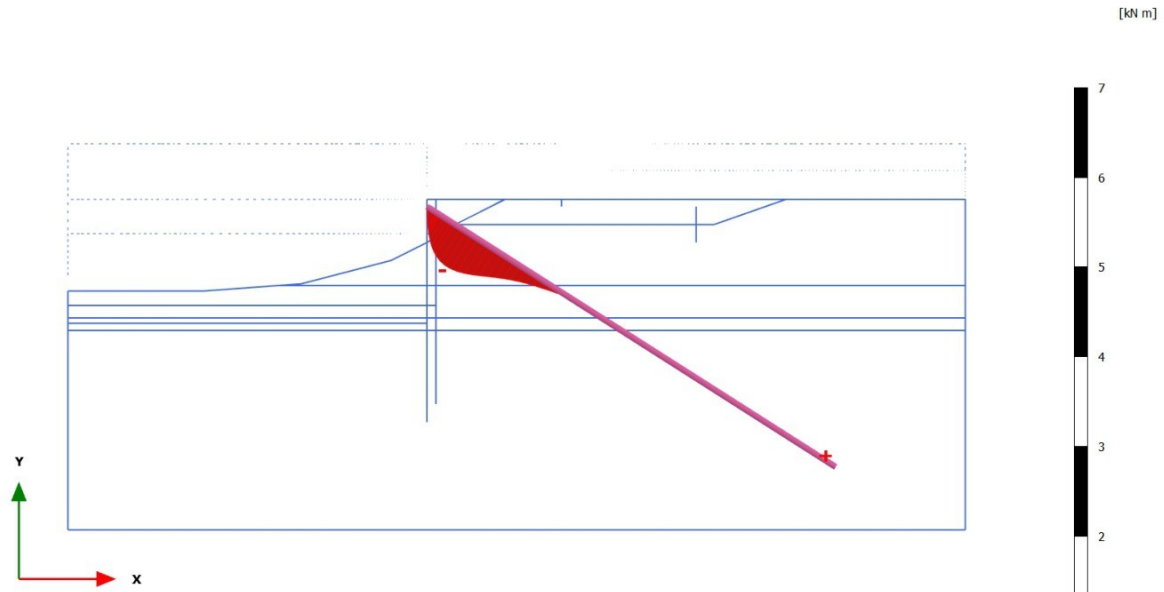
3.1.1.2.4 Calculation results, Embedded beam, 10. Aanvullen ter installatei ankers [Phase_10] (10/206), Bending moments M



Bending moments M (scaled up 1.00 times) per structural element

No results

3.1.1.2.5 Calculation results, Embedded beam, 11. Installeren ankers [Phase_11] (11/211), Bending moments M

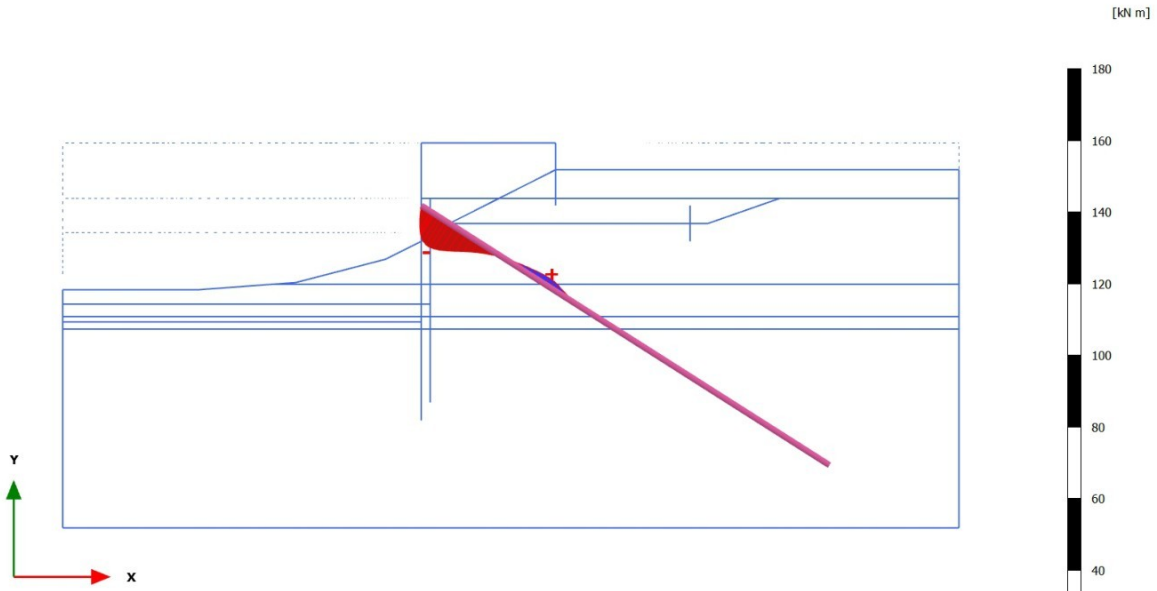


Bending moments M (scaled up 5.00 times) per structural element

Maximum value = $1.848*10^{-3}$ kN m (Element 18 at Node 16657)

Minimum value = -0.4440 kN m (Element 4 at Node 16600)

3.1.1.2.6 Calculation results, Embedded beam, 12. Aanvullen tot maaiveld [Phase_12] (12/235), Bending moments M

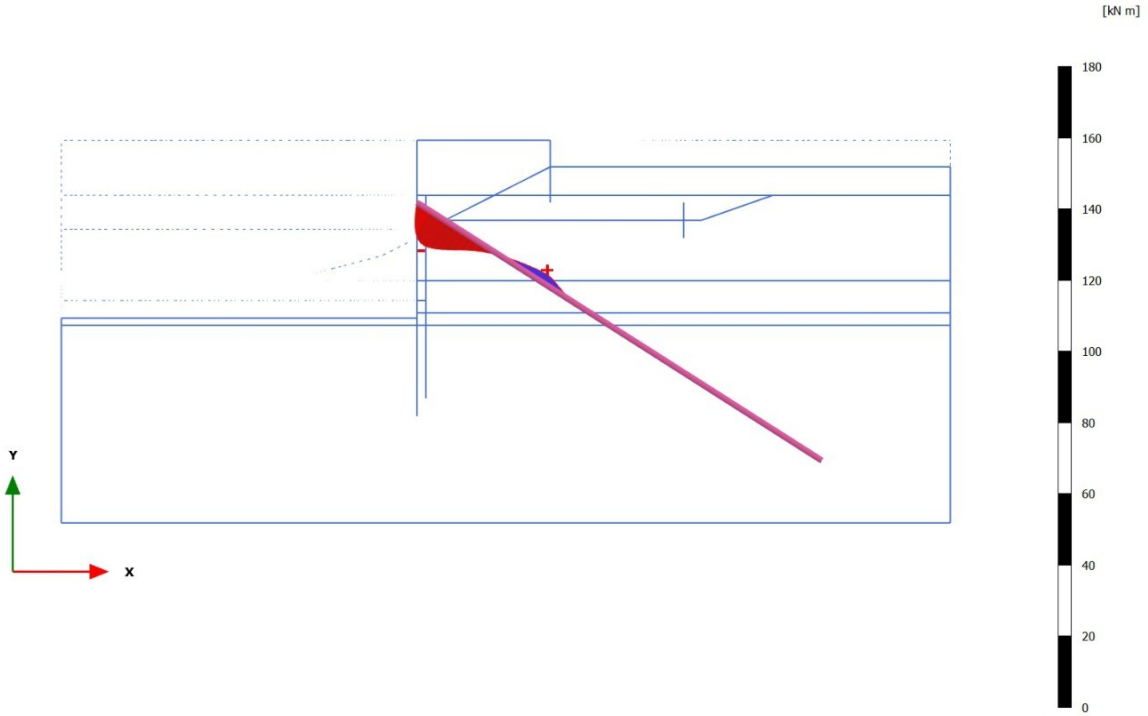


Bending moments M (scaled up 0.200 times) per structural element

Maximum value = 2.193 kN m (Element 7 at Node 16614)

Minimum value = -8.597 kN m (Element 3 at Node 16597)

3.1.1.2.7 Calculation results, Embedded beam, 13. Uitbaggeren en bodembescherming [Phase_13] (13/242), Bending moments M

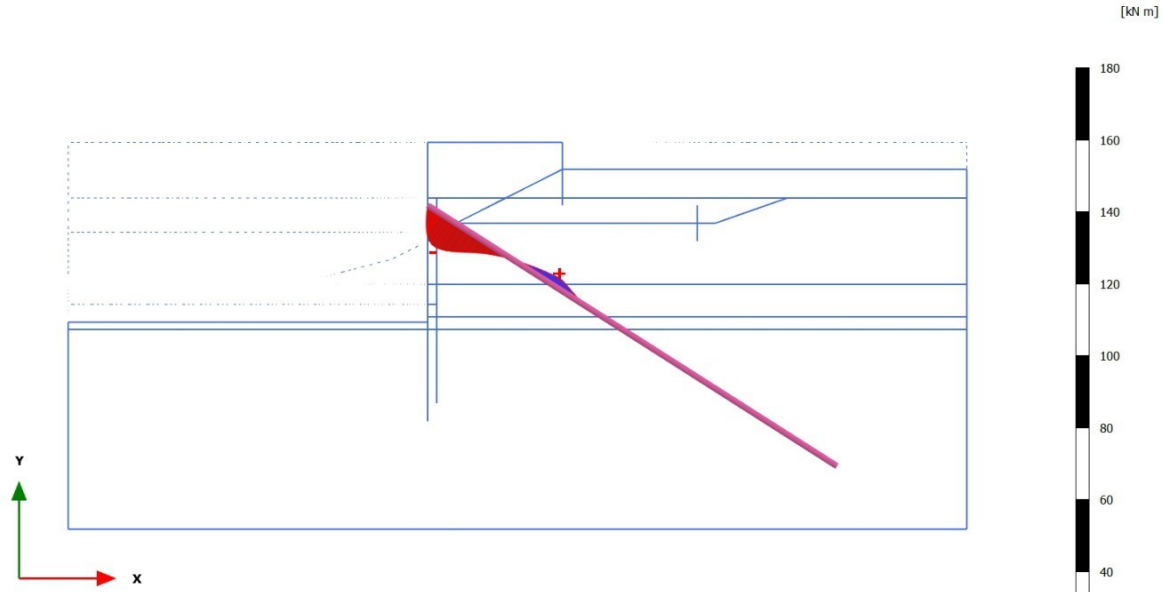


Bending moments M (scaled up 0.200 times) per structural element

Maximum value = 2.565 kN m (Element 7 at Node 16614)

Minimum value = -9.111 kN m (Element 3 at Node 16597)

3.1.1.2.8 Calculation results, Embedded beam, 14. Waterpeilverschil [Phase_14] (14/245), Bending moments M

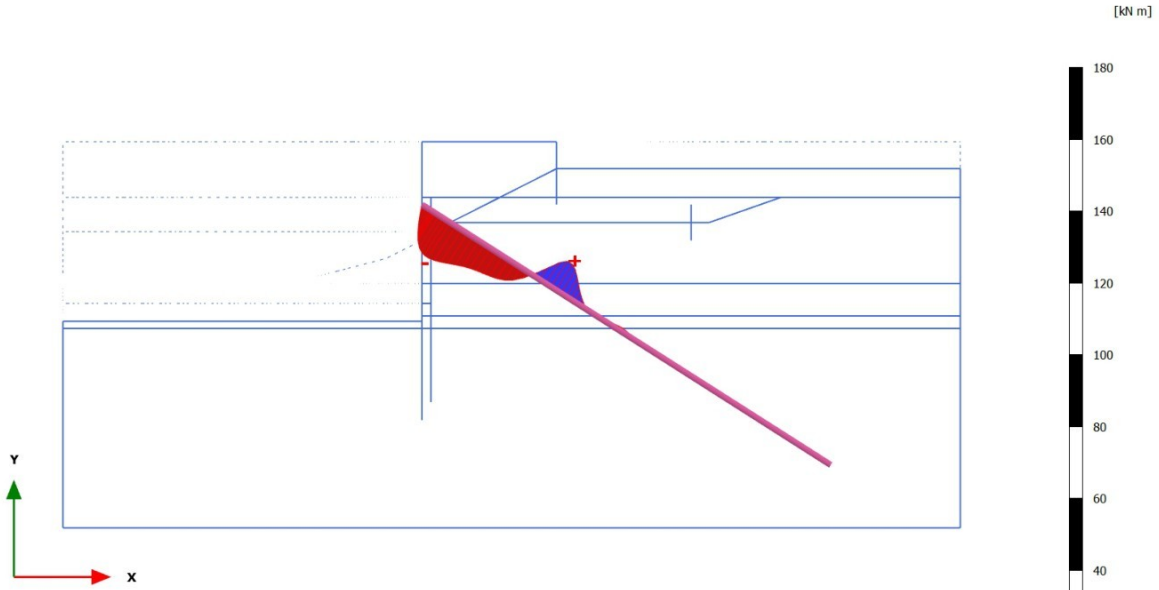


Bending moments M (scaled up 0.200 times) per structural element

Maximum value = 2.534 kN m (Element 8 at Node 16614)

Minimum value = -8.689 kN m (Element 3 at Node 16597)

3.1.1.2.9 Calculation results, Embedded beam, 15.H: Terreinbelasting [Phase_15] (15/284), Bending moments M

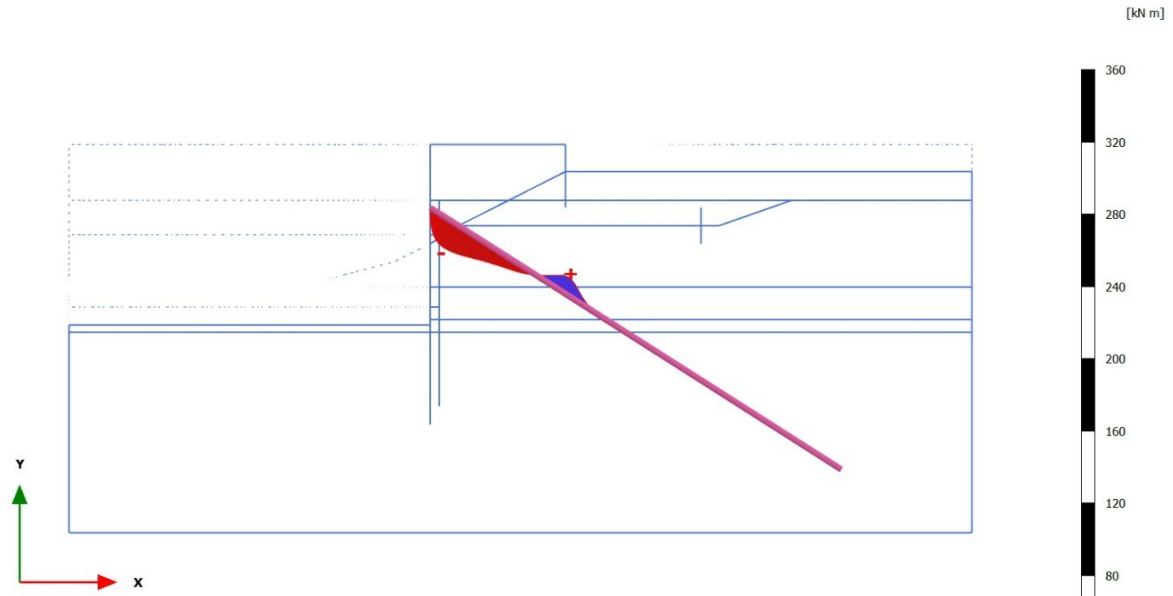


Bending moments M (scaled up 0.200 times) per structural element

Maximum value = 8.502 kN m (Element 8 at Node 16616)

Minimum value = -11.61 kN m (Element 4 at Node 16598)

3.1.1.2.10 Calculation results, Embedded beam, 16. Val ELW [Phase_16] (16/312), Bending moments M

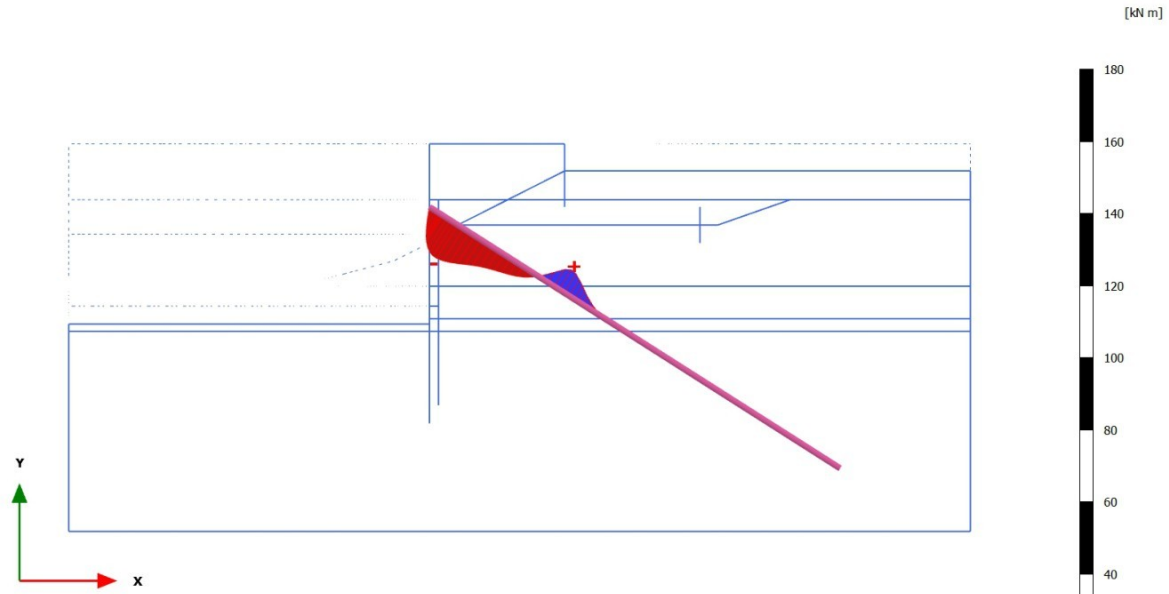


Bending moments M (scaled up 0.100 times) per structural element

Maximum value = 8.754 kN m (Element 8 at Node 16615)

Minimum value = -14.71 kN m (Element 4 at Node 16598)

3.1.1.2.11 Calculation results, Embedded beam, 17. Val na MHW [Phase_17] (17/340), Bending moments M

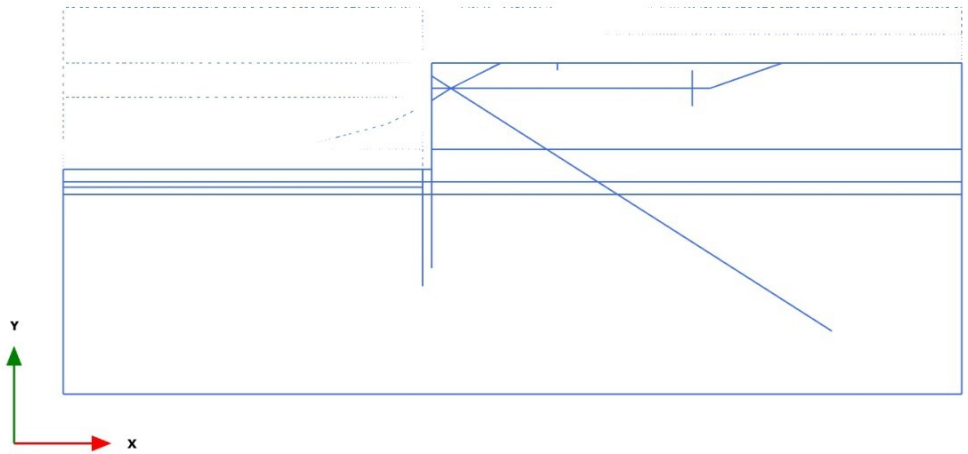


Bending moments M (scaled up 0.200 times) per structural element

Maximum value = 6.455 kN m (Element 8 at Node 16615)

Minimum value = -10.93 kN m (Element 4 at Node 16598)

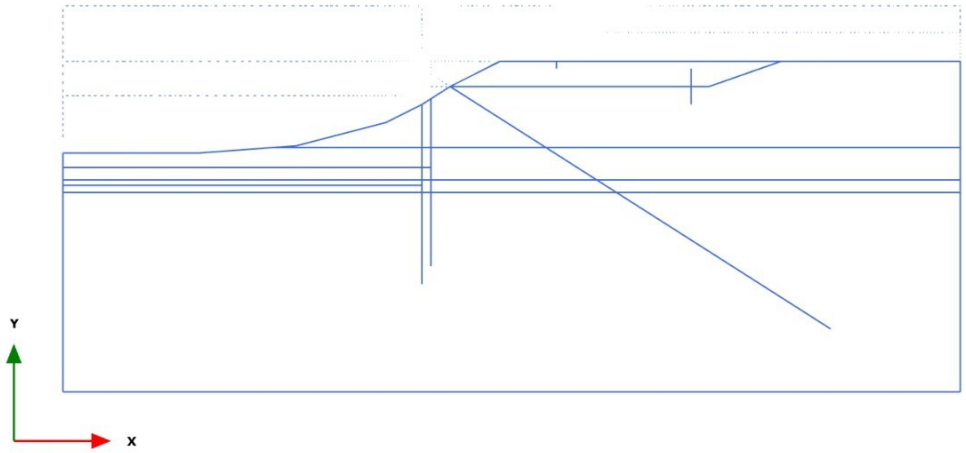
3.1.1.3.1 Calculation results, Embedded beam, 7. Bestaande toestand [Phase_7] (7/154), Skin friction T_{skin}



Skin friction T_{skin} (scaled up 1.00 times) per structural element

No results

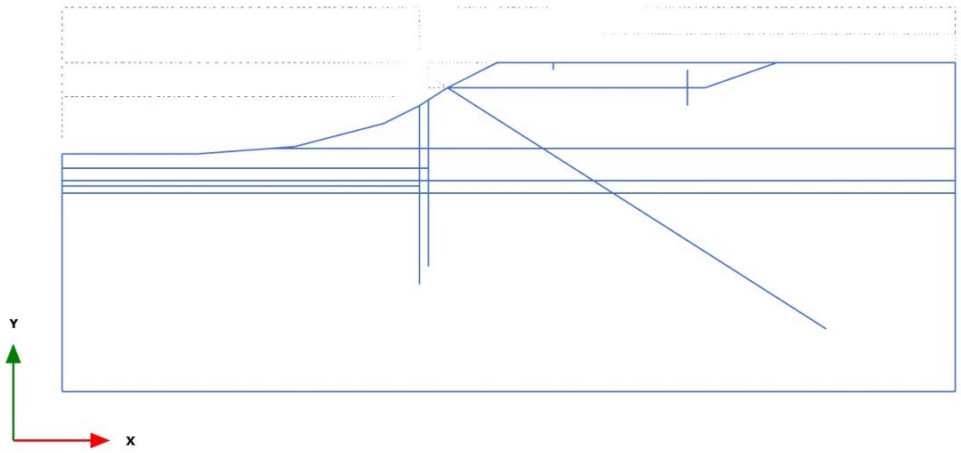
3.1.1.3.2 Calculation results, Embedded beam, 8. Ontgraven en steunberm [Phase_8] (8/197), Skin friction T_{skin}



Skin friction T_{skin} (scaled up 1.00 times) per structural element

No results

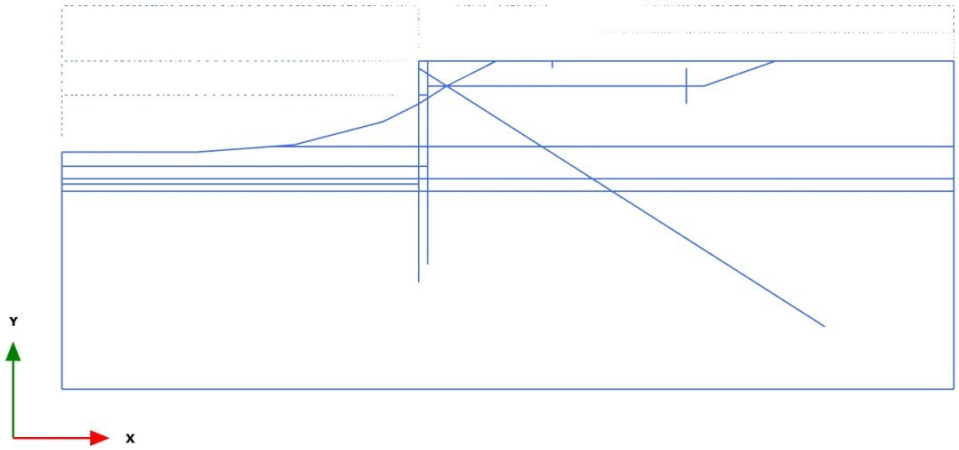
3.1.1.3.3 Calculation results, Embedded beam, 9. Installeren nieuwe damwand [Phase_9] (9/202), Skin friction T_{skin}



Skin friction T_{skin} (scaled up 1.00 times) per structural element

No results

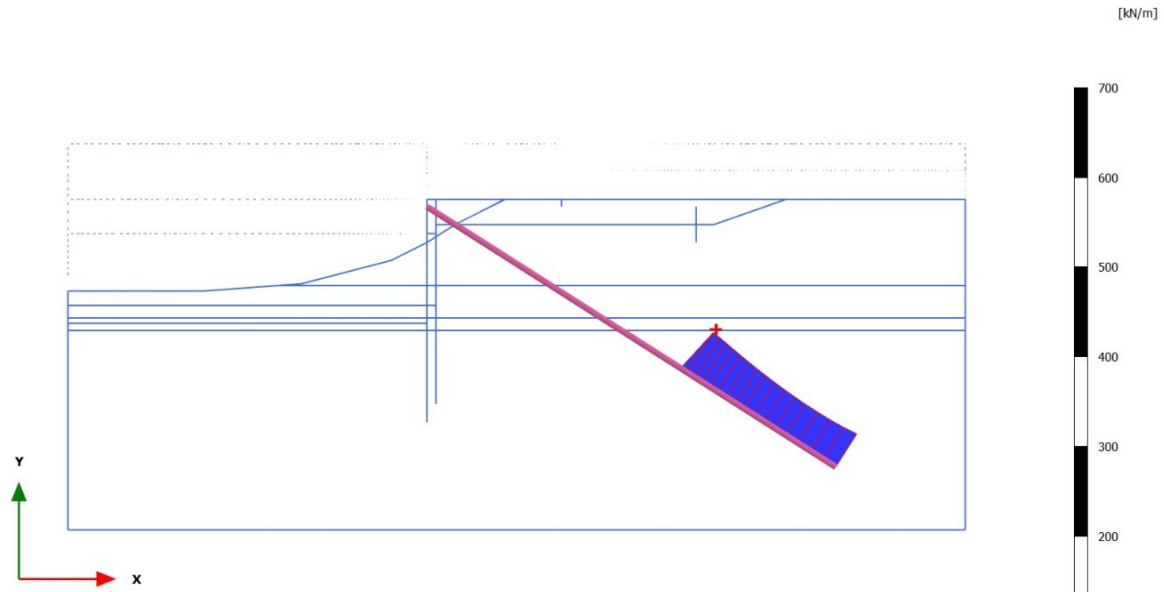
3.1.1.3.4 Calculation results, Embedded beam, 10. Aanvullen ter installatei ankers [Phase_10] (10/206), Skin friction T_{skin}



Skin friction T_{skin} (scaled up 1.00 times) per structural element

No results

3.1.1.3.5 Calculation results, Embedded beam, 11. Installeren ankers [Phase_11] (11/211), Skin friction T_{skin}

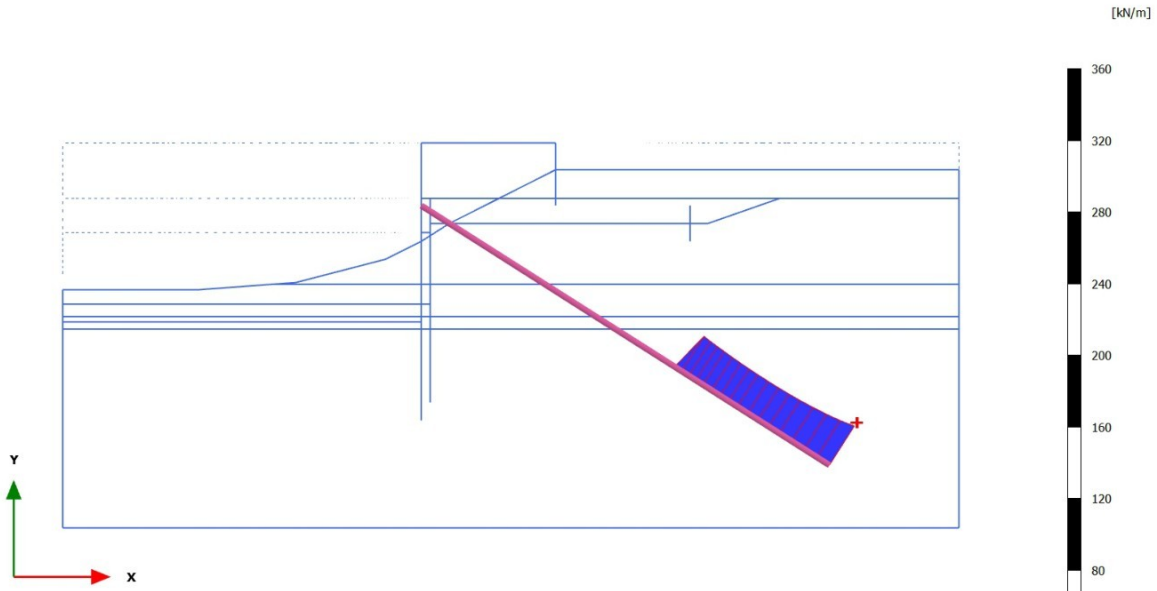


Skin friction T_{skin} (scaled up 0.0500 times) per structural element

Maximum value = 53.11 kN/m (Element 15 at Node 16643)

Minimum value = 0.000 kN/m (Element 1 at Node 16585)

3.1.1.3.6 Calculation results, Embedded beam, 12. Aanvullen tot maaiveld [Phase_12] (12/235), Skin friction T_{skin}

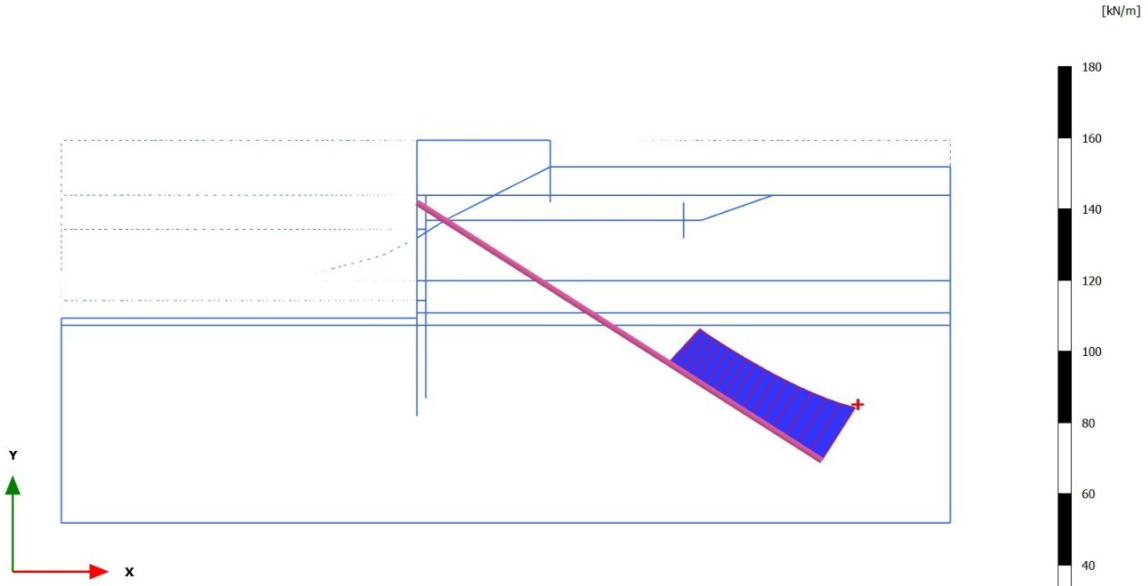


Skin friction T_{skin} (scaled up 0.100 times) per structural element

Maximum value = 25.89 kN/m (Element 18 at Node 16658)

Minimum value = 0.000 kN/m (Element 1 at Node 16585)

3.1.1.3.7 Calculation results, Embedded beam, 13. Uitbaggeren en bodembescherming [Phase_13] (13/242), Skin friction T_{skin}

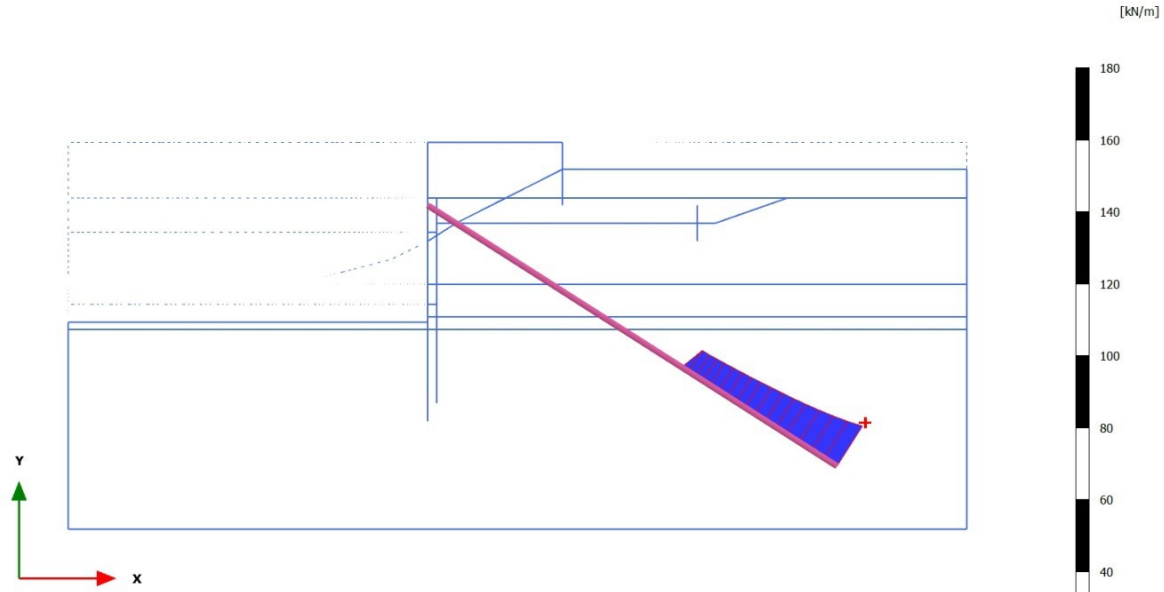


Skin friction T_{skin} (scaled up 0.200 times) per structural element

Maximum value = 17.67 kN/m (Element 18 at Node 16658)

Minimum value = 0.000 kN/m (Element 1 at Node 16585)

3.1.1.3.8 Calculation results, Embedded beam, 14. Waterpeilverschil [Phase_14] (14/245), Skin friction T_{skin}

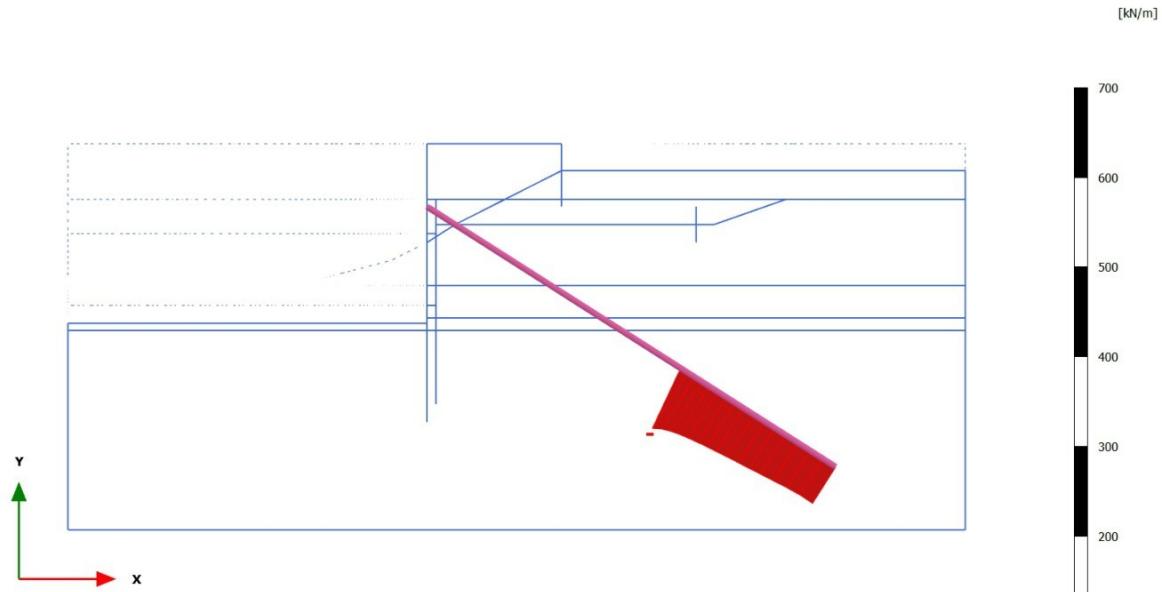


Skin friction T_{skin} (scaled up 0.200 times) per structural element

Maximum value = 13.20 kN/m (Element 18 at Node 16658)

Minimum value = 0.000 kN/m (Element 1 at Node 16585)

3.1.1.3.9 Calculation results, Embedded beam, 15.H: Terreinbelasting [Phase_15] (15/284), Skin friction T_{skin}

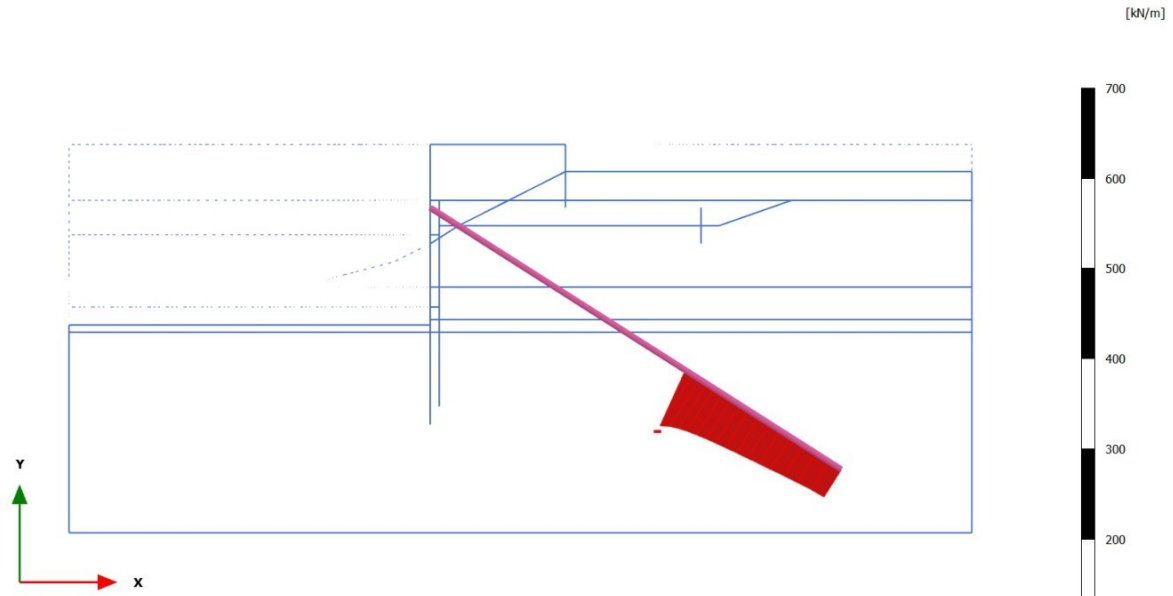


Skin friction T_{skin} (scaled up 0.0500 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 16585)

Minimum value = -73.59 kN/m (Element 15 at Node 16643)

3.1.1.3.10 Calculation results, Embedded beam, 16. Val ELW [Phase_16] (16/312), Skin friction T_{skin}

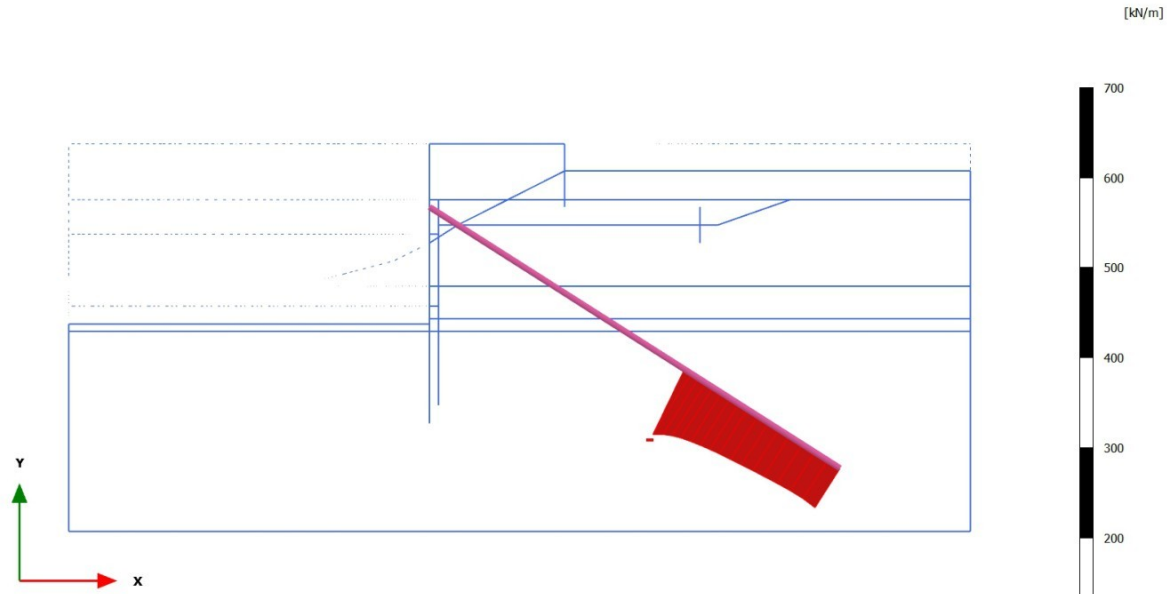


Skin friction T_{skin} (scaled up 0.0500 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 16585)

Minimum value = -66.92 kN/m (Element 15 at Node 16643)

3.1.1.3.11 Calculation results, Embedded beam, 17. Val na MHW [Phase_17] (17/340), Skin friction T_{skin}

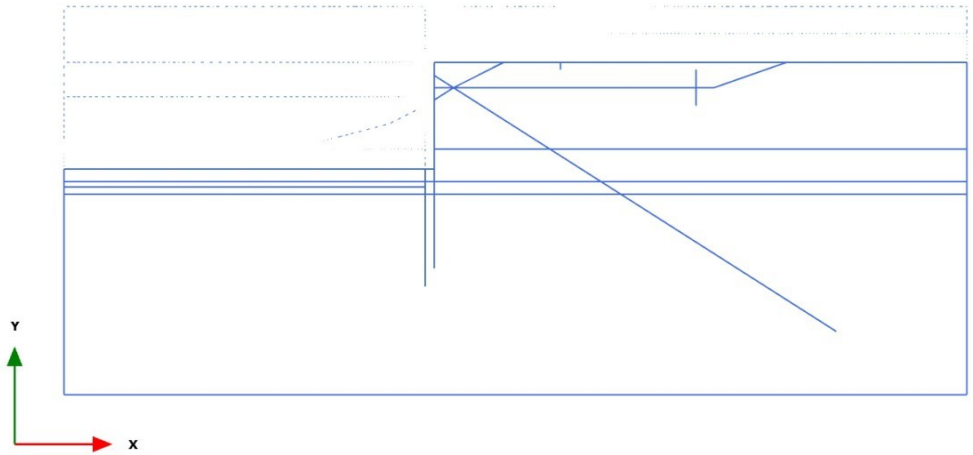


Skin friction T_{skin} (scaled up 0.0500 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 16585)

Minimum value = -80.00 kN/m (Element 15 at Node 16643)

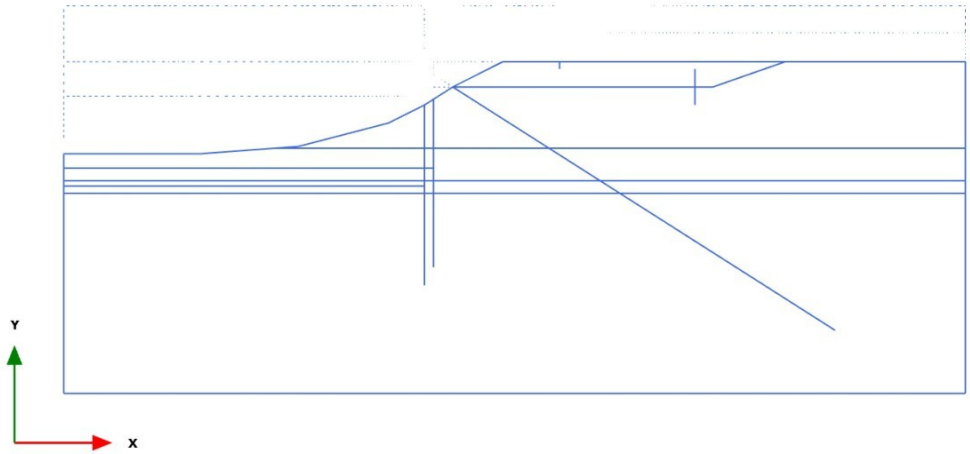
3.1.1.4.1 Calculation results, Embedded beam, 7. Bestaande toestand [Phase_7] (7/154), Axial forces N



Axial forces N (scaled up 1.00 times) per structural element

No results

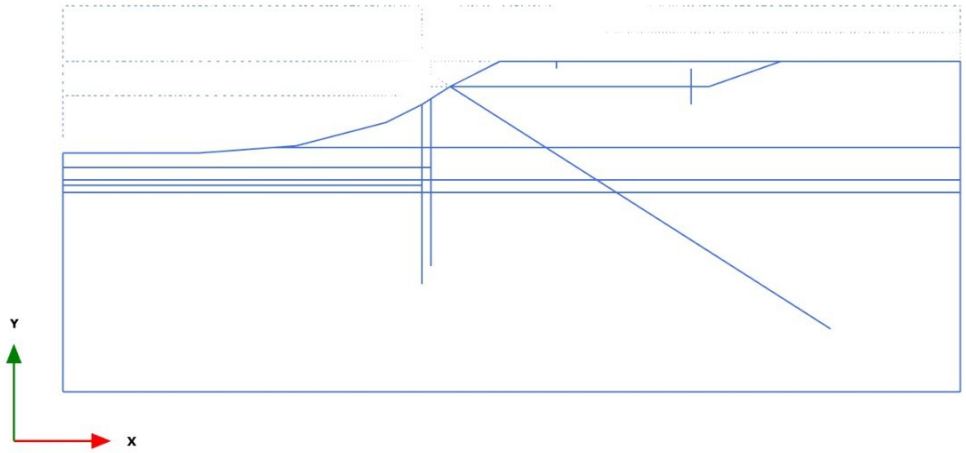
3.1.1.4.2 Calculation results, Embedded beam, 8. Ontgraven en steunberm [Phase_8] (8/197), Axial forces N



Axial forces N (scaled up 1.00 times) per structural element

No results

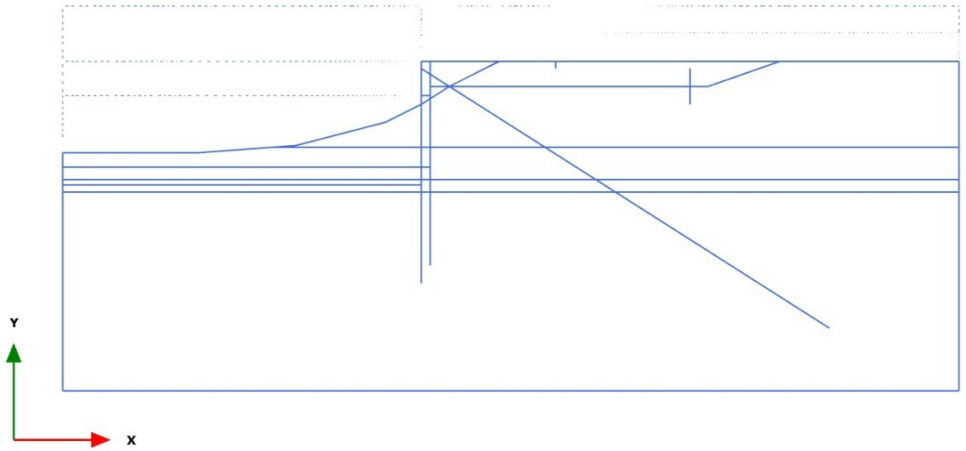
3.1.1.4.3 Calculation results, Embedded beam, 9. Installeren nieuwe damwand [Phase_9] (9/202), Axial forces N



Axial forces N (scaled up 1.00 times) per structural element

No results

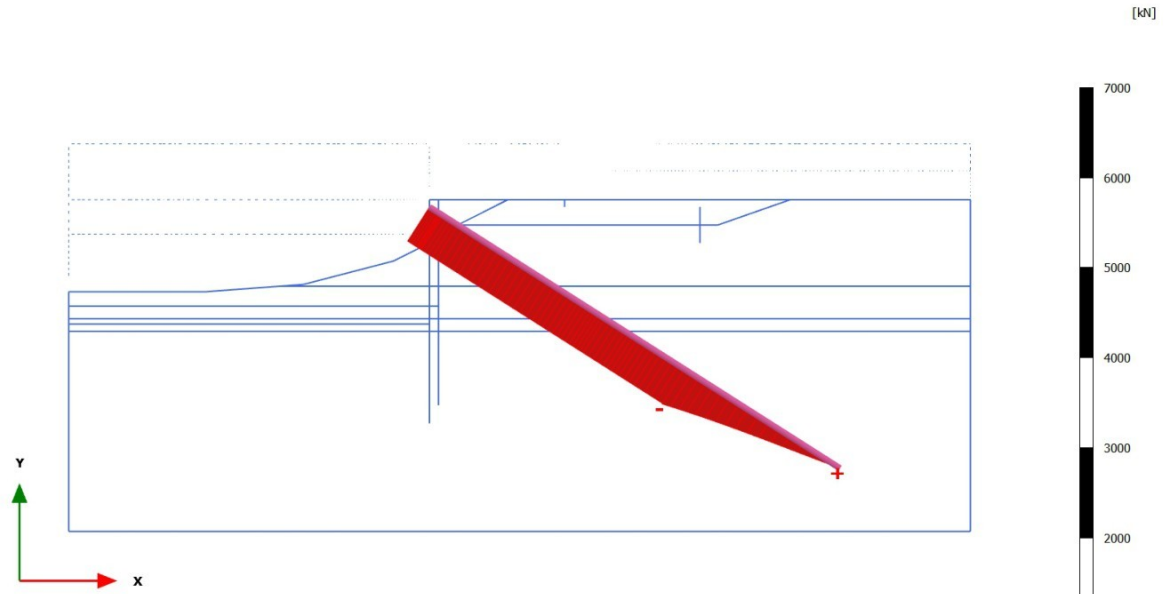
3.1.1.4.4 Calculation results, Embedded beam, 10. Aanvullen ter installatei ankers [Phase_10] (10/206), Axial forces N



Axial forces N (scaled up 1.00 times) per structural element

No results

3.1.1.4.5 Calculation results, Embedded beam, 11. Installeren ankers [Phase_11] (11/211), Axial forces N

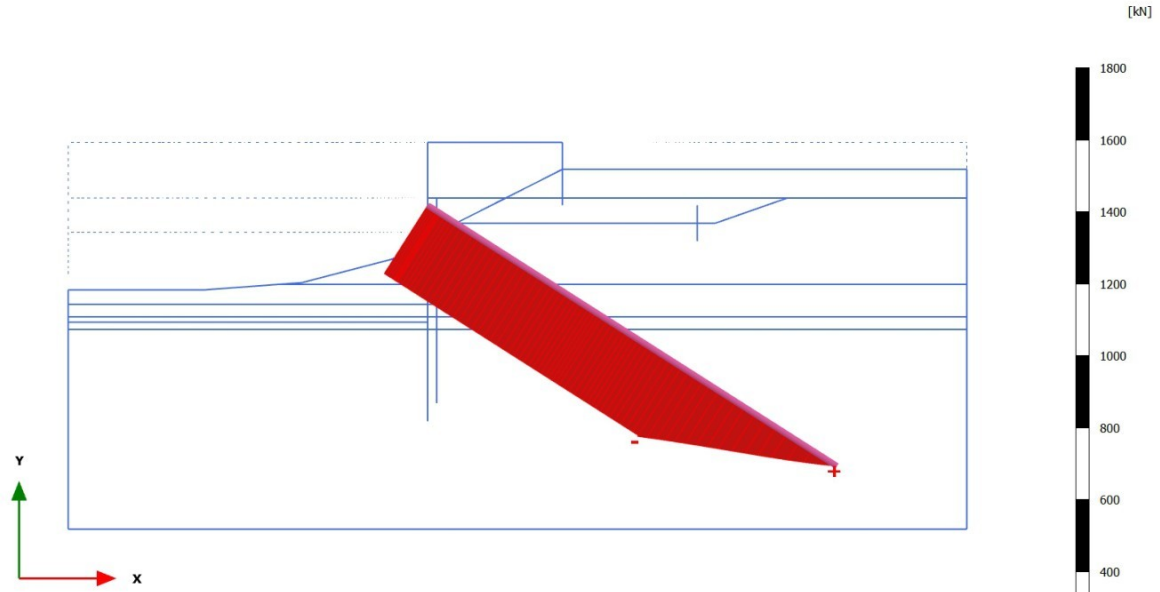


Axial forces N (scaled up 5.00*10^{-3} times) per structural element

Maximum value = -0.2785 kN (Element 18 at Node 16658)

Minimum value = -457.7 kN (Element 15 at Node 16642)

3.1.1.4.6 Calculation results, Embedded beam, 12. Aanvullen tot maaiveld [Phase_12] (12/235), Axial forces N

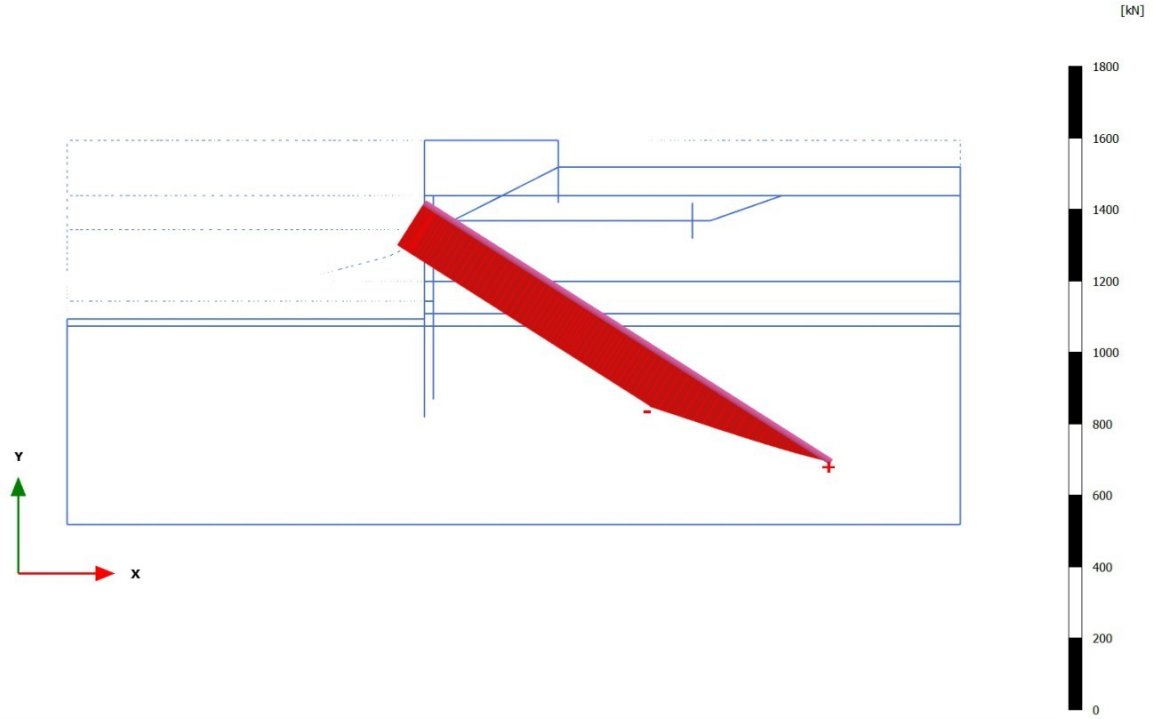


Axial forces N (scaled up 0.0200 times) per structural element

Maximum value = -0.1573 kN (Element 18 at Node 16658)

Minimum value = -228.3 kN (Element 15 at Node 16642)

3.1.1.4.7 Calculation results, Embedded beam, 13. Uitbaggeren en bodembescherming [Phase_13] (13/242), Axial forces N

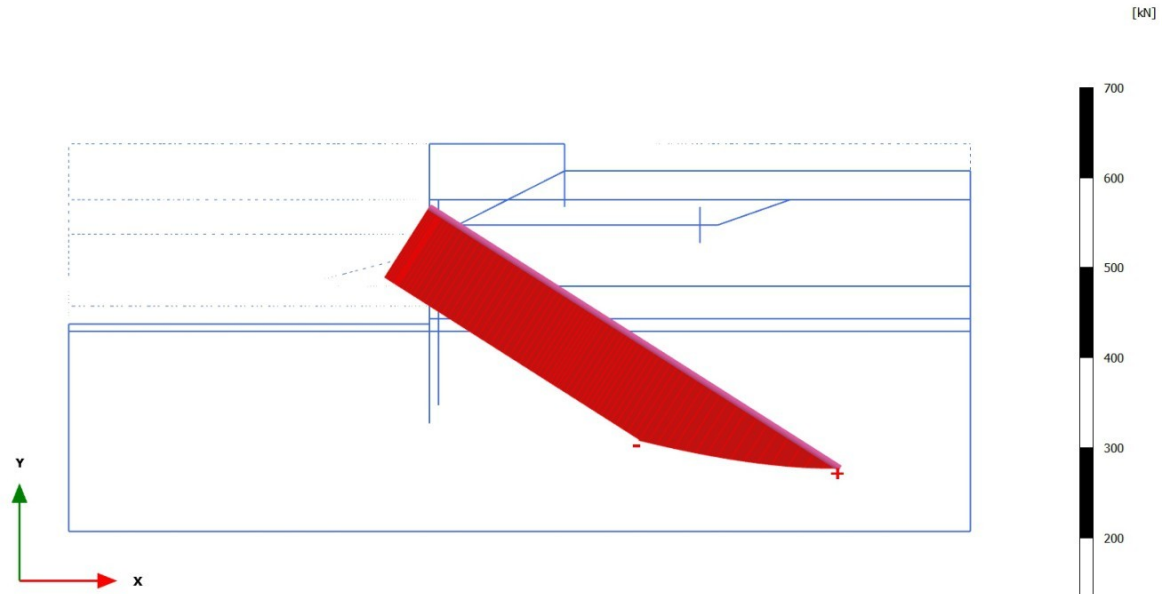


Axial forces N (scaled up 0.0200 times) per structural element

Maximum value = -0.1031 kN (Element 18 at Node 16658)

Minimum value = -141.7 kN (Element 15 at Node 16642)

3.1.1.4.8 Calculation results, Embedded beam, 14. Waterpeilverschil [Phase_14] (14/245), Axial forces N

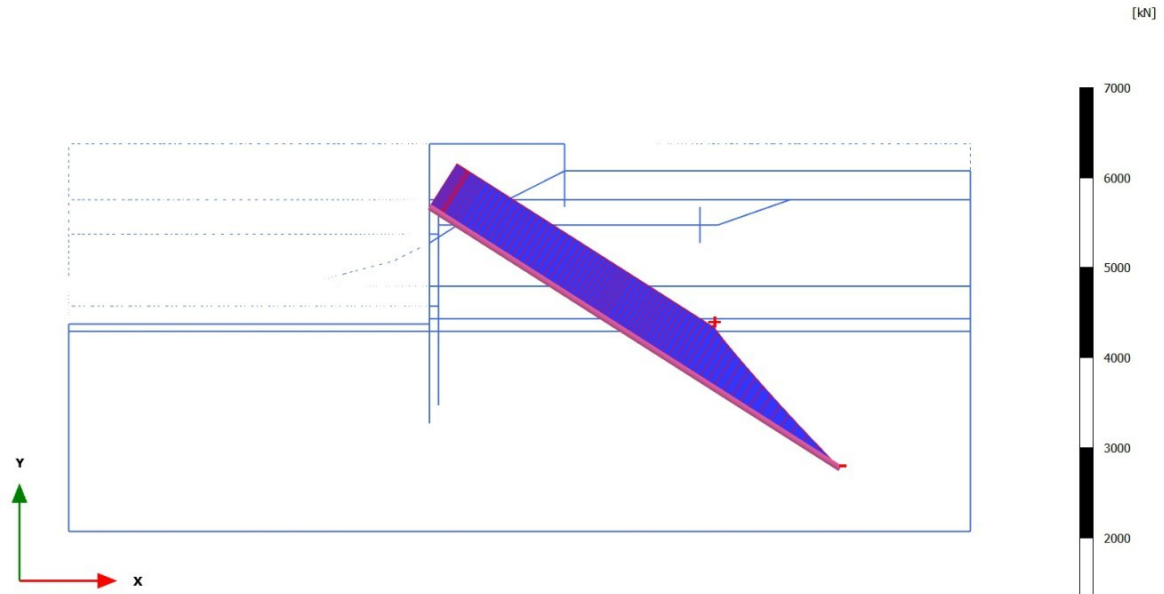


Axial forces N (scaled up 0.0500 times) per structural element

Maximum value = -0.07379 kN (Element 18 at Node 16658)

Minimum value = -93.67 kN (Element 15 at Node 16642)

3.1.1.4.9 Calculation results, Embedded beam, 15.H: Terreinbelasting [Phase_15] (15/284), Axial forces N

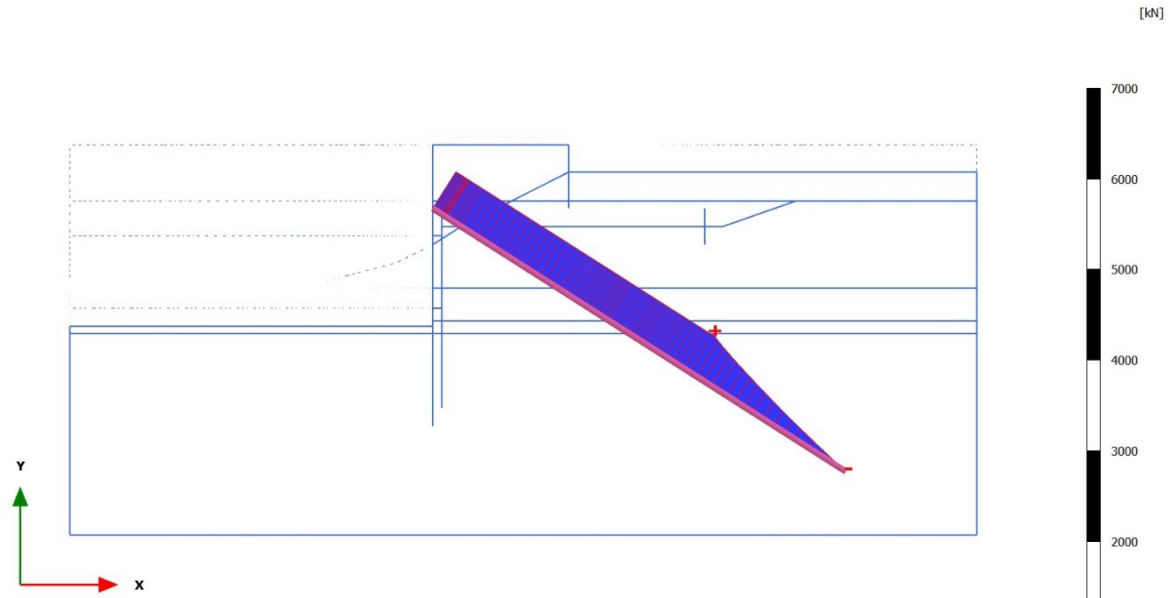


Axial forces N (scaled up 5.00*10^{-3} times) per structural element

Maximum value = 580.3 kN (Element 15 at Node 16642)

Minimum value = 0.3916 kN (Element 18 at Node 16658)

3.1.1.4.10 Calculation results, Embedded beam, 16. Val ELW [Phase_16] (16/312), Axial forces N

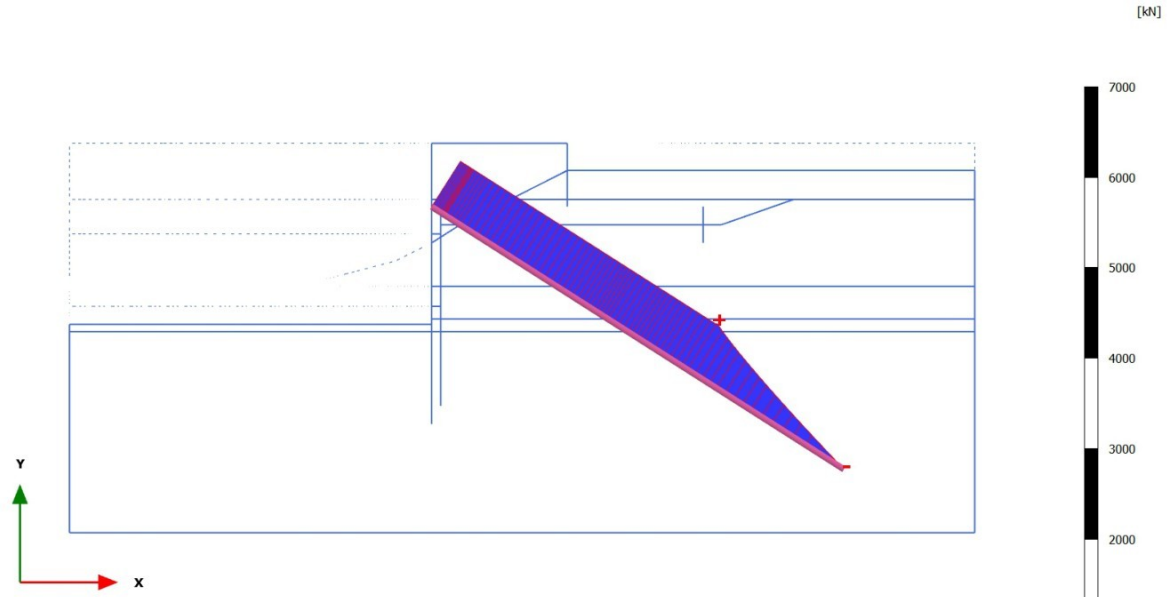


Axial forces N (scaled up 5.00*10^{-3} times) per structural element

Maximum value = 488.9 kN (Element 15 at Node 16642)

Minimum value = 0.2688 kN (Element 18 at Node 16658)

3.1.1.4.11 Calculation results, Embedded beam, 17. Val na MHW [Phase_17] (17/340), Axial forces N



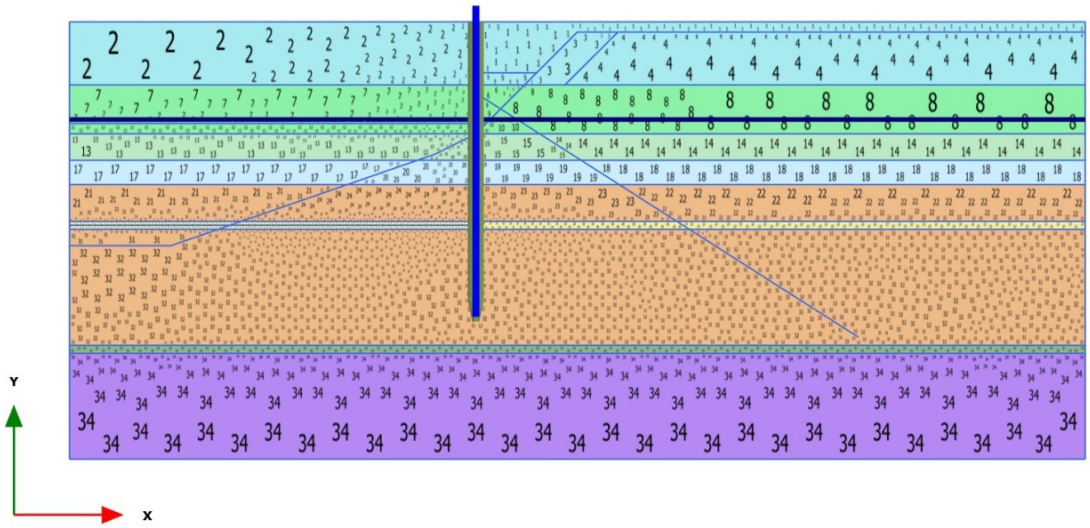
Axial forces N (scaled up $5.00*10^{-3}$ times) per structural element

Maximum value = 606.6 kN (Element 15 at Node 16642)

Minimum value = 0.4996 kN (Element 18 at Node 16658)

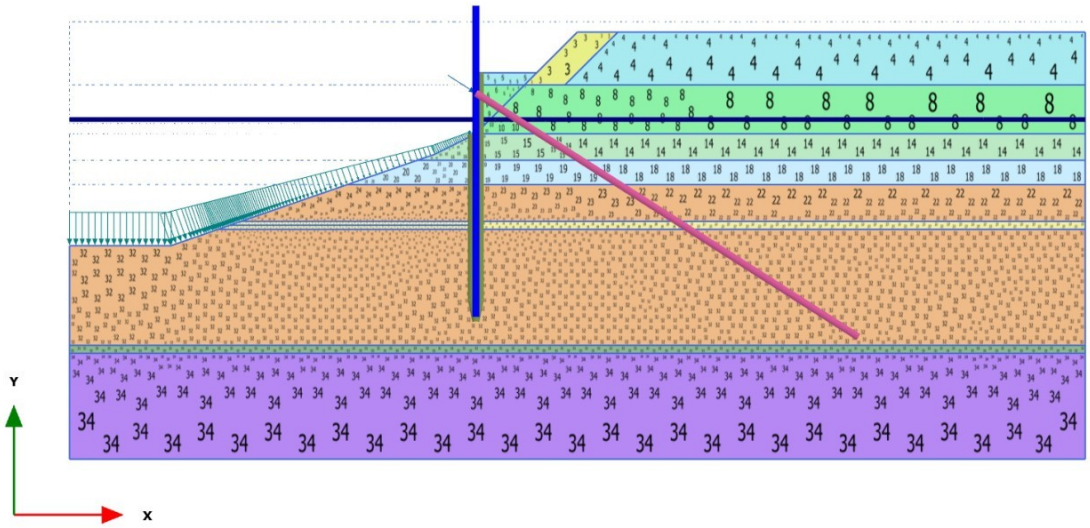
PLAXIS Report

1.1.1.1 Calculation results, 1. Inbrengen damwand [Phase_1] (1/4), Connectivity plot



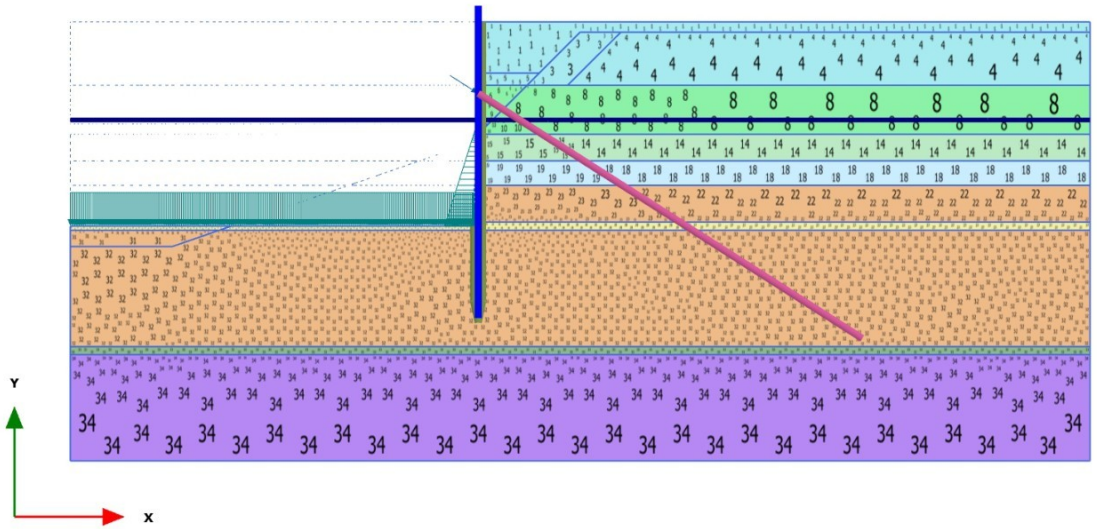
Connectivity plot

1.1.1.2 Calculation results, 4. Aanbrengen anker [Phase_4] (4/8), Connectivity plot



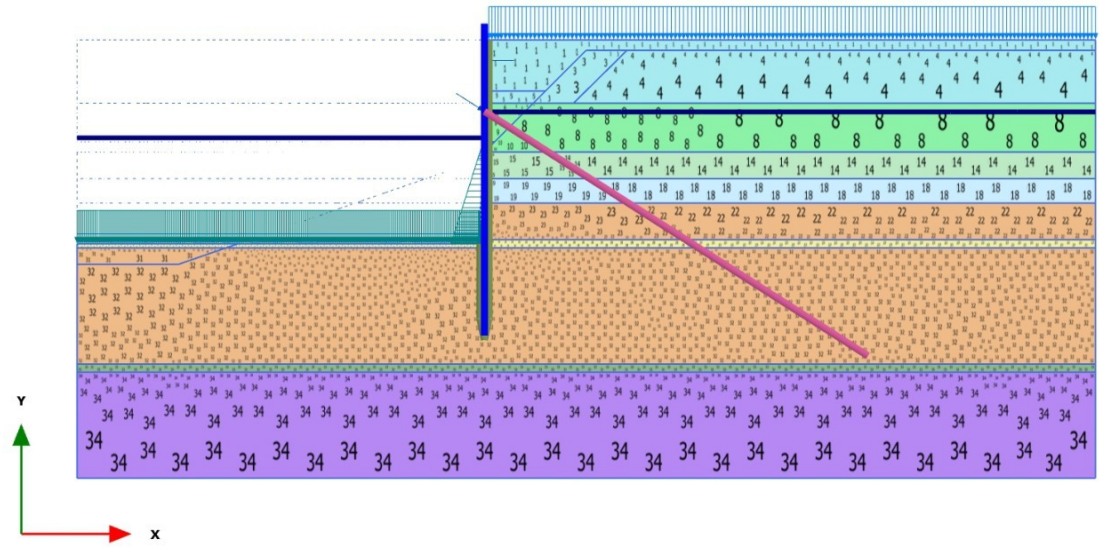
Connectivity plot

1.1.1.3 Calculation results, 6. Ontgraven [Phase_6] (6/31), Connectivity plot



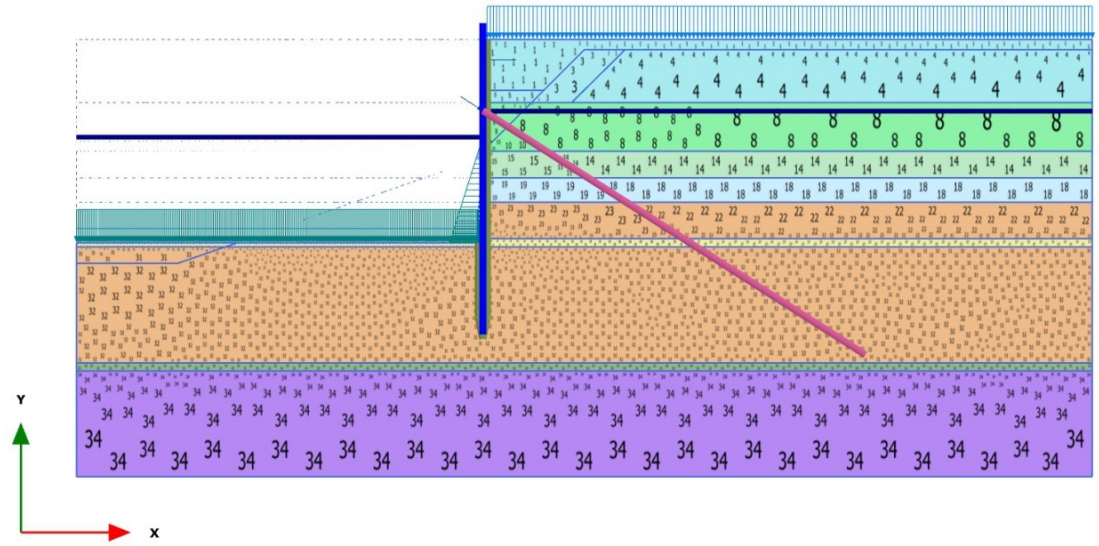
Connectivity plot

1.1.1.4 Calculation results, 7. H: TB N: haalpen [Phase_7] (7/55), Connectivity plot



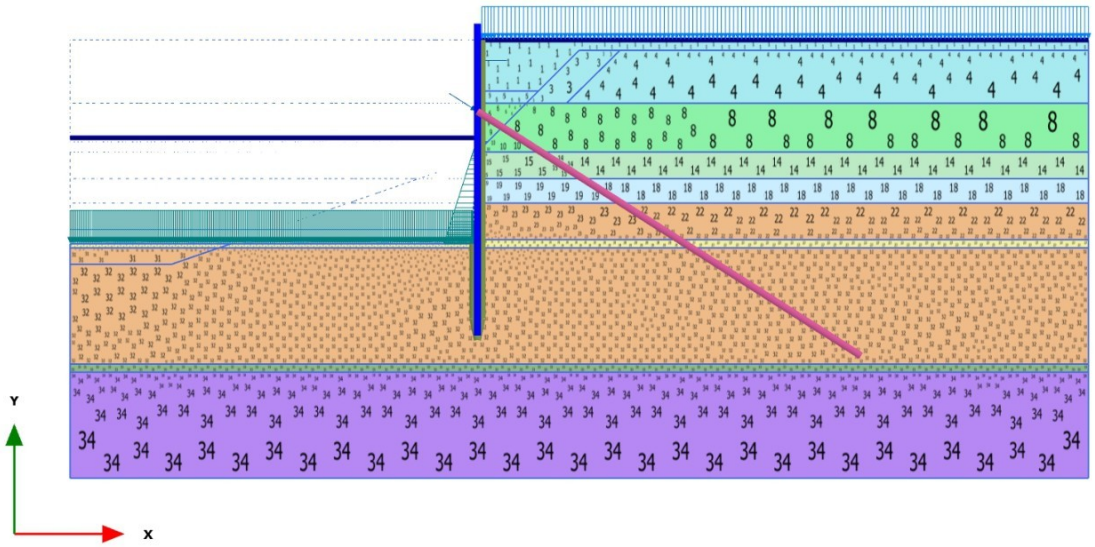
Connectivity plot

1.1.1.5 Calculation results, 8: H: haalpen, N: TB [Phase_10] (10/77), Connectivity plot



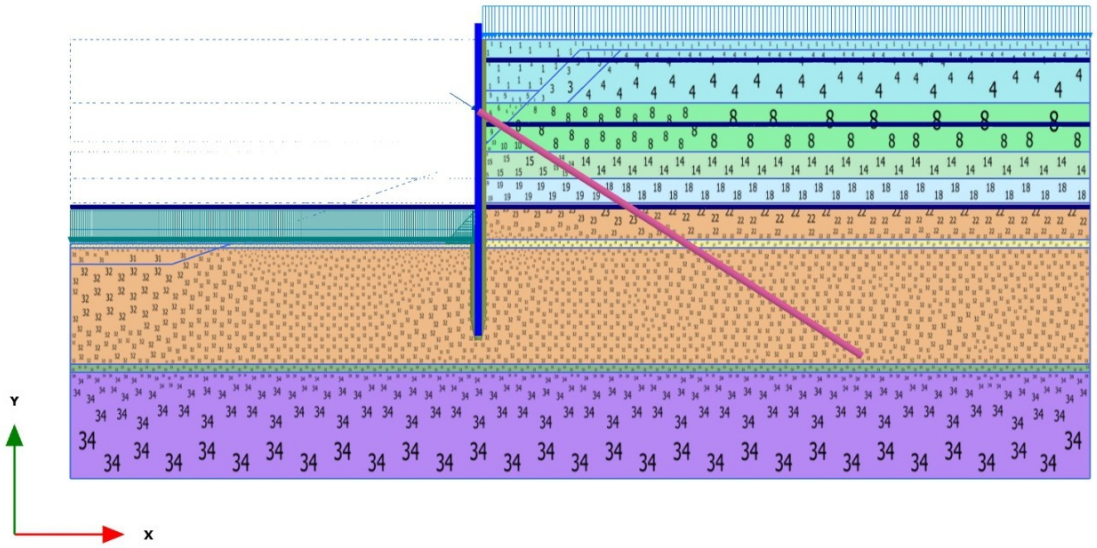
Connectivity plot

1.1.1.6 Calculation results, 10: Val na MHW [Phase_8] (8/103), Connectivity plot



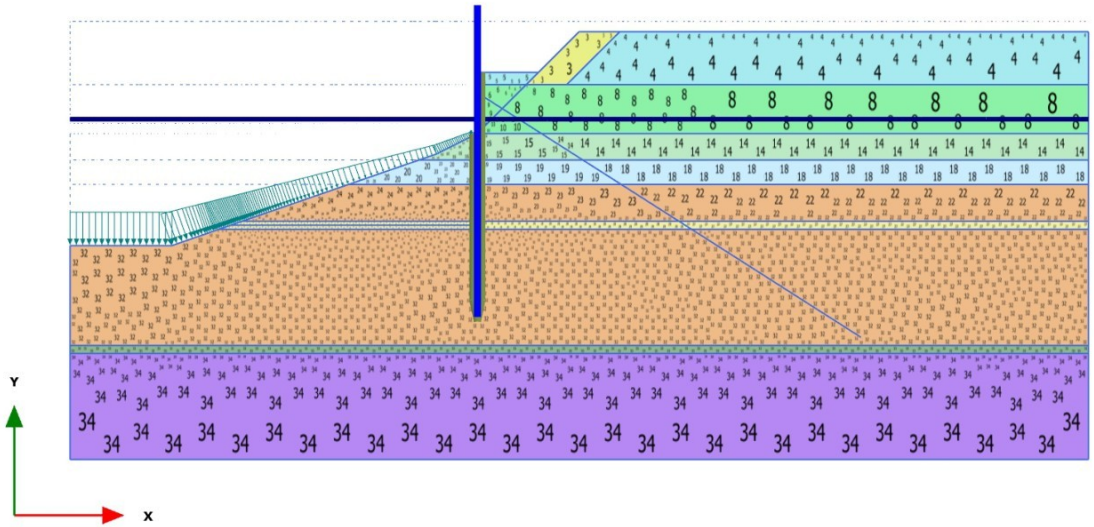
Connectivity plot

1.1.1.7 Calculation results, 9: Val ELW [Phase_12] (12/149), Connectivity plot



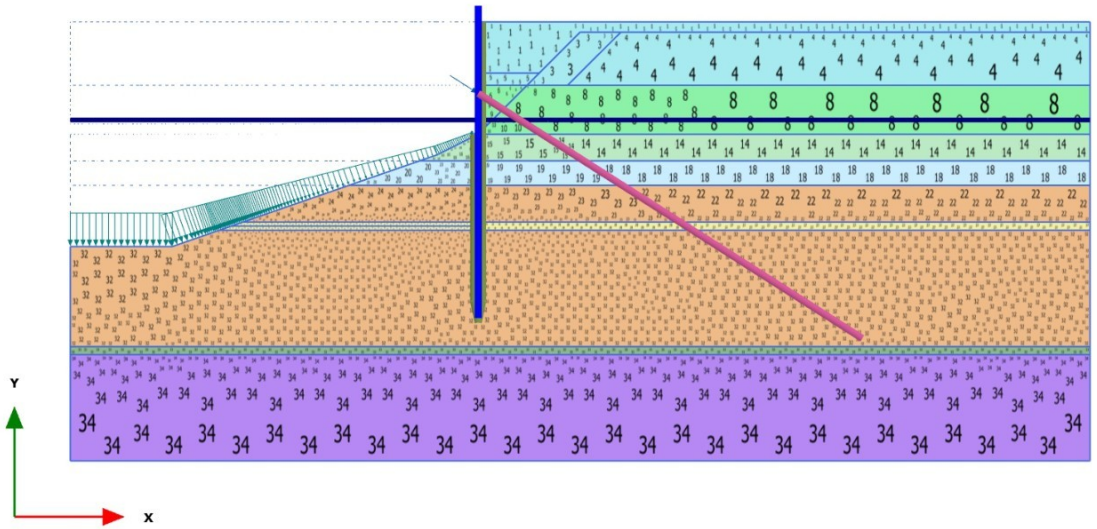
Connectivity plot

1.1.1.8 Calculation results, 3. 1e aanvulling [Phase_3] (3/217), Connectivity plot



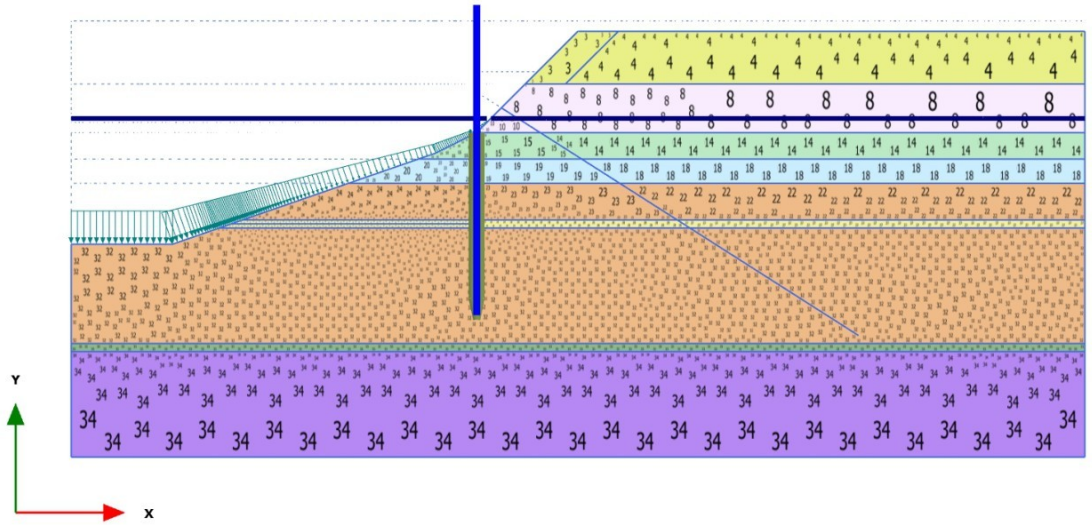
Connectivity plot

1.1.1.9 Calculation results, 5. Aanvullen [Phase_5] (5/243), Connectivity plot



Connectivity plot

1.1.1.10 Calculation results, 2.Bestaande toestand [Phase_2] (2/304), Connectivity plot



Connectivity plot

1.1.2.1.1.1 Materials - Soil and interfaces - Hardening Soil (1/3)

Identification number		1	2	3	4	5
Identification		2A. Zand, los gepakt	1C. Klei, zwak zandig, SLAP	2E. Zand, sterk siltig/kleiig	2B. Zand, schoon, matig	2D. Zand, zwak siltig
Soil model		Hardening Soil	Hardening Soil	Hardening Soil	Hardening Soil	Hardening Soil
Drainage type		Drained	Drained	Drained	Drained	Drained
Colour						
Comments						
γ_unsat	kN/m³	17.00	15.00	18.00	18.00	18.00
γ_sat	kN/m³	19.00	15.00	20.00	20.00	20.00
e_init		0.5000	0.5000	0.5000	0.5000	0.5000
n_init		0.3333	0.3333	0.3333	0.3333	0.3333
E_50^ref	kN/m²	15.00E3	2000	15.00E3	45.00E3	35.00E3
E_oed^ref	kN/m²	15.00E3	2000	15.00E3	45.00E3	35.00E3
E_ur^ref	kN/m²	45.00E3	6000	45.00E3	135.0E3	105.0E3
v_ur		0.2000	0.2000	0.2000	0.2000	0.2000
Use alternatives		False	False	False	False	False
C_c		0.02303	0.1727	0.02303	7.675E-3	9.868E-3
C_s		0.01382	0.08392	0.01196	4.976E-3	5.422E-3
e_init		0.5000	0.5000	0.5000	0.5000	0.5000
power (m)		0.5000	1.000	0.5000	0.5000	0.5000
p_ref	kN/m²	100.0	100.0	100.0	100.0	100.0
c'_ref	kN/m²	0.000	0.000	0.000	0.000	0.000
φ' (phi)	°	30.00	22.50	25.00	32.50	27.00

Identification number		1	2	3	4	5
ψ (psi)	°	0.000	0.000	0.000	0.000	0.000
c'_inc	kN/m²/m	0.000	0.000	0.000	0.000	0.000
y_ref	m	0.000	0.000	0.000	0.000	0.000
Dilatancy cut-off		False	False	False	False	False
e_min		1.000E-9	1.000E-9	1.000E-9	1.000E-9	1.000E-9
e_max		999.0	999.0	999.0	999.0	999.0
Tension cut-off		True	True	True	True	True
Tensile strength	kN/m²	0.000	0.000	0.000	0.000	0.000
Use defaults		True	True	True	True	True
K_0^nc		0.5000	0.6173	0.5774	0.4627	0.5460
R_f		0.9000	0.9000	0.9000	0.9000	0.9000
Determination		v-undrained definition	v-undrained definition	v-undrained definition	v-undrained definition	v-undrained definition
v_u definition method		Direct	Direct	Direct	Direct	Direct
v_u,equivalent (nu)		0.4950	0.4950	0.4950	0.4950	0.4950
Skempton B		0.9866	0.9866	0.9866	0.9866	0.9866
K_w,ref/n	kN/m²	1.844E6	245.8E3	1.844E6	5.531E6	4.302E6
Classification type		Standard	Standard	Standard	Standard	Standard
Soil class (Standard)		Coarse	Coarse	Coarse	Coarse	Coarse
< 2 µm	%	10.00	10.00	10.00	10.00	10.00
2 µm - 50 µm	%	13.00	13.00	13.00	13.00	13.00
50 µm - 2 mm	%	77.00	77.00	77.00	77.00	77.00
Use defaults		False	False	False	False	False
k_x	m/day	0.000	0.000	0.000	0.000	0.000
k_y	m/day	0.000	0.000	0.000	0.000	0.000
Void ratio dependency		False	False	False	False	False

Identification number		1	2	3	4	5
c_k		1000E12	1000E12	1000E12	1000E12	1000E12
n_init		0.3333	0.3333	0.3333	0.3333	0.3333
-ψ_unsat	m	10.00E3	10.00E3	10.00E3	10.00E3	10.00E3
c_s	kJ/t/K	0.000	0.000	0.000	0.000	0.000
λ_s	kW/m/K	0.000	0.000	0.000	0.000	0.000
ρ_s	t/m³	2.600	2.600	2.600	2.600	2.600
Thermal expansion type		Isotropic	Isotropic	Isotropic	Isotropic	Isotropic
α_sv	1/K	0.000	0.000	0.000	0.000	0.000
Phase change		False	False	False	False	False
D_v	m²/day	0.000	0.000	0.000	0.000	0.000
f_Tv		0.000	0.000	0.000	0.000	0.000
Stiffness determination		Derived	Derived	Derived	Derived	Derived
Strength determination		Manual	Manual	Manual	Manual	Manual
R_inter		0.9000	0.9000	0.9000	0.9000	0.9000
Consider gap closure		True	True	True	True	True
δ_inter	m	0.000	0.000	0.000	0.000	0.000
Cross permeability		Impermeable	Impermeable	Impermeable	Impermeable	Impermeable
Drainage conductivity, dk	m³/day/m	0.000	0.000	0.000	0.000	0.000
R_thermal	m² K/kW	0.000	0.000	0.000	0.000	0.000
K_0 determination		Automatic	Automatic	Automatic	Automatic	Automatic
K_0,x		0.5000	0.6173	0.5774	0.4627	0.5460
K_0,z		0.5000	0.6173	0.5774	0.4627	0.5460
POP	kN/m²	0.000	0.000	0.000	0.000	0.000
OCR		1.000	1.000	1.000	1.000	1.000

1.1.2.1.1.2 Materials - Soil and interfaces - Hardening Soil (2/3)

Identification number		6	7	8	9	10
Identification		3A. Grind, vast	test	1C. Klei, zwak zandig, SLAP-coh	1B - Klei, schoon, matig	3B - Grind, zs, vast
Soil model		Hardening Soil	Hardening Soil	Hardening Soil	Hardening Soil	Hardening Soil
Drainage type		Drained	Drained	Drained	Drained	Drained
Colour						
Comments						
γ_unsat	kN/m³	18.00	17.00	15.00	17.00	19.00
γ_sat	kN/m³	20.00	19.00	15.00	17.00	21.00
e_init		0.5000	0.5000	0.5000	0.5000	0.5000
n_init		0.3333	0.3333	0.3333	0.3333	0.3333
E_50^ref	kN/m²	75.00E3	30.00E3	1500	2000	90.00E3
E_oed^ref	kN/m²	75.00E3	30.00E3	1500	2112	90.00E3
E_ur^ref	kN/m²	225.0E3	60.00E3	4500	6000	270.0E3
v_ur		0.2000	0.2000	0.2000	0.2000	0.2000
Use alternatives		False	False	False	False	False
C_c		4.605E-3	0.01151	0.2303	0.1635	3.838E-3
C_s		3.240E-3	0.01036	0.1119	0.07409	2.943E-3
e_init		0.5000	0.5000	0.5000	0.5000	0.5000
power (m)		0.5000	0.5000	1.000	1.000	0.5000
p_ref	kN/m²	100.0	100.0	100.0	100.0	100.0
c'_ref	kN/m²	0.000	0.000	10.00	5.000	0.000

Identification number		6	7	8	9	10
φ' (phi)	°	35.00	30.00	22.50	17.50	37.50
ψ (psi)	°	0.000	0.000	0.000	0.000	0.000
c'_inc	kN/m²/m	0.000	0.000	0.000	0.000	0.000
y_ref	m	0.000	0.000	0.000	0.000	0.000
Dilatancy cut-off		False	False	False	False	False
e_min		1.000E-9	1.000E-9	1.000E-9	1.000E-9	1.000E-9
e_max		999.0	999.0	999.0	999.0	999.0
Tension cut-off		True	True	True	True	True
Tensile strength	kN/m²	0.000	0.000	0.000	0.000	0.000
Use defaults		True	True	True	True	True
K_0^nc		0.4264	0.5000	0.6173	0.6993	0.3912
R_f		0.9000	0.9000	0.9000	0.9000	0.9000
Determination		v-undrained definition	v-undrained definition	v-undrained definition	v-undrained definition	v-undrained definition
v_u definition method		Direct	Direct	Direct	Direct	Direct
v_u,equivalent (nu)		0.4950	0.4950	0.4950	0.4950	0.4950
Skempton B		0.9866	0.9866	0.9866	0.9866	0.9866
K_w,ref/n	kN/m²	9.219E6	2.458E6	184.4E3	245.8E3	11.06E6
Classification type		Standard	Standard	Standard	Standard	Standard
Soil class (Standard)		Coarse	Coarse	Coarse	Coarse	Coarse
< 2 µm	%	10.00	10.00	10.00	10.00	10.00
2 µm - 50 µm	%	13.00	13.00	13.00	13.00	13.00
50 µm - 2 mm	%	77.00	77.00	77.00	77.00	77.00
Use defaults		False	False	False	False	False
k_x	m/day	0.000	0.000	0.000	0.000	0.000

Identification number		**6**	**7**	**8**	**9**	**10**
k_y	m/day	0.000	0.000	0.000	0.000	0.000
Void ratio dependency		False	False	False	False	False
c_k		1000E12	1000E12	1000E12	1000E12	1000E12
n_init		0.3333	0.3333	0.3333	0.3333	0.3333
-ψ_unsat	m	10.00E3	10.00E3	10.00E3	10.00E3	10.00E3
c_s	kJ/t/K	0.000	0.000	0.000	0.000	0.000
λ_s	kW/m/K	0.000	0.000	0.000	0.000	0.000
ρ_s	t/m³	2.600	2.600	2.600	2.600	2.600
Thermal expansion type		Isotropic	Isotropic	Isotropic	Isotropic	Isotropic
α_sv	1/K	0.000	0.000	0.000	0.000	0.000
Phase change		False	False	False	False	False
D_v	m²/day	0.000	0.000	0.000	0.000	0.000
f_Tv		0.000	0.000	0.000	0.000	0.000
Stiffness determination		Derived	Derived	Derived	Derived	Derived
Strength determination		Manual	Rigid	Manual	Manual	Manual
R_inter		0.9000	1.000	0.9000	0.9000	0.9000
Consider gap closure		True	True	True	True	True
δ_inter	m	0.000	0.000	0.000	0.000	0.000
Cross permeability		Impermeable	Impermeable	Impermeable	Impermeable	Impermeable
Drainage conductivity, dk	m³/day/m	0.000	0.000	0.000	0.000	0.000
R_thermal	m² K/kW	0.000	0.000	0.000	0.000	0.000
K_0 determination		Automatic	Automatic	Automatic	Automatic	Automatic
K_0,x		0.4264	0.5000	0.6173	0.6993	0.3912
K_0,z		0.4264	0.5000	0.6173	0.6993	0.3912

Identification number		6	7	8	9	10
POP	kN/m²	0.000	0.000	0.000	0.000	0.000
OCR		1.000	1.000	1.000	1.000	1.000

1.1.2.1.1.3 Materials - Soil and interfaces - Hardening Soil (3/3)

Identification number		**11**
Identification		2A. Zand, los gepakt - COH
Soil model		Hardening Soil
Drainage type		Drained
Colour		
Comments		
γ_unsat	kN/m³	17.00
γ_sat	kN/m³	19.00
e_init		0.5000
n_init		0.3333
E_50^ref	kN/m²	15.00E3
E_oed^ref	kN/m²	15.00E3
E_ur^ref	kN/m²	45.00E3
v_ur		0.2000
Use alternatives		False
C_c		0.02303

Identification number		**11**
C_s		0.01382
e_init		0.5000
power (m)		0.5000
p_ref	kN/m²	100.0
c'_ref	kN/m²	15.00
φ' (phi)	°	30.00
ψ (psi)	°	0.000
c'_inc	kN/m²/m	0.000
y_ref	m	0.000
Dilatancy cut-off		False
e_min		1.000E-9
e_max		999.0
Tension cut-off		True
Tensile strength	kN/m²	0.000
Use defaults		True
K_0^nc		0.5000
R_f		0.9000
Determination		v-undrained definition
v_u definition method		Direct

Identification number		**11**
v_u,equivalent (nu)		0.4950
Skempton B		0.9866
K_w,ref/n	kN/m²	1.844E6
Classification type		Standard
Soil class (Standard)		Coarse
< 2 µm	%	10.00
2 µm - 50 µm	%	13.00
50 µm - 2 mm	%	77.00
Use defaults		False
k_x	m/day	0.000
k_y	m/day	0.000
Void ratio dependency		False
c_k		1000E12
n_init		0.3333
-ψ_unsat	m	10.00E3
c_s	kJ/t/K	0.000
λ_s	kW/m/K	0.000
ρ_s	t/m³	2.600
Thermal expansion type		Isotropic

Identification number		**11**
α_sv	1/K	0.000
Phase change		False
D_v	m²/day	0.000
f_Tv		0.000
Stiffness determination		Derived
Strength determination		Manual
R_inter		0.9000
Consider gap closure		True
δ_inter	m	0.000
Cross permeability		Impermeable
Drainage conductivity, dk	m³/day/m	0.000
R_thermal	m² K/kW	0.000
K_0 determination		Automatic
K_0,x		0.5000
K_0,z		0.5000
POP	kN/m²	0.000
OCR		1.000

1.1.2.2 Materials - Plates

Identification number		**1**	**2**
Identification		AZ-26-700	dummy
Material type		Elastic	Elastic
Colour			
Comments			
w	kN/m/m	1.470	0.000
Prevent punching		False	False
Isotropic		True	True
EA_1	kN/m	3.931E6	100.0E6
EA_2	kN/m	3.931E6	100.0E6
E_1	kN/m²	6.353E6	91.29E6
E_2	kN/m²	6.353E6	91.29E6
EI	kN m²/m	125.4E3	10.00E6
v (nu)		0.000	0.000
d	m	0.6187	1.095
c	kJ/t/K	0.000	0.000
λ	kW/m/K	0.000	0.000

Identification number		1	2
ρ	t/m³	0.000	0.000
α	1/K	0.000	0.000
A_eff,T	m²	0.000	0.000

1.1.2.3 Materials - Anchors

Identification number		**1**
Identification		7T15.2
Material type		Elastic
Colour		
Comments		E = 200 GPa, A = 980 mm2
L_spacing	m	2.520
EA	kN	196.0E3
c	kJ/t/K	0.000
λ	kW/m/K	0.000
ρ	t/m³	0.000
α	1/K	0.000
A_eff,T	m²	0.000

1.1.2.4 Materials - Geogrids

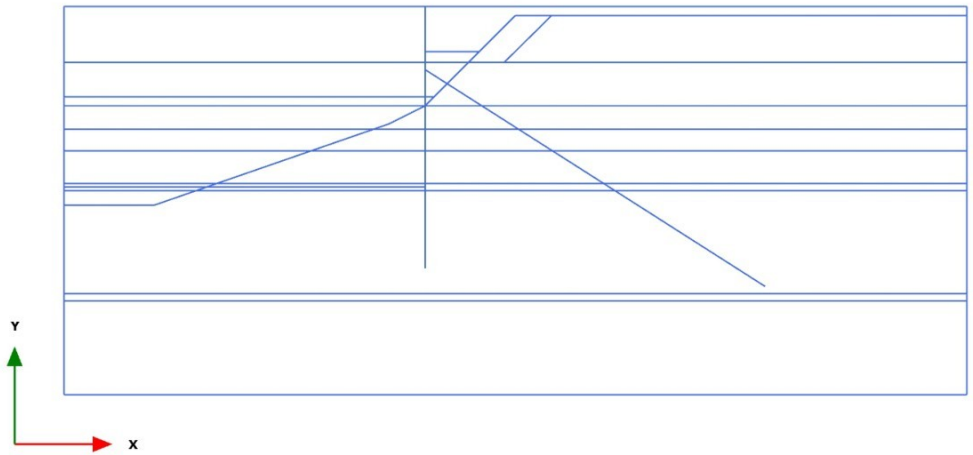
Identification number		**1**
Identification		Groutprop
Material type		Elastic
Colour		
Comments		
Isotropic		True
EA_1	kN/m	77.78E3
EA_2	kN/m	77.78E3
c	kJ/t/K	0.000
λ	kW/m/K	0.000
ρ	t/m³	0.000
α	1/K	0.000
A_eff,T	m²	0.000

1.1.2.5 Materials - Embedded beams

Identification number		1	2	3
Identification		Groutlichaam boven	Groutlichaam onder	SI-anker 101.6x22.2
Material type		Elastic	Elastic	Elastic
Colour				
Comments				
γ	kN/m³	0.000	0.000	0.000
L_spacing	m	2.520	2.520	2.800
Cross section type		Predefined	Predefined	Predefined
Predefined cross section type		Solid circular beam	Solid circular beam	Circular tube
Diameter	m	0.2000	0.2000	0.1016
Thickness	m	0.000	0.000	0.02220
A	m²	0.03142	0.03142	5.538E-3
I	m	0.07854E-3	0.07854E-3	4.705E-6
E	kN/m²	10.00E6	10.00E6	195.0E6
Axial skin resistance		Linear	Linear	Multi-linear
T_skin, start, max	kN/m	149.0	130.0	0.000
T_skin, end, max	kN/m	149.0	130.0	0.000

Identification number		**1**	**2**	**3**
Lateral resistance		Unlimited	Unlimited	Unlimited
F_max	kN	0.000	0.000	0.000
Default values		True	True	True
Axial stiffness factor		0.3738	0.3738	0.2078
Lateral stiffness factor		0.3738	0.3738	0.2078
Base stiffness factor		3.738	3.738	2.078

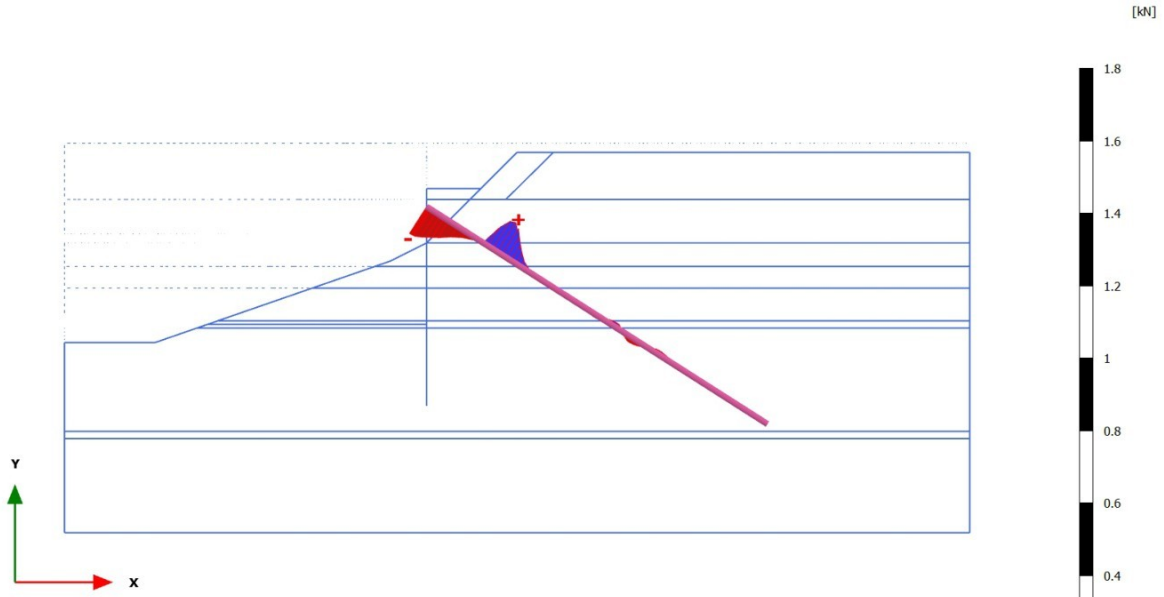
3.1.1.1.1 Calculation results, Embedded beam, 1. Inbrengen damwand [Phase_1] (1/4), Shear forces Q



Shear forces Q (scaled up 1.00 times) per structural element

No results

3.1.1.1.2 Calculation results, Embedded beam, 4. Aanbrengen anker [Phase_4] (4/8), Shear forces Q

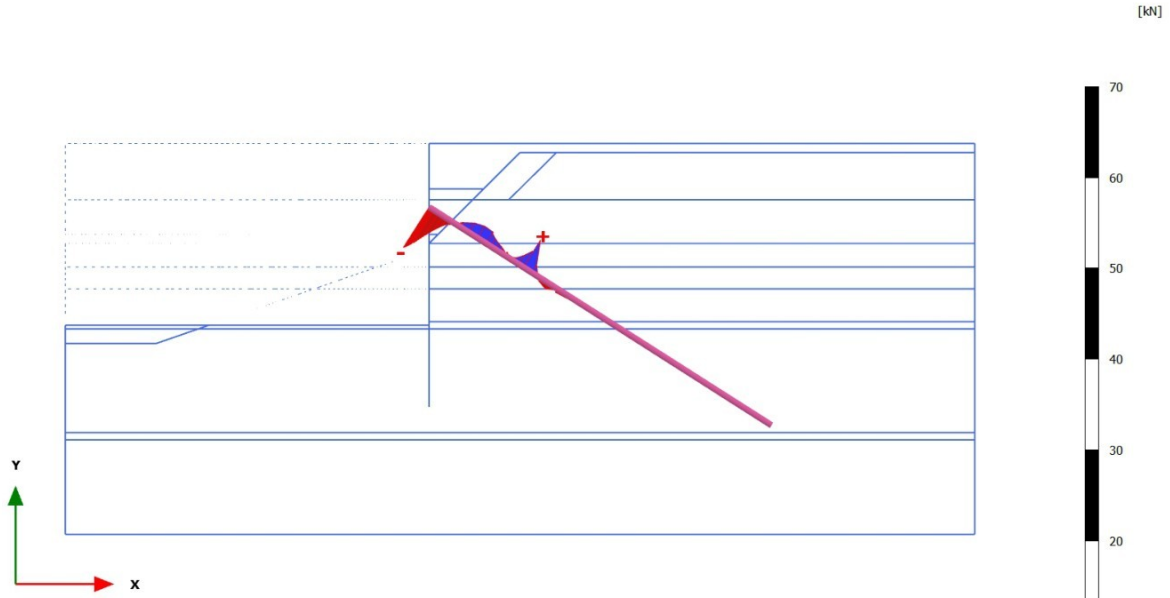


Shear forces Q (scaled up 20.0 times) per structural element

Maximum value = 0.09569 kN (Element 4 at Node 29612)

Minimum value = -0.08737 kN (Element 1 at Node 29598)

3.1.1.1.3 Calculation results, Embedded beam, 6. Ontgraven [Phase_6] (6/31), Shear forces Q

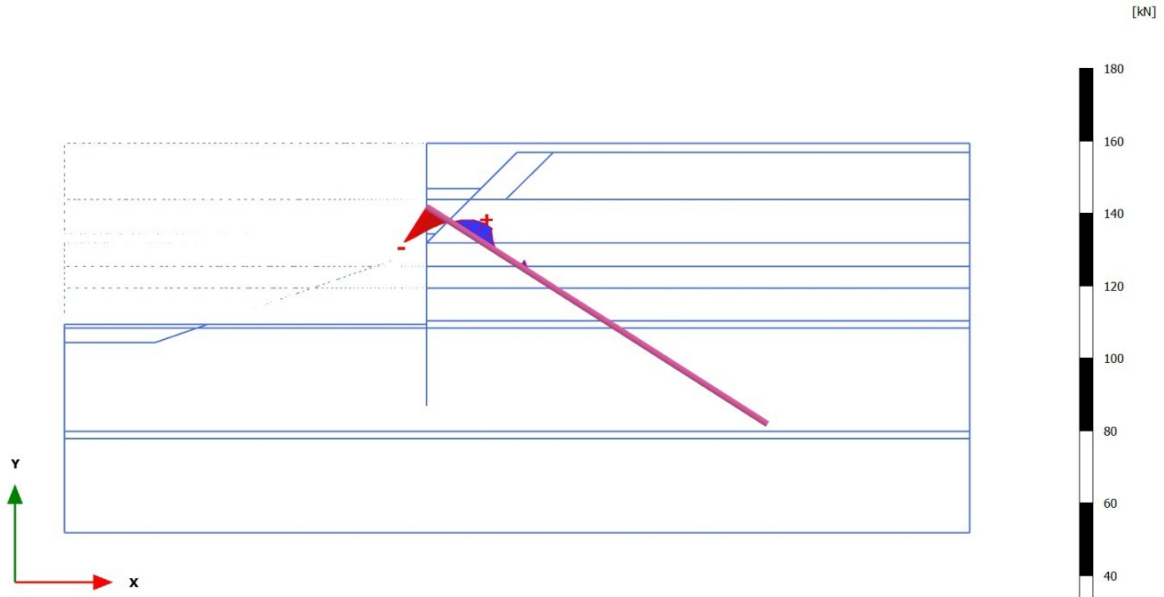


Shear forces Q (scaled up 0.500 times) per structural element

Maximum value = 3.544 kN (Element 6 at Node 29617)

Minimum value = -5.274 kN (Element 1 at Node 29597)

3.1.1.1.4 Calculation results, Embedded beam, 7. H: TB N: haalpen [Phase_7] (7/55), Shear forces Q

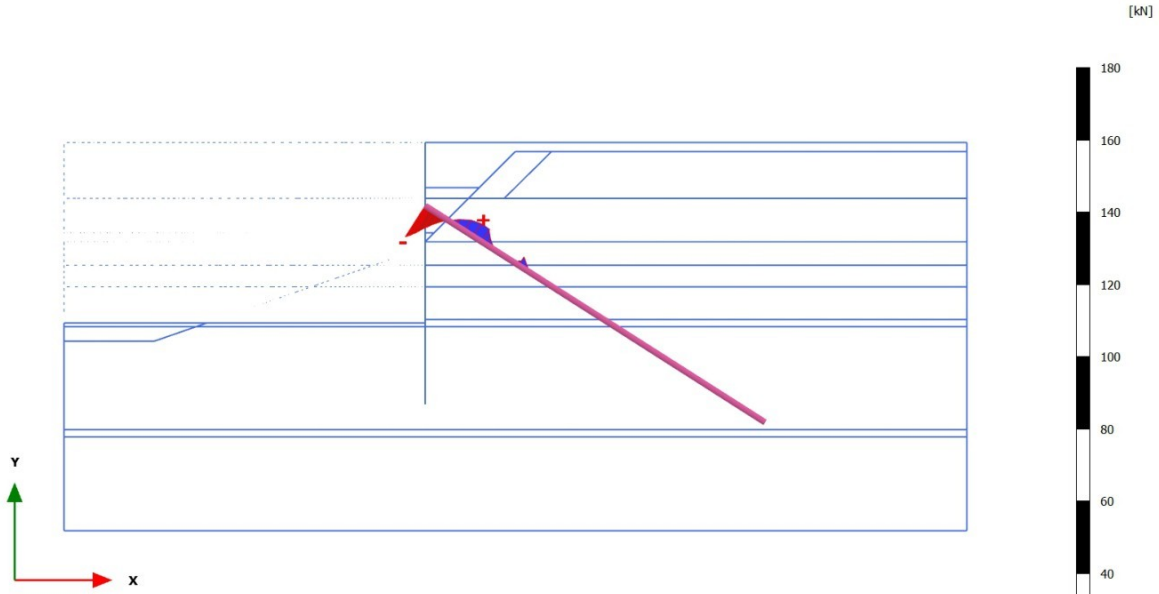


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 4.780 kN (Element 3 at Node 29608)

Minimum value = -11.71 kN (Element 1 at Node 29597)

3.1.1.1.5 Calculation results, Embedded beam, 8: H: haalpen, N: TB [Phase_10] (10/77), Shear forces Q

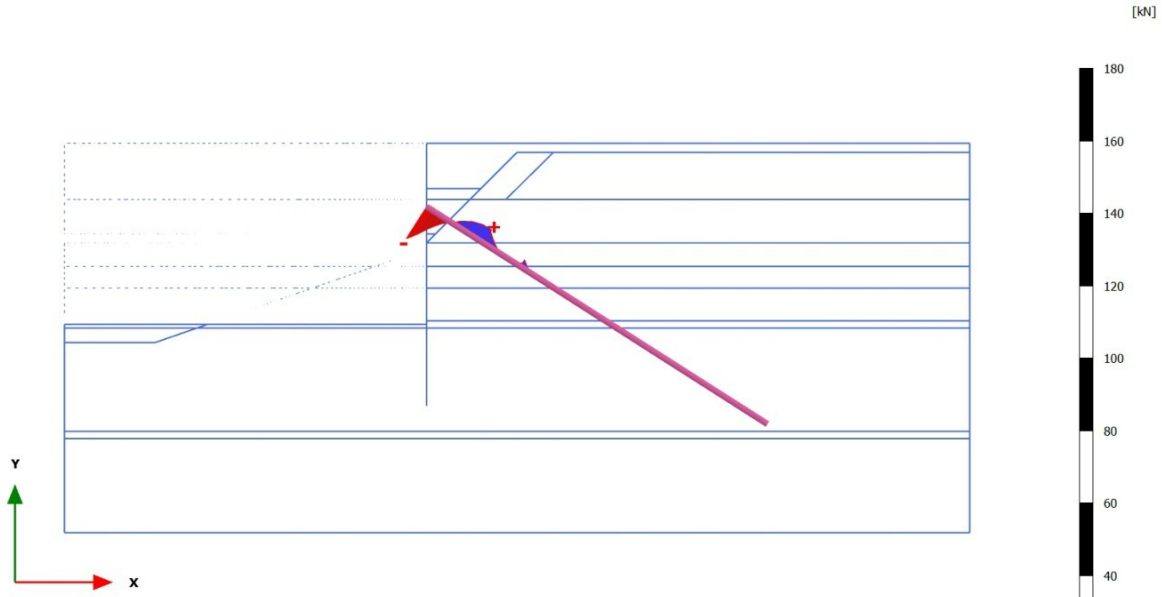


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 4.168 kN (Element 3 at Node 29608)

Minimum value = -10.25 kN (Element 1 at Node 29597)

3.1.1.1.6 Calculation results, Embedded beam, 10: Val na MHW [Phase_8] (8/103), Shear forces Q

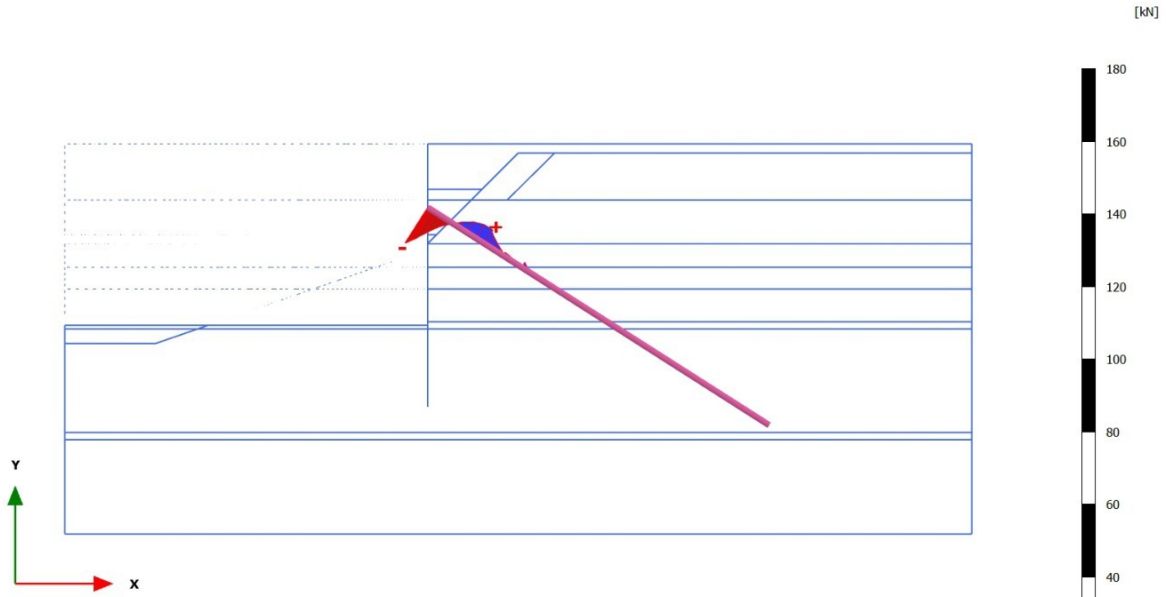


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 4.243 kN (Element 3 at Node 29609)

Minimum value = -10.41 kN (Element 1 at Node 29597)

3.1.1.1.7 Calculation results, Embedded beam, 9: Val ELW [Phase_12] (12/149), Shear forces Q

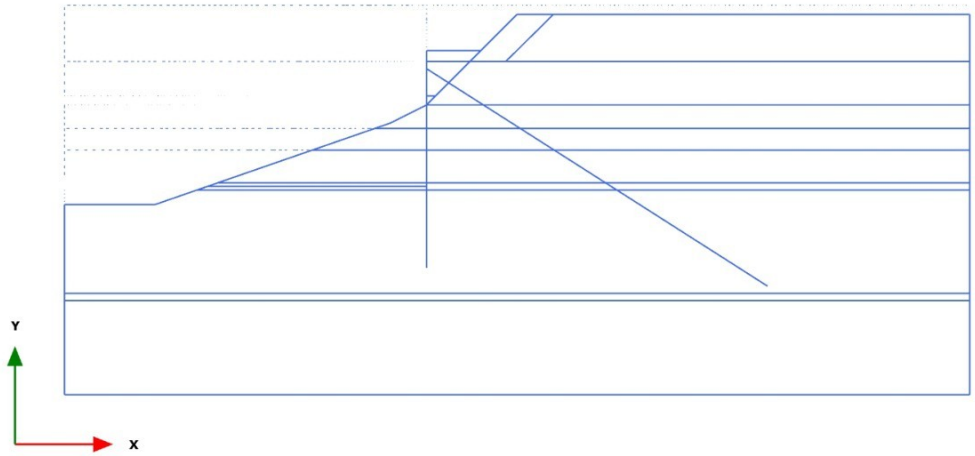


Shear forces Q (scaled up 0.200 times) per structural element

Maximum value = 4.422 kN (Element 3 at Node 29609)

Minimum value = -11.67 kN (Element 1 at Node 29597)

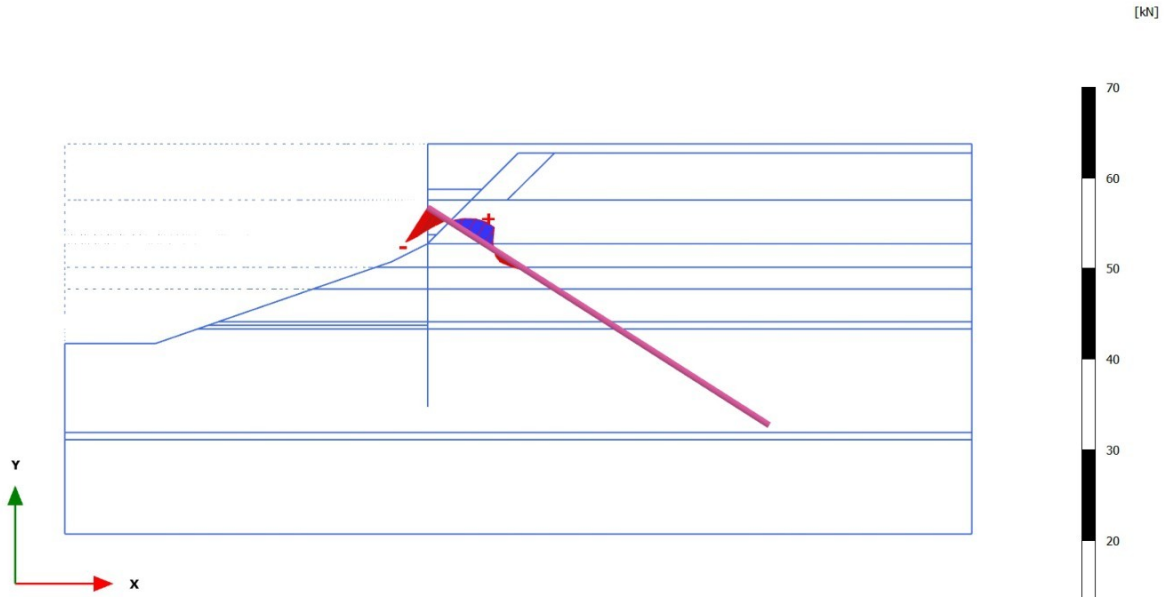
3.1.1.1.8 Calculation results, Embedded beam, 3. 1e aanvulling [Phase_3] (3/217), Shear forces Q



Shear forces Q (scaled up 1.00 times) per structural element

No results

3.1.1.1.9 Calculation results, Embedded beam, 5. Aanvullen [Phase_5] (5/243), Shear forces Q

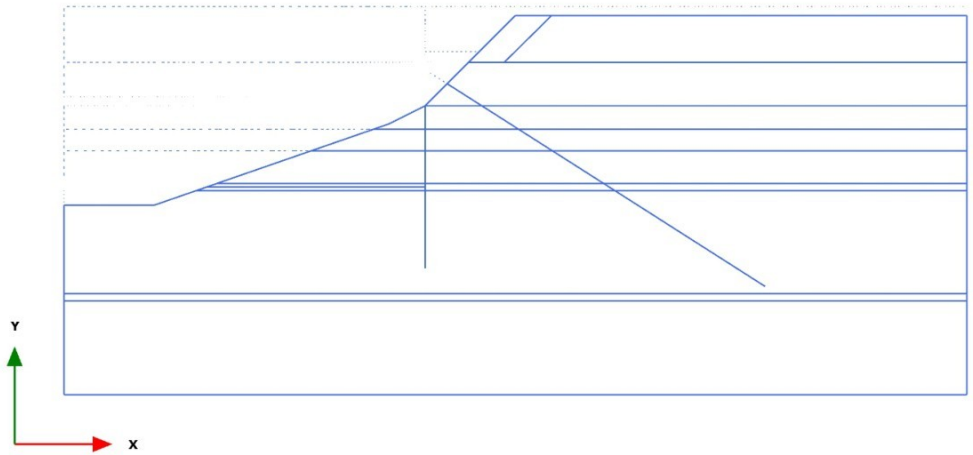


Shear forces Q (scaled up 0.500 times) per structural element

Maximum value = 2.121 kN (Element 3 at Node 29608)

Minimum value = -4.548 kN (Element 1 at Node 29597)

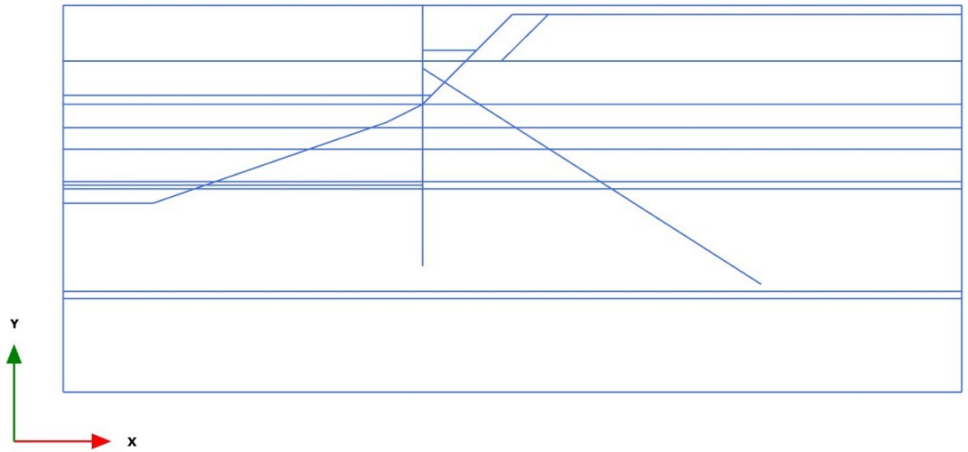
3.1.1.1.10 Calculation results, Embedded beam, 2.Bestaande toestand [Phase_2] (2/304), Shear forces Q



Shear forces Q (scaled up 1.00 times) per structural element

No results

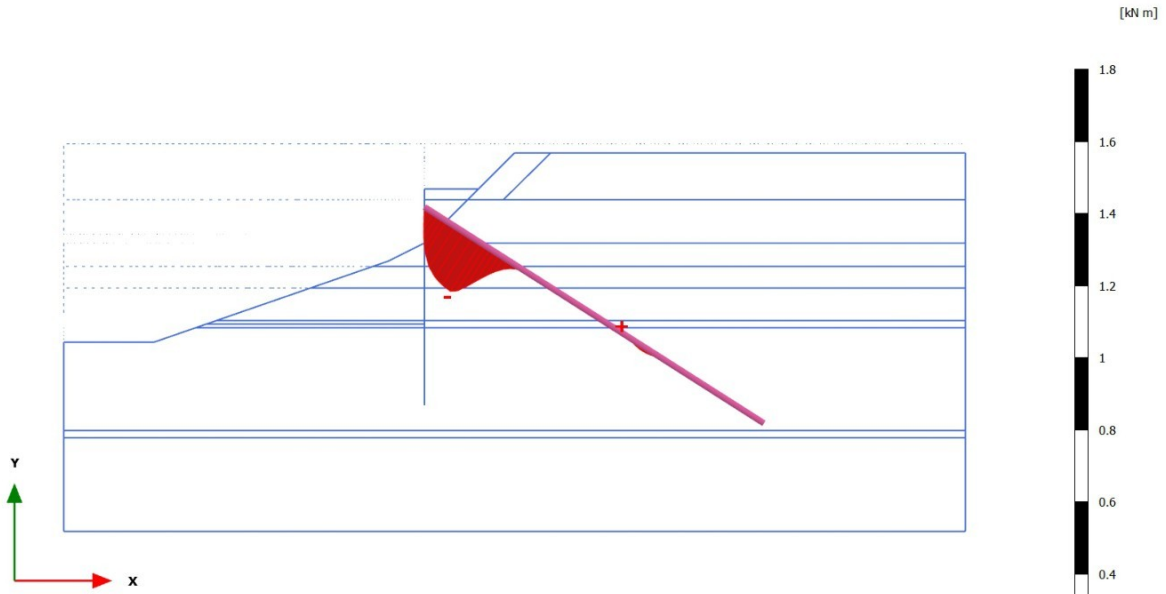
3.1.1.2.1 Calculation results, Embedded beam, 1. Inbrengen damwand [Phase_1] (1/4), Bending moments M



Bending moments M (scaled up 1.00 times) per structural element

No results

3.1.1.2.2 Calculation results, Embedded beam, 4. Aanbrengen anker [Phase_4] (4/8), Bending moments M

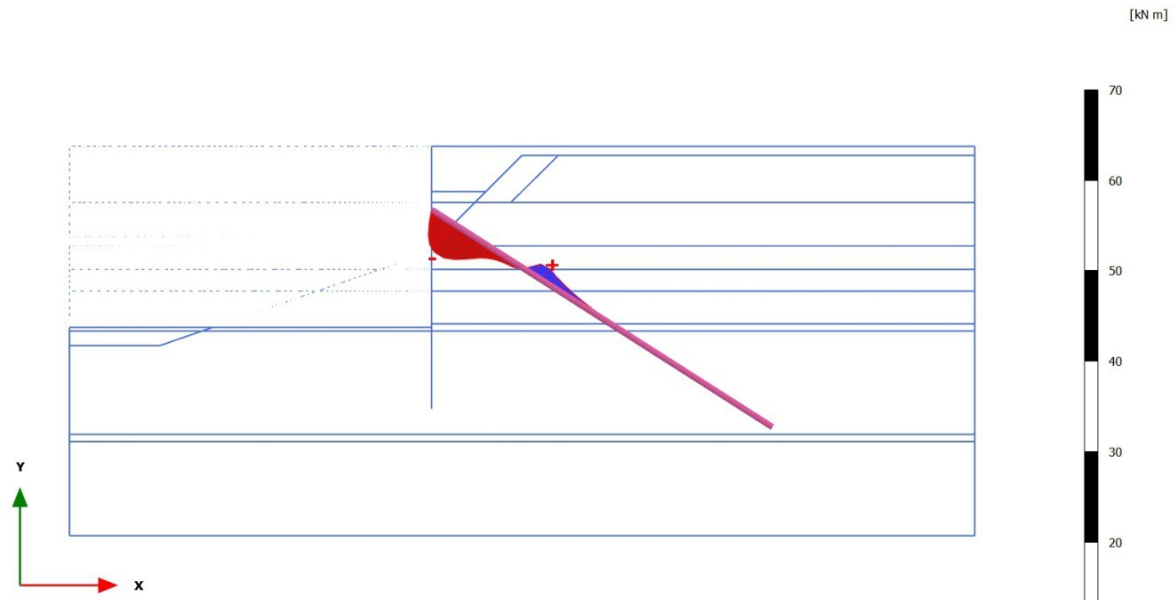


Bending moments M (scaled up 20.0 times) per structural element

Maximum value = $3.511*10^{-3}$ kN m (Element 11 at Node 29639)

Minimum value = -0.1587 kN m (Element 4 at Node 29609)

3.1.1.2.3 Calculation results, Embedded beam, 6. Ontgraven [Phase_6] (6/31), Bending moments M

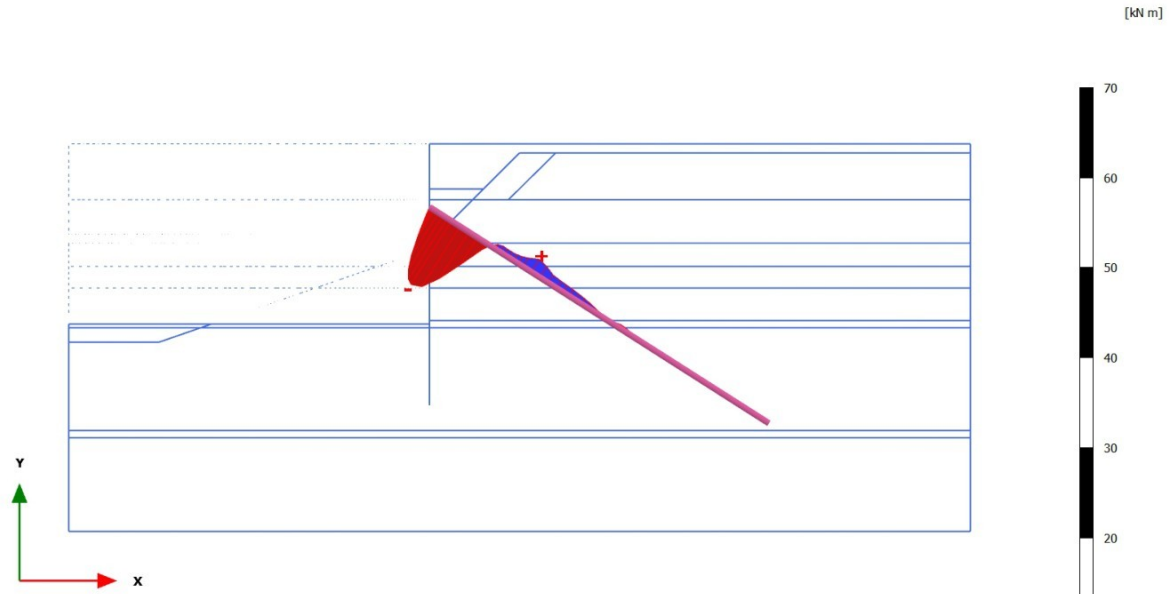


Bending moments M (scaled up 0.500 times) per structural element

Maximum value = 1.542 kN m (Element 6 at Node 29619)

Minimum value = -3.803 kN m (Element 2 at Node 29605)

3.1.1.2.4 Calculation results, Embedded beam, 7. H: TB N: haalpen [Phase_7] (7/55), Bending moments M

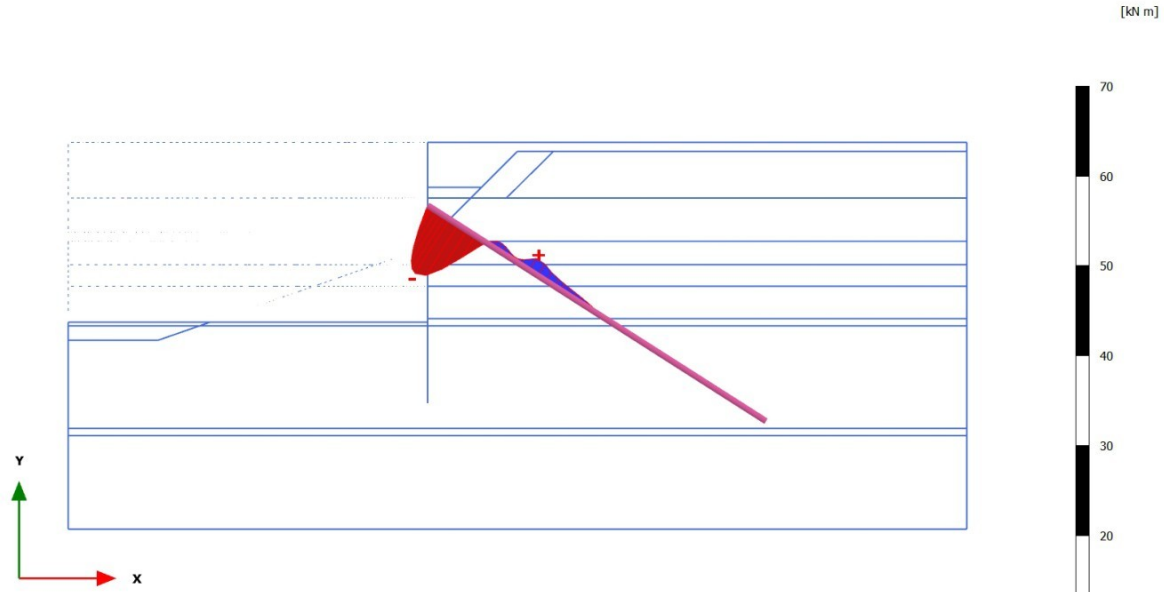


Bending moments M (scaled up 0.500 times) per structural element

Maximum value = 1.657 kN m (Element 6 at Node 29618)

Minimum value = -8.354 kN m (Element 2 at Node 29605)

3.1.1.2.5 Calculation results, Embedded beam, 8: H: haalpen, N: TB [Phase_10] (10/77), Bending moments M

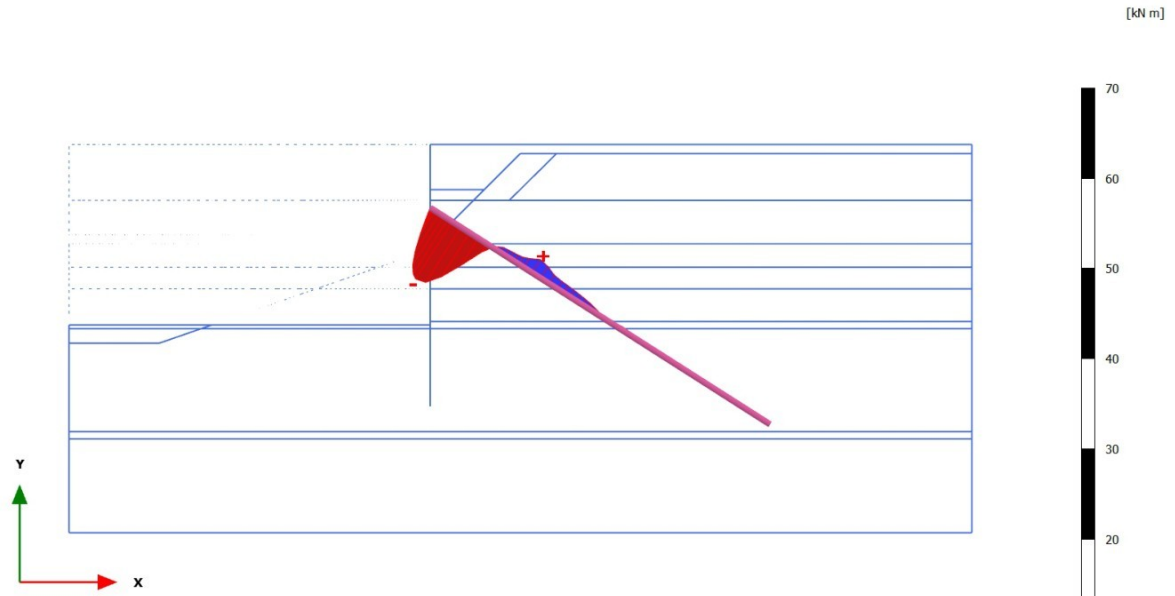


Bending moments M (scaled up 0.500 times) per structural element

Maximum value = 1.522 kN m (Element 6 at Node 29618)

Minimum value = -7.132 kN m (Element 3 at Node 29605)

3.1.1.2.6 Calculation results, Embedded beam, 10: Val na MHW [Phase_8] (8/103), Bending moments M

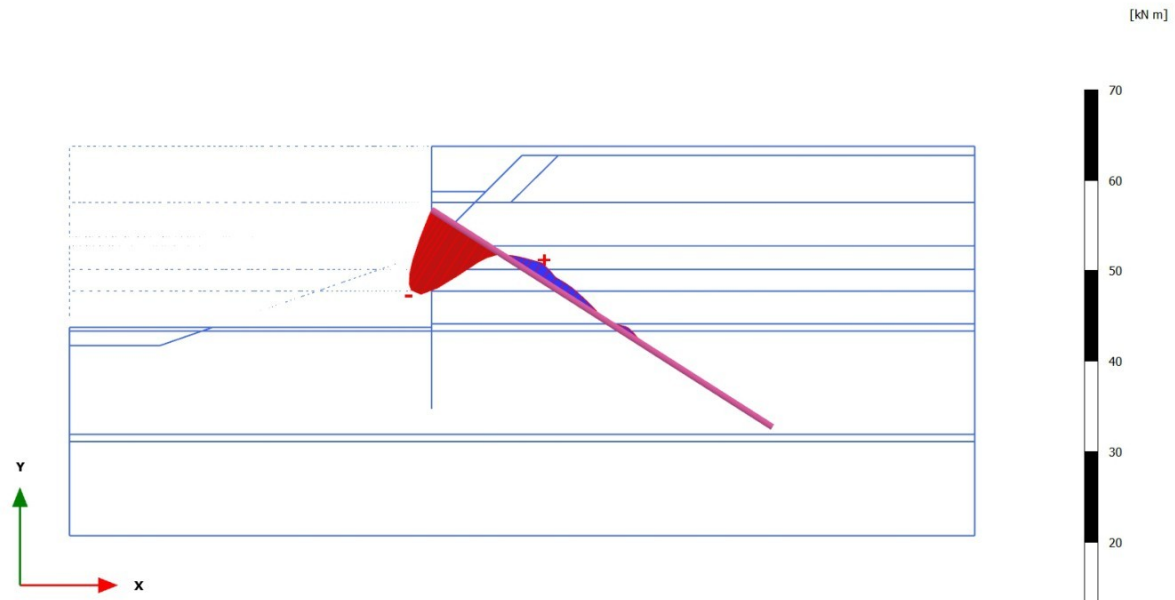


Bending moments M (scaled up 0.500 times) per structural element

Maximum value = 1.735 kN m (Element 6 at Node 29618)

Minimum value = -7.526 kN m (Element 3 at Node 29605)

3.1.1.2.7 Calculation results, Embedded beam, 9: Val ELW [Phase_12] (12/149), Bending moments M

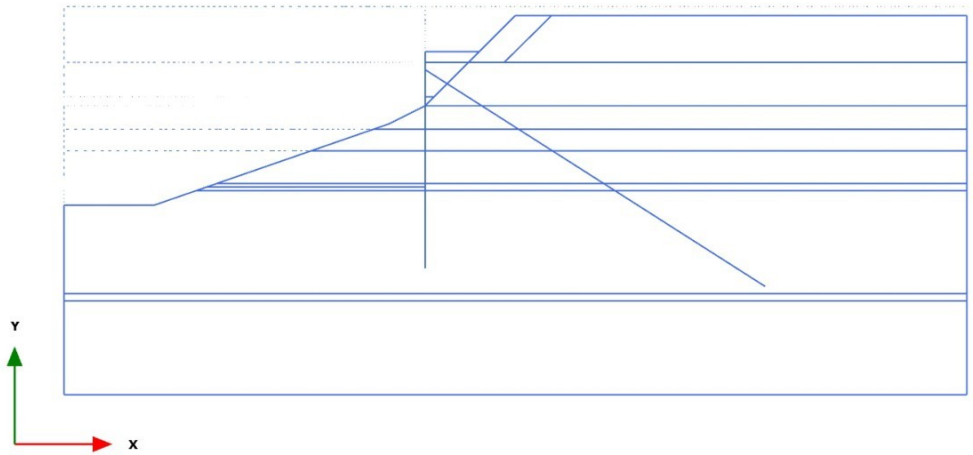


Bending moments M (scaled up 0.500 times) per structural element

Maximum value = 1.595 kN m (Element 6 at Node 29618)

Minimum value = -8.691 kN m (Element 2 at Node 29605)

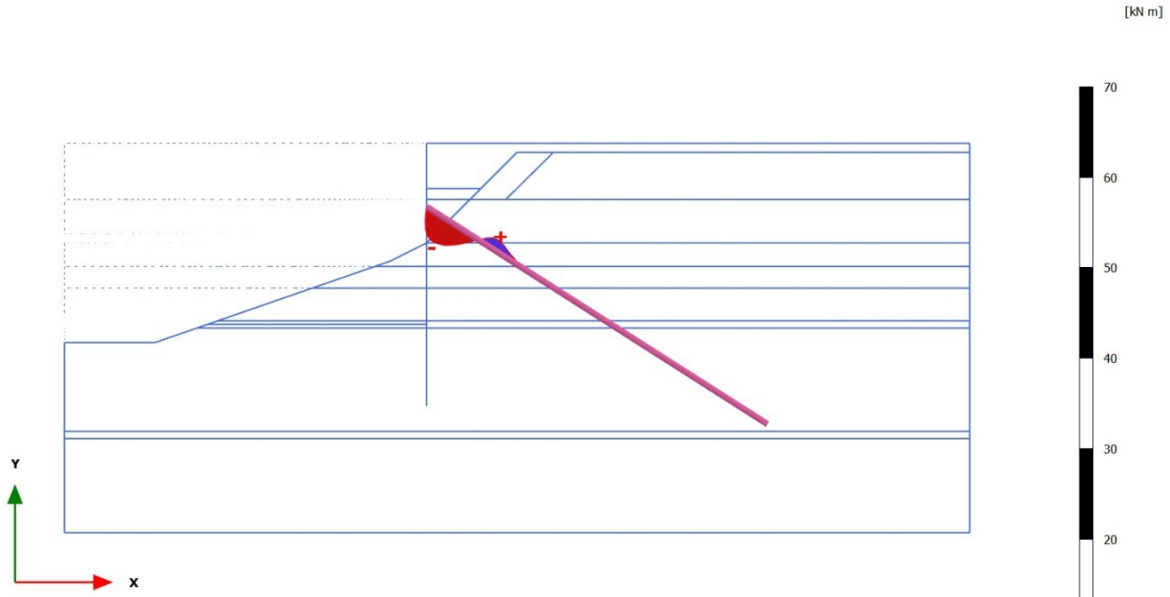
3.1.1.2.8 Calculation results, Embedded beam, 3. 1e aanvulling [Phase_3] (3/217), Bending moments M



Bending moments M (scaled up 1.00 times) per structural element

No results

3.1.1.2.9 Calculation results, Embedded beam, 5. Aanvullen [Phase_5] (5/243), Bending moments M

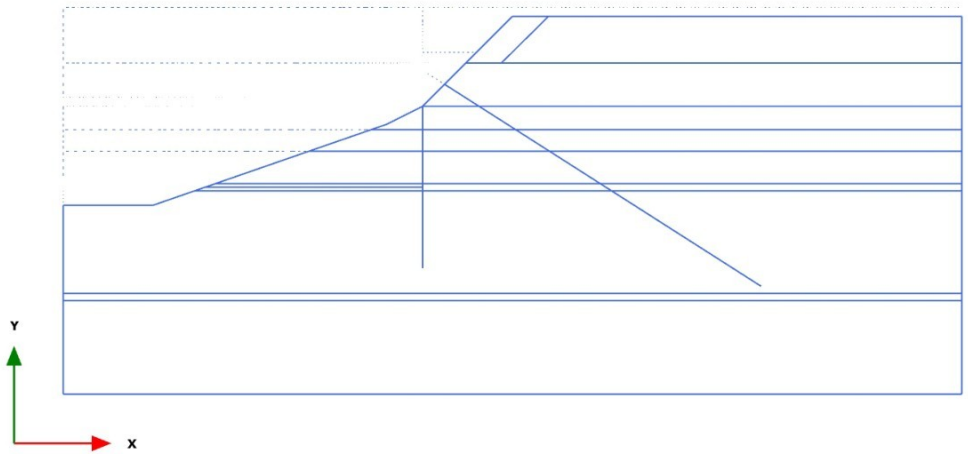


Bending moments M (scaled up 0.500 times) per structural element

Maximum value = 1.174 kN m (Element 4 at Node 29611)

Minimum value = -2.890 kN m (Element 3 at Node 29605)

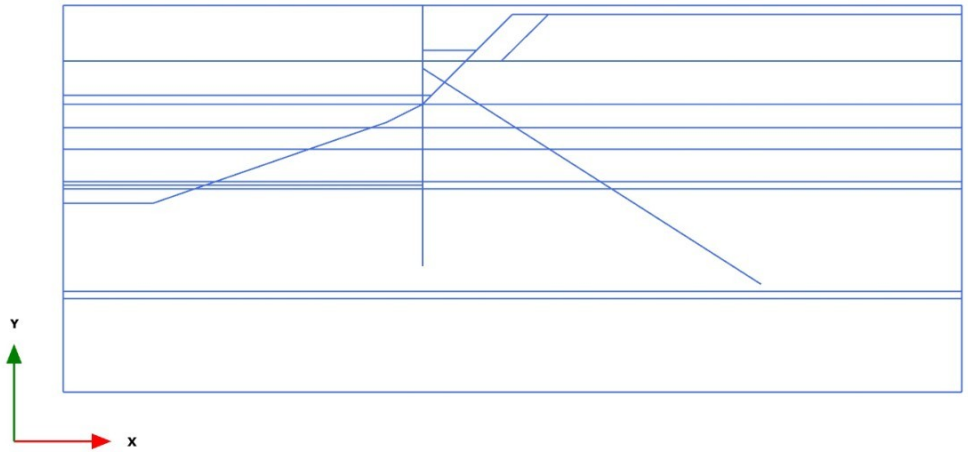
3.1.1.2.10 Calculation results, Embedded beam, 2.Bestaande toestand [Phase_2] (2/304), Bending moments M



Bending moments M (scaled up 1.00 times) per structural element

No results

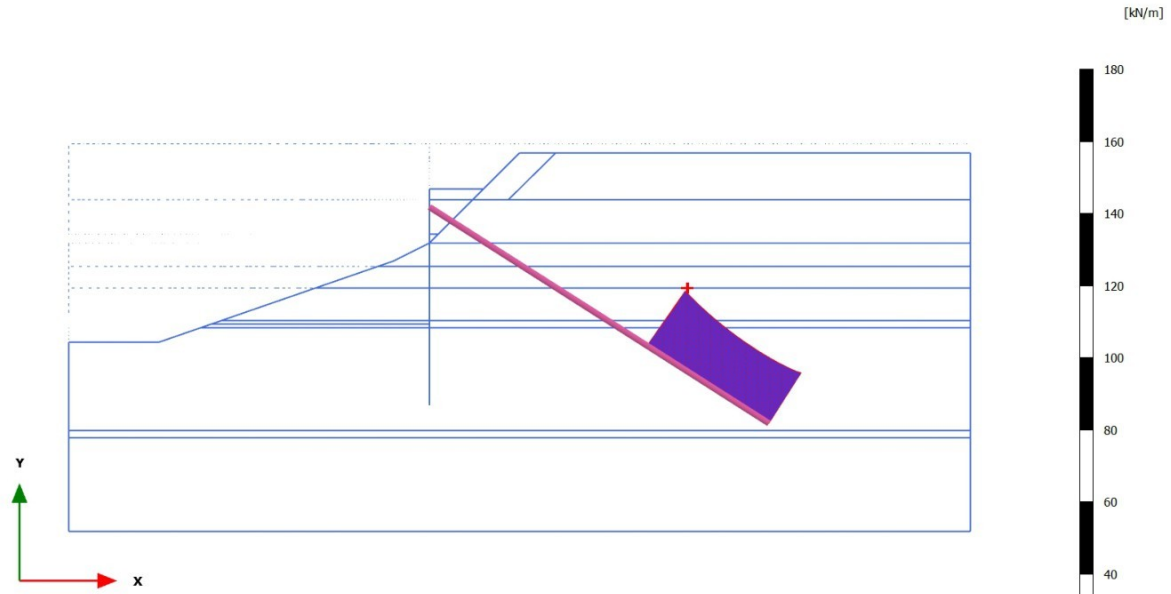
3.1.1.3.1 Calculation results, Embedded beam, 1. Inbrengen damwand [Phase_1] (1/4), Skin friction T_{skin}



Skin friction T_{skin} (scaled up 1.00 times) per structural element

No results

3.1.1.3.2 Calculation results, Embedded beam, 4. Aanbrengen anker [Phase_4] (4/8), Skin friction T_{skin}

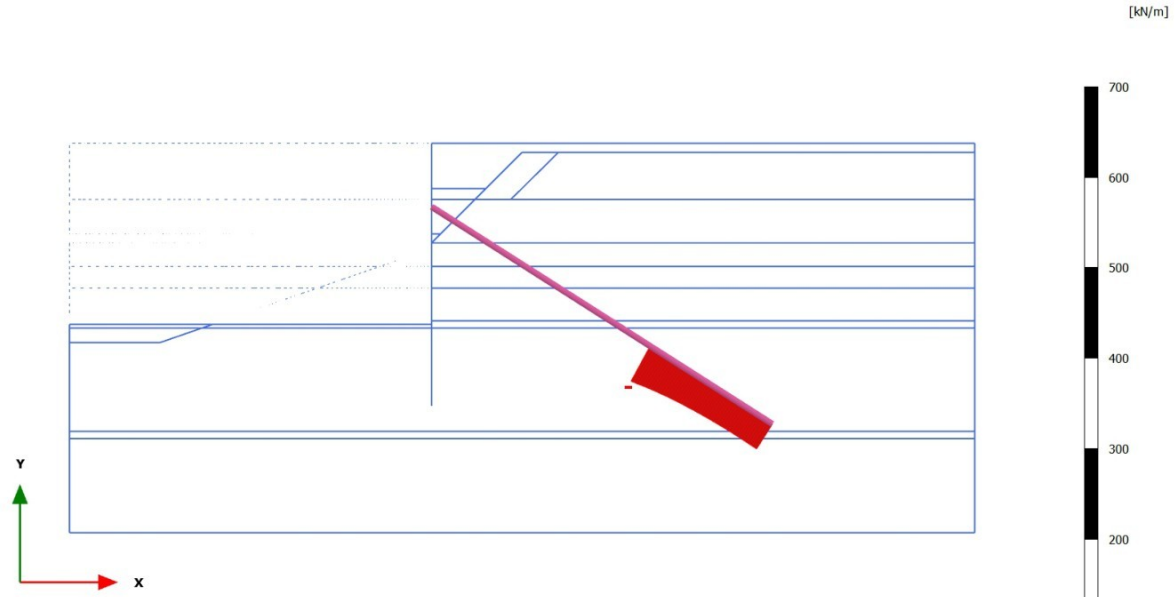


Skin friction T_{skin} (scaled up 0.200 times) per structural element

Maximum value = 18.48 kN/m (Element 14 at Node 29650)

Minimum value = 0.000 kN/m (Element 1 at Node 29597)

3.1.1.3.3 Calculation results, Embedded beam, 6. Ontgraven [Phase_6] (6/31), Skin friction T_{skin}

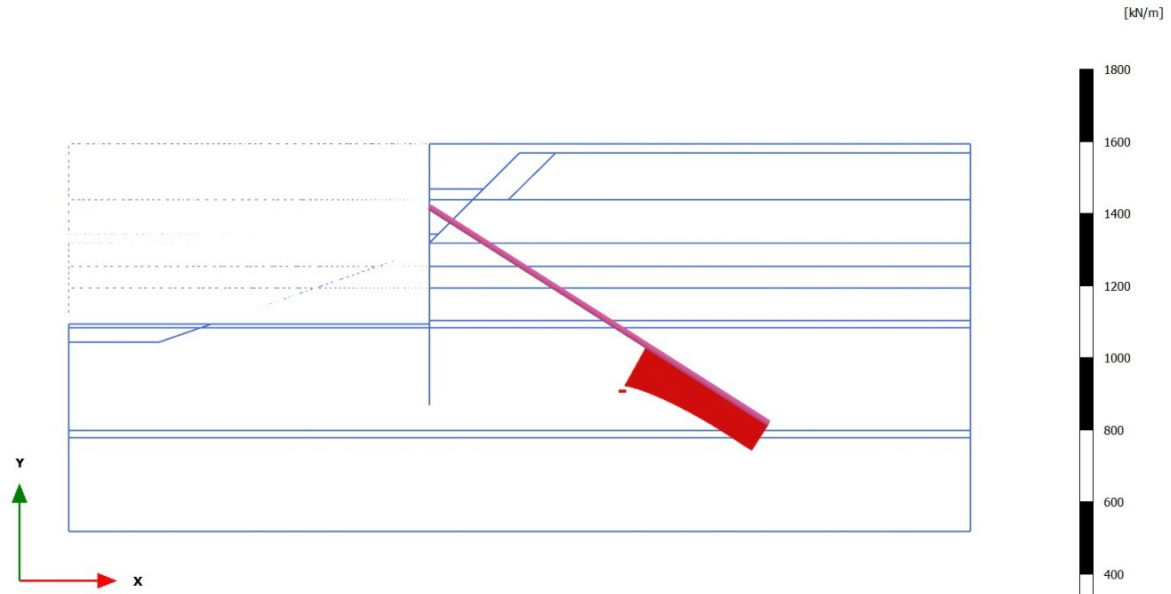


Skin friction T_{skin} (scaled up 0.0500 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 29597)

Minimum value = -44.21 kN/m (Element 14 at Node 29650)

3.1.1.3.4 Calculation results, Embedded beam, 7. H: TB N: haalpen [Phase_7] (7/55), Skin friction T_{skin}

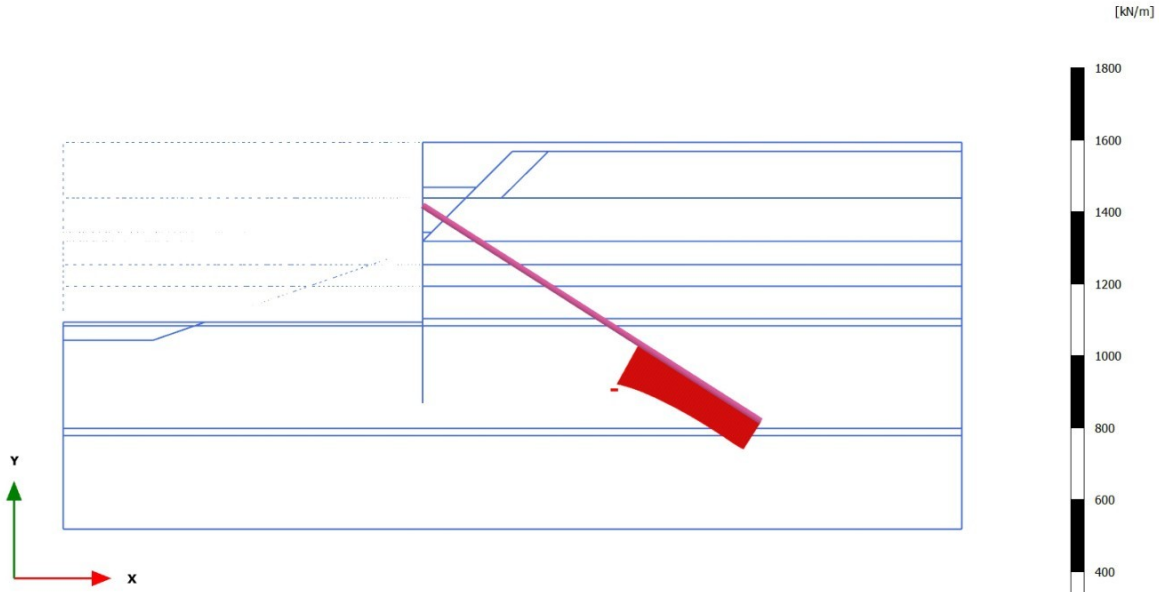


Skin friction T_{skin} (scaled up 0.0200 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 29597)

Minimum value = -127.3 kN/m (Element 14 at Node 29650)

3.1.1.3.5 Calculation results, Embedded beam, 8: H: haalpen, N: TB [Phase_10] (10/77), Skin friction T_{skin}

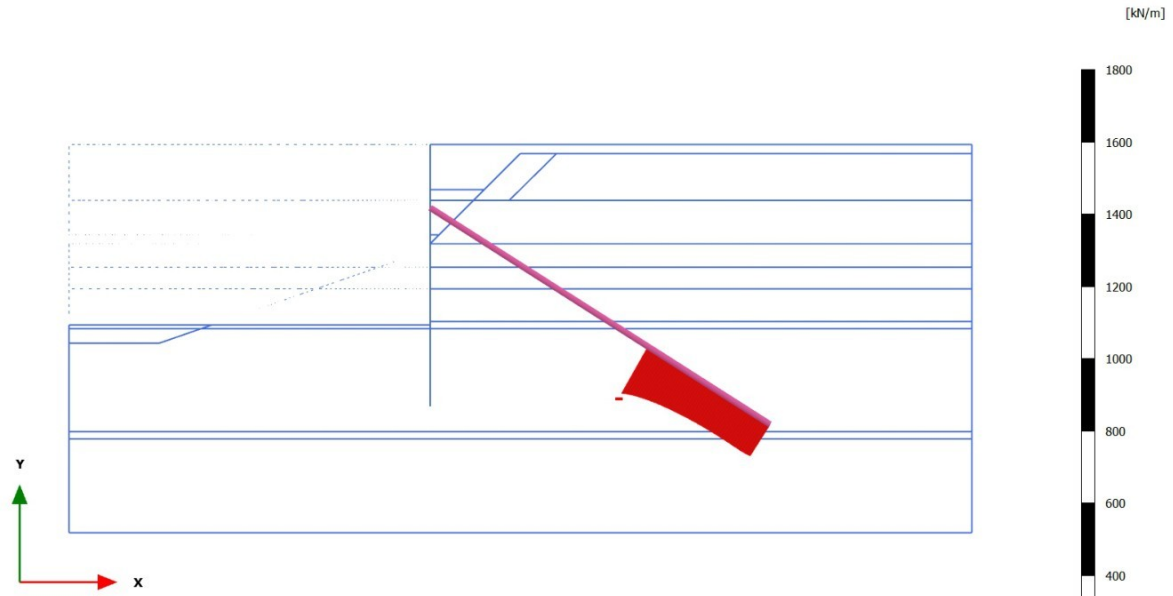


Skin friction T_{skin} (scaled up 0.0200 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 29597)

Minimum value = -128.4 kN/m (Element 14 at Node 29650)

3.1.1.3.6 Calculation results, Embedded beam, 10: Val na MHW [Phase_8] (8/103), Skin friction T_{skin}

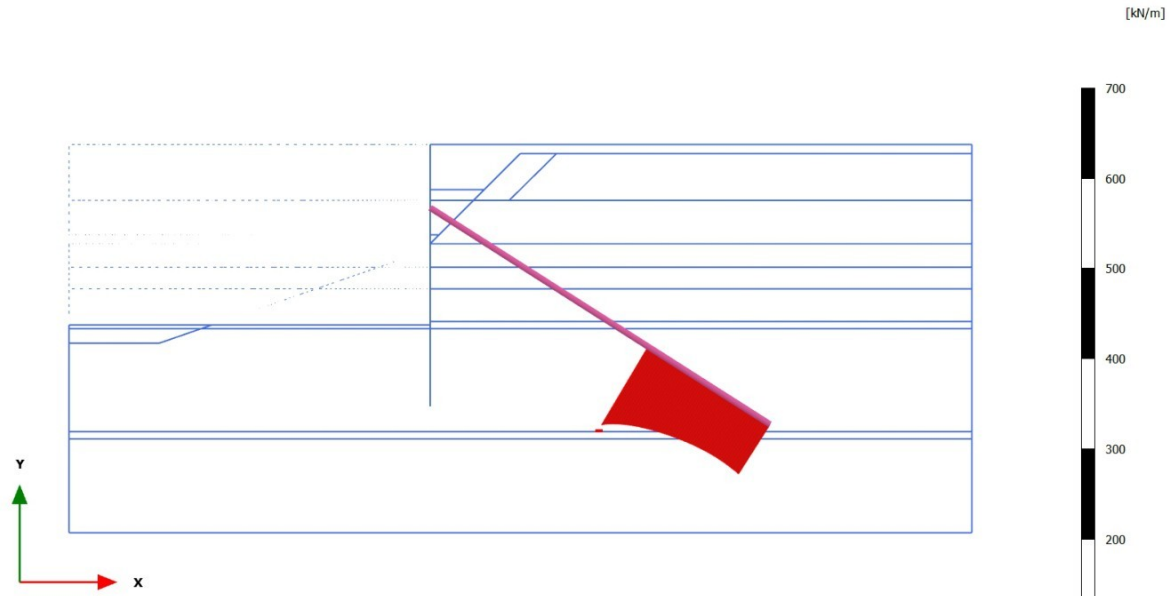


Skin friction T_{skin} (scaled up 0.0200 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 29597)

Minimum value = -148.5 kN/m (Element 14 at Node 29650)

3.1.1.3.7 Calculation results, Embedded beam, 9: Val ELW [Phase_12] (12/149), Skin friction T_{skin}

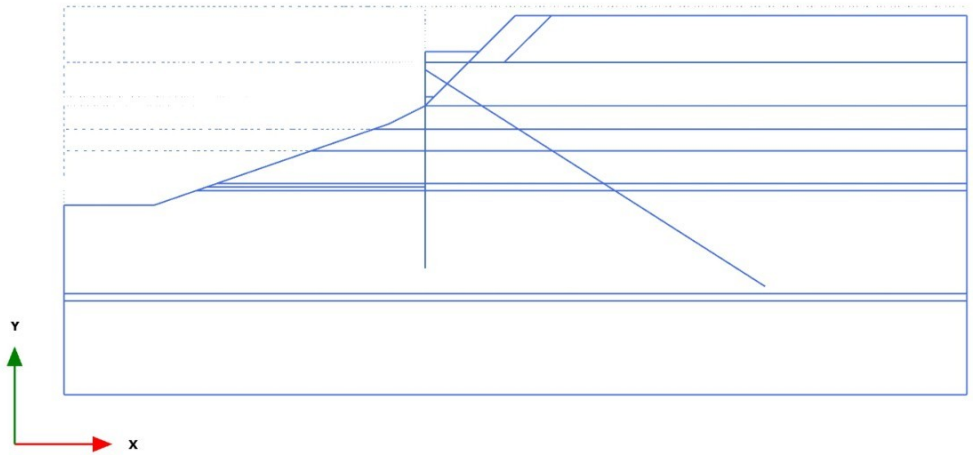


Skin friction T_{skin} (scaled up 0.0500 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 29597)

Minimum value = -100.8 kN/m (Element 14 at Node 29650)

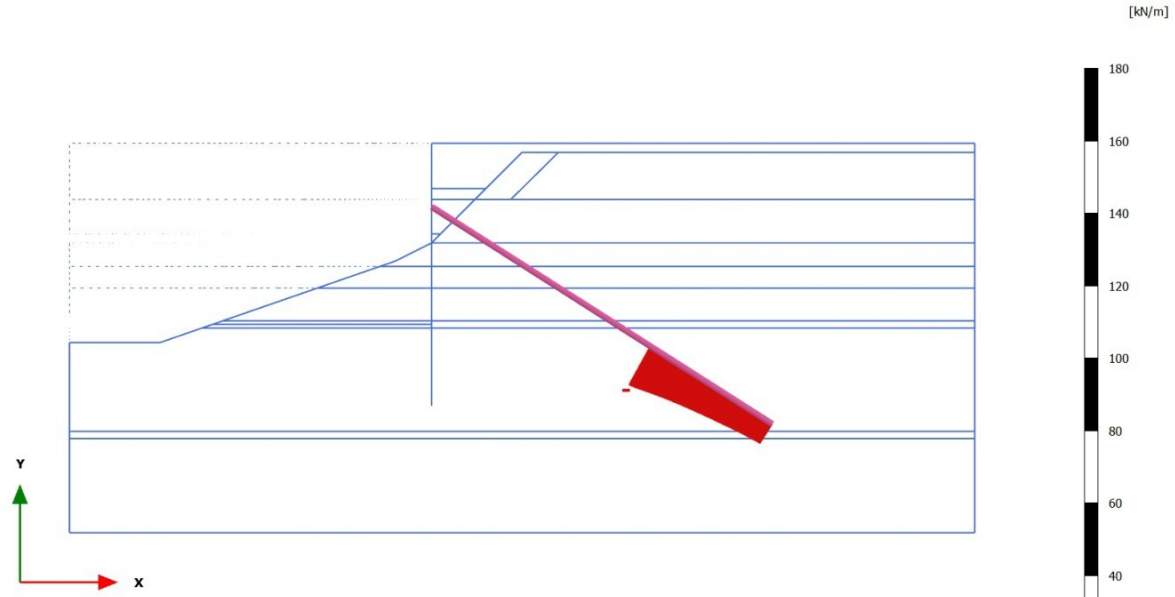
3.1.1.3.8 Calculation results, Embedded beam, 3. 1e aanvulling [Phase_3] (3/217), Skin friction T_{skin}



Skin friction T_{skin} (scaled up 1.00 times) per structural element

No results

3.1.1.3.9 Calculation results, Embedded beam, 5. Aanvullen [Phase_5] (5/243), Skin friction T_{skin}

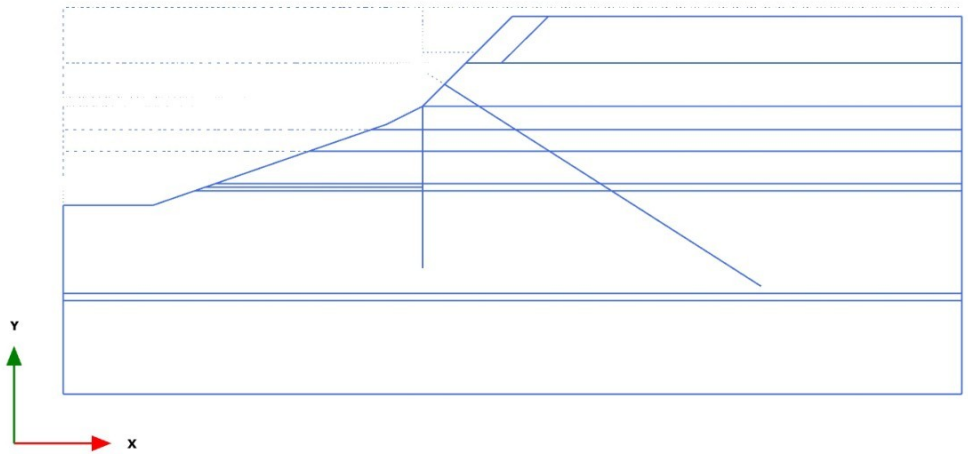


Skin friction T_{skin} (scaled up 0.200 times) per structural element

Maximum value = 0.000 kN/m (Element 1 at Node 29597)

Minimum value = -12.16 kN/m (Element 14 at Node 29650)

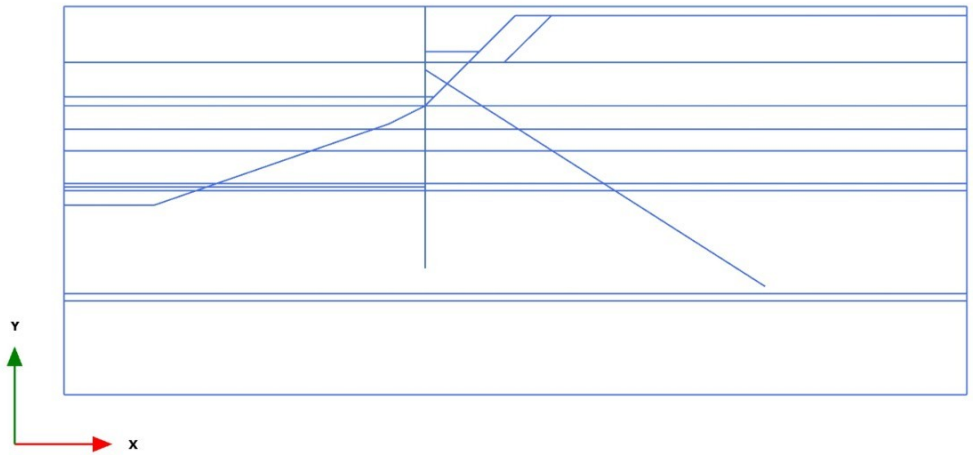
3.1.1.3.10 Calculation results, Embedded beam, 2.Bestaande toestand [Phase_2] (2/304), Skin friction T_{skin}



Skin friction T_{skin} (scaled up 1.00 times) per structural element

No results

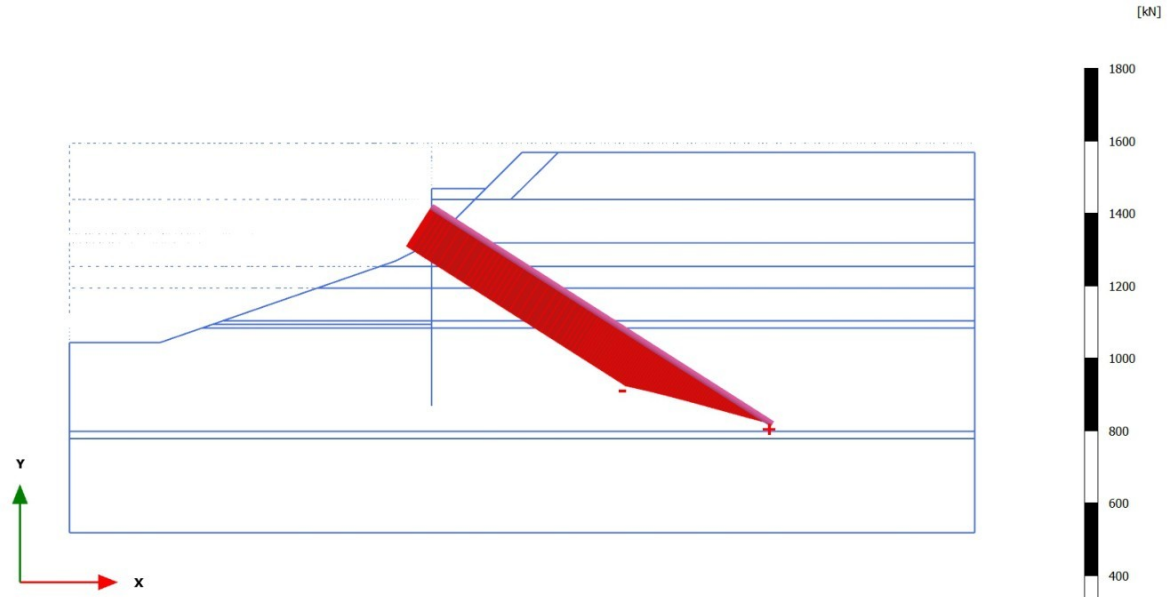
3.1.1.4.1 Calculation results, Embedded beam, 1. Inbrengen damwand [Phase_1] (1/4), Axial forces N



Axial forces N (scaled up 1.00 times) per structural element

No results

3.1.1.4.2 Calculation results, Embedded beam, 4. Aanbrengen anker [Phase_4] (4/8), Axial forces N

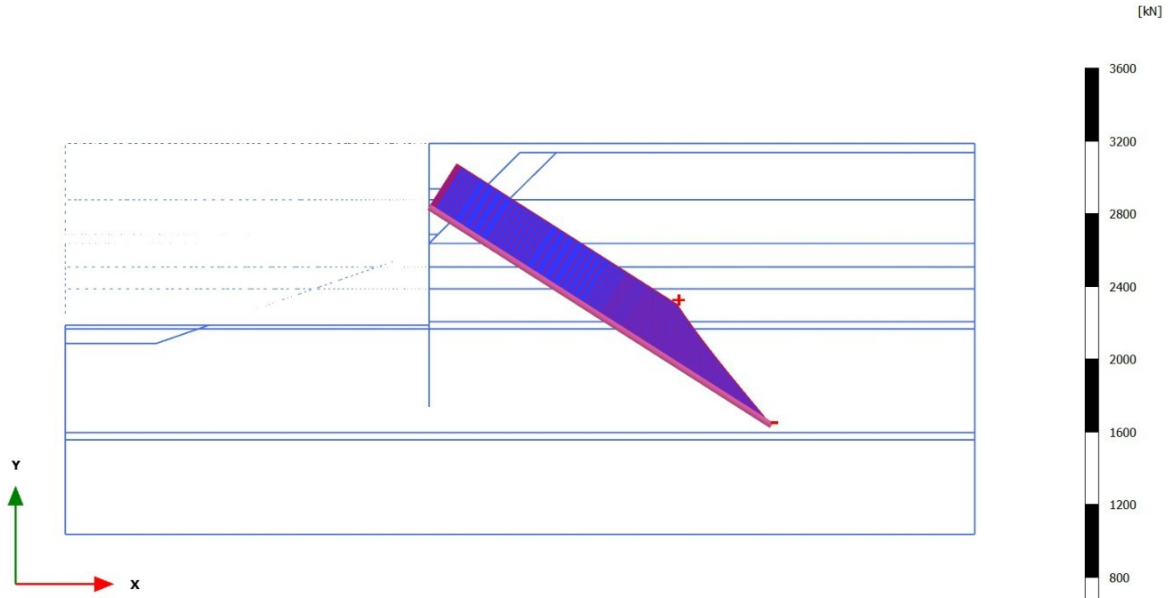


Axial forces N (scaled up 0.0200 times) per structural element

Maximum value = $-3.757*10^{-3}$ kN (Element 26 at Node 29701)

Minimum value = -129.8 kN (Element 14 at Node 29649)

3.1.1.4.3 Calculation results, Embedded beam, 6. Ontgraven [Phase_6] (6/31), Axial forces N

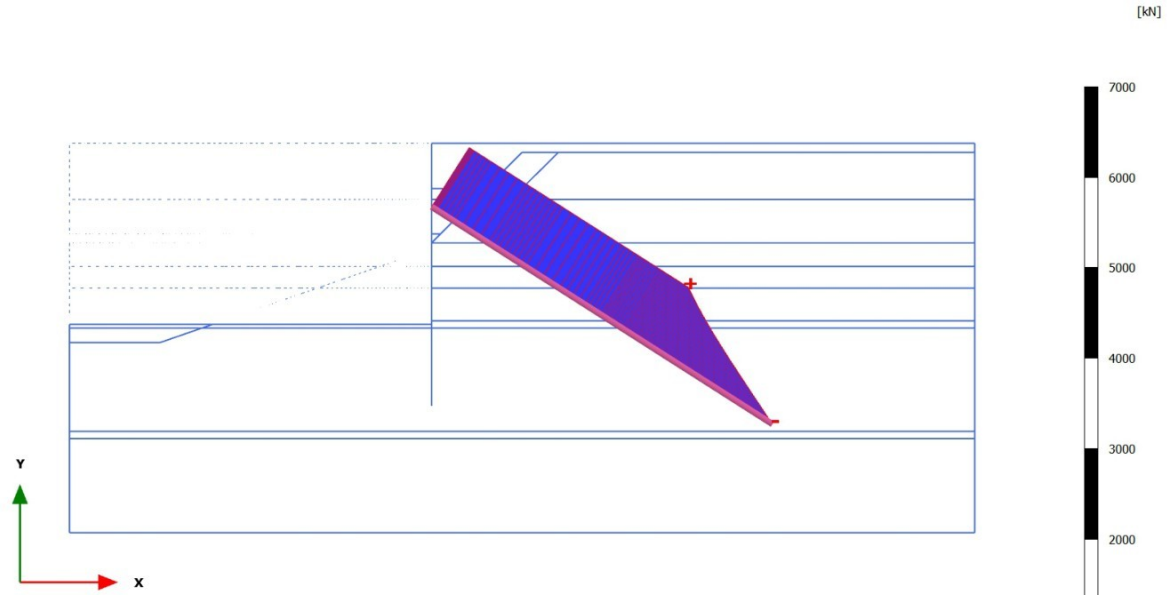


Axial forces N (scaled up 0.0100 times) per structural element

Maximum value = 284.6 kN (Element 14 at Node 29649)

Minimum value = $5.470*10^{-3}$ kN (Element 26 at Node 29701)

3.1.1.4.4 Calculation results, Embedded beam, 7. H: TB N: haalpen [Phase_7] (7/55), Axial forces N

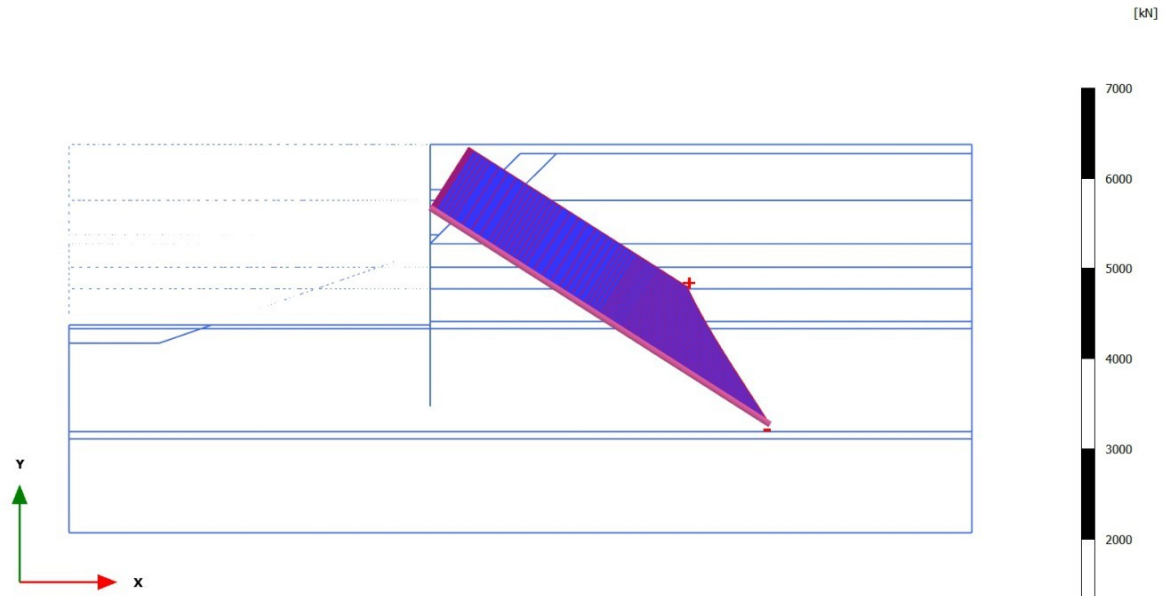


Axial forces N (scaled up 5.00*10^{-3} times) per structural element

Maximum value = 780.3 kN (Element 14 at Node 29649)

Minimum value = 7.504*10^{-3} kN (Element 26 at Node 29701)

3.1.1.4.5 Calculation results, Embedded beam, 8: H: haalpen, N: TB [Phase_10] (10/77), Axial forces N

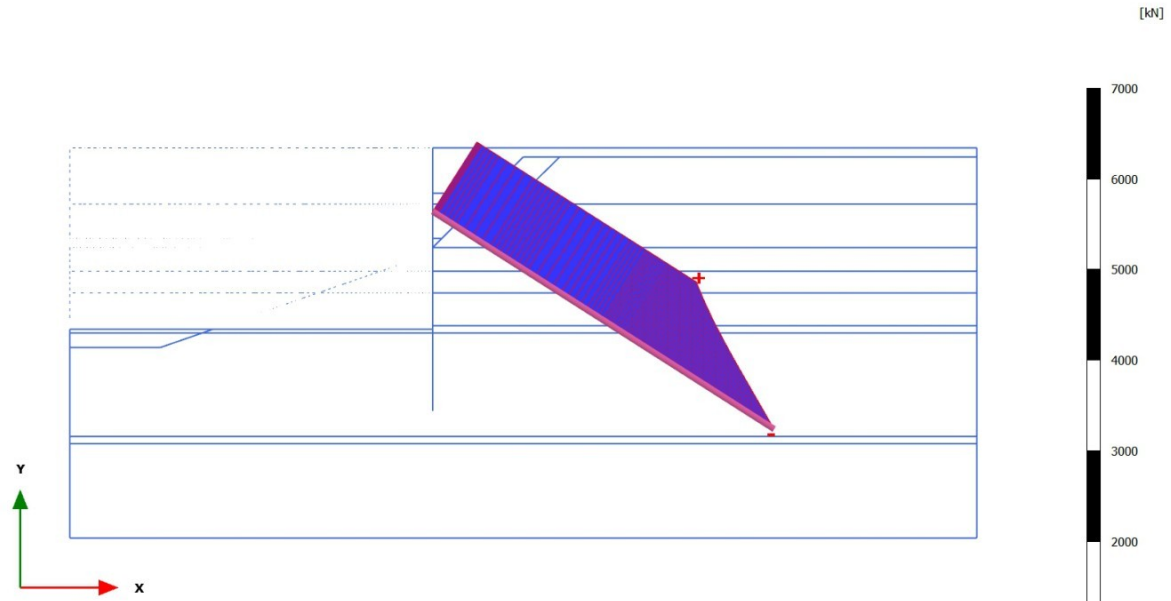


Axial forces N (scaled up 5.00*10^{-3} times) per structural element

Maximum value = 800.2 kN (Element 14 at Node 29649)

Minimum value = -1.718*10^{-3} kN (Element 26 at Node 29701)

3.1.1.4.6 Calculation results, Embedded beam, 10: Val na MHW [Phase_8] (8/103), Axial forces N

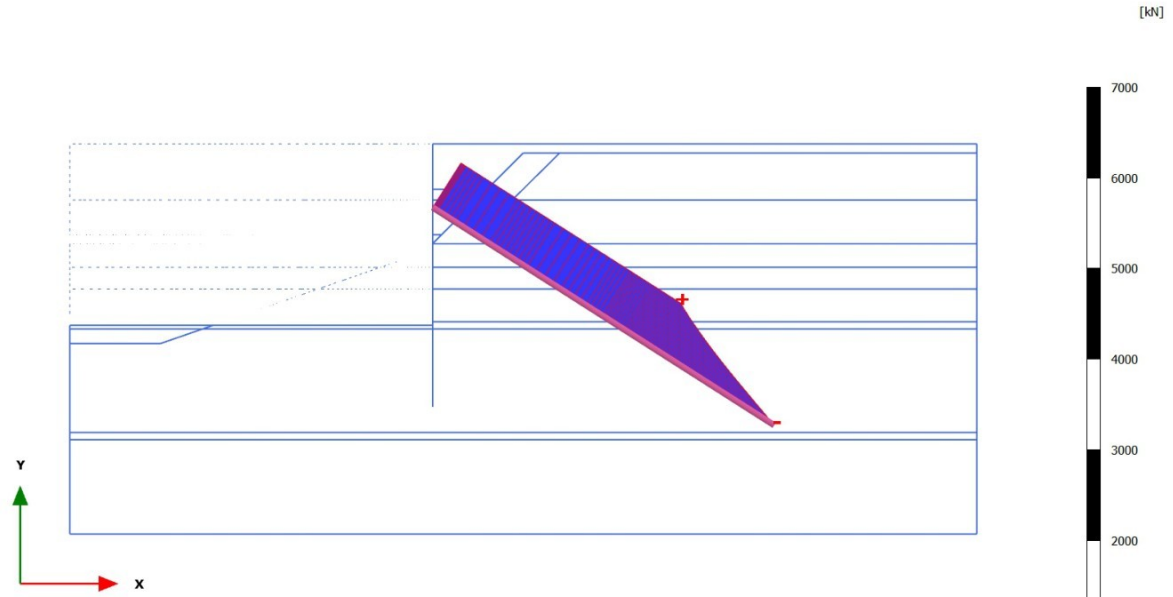


Axial forces N (scaled up 5.00*10^{-3} times) per structural element

Maximum value = 913.9 kN (Element 14 at Node 29649)

Minimum value = -3.159*10^{-3} kN (Element 26 at Node 29701)

3.1.1.4.7 Calculation results, Embedded beam, 9: Val ELW [Phase_12] (12/149), Axial forces N

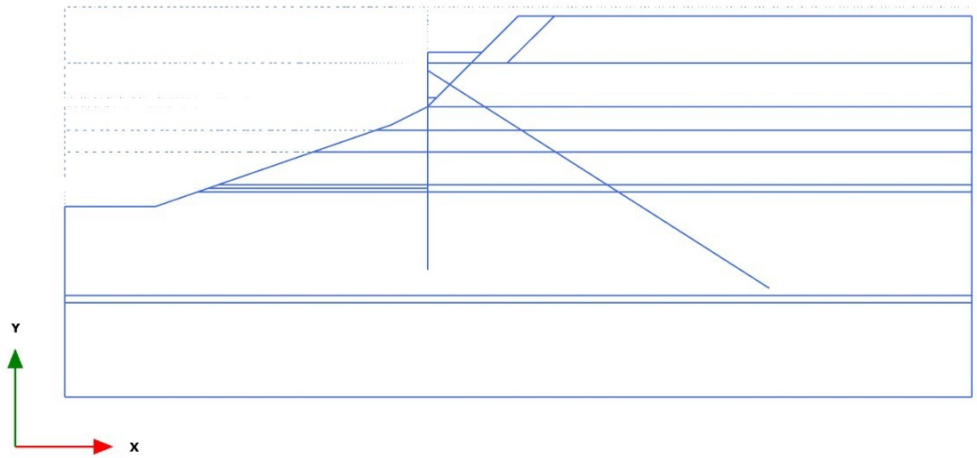


Axial forces N (scaled up 5.00*10^{-3} times) per structural element

Maximum value = 585.1 kN (Element 14 at Node 29649)

Minimum value = 0.02117 kN (Element 26 at Node 29701)

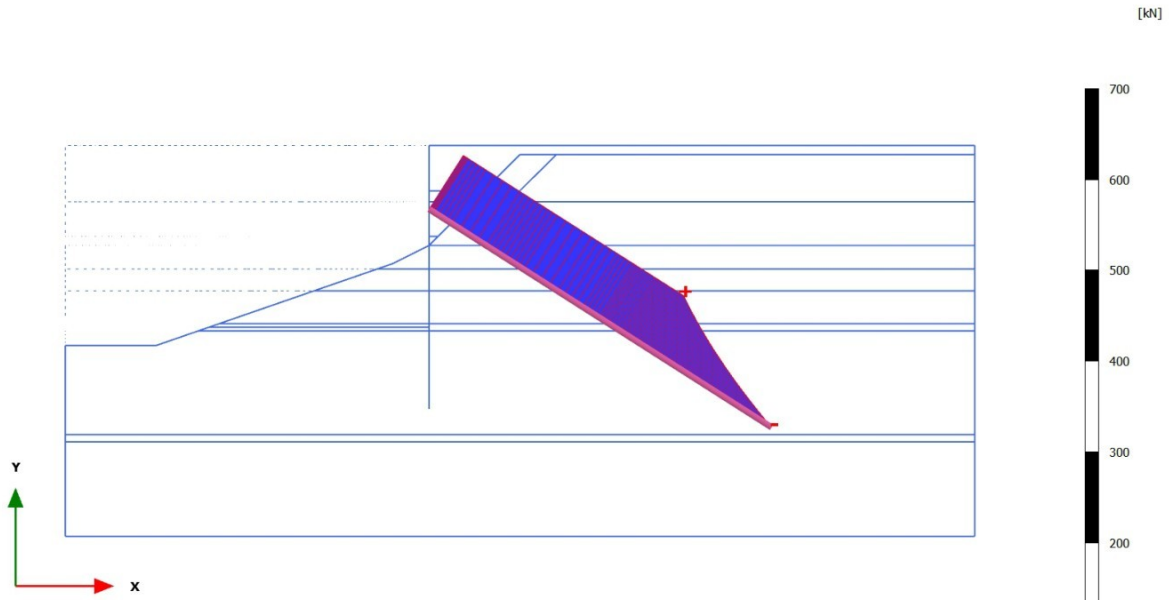
3.1.1.4.8 Calculation results, Embedded beam, 3. 1e aanvulling [Phase_3] (3/217), Axial forces N



Axial forces N (scaled up 1.00 times) per structural element

No results

3.1.1.4.9 Calculation results, Embedded beam, 5. Aanvullen [Phase_5] (5/243), Axial forces N

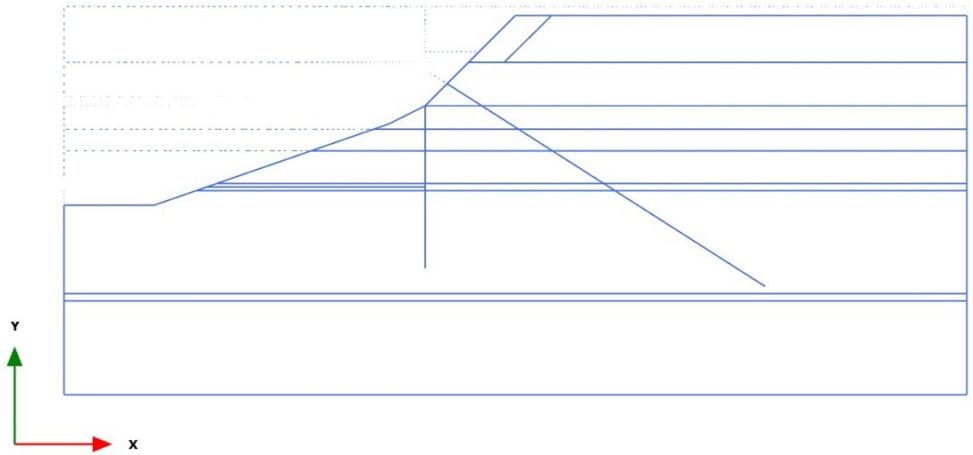


Axial forces N (scaled up 0.0500 times) per structural element

Maximum value = 70.73 kN (Element 14 at Node 29649)

Minimum value = $0.6017*10^{-3}$ kN (Element 26 at Node 29701)

3.1.1.4.10 Calculation results, Embedded beam, 2.Bestaande toestand [Phase_2] (2/304), Axial forces N



Axial forces N (scaled up 1.00 times) per structural element

No results

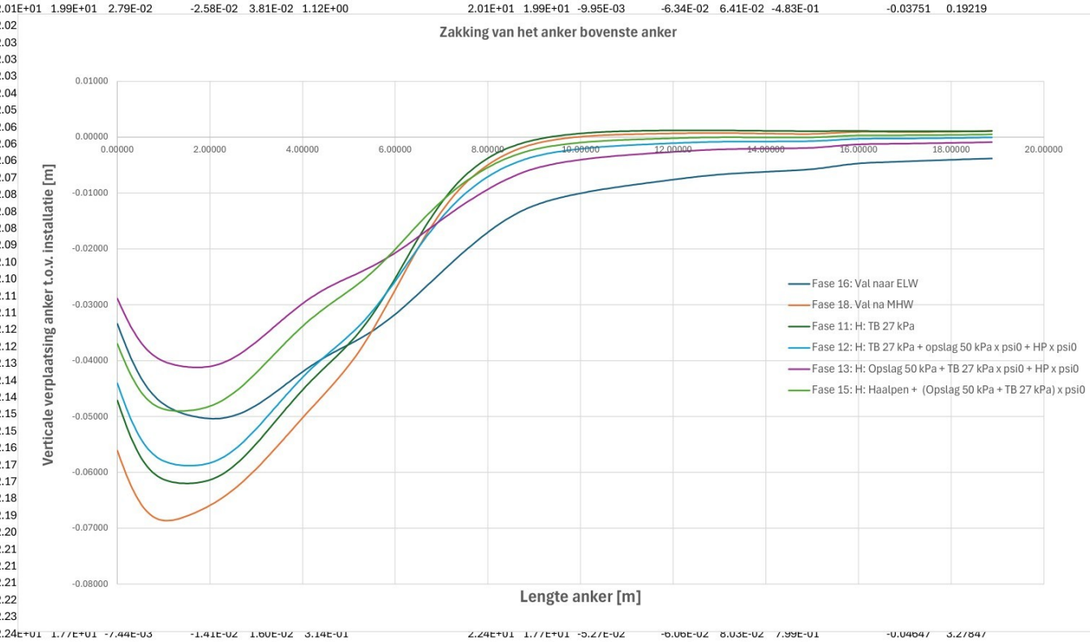
Sectie 12 - impact zakkende grond op bijkomende trekkracht

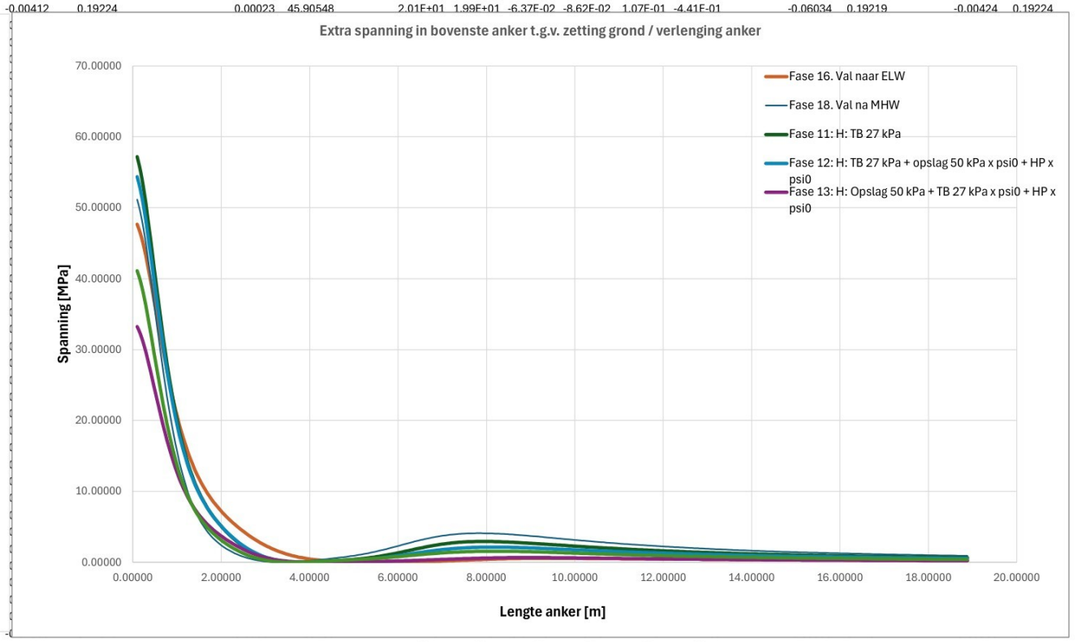
Fase 5. Installatie bovenste ankerrij

Fase 16. Val naar ELW

Fase 18. Val na MHW

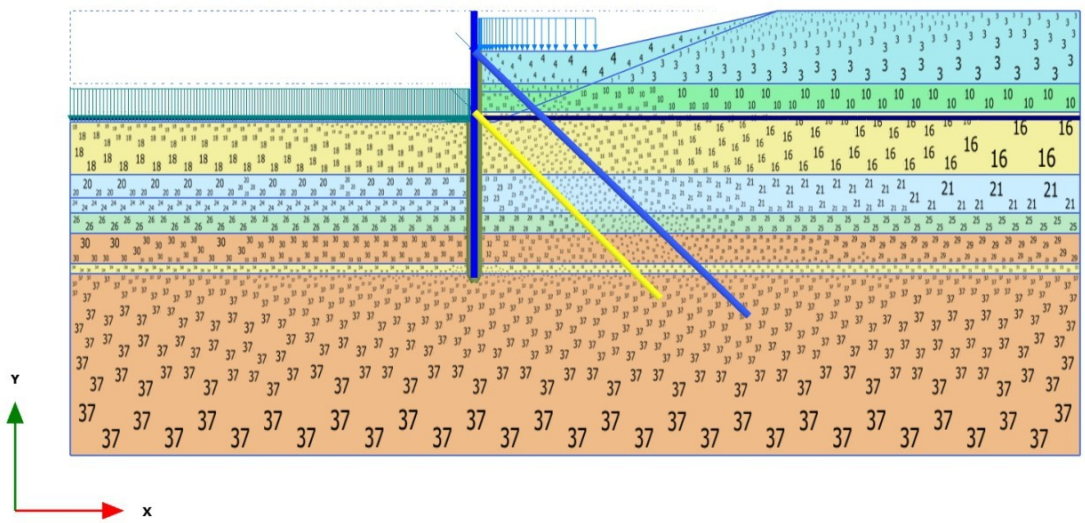
X [r	Y [r	u_x	u_y [m]	| u |	ϕ_z [°]	X [r	Y [r	u_x	u_y [m]	| u |	ϕ_z [°]	delta Uy	L0	Zakking ankerstang t.o.v. ankerkop	L1	rek	sigma	X [r	Y [r	u_x	u_y	| u |	ϕ_z [°]	delta Uy	L0	Zakking ankerstang t.o.v. ankerkop	L1	rek	sigma
2.00E+01	2.00E+01	3.15E-02	9.72E-04	3.16E-02	-2.20E+01	2.00E+01	2.00E+01	-2.45E-03	-3.24E-02	3.25E-02	-2.38E+01	-0.03339	0.00000	0.00000	0.00000	#DELING.DOOR.0!		2.00E+01	2.00E+01	-5.64E-02	-5.51E-02	7.89E-02	-2.38E+01	-0.05610	0.00000	0.00000	0.00000	########	
2.01E+01	1.99E+01	2.86E-02	-2.58E-02	3.85E-02	-4.61E+00	2.01E+01	1.99E+01	-7.43E-03	-6.13E-02	6.18E-02	-6.31E+00	-0.03549	0.09610	-0.00210	0.09612	0.00024	47.68134	2.01E+01	1.99E+01	-6.13E-02	-8.41E-02	1.04E-01	-6.30E+00	-0.05828	0.09610	-0.00217	0.09612	0.00026	51.16372
2.01E+01	1.99E+01	2.79E-02	-2.58E-02	3.81E-02	1.12E+00	2.01E+01	1.99E+01	-9.95E-03	-6.34E-02	6.41E-02	-4.83E-01	-0.03751	0.19219	-0.00412	0.19224	0.00023	45.90548	2.01E+01	1.99E+01	-6.37E-02	-8.62E-02	1.07E-01	-4.41E-01	-0.06034	0.19219	-0.00424	0.19224	0.00024	48.67714
2.02																												0.00023	45.11163
2.03																												0.00020	40.89286
2.03																												0.00020	40.89286
2.03																												0.00018	36.38366
2.04																												0.00016	31.86633
2.05																												0.00014	27.54339
2.06																												0.00012	23.54851
2.06																												0.00012	23.54851
2.06																												0.00010	19.95794
2.07																												0.00008	16.80138
2.08																												0.00007	14.07540
2.08																												0.00006	11.75518
2.08																												0.00006	11.75518
2.09																												0.00005	9.80316
2.10																												0.00004	8.17462
2.10																												0.00003	6.82251
2.11																												0.00003	5.70156
2.11																												0.00003	5.70156
2.12																												0.00002	4.77066
2.12																												0.00002	3.99411
2.13																												0.00002	3.34223
2.14																												0.00001	2.79094
2.14																												0.00001	2.79094
2.15																												0.00001	2.32119
2.15																												0.00001	1.91829
2.16																												0.00001	1.57116
2.17																												0.00001	1.27157
2.17																												0.00001	1.27157
2.18																												0.00000	0.89867
2.19																												0.00000	0.60496
2.20																												0.00000	0.37954
2.21																												0.00000	0.21368
2.21																												0.00000	0.21368
2.21																												0.00000	0.13046
2.22																												0.00000	0.06956
2.23																												0.00000	0.02888
2.24E+01	1.77E+01	-7.44E-03	-1.41E-02	1.60E-02	3.14E-01	2.24E+01	1.77E+01	-5.27E-02	-6.06E-02	8.03E-02	7.99E-01	-0.04647	3.27847	-0.01308	3.27849	0.00001	1.59138	2.24E+01	1.77E+01	-8.97E-02	-7.10E-02	1.14E-01	1.11E+00	-0.05693	3.27847	-0.00083	3.27847	0.00000	0.00636
2.24E+01	1.77E+01	-8.18E-03	-1.27E-02	1.51E-02	3.22E-01	2.24E+01	1.77E+01	-5.29E-02	-5.86E-02	7.90E-02	8.22E-01	-0.04592	3.37020	-0.01253	3.37022	0.00001	1.38188	2.24E+01	1.77E+01	-8.95E-02	-6.88E-02	1.13E-01	1.13E+00	-0.05610	3.37020	0.00001	3.37020	0.00000	0.00000
2.25E+01	1.76E+01	-9.00E-03	-1.12E-02	1.44E-02	3.01E-01	2.25E+01	1.76E+01	-5.31E-02	-5.66E-02	7.76E-02	8.12E-01	-0.04536	3.46193	-0.01196	3.46195	0.00001	1.19408	2.25E+01	1.76E+01	-8.93E-02	-6.65E-02	1.11E-01	1.11E+00	-0.05525	3.46193	0.00085	3.46193	0.00000	0.00602
2.26E+01	1.75E+01	-9.89E-03	-9.67E-03	1.38E-02	3.07E-01	2.26E+01	1.75E+01	-5.34E-02	-5.45E-02	7.63E-02	8.25E-01	-0.04478	3.55367	-0.01139	3.55368	0.00001	1.02684	2.26E+01	1.75E+01	-8.92E-02	-6.41E-02	1.10E-01	1.13E+00	-0.05440	3.55367	0.00170	3.55367	0.00000	0.02290
2.26E+01	1.75E+01	-1.09E-02	-8.05E-03	1.35E-02	2.91E-01	2.26E+01	1.75E+01	-5.38E-02	-5.23E-02	7.50E-02	8.10E-01	-0.04420	3.64540	-0.01081	3.64541	0.00000	0.87889	2.26E+01	1.75E+01	-8.92E-02	-6.16E-02	1.08E-01	1.11E+00	-0.05355	3.64540	0.00256	3.64540	0.00000	0.04919
2.26E+01	1.75E+01	-1.09E-02	-8.05E-03	1.35E-02	2.91E-01	2.26E+01	1.75E+01	-5.38E-02	-5.23E-02	7.50E-02	8.10E-01	-0.04420	3.64540	-0.01081	3.64541	0.00000	0.87889	2.26E+01	1.75E+01	-8.92E-02	-6.16E-02	1.08E-01	1.11E+00	-0.05355	3.64540	0.00256	3.64540	0.00000	0.04919
2.27E+01	1.74E+01	-1.18E-02	-6.44E-03	1.35E-02	3.69E-01	2.27E+01	1.74E+01	-5.42E-02	-5.01E-02	7.38E-02	8.87E-01	-0.04366	3.73049	-0.01027	3.73051	0.00000	0.75773	2.27E+01	1.74E+01	-8.92E-02	-5.92E-02	1.07E-01	1.19E+00	-0.05275	3.73049	0.00335	3.73049	0.00000	0.08075
2.27E+01	1.74E+01	-1.28E-02	-4.69E-03	1.36E-02	4.16E-01	2.27E+01	1.74E+01	-5.46E-02	-4.78E-02	7.26E-02	9.29E-01	-0.04313	3.81559	-0.00973	3.81560	0.00000	0.65088	2.27E+01	1.74E+01	-8.92E-02	-5.66E-02	1.06E-01	1.24E+00	-0.05195	3.81559	0.00415	3.81559	0.00000	0.11815
2.28E+01	1.73E+01	-1.37E-02	-2.78E-03	1.40E-02	5.84E-01	2.28E+01	1.73E+01	-5.50E-02	-4.54E-02	7.13E-02	1.09E+00	-0.04260	3.90068	-0.00921	3.90069	0.00000	0.55718	2.28E+01	1.73E+01	-8.92E-02	-5.39E-02	1.04E-01	1.40E+00	-0.05116	3.90068	0.00494	3.90068	0.00000	0.16038
2.29E+01	1.72E+01	-1.44E-02	-8.31E-04	1.44E-02	4.68E-01	2.29E+01	1.72E+01	-5.52E-02	-4.29E-02	6.99E-02	9.61E-01	-0.04208	3.98577	-0.00869	3.98578	0.00000	0.47546	2.29E+01	1.72E+01	-8.90E-02	-5.12E-02	1.03E-01	1.28E+00	-0.05037	3.98577	0.00573	3.98578	0.00000	0.20658
2.29E+01	1.72E+01	-1.44E-02	-8.31E-04	1.44E-02	4.68E-01	2.29E+01	1.72E+01	-5.52E-02	-4.29E-02	6.99E-02	9.61E-01	-0.04208	3.98577	-0.00869	3.98578	0.00000	0.47546	2.29E+01	1.72E+01	-8.90E-02	-5.12E-02	1.03E-01	1.28E+00	-0.05037	3.98577	0.00573	3.98578	0.00000	0.20658
2.29E+01	1.72E+01	-1.44E-02	-1.04E-03	1.44E-02	-1.64E-01	2.29E+01	1.72E+01	-5.46E-02	-4.26E-02	6.93E-02	3.16E-01	-0.04158	4.07042	-0.00819	4.07043	0.00000	0.40488	2.29E+01	1.72E+01	-8.80E-02	-5.06E-02	1.02E-01	6.46E-01	-0.04959	4.07042	0.00651	4.07043	0.00000	0.25569
2.30E+01	1.71E+01	-1.41E-02	-1.35E-03	1.42E-02	1.82E-01	2.30E+01	1.71E+01	-5.39E-02	-4.24E-02	6.86E-02	6.46E-01	-0.04110	4.15507	-0.00771	4.15508	0.00000	0.34388	2.30E+01	1.71E+01	-8.68E-02	-5.02E-02	1.00E-01	9.88E-01	-0.04882	4.15507	0.00728	4.15508	0.00000	0.30732





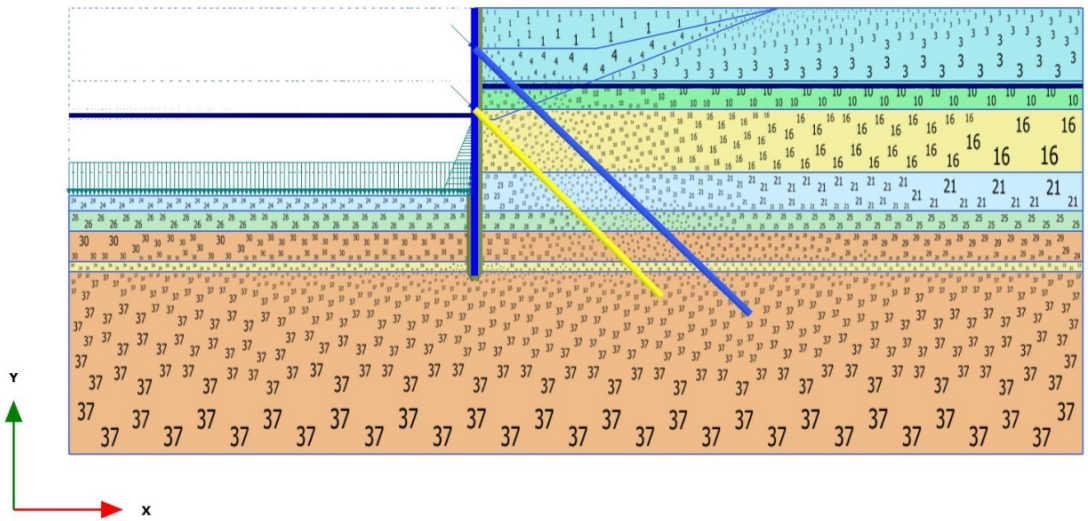
PLAXIS Report

1.1.1.1 Calculation results, 5. Installatie bovenste ankerrij [Phase_5] (5/37), Connectivity plot



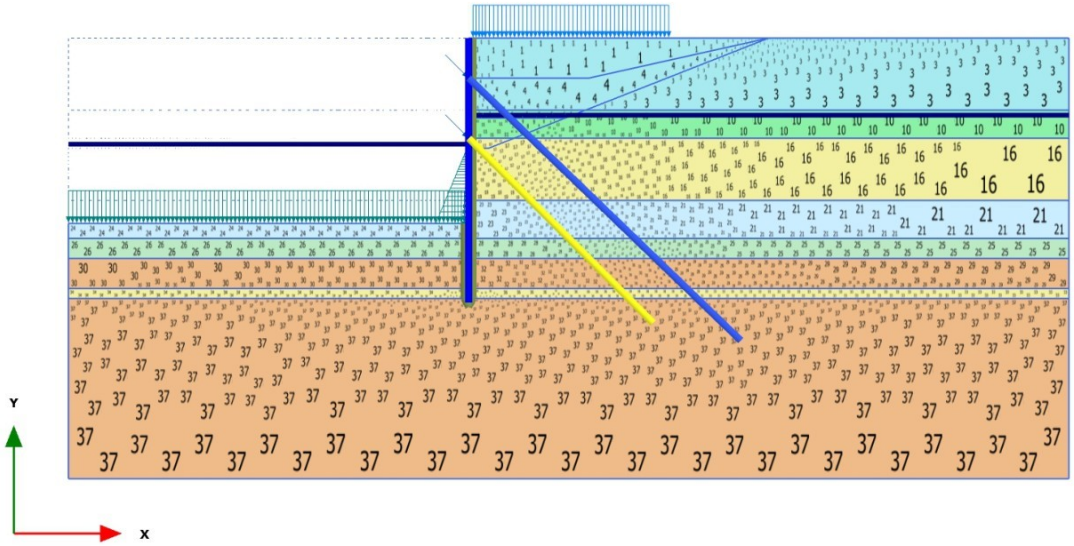
Connectivity plot

1.1.1.2 Calculation results, 10. Waterpeilverschil [Phase_10] (10/67), Connectivity plot



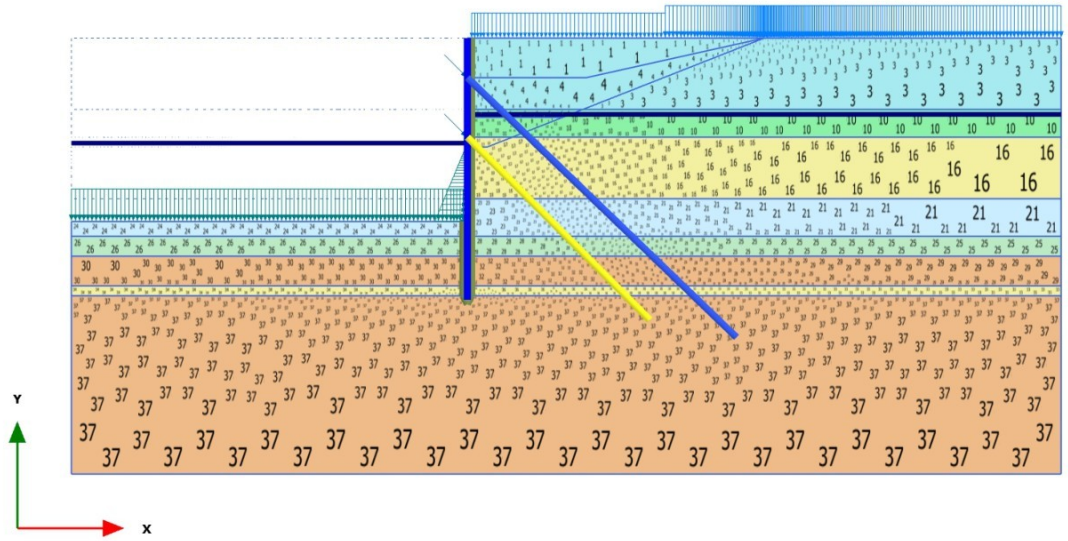
Connectivity plot

1.1.1.3 Calculation results, 11. SLS KAR H: TB 27 kPa + haalpen x psi0 [Phase_11] (11/84), Connectivity plot



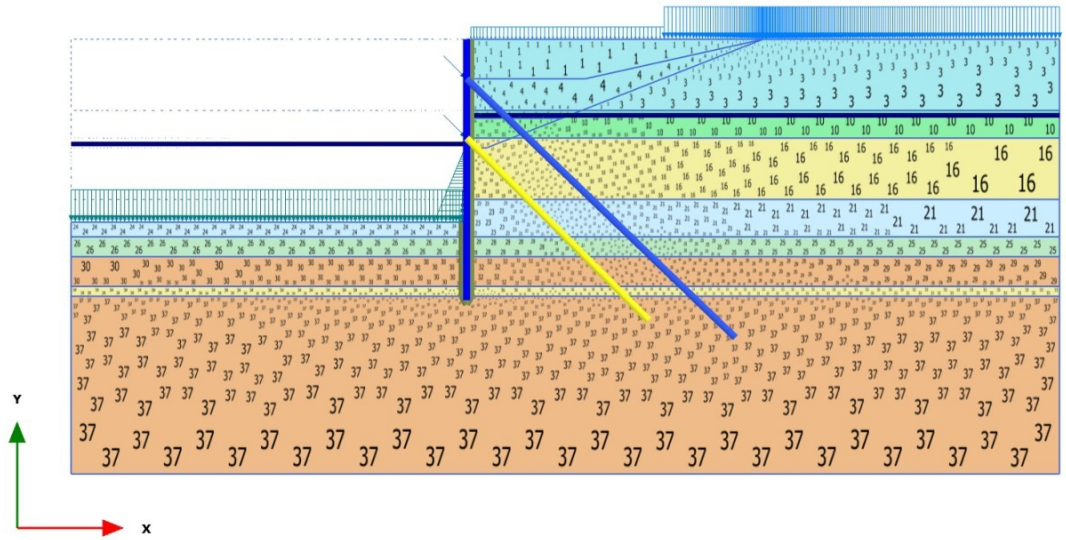
Connectivity plot

1.1.1.4 Calculation results, 12. SLS KAR: TB 27 kPa + opslag 50 kPa x psi0+haalpenxpsi0 [Phase_12] (12/288), Connectivity plot



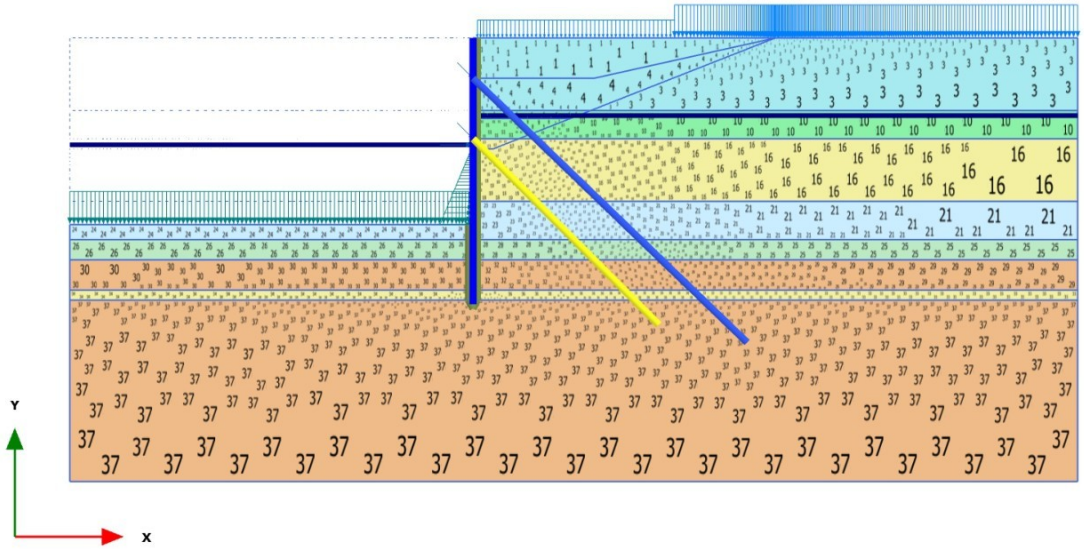
Connectivity plot

1.1.1.5 Calculation results, 13. SLS KAR: H: opslag 50 kPa + TB 27 kPa x psi0 + haalpen x psi0 [Phase_13] (13/812), Connectivity plot



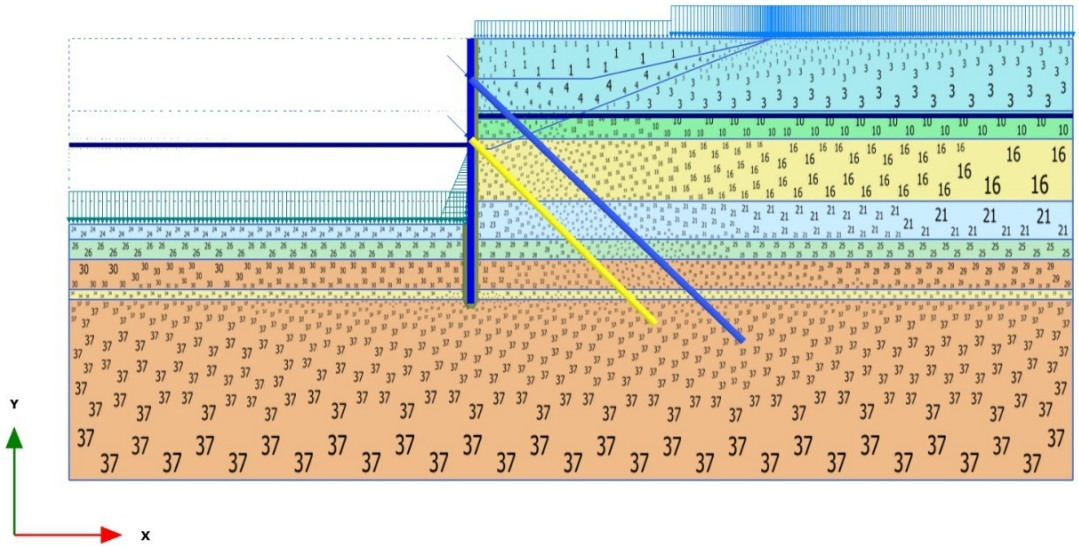
Connectivity plot

1.1.1.6 Calculation results, 14. SLS KAR: H: Ijs + opslag + TB [Phase_14] (14/972), Connectivity plot



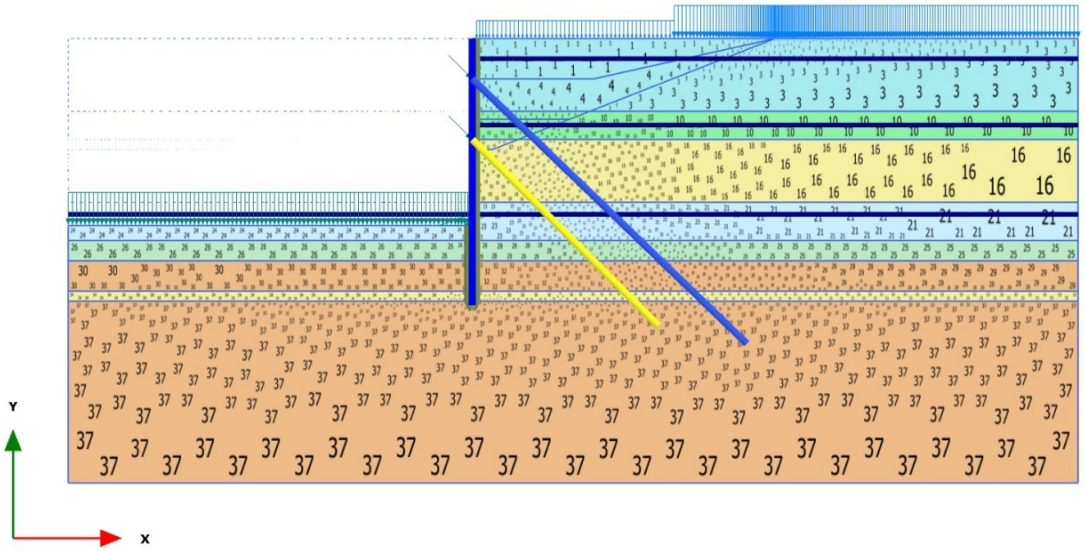
Connectivity plot

1.1.1.7 Calculation results, 15. SLS KAR: H: Haalpen + opslag + TB [Phase_15] (15/1093), Connectivity plot



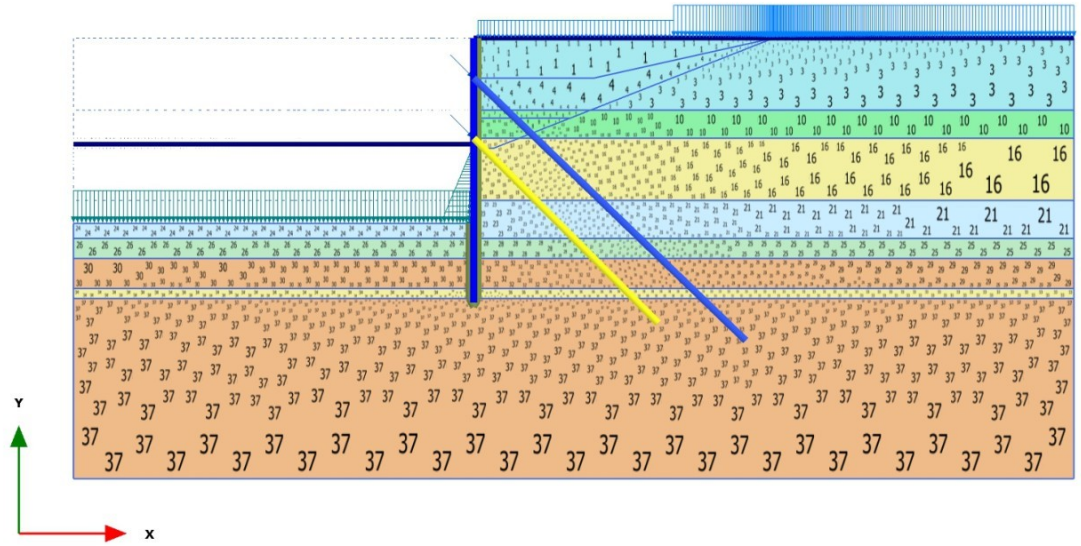
Connectivity plot

1.1.1.8 Calculation results, 16. ALS: ELW + opslag + TB [Phase_16] (16/1297), Connectivity plot



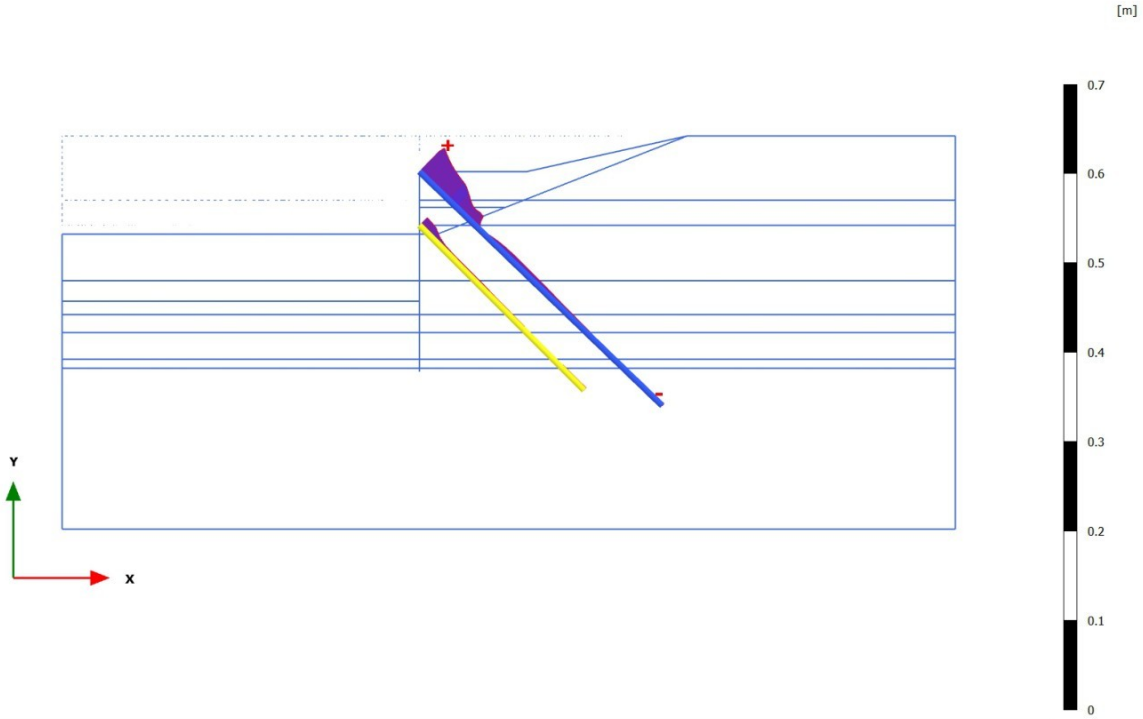
Connectivity plot

1.1.1.9 Calculation results, 18: SLS KAR: Val na MHW + opslag + TB [Phase_18] (18/1731), Connectivity plot



Connectivity plot

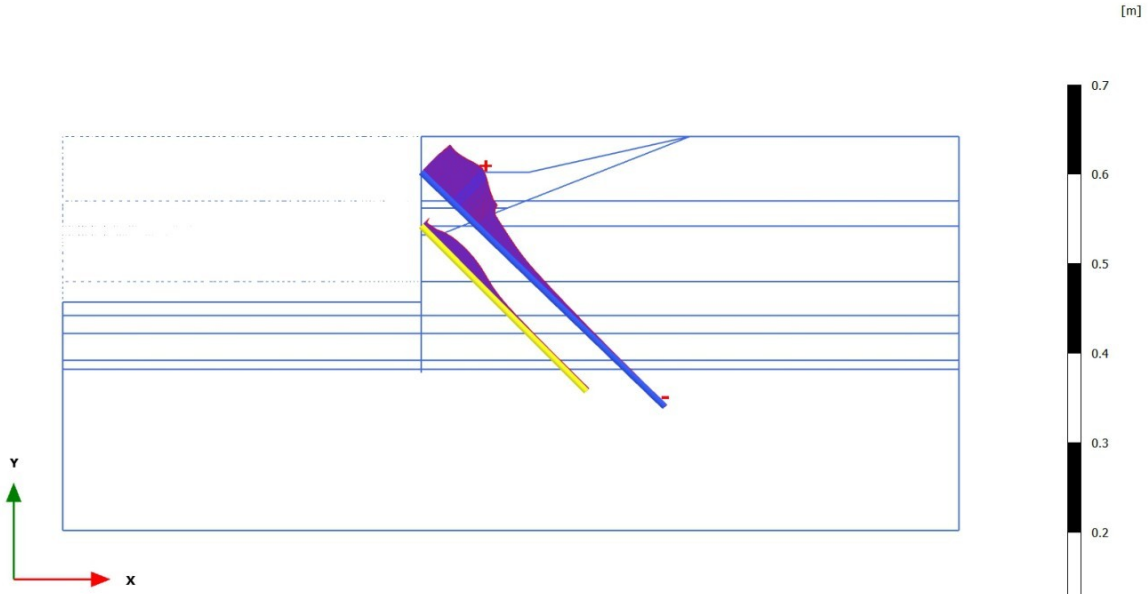
3.1.1.1.1.1 Calculation results, Embedded beam, 5. Installatie bovenste ankerrij [Phase_5] (5/37), Total displacements |u|



Total displacements |u| (scaled up 50.0 times)

Maximum value = 0.03850 m (Element 1 at Node 22976)

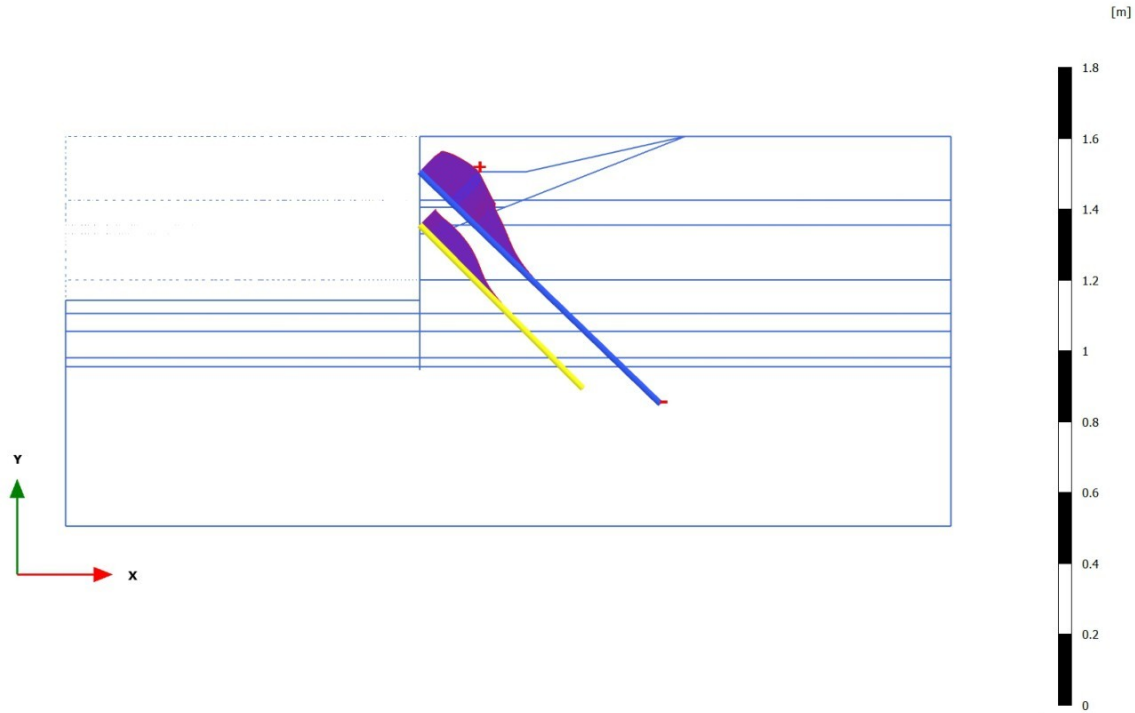
3.1.1.1.1.2 Calculation results, Embedded beam, 10. Waterpeilverschil [Phase_10] (10/67), Total displacements |u|



Total displacements |u| (scaled up 50.0 times)

Maximum value = 0.05072 m (Element 6 at Node 22999)

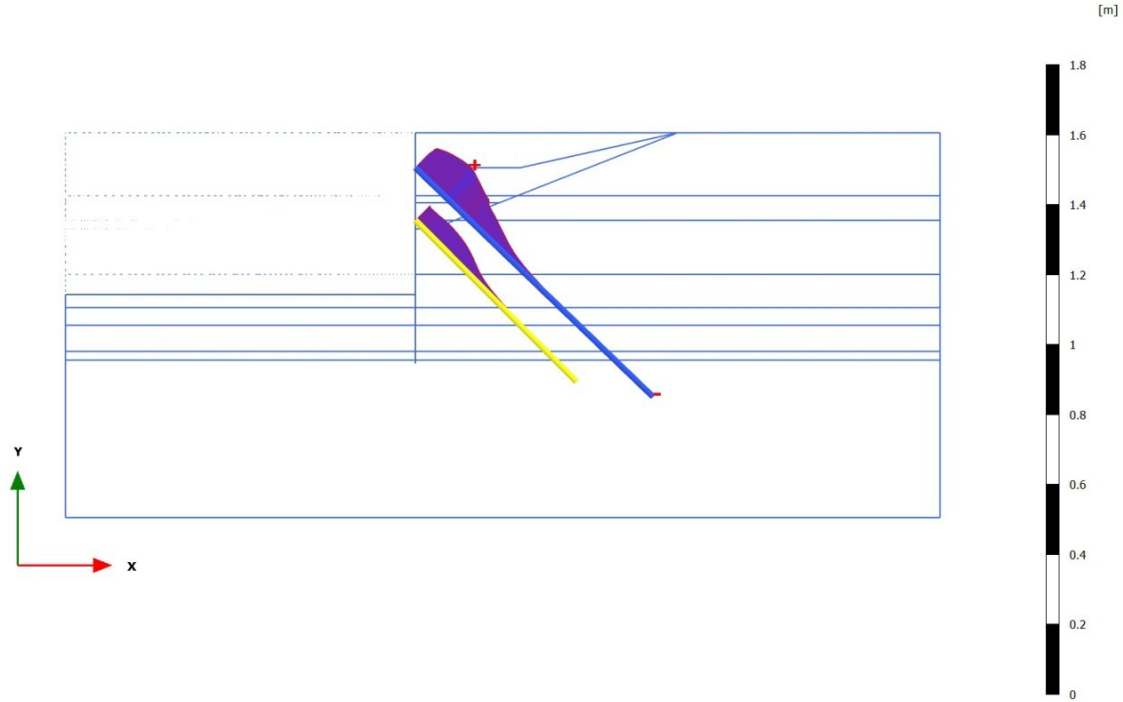
3.1.1.1.1.3 Calculation results, Embedded beam, 11. SLS KAR H: TB 27 kPa + haalpen x psi0 [Phase_11] (11/84), Total displacements |u|



Total displacements |u| (scaled up 20.0 times)

Maximum value = 0.1161 m (Element 6 at Node 22998)

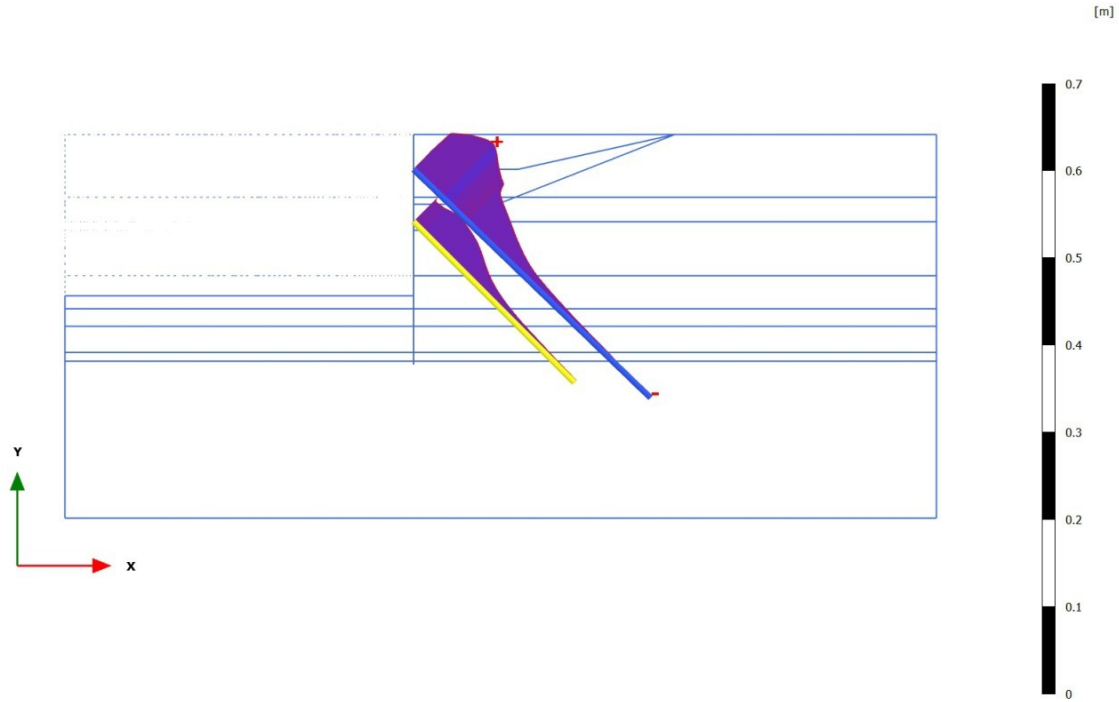
3.1.1.1.1.4 Calculation results, Embedded beam, 12. SLS KAR: TB 27 kPa + opslag 50 kPa x psi0+haalpenxpsi0 [Phase_12] (12/288), Total displacements |u|



Total displacements |u| (scaled up 20.0 times)

Maximum value = 0.1116 m (Element 6 at Node 22999)

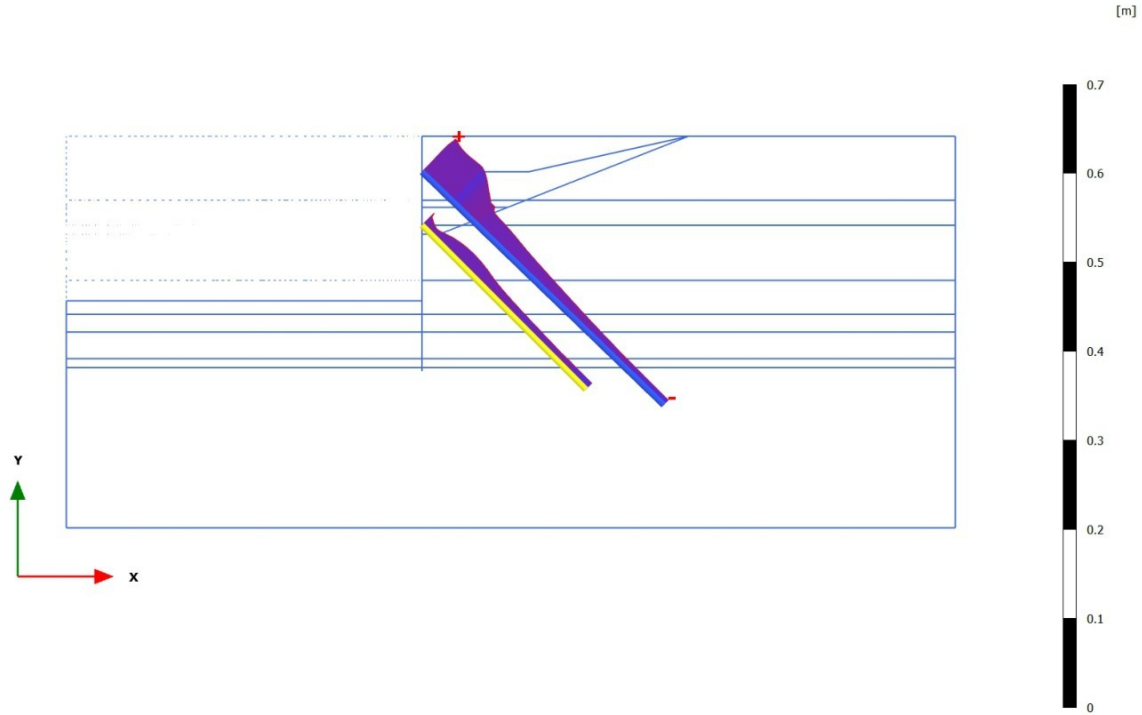
3.1.1.1.1.5 Calculation results, Embedded beam, 13. SLS KAR: H: opslag 50 kPa + TB 27 kPa x psi0 + haalpen x psi0 [Phase_13] (13/812), Total displacements |u|



Total displacements |u| (scaled up 50.0 times)

Maximum value = 0.08495 m (Element 6 at Node 22999)

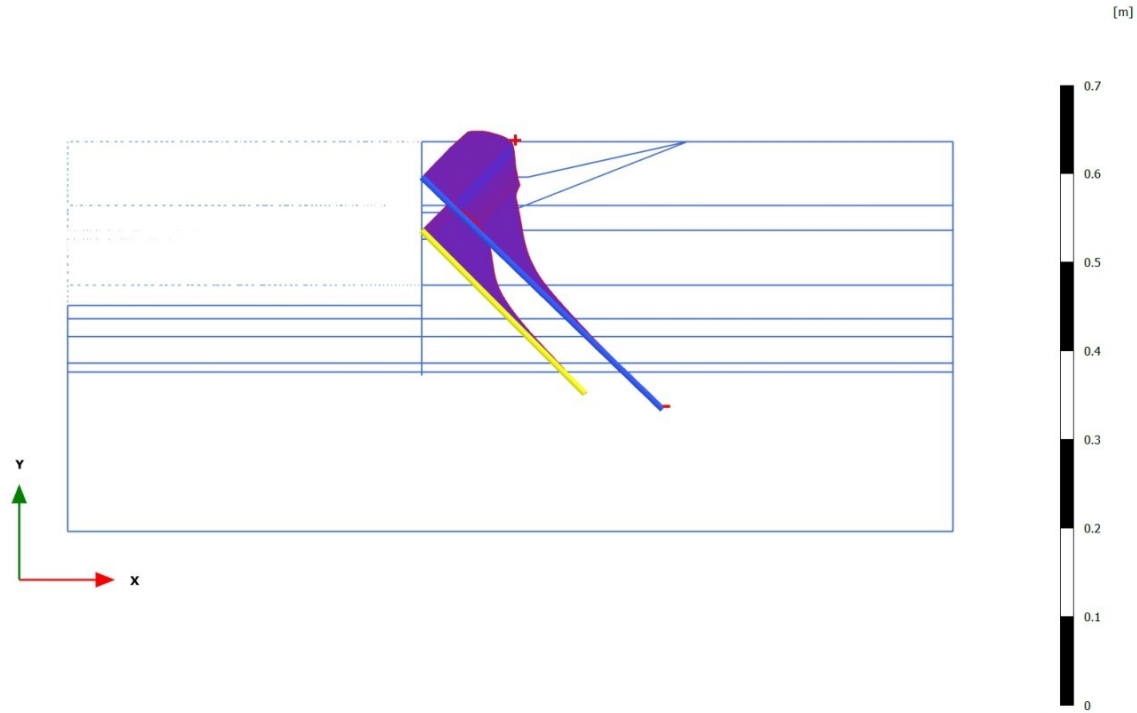
3.1.1.1.1.6 Calculation results, Embedded beam, 14. SLS KAR: H: Ijs + opslag + TB [Phase_14] (14/972), Total displacements |u|



Total displacements |u| (scaled up 50.0 times)

Maximum value = 0.05325 m (Element 1 at Node 22976)

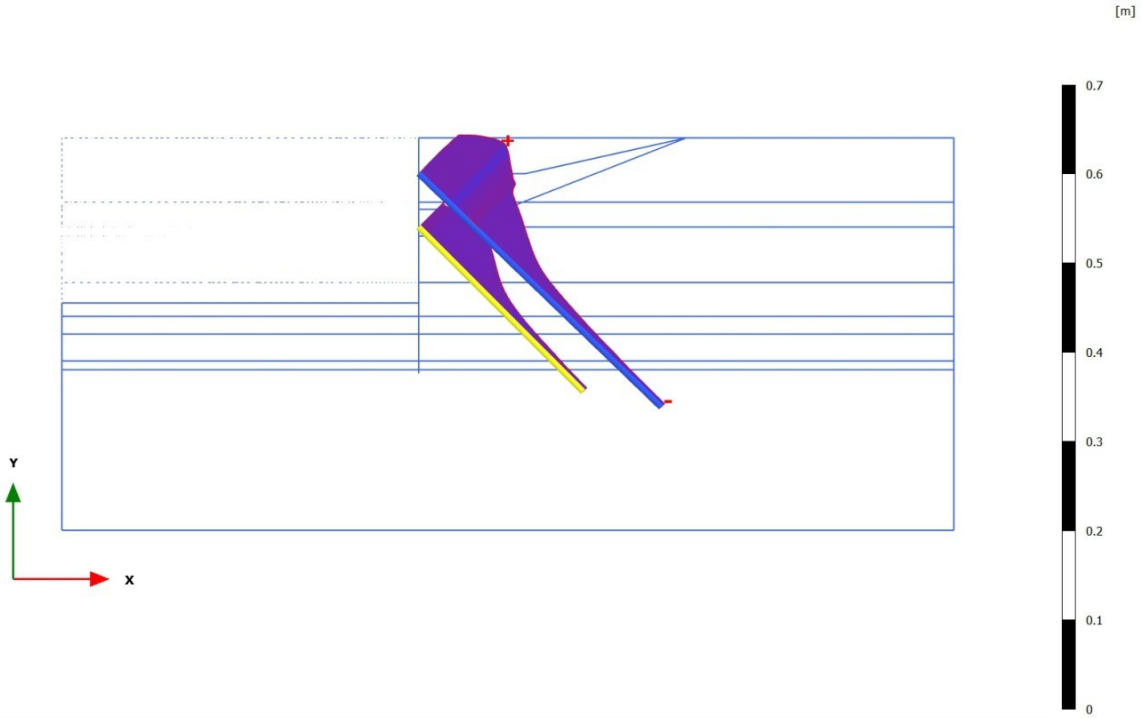
3.1.1.1.1.7 Calculation results, Embedded beam, 15. SLS KAR: H: Haalpen + opslag + TB [Phase_15] (15/1093), Total displacements |u|



Total displacements |u| (scaled up 50.0 times)

Maximum value = 0.09914 m (Element 6 at Node 22999)

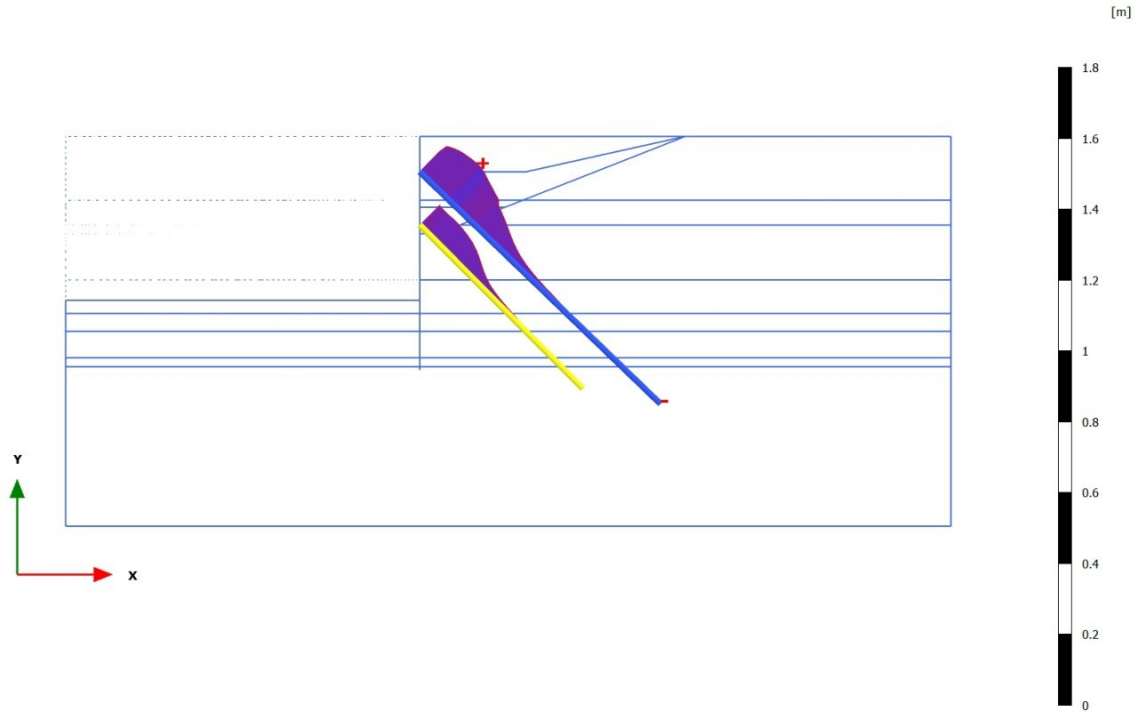
3.1.1.1.1.8 Calculation results, Embedded beam, 16. ALS: ELW + opslag + TB [Phase_16] (16/1297), Total displacements |u|



Total displacements |u| (scaled up 50.0 times)

Maximum value = 0.09135 m (Element 6 at Node 22999)

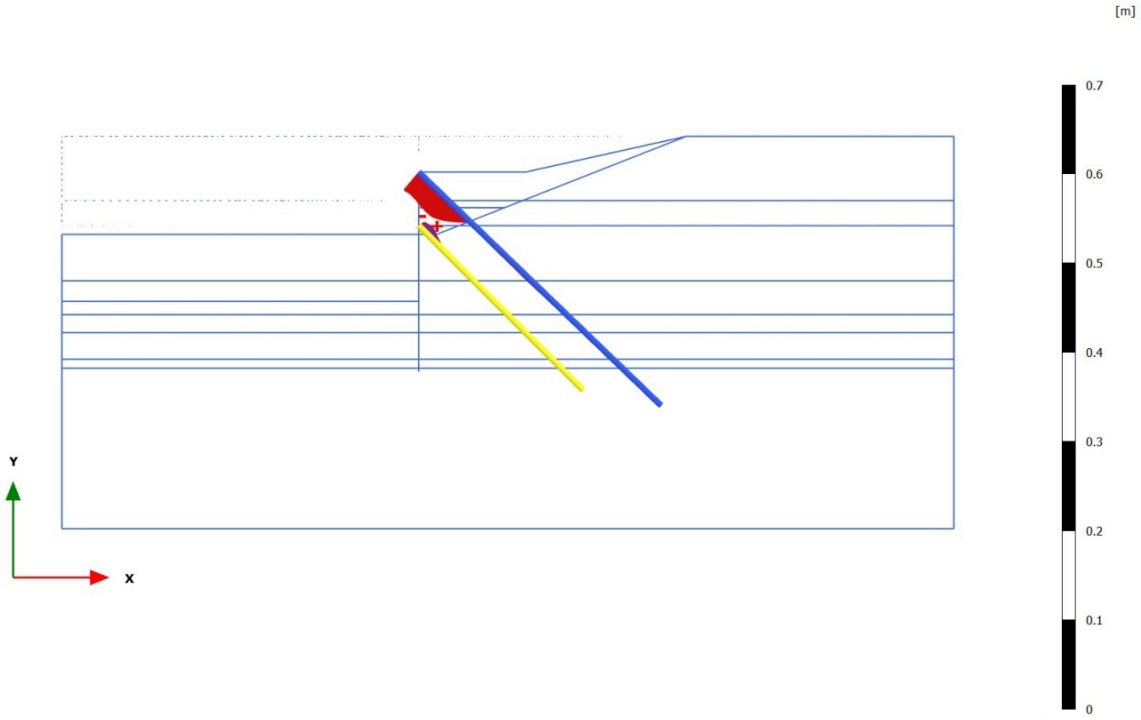
3.1.1.1.1.9 Calculation results, Embedded beam, 18: SLS KAR: Val na MHW + opslag + TB [Phase_18] (18/1731), Total displacements |u|



Total displacements |u| (scaled up 20.0 times)

Maximum value = 0.1293 m (Element 6 at Node 22998)

3.1.1.1.2.1 Calculation results, Embedded beam, 5. Installatie bovenste ankerrij [Phase_5] (5/37), Total displacements u_y

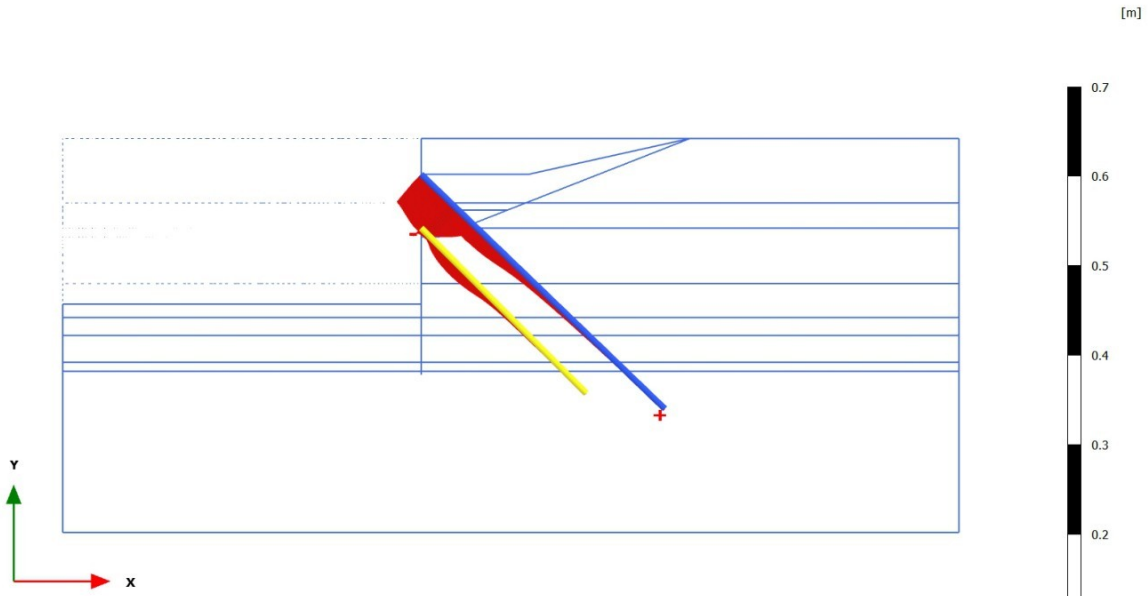


Total displacements u_y (scaled up 50.0 times)

Maximum value = $9.691*10^{-3}$ m (Element 47 at Node 23164)

Minimum value = -0.02649 m (Element 5 at Node 22994)

3.1.1.1.2.2 Calculation results, Embedded beam, 10. Waterpeilverschil [Phase_10] (10/67), Total displacements u_y

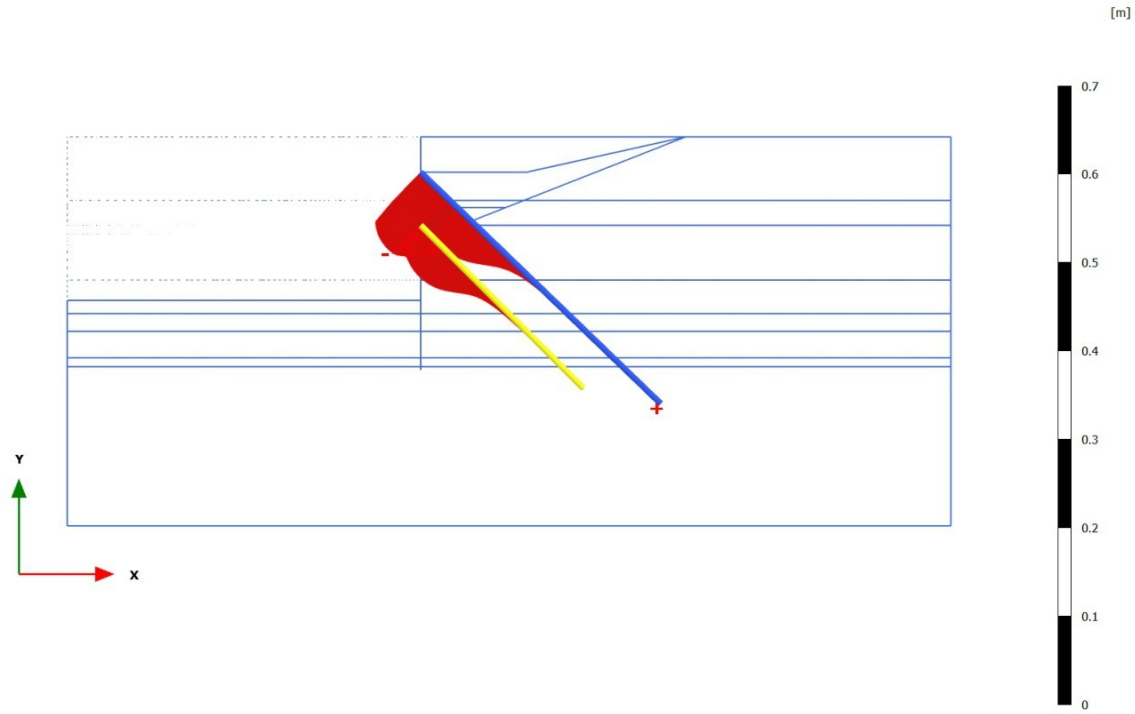


Total displacements u_y (scaled up 50.0 times)

Maximum value = $-2.557*10^{-3}$ m (Element 45 at Node 23155)

Minimum value = -0.04779 m (Element 5 at Node 22995)

3.1.1.1.2.3 Calculation results, Embedded beam, 11. SLS KAR H: TB 27 kPa + haalpen x psi0 [Phase_11] (11/84), Total displacements u_y

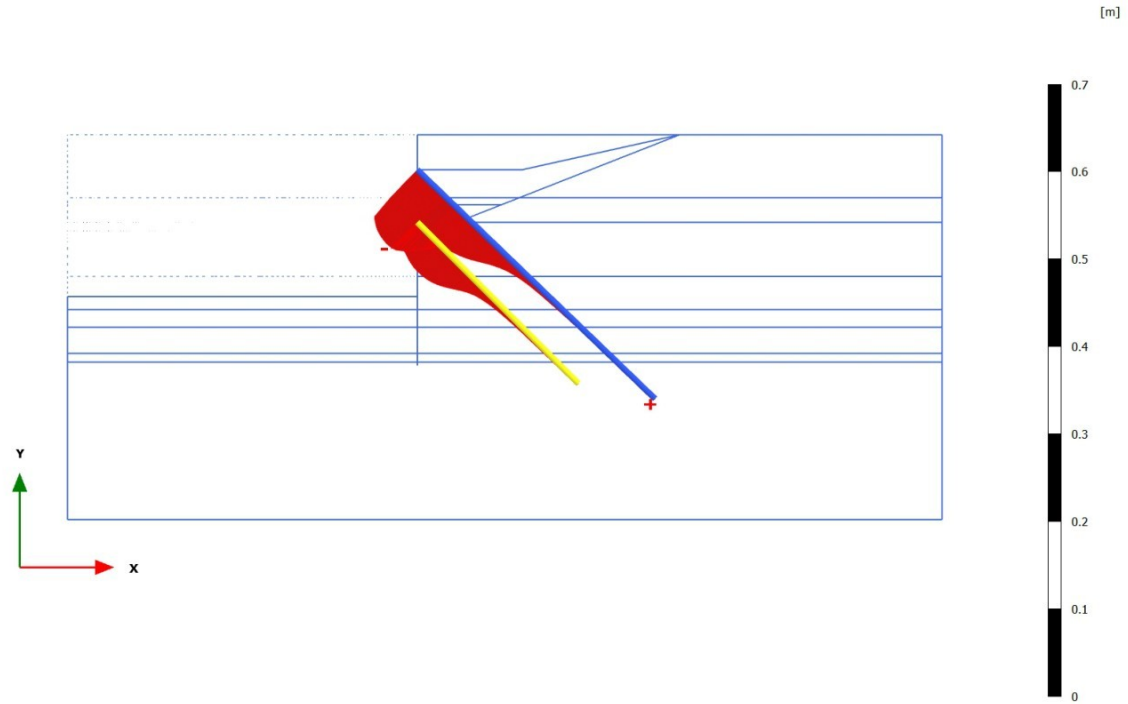


Total displacements u_y (scaled up 50.0 times)

Maximum value = $-0.5563*10^{-3}$ m (Element 45 at Node 23155)

Minimum value = -0.08830 m (Element 5 at Node 22993)

3.1.1.1.2.4 Calculation results, Embedded beam, 12. SLS KAR: TB 27 kPa + opslag 50 kPa x psi0+haalpenxpsi0 [Phase_12] (12/288), Total displacements u_y

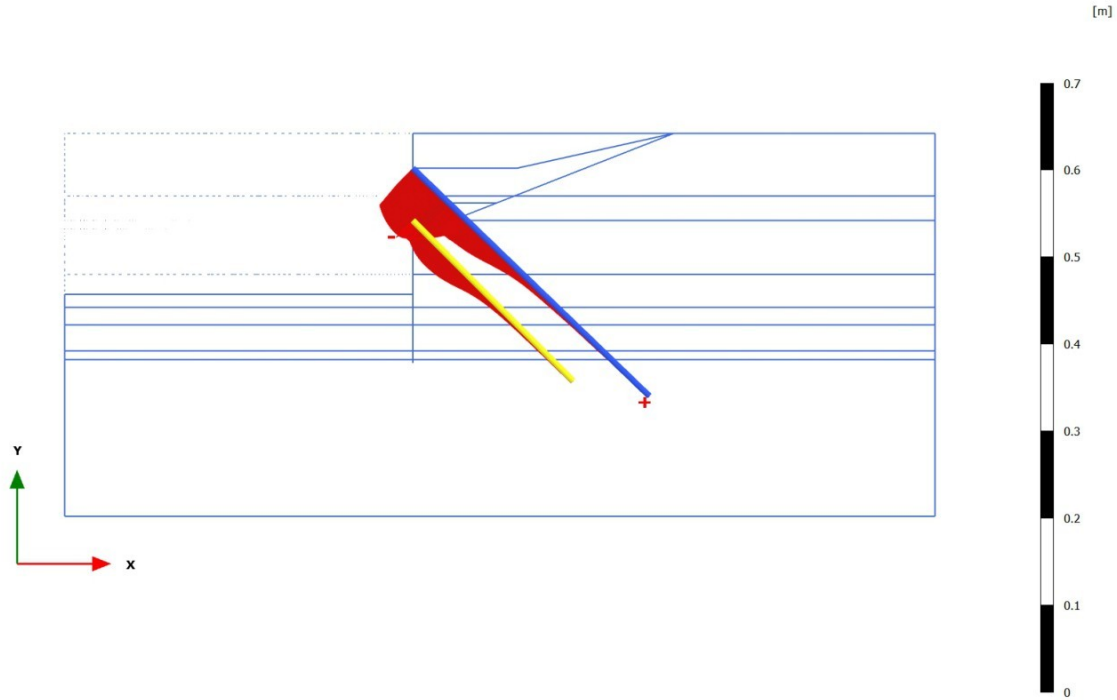


Total displacements u_y (scaled up 50.0 times)

Maximum value = $-1.690*10^{-3}$ m (Element 45 at Node 23155)

Minimum value = -0.08518 m (Element 5 at Node 22993)

3.1.1.1.2.5 Calculation results, Embedded beam, 13. SLS KAR: H: opslag 50 kPa + TB 27 kPa x psi0 + haalpen x psi0 [Phase_13] (13/812), Total displacements u_y

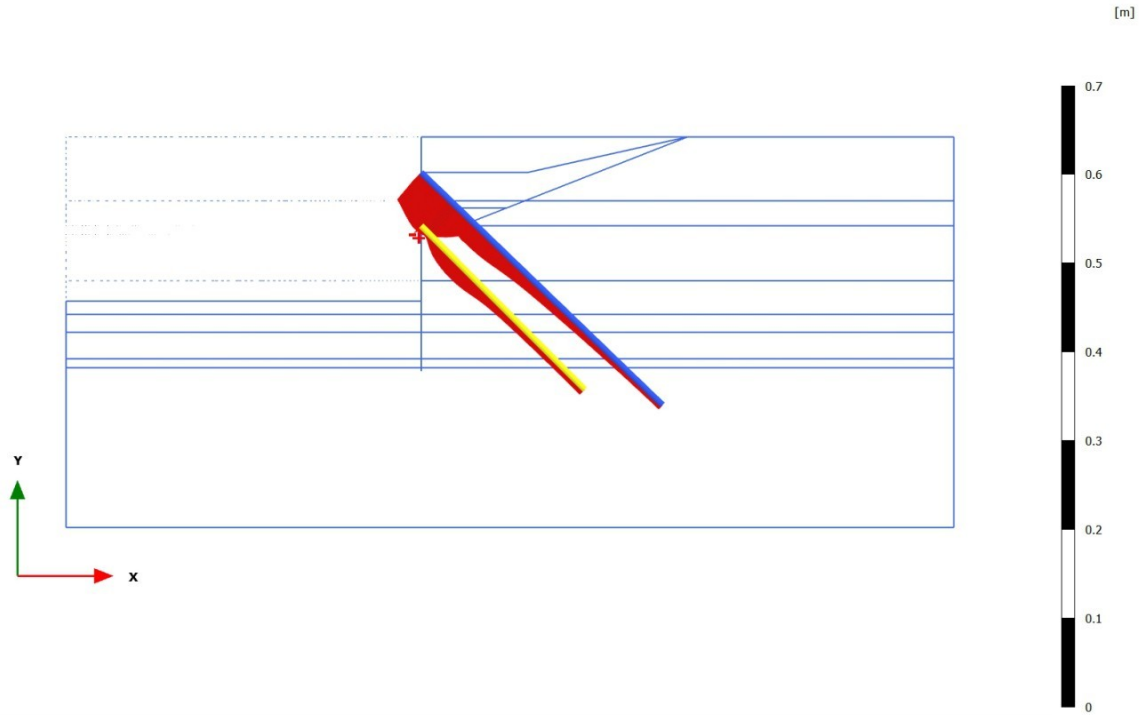


Total displacements u_y (scaled up 50.0 times)

Maximum value = $-2.541*10^{-3}$ m (Element 45 at Node 23155)

Minimum value = -0.06768 m (Element 5 at Node 22994)

3.1.1.1.2.6 Calculation results, Embedded beam, 14. SLS KAR: H: Ijs + opslag + TB [Phase_14] (14/972), Total displacements u_y

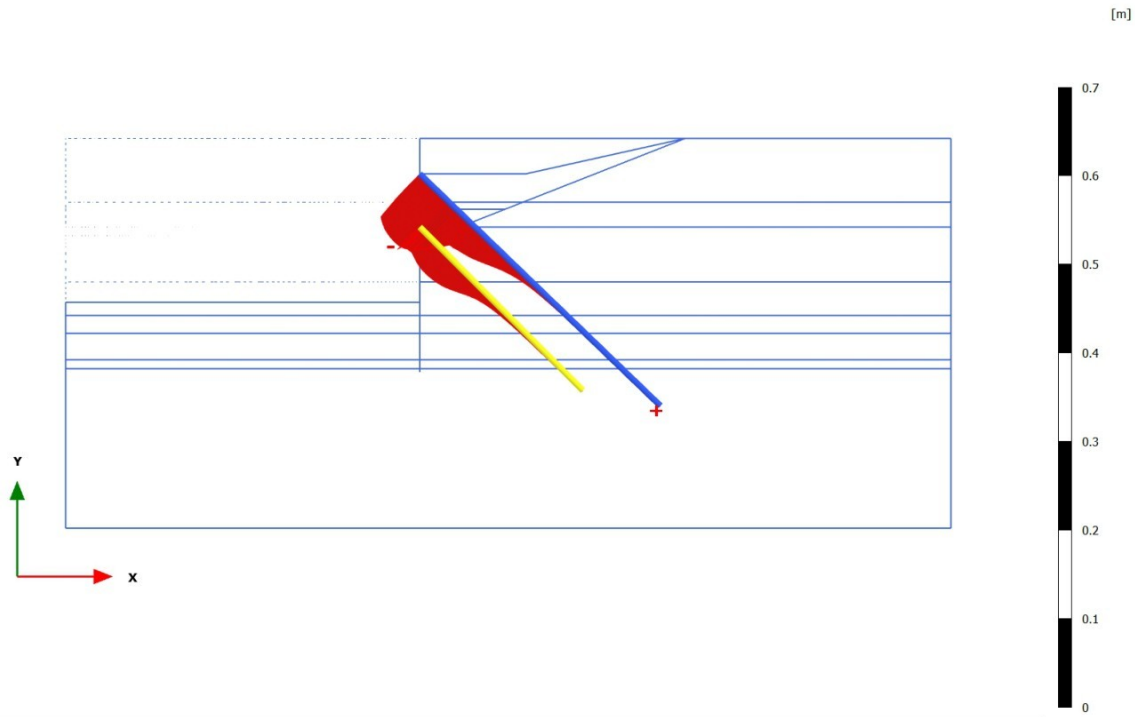


Total displacements u_y (scaled up 50.0 times)

Maximum value = $-5.212*10^{-3}$ m (Element 46 at Node 23160)

Minimum value = -0.05084 m (Element 6 at Node 22996)

3.1.1.1.2.7 Calculation results, Embedded beam, 15. SLS KAR: H: Haalpen + opslag + TB [Phase_15] (15/1093), Total displacements u_y

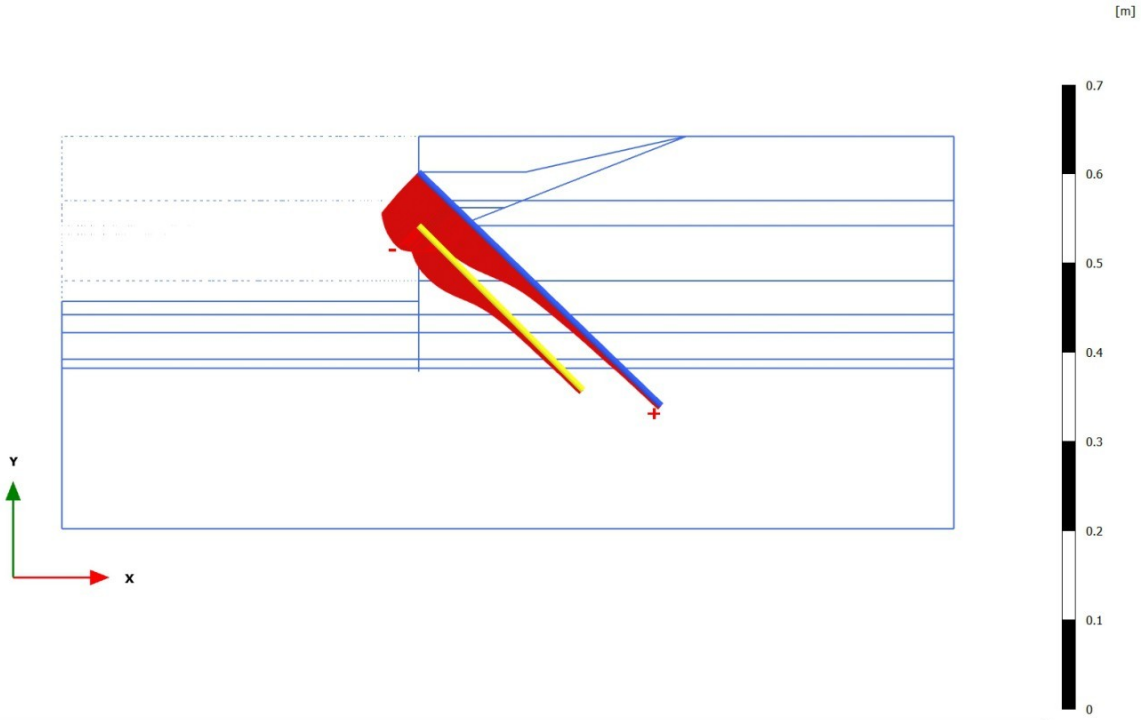


Total displacements u_y (scaled up 50.0 times)

Maximum value = $-1.152*10^{-3}$ m (Element 45 at Node 23155)

Minimum value = -0.07520 m (Element 5 at Node 22992)

3.1.1.1.2.8 Calculation results, Embedded beam, 16. ALS: ELW + opslag + TB [Phase_16] (16/1297), Total displacements u_y

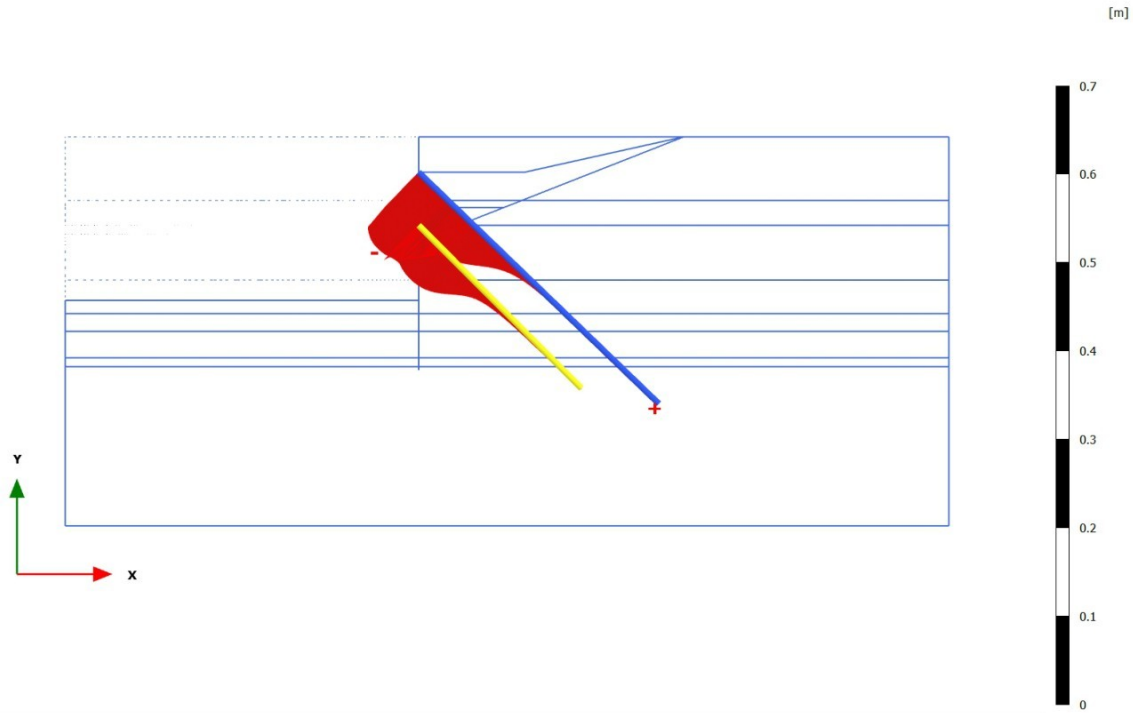


Total displacements u_y (scaled up 50.0 times)

Maximum value = $-5.462*10^{-3}$ m (Element 45 at Node 23155)

Minimum value = -0.07679 m (Element 5 at Node 22995)

3.1.1.1.2.9 Calculation results, Embedded beam, 18: SLS KAR: Val na MHW + opslag + TB [Phase_18] (18/1731), Total displacements u_y



Total displacements u_y (scaled up 50.0 times)

Maximum value = $-0.5616*10^{-3}$ m (Element 45 at Node 23155)

Minimum value = -0.09401 m (Element 4 at Node 22989)

Impact zakkende grond op bijkomende trekkracht stavenankers - ter indicatie afkomstig uit ontwerp Smurfit Westrock.

5.4 Vervor

De maximale horizontale verplaatsing dient kleiner of gelijk dient te zijn aan 1% van de kerende hoogte met een maximum van 100 mm.

Tabel 5.6 Controle vervorming per sectie

Sectie	Maaiveld actief [m NAP]	Maaiveld passief [m NAP]	H_{kerend} [m]	δ_x [mm]	$\delta_{bouwfase}$ [mm]	$\delta_{gebruik}$ [mm]	Opmerking
13	+20,50	+12,00	8,50	85	6	22	OK
14	+21,40	+11,50	9,9	99	33	52	OK
15	+21,40	+11,50	9,9	99	33	54	OK
16	+21,80	+11,50	10,3	100	28	47	OK

5.5 Verankering

5.5.1 Ankerstang

In Tabel 5.7 worden de maatgevende ankerkrachten voor de structurele controle getoond, zie ook Bijlage 3.

Tabel 5.7 Controle ankerstang

Sectie	Anker type	h.o.h. [m]	P_{max} [kN/anker]	P_d (STR) [kN/anker]	$M_{max,UGT}$ [kNm/anker]	UGT U.C.	Ankeruitval [kN/anker]
13	Ø76.1 x 17.5	4,20	748	935	12.4	0,92	935
14	Ø101.6 x 22.2	2,80	1525	1910	13.5	0.82	2150 (*)
15	Ø101.6 x 22.2	2,80	1625	2030	13,5	0.89	2150 (*)
16	Ø101.6 x 25.0	2,80	1680	2100	13,5	0.82	2150 (*)

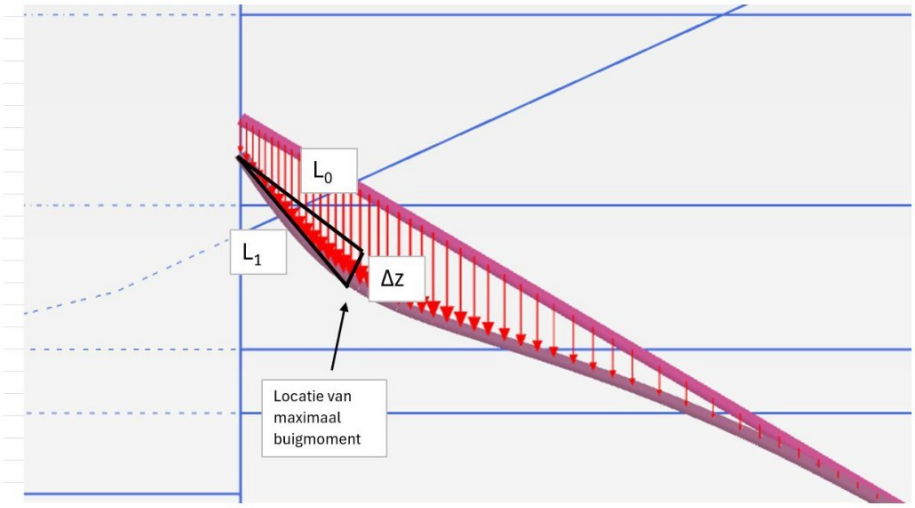
(*) De accidentele ankerlast is bepaald in het ontwerp van de gordingen en uniform aangehouden voor sectie 14/15/16 o.b.v. de maatgevende sectie 16. Aangezien de accidentele ankerbelasting lager is dan de ontwerplast P_d, wordt geconcludeerd dat deze controle niet maatgevend is en wordt er niet 'geoptimaliseerd'/apart gekeken naar secties 14 en 15.

De invloed van zakkende grond op de ankers is bepaald m.b.v. Plaxis2D, zoals omschreven in §4.2. Hieruit kan het buigmoment in de ankers direct worden afgeleid, zoals hierboven getoond. Echter, de bijkomende trekkracht in het anker t.g.v. de zakking is niet direct af te leiden uit Plaxis2D, omdat het grootste deel van de trekkracht vanzelfsprekend ontstaat uit de krachtswerking van de damwand, wat al in D-Sheet wordt gevat. Derhalve wordt er gekeken naar de verlenging van het anker t.g.v. de zakking van de grond. Dit wordt voor sectie 15 gedaan, aangezien dit anker de hoogste unity check heeft o.b.v. Tabel 5.7.

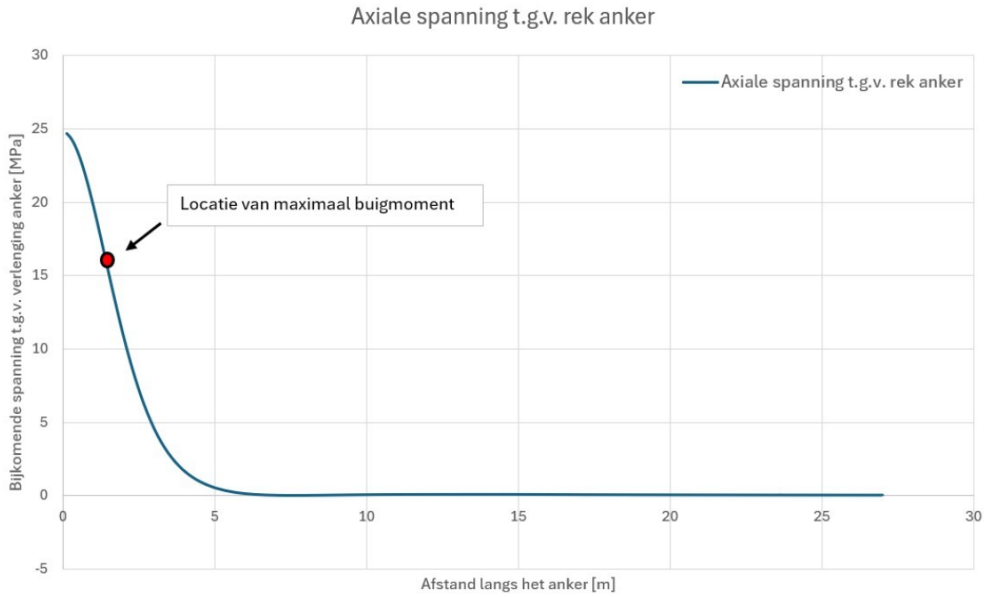
De verlenging wordt bepaald langsheen het anker. Dit geschiedt door de verschilzetting tussen het beschouwde punt en de ankerkop te bepalen en zodoende de lengte L_1 van het anker te vergelijken met L_0. Hieruit volgt een axiale rek in het anker welke wordt omgezet naar een spanning. Zie onderstaande schets ter toelichting:

In de grafiek is te zien dat de invloed van verlenging van het anker beperkt is en snel uitdempt. Na 5,0 m ankerlengte is er geen effect meer te zien van bijkomende trekkrachten in het anker t.g.v. zakkende grond. Op het kritieke punt (maximaal buigmoment) is de bijkomende trekspanning in het anker gelijk aan 16 MPa (ca. 3% van de vloeispanning). Hieruit wordt geconcludeerd dat de bijkomende trekkrachten t.g.v. zakkende grond op het anker verwaarloosbaar zijn.

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Figuur 5.1 Bepaling verlenging anker t.g.v. zakkende grond



Figuur 5.2 Bijkomende (axiale) trekspanningen in het anker t.g.v. zakkende grond

5.5.2 Groutlichaam

Een overzicht van de toetsing van het groutlichaam in de maatgevende fase en bij ankeruitval is opgenomen in Tabel 5.8.

Tabel 5.8 Controle groutlichaam

Sectie	$q_{c;gem}$ [mPa]	P_{max} [kN/anker]	$P_{d,grout}$ [kN/anker]	UGT U.C.	Ankeruitval U.C.
13	15,0	748	822	0,84	0,78
14	15,0	1525	1680	0.78	0,80
15	15.0	1625	1790	0.83	0,80
16	15.0	1680	1850	0.85	0,80

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