

30 TONN på Ofotbanen



Rapport 3.12

INFRASTRUKTUR

Kontrollberegning av Nordalsbruene



Jernbaneverket

Jernbaneverket
Biblioteket

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FORORD

Bakgrunn for med rapporten er å kontrollere Norddalsbru 1 og Norddalsbru 2 for 30 tonn aksellast.

På grunn av ønske om nye vogner med 30 tonn aksellast vil disse gi en økning av lastvirkningen på brukerkonstruksjonen. Opprinnelige konstruksjonsberegninger er basert på 25 tonn aksellast.

Forutsetningene er at metervekten for lastene ikke skal økes.

SAMMENDRAG

Grunnlagsmateriale er opprinnelige konstruksjonsberegninger samt alle arbeidstegninger. Alle arbeidstegninger for Norddalsbro 1 er nummerert fra 1318,2A - 1318,14. For Norddalsbro 2 er alle arbeidstegninger nummerert fra 1319,2B - 1319, 19.

Hovedkonklusjon :

Beregninger viser at kapasiteten til bruene er tilfredsstillende for aksellaster på 30 tonn.

Bruene er kontrollert både i tverretning og i lengderetning.

Følgende kontroller er utført :

Bruoverbygning i lengderetning

Bruoverbygning i tverretning.

Underbygningen som fundamenter og landkar er ikke kontrollert.

1. KONTROLLBEREGNING AV BRØ 1

1.1 INNLEDNING

Norrdalsbruene er opprinnelig beregnet for aksellaster på 25 tonn. Brø 1 er 50 m lang i ett spenn og er bygget i spennarmert betong med fasthetsklasse C45. Brø 1 ble bygget i 1985. Brøen består av to langsgående bjelker med betongdekke imellom. (dobbel T- bjelke). Brøen er beregnet med ballast.

På grunn av fremtidige planer om økning av aksellaster fra 25 tonn til 30 tonn er det i denne rapporten utført nye beregninger med aksellaster på 30 tonn.

Beregningene er utført med hensyn til de nye vognene som er planlagt tatt i bruk på Ofotbanen og også kontrollert etter Tåglast Malm.

1.2 GEOMETRI

Opriss og tverrsnitt av bru vises på oversiktstegning, se Appendiks 1.

1.3 MATERIALER

Brø 1 er bygget i spennarmert betong med fasthetsklasse C45.

Som slakkarmering er benyttet KS 40 og KS 40s.

I brøbjelkene ligger totalt 28 stk spennkabler med flytekraft på 2529 kn på hver kabel.

Stålkvaliteten for spennstålet er 1600/1800 Mpa. (flytespenning / bruddspenning).

1.4 LASTER

Brø 1 er kontrollert etter aksellaster på 30 tonn etter forslag til nye vogner og etter Tåglast Malm som vist i Appendiks 3.

Det sees først på lastvirkning i tverretning og deretter i lengderetningen.

1.5 BEREGNINGSSOPPLEGG

Brø 1 beregnes både i tverretning og lengderetning. Det foretas lokale kontroller av dekket i tverretning og globale kontroller i lengderetning.

1.6 RESULTATER

Beregningene viser at broens kapasiteten for 30 tonn aksellast er tilstrekkelig.

Bøyemomentet i midtfelt har fått en økning på 4.3 %. Økningen i bøyemoment har ingen vesentlig betydning. Med økning av aksellasten vil levetiden for konstruksjonen bli mindre. For Bro 1 er kapasiteten mot utmatning tilstrekkelig med den antatte togtetthet.

2. KONTROLLBEREGNING AV BRØ 2

2.1 INNLEDNING

Norddalsbrø 2 er 95 m lang fordelt på 2 spenn på henholdsvis 44.0 m og 41.0 m.

Brøen er bygget i spennarmert betong med fasthetsklasse C45.

Brøen består av to langsgående bjelker med betongdekke imellom. (dobbel T - bjelke).

2.2 GEOMETRI

Oppriss og tverrsnitt av bru vises på oversiktstegning, se Appendiks 2.

2.3 MATERIALER

Brø 2 er bygget i spennarmert betong med fasthetsklasse C45.

Som slakkarmering er benyttet KS 40 og KS 40s.

I brøbjelkene ligger totalt 28 spennkabler med flytekraft på 2529 kn på hver kabel.

Stålkvaliteten for spennkablene er 1600/1800 Mpa. (flytespenning / bruddspenning).

2.4 LASTER

Brø 2 kontrolleres for de samme lastene som Brø 1.

2.5 BEREGNINGSSOPPLEGG.

Brø 2 beregnes både i tverretning og i lengderetningen. Det foretas lokale kontroller av dekket i tverretning og globale kontroller i lengderetning.

Lastvirkning i brøens lengderetning beregnes ved hjelp av EDB programmet RM Spaceframe, se ref. /5/.

2.6 RESULTATER

Bergningene viser at kapasiteten for 30 tonn aksellast er tilstrekkelig.

Beregninger i lengderetningen er utført ved hjelp av EDB programmet Spaceframe.

3. KONKLUSJON /ANBEFALINGER

Det er utført kapasitetskontroll av bruoverbygningen både i tverretning og i lengderetning med aksellaster på 30 tonn.

Brua har tilstrekkelig kapasitet for 30 tonn aksellast. Selv om brua er sterk nok blir spenningene nå høyere. Det vil derfor ved kjøring med 30 tonn aksellast være viktig med systematisk kontroll av betongkonstruksjonene.

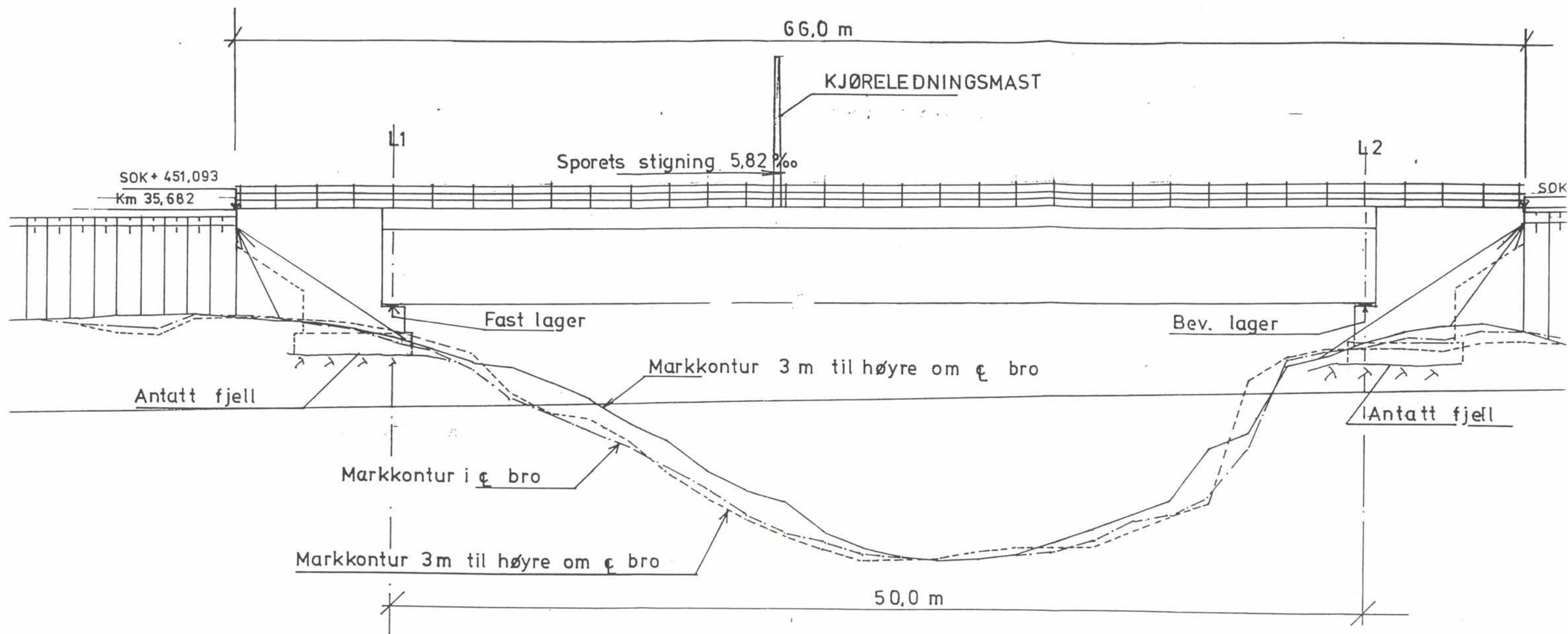
4. REFERANSELISTE

1. NS 3473 , Prosjektering av betongkonstruksjoner
2. Bruer - Regler for prosjektering og vedlikehold 1B - Te 22 - 48
3. Barighetsbestamning av jarnvagsbroar (1996-01-17)
4. Opprinnelige statiske beregninger og tegninger for Bro 1
5. R.M - Spaceframe

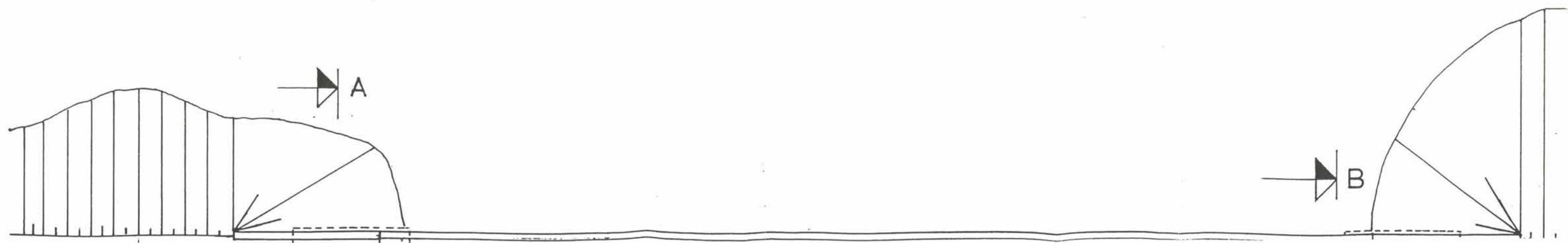
5. APPENDIKSLISTE

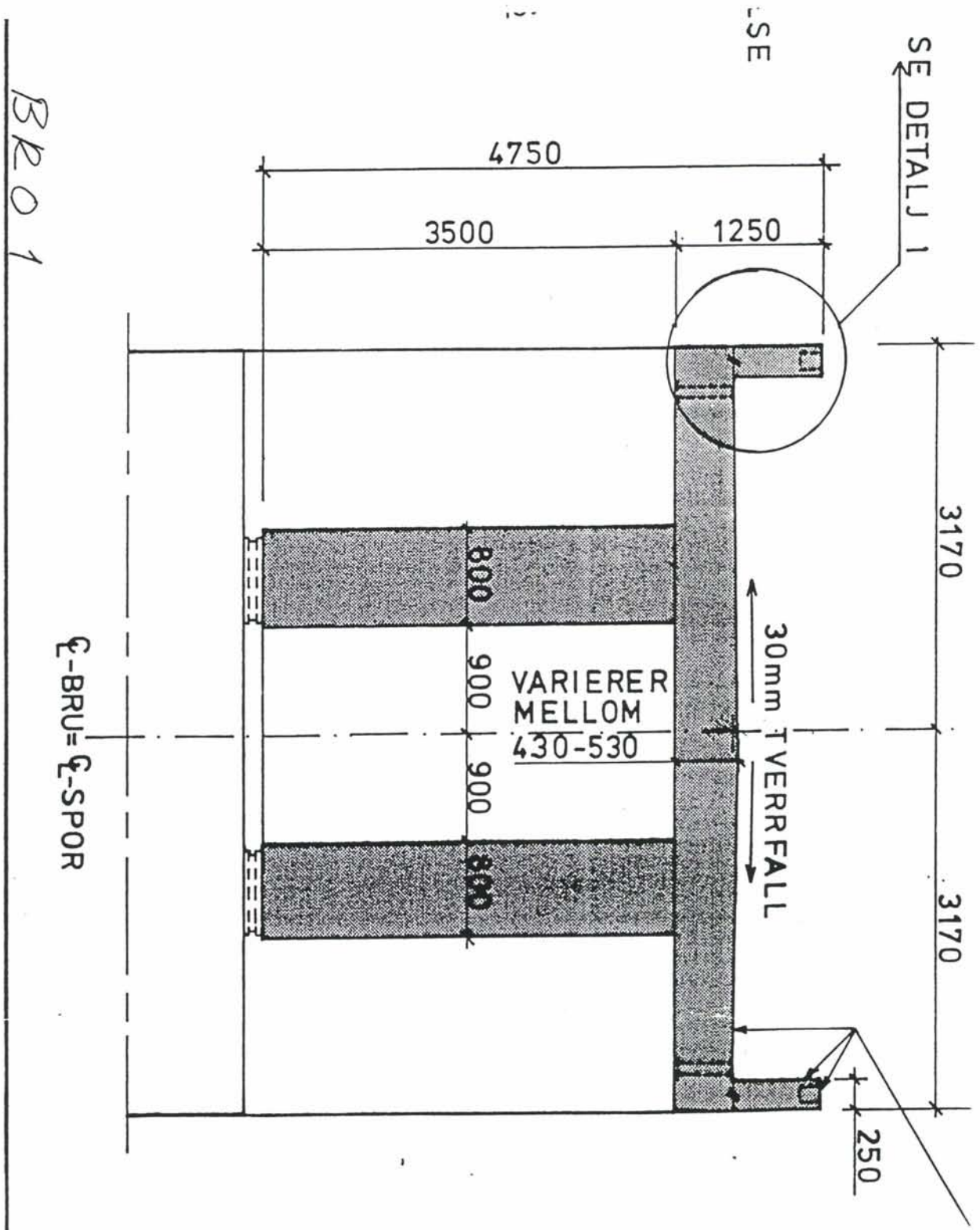
- Appendiks 1 : Oversiktstegning Norddalsbro 1
- Appendiks 2 : Oversiktstegning Norddalsbro 2
- Appendiks 3 : Skisser lastmodeller
- Appendiks 4 : Tverrsnittskisser
- Appendiks 5 : Beregninger Norddalsbro 1
- Appendiks 6 : Beregninger Norddalsbro 2
- Appendiks 7 : Resultatutskrifter

OVERSIKTSTEGNING FOR NORDDALSBRO 1



OPPRISS 1:200





SE DETALL J 1

SE

4750

3500

1250

3170

3170

250

800

900

900

800

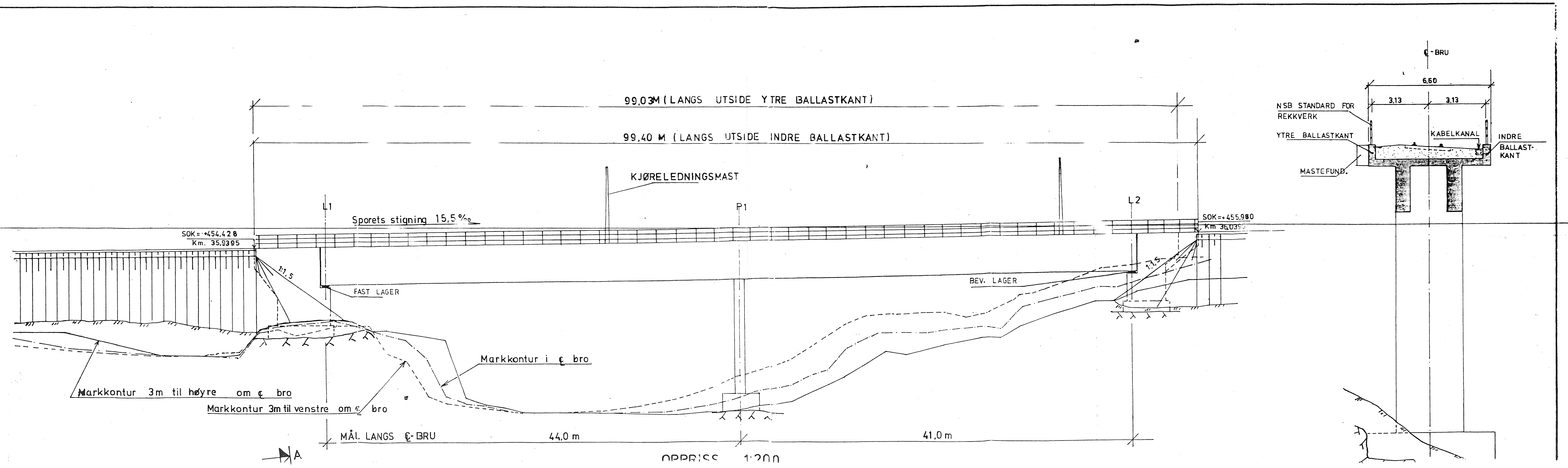
VARIERER
MELLOM
430-530

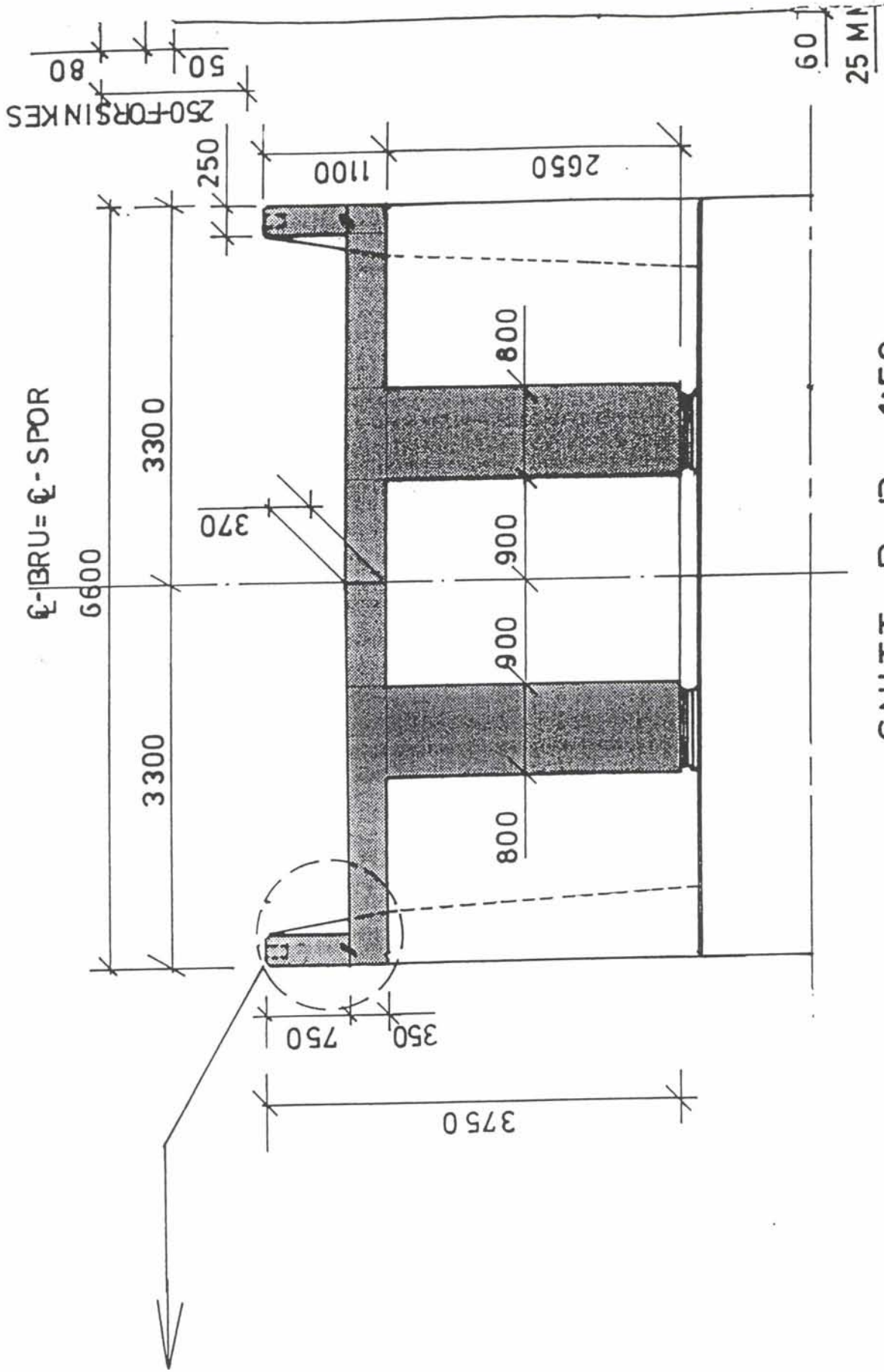
30mm TVERRFALL

C-BRU=C-SPOR

BR01

OVERSIKTSTEGNING FOR NORDDALSBRØ 2



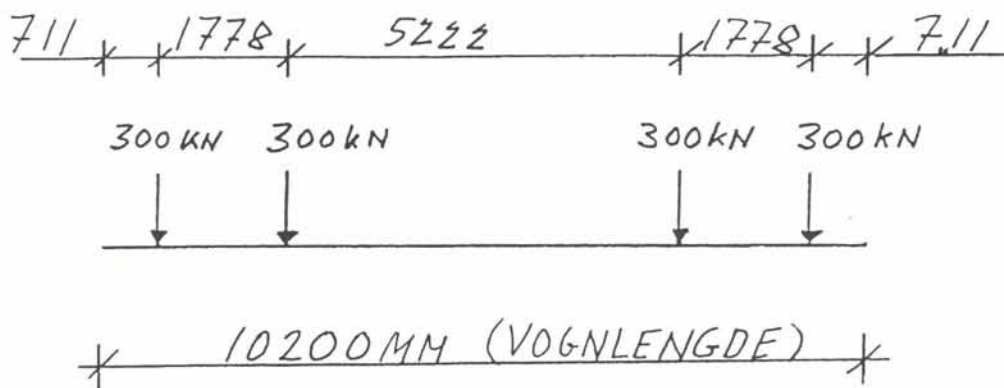


☉-BRU = ☉-SPOR

SNITT B-B 1:50

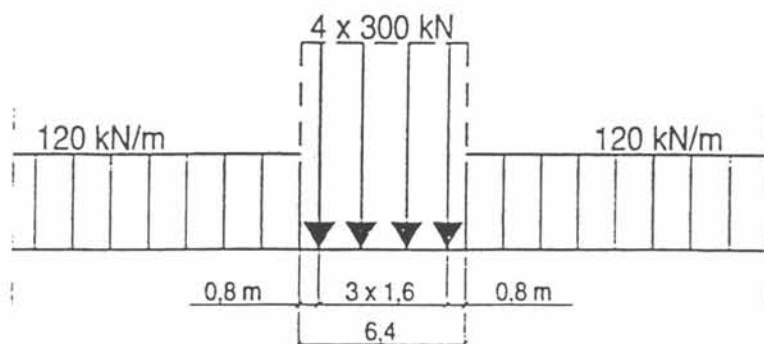
BRO 2

LASTMODELLER



Tåglast Malm

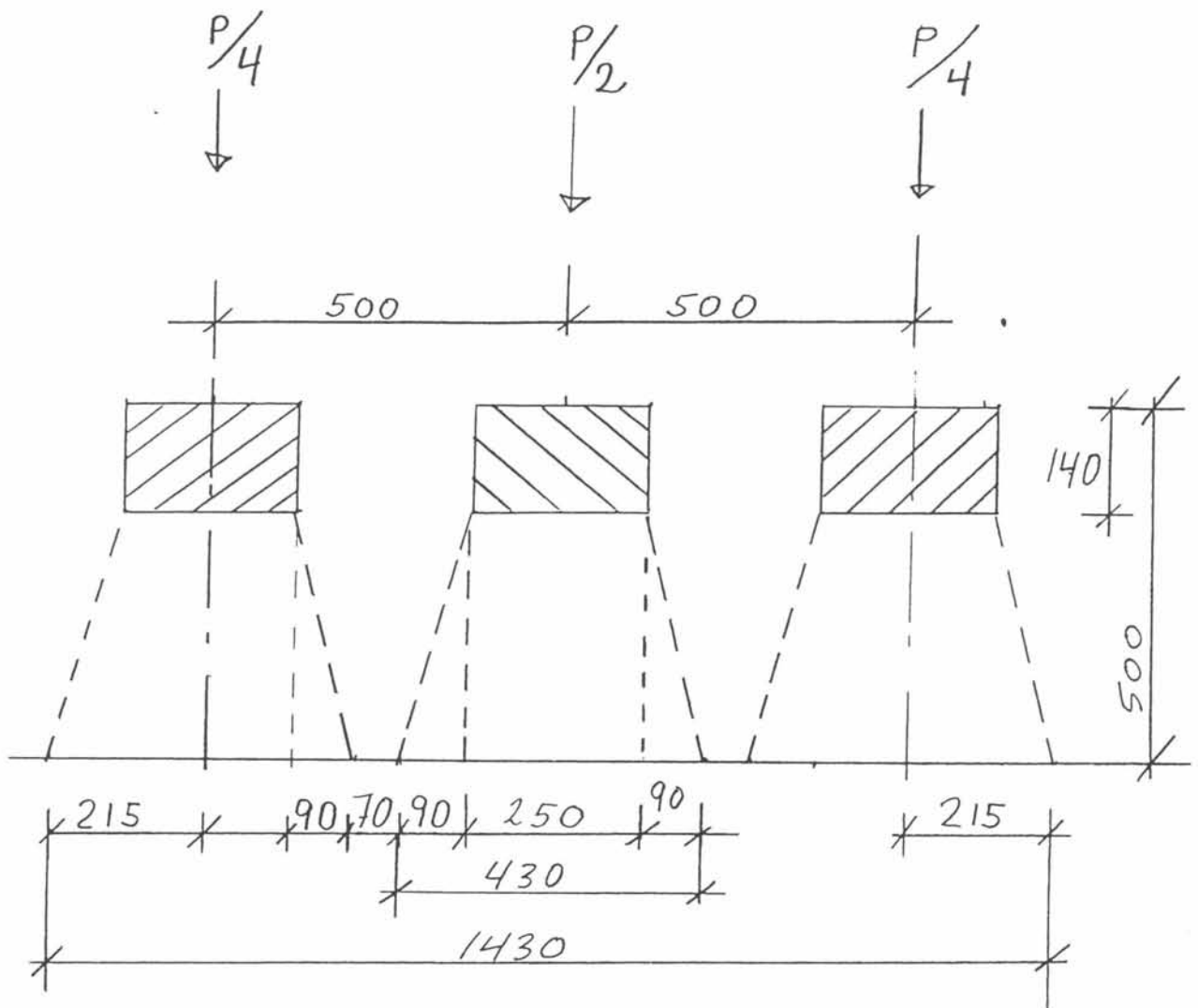
För bro med tung massgodstrafik (Malmbanan) skall gälla en tåglast som betecknas Malm och anges i Figur 21.2211.



Figur 21.2211
Tåglast Malm

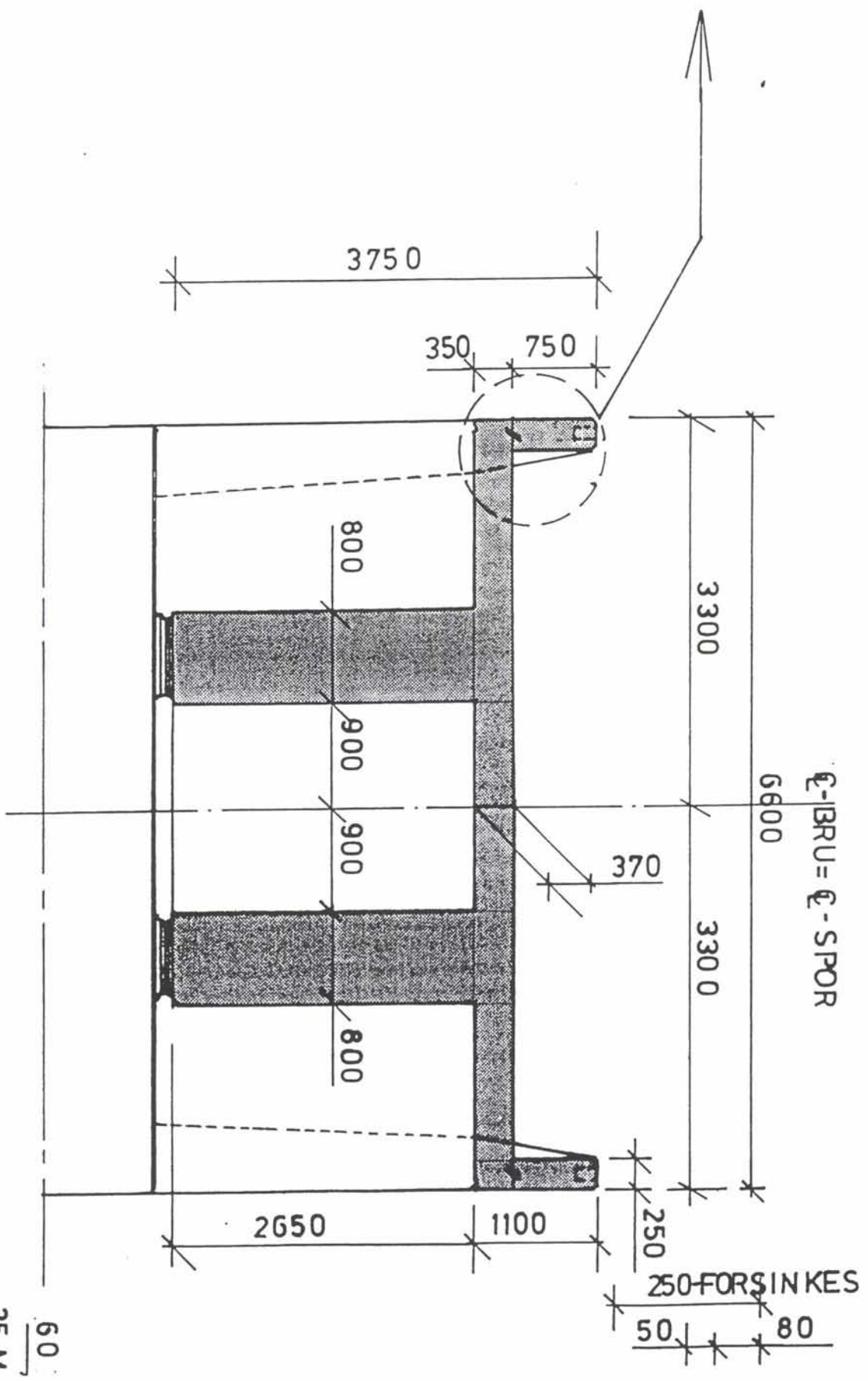
För bärverk med direkt slipersuppläggning och spännvidd mer än 5 m eller vid bro med minst 0.6 m ballast får axellasterna ersättas med en jämnt fördelad last av 188 kN/m.

LASTMODELLER



LASFORDELING PÅ SVILLER

TVERRSNITTSKISSER



BRO 2

SNITT B-B 1:50

25 M
60

BEREGNINGER NORDDALSBRØ 1

BEREGNING I TVERRETNING

Lastvirkning

Fordeling av last fra sviller :

Svillelegde : 2500 mm.

Lastfordeling : 2500 mm + 2 x 90 = 2680 mm.

Aksellast : 300kn.

Belastning på mest lastet sville : 300 kn x 0.5 = 150 kn.

Spenning mot betongdekke : $150\text{kn} / (2.68 \times 0.43) = 130.2 \text{ kn/m}^2$

Beregning av dynamisk støtfaktor :

$$\text{Ø}2 = 1.44 / (L\text{Ø} - 0.2) + 0.82$$

$$L\text{Ø} = 3\text{m} \times 1.8 \text{ m} = 5.40 \text{ m}$$

$$\text{Ø}2 = 1.44 / (5.40 - 0.2) + 0.82 = 1.50$$

Skjærkraft ved kant av bjelke : (bare trafikk)

V trafikk = 1.50 x 1.50 x 130.2 x 0.9 = 263.65 kn/m (uten reduksjon for last nær kant av opplegg)

Reduksjon for last nær kant av opplegg :

$$\text{Reduksjon V1 tafikk} = 130.2 \times 0.37 = 48.2 \text{ kn/m}$$

$$\text{Skjærkraft V trafikk} = 117.18 - 48.2 = 69 \text{ kn/m}$$

$$\text{Andel fra egenlast} : 0.43 \times 25 \times 0.9 = 9.7 \text{ kn/m}$$

$$\text{Andel fra ballast} : 0.50 \times 19 \times 0.9 = 8.55 \text{ kn/m}$$

$$\text{Skjærkraft fra egenlast og ballast} : 18.25 \text{ kn/m}$$

$$\text{Reduksjon for last nær kant av opplegg} : 0.37 \times 18.25 = 6.75 \text{ kn /m}$$

$$\text{Skjærkraft fra ballast og egenlast} : V \text{ g+b} = 18.25 - 6.75 = 11.5 \text{ kn /m}$$

Beregning av bøyemoment ved kant bjelke og i felt dekke.

$$\text{Trafikklast } q = 130.2 \text{ Kn/m}^2$$

$$\text{Egenlast + ballast} = 0.50 \times 19 + 0.43 \times 25 = 20.25 \text{ Kn/m}^2$$

$$\text{Bruddgrenselast} : 1.2 \times 20.25 + 1.5 \times 1.5 \times 130.2 = 317.25 \text{ Kn/m}^2$$

$$\text{Mstøtte} = q \times l \times l / 12 = 85.66 \text{ Knm /m}$$

Bøyemoment i felt :

$$\text{Mfelt} = q \times l \times l / 24 = 42.83 \text{ Knm /m}$$

DIMENSJONERING

Bruddgrense

Kontroll av skjærkapasitet ved kant bjelke.

Total skjærkraft (bruddgrense) :

$$V = 1.2 \times 11.5 + 1.5 \times 1.5 \times 69 = 169.05 \text{ kn / m}$$

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Tverrsnittsdata :

$$h = 420 \text{ mm}$$

$$b = 1000 \text{ mm}$$

$$d = 420 - 40 - 10 = 370 \text{ mm.}$$

Betong C45

$$\text{Strekkfasthet } f_{td} = 2.0 / 1.4 = 1.43 \text{ Mpa}$$

$$K_v = 1.5 - d/d_1 = 1.5 - 370 / 1000 = 1.13$$

Kontroll strekkbrudd : etter NS 3473 pkt. 12.3.2.1

$$V_{cd} = 0.33(f_{td} + (K_A \times A_s / \gamma_{mac} \times b_w \times d)) b_w \times d \times K_v < 0.66 \times f_{td} \times b_w \times d \times K_v$$

$$\gamma_{mac} = 1.4$$

$$K_A = 100 \text{ Mpa}$$

$$A_s = 1116 \text{ mm}^2/\text{m} \text{ (strekkarmering i overkant dekke er hentet fra armeringstegning)}$$

$$V_{cd} = 227.0 \text{ Kn/m}$$

$$V_{cmax} = 394.6 \text{ Kn/m}$$

$$V_{cd} = 227.0 \text{ Kn/m} > 169.05 \text{ Kn/m}$$

Kapasitet mot strekkbrudd ok.

kontroll trykkbrudd etter NS 3473 pkt. 12.3.2.5

$$V_{ccd} = 0.25 \times f_{cd} \times b_w \times z$$

$$f_{cd} = 28.0/1.4 = 20.0 \text{ Mpa}$$

$$z = 0.9 \times 370 = 333 \text{ mm}$$

$V_{ccd} = 0.25 \times 20 \times 1.000 \times 333 \text{ kn} = 1665 \text{ Kn/m} > 169.05 \text{ Kn/m}$
 Kapasitet mot trykkbrudd ok.

Kontroll av momentkapasitet

Kontroll ved opplegg bjelke:

Betongens trykkapasitet : $M_{cd} = 0.275 \times f_c \times b \times d \times d$

$M_{cd} = 0.275 \times 20 \times 1000 \times 0.37 \times 0.37 = 766 \text{ knm} / \text{m}$

$M_{\gamma} = 85.66 \text{ Knm/m}$

Nødvendig strekkarmering : $A_s = M_{cd} / ((1 - 0.17 \times M_{\gamma} / M_{cd}) \times d \times f_{sd})$

Innsatt i formel gir nødvendig strekkarmeringsbehov på $737 \text{ mm}^2 / \text{m}$.
 Innlagt armering i dekke er $1110 \text{ mm}^2 / \text{m}$. (Ø16 c 180)
 Kapasitet på strekkarmering i overkant dekke ved kant bjelke er tilstrekkelig.

Kontroll i felt :

$M_{\gamma} = 42.83 \text{ Knm/m}$

Nødvendig strekkarmering : $A_s = 365 \text{ mm}^2 / \text{m}$

Innlagt armering er Ø16 c 180 som gir $A_s = 1110 \text{ mm}^2 / \text{m}$

Strekkarmeringen sin kapasitet i underkant dekke er tilstrekkelig.

Armeringen er vist på tegning BK. 1318.11

Kontroll utmatning

Skjærkraft ved kant bjelke

Beregning av utmatningslast :

Det regnes her med at lasten fordeler seg jevnt under lasttoget med 4 akslinger.
 Dette gir også en lastveksling for hver vogn.

Beregning av skjærkraft :

$q = 1200 \text{ kn} / (6.4\text{m} \times 2.65) = 70.75 \text{ kn} / \text{m}^2$

$V = 70.75 \times 1.0 \times 0.9 = 63.68 \text{ kn} / \text{m}$

Reduksjon ved kant av opplegg : $70.75 \times 0.37 = 26.18$ "

$37.50 \text{ kn} / \text{m}$

$$V_{\max} = 1.5 \times 37.50 = 56.25 \text{ kn / m}$$

Levetid beregnes etter følgende formel etter NS 3473 pkt. 13.2.1

$$\lg N = C1 \left(\frac{1 - \sigma_{\max} / f_{rd}}{1 - \sigma_{\min} / f_{rd}} \right) \quad (\text{strekkbrudd})$$

$$\sigma_{\max} = 56.25 \text{ kn / m}$$

$$\sigma_{\min} = 0$$

$$f_{rd} = V_{cd} = 227 \text{ Kn / m}$$

$$C1 = 12$$

$$\lg N = C1 \times \left(\frac{1 - 56.25 / 227}{1 - 0} \right) = 9.02$$

$$N = 1.06 \text{ E9 vekslinger.}$$

Følgende vekslinger vil oppstå på grunn av disse forutsetninger :

9 tog i døgnet

62 vogner i hvert tog :

$$9 \times 62 \times 1 \times 365 = 203670 \text{ vekslinger}$$

$$\text{på 100 år : } 100 \times 203670 = 20.367.000 = 2.037 \text{ E7}$$

Kapasitet for strekkbrudd er tilstrekkelig.

kontroll av utmatning mot trykkbrudd :

Etter NS 3473 pkt. 13.2.1

$$\lg N = C1 \left(\frac{1 - V_{\max} / V_{ccd}}{1 - V_{\min} / V_{ccd}} \right) \quad \text{trykkbrudd}$$

$$C1 = 12$$

$$V_{ccd} = 1665 \text{ Kn/m}$$

$$V_{c \max} = 56.25 \text{ Kn/ m}$$

$$\text{Innsatt i formel gir : } N = 3.93 \text{ E11}$$

Ingen utmatningsfare

Kontroll av utmatning i strekkarmering

Beregning etter NS 3473 pkt. 13.2.2

$$\lg N = C3 - C4 \times \lg \sigma$$

$$C3 = 19.6$$

$$C4 = 6.0$$

Utmatningsbelastning : $q = 70.75 \text{ kn / m}$

$$\text{Moment : } 1.5 \times 70.75 \times 1.8 \times 1.8 / 12 = 28.65 \text{ knm / m}$$

Spenning i armering fra trafikk : 83.17 Mpa

$$\lg N = 19.6 - 6.0 \times \lg 83.17 = 8.08$$

$N = 1.20 \text{ E8 vekslinger} > 2.037 \text{ E7 vekslinger}$

Kapasitet mot utmatning i strekkarmeringen er tilstrekkelig.

BEREGNING I LENGDERETNING

LASTVIRKNING

Beregning av støtfaktor i lengderetning .

$$\emptyset 2 = 1.44 / (L\emptyset - 0.2) + 0.82$$

$$L\emptyset = 50.0 \text{ m.}$$

$$\emptyset 2 = 1.44 / (50 - 0.2) + 0.82 = 1.03 < 1.05$$

Laster : Fordelt last 120 Kn/m .

Punktlast : $4 \times 300 \text{ kn} = 1200 \text{ kn}$.

$$1200 / 6.4 = 187.5 \text{ kn/m}$$

$$187.5 - 120 = 67.5 \text{ kn/m}$$

Kontroll av maks bøyemoment fra trafikklast i midtsnittet av brua :

Moment fra fordelt last:

$$120 \text{ kn/m} \times 50 \times 50 / 8 = 37500 \text{ knm}$$

Tilleggslast fra malmtøyet :

$$67.5 \times 3.2 \times 25 - 67.5 \times 3.2 \times 1.6 = 5054 \text{ knm}$$

$$\text{Totalt trafikkmoment : } 37500 + 5054 = 42554 \text{ knm}$$

$$\text{Med støttall } 1.03 : 1.03 \times 42554 = 43830 \text{ knm}$$

$$\text{Bruddgrense : } 1.5 \times 43830 = 65746 \text{ knm}$$

Moment fra opprinnelige beregninger :

$$M = 39398 \text{ knm}$$

$$\text{Bruddgrense : } 1.6 \times 39398 = 63037 \text{ knm.}$$

$$\text{Økning i belastning : } 65746 / 63037 = 1.043$$

Denne økningen er akseptabel.

Vognene som skal benyttes skal ikke overstige last på 120 kn/m

Kontroll av skjærkraft ved opplegg :

$$Q = 120 \text{ kn/m} \times 25 \text{ kn} = 3000 \text{ kn}$$

$$+ \quad 67.5 \times 3.2 = \quad 216 \text{ "}$$

$$\text{Sum skjærkraft : } \quad 3216 \text{ kn}$$

$$\text{Maks } Q : 1.03 \times 3216 = 3312 \text{ kn}$$

$$\text{Bruddgrense} : 1.5 \times 3312 = 4968 \text{ kn}$$

$$\text{Opprinnelige beregninger} : 1.03 \times 120 \times 25 = 3090 \text{ kn}$$

$$\text{Bruddgrense} : 1.6 \times 3090 = 4944 \text{ kn}$$

Etter opprinnelige beregninger er det ikke behov for konstruktiv bøylearmoring i bjelkene.

Konklusjonen er at global skjærkraft er tilstrekkelig.

BRO 2 OVER NORDDALEN

BEREGNING I TVERRETNING**LASTVIRKNING**

Laster :

Ballast : $0.50 \times 19 = 9.50 \text{ kn/m}^2$

Vekt dekke : $0.37 \times 25 = 9.25 \text{ "}$

Sum egenlast :	18.75 kn/m ²

Trafikklast :

Aksellast : 300kn

Belastning på mest lastet sville : $300 \text{ kn} \times 0.5 = 150 \text{ kn}$

Spenning mot betongdekke : $150 \text{ kn} / (2.68 \times 0.43) = 130.20 \text{ kn/m}^2$	-----
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Beregning av dynamisk støtfaktor :

$$\text{Ø}2 = 1.44 / (L\text{Ø} - 0.20) + 0.82$$

$$L\text{Ø} = 3 \text{ m} \times 1.8 \text{ m} = 5.40 \text{ m}$$

Ø2 = $1.44 / (5.40 - 0.2) + 0.82 = 1.50$	-----
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Skjærkraft ved kant av bjelke :

$$h = 370 - 10 = 360 \text{ mm}$$

$$d = 360 - 50 = 310 \text{ mm}$$

V trafikk =	$130.2 \times 0.9 =$	117.18 kn/m
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Reduksjon for last nær kant av opplegg :	$130.2 \times 0.31 =$	40.36 kn/m
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Skjærkraft fra trafikk :	76.82 kn/m
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Egenlast : $18.75 \times 0.9 =$	16.88 kn/m
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Reduksjon for last nær kant av opplegg : $18.75 \times 0.31 =$	5.81 "
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Skjærkraft fra egenlast :	11.07 kn/m
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Bruddgrenselast :

$$V = 1.2 \times 11.07 + 1.5 \times 1.5 \times 1.5 \times 76.82 = 186.13 \text{ kn/m}$$

Bøyemoment ved kant opplegg :

$$q = 1.2 \times 18.75 + 1.5 \times 1.5 \times 130.2 = 315.45 \text{ kn/m}^2$$

$$M \text{ støtte} = q \times l \times l / 12 = 315.45 \times 1.8 \times 1.8 / 12 = 85.172 \text{ knm/m}$$

$$\text{Bøyemoment i felt : } q \times l \times l / 24 = 42.586 \text{ knm/m}$$

DIMENSJONERING

Bruddgrense

Kontroll av skjærkapasitet ved kant bjelke.

$$\text{Total skjærkraft : } V = 186.13 \text{ kn / m}$$

$$\text{Skjærkapasitet mot strekkbrudd : } V_{cd} = 202.1 \text{ Kn/m} > 186.13 \text{ Kn/m}$$

Kapasitet mot strekkbrudd tilstrekkelig.

$$\text{Kapasitet mot trykkbrudd : } V_{ccd} = 1395 \text{ kn/m} > 186.13 \text{ Kn/m}$$

Kapasitet mot trykkbrudd er tilstrekkelig.

Kontroll av momentkapasitet :

$$M_{\text{støtte}} = 85.172 \text{ knm/m}$$

$$\text{Nødvendig strekkarmeringsbehov } A_s = 883 \text{ mm}^2 / \text{m}$$

$$\text{Innlagt armering } \varnothing 16 \text{ c } 200 \text{ gir } A_s = 1000 \text{ mm}^2 / \text{m}$$

Kontroll utmatning

Skjærkraft ved kant bjelke

Beregning av utmatningslast :

Denne regnes på samme måte som for Norddalsbru 1

Beregning av skjærkraft :

$$q = 1200 \text{ kn} / (6.4 \text{ m} \times 2.65) = 70.75 \text{ kn/m}^2$$

$$V = 70.75 \times 1.0 \times 0.9 = 63.68 \text{ kn/m}$$

$$\text{Reduksjon ved kant av opplegg : } 70.75 \times 0.31 = 21.93 \text{ "}$$

$$41.75 \text{ kn/m}$$

$$V \text{ max} = 1.5 \times 41.75 = 62.63 \text{ kn/m}$$

Levetid beregnes etter følgende formel etter NS 3473 pkt. 13.2.1

$$\text{Sigma max} = 62.63 \text{ kn/m}$$

$$\text{Sigma min} = 0$$

$$F_{rd} = V_{cd} = 202.1 \text{ kn/m}$$

$$C_1 = 12$$

$$\lg N = 12 \times ((1 - 62.63/202.1) / (1-0)) = 8.28$$

$$N = 1.91 \text{ E}8 \text{ vekslinger} > 2.037 \text{ E}7$$

Kapasitet for strekkbrudd er tilstrekkelig

Kontroll av utmatning mot trykkbrudd

Beregning etter NS 3473 pkt. 13.2.1

$$C_1 = 12$$

$$V_{ccd} = 1395 \text{ kn/m}$$

$$V_c \text{ Max} = 62.63 \text{ kn/m}$$

$$\lg N = 12 (1 - 62.63/1396) = 11.46$$

$$N = 2.89 \text{ E } 11$$

Kapasitet mot trykkbrudd er tilstrekkelig

Kontroll av utmatning i strekkarmering

Beregning etter NS 3473 pkt. 13.2.2

$$q = 1200 \text{ kn} / (6.4 \times 2.65) = 70.75 \text{ kn/m}^2$$

Moment ved opplegg :

$$1.5 \times 70.75 \times 1.8 \times 1.8 / 12 = 28.65 \text{ knm/m}$$

Spenning i armering fra trafikk : 99.87 Mpa

$$\lg N = 19.6 - 6.0 \times \lg 99.87 = 7.60$$

$$N = 4 \text{ E}7 \text{ vekslinger} > 2.037 \text{ E}7$$

Kapasitet mot utmatning i strekkarmering er tilstrekkelig.

BERGNING I LENGDERETNINGEN

LASTVIRKNING

Beregning av støtfaktor

$$\varnothing 2 = 1.44 / (L\varnothing - 0.2) + 0.82$$

$$L_m = 1 / 2 (44 + 41) = 42.5$$

$$k = 1.2$$

$$L\varnothing = 1.2 \times 42.5 = 51\text{m}$$

$$\emptyset 2 = 1.44 / (51 - 0.2) + 0.82 = 1.028$$

Beregninger av lastvirkning er utført ved hjelp av Rm Spaceframe.

Laster :

Fordelt last fra trafikk gir 120 kn/m

Tillegg fra malm :

$$187.5 \text{ kn/m} - 120 \text{ kn/m} = 67.5 \text{ kn/m}$$

$$67.5 \text{ kn/m} \times 6.4 = 432 \text{ kn/m}$$

I elementmodellen legges denne lasten inn for seg

Maks bøyemoment over støtte fra trafikk:

$$\text{fordelt last } 120 \text{ kn/m gir :} \quad M = - 28761 \text{ knm}$$

$$\text{Tillegg fra malm :} \quad M = - 2906 \text{ "}$$

$$\text{Sum trafikk over støtte :} \quad M = - 31667 \text{ knm}$$

$$\text{Bruddgrense : } M_{\text{gamma}} = -1.5 \times 31667 \text{ knm} = -47440.5 \text{ knm}$$

=====

Oprinnelige beregninger :

$$M \text{ støtte} = 1.6 \times 29780 = - 47648 \text{ knm}$$

Momentkapasitet over støtte ok.

Kontroll av moment i felt :

Oprinnelige beregninger

$$M \text{ gamma} = 35856 \text{ knm}$$

Nye beregninger :

$$\text{Fordelt trafikk} \quad M = 19231 \text{ knm}$$

$$\text{Tillegg fra malm :} \quad M = 3094 \text{ "}$$

$$\text{Sum trafikk :} \quad M = 22325 \text{ knm}$$

=====

Bruddgrense :

$$M \text{ gamma} = 1.5 \times 22325 = 33487.5 \text{ knm} < 35856 \text{ knm.}$$

Momentkapasitet i lengderetningen er ok.

Kontroll av skjærkapasitet

Lastvirkning

Trafikk :

$$\text{fordelt last :} \quad 3382 \text{ kn}$$

$$\text{Tillegg fra malm :} \quad 407 \text{ "}$$

$$\text{Skjærkraft :} \quad 3789 \text{ kn}$$

$$V \text{ gamma} : 1.5 \times 3789 = 5684 \text{ kn}$$

Opprinnelige beregninger :

$$V = 3382 \text{ kn}$$

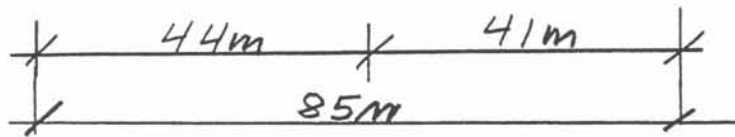
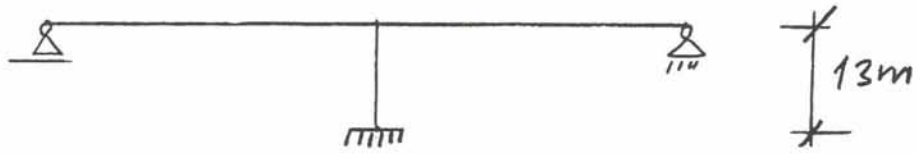
$$V \text{ gamma} = 1.6 \times 3382 = 5411 \text{ kn}$$

Det var her beregningsmessig ikke nødvendig med armering.

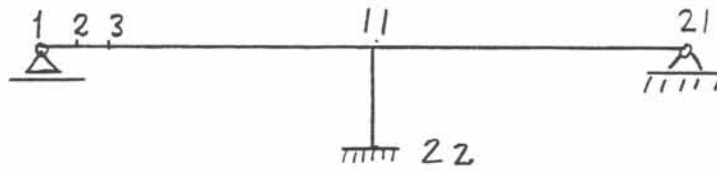
Skjærkapasitet mot strekkbrudd er tilstrekkelig.

RESULTATUTSKRIFTER

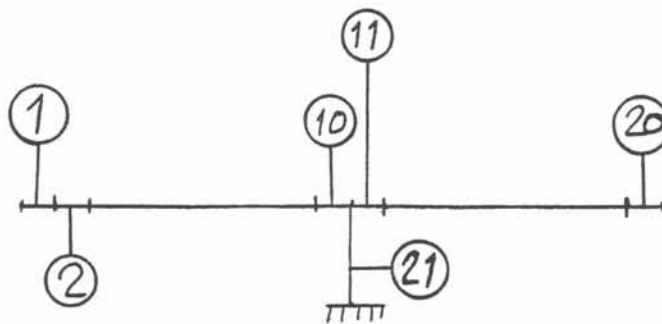
NORDDALSBRÖ 2



STATISK SYSTEM



KNUTE PUNKTS NR.



ELEMENT NR.

DEG
TEXT
NORDDALSBRU 2
BETONGBRU MED SPENN 44.0 og 41.0m
COMB
1,2000,1
1,21,1
EN
1,1,0
1,1,1,1,1,1
1,1,1,1,1,1
ENEN

```
COOR
CA
1,11,1,0,0,0,4.400,0,0
11,21,1,44.0,0,0,4.10,0,0
22,,44.0,-10.0,0
ENEN
NODE
FIX
1,,,0,1,1,1,0,0,
21,,,1,1,1,1,0,0
22,,,1,1,1,1,1,1,1
ENEN
ELEM
SERI
1,20,1,1,2,1,1
21,,,11,11
ENEN
CSMA
CS
1,20,1,6.150,0,0,1.00,15.08,4.590
21,,,1,3.40,0,0,1.13,3.275,0.283
EN
MAT
1,21,1,2.1E7
ENEN
ELDA
NDIV
1,21,1,10
ENEN
ENEN
```


*GENERERER LASTTILFELLER
*LCNO,LIST,SUBPR,GLOLOC,LC-NAME
1,11101,1,,EGENLAST
1,0,1.0,1.0,1000
UNI
Q
1,20,1,0,-229.0
ENEN
2,11101,1,,TRAFIKKLAST
1,0,1.0,1.0,1000
UNI
Q
1,20,1,0,-124.0,
ENEN
3,11101,1,,TRFIKKLAST FELT 1
0,0,1.0,1.0,1000
UNI
Q
1,10,1,0,-124.0,
ENEN
4,11101,1,,TRAFIKKLAST I FELT 2
0,0,1.0,1.0,1000
UNI
Q
11,20,1,0,-124.0,
ENEN
5,11101,1,,trafikklast i el 5
0,0,1.0,1.0,1000
UNI
Q
5,,,0,-98.2,
ENEN
6,11101,1,,trafikklast i el 6
0,0,1.0,1.0,1000
UNI
Q
6,,,0,-98.2,
ENEN
7,11101,1,,trafikklast i el 7
0,0,1.0,1.0,1000
UNI
Q
7,,,0,-98.2,
ENEN
8,11101,1,,trafikklast i el 8
0,0,1.0,1.0,1000
UNI
Q
8,,,0,-98.2,
ENEN
9,11101,1,,trafikklast i el 9
0,0,1.0,1.0,1000
UNI
Q
9,,,0,-98.2,
ENEN
10,11101,1,,trafikklast i el 4
0,0,1.0,1.0,1000
UNI
Q
4,,,0,-98.2,
ENEN
EN

```
RESL
* KOMBINASJON AV LASTTILFELLE 1 OG 2
1,10,1
EN
FILE1
1,1,1,1,1,1
0,0,0,0,0,0
*0,1,0,0,0,1
EN
*1,20,1,0,1,1,0,0,1
1,21,1,0,1,0,1,0,1
ENEN
EN
```

FILE
FILE1
ERAS
COLC
1,,1,,1.2
*2,,12,,1.5
2,,1,,1.5
*3,4,1,1,,1.5
*3,6,3,1,,1.5
ENEN
ENEN

NORDDALSBRØ 2

BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ			
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ			
			LOCAL			INTERN. FORCES			FILE=RMDAT15		
1	1	1	0.0	-3830.8	0.0	0.0	0.0	0.0			
		2	0.0	-2074.3	0.0	0.0	0.0	0.0			
		3	0.0	-2183.9	0.0	0.0	0.0	0.0			
		4	0.0	109.5	0.0	0.0	0.0	0.0			
		5	0.0	-175.8	0.0	0.0	0.0	0.0			
		6	0.0	-128.4	0.0	0.0	0.0	0.0			
		7	0.0	-86.7	0.0	0.0	0.0	0.0			
		8	0.0	-51.9	0.0	0.0	0.0	0.0			
		9	0.0	-24.8	0.0	0.0	0.0	0.0			
		10	0.0	-227.9	0.0	0.0	0.0	0.0			
			LOCAL			INTERN. FORCES			FILE=FILE1		
		MA- N	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MI- N	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MA-QY	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MI-QY	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MA-QZ	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MI-QZ	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MA-MT	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MI-MT	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MA-MY	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MI-MY	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MA-MZ	0.0	-7708.5	0.0	0.0	0.0	0.0			
		MI-MZ	0.0	-7708.5	0.0	0.0	0.0	0.0			
			LOCAL			INTERN. FORCES			FILE=RMDAT15		
1	11	1	0.0	-2823.2	0.0	0.0	0.0	14639.0			
		2	0.0	-1528.7	0.0	0.0	0.0	7926.8			
		3	0.0	-1638.3	0.0	0.0	0.0	8408.8			
		4	0.0	109.5	0.0	0.0	0.0	-482.0			
		5	0.0	-175.8	0.0	0.0	0.0	773.5			
		6	0.0	-128.4	0.0	0.0	0.0	564.9			
		7	0.0	-86.7	0.0	0.0	0.0	381.6			
		8	0.0	-51.9	0.0	0.0	0.0	228.2			
		9	0.0	-24.8	0.0	0.0	0.0	109.1			
		10	0.0	-227.9	0.0	0.0	0.0	1002.7			
			LOCAL			INTERN. FORCES			FILE=FILE1		
		MA- N	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MI- N	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MA-QY	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MI-QY	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MA-QZ	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MI-QZ	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MA-MT	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MI-MT	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MA-MY	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MI-MY	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MA-MZ	0.0	-5681.0	0.0	0.0	0.0	29456.9			
		MI-MZ	0.0	-5681.0	0.0	0.0	0.0	29456.9			

NORDDALSBRU 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
2	1	1	0.0	-2823.2	0.0	0.0	0.0	14639.0
		2	0.0	-1528.7	0.0	0.0	0.0	7926.8
		3	0.0	-1638.3	0.0	0.0	0.0	8408.8
		4	0.0	109.5	0.0	0.0	0.0	-482.0
		5	0.0	-175.8	0.0	0.0	0.0	773.5
		6	0.0	-128.4	0.0	0.0	0.0	564.9
		7	0.0	-86.7	0.0	0.0	0.0	381.6
		8	0.0	-51.9	0.0	0.0	0.0	228.2
		9	0.0	-24.8	0.0	0.0	0.0	109.1
		10	0.0	-227.9	0.0	0.0	0.0	1002.7
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MI- N	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MA-QY	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MI-QY	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MA-QZ	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MI-QZ	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MA-MT	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MI-MT	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MA-MY	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MI-MY	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MA-MZ	0.0	-5681.0	0.0	0.0	0.0	29456.9
		MI-MZ	0.0	-5681.0	0.0	0.0	0.0	29456.9
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
2	11	1	0.0	-1815.6	0.0	0.0	0.0	24844.5
		2	0.0	-983.1	0.0	0.0	0.0	13452.9
		3	0.0	-1092.7	0.0	0.0	0.0	14416.9
		4	0.0	109.5	0.0	0.0	0.0	-964.0
		5	0.0	-175.8	0.0	0.0	0.0	1547.0
		6	0.0	-128.4	0.0	0.0	0.0	1129.9
		7	0.0	-86.7	0.0	0.0	0.0	763.3
		8	0.0	-51.9	0.0	0.0	0.0	456.3
		9	0.0	-24.8	0.0	0.0	0.0	218.2
		10	0.0	-227.9	0.0	0.0	0.0	2005.3
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI- N	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-QY	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-QY	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-QZ	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-QZ	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-MT	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-MT	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-MY	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-MY	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-MZ	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-MZ	0.0	-3653.5	0.0	0.0	0.0	49992.7

NORDDALSBRU 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
3	1	1	0.0	-1815.6	0.0	0.0	0.0	24844.5
		2	0.0	-983.1	0.0	0.0	0.0	13452.9
		3	0.0	-1092.7	0.0	0.0	0.0	14416.9
		4	0.0	109.5	0.0	0.0	0.0	-964.0
		5	0.0	-175.8	0.0	0.0	0.0	1547.0
		6	0.0	-128.4	0.0	0.0	0.0	1129.9
		7	0.0	-86.7	0.0	0.0	0.0	763.3
		8	0.0	-51.9	0.0	0.0	0.0	456.3
		9	0.0	-24.8	0.0	0.0	0.0	218.2
		10	0.0	-227.9	0.0	0.0	0.0	2005.3
			LOCAL			INTERN. FORCES		
			MA- N			FILE=FILE1		
		MA- N	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI- N	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-QY	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-QY	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-QZ	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-QZ	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-MT	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-MT	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-MY	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-MY	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MA-MZ	0.0	-3653.5	0.0	0.0	0.0	49992.7
		MI-MZ	0.0	-3653.5	0.0	0.0	0.0	49992.7
3	11	1	0.0	-808.0	0.0	0.0	0.0	30616.6
		2	0.0	-437.5	0.0	0.0	0.0	16578.4
		3	0.0	-547.1	0.0	0.0	0.0	18024.4
		4	0.0	109.5	0.0	0.0	0.0	-1446.0
		5	0.0	-175.8	0.0	0.0	0.0	2320.4
		6	0.0	-128.4	0.0	0.0	0.0	1694.8
		7	0.0	-86.7	0.0	0.0	0.0	1144.9
		8	0.0	-51.9	0.0	0.0	0.0	684.5
		9	0.0	-24.8	0.0	0.0	0.0	327.3
		10	0.0	-227.9	0.0	0.0	0.0	3008.0
			LOCAL			INTERN. FORCES		
			MA- N			FILE=FILE1		
		MA- N	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MI- N	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MA-QY	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MI-QY	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MA-QZ	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MI-QZ	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MA-MT	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MI-MT	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MA-MY	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MI-MY	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MA-MZ	0.0	-1626.0	0.0	0.0	0.0	61607.5
		MI-MZ	0.0	-1626.0	0.0	0.0	0.0	61607.5

NORDDALSBRØ 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
		SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
		LOCAL		INTERN. FORCES		FILE=RMDAT15	
4	1	1	0.0	-808.0	0.0	0.0	30616.6
		2	0.0	-437.5	0.0	0.0	16578.4
		3	0.0	-547.1	0.0	0.0	18024.4
		4	0.0	109.5	0.0	0.0	-1446.0
		5	0.0	-175.8	0.0	0.0	2320.4
		6	0.0	-128.4	0.0	0.0	1694.8
		7	0.0	-86.7	0.0	0.0	1144.9
		8	0.0	-51.9	0.0	0.0	684.5
		9	0.0	-24.8	0.0	0.0	327.3
		10	0.0	-227.9	0.0	0.0	3008.0
		LOCAL		INTERN. FORCES		FILE=FILE1	
		MA- N	0.0	-1626.0	0.0	0.0	61607.5
		MI- N	0.0	-1626.0	0.0	0.0	61607.5
		MA-QY	0.0	-1626.0	0.0	0.0	61607.5
		MI-QY	0.0	-1626.0	0.0	0.0	61607.5
		MA-QZ	0.0	-1626.0	0.0	0.0	61607.5
		MI-QZ	0.0	-1626.0	0.0	0.0	61607.5
		MA-MT	0.0	-1626.0	0.0	0.0	61607.5
		MI-MT	0.0	-1626.0	0.0	0.0	61607.5
		MA-MY	0.0	-1626.0	0.0	0.0	61607.5
		MI-MY	0.0	-1626.0	0.0	0.0	61607.5
		MA-MZ	0.0	-1626.0	0.0	0.0	61607.5
		MI-MZ	0.0	-1626.0	0.0	0.0	61607.5
		LOCAL		INTERN. FORCES		FILE=RMDAT15	
4	11	1	0.0	199.6	0.0	0.0	31955.2
		2	0.0	108.1	0.0	0.0	17303.2
		3	0.0	-1.5	0.0	0.0	19231.2
		4	0.0	109.5	0.0	0.0	-1928.0
		5	0.0	-175.8	0.0	0.0	3093.9
		6	0.0	-128.4	0.0	0.0	2259.8
		7	0.0	-86.7	0.0	0.0	1526.6
		8	0.0	-51.9	0.0	0.0	912.7
		9	0.0	-24.8	0.0	0.0	436.4
		10	0.0	204.2	0.0	0.0	3060.1
		LOCAL		INTERN. FORCES		FILE=FILE1	
		MA- N	0.0	401.6	0.0	0.0	64301.1
		MI- N	0.0	401.6	0.0	0.0	64301.1
		MA-QY	0.0	401.6	0.0	0.0	64301.1
		MI-QY	0.0	401.6	0.0	0.0	64301.1
		MA-QZ	0.0	401.6	0.0	0.0	64301.1
		MI-QZ	0.0	401.6	0.0	0.0	64301.1
		MA-MT	0.0	401.6	0.0	0.0	64301.1
		MI-MT	0.0	401.6	0.0	0.0	64301.1
		MA-MY	0.0	401.6	0.0	0.0	64301.1
		MI-MY	0.0	401.6	0.0	0.0	64301.1
		MA-MZ	0.0	401.6	0.0	0.0	64301.1
		MI-MZ	0.0	401.6	0.0	0.0	64301.1

NORDDALSBRØ 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL	INTERN.	FORCES	FILE=RMDAT15		
5	1	1	0.0	199.6	0.0	0.0	0.0	31955.2
		2	0.0	108.1	0.0	0.0	0.0	17303.2
		3	0.0	-1.5	0.0	0.0	0.0	19231.2
		4	0.0	109.5	0.0	0.0	0.0	-1928.0
		5	0.0	-175.8	0.0	0.0	0.0	3093.9
		6	0.0	-128.4	0.0	0.0	0.0	2259.8
		7	0.0	-86.7	0.0	0.0	0.0	1526.6
		8	0.0	-51.9	0.0	0.0	0.0	912.7
		9	0.0	-24.8	0.0	0.0	0.0	436.4
		10	0.0	204.2	0.0	0.0	0.0	3060.1
			LOCAL	INTERN.	FORCES	FILE=FILE1		
		MA- N	0.0	401.6	0.0	0.0	0.0	64301.1
		MI- N	0.0	401.6	0.0	0.0	0.0	64301.1
		MA-QY	0.0	401.6	0.0	0.0	0.0	64301.1
		MI-QY	0.0	401.6	0.0	0.0	0.0	64301.1
		MA-QZ	0.0	401.6	0.0	0.0	0.0	64301.1
		MI-QZ	0.0	401.6	0.0	0.0	0.0	64301.1
		MA-MT	0.0	401.6	0.0	0.0	0.0	64301.1
		MI-MT	0.0	401.6	0.0	0.0	0.0	64301.1
		MA-MY	0.0	401.6	0.0	0.0	0.0	64301.1
		MI-MY	0.0	401.6	0.0	0.0	0.0	64301.1
		MA-MZ	0.0	401.6	0.0	0.0	0.0	64301.1
		MI-MZ	0.0	401.6	0.0	0.0	0.0	64301.1
			LOCAL	INTERN.	FORCES	FILE=RMDAT15		
5	11	1	0.0	1207.2	0.0	0.0	0.0	28860.4
		2	0.0	653.7	0.0	0.0	0.0	15627.5
		3	0.0	544.1	0.0	0.0	0.0	18037.4
		4	0.0	109.5	0.0	0.0	0.0	-2410.0
		5	0.0	256.3	0.0	0.0	0.0	2916.8
		6	0.0	-128.4	0.0	0.0	0.0	2824.7
		7	0.0	-86.7	0.0	0.0	0.0	1908.2
		8	0.0	-51.9	0.0	0.0	0.0	1140.8
		9	0.0	-24.8	0.0	0.0	0.0	545.5
		10	0.0	204.2	0.0	0.0	0.0	2161.6
			LOCAL	INTERN.	FORCES	FILE=FILE1		
		MA- N	0.0	2429.1	0.0	0.0	0.0	58073.7
		MI- N	0.0	2429.1	0.0	0.0	0.0	58073.7
		MA-QY	0.0	2429.1	0.0	0.0	0.0	58073.7
		MI-QY	0.0	2429.1	0.0	0.0	0.0	58073.7
		MA-QZ	0.0	2429.1	0.0	0.0	0.0	58073.7
		MI-QZ	0.0	2429.1	0.0	0.0	0.0	58073.7
		MA-MT	0.0	2429.1	0.0	0.0	0.0	58073.7
		MI-MT	0.0	2429.1	0.0	0.0	0.0	58073.7
		MA-MY	0.0	2429.1	0.0	0.0	0.0	58073.7
		MI-MY	0.0	2429.1	0.0	0.0	0.0	58073.7
		MA-MZ	0.0	2429.1	0.0	0.0	0.0	58073.7
		MI-MZ	0.0	2429.1	0.0	0.0	0.0	58073.7

NORDDALSBRØ 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ	
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ	
			LOCAL			INTERN. FORCES			FILE=RMDAT15
6	1	1	0.0	1207.2	0.0	0.0	0.0	28860.4	
		2	0.0	653.7	0.0	0.0	0.0	15627.5	
		3	0.0	544.1	0.0	0.0	0.0	18037.4	
		4	0.0	109.5	0.0	0.0	0.0	-2410.0	
		5	0.0	256.3	0.0	0.0	0.0	2916.8	
		6	0.0	-128.4	0.0	0.0	0.0	2824.7	
		7	0.0	-86.7	0.0	0.0	0.0	1908.2	
		8	0.0	-51.9	0.0	0.0	0.0	1140.8	
		9	0.0	-24.8	0.0	0.0	0.0	545.5	
		10	0.0	204.2	0.0	0.0	0.0	2161.6	
			LOCAL			INTERN. FORCES			FILE=FILE1
		MA- N	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MI- N	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MA-QY	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MI-QY	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MA-QZ	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MI-QZ	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MA-MT	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MI-MT	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MA-MY	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MI-MY	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MA-MZ	0.0	2429.1	0.0	0.0	0.0	58073.7	
		MI-MZ	0.0	2429.1	0.0	0.0	0.0	58073.7	
			LOCAL			INTERN. FORCES			FILE=RMDAT15
6	11	1	0.0	2214.8	0.0	0.0	0.0	21332.1	
		2	0.0	1199.3	0.0	0.0	0.0	11551.0	
		3	0.0	1089.7	0.0	0.0	0.0	14443.0	
		4	0.0	109.5	0.0	0.0	0.0	-2892.0	
		5	0.0	256.3	0.0	0.0	0.0	1789.2	
		6	0.0	303.7	0.0	0.0	0.0	2439.1	
		7	0.0	-86.7	0.0	0.0	0.0	2289.9	
		8	0.0	-51.9	0.0	0.0	0.0	1369.0	
		9	0.0	-24.8	0.0	0.0	0.0	654.6	
		10	0.0	204.2	0.0	0.0	0.0	1263.1	
			LOCAL			INTERN. FORCES			FILE=FILE1
		MA- N	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MI- N	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MA-QY	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MI-QY	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MA-QZ	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MI-QZ	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MA-MT	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MI-MT	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MA-MY	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MI-MY	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MA-MZ	0.0	4456.6	0.0	0.0	0.0	42925.1	
		MI-MZ	0.0	4456.6	0.0	0.0	0.0	42925.1	

NORDDALSBRØ 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
7	1	1	0.0	2214.8	0.0	0.0	0.0	21332.1
		2	0.0	1199.3	0.0	0.0	0.0	11551.0
		3	0.0	1089.7	0.0	0.0	0.0	14443.0
		4	0.0	109.5	0.0	0.0	0.0	-2892.0
		5	0.0	256.3	0.0	0.0	0.0	1789.2
		6	0.0	303.7	0.0	0.0	0.0	2439.1
		7	0.0	-86.7	0.0	0.0	0.0	2289.9
		8	0.0	-51.9	0.0	0.0	0.0	1369.0
		9	0.0	-24.8	0.0	0.0	0.0	654.6
		10	0.0	204.2	0.0	0.0	0.0	1263.1
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	0.0	4456.6	0.0	0.0	0.0	42925.1
		MI- N	0.0	4456.6	0.0	0.0	0.0	42925.1
		MA-QY	0.0	4456.6	0.0	0.0	0.0	42925.1
		MI-QY	0.0	4456.6	0.0	0.0	0.0	42925.1
		MA-QZ	0.0	4456.6	0.0	0.0	0.0	42925.1
		MI-QZ	0.0	4456.6	0.0	0.0	0.0	42925.1
		MA-MT	0.0	4456.6	0.0	0.0	0.0	42925.1
		MI-MT	0.0	4456.6	0.0	0.0	0.0	42925.1
		MA-MY	0.0	4456.6	0.0	0.0	0.0	42925.1
		MI-MY	0.0	4456.6	0.0	0.0	0.0	42925.1
		MA-MZ	0.0	4456.6	0.0	0.0	0.0	42925.1
		MI-MZ	0.0	4456.6	0.0	0.0	0.0	42925.1
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
7	11	1	0.0	3222.4	0.0	0.0	0.0	9370.5
		2	0.0	1744.9	0.0	0.0	0.0	5074.0
		3	0.0	1635.3	0.0	0.0	0.0	8447.9
		4	0.0	109.5	0.0	0.0	0.0	-3373.9
		5	0.0	256.3	0.0	0.0	0.0	661.5
		6	0.0	303.7	0.0	0.0	0.0	1102.9
		7	0.0	345.3	0.0	0.0	0.0	1720.9
		8	0.0	-51.9	0.0	0.0	0.0	1597.2
		9	0.0	-24.8	0.0	0.0	0.0	763.7
		10	0.0	204.2	0.0	0.0	0.0	364.6
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	0.0	6484.1	0.0	0.0	0.0	18855.5
		MI- N	0.0	6484.1	0.0	0.0	0.0	18855.5
		MA-QY	0.0	6484.1	0.0	0.0	0.0	18855.5
		MI-QY	0.0	6484.1	0.0	0.0	0.0	18855.5
		MA-QZ	0.0	6484.1	0.0	0.0	0.0	18855.5
		MI-QZ	0.0	6484.1	0.0	0.0	0.0	18855.5
		MA-MT	0.0	6484.1	0.0	0.0	0.0	18855.5
		MI-MT	0.0	6484.1	0.0	0.0	0.0	18855.5
		MA-MY	0.0	6484.1	0.0	0.0	0.0	18855.5
		MI-MY	0.0	6484.1	0.0	0.0	0.0	18855.5
		MA-MZ	0.0	6484.1	0.0	0.0	0.0	18855.5
		MI-MZ	0.0	6484.1	0.0	0.0	0.0	18855.5

NORDDALSBRU 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
		SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
		LOCAL	INTERN. FORCES	FILE=RMDAT15			
8	1	1	0.0	3222.4	0.0	0.0	9370.5
		2	0.0	1744.9	0.0	0.0	5074.0
		3	0.0	1635.3	0.0	0.0	8447.9
		4	0.0	109.5	0.0	0.0	-3373.9
		5	0.0	256.3	0.0	0.0	661.5
		6	0.0	303.7	0.0	0.0	1102.9
		7	0.0	345.3	0.0	0.0	1720.9
		8	0.0	-51.9	0.0	0.0	1597.2
		9	0.0	-24.8	0.0	0.0	763.7
		10	0.0	204.2	0.0	0.0	364.6
		LOCAL	INTERN. FORCES	FILE=FILE1			
		MA- N	0.0	6484.1	0.0	0.0	18855.5
		MI- N	0.0	6484.1	0.0	0.0	18855.5
		MA-QY	0.0	6484.1	0.0	0.0	18855.5
		MI-QY	0.0	6484.1	0.0	0.0	18855.5
		MA-QZ	0.0	6484.1	0.0	0.0	18855.5
		MI-QZ	0.0	6484.1	0.0	0.0	18855.5
		MA-MT	0.0	6484.1	0.0	0.0	18855.5
		MI-MT	0.0	6484.1	0.0	0.0	18855.5
		MA-MY	0.0	6484.1	0.0	0.0	18855.5
		MI-MY	0.0	6484.1	0.0	0.0	18855.5
		MA-MZ	0.0	6484.1	0.0	0.0	18855.5
		MI-MZ	0.0	6484.1	0.0	0.0	18855.5
		LOCAL	INTERN. FORCES	FILE=RMDAT15			
8	11	1	0.0	4230.0	0.0	0.0	-7024.7
		2	0.0	2290.5	0.0	0.0	-3803.7
		3	0.0	2180.9	0.0	0.0	52.2
		4	0.0	109.5	0.0	0.0	-3855.9
		5	0.0	256.3	0.0	0.0	-466.2
		6	0.0	303.7	0.0	0.0	-233.3
		7	0.0	345.3	0.0	0.0	201.4
		8	0.0	380.2	0.0	0.0	874.8
		9	0.0	-24.8	0.0	0.0	872.8
		10	0.0	204.2	0.0	0.0	-533.9
		LOCAL	INTERN. FORCES	FILE=FILE1			
		MA- N	0.0	8511.6	0.0	0.0	-14135.2
		MI- N	0.0	8511.6	0.0	0.0	-14135.2
		MA-QY	0.0	8511.6	0.0	0.0	-14135.2
		MI-QY	0.0	8511.6	0.0	0.0	-14135.2
		MA-QZ	0.0	8511.6	0.0	0.0	-14135.2
		MI-QZ	0.0	8511.6	0.0	0.0	-14135.2
		MA-MT	0.0	8511.6	0.0	0.0	-14135.2
		MI-MT	0.0	8511.6	0.0	0.0	-14135.2
		MA-MY	0.0	8511.6	0.0	0.0	-14135.2
		MI-MY	0.0	8511.6	0.0	0.0	-14135.2
		MA-MZ	0.0	8511.6	0.0	0.0	-14135.2
		MI-MZ	0.0	8511.6	0.0	0.0	-14135.2

NORDDALSBRO 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
9	1	1	0.0	4230.0	0.0	0.0	0.0	-7024.7
		2	0.0	2290.5	0.0	0.0	0.0	-3803.7
		3	0.0	2180.9	0.0	0.0	0.0	52.2
		4	0.0	109.5	0.0	0.0	0.0	-3855.9
		5	0.0	256.3	0.0	0.0	0.0	-466.2
		6	0.0	303.7	0.0	0.0	0.0	-233.3
		7	0.0	345.3	0.0	0.0	0.0	201.4
		8	0.0	380.2	0.0	0.0	0.0	874.8
		9	0.0	-24.8	0.0	0.0	0.0	872.8
		10	0.0	204.2	0.0	0.0	0.0	-533.9
			LOCAL			INTERN. FORCES		
			MA- N			FILE=FILE1		
		MA- N	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MI- N	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MA-QY	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MI-QY	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MA-QZ	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MI-QZ	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MA-MT	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MI-MT	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MA-MY	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MI-MY	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MA-MZ	0.0	8511.6	0.0	0.0	0.0	-14135.2
		MI-MZ	0.0	8511.6	0.0	0.0	0.0	-14135.2
			LOCAL			INTERN. FORCES		
9	11	1	0.0	5237.6	0.0	0.0	0.0	-27853.2
		2	0.0	2836.1	0.0	0.0	0.0	-15082.1
		3	0.0	2726.5	0.0	0.0	0.0	-10744.2
		4	0.0	109.5	0.0	0.0	0.0	-4337.9
		5	0.0	256.3	0.0	0.0	0.0	-1593.9
		6	0.0	303.7	0.0	0.0	0.0	-1569.5
		7	0.0	345.3	0.0	0.0	0.0	-1318.1
		8	0.0	380.2	0.0	0.0	0.0	-798.2
		9	0.0	407.3	0.0	0.0	0.0	31.4
		10	0.0	204.2	0.0	0.0	0.0	-1432.4
			LOCAL			INTERN. FORCES		
			MA- N			FILE=FILE1		
		MA- N	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MI- N	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MA-QY	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MI-QY	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MA-QZ	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MI-QZ	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MA-MT	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MI-MT	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MA-MY	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MI-MY	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MA-MZ	0.0	10539.2	0.0	0.0	0.0	-56047.0
		MI-MZ	0.0	10539.2	0.0	0.0	0.0	-56047.0

NORDDALSBRØ 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ	
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ	
			LOCAL			INTERN. FORCES			FILE=RMDAT15
10	1	1	0.0	5237.6	0.0	0.0	0.0	-27853.2	
		2	0.0	2836.1	0.0	0.0	0.0	-15082.1	
		3	0.0	2726.5	0.0	0.0	0.0	-10744.2	
		4	0.0	109.5	0.0	0.0	0.0	-4337.9	
		5	0.0	256.3	0.0	0.0	0.0	-1593.9	
		6	0.0	303.7	0.0	0.0	0.0	-1569.5	
		7	0.0	345.3	0.0	0.0	0.0	-1318.1	
		8	0.0	380.2	0.0	0.0	0.0	-798.2	
		9	0.0	407.3	0.0	0.0	0.0	31.4	
		10	0.0	204.2	0.0	0.0	0.0	-1432.4	
			LOCAL			INTERN. FORCES			FILE=FILE1
		MA- N	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MI- N	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MA-QY	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MI-QY	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MA-QZ	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MI-QZ	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MA-MT	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MI-MT	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MA-MY	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MI-MY	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MA-MZ	0.0	10539.2	0.0	0.0	0.0	-56047.0	
		MI-MZ	0.0	10539.2	0.0	0.0	0.0	-56047.0	
			LOCAL			INTERN. FORCES			FILE=RMDAT15
10	11	1	0.0	6245.2	0.0	0.0	0.0	-53115.2	
		2	0.0	3381.7	0.0	0.0	0.0	-28761.1	
		3	0.0	3272.1	0.0	0.0	0.0	-23941.2	
		4	0.0	109.5	0.0	0.0	0.0	-4819.9	
		5	0.0	256.3	0.0	0.0	0.0	-2721.5	
		6	0.0	303.7	0.0	0.0	0.0	-2905.7	
		7	0.0	345.3	0.0	0.0	0.0	-2837.6	
		8	0.0	380.2	0.0	0.0	0.0	-2471.2	
		9	0.0	407.3	0.0	0.0	0.0	-1760.7	
		10	0.0	204.2	0.0	0.0	0.0	-2330.9	
			LOCAL			INTERN. FORCES			FILE=FILE1
		MA- N	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MI- N	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MA-QY	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MI-QY	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MA-QZ	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MI-QZ	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MA-MT	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MI-MT	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MA-MY	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MI-MY	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MA-MZ	0.0	12566.7	0.0	0.0	0.0	-106879.9	
		MI-MZ	0.0	12566.7	0.0	0.0	0.0	-106879.9	

NORDDALSBRØ 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
11	1	1	587.4	-5881.6	0.0	0.0	0.0	-48670.8
		2	318.1	-3184.8	0.0	0.0	0.0	-26354.5
		3	2375.4	-145.6	0.0	0.0	0.0	-5969.9
		4	-2057.3	-3039.2	0.0	0.0	0.0	-20384.6
		5	269.1	-16.7	0.0	0.0	0.0	-685.7
		6	287.5	-17.8	0.0	0.0	0.0	-730.2
		7	281.2	-17.3	0.0	0.0	0.0	-710.1
		8	245.5	-15.0	0.0	0.0	0.0	-613.6
		9	176.0	-10.5	0.0	0.0	0.0	-428.9
		10	230.3	-14.3	0.0	0.0	0.0	-588.2
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MI- N	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MA-QY	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MI-QY	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MA-QZ	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MI-QZ	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MA-MT	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MI-MT	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MA-MY	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MI-MY	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MA-MZ	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
		MI-MZ	1182.1	-11835.1	0.0	0.0	0.0	-97936.8
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
11	11	1	587.4	-4942.7	0.0	0.0	0.0	-26481.1
		2	318.1	-2676.4	0.0	0.0	0.0	-14339.1
		3	2375.4	-145.6	0.0	0.0	0.0	-5372.9
		4	-2057.3	-2530.8	0.0	0.0	0.0	-8966.2
		5	269.1	-16.7	0.0	0.0	0.0	-617.1
		6	287.5	-17.8	0.0	0.0	0.0	-657.2
		7	281.2	-17.3	0.0	0.0	0.0	-639.1
		8	245.5	-15.0	0.0	0.0	0.0	-552.3
		9	176.0	-10.5	0.0	0.0	0.0	-386.0
		10	230.3	-14.3	0.0	0.0	0.0	-529.3
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI- N	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-QY	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-QY	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-QZ	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-QZ	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-MT	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-MT	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-MY	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-MY	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-MZ	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-MZ	1182.1	-9945.8	0.0	0.0	0.0	-53285.9

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 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ

		LOCAL	INTERN. FORCES		FILE=RMDAT15			
12	1	1	587.4	-4942.7	0.0	0.0	0.0	-26481.1
		2	318.1	-2676.4	0.0	0.0	0.0	-14339.1
		3	2375.4	-145.6	0.0	0.0	0.0	-5372.9
		4	-2057.3	-2530.8	0.0	0.0	0.0	-8966.2
		5	269.1	-16.7	0.0	0.0	0.0	-617.1
		6	287.5	-17.8	0.0	0.0	0.0	-657.2
		7	281.2	-17.3	0.0	0.0	0.0	-639.1
		8	245.5	-15.0	0.0	0.0	0.0	-552.3
		9	176.0	-10.5	0.0	0.0	0.0	-386.0
		10	230.3	-14.3	0.0	0.0	0.0	-529.3
		LOCAL	INTERN. FORCES		FILE=FILE1			
		MA- N	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI- N	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-QY	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-QY	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-QZ	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-QZ	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-MT	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-MT	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-MY	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-MY	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MA-MZ	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		MI-MZ	1182.1	-9945.8	0.0	0.0	0.0	-53285.9
		LOCAL	INTERN. FORCES		FILE=RMDAT15			
12	11	1	587.4	-4003.8	0.0	0.0	0.0	-8140.8
		2	318.1	-2168.0	0.0	0.0	0.0	-4408.1
		3	2375.4	-145.6	0.0	0.0	0.0	-4775.9
		4	-2057.3	-2022.4	0.0	0.0	0.0	367.8
		5	269.1	-16.7	0.0	0.0	0.0	-548.5
		6	287.5	-17.8	0.0	0.0	0.0	-584.2
		7	281.2	-17.3	0.0	0.0	0.0	-568.1
		8	245.5	-15.0	0.0	0.0	0.0	-490.9
		9	176.0	-10.5	0.0	0.0	0.0	-343.1
		10	230.3	-14.3	0.0	0.0	0.0	-470.5
		LOCAL	INTERN. FORCES		FILE=FILE1			
		MA- N	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI- N	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-QY	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-QY	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-QZ	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-QZ	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-MT	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-MT	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-MY	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-MY	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-MZ	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-MZ	1182.1	-8056.5	0.0	0.0	0.0	-16381.1

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 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
13	1	1	587.4	-4003.8	0.0	0.0	0.0	-8140.8
		2	318.1	-2168.0	0.0	0.0	0.0	-4408.1
		3	2375.4	-145.6	0.0	0.0	0.0	-4775.9
		4	-2057.3	-2022.4	0.0	0.0	0.0	367.8
		5	269.1	-16.7	0.0	0.0	0.0	-548.5
		6	287.5	-17.8	0.0	0.0	0.0	-584.2
		7	281.2	-17.3	0.0	0.0	0.0	-568.1
		8	245.5	-15.0	0.0	0.0	0.0	-490.9
		9	176.0	-10.5	0.0	0.0	0.0	-343.1
		10	230.3	-14.3	0.0	0.0	0.0	-470.5
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI- N	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-QY	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-QY	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-QZ	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-QZ	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-MT	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-MT	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-MY	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-MY	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MA-MZ	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
		MI-MZ	1182.1	-8056.5	0.0	0.0	0.0	-16381.1
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
13	11	1	587.4	-3064.9	0.0	0.0	0.0	6350.0
		2	318.1	-1659.6	0.0	0.0	0.0	3438.4
		3	2375.4	-145.6	0.0	0.0	0.0	-4178.9
		4	-2057.3	-1514.0	0.0	0.0	0.0	7617.4
		5	269.1	-16.7	0.0	0.0	0.0	-480.0
		6	287.5	-17.8	0.0	0.0	0.0	-511.2
		7	281.2	-17.3	0.0	0.0	0.0	-497.1
		8	245.5	-15.0	0.0	0.0	0.0	-429.5
		9	176.0	-10.5	0.0	0.0	0.0	-300.3
		10	230.3	-14.3	0.0	0.0	0.0	-411.7
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI- N	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-QY	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-QY	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-QZ	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-QZ	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-MT	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-MT	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-MY	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-MY	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-MZ	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-MZ	1182.1	-6167.3	0.0	0.0	0.0	12777.7

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 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
14	1						FILE=RMDAT15	
		1	587.4	-3064.9	0.0	0.0	0.0	6350.0
		2	318.1	-1659.6	0.0	0.0	0.0	3438.4
		3	2375.4	-145.6	0.0	0.0	0.0	-4178.9
		4	-2057.3	-1514.0	0.0	0.0	0.0	7617.4
		5	269.1	-16.7	0.0	0.0	0.0	-480.0
		6	287.5	-17.8	0.0	0.0	0.0	-511.2
		7	281.2	-17.3	0.0	0.0	0.0	-497.1
		8	245.5	-15.0	0.0	0.0	0.0	-429.5
		9	176.0	-10.5	0.0	0.0	0.0	-300.3
		10	230.3	-14.3	0.0	0.0	0.0	-411.7
			LOCAL			INTERN. FORCES		
		MA- N	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI- N	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-QY	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-QY	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-QZ	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-QZ	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-MT	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-MT	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-MY	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-MY	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MA-MZ	1182.1	-6167.3	0.0	0.0	0.0	12777.7
		MI-MZ	1182.1	-6167.3	0.0	0.0	0.0	12777.7
			LOCAL			INTERN. FORCES		
14	11						FILE=RMDAT15	
		1	587.4	-2126.0	0.0	0.0	0.0	16991.3
		2	318.1	-1151.2	0.0	0.0	0.0	9200.5
		3	2375.4	-145.6	0.0	0.0	0.0	-3582.0
		4	-2057.3	-1005.6	0.0	0.0	0.0	12782.5
		5	269.1	-16.7	0.0	0.0	0.0	-411.4
		6	287.5	-17.8	0.0	0.0	0.0	-438.1
		7	281.2	-17.3	0.0	0.0	0.0	-426.1
		8	245.5	-15.0	0.0	0.0	0.0	-368.2
		9	176.0	-10.5	0.0	0.0	0.0	-257.4
		10	230.3	-14.3	0.0	0.0	0.0	-352.9
			LOCAL			INTERN. FORCES		
		MA- N	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MI- N	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MA-QY	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MI-QY	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MA-QZ	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MI-QZ	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MA-MT	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MI-MT	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MA-MY	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MI-MY	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MA-MZ	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		MI-MZ	1182.1	-4278.0	0.0	0.0	0.0	34190.4

NORDDALSBRO 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	IC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
15	1	1	587.4	-2126.0	0.0	0.0	0.0	16991.3
		2	318.1	-1151.2	0.0	0.0	0.0	9200.5
		3	2375.4	-145.6	0.0	0.0	0.0	-3582.0
		4	-2057.3	-1005.6	0.0	0.0	0.0	12782.5
		5	269.1	-16.7	0.0	0.0	0.0	-411.4
		6	287.5	-17.8	0.0	0.0	0.0	-438.1
		7	281.2	-17.3	0.0	0.0	0.0	-426.1
		8	245.5	-15.0	0.0	0.0	0.0	-368.2
		9	176.0	-10.5	0.0	0.0	0.0	-257.4
		10	230.3	-14.3	0.0	0.0	0.0	-352.9
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		NA-N	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NI-N	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NA-QY	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NI-QY	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NA-QZ	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NI-QZ	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NA-MT	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NI-MT	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NA-MY	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NI-MY	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NA-MZ	1182.1	-4278.0	0.0	0.0	0.0	34190.4
		NI-MZ	1182.1	-4278.0	0.0	0.0	0.0	34190.4
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
15	11	1	587.4	-1187.1	0.0	0.0	0.0	23783.2
		2	318.1	-642.8	0.0	0.0	0.0	12878.2
		3	2375.4	-145.6	0.0	0.0	0.0	-2985.0
		4	-2057.3	-497.2	0.0	0.0	0.0	15863.2
		5	269.1	-16.7	0.0	0.0	0.0	-342.8
		6	287.5	-17.8	0.0	0.0	0.0	-365.1
		7	281.2	-17.3	0.0	0.0	0.0	-355.1
		8	245.5	-15.0	0.0	0.0	0.0	-306.8
		9	176.0	-10.5	0.0	0.0	0.0	-214.5
		10	230.3	-14.3	0.0	0.0	0.0	-294.1
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		NA-N	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NI-N	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NA-QY	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NI-QY	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NA-QZ	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NI-QZ	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NA-MT	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NI-MT	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NA-MY	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NI-MY	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NA-MZ	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		NI-MZ	1182.1	-2388.7	0.0	0.0	0.0	47857.1

NORDDALSBRU 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
16	1	1	587.4	-1187.1	0.0	0.0	0.0	23783.2
		2	318.1	-642.8	0.0	0.0	0.0	12878.2
		3	2375.4	-145.6	0.0	0.0	0.0	-2985.0
		4	-2057.3	-497.2	0.0	0.0	0.0	15863.2
		5	269.1	-16.7	0.0	0.0	0.0	-342.8
		6	287.5	-17.8	0.0	0.0	0.0	-365.1
		7	281.2	-17.3	0.0	0.0	0.0	-355.1
		8	245.5	-15.0	0.0	0.0	0.0	-306.8
		9	176.0	-10.5	0.0	0.0	0.0	-214.5
		10	230.3	-14.3	0.0	0.0	0.0	-294.1
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MI- N	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MA-QY	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MI-QY	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MA-QZ	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MI-QZ	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MA-MT	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MI-MT	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MA-MY	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MI-MY	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MA-MZ	1182.1	-2388.7	0.0	0.0	0.0	47857.1
		MI-MZ	1182.1	-2388.7	0.0	0.0	0.0	47857.1
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
16	11	1	587.4	-248.2	0.0	0.0	0.0	26725.5
		2	318.1	-134.4	0.0	0.0	0.0	14471.5
		3	2375.4	-145.6	0.0	0.0	0.0	-2388.0
		4	-2057.3	11.2	0.0	0.0	0.0	16859.4
		5	269.1	-16.7	0.0	0.0	0.0	-274.3
		6	287.5	-17.8	0.0	0.0	0.0	-292.1
		7	281.2	-17.3	0.0	0.0	0.0	-284.1
		8	245.5	-15.0	0.0	0.0	0.0	-245.5
		9	176.0	-10.5	0.0	0.0	0.0	-171.6
		10	230.3	-14.3	0.0	0.0	0.0	-235.3
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI- N	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-QY	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-QY	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-QZ	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-QZ	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-MT	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-MT	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-MY	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-MY	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-MZ	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-MZ	1182.1	-499.4	0.0	0.0	0.0	53777.8

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 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
17	1	1	587.4	-248.2	0.0	0.0	0.0	26725.5
		2	318.1	-134.4	0.0	0.0	0.0	14471.5
		3	2375.4	-145.6	0.0	0.0	0.0	-2388.0
		4	-2057.3	11.2	0.0	0.0	0.0	16859.4
		5	269.1	-16.7	0.0	0.0	0.0	-274.3
		6	287.5	-17.8	0.0	0.0	0.0	-292.1
		7	281.2	-17.3	0.0	0.0	0.0	-284.1
		8	245.5	-15.0	0.0	0.0	0.0	-245.5
		9	176.0	-10.5	0.0	0.0	0.0	-171.6
		10	230.3	-14.3	0.0	0.0	0.0	-235.3
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI- N	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-QY	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-QY	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-QZ	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-QZ	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-MT	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-MT	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-MY	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-MY	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MA-MZ	1182.1	-499.4	0.0	0.0	0.0	53777.8
		MI-MZ	1182.1	-499.4	0.0	0.0	0.0	53777.8
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
17	11	1	587.4	690.7	0.0	0.0	0.0	25818.4
		2	318.1	374.0	0.0	0.0	0.0	13980.2
		3	2375.4	-145.6	0.0	0.0	0.0	-1791.0
		4	-2057.3	519.6	0.0	0.0	0.0	15771.2
		5	269.1	-16.7	0.0	0.0	0.0	-205.7
		6	287.5	-17.8	0.0	0.0	0.0	-219.1
		7	281.2	-17.3	0.0	0.0	0.0	-213.0
		8	245.5	-15.0	0.0	0.0	0.0	-184.1
		9	176.0	-10.5	0.0	0.0	0.0	-128.7
		10	230.3	-14.3	0.0	0.0	0.0	-176.4
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI- N	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-QY	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-QY	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-QZ	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-QZ	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-MT	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-MT	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-MY	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-MY	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-MZ	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-MZ	1182.1	1389.9	0.0	0.0	0.0	51952.4

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 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
18	1	1	587.4	690.7	0.0	0.0	0.0	25818.4
		2	318.1	374.0	0.0	0.0	0.0	13980.2
		3	2375.4	-145.6	0.0	0.0	0.0	-1791.0
		4	-2057.3	519.6	0.0	0.0	0.0	15771.2
		5	269.1	-16.7	0.0	0.0	0.0	-205.7
		6	287.5	-17.8	0.0	0.0	0.0	-219.1
		7	281.2	-17.3	0.0	0.0	0.0	-213.0
		8	245.5	-15.0	0.0	0.0	0.0	-184.1
		9	176.0	-10.5	0.0	0.0	0.0	-128.7
		10	230.3	-14.3	0.0	0.0	0.0	-176.4
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI- N	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-QY	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-QY	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-QZ	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-QZ	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-MT	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-MT	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-MY	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-MY	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MA-MZ	1182.1	1389.9	0.0	0.0	0.0	51952.4
		MI-MZ	1182.1	1389.9	0.0	0.0	0.0	51952.4
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
18	11	1	587.4	1629.6	0.0	0.0	0.0	21061.7
		2	318.1	882.4	0.0	0.0	0.0	11404.6
		3	2375.4	-145.6	0.0	0.0	0.0	-1194.0
		4	-2057.3	1028.0	0.0	0.0	0.0	12598.6
		5	269.1	-16.7	0.0	0.0	0.0	-137.1
		6	287.5	-17.8	0.0	0.0	0.0	-146.0
		7	281.2	-17.3	0.0	0.0	0.0	-142.0
		8	245.5	-15.0	0.0	0.0	0.0	-122.7
		9	176.0	-10.5	0.0	0.0	0.0	-85.8
		10	230.3	-14.3	0.0	0.0	0.0	-117.6
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI- N	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-QY	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-QY	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-QZ	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-QZ	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-MT	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-MT	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-MY	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-MY	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-MZ	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-MZ	1182.1	3279.1	0.0	0.0	0.0	42381.0

NORDDALSBRU 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
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		LOCAL	INTERN. FORCES		FILE=RMDAT15			
19	1	1	587.4	1629.6	0.0	0.0	0.0	21061.7
		2	318.1	882.4	0.0	0.0	0.0	11404.6
		3	2375.4	-145.6	0.0	0.0	0.0	-1194.0
		4	-2057.3	1028.0	0.0	0.0	0.0	12598.6
		5	269.1	-16.7	0.0	0.0	0.0	-137.1
		6	287.5	-17.8	0.0	0.0	0.0	-146.0
		7	281.2	-17.3	0.0	0.0	0.0	-142.0
		8	245.5	-15.0	0.0	0.0	0.0	-122.7
		9	176.0	-10.5	0.0	0.0	0.0	-85.8
		10	230.3	-14.3	0.0	0.0	0.0	-117.6
		LOCAL	INTERN. FORCES		FILE=FILE1			
		MA- N	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI- N	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-QY	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-QY	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-QZ	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-QZ	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-MT	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-MT	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-MY	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-MY	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MA-MZ	1182.1	3279.1	0.0	0.0	0.0	42381.0
		MI-MZ	1182.1	3279.1	0.0	0.0	0.0	42381.0
		LOCAL	INTERN. FORCES		FILE=RMDAT15			
19	11	1	587.4	2568.5	0.0	0.0	0.0	12455.6
		2	318.1	1390.8	0.0	0.0	0.0	6744.5
		3	2375.4	-145.6	0.0	0.0	0.0	-597.0
		4	-2057.3	1536.4	0.0	0.0	0.0	7341.5
		5	269.1	-16.7	0.0	0.0	0.0	-68.6
		6	287.5	-17.8	0.0	0.0	0.0	-73.0
		7	281.2	-17.3	0.0	0.0	0.0	-71.0
		8	245.5	-15.0	0.0	0.0	0.0	-61.4
		9	176.0	-10.5	0.0	0.0	0.0	-42.9
		10	230.3	-14.3	0.0	0.0	0.0	-58.8
		LOCAL	INTERN. FORCES		FILE=FILE1			
		MA- N	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MI- N	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MA-QY	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MI-QY	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MA-QZ	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MI-QZ	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MA-MT	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MI-MT	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MA-MY	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MI-MY	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MA-MZ	1182.1	5168.4	0.0	0.0	0.0	25063.5
		MI-MZ	1182.1	5168.4	0.0	0.0	0.0	25063.5

NORDDALSBRU 2
 BETONGBRU MED SPENN 44.0 og 41.0m

EL	NOD	LC/SUP	N	QY	QZ	MT	MY	MZ
			SIG-OL	SIG-OR	SIG-UL	SIG-UR	QY	QZ
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
21	1	1	-12126.8	-587.4	0.0	0.0	0.0	-4444.4
		2	-6566.5	-318.1	0.0	0.0	0.0	-2406.6
		3	-3417.7	-2375.4	0.0	0.0	0.0	-17971.2
		4	-3148.7	2057.3	0.0	0.0	0.0	15564.7
		5	-273.0	-269.1	0.0	0.0	0.0	-2035.9
		6	-321.5	-287.5	0.0	0.0	0.0	-2175.5
		7	-362.7	-281.2	0.0	0.0	0.0	-2127.4
		8	-395.2	-245.5	0.0	0.0	0.0	-1857.6
		9	-417.7	-176.0	0.0	0.0	0.0	-1331.8
		10	-218.5	-230.3	0.0	0.0	0.0	-1742.7
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MI- N	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MA-QY	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MI-QY	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MA-QZ	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MI-QZ	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MA-MT	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MI-MT	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MA-MY	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MI-MY	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MA-MZ	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
		MI-MZ	-24401.8	-1182.1	0.0	0.0	0.0	-8943.1
			LOCAL			INTERN. FORCES		
						FILE=RMDAT15		
21	11	1	-12126.8	-587.4	0.0	0.0	0.0	1430.0
		2	-6566.5	-318.1	0.0	0.0	0.0	774.3
		3	-3417.7	-2375.4	0.0	0.0	0.0	5782.4
		4	-3148.7	2057.3	0.0	0.0	0.0	-5008.0
		5	-273.0	-269.1	0.0	0.0	0.0	655.1
		6	-321.5	-287.5	0.0	0.0	0.0	700.0
		7	-362.7	-281.2	0.0	0.0	0.0	684.5
		8	-395.2	-245.5	0.0	0.0	0.0	597.7
		9	-417.7	-176.0	0.0	0.0	0.0	428.5
		10	-218.5	-230.3	0.0	0.0	0.0	560.7
			LOCAL			INTERN. FORCES		
						FILE=FILE1		
		MA- N	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MI- N	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MA-QY	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MI-QY	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MA-QZ	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MI-QZ	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MA-MT	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MI-MT	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MA-MY	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MI-MY	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MA-MZ	-24401.8	-1182.1	0.0	0.0	0.0	2877.5
		MI-MZ	-24401.8	-1182.1	0.0	0.0	0.0	2877.5