N·E·G MICON®
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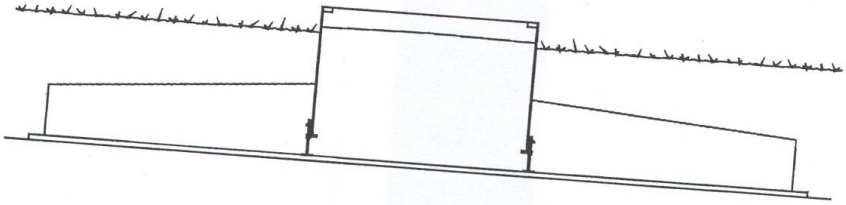
Folio N
388

Foundation for

NM 72 - HH 63,5 & 70 m IEC 1b

Ground water level below foundation

Load document: C72-82-0144'01

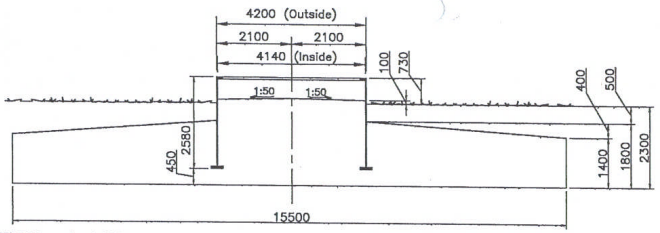


Document List:

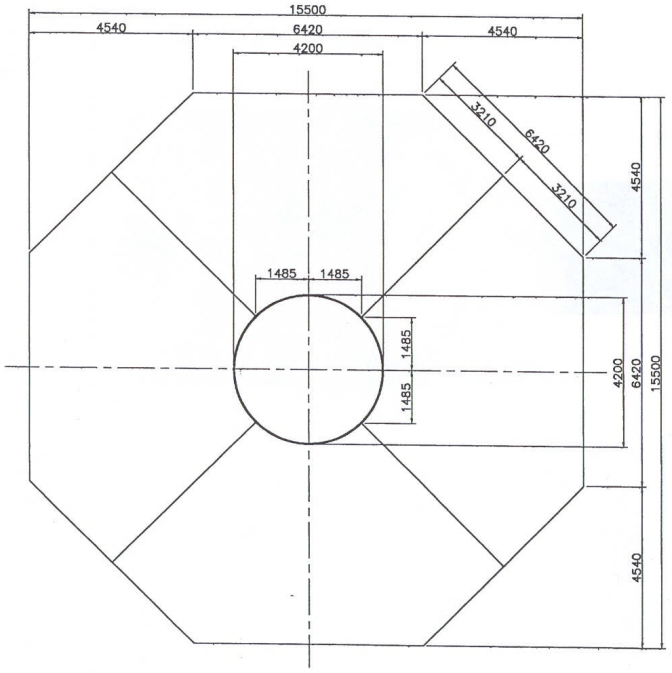
Drawing	Date	Ver
GM72-0328-50'2	031016	2
GM72-0328-51'2	031016	2
GM72-0328-52'2	031016	2
GM72-0328-53'2	031016	2
GM72-0328-54'2	031016	2
GM72-0328-55'2	031016	2
GM72-0328-56'2	031016	2

Drawing no. GM72-0328-50'2

Draw. GM72-0328-50'2	Ver. 2-031016	Foundation for NM72 - HH 63,5 & 70 m IEC 1b, GWL below foundation	
Date: 030711	Editor: JS	Approval: MSV	Gimsing & Madsen A/S



SECTION, 1:100



PLAN, 1:100

Steel section and pipes shall be placed according to NEG Micon.

SOIL:

The foundation design is carried out with soil conditions stated below:

Ground water level:	Ground water level below foundation
Nessecary soil carrying capacity:	295,2 kN/m²
Dimension, min. loaded area:	4,28 m x 9,59 m (equivalent rectangular area).
Required Foundation Stiffness	Upper limit: no limit.
	Lower limit: 25 GNm/rad.

As a result of the soil investigations, it has to be proved, that the soil conditions are as stated above or better.
Backfilling shall be compacted with layer thickness of 0,3 m to a density not below 18 kN/m³.
The soil investigation report shall further than the strength characteristics and measurements of the present and estimation of the highest possible level of ground water in the future, also content deformation characteristics and calculations, which make certain, that the stiffness of the foundation will be within the required limits.

CONCRETE:

Due consideration shall be given to durability and proper workmanship in planning of the concrete works. Before the works commences the Contractor shall deliver for approval a planning programme for concrete production including stocks of aggregates and reinforcement, equipment for mixing and placing, vehicles for transport of concrete, manpower, etc.
The concrete shall be mixed and placed in accordance to the request stated below:

Code of Practice:	DS 411
Environment:	Passive
Concrete strength:	f_c = 25 N/mm², cylinder strength.
Slump:	60–100 mm.
Air content:	4–6%.
Aggregate:	d_{max} = 32 mm.
Cover to reinforcement:	50 mm to formwork and subbase concrete (100 mm to soil).

NOTES:

All dimensions in mm.
All concrete shall be well consolidated by the use of immersion vibrators.
The concrete top shall have a minimum slope as stated on the drawing.
Distance block to separate galvanized anchor plates from reinforcement shall be used.
All concrete surfaces shall be maintained in a moist condition and be protected against rain and rapid temperature changes as soon as possible and for at least 8 days by tarpaulins.

Ver.	Date	Description	Revised	Drawn	Checked	Approved
2	031018	New foundation for both HH 63,5 & 70,0 m	MSV	JS	MSV	

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Foundation for: NM 72 - HH 63,5 & 70,0 m IEC1b
GWL below foundation

Designed	Drawn	Checked	Approved	File no.	Date
MSV	JS	MSV		03-008	030711 ver. 1

Gimsing & Madsen A/s
Consulting engineers FRI
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Ct. | Drawing no. GM72-0328-51

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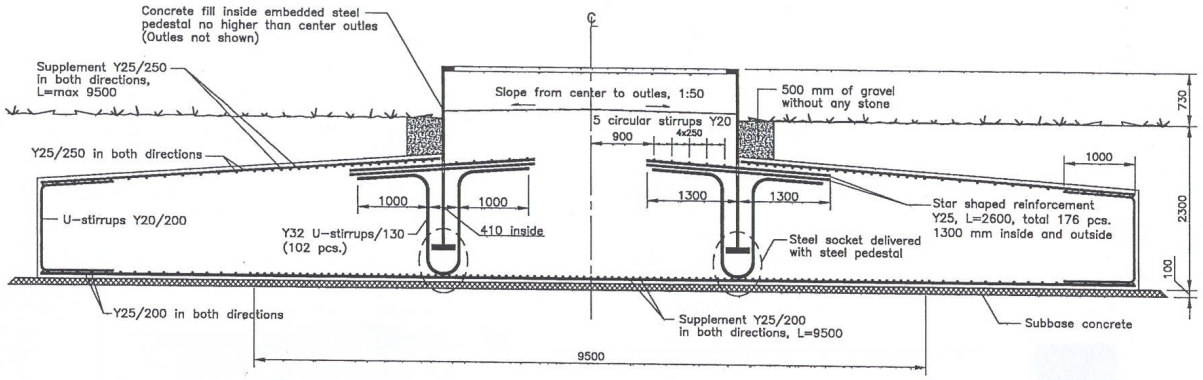
Folio No. 89



SECTION, 1:50

REINFORCEMENT

STEEL SECTION:

Adjusting bolts/socket etc. is mounted by delivery.
Cable pipes is to be delivered and placed by the contractor in accordance to NEG-Micon.
Steel section is placed on the subbase concrete after placement of the reinforcement at the bottom of the foundation.
After this the steel section is adjusted to the correct height and level of the topflange.
Steel section is not allowed to touch the reinforcement anywhere.
By casting of concrete inside and outside of the steel section in the foundation extremely caution is to be taken to avoid any displacement of the steel section.
Maximum horizontal deviation of steel section after concreting in accordance to NEG-Micon.
Steel section with star shaped reinforcement passing through is to be rotated so door is placed in the right direction.

REINFORCEMENT:

Reinforcement: Ribbed bar (Y), Fy ≥ 500 MPa.
Crossing reinforcement at top and bottom is to be connected at every second crossing.

NOTES:

All dimensions in mm.

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2	031016	New foundation for both HH 63,5 & 70,0 m	MSV	JS	MSV	

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Foundation for: NM 72 - HH 63,5 & 70,0 m IEC1b

GWL below foundation

Designed	Drawn	Checked	Approved	File no.	Date
MSV	JS	MSV		03-008	030711 ver. 1

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Ct. | Drawing no. GM72-0328-52|2

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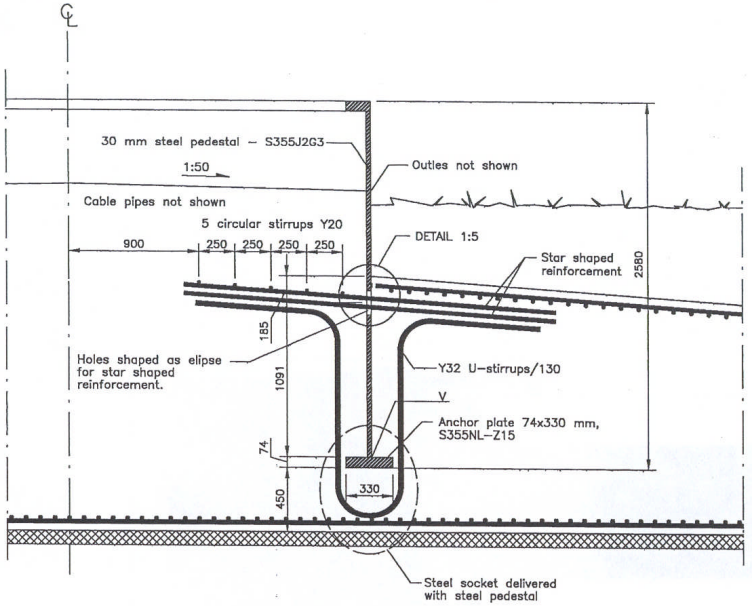
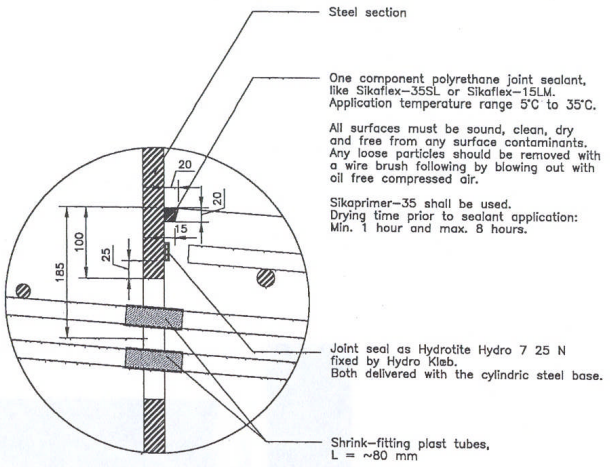
Folio No



DETAIL, 1:25



DETAIL, 1:5

NOTES:
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GWL below foundation

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MSV	JS	MSV		03-008	030711 ver. 1

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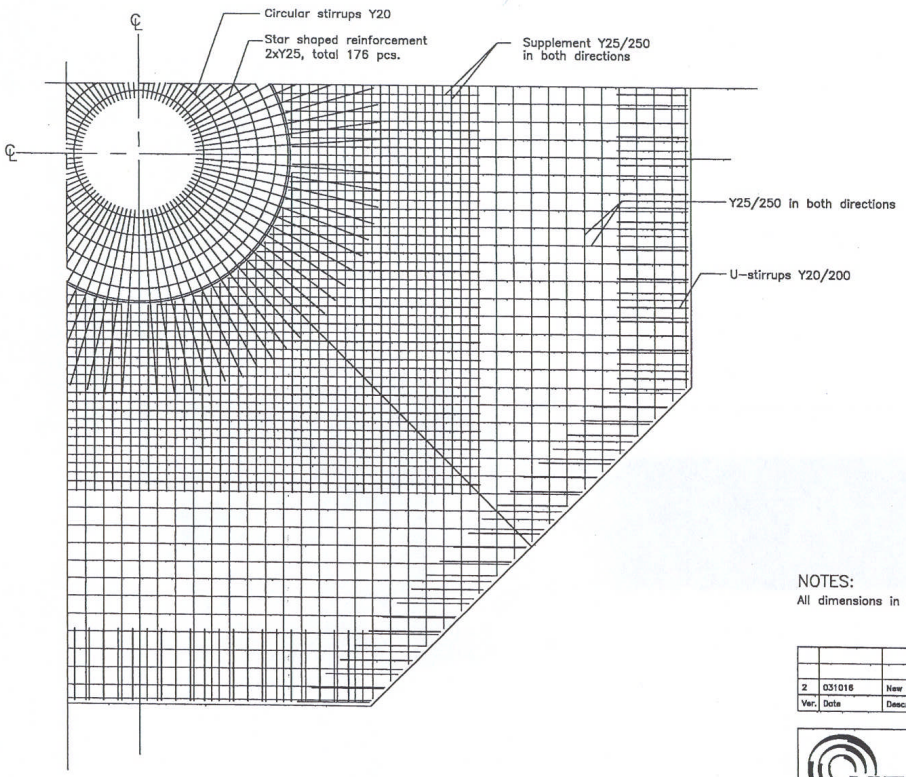
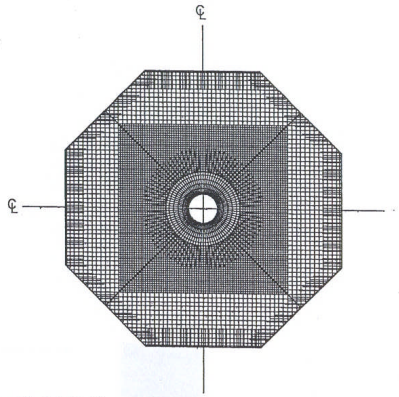
Folie Nr. 31



1/4-SECTION, 1:50

REINFORCEMENT AT TOP, STAR SHAPED REINFORCEMENT AND CIRCULAR STIRRUPS INSIDE PEDESTAL SHOWN.



SECTION, 1:200

NOTES:
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GWL below foundation

Designed	Drawn	Checked	Approved	File no.	Date
MSV	JS	MSV		03-008	030711 ver. 1

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Folio no.

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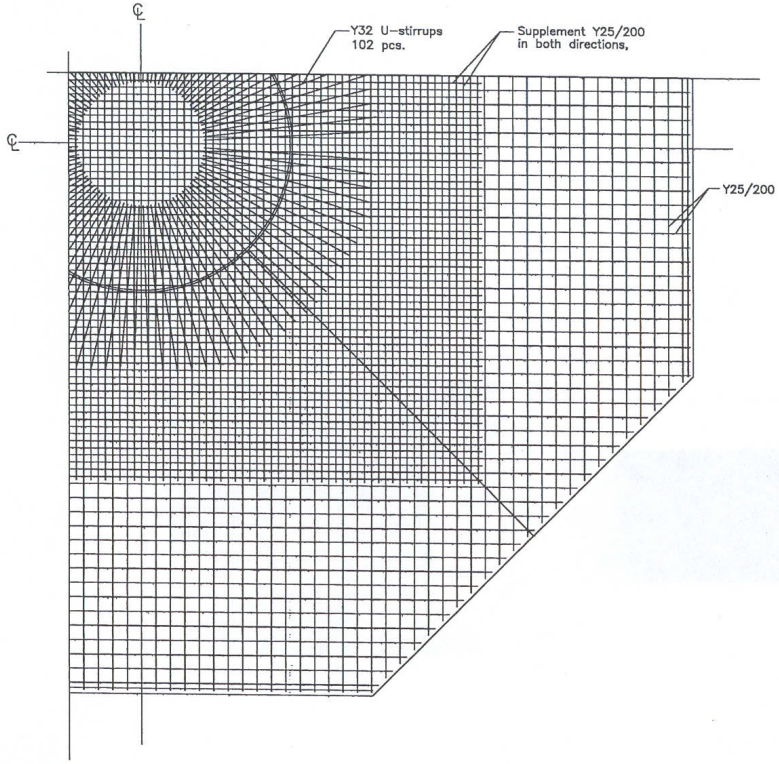
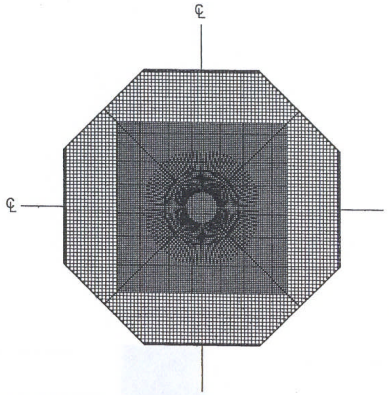


1/4-SECTION, 1:50

REINFORCEMENT AT BOTTOM AND U-SHAPED STIRRUPS SHOWN



SECTION, 1:200

NOTES:
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GWL below foundation

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MSV	JS	MSV		03-008	030711 ver. 1

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Ct. | Drawing no. GM72-0328-55

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Folio No 52

PAD REINFORCEMENT:

AT TOP	Y25/250				
L1	L2	h1	Sketch	Number	Length
6429			L1	4	6429
6813				4	6813
7312				4	7312
7811				4	7811
8309				4	8309
8808				4	8808
9307				4	9307
9806				4	9806
10304				4	10304
10803				4	10803
10472	415	29	L2 L1 L2	4	11304
9973	914	65		4	11805
9475	1412	100		4	12306
8976	1911	135	h1 h1	4	12808
8477	2410	171	V1=4,05	4	13309
7978	2909	206		4	13810
7480	3407	241		4	14311
6981	3906	277		4	14813
6482	4405	312		4	15314
5983	4707	333		4	15420
5485	4956	351		4	15421
4986	5205	369		4	15423
4487	5455	386		4	15424
1234	5704	404	L2 L1	8	6952
516	5953	421	h1 V1=4,05	8	6484
	6176	437		8	6191
	5966	422	L2	8	5981
	5811	411		8	5826
	5699	403	h1 V1=4,05	8	5713
	5623	398		8	5637
	5579	395		8	5593
	5564	394		4	5578

AT TOP, SUPPLEMENT, L=max 9500	Y25/250				
L1	L2	h1	Sketch	Number	Length
9225	137	10	L2 L1 L2	4	9501
8726	387	27		4	9502
8228	636	45		4	9503
7729	886	63	h1 h1	4	9504
7230	1135	80	V1=4,05	4	9506
6731	1384	98		4	9507
6233	1634	116		4	9508
5734	1883	133		4	9509
5235	2132	151		4	9511
4736	2382	169		4	9512
1864	2631	186	L2 L1	8	4501
840	2881	204	h1 V1=4,05	8	3728
231	3130	222		8	3369
	3114	220	L2	8	3122
	2934	208		8	2942
	2802	198	h1 V1=4,05	8	2809
	2709	192		8	2715
	2649	188		8	2655
	2619	185		8	2626

R[illegible]RCEMENT THE UPPER PART:

AT TOP, STAR SHAPED	Number	Length
Y25	176	2600

AT TOP, CIR. STIRRUPS	Y20	
Number	D	Length
1	3800	11938
1	3300	10367
1	2800	8796
1	2300	7226
1	1800	5655

D

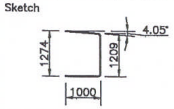
PAD REINFORCEMENT:

AT BOTTOM	Y25/200		
Number	Length	Number	Length
66	15400	4	8579
4	14979	4	8179
4	14579	4	7779
4	14179	4	7379
4	13779	4	6979
4	13379	4	6579
4	12979	4	6429
4	12579		
4	12179		
4	11779		
4	11379		
4	10979		
4	10579		
4	10179		
4	9779		
4	9379		
4	8979		

AT BOTTOM, SUPPLEMENT, L=9500	Number	Length
Y25/200	96	9500

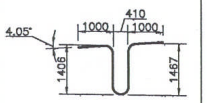
REINFORCEMENT AT PAD EGDE:

U – STIRRUPS	Y20/200
Number	Sketch
220	
Length	
3111	



U–STIRRUPS REINFORCEMENT:

U – STIRRUPS	Y32/130
Number	Sketch
102	
Length	
4866	



REINFORCEMENT:

Reinforcement: Ribbed bar (Y), Fy ≥ 500 MPa.

Bending, minimum of radius:
30 mm for F10
36 mm for F12
48 mm for F16
60 mm for F20
112.5 mm for F25
192 mm for F32

Min. anchorage length:
500 mm for F10
600 mm for F12
800 mm for F16
1000 mm for F20
1250 mm for F25
1600 mm for F32

QUANTITY OF STEEL REINFORCEMENT (kg) :

OBJECT:		MASS:
AT TOP	Y25/250	5.868
AT TOP, SUPPLEMENT, max L=9500	Y25/250	2.414
AT TOP, L=2600	Y25	1.817
AT BOTTOM	Y25/200	7.903
AT BOTTOM, SUPPLEMENT, L=9500	Y25/200	3.620
AT TOP, CIR. STIRRUPS	Y20	112
U – STIRRUPS (102 pcs.)	Y32/130	3.226
U – STIRRUPS AT PAD EGDE	Y20/200	1.738
	Total	26.698

CONCRETE QUANTITY (m^3) :

Inside pedestal above pad	Pad	Subbase concrete
8,3	314,3	22,6

NOTES:

All dimensions in mm.

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Foundation for: NM 72 - HH 63,5 & 70,0 m IEC1b
GWL below foundation

Designed	Drawn	Checked	Approved	File no.	Date
MSV	JS	MSV		03-008	030711 ver.1

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Ct. | Drawing no. GM72-0328-5602

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