

# Norwegian Athletic Federation

Ullevaal stadion  
Sognsveien 75 J  
0840 Oslo  
NORWAY  
E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)  
Phone: +47 94 83 33 26



## COURSE MEASUREMENT REPORT

### - REPORT FOR NATIONAL CERTIFIED COURSE -

| INFORMATION ABOUT EVENT AND COURSE                    |  |
|---|--|
| Event:  | Hornindalsvatnet maraton   |
| Technical Organiser:                                  | Hornindal IL   |
| City/Place:   | Grodås   |
| Date of Arrangement:                                  | 2022-07-23   |
| Date and time for measurement:                        | 2022-07-22 14:00   |
| Measured distance(s):                                 | 10km, halfmarathon, marathon   |
| Length of calibration course:                         | 304.37m  |
| Terrain:  | Flat <input type="checkbox"/> Slightly hilly <input checked="" type="checkbox"/> Hilly <input type="checkbox"/> Terrain <input type="checkbox"/>       |
| Type of course route:                                 | Closed loop <input type="checkbox"/> Back and forth <input type="checkbox"/> A to B <input type="checkbox"/> Other <input checked="" type="checkbox"/> |
| Race surface:   | tarmac   |
| Elevation Start - Finish:                             | 0m (10km), -2.5m (halfmarathon), -5m (marathon)  |
| Description of start:                                 | 10km: Hornindals Sports Park, finish-line<br>1/2M: Hornindal church<br>M: Main road west of Hornindal nursing home                                     |
| Description of finish:                                | Hornindal Sports Park, finish-line (10km, 1/2M and M)  |
| Distance, in a straight line, between start & finish: | 0m (10km), 400m (1/2M), 1500m (M)  |
| Start and Finish marked:                              | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  |
| Km-markings:  | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  |
| Measurement direction:                                | Running direction <input checked="" type="checkbox"/> Opposite running direction <input type="checkbox"/>  |
| National record can be approved:                      | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  |

| CONTACT INFORMATION |                    |                     |
|---------------------|--------------------|---------------------|
|                     | Measured by:       | Organizer:          |
| Contact person:     | Geir Jensen        | Inge Asbjørn Haugen |
| Phone:              | +47 48 08 22 00    | +47 918 40 004      |
| Email:              | Ccie8795@gmail.com | iahaugen@online.no  |

It is hereby confirmed that the course has been measured by a national certified course measurer from Norwegian Athletics. The course is measured in accordance with Norwegian athletics regulations, and the distance(s) has the minimum reported length(s). The survey is valid for 5 years, except if the route is changed.

# Norwegian Athletic Federation

Ullevaal stadion  
Sognsveien 75 J  
0840 Oslo  
NORWAY  
E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)  
Phone: +47 94 83 33 26



2022-08-04 Geir Jensen (sign)

5.8.2022

*Peer Jensen*

Date Signature by Course measurer

Date Signature by NFIF

| CALIBRATION COURSE AND PROCEDURE  |                         |
|---|-------------------------|
| Length of measuring tape (steel measuring tape only)                                | 50m                     |
| Length of calibration course 1st measurement  | 304.37m                 |
| Length of calibration course 2nd measurement  | 304.37m                 |
| Possible 3rd measure (max. 1 cm diff per 100m 1 <sup>st</sup> and 2 <sup>nd</sup> ) |                         |
| Average of measurements before adjustments  | 304.37m                 |
| Temperature (road or measuring tape)  | 20C                     |
| Adjustment cf. $D-(D*(1+(temp-20)*0,0000115))$                                      | 0                       |
| Measured calibration distance after adjustment                                      | 304.37m                 |
| Distance from start/finish to calibration distance                                  | 1km from start marathon |

| CALIBRATION INFORMATION - (max 8 counts difference of 1000 m between 4 measurements, ie 2 counts of 300m and 3 count of 400m) |                                 |         |       |                                 |         |       |
|---|---------------------------------|---------|-------|---------------------------------|---------|-------|
|   | Pre-measurement:                |         |       | Post measurement:               |         |       |
|   | Date and Time: 2022-07-22 14:30 |         |       | Date and Time: 2022-07-22 17:00 |         |       |
|   | Start                           | End     | Diff. | Start                           | End     | Diff. |
| 1st measure   | 568 000                         | 571 522 | 3 522 | 775 300                         | 778 821 | 3 521 |
| 2nd measure   | 571 600                         | 575 122 | 3 522 | 779 336                         | 782 858 | 3 522 |
| 3rd measure   | 575 200                         | 578 724 | 3 524 | 783 000                         | 786 521 | 3 521 |
| 4th measure   | 578 800                         | 582 323 | 3 523 | 786 500                         | 790 021 | 3 521 |

# Norwegian Athletic Federation

Ullevaal stadion  
Sognsveien 75 J  
0840 Oslo  
NORWAY  
E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)  
Phone: +47 94 83 33 26



|  | Pre measurement | Post measurement |   |
|--|-----------------|------------------|---|
| <b>Average</b><br><b>(1+2+3+4) / 4</b>   | 3522,75         | 3521,21          | Today's constant. Either highest or average of before and after measurement |
| <b>Constant 1 km</b>                     | 11573,907       | 11568,9785       |   |
| <b>Addn. +1‰</b>                         | 11,573907       | 11,5689785       |   |
| <b>Measurement constant</b><br>(rounded) | 11585           | 11581            |   |

## MEASUREMENT PROCEDURE

| <b>Measurement constant</b>   | 11585   |   |
|---|---------|---|
| Measured Distance   | Counter | Description of place  |
| <b>Section A, the 10km loop</b>   |         |   |
| Start   | 600 000 | Start/Finish line at the stadium  |
| 1 km  | 611 585 |   |
| 2 km  | 623 170 |   |
| 3 km  | 634 755 |   |
| 4 km  | 646 340 |   |
| 4,896km (turning point)   | 656 720 | Turning point Otredalen, half a meter north of attachment for wire crossing the river. Marked with orange spray-paint |
| 5 km  | 657 925 |   |
| 6 km  | 669 510 |   |
| 7 km  | 681 095 |   |
| 8 km  | 692 680 |   |
| 9 km  | 704 265 |   |
| 10 km   | 715 850 | Finish line at the stadium. Actual 715 864  |
|   |         |   |
| <b>Section B/C: From Finish/turning point in the stadium to start of M and 1/2M (opposite of running direction)</b> |         |   |
| Start   | 715 850 |   |
| 1 km  | 727 435 |   |
| 1,0975km  | 728 565 | Start ½ Marathon – by the church  |
| 2,195 km  | 741 279 | Start Marathon – by the nursing home  |

# Norwegian Athletic Federation

Ullevaal stadion  
Sognsveien 75 J  
0840 Oslo  
NORWAY  
E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)  
Phone: +47 94 83 33 26



## CONCLUSION OF MEASUREMENT

### 1. Measurement method

Jones counter mounted on bicycle

### 2. Measurement procedure

**The measurement** was carried out in two parts:

A) Measure the 10km from the Hornindal stadium to Olderdalen and back to Hornindal stadium. This part was measured in the running direction.

B,C) Measure the distance from the finish line on the stadium to the starting point for M and 1/2M respectively. This part was measured opposite to the running direction.

### 3. Course adjustment

No adjustments where necessary

Measured length of 10km course: 10 001m  
 $(715\,864 - 600\,000) * 1000 / 11585 = 10\,001,21\text{m}$

Measured length of ½ Marathon course: 21 100m  
 $(2 * (715\,864 - 600\,000) + (728\,565 - 715\,850)) * 1000 / 11585 = 21\,099,92\text{m}$

Measured length of Marathon course: 42 200m  
 $(4 * (715\,864 - 600\,000) + (741\,279 - 715\,850)) * 1000 / 11585 = 42\,199,84\text{m}$

# Norwegian Athletic Federation

Ullevaal stadion

Sognsveien 75 J

0840 Oslo

NORWAY

E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)

Phone: +47 94 83 33 26



## CALIBRATION COURSE MAP



Calibration course: On the walkway along road E39. Between manholes at house nr 1498 and 1532



# Norwegian Athletic Federation

Ullevaal stadion

Sognsveien 75 J

0840 Oslo

NORWAY

E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)

Phone: +47 94 83 33 26



Calibration course: On the walkway along road E39. Between manholes at house nr 1498 and 1532



# Norwegian Athletic Federation

Ullevaal stadion

Sognsveien 75 J

0840 Oslo

NORWAY

E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)

Phone: +47 94 83 33 26





# Norwegian Athletic Federation

Ullevaal stadion  
Sognsveien 75 J  
0840 Oslo  
NORWAY  
E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)  
Phone: +47 94 83 33 26



## COURSE MAP & DESCRIPTION

Marathon (42195 m) starts on the national road west of Hornindal nursing home and continues along the footpath and cycle path to Hornindal Sports Park. To the finish line, this amounts to 2195 metres. After this, there will be four round trips to Otredalen, which lies on the north side of Hornindalsvatnet. The distance from the sports park to Otredalen and back is 10 km. ( $2,195\text{km} + 4 \cdot 10\text{km} = 42,195\text{km}$ )

Half marathon (21097.5 m) starts at Hornindal church and continues to Hornindal Sports Park. To the finish line, this amounts to 1097.5 metres. After this, there will be two round trips to Otredalen. ( $1,097.5\text{km} + 2 \cdot 10\text{km} = 21,097.5\text{km}$ )

10 km Starts at the finish line and then once round trip Otredalen.



The course:

- A. A 10km back-and-forth from Hornindal Stadium to turning point in Otterdal. This section is run once for 10km, twice for the 1/2Marathon and 4 times for the Marathon.



# Norwegian Athletic Federation

Ullevaal stadion

Sognsveien 75 J

0840 Oslo

NORWAY

E-mail: [fridrett@fridrett.no](mailto:fridrett@fridrett.no)

Phone: +47 94 83 33 26



- B. A 1097,5m section from the Start at Hornindal church to Hornindal Stadium for the ½ Marathon
- C. A 2195m section from the Start at Hornindal nursing home to Hornindal Stadium for the Marathon.

KM-markers:

The kilometer markers show the **remaining distance**, i.e. not how far you have run. Since all the distances end with the same 10km loop, the kilometer markers for 10K, 1/2M and M will be in the same place.

The picture below shows 8km left for the 10km-runners, but also 38km, 28km, 18km and 8km left for marathon and half-marathon runners depending on number of laps run.



# Norwegian Athletic Federation

Ullevaal stadion

Sognsveien 75 J

0840 Oslo

NORWAY

E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)

Phone: +47 94 83 33 26



Start ½ marathon. Marked with orange spray-paint



Start Marathon – marked with orange spray-paint



# Norwegian Athletic Federation

Ullevaal stadion

Sognsveien 75 J

0840 Oslo

NORWAY

E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)

Phone: +47 94 83 33 26



Turning point for the 10K