«The Extension of the Quay of the German Wharf - 100 Years After. Version 1.1. E

A distilled audiovisual presentation
of an archival study

by
Arne Skivenes,
for
UNESCO Advisory Mission.
19.september 2022

Arne Skivenes

- Historian, former City Archivist in Bergen, documentalist
- 1979-2017 head of Bergen City Archives (1 > 80 empl)
- UNESCO: Memory of the World (1999-2015)
  - Chairman Norwegian committee 2009-12. Norw.register est 2010
  - 4th intl conf. 2000 Colima. Speaker.
  - 20th anniv. Expert meeting Warszaw 2012
  - 2 nominations to intl register accepted
  - Consultant to the Icelandic committee 2015
- ICA International Congress on Archives
  - Steering Committee Section of Municipal Archives 1992-2000.
  - 18th International Congress 2016 Seoul. Speaker
- European Capital of Culture 2000. Project chairman 7 cities (Bergen, Bologna, Helsinki. Krakow, Prague, Reykjavik, Santiago de Compostela)

Autumn 2021 a friend asked me:

- Why is no one talking about the foundations of the quay in front of the wharf?
- Is it not important?
- Is it stable enough? Is there anything of value ?
- Should we not know what is down there?
- Has anyone researched this?
- Does anyone know what is underneath the surface?

The Challenge:
(a choice selection)

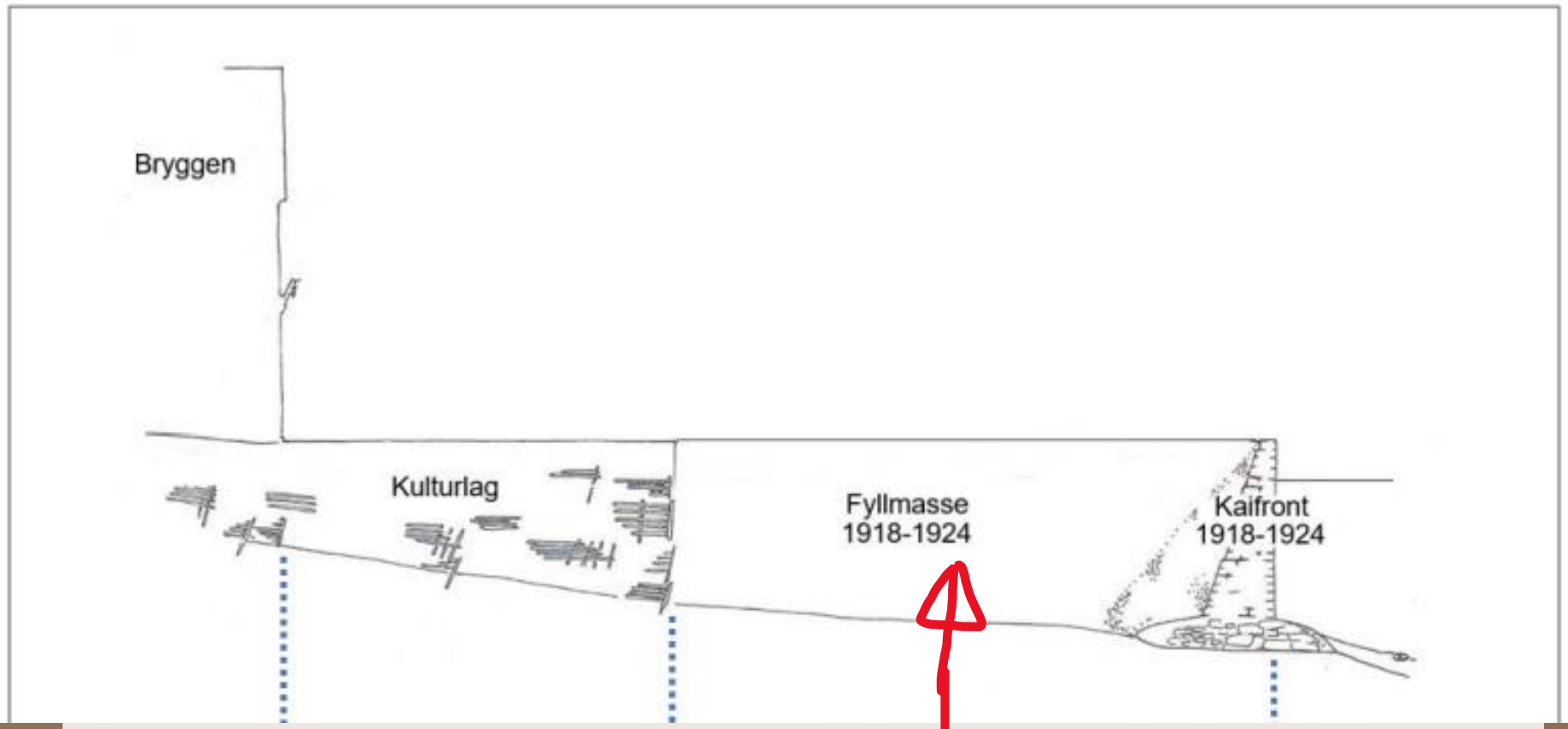
*«It may be noted that **Bryggen has been awarded no value as far as cultural layers concerns.** This is because the **trail goes outside the area with medieval cultural layers and cultural layers from early modern time**. The trail here passes above filling compounds depositied during the first quarter of last century, and **accordingly has no or little cultural historical value» (p.11)***

*«**In these compunds one will not find cultural heritage,** other than possible layers deposited under water, several metres below sea level, on original sea floor. **These layers most likely were removed by dredging** before founding of the stone quays.»*

Konsekvensutredning kulturminner og kulturmiljø. Faggruppen Bybanen Bergen Sentrum-Åsane. Vedleggsnotat 02. Norconsult 2013.

*«The City Rail is planned on **a relatively new stone quay,** not in conflict with historic seabed.»*

Ole-Magne Nøttvedt, Norkonsult, BA 22.12.2021.



This sketch is misleading

Only stone? No cultural layers?

My observation is:
No documentation, no proof

- No historical sources from the building process were quoted or even referred to
- No archaeological digs from the relevant area (the quay area) has been called upon
- No drilling cores from the relevant area were produced. (Later, a very few)
- No rebuttal of our findings (or even an acknowledgement of their existence..)

Front Holmedalsgården, 2007

Bottom of hole: -2,60 (4,45 below asphalt)

Test core MB12, 2008

01-03: +1,15—1,45
Soil, gravel, mixed with red brick material, charred wood, rotten pieces of wood

04 -1,45 - -1,75:
Half rotten timber (bulwarks?) strong stench from H2S, decomposition

10 - 7,60- -8,25:
Cultural layers carbondated to year 1150-1220.

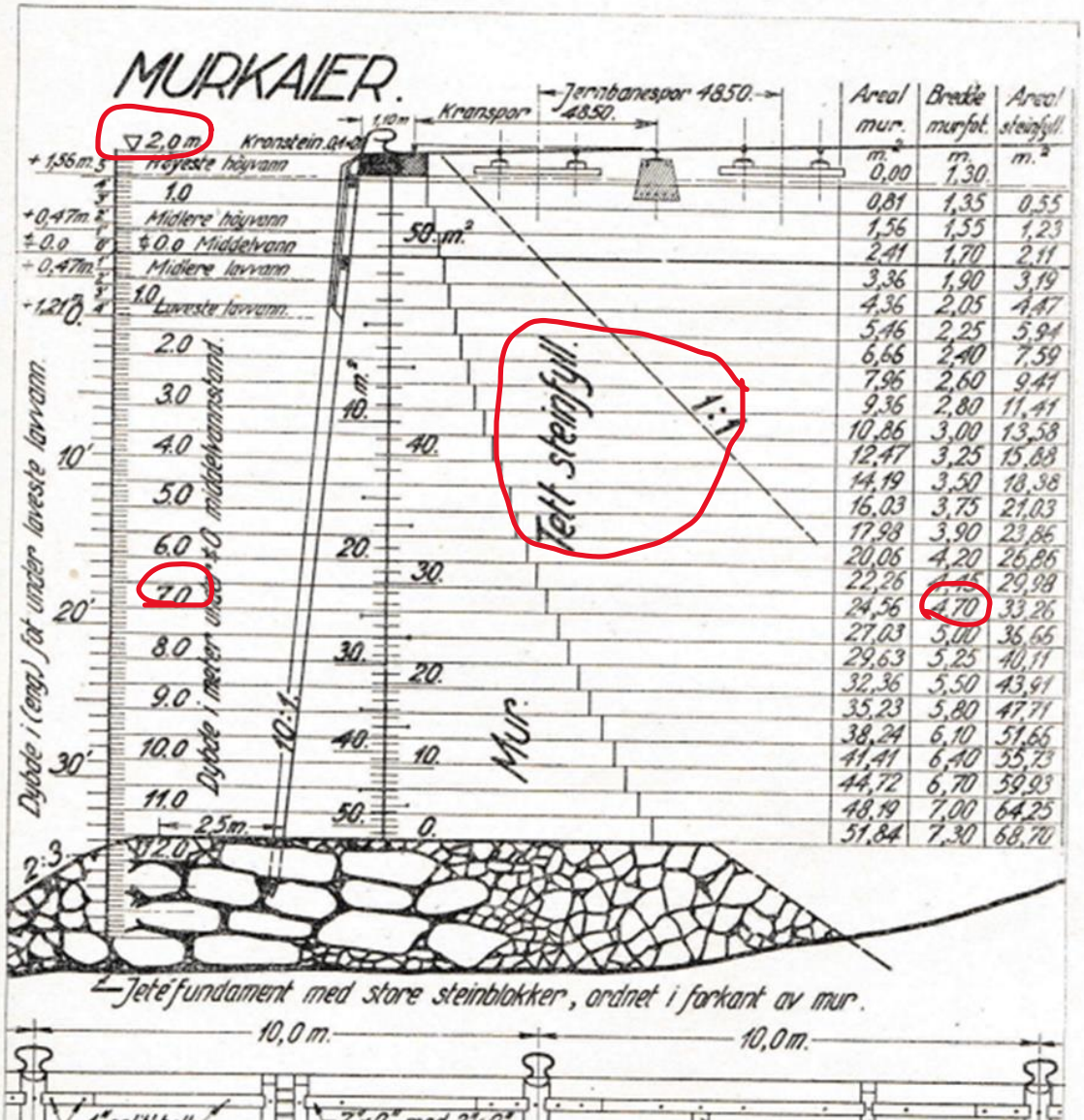
Photo: Elin Thorsnes

Sources I have examined:

- The Harbour Engineer's
  - Copies of sent letters 1916-1924
  - Journals of received letters 1916-1924
  - Main ledgers for quay building projects1916-1924
  - Various dfrawings and maps
- The Harbour Authority's
  - Deliberations and decisions 1916-1924
  - Journals for received letters 1916-1924
- The Harbour Administration's
  - Correspondance various years
  - Photos
- The City Councel's deliberations (Bergens kommuneforhandlinger) 1916-1927
- Road Administration's dept for the fire site, var. correspondence & reports 1916-1921
- National Library, database of newspapers 1916-1926. BT, B Aftenblad, B Adressekontors Efterretninger, Arbeidet, Gula Tiden mm
- Various photo databases (Byarkivet, Marcus, Nasjonalbiblioteket)

NORMALPROFIL FOR KAIMURER

Dense stone fill, 1:1 gradient



Main timeline:

- 1916 aug Start of planning
- 1917, 13. mar Regulation plan passed
- 1917 mar-apr. First dredging
- May 1917-jun 1918 no work
- 1918, 27. may Grant approved
- 1918 jul. Start filling of jeté
  1918 30.sep. Expropriation of most properties
- 1918 17.oct Start building outer stone wall
- 1919 23.jan First stone visible above water level!
- 1919 mar conflict with owners
- 1919 28.jul last properties expropriated
- Nov 1919-des 1920 transfers of properties
- 1920-21 Year of backfill
- 1921 feb Outer wall finished
- Mar-may 1921 2. dredging
- Apr-aug1921 bulwark removed
- Nov 1921 Compund filling finished
- 1923 Surface work
- 1924 Paving stones finished
- 1925 2 warehouses erected
- 1927 Final summary and accounting

The Harbour Engineer's summary 1927:

- «This very considerable saving stems from unexpensive dredging work.
- At the same time the dredging masses proved much smaller than predicted, because one reached down to gravel that by means of drilling were presumed to be of softer material.
- Thereby a similar amount of jeté was saved
- Additionally, we made considerable savings through filling compounds for free transported from the fire site.»
    - (Bergen City Council 7th march 1927)

First dredging

- The Harbour Authority 28.11.1916 accepts the plan of the Harbor Engineer, including renting a large dredging machine, the work stipulated to 22 days.
- *«The process of dredging for the extension of the quay of the German Wharf takes place outside of the -5,0 m contour line. Thus, this dredging can be done without regard to expropriations.»*
- 1. Front wall to be built first, boat traffic to be allowed to the old wharves behind the wall.
- 2. Any work on shallower depths than 5 m must wait until transfers of properties are finished. To spring 1920!


The quay wall
Fiskebryggekaiens forlængelse 1/febr. 1921

First dredging

- 13.march 1917 start of dredging
- 10. april 1917 is the last possible day for dredging with machine by the German Wharf. 11.april the machine is shipwrecked in Nygårdsstrømmen. 4.april probably last day in actual use (because of Easter)
- 18-20 days' use of the machine, planned 22 days.
- 30.april, last payday for dredging workers
- In total 302,6 man-days' work.

- A limited operation
- Almost 4 years until next dredging of any importance

Foundations

- May 1917-june 1918 no work on the quay
- July – october 1918 jeté (stone filling) laid down
- 17.oktober 1918 start building outer wall. To be 160 m.
- *«The depth is 7 metres, but for the quay wall there is dredged a trench of 10 to 11 metres depth. In this trench there is now first laid a 3 to 4 metres thick layer of stone filling and the rest is masonry work with ordinary granite boulders»*

The outer quay wall

- 23. jan. 1919 first boulders visible above surface
- 1.march 1919 50 m quay length finished. Some filling on inside, but not the innermost 10 metres. Owners complain: shallow and difficult access. Further construction delayed for almost a year
- 16. april 1920 80 m laid. Backfilling can start.
- 22. sept. 1920 110 m finished
- 15. jan. 1921 156 m laid, 2/3 of the length filled
- 22. feb. 1921 160 m masonry work finished


036 Bergen. Tyskebryggen
Eneret Mittet & Co.

The problem of ownership

- 12.03.1917 Regulation plan (City Council)
- 22.05.1918 Trial expropriation assessment (conditions, rates)
- 27.05.1918 Grant decision (City Council)
- 30.09.1918 Decision on expropriation of most properties /City Council)
- 01.03.1919 Owners' complaint over difficult seaward entrance
- Summer/autumn 1919 delay of extension work
- Nov. 1919 first property transferred (Gullskoen)
- spring 1920 ready for compound filling
- 28.06.1920 Decision on expropriation of the rest of properties
- 15.12.1920 last transfer of property
- 15.01.1921 filling of 2/3 of quay area completed
- april 1921 removal of bulwark starts
- Late autumn 1921 compound filling mainly completed

Filling compunds

- Function:
  - Stone fill (jeté) – Back fill
- Where did the materials come from?
- When are they available?
- What did they consist of?
- Are they stable?
- Do they have any historical value?


211. – Tyskebryggens forlængelse 2 juni 1920

Filling compunds – back fill

- Not from stone quarries near Bergen
  - Reason why: too expensive
  - Proof: Ledgers show: no such transactions made
- Mainly from the clean-up of the fire site from 1916.
  - Cheap (free!)
  - proximity
  - The fire site had to be emptied of masses, estimated 146.000 m3

The Fire Site 1916. Torvalmenningen

The fire site 1920. Site for Post office / Xhibition

Contents

- Stone and broken bricks – stable
- Gravel og sand – partly stable
- Soil, plant remains, waste – cultural layers – decay, decomposition - unstable
- Possible to establish a time line for clearing the different areas?
- Where did the different batches end up?
- Where is the archeology for the old city centre west of Vågen?

Front quay wall – finishing and dredging

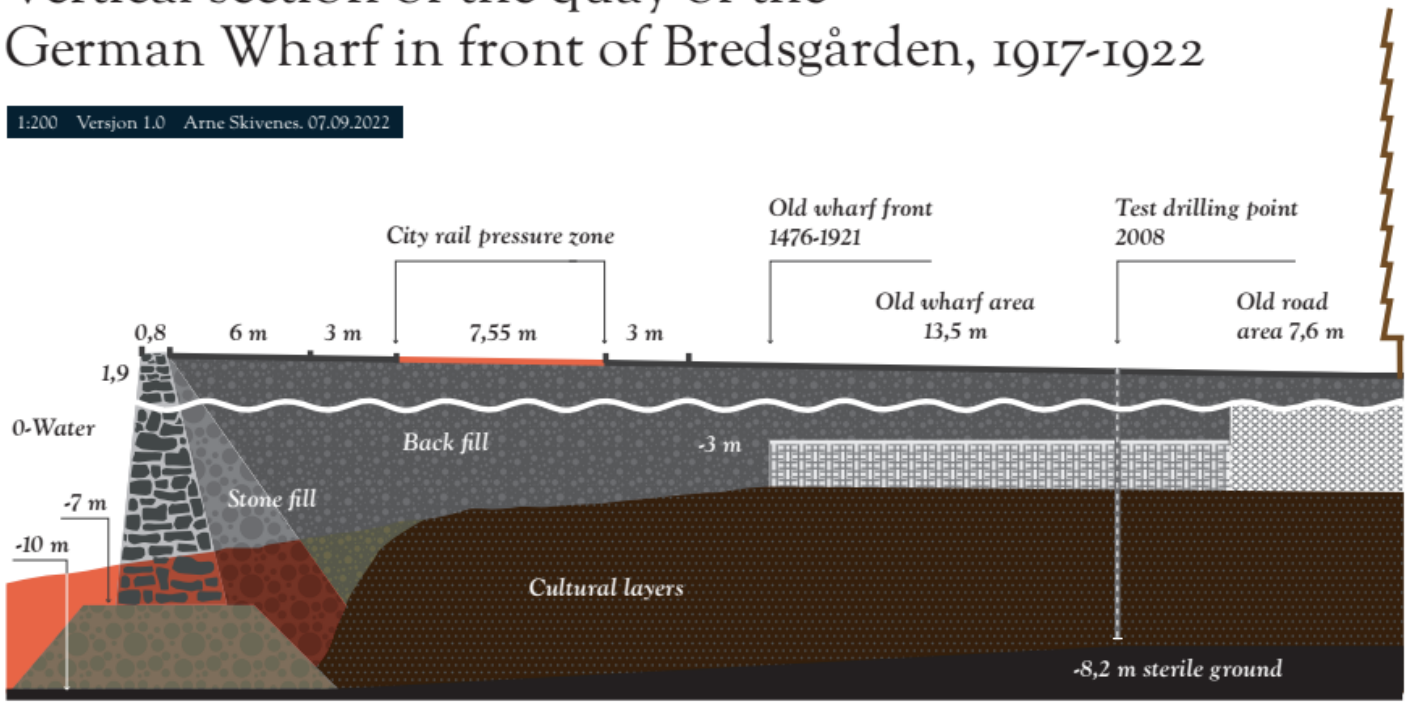
- 22.feb.1921 160 m quay wall finished.
- 23.03.1921 dredging starts outside wall
- 12.05.1921 dredging ends outside wall
- No water to dredge in – no money spent
- Coastal route for Stavanger
- Rent of tug boats

3 short sentences, 4 answers:

1. Less dredging than planned. We have seen this agrees with information from wages and newspapers. That means the layer of mud from the old seabed in front of the platforms on the whole lies intact beneath the compounds..
2. Concerning stone fill for jeté, less than planned was needed. Meaning that a smaller area behind the wall was covered.
3. The quay wall is not founded on rock or clay, but on gravel assumed to be of «softer material». It cannot be as stable as presumed. This might explain why even the the quay wall is ca 20 cm lower today than when built.
4. The filling compounds originated from the fire site, freely transported. We have seen this is mixed material, partly organic and relatively unstable, in itself a cultural layer. Exposed to settlings and potentially of archaeological interest.

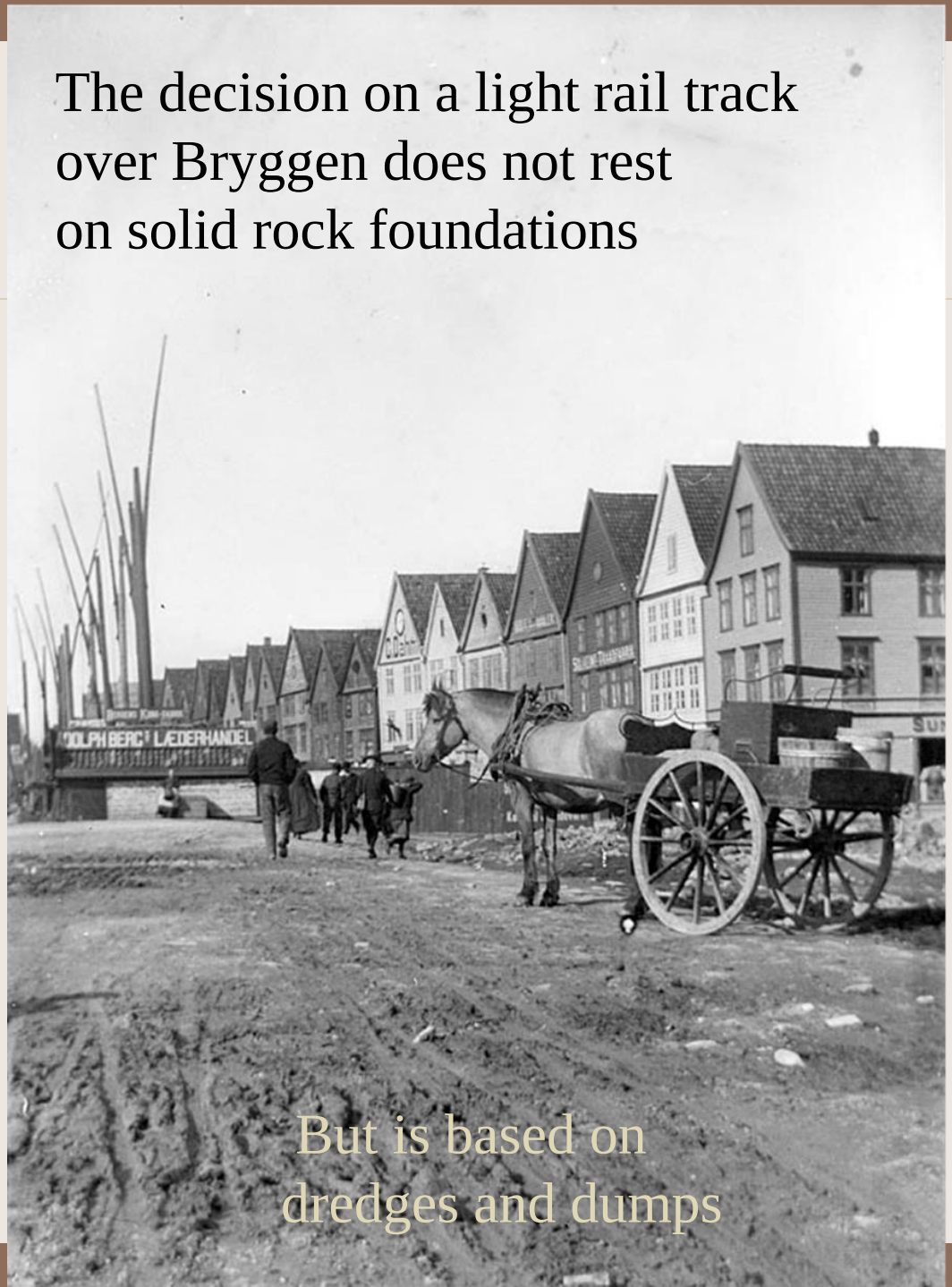
Vertical section of the quay of the German Wharf in front of Bredsgården, 1917-1922

1:200 Versjon 1.0 Arne Skivenes. 07.09.2022



1918-1921		Outer quay wall. Large boulders, dry masonry
1918-1921		Stone fill. Large rocks under quay wall (jete), smaller rocks and pebbles behind wall
1917, 1921		Dredged area
1920-1921		Back fill. Masses from the fire site 1916
Ca. 1100		Old seabed. Cultural layers
		Remains of bulwark

The decision on a light rail track over Bryggen does not rest on solid rock foundations



But is based on dredges and dumps

Front Holmedalsgården, 2007

Bottom of hole: -2,60 (4,45 below asphalt)

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Soil, gravel, mixed with red brick material, charred wood, rotten pieces of wood

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Photo: Elin Thorsnes

Conclusions?

- dredging – filling compounds – stability?
- Historical value?

- Certainty? Confirmation?
- Probable?
- Possible? Conceivable?
- Impossible? Disproof?

Dredging

- It is CONFIRMED that there was no dredging below the quay surface when the quay was built
- It is CONFIRMED that there was no dredging beneath the old wharves
- It is CONFIRMED that dredging took place outside the quay wall
- It is CONFIRMED that there are rich archaeological findings outside the quay wall
- It is HIGHLY PROBABLE that inside the quay wall there will be just as rich findings
- It is CONFIRMED that below the bulwarks the seabed has been untouched since the middle of 1550ies, and HIGLY PROBABLE also since the establishment of a new wharf after the city fire of 1476

Filling compounds

- It is CONFIRMED that the filling compounds do not originate from the municipal quarries
- It is CONFIRMED that the filling compounds originate from the fire site of 1916
- It is CONFIRMED that the filling compounds consist of a mixture of soil, gravel, stone, partly organic humanly produced material
- It is CONFIRMED that the filling compund is a cultural layer
- It is CONFIRMED that the compound masses are exposed to settlings
- It is HIGHLY PROBABLE that the filling compounds originate from the area Olav Kyrres gate – Jon Smørs gate, from the old city centre
- It is VERY CONCEIVABLE that the filling compunds contain archaeologically valuable objects

The quay wall

- It is CONFIRMED that the quay wall is made of boulders from the municipal quarries
- It is CONFIRMED that the quay wall is not founded on solid rock
- It is CONFIRMED that the quay wall was planned to reach 1,90 m above 0-water
- It is CONFIRMED that this is 0,1 m lower than standard heights for quay walls, and 0,5 m lower than Strandkaien
- It is CONFIRMED that the quay wall today is situated at various heights around 1,70 above 0-water
- It is CONFIRMED that this gives the quay at Bryggen one of the lowest starting points in Vågen to handle sea level rise combined with further settlings

This implies

- It is confirmed that the reports concerning this part of the trail consist of undocumented assertions and assumptions
- It is obvious that these reports do not represent facts
- It is obvious that the quay body itself is less robust and stable than presumed
- It is highly uncertain if the quay construction will handle the burden of weight and vibrations from a city rail
- It is highly uncertain whether it will be possible to put a trail here without founding on solid ground, and consequently dig through archaeologically important layers
- It is confirmed that a city rail trail over Bryggen will have problems with surface water

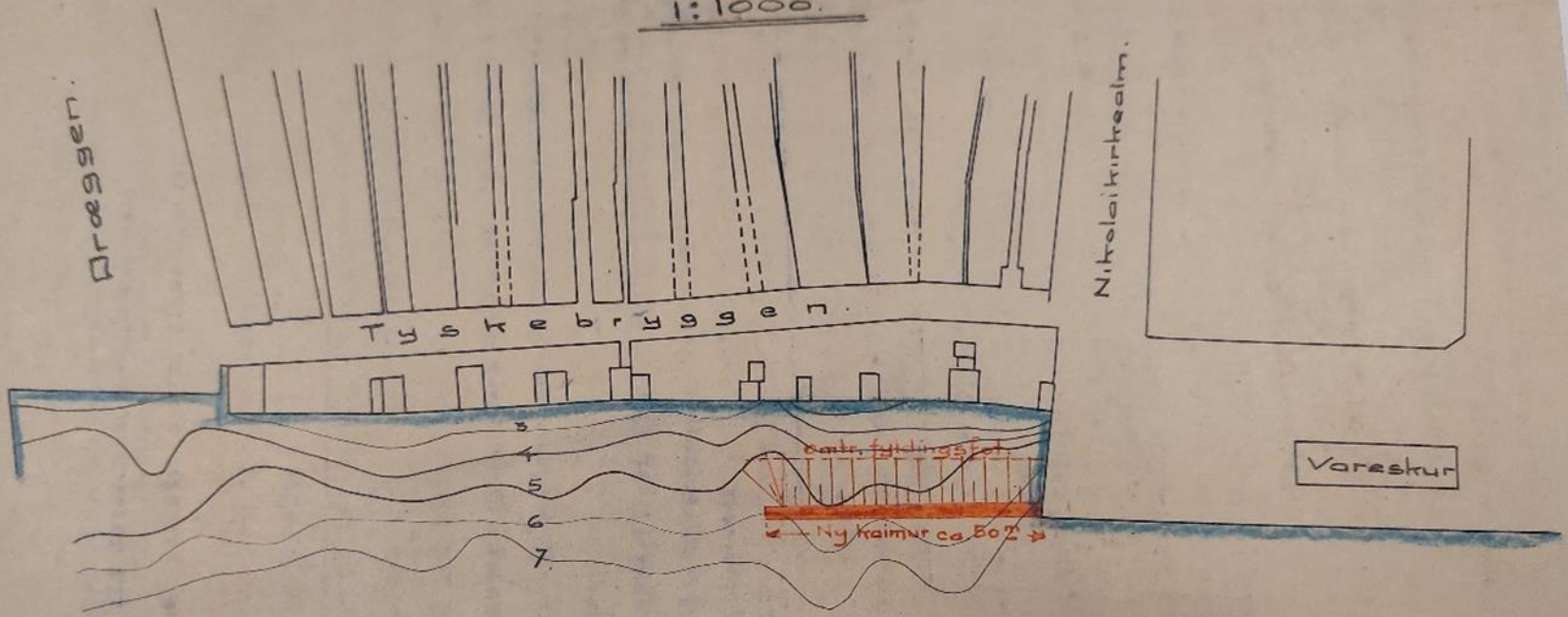
Impossible?

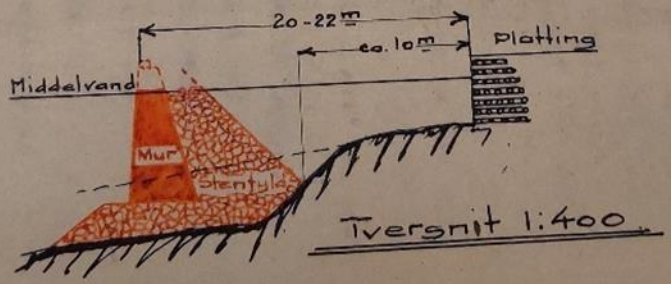
- It is IMPOSSIBLE to still claim that everything of historical value has been dredged away. This is disproved
- It is IMPOSSIBLE to still claim that the city rail trail will rest on stone. This is disproved
- It is IMPOSSIBLE to still claim that the city rail trail will have a solid foundation. This is disproved
- It is IMPOSSIBLE to still claim that Bryggen quay is a stone filling without historical value. This is disproved
- It is IMPOSSIBLE to still present the reports on the Bryggen trail as ‘facts’. This is disproved
- It is IMPOSSIBLE to allow the City Council’s decision on the Day option to remain standing – without losing all credibility.

ad. Havneingeniørkontorets.

paategningsskrivelse av 1/3. 1919

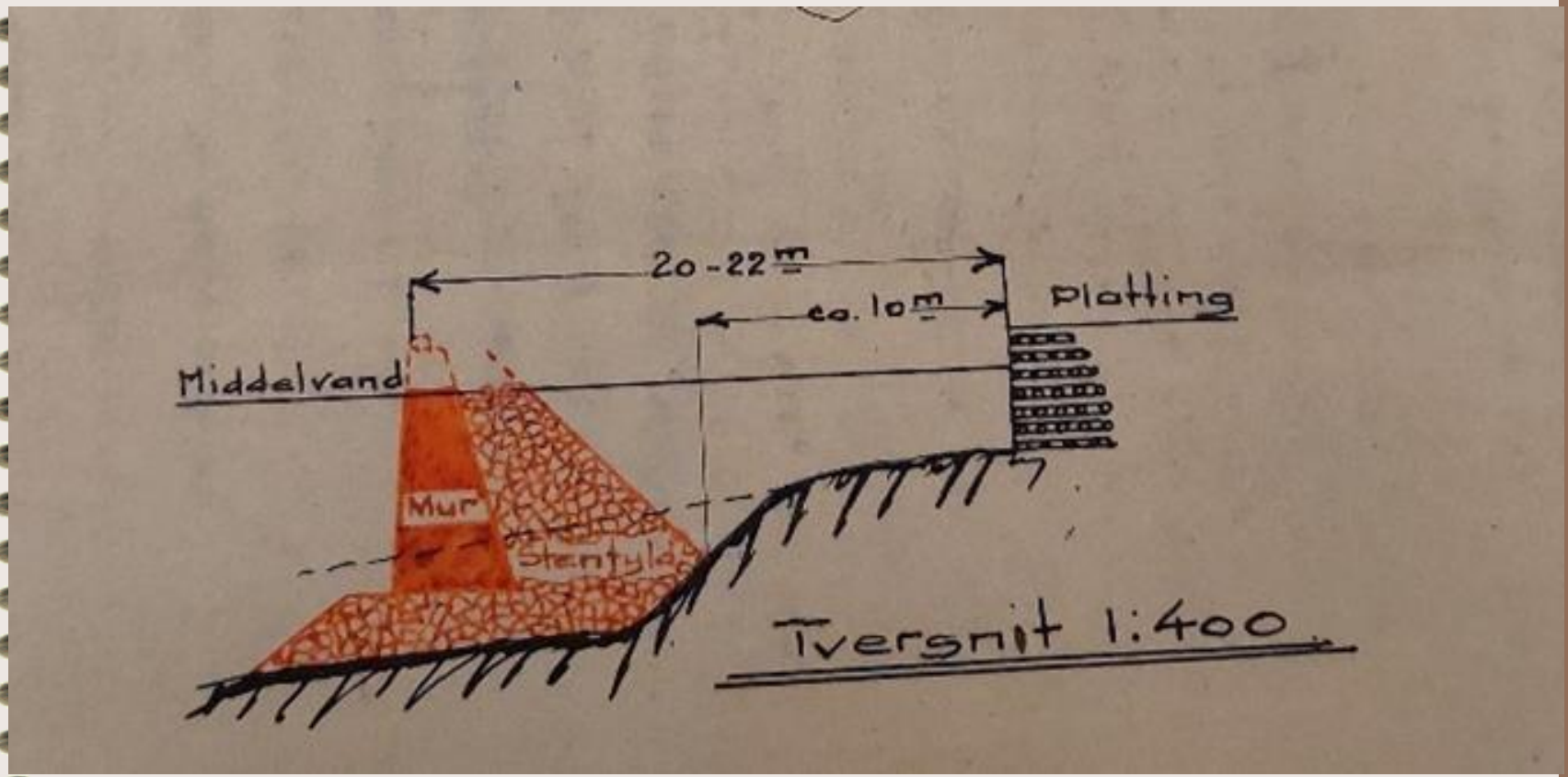
1:1000.





Tvergnit 1:400.

H. Lunde


20-22 m
ca. 10 m
Platting
Middelvand
Mur
Stenfyld
Tværsnit 1:400