| | QUANTITY CALCULATION C | | and the second |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Light House | Pay Item No. (BOQ) | 21-0107 |
| Quantity Item | Compaction | Unit | M,- |

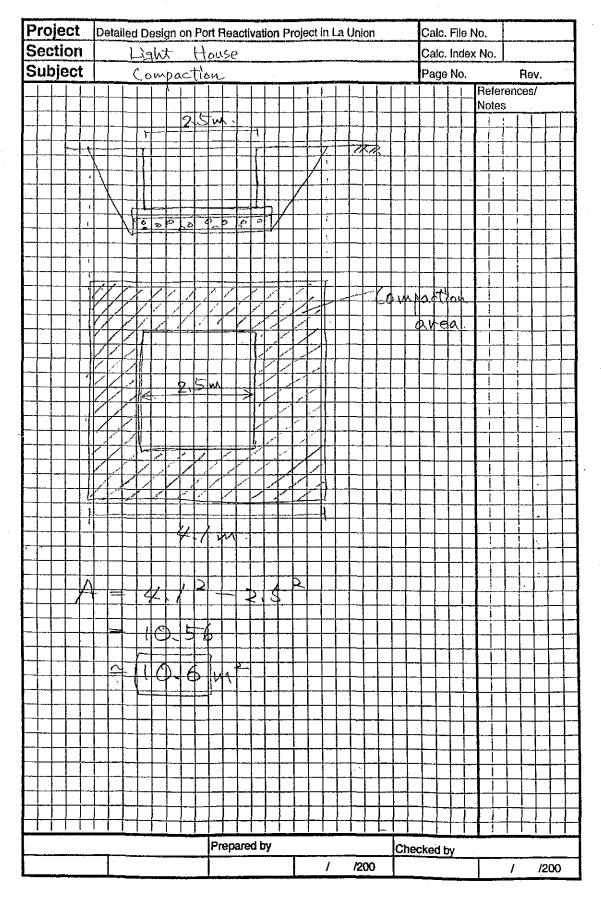
Compaction area was computed based on the drawing.

References, Calculation Base and Revisions

See the item of excavation and disposed of light house. (2I-01)

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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Light House | Pay Item No. (BOQ) | 21-0/08 |
| Quantity Item | Structure | Unit | set |

See drawings attached to 2I-01.

References, Calculation Base and Revisions

See the item of excavation and disposal of light house. (2I-01)

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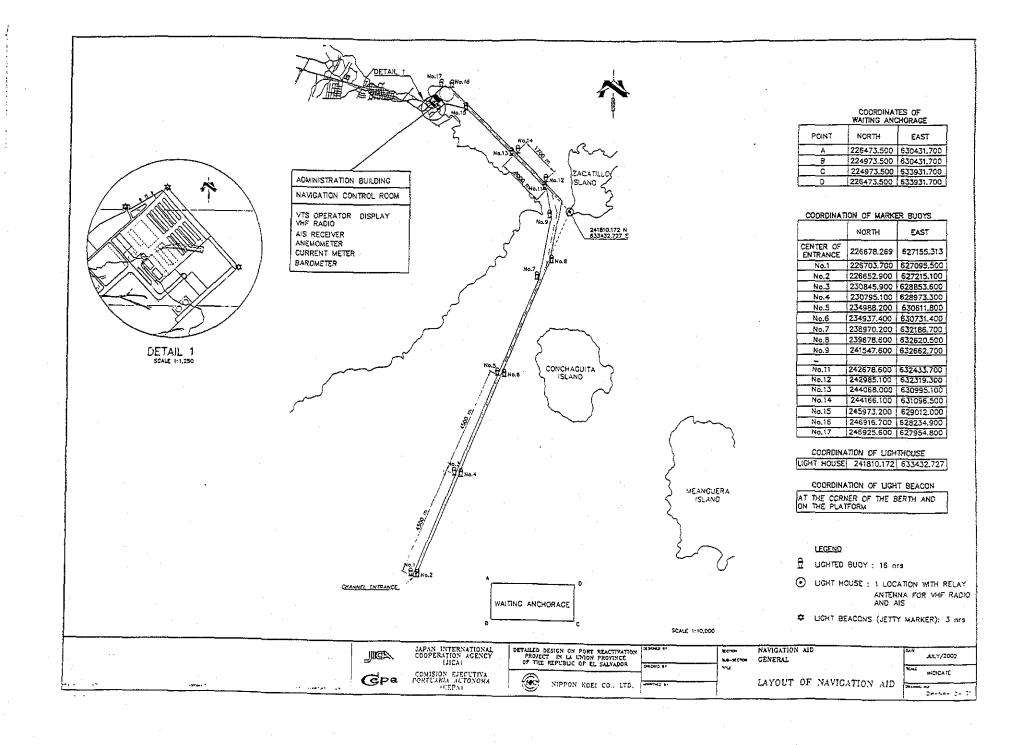
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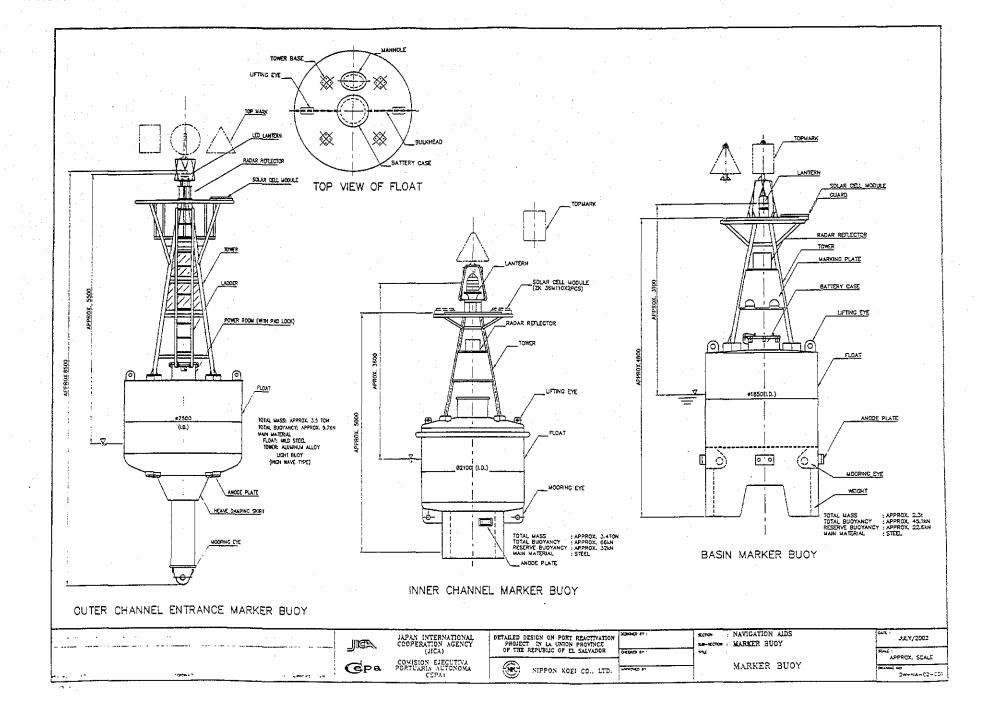
| | QUANTITY CALCULATION C | | |
|--------------------|---|--------------------|---------------|
| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Entrance Maker Buoy | Pay Item No. (BOQ) | 21-0301 |
| Quantity Item | Maker Buov | Unit | sets |

Number of channel Maker Buoy was computed based on the drawing.

References, Calculation Base and Revisions

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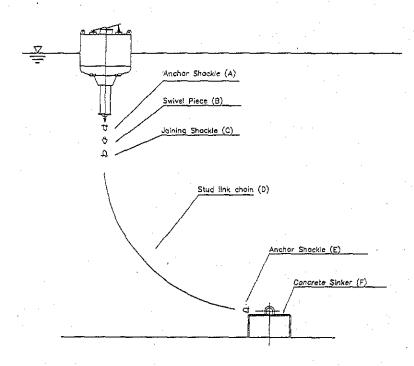
| | QUANTITY CALCULATION C | | |
|--------------------|---|--------------------|----------------|
| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Entrance Maker Buoy | Pay Item No. (BOQ) | 2I-0302 |
| Quantity Item | Form for sinker | Unit | M ₂ |

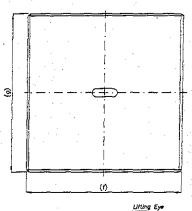
Area of form for sinker was computed based on the drawing.

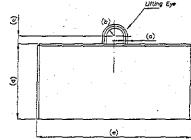
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INFORMATION OF ANCHOR, CHAIN AND SINKER

| ітем | A (mm) | B (mm) | C (mm) | (mm) | MODALT OF CONCRETE SMICH (F) |
|------------------------------------|------------|-----------|-----------|------|------------------------------------|
| OUTER CHANNEL ENTRANCE MARKER BUCY | #42 | #42 | #42 | #42 | 40 YON |
| INNER CHANNEL MARKER BUOY | 438 | #38 | •38 | 438 | 7.3 TON |
| TURNING BASIN MARKER BUDY | #3B | #38 | *38 | ∉38 | 7.3 TON |

NOTE:

1,THE CHAIN IS MADE IN ACCORDANCE WITH JIS (JAPONESE INDUSTRIAL STANDARD), GADE 2, OR EQUIVALENT.

2.END LINKS, WICH ARE EQUIPED TO SWIVEL ENDS AND CHAIN ENDS, SHALL BE SO PROCESSED AS TO CLEAR BODY OF ANCHOR SHACKLE OF THE SAME NOMINAL DIAMETER.

3.ALL THE SHACKLE SHALL BE FIXED BY STAINLESS STELL IT SHALL BE BENDED, AND SHACKLE PIN SHALL BE WELDED TO THE SHACKLE BODY.

INFORMATION OF CONCRETE SINKER

| ITELA | (mm) | (mm) P | (mm) | d (mm) | (mm) | f (mm) | (tuw) č | MATERIAL OF LIFTING EYE | SUNTABLE SHACKLE |
|------------------------------------|------|-----------|------|-----------|------|-----------|------------|-------------------------------|---------------------|
| OUTER CHANNEL ENTRANCE MARKER BUOY | 100 | 180 | 180 | 1600 | 3300 | 3300 | 3300 | S45C | AS45~70 |
| INNER CHANNEL MARKER BUOY | 90 | 160 | 160 | 900 | 1900 | 1900 | 1900 | S450 | AS40~64 |
| TURNING BASIN MARKER BUOY | 90 | 160 | 160 | 900 | 1900 | 1900 | 1900 | S45C | AS40~64 |

Designed average strength after elapsed 28 days

0 ck=18N/mm²

Density:

2.3 t/m

| <u> </u> | | | <u> </u> | · . | | | |
|----------|------|------------|------------------|--|---|--|--------------------------|
| | | | | JAPAN INTERNATIONAL COOPERATION AGENCY | THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE | SCHOOL : NAVIGATION AID SUB-SCHOOL : MARKER BOUY | AUGUST/2002 |
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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Bitrance Maker Buoy | Pay Item No. (BOQ) | 2I-0303 |
| Quantity Item | Concrete for sinker | Unit | M ³ |

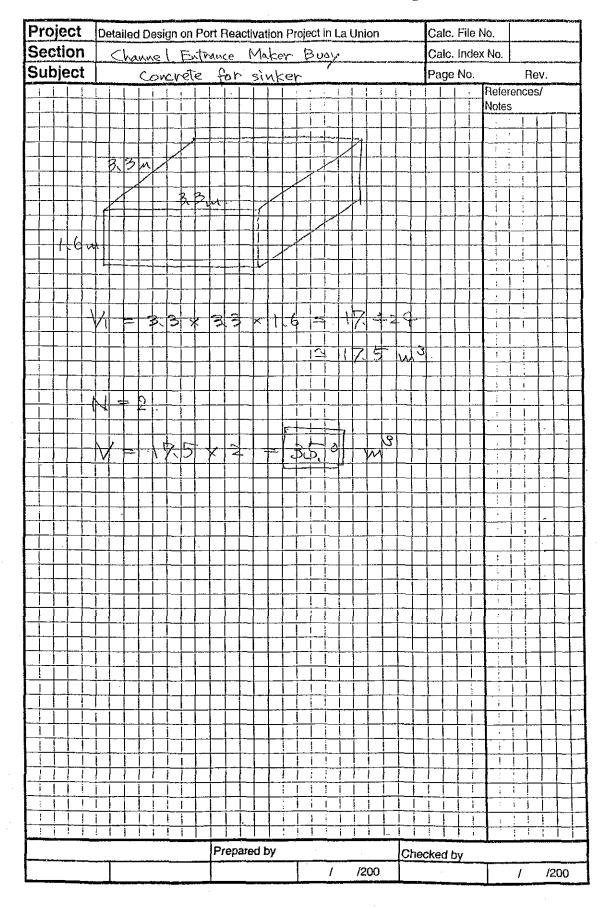
Concrete volume for sinker was computed based on the drawing.

References, Calculation Base and Revisions

See the last item. (2I-0302)

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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Entrance Maker Buoy | Pay Item No. (BOQ) | 21-0304 |
| Quantity Item | Lifting Bar (SUS 304) | Unit | F2 |

Weight of lifting bor was computed by multiplying unit weight by the length. Unit weight of stainless steel was to be 1990 to /w³.

References, Calculation Base and Revisions

See the item of form for sinker (21 - 0302)

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| | QUANTITY CALCULATION O | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Maker Buoy (high wave) | Pay Item No. (BOQ) | 21-0401 |
| Quantity Item | Maker Buoy | Unit | sets |

Number of channel Maker Buoy was computed based on the drawing.

References, Calculation Base and Revisions

See the item of channel entrance maker busy.

(2I-0301)

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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Maker Booy (high wave) | Pay Item No. (BOQ) | 27-0403 |
| Quantity Item | | Unit | |

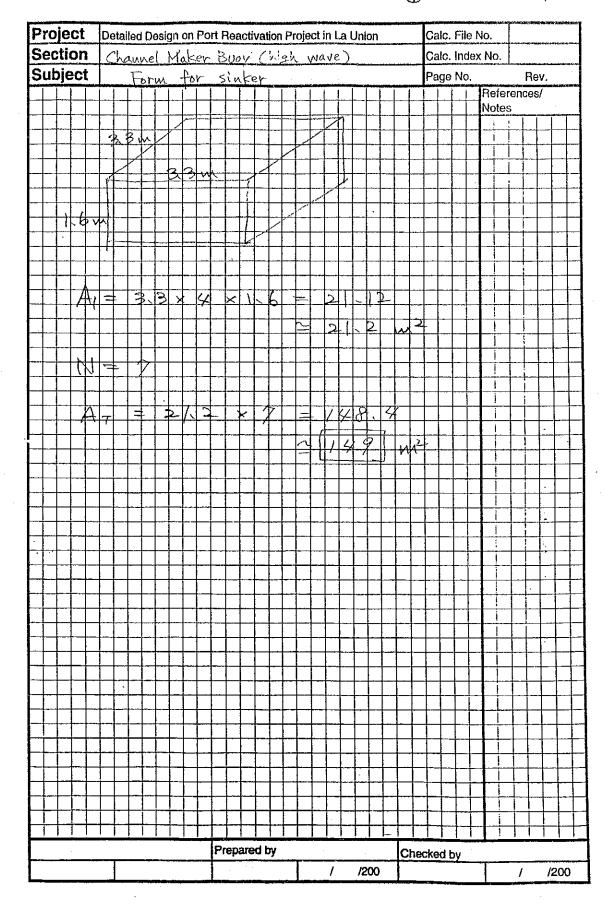
Area of form for sinker was computed on the drawing.

References, Calculation Base and Revisions

See the item of 2I-0302.

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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 | | | | | | | |
| Work Section Title | Channel Maker Buoy (high wave) | Pay Item No. (BOQ) | 2I-04-03 | | | | | | | |
| Quantity Item | Concrete for sinker | Unit | M³ | | | | | | | |

Calculation Procedure Applied

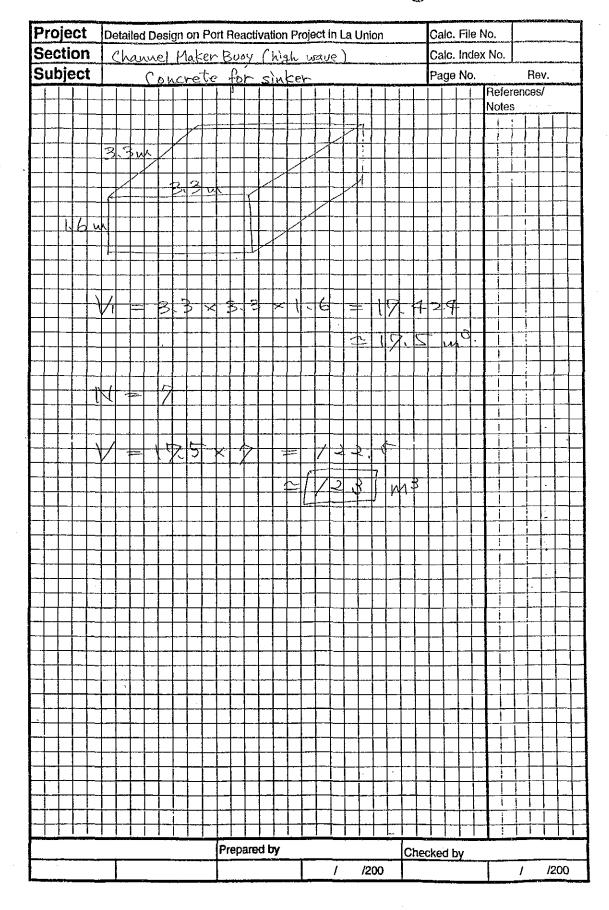
Concrete volume for sinker was computed on the drawing.

References, Calculation Base and Revisions

See the item of 2I-0302.

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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Maker Buoy (high wave) | Pay Item No. (BOQ) | 2I-0404 |
| Quantity Item | Lifting Ban (sus 304) | Unit | Kg. |

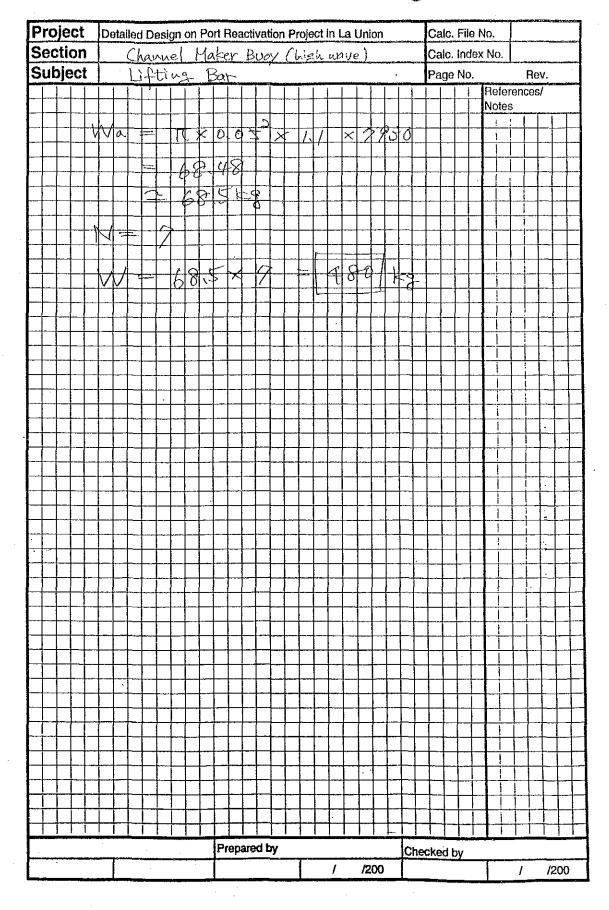
Weight of lifting bar was computed by multiplying unit weight by the length. Unit weight of stainless steel was to be.
7930 kg/m3.

References, Calculation Base and Revisions

See the item of 2I-0302.

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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Maker Busy | Pay Item No. (BOQ) | 25-050/ |
| Quantity Item | Marer Buoy | Unit | Sets |

Number of channel maker buoy was computed based on the drawing.

References. Calculation Base and Revisions

See the item of channel entrance waker buoy.

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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Maker Buoy | Pay Item No. (BOQ) | 21-0502 |
| Quantity Item | Form for sinter | ปnit | M ₇ |

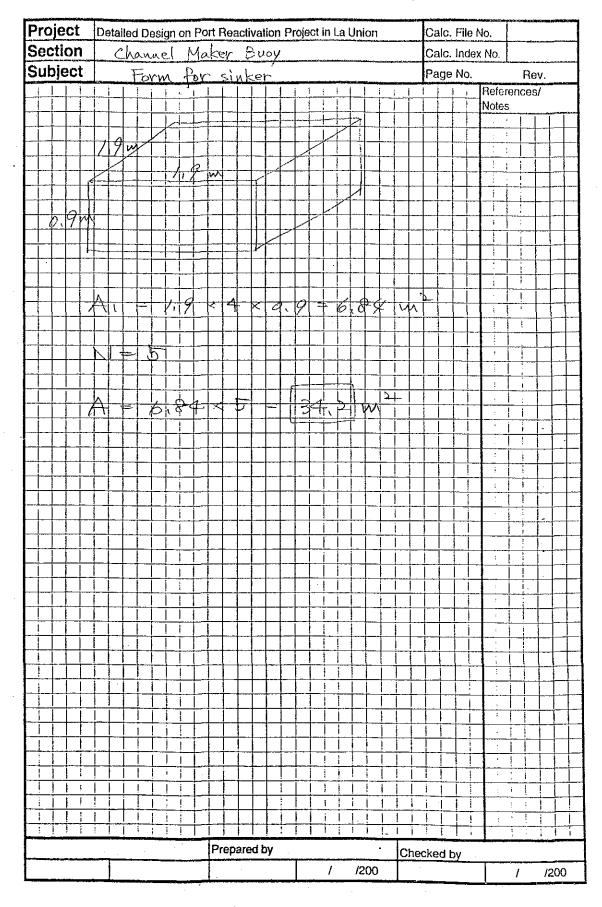
Area of form for sinker was computed by the drawing.

References, Calculation Base and Revisions

See the Item of 2I-0302.

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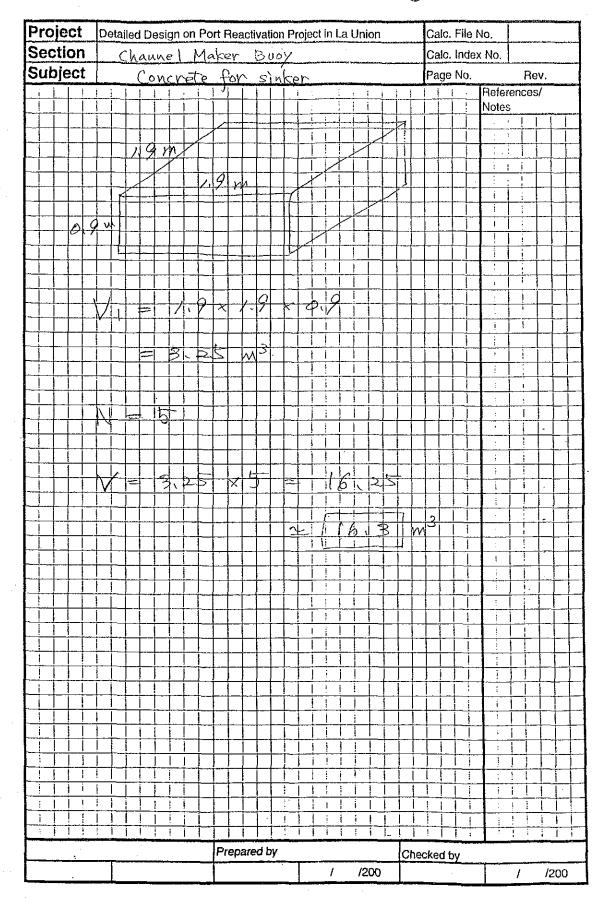
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 | | | | | | | |
| Work Section Title | Channel Maker Buoy | Pay Item No. (BOQ) | 21-0503 | | | | | | | |
| Quantity Item | Concrete for sinker | Unit | M ₃ | | | | | | | |

Concrete volume for sinker was computed by the drawing.

References, Calculation Base and Revisions

See the item of 21-0302.

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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Channel Maker Buoy | Pay Item No. (BOQ) | 2I-0504 |
| Quantity Item | Lifting Bar (SUS 304) | Unit | kş. |

Weight of lifting bar was computed by multiplying unit weight by the length. Unit weight of stainless steel was to be D930/2/m².

References, Calculation Base and Revisions

See the item of 21-0302.

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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Turning Basin Maker Buoy | Pay Item No. (BOQ) | 21-0601 |
| Quantity Item | Maker Buou | Unit | sets |

Number of turning basin maker buoy was computed based on the drawing.

References, Calculation Base and Revisions

See the Item of channel entrance maker busy. (2I-0301)

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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Turning Basin Maker Buoy | Pay Item No. (BOQ) | 27-0602 |
| Quantity Item | Form for sinker | Unit | Mz |

Area of form for sinker was computed by the drawing.

References, Calculation Base and Revisions

See the item of 2I-0302.

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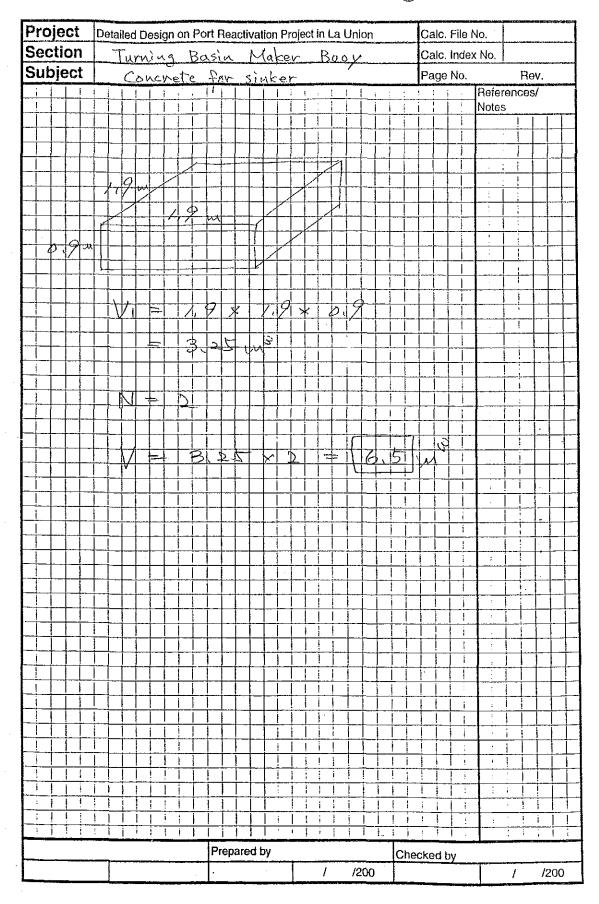
| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Turning Basin Maker Buoy | Pay Item No. (BOQ) | 2I-0603 |
| Quantity Item | | Unit | м³ |

Concrete volume for sinker was computed by the drawing.

References, Calculation Base and Revisions

See the item of 2I-0302.

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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Fleactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Turning Basin Maker Buoy | Pay Item No. (BOQ) | 21-0604 |
| Quantity Item | Lifting Bar (sus 304) | Unit | kg |

Weight of lifting bar was computed by multiplying unit weight by the length. Unit weight of stainless steel was to be 7930 kg/m³.

References, Calculation Base and Revisions

See the item of 2I-0302.

| Rev | Prep | ared | No. of | Check | ked | Revie | ewed | Superseded |
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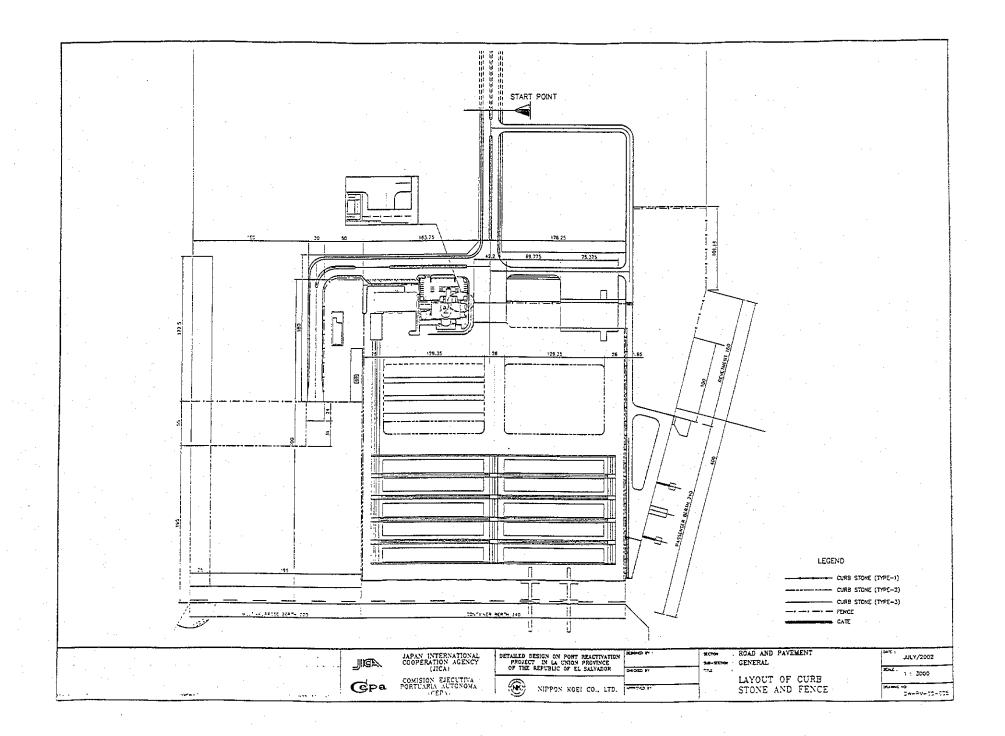
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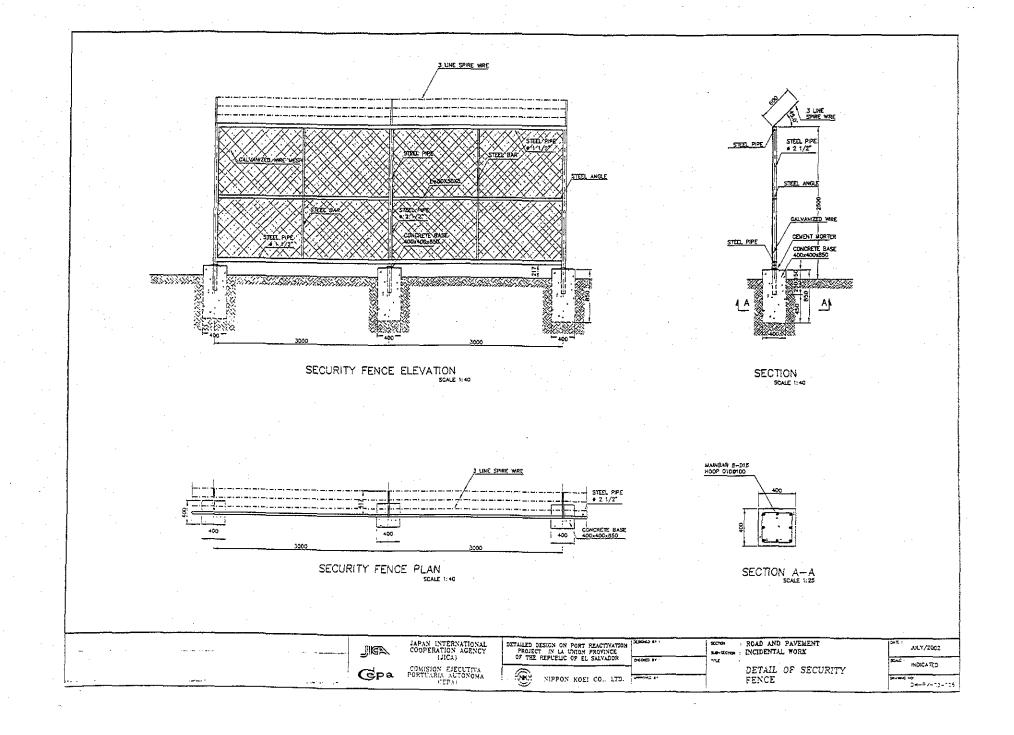
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Security Fence | Pay Item No. (BOQ) | 25-01 |
| Quantity Item | Excavation | Unit | M ₃ |

Volume of excavation for security fence was computed by multiplying unit volume by nombers.

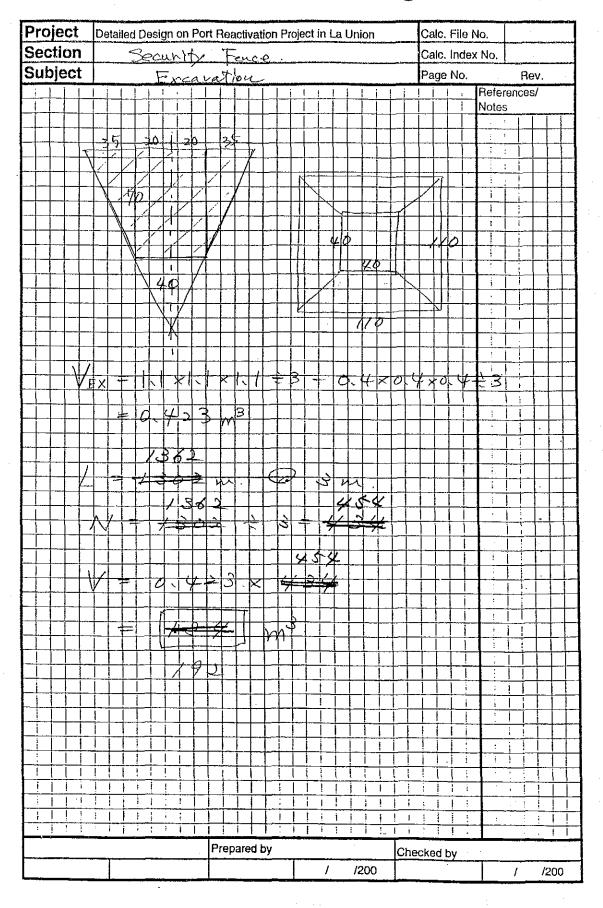
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Security Fence | Pay Item No. (BOQ) | 2J-02 |
| Quantity Item | Concrete | Unit | ™3 · |

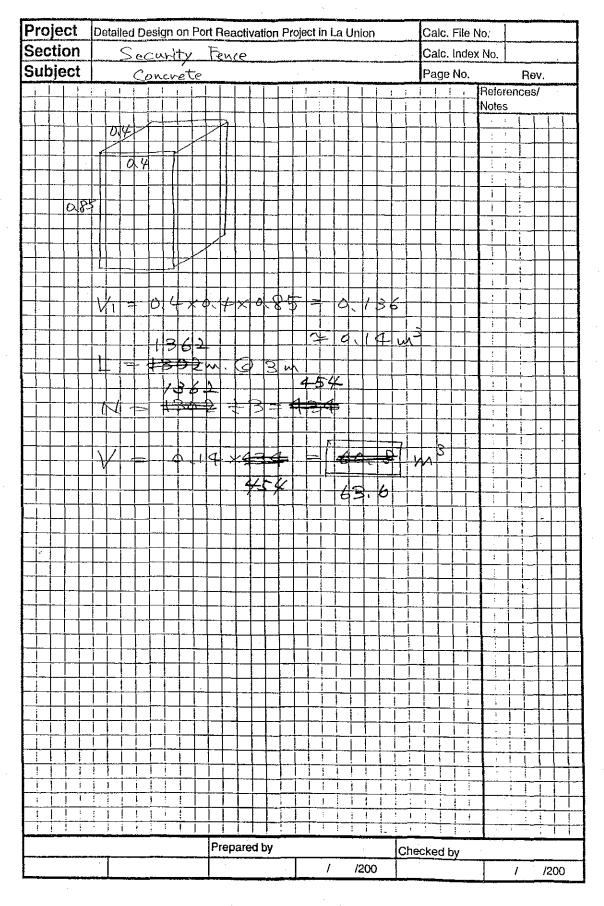
Volume of concrete for security fence was computed by multiplying unit volume by numbers.

References, Calculation Base and Revisions

See the item of excavation of security fence (2J-01)

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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Security Fence | Pay Item No. (BOQ) | 25-03 |
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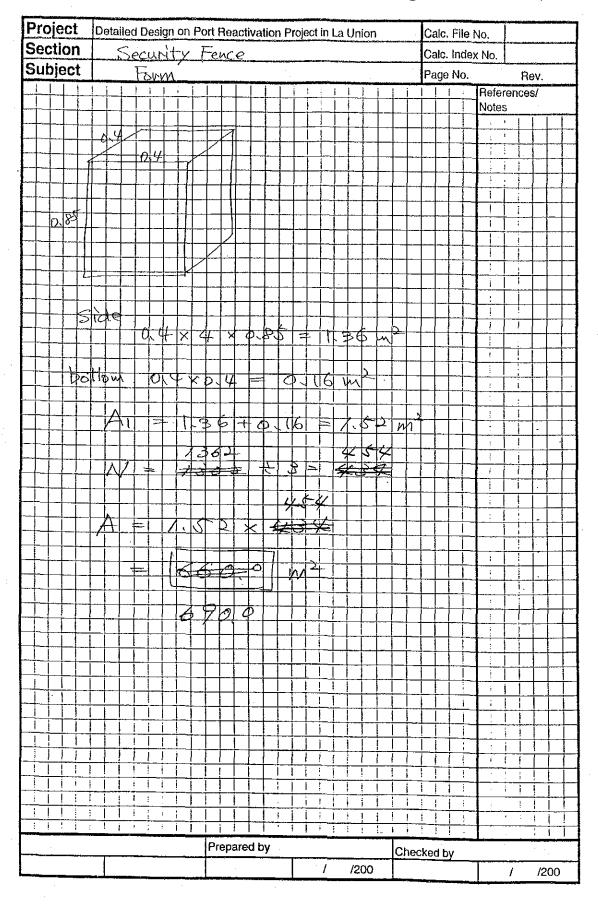
Area of form for security fence was computed by multiplying Unit area by numbers.

References, Calculation Base and Revisions

See the item of excavation of security fence.

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| | QUANTITY CALCULATION C | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | Security Fence | Pay Item No. (BOQ) | 2J-04 |
| Quantity Item | Re Ban | Unit | ka . |

Weight of re-bar was computed for base concrete of security fence by multiplying unit weight by numbers.

References, Calculation Base and Revisions

See the item of excavation of security fence.
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| QUANTITY CALCULATION COVER SHEET | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 | | | |
| Work Section Title | Security Fence | Pay Item No. (BOQ) | 25-05 | | | |
| Quantity Item | Back-fill | Unit · | M ₃ | | | |

Volume of backfill sand for Security fence was computed by multiplying unit volume by numbers.

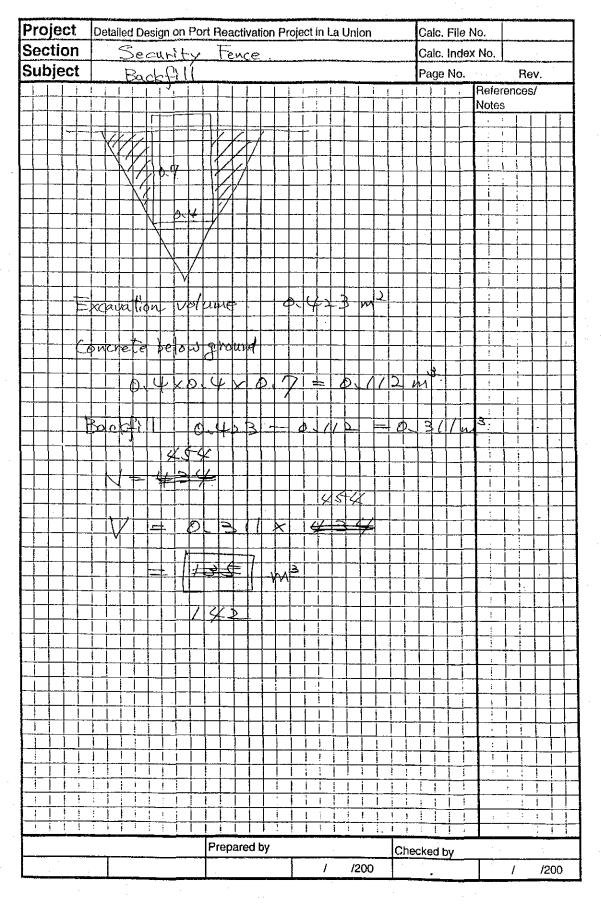
Backfill volume equals excavation volume minus concrete volume below ground level.

References, Calculation Base and Revisions

See the item of excavation of security fence.

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| QUANTITY CALCULATION COVER SHEET | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | Project Code | JC1N004/2N001 | | | |
| Work Section Title | Security Fence | Pay Item No. (BOQ) | 2J-06 | | | |
| Quantity Item | Compaction | Unit | M | | | |

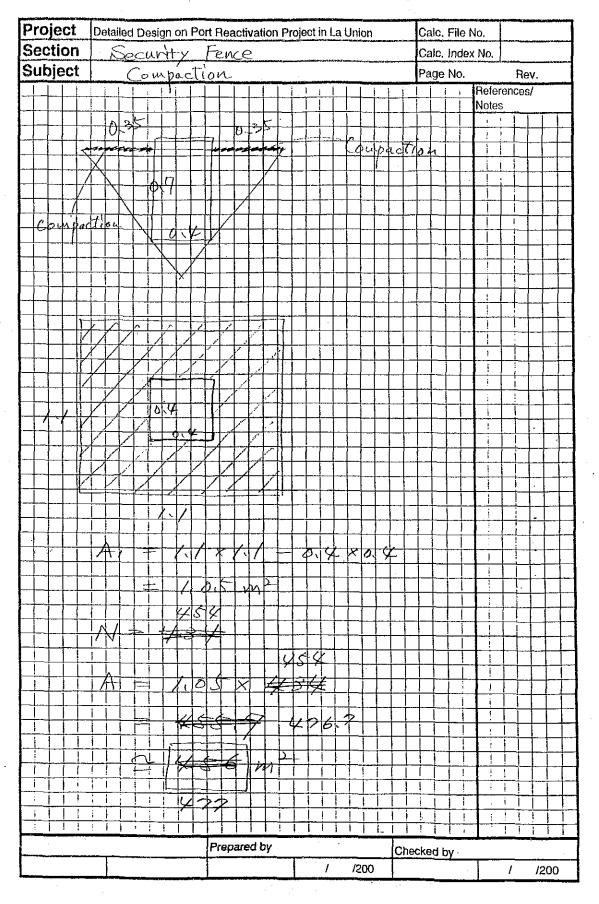
Area of compaction for security fence was computed by multiplying unit area by numbers.

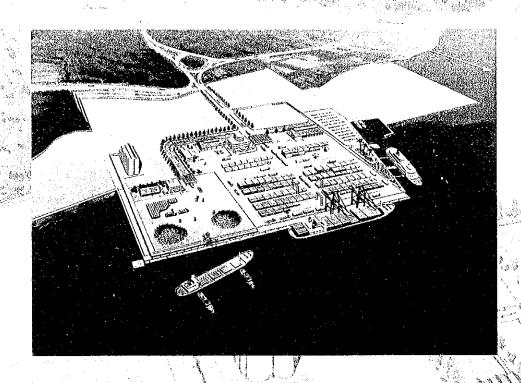
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