July 2014

Draftsmen's Sketch Book for Parts for the Ford Motor Company

M. M.

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<table>
<thead>
<tr>
<th>ORDER NO.</th>
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<tbody>
<tr>
<td>21008</td>
<td>42&quot; Mill Drive Unit</td>
</tr>
<tr>
<td>21109</td>
<td>32&quot; Mill Drive Unit</td>
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TO BE USED BY THE DRAFTSMAN FOR ALL SKETCHES, NOTES, CALCULATIONS AND DATA RELATING TO THE ABOVE COMPANY ONLY, UNDER NO CIRCUMSTANCES ARE LOOSE SHEETS OR PRIVATE NOTE BOOKS TO BE USED.

NO UNUSUAL EFFORT SHOULD BE MADE AT NICETY, BUT EACH ENTRY SHOULD INVARIBLY BE COMMENCED WITH THE SUBJECT AND DATE OF THE WORK, AND FULL NOTES MADE OF DATA ON WHICH CALCULATIONS ARE BASED AND THE RESULTS OBTAINED CLEARLY STATED.

BOOKS ARE TO BE ALWAYS QUICKLY AVAILABLE TO RECEIVE INSTRUCTIONS, SKETCHES AND DATA AS MAY BE GIVEN THE DRAFTSMAN AND HE WILL BE RESPONSIBLE FOR THEIR DELIVERY AT ANY TIME.
Title: Floor Details, Steel Plant, River Rouge

Rolling Mills

Excluded Vendor: Ford Motors Co, Albert Kahn

Rolling Mill Buildings

A. Floor Plan, Blooming Mill
B. " " Merchant Mill
C. " " Billet Mill
Titled Longitudinal Sections & Elevations of Blcgs
Steel Plant River Rong

Indexed Under Ford Motor Co. Albert Kahn, Rolling Mill Buildings

A West elevation of Blcgs
B South elevation
C Side elevations
D Longitudinal Sections
E Elevations 8449
Section II

A. Section A

B. Section B

C. Section C

D. Section D

E. Section E

F. Section F

G. Section G

H. Section H

I. Section I

J. Section J

K. Section K

L. Section L

M. Section M

N. Section N

O. Section O

P. Section P

Q. Section Q

R. Section R

S. Section S

T. Section T

U. Section U

V. Section V

W. Section W

X. Section X

Y. Section Y

Z. Section Z

1. Section 1

2. Section 2

3. Section 3

4. Section 4

5. Section 5

6. Section 6

7. Section 7

8. Section 8

9. Section 9

10. Section 10

11. Section 11

12. Section 12

13. Section 13

14. Section 14

15. Section 15

16. Section 16

17. Section 17

18. Section 18

19. Section 19

20. Section 20

21. Section 21

22. Section 22

23. Section 23

24. Section 24

25. Section 25

26. Section 26

27. Section 27

28. Section 28

29. Section 29

30. Section 30

31. Section 31

32. Section 32

33. Section 33

34. Section 34

35. Section 35

36. Section 36

37. Section 37

38. Section 38

39. Section 39

40. Section 40

41. Section 41

42. Section 42

43. Section 43

44. Section 44

45. Section 45

46. Section 46

47. Section 47

48. Section 48

49. Section 49

50. Section 50
Titled: Page 1 8446

Roof Chord Plans Steel Plant, Rolling Mill, Pot Furnace & Storage Buildings, River Range

Induced Vender
Ford Motors, Albert Kahn, Buildings

A. Top Chord & Bottom Chord Plan, North Portion
B. Top Chord Plan, Middle Portion
C. Top Chord Plan, South Portion
D. Bottom Chord Plan, Middle Portion
E. Bottom Chord Plan, South Portion

Top & Bottom chord plan, Sinking Bldg., Billit Storage, Miscellaneous
Diagrams of Building Johnny for Rolling Mill & Pit Furnace
Building, Fleet Plant River Rouge.

Included: Wools Ford Motor Co, Albert Kahn Buildings

Architect
1. Roof chord plans, Rolling mill, Pit Furnace & Storage buildings, River, Rouge

2. Diagrams of Building columns for Rolling Mill & Pit Furnace Buildings, River, Rouge

3. Floor details, Rolling Mills, River, Rouge

4. Longitudinal Sections & Elevations of buildings for Rolling Mill & Pit Furnaces, River, Rouge

5. Cross Sections of Rolling Mill, Pit Furnace & Storage buildings, River, Rogue
<table>
<thead>
<tr>
<th>SUBJECT</th>
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<td>A31940</td>
<td>D31925</td>
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<tr>
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<td>A31943</td>
<td>A31925</td>
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<td>Study of foundation for motor</td>
<td>A31947</td>
<td>Chart of bearing pressures</td>
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<td>Column Location Bldgs.</td>
<td>A31950</td>
<td>A31997</td>
</tr>
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<td>Booklet Plan</td>
<td>A31859</td>
<td>Union Housing plan drawing</td>
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<tr>
<td>Motor Room floor plates</td>
<td>A33114</td>
<td>Feed Foreign Drugs</td>
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</table>

Frederick H. Morgan

& 418 Plot Plan of Rolling Mills
& 427 Sewer for Steel Plant
General Dwg A31950 42-32" Mill

SUBJECT: Drive Drawings
COMPANY: Ford Motor Co.
DATE: 13-31 8-'55

B31885
B31895
B31883
B31883
A31878
A31878
A31877
A31877

Geare
Spur Gear 96 T
" " Spider
Spur Pinion 24 T
" " 20 T
Bevel Gear 95 T
" " 3 1/2 T
Bevel Pinion 19 T
1 1/2 T

SHAFTS
Spur Gear Shaft
Bevel Gear Shafts
Main Drive Shafts
Couplings (Main Shaft)
Thrust Collar For 15" Shaft
GEN DWG OF SHAFT

HOODS FOR GEARS
Bevel Gear Casing
Intermediate Section
" " (continued)
Detail of Hood For 4th Part
" " (continued)
Detail of Hood For 1st 2nd 3rd Part
(Spur Gear Casing)
(Intermediate Sections)
Oil Hole Covers

B31969

BEARINGS
SAME AS FOR 32" MILL

BED
Ded For Drive (Spur Gear Half) 4th gear
Ded A31982
A31954
A31983
A31981
B31975

OIL PANS
A31974
A31973

General Drawing of
A31950/42-32" Mill
A31970

WORCESTER, MASS.
PROPERTY OF MORGAN CONSTRUCTION

WORCESTER, MASS.
PROPERTY OF MORGAN CONSTRUCTION
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<tr>
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<td>Ford Motor Co.</td>
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<td>A31886</td>
<td>Spur Gear 79 T</td>
<td>1050</td>
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<tr>
<td>A31892</td>
<td>Spur Pinions 21, 27, 35, 46 T</td>
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<tr>
<td>A31875</td>
<td>Bevel Gear 95 T</td>
<td></td>
</tr>
<tr>
<td>A31876B</td>
<td>Pinion 24 T</td>
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<td>SHAFTS</td>
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<tr>
<td>A31921</td>
<td>Bevel Gear Shafts</td>
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<td>A31922</td>
<td>Main Drive Shafts</td>
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<td>A31939</td>
<td>Couplings (Main Shaft)</td>
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<td>A31908</td>
<td>Thrust Collar for 15&quot; Shaft</td>
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<td>A31931</td>
<td>General King of Shaft</td>
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<td>A31910</td>
<td>Hoods for Gears</td>
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<td>A31941</td>
<td>Bevel Gear Casing</td>
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<td>A31951</td>
<td>Intermediate Sections</td>
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<td>A31952</td>
<td>Hood (Central Section)</td>
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<td>A31976</td>
<td>Hood Ends 3rd &amp; 4th Pan</td>
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<td>Hood Ends 2nd &amp; 1st Pan</td>
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<td>A33122</td>
<td>Intermediate Sections</td>
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<td>OIL PANS</td>
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<td>A33136</td>
<td>Oil Pan (Central Section)</td>
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</tr>
<tr>
<td>A33135</td>
<td>Oil Pan (End Sections)</td>
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<td>A33124</td>
<td>Bevel Gear Section 4th Pan</td>
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<td>A33123</td>
<td>Bevel Gear Section 3rd Pan</td>
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<td>A33129</td>
<td>Bevel Gear Section 2nd Pan</td>
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<tr>
<td>A33128</td>
<td>Bevel Gear Section 1st Pan</td>
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</tr>
<tr>
<td>A33125</td>
<td>Bevel Gear Section (Sections)</td>
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</tr>
<tr>
<td>A33126</td>
<td>Spur Gear Section 4th Pan</td>
<td></td>
</tr>
<tr>
<td>A33127</td>
<td>Spur Gear Section 3rd Pan</td>
<td></td>
</tr>
<tr>
<td>A33130</td>
<td>Spur Gear Section 2nd Pan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spur Gear Section 1st Pan</td>
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<td>32&quot; DRIVE</td>
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<tr>
<td>DRAWINGS</td>
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</table>
A18226 Stewart & Cloyds Ltd.
A16766 L.C. of Canada

Crane
B32024 Morgan Engineering,
C16304 Alliance Machine Co.
C16303 Morgan Engineering

Name Plates
F32043 16" x 39" Plate
F29800 11 x 48
B32030
F33160 7" x 30"
To find side a in (4)

\[
\frac{a}{c} = \sin \alpha = a = c \cdot \sin \alpha
\]

\[
a = \frac{36.03 \cdot 0.8397}{36.03}
\]

\[
= 2.8791
\]

\[
= 56.3820
\]

\[
= 2819.1
\]

\[
a = \frac{33.0149}{33.014}
\]

\[
= 33.014
\]

\[
= 33.014
\]

\[
= 33.014
\]

\[
= 36.843
\]

\[
= 35.157
\]

\[
= \frac{35}{8}
\]

\[
= \text{Radius of survey}
\]

\[
= 36.843
\]

\[
= 35.157
\]

\[
= \frac{35}{8}
\]

\[
= \text{Radius of survey}
\]

\[
= 44.767 = 27.383
\]

36" = Radius of mid area of level
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<tr>
<td>105.042</td>
<td>105.042</td>
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<td>210.042</td>
<td>4201.68</td>
<td>10 50420</td>
</tr>
<tr>
<td>103382.1764</td>
<td>100</td>
<td></td>
</tr>
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<td>10933.8218/104565</td>
<td>20/10933</td>
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<td>208/10425</td>
<td>105042</td>
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<td>2090/135718</td>
<td>1045565</td>
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<tr>
<td>1085/20912</td>
<td>1028200</td>
<td>.777</td>
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**Property of Morgan Construction**

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<td>942</td>
<td>4405</td>
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<tr>
<td>130</td>
<td>314</td>
<td>5816</td>
</tr>
<tr>
<td>50</td>
<td>409</td>
<td>264</td>
</tr>
<tr>
<td>1584</td>
<td>792</td>
<td>9509</td>
</tr>
<tr>
<td>9120 cubic ft</td>
<td>1320 cubic ft</td>
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<tr>
<td>11 x 46 x 2</td>
<td>400</td>
<td></td>
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<tr>
<td>18320</td>
<td>1072</td>
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</tr>
<tr>
<td>6952</td>
<td>6072</td>
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</tr>
<tr>
<td>96 x 5 x 10</td>
<td>4810</td>
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</tr>
<tr>
<td>470</td>
<td>572</td>
<td></td>
</tr>
<tr>
<td>4810</td>
<td>58784</td>
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<td>4820</td>
<td>6072</td>
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<td>9500</td>
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<td>8 x 29</td>
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**Diagram:**
- Intermediate section on bed
- Callout: Oil is on flange

**Dimensions:**
- 9 0.42
- 36.75
- 49.542
- 19.2
- 241.542
- 73.50
- 168.042
- 54
- 114.042

**Property of Morgan Construction:**
- 78.042
- 36
- 14.042

**Worcester, Mass.:**
- \( \frac{40.5}{51.25} = \frac{x}{4} \)
- \( 51.25 \times \frac{2}{1} = 160.0 \)
- \( x = 3.16 \)
- \( x = 3 \times \frac{3}{16} \)

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<thead>
<tr>
<th>Subject</th>
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</tbody>
</table>

**Dimensions:**
- 13 " 5/16
- 13 1/4
- 11/4
- 21 1/2
- 18 1/2
- 16 1/2
- 12
- 12
- 12
- 14 1/2
- 14
- 16 2/3
- 14 1/2
- 12 1/2
- 12
- 16 3/2
- 16 3/2
- 16 3/2
- 16 3/2
0

Skid plates A 22405 A weight 390 lbs.

0

15700 lbs.

54,000 lbs.

7,350 lbs.

AI422.9 4 x 2.110

Vertical 6 x 6 LS

14,500 lbs.

5 4.022 x 22 lbs

Horizontal 6 x 6 LS

13,000 lbs.

Plates 312 12" lbs. = 12,000

Plates V 92 lbs. = 1380

Anchor stand

I beams

- 3650

Anchor stand y

950.0

Filler Plates A 21976 MAN

50.0

14 x 6 x 4 (3/4" plate)

1,500 lbs.

Sheaves 2 @ 500 = 1,000

Sheave brackets 2,000

14,120

71 ton
SUBJECT: Weight of Bed

COMPANY: 

DATE: 11/23/23

Weight of Bed load 135 tons

Weight of bed alone 135 tons

Weight of bed alone 95 tons

Weight of bed graded with 6 x billets = 95 + 306 = 400 tons

Weight of bed graded with 5 x billets = 135 + 250 = 385 tons


Property of Morgan Construction

Co.


Property of Morgan Construction

Co.
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<tr>
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</table>
Crane E, 14" Mudgeon Mill Section & to & of rails changed from 90'-0" to 89'-4-1/2"
Crane F, 14" Mudgeon Mill Section & to & of rails changed from 90'-0" to 94'-1/2"
Crane D, Chipping Block, & to & of rails changed from 96'-0" to 95'-6"
Crane B, 18" Steel Mill Section, & to & of rails changed from 96'-0" to 95'-6"
Crane K Roll Shop Mudgeon Mill & to & of rails changed from 90'-0" to 89'-4-1/2"
Sections of finishing end of 15" Steel Roll Mill added to short crane E
The above crane changes made to conform with changes made on June A 31, 1923

Signed 10/26/23
Details attached to Contract for 400 ft. of 1 in. round steel pipe. Standing to go from next year. (Sent in 8 sheets).