TEAM LOG SHEET

TEAM No. PIC-S TEAM COMDR. Lt. Keir

TARGET No. PIC-S-X4 PIC-S-X6 TARGET LOCATION Target 2674 - Mitsubishi A/F
Target 193 - Mitsubishi A/C Eng WKS.

DATE 8 Nov. 1945

*Photo No.	Description	Requested By	
Roll No PIC-S-3		Intel. Subj No.	Direct.-
1-4	Hanger interiors - underexposed	PIC-S-X4	—
5.	Final assembly hanger - S. end of field	PIC-S-X4	S.W.
6.	"	"	"
7.	Foundry - JTG Bldg No. 7C - showing framing + superficial damage	PIC-S-X6	N.E.
8.	"	"	N

*Photo No. must correspond with Photographers Photo No.

TEAM LOG SHEET

TEAM No. PIC-S **TEAM COMDR.** Lieut. Keir

TARGET No. SX-6 **TARGET LOCATION** Nagoya - target 193
Mitsubishi A/C Eng. Works

DATE 14 Nov. 1945

*Photo No.	Description	Requested By
Roll No. PIC-S-4		
1	Cumsha	
2	Sub Station - JTG No. 59 - Showing construction, and blast damage from near misses	SX-6 N
3	Structural damage not visible from air. JTG bldg. No. 62	SX-6 Nw
4	same	do do
5	same	do do
6	Framing of JTG bldg. No. 74	SX-6 SW
7	Superficially damaged boiler house - JTG bldg. #89	SX-6 NW
8	Cumsha	

*Photo No. must correspond with Photographers Photo No.

Field Notes

Bldg 122

~~S[illegible]~~ wood framed bldg. – apparently mostly taped

~~Tile roof~~ bldgs. number to 124–126

~~Destroyed (fire~~ in construction (?)

~~Concrete floor~~

Bldgs 117–120

~~Single bay. Use 124~~

~~Storage of jeep parts (?)~~

~~All destroyed~~

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

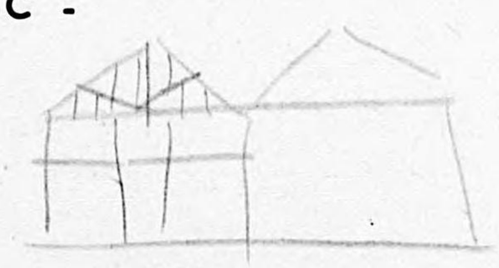
GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg ~~124~~

Two Layed all wood structure

Tch on wood roof

Complete structural damage



Blg 125

Construction same as 124

Walls stripped

Minor roof disturbance

~~Bldg 126~~ Same as 124

BLDG. NUMBER

SHEET OF

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

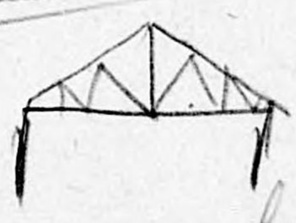
GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg. 88
Usual Type - Destroyed

Bld 89
Boiler House
Reinforced concrete floor (approx 15')
Reinforced concrete
piles
Steel framed structure
Like bldg 11 only
smaller
2 stacks
Cooling towers at
west end
4 boilers

Bldgs 90, 91, 92
Usual type
destroyed

Bldg 106
Wood frame
Part Storage



All storage
covered
Corrugated iron roofing
Wood siding
Concrete floor

BLDG. NUMBER

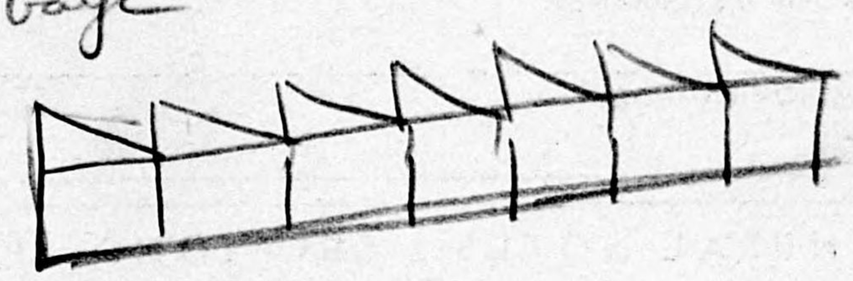
Bldg 107
Steel 2 bays
1/3 structural damage (e. end)
Remainder superficial damage

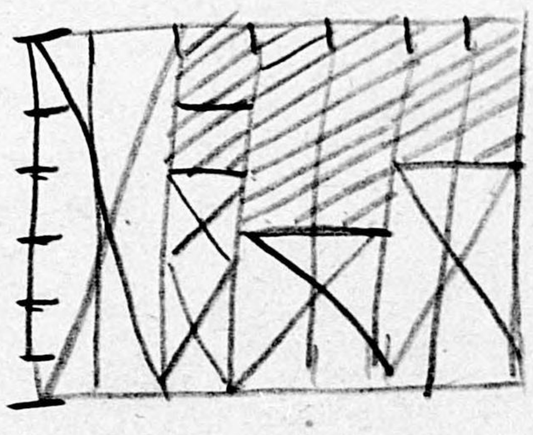
Bldg 108
Wood - destroyed

Bldg 109 + 110 + 111
Ditto - one bay in each

Bldg 112
Low shed structure 15' clear to roof
Concrete floor
Wood frame
Tile roof
Walls intact
Minor roof disturbance

Bldg 113
Saw tooth roof - 7 bays
All wood framing
Concrete floor
Asbestos cement roofing





Bldg 114
Cont. like 116 except
for steam plant
Steel + offices
Low of roofing, minor roof disturbance

Bldg 116
Wood
Concrete floor
Tile roof
Steel
Low of roofing
Minor roof dist

Bldgs 104, 103, 102
Part Wood - dirt floor
All destroyed - fire

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT.	LONG AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

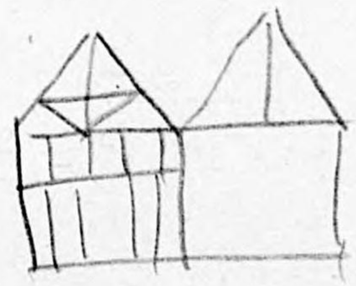
TEAM

DAMAGE ASSESMENT

DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg 75 — Portable parts warehouse
Usual — portable wood frame
Asbestos cement roofing & siding
Concrete floor
Destroyed



Bldg 76 — Ditto 75

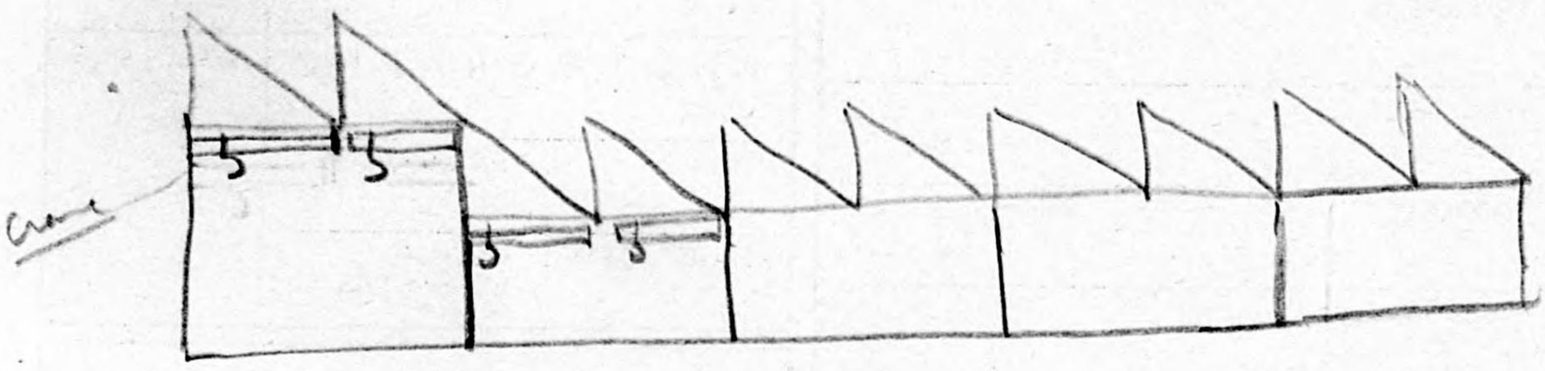
Bldg 77
Construction as 75 & 76
Complete structural damage

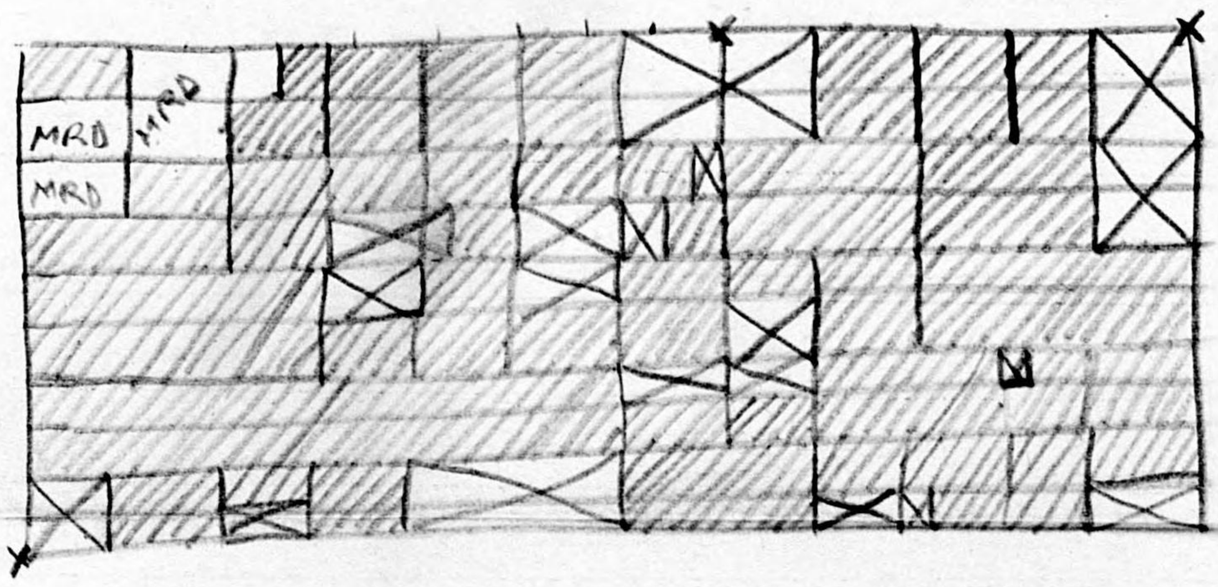
Bldg 79
Wood frame
Wood siding
Tile roof on wood
Superficial damage
Minor roof disturbance
Structural damage
20' detached

Bldg 78
Construction as above
Superficial damage — repaired with
corrected in ability. The top of roof
is a mass of glass

BLDG. NUMBER

Bldg 80





Steel framed
Concrete floor
Asbestos cement roof & walls
glass lights & walls
Wood partitions

Bldg 84
Usual Type
Destroyed

Bldg 83
Usual Type
3/4 destroyed
Remainder (frame standing)

Bldg 82
Usual Type
Complete structural damage

Bldg 81 2 bays
+ Bldg 85

Bldg 85
Reinforced concrete
roof - slates
structural damage
Loss of windows
Fragments & roof wall
Structural damage to
1/4 S wall
Beam wall removed

Bldg 86
Usual - one bay
Complete structural damage

Bldg 87
Ten Caproni Bldg -
Concrete floor & beam roof
(2 st)
2/3 destroyed
mainly by fire
Wood framing
Asbestos cement roof
& walls
Blast damaged concrete
wood cupola
tilted

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT	
TYPE OF INDUSTRY	
CITY	TARGET NO. / BLDG. NO.
LAT. LONG AREA	
INTEL. SUBJECT NUMBER	DATE
PHOTOGRAPHY	ROLL - NEG NUMBER
INTERIOR EXTERIOR	
STRUCT. DETAIL NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg 101
16 test cells
Reinfored Concrete
Minor fragments + fire damage
+ eastern 1/4

S. West end - burst in No. 15
add - structural damage
+ width of 3 story

~~Bldg 93-98~~
~~Unidentified structures~~
~~all destroyed~~

~~Bldg 100~~
~~Unidentified by fire~~

Bldg 99
2- Reinfored concrete
Bldgs - Ext. cover
Wood roof - ~~Ext. cover~~
Asphalt composition roof
wall + roof of N. Bldg
roof damage to
composition roof of N. Bldg
roof only to N. Bldg

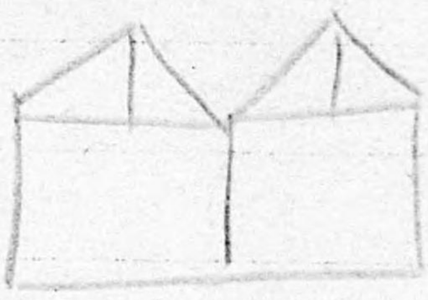
Just W.
+ wrecked roof + ceiling
water cover
stain - wood
roof (tile cover)
Major roof
disturbance

BLDG. NUMBER

Bldg 72

Simple Wood storage shed Adj Bldg (20)
largely destroyed by H.E

Bldg 68

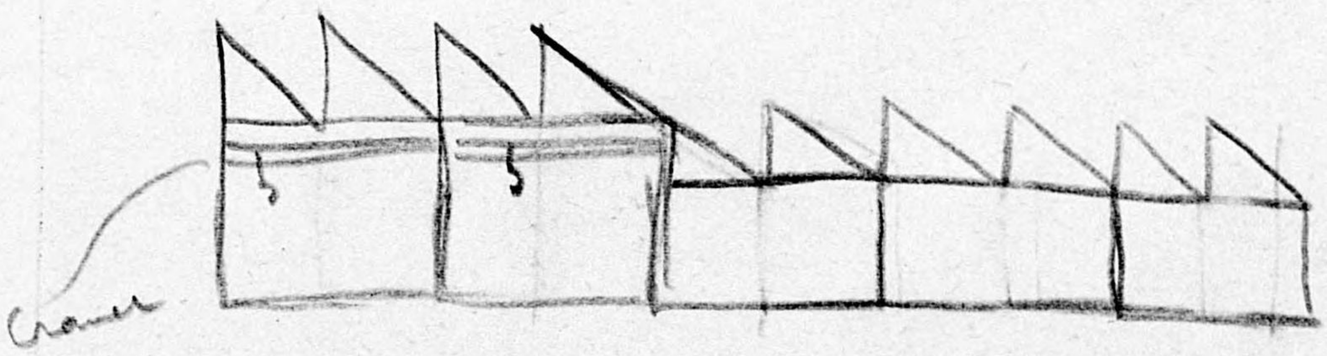


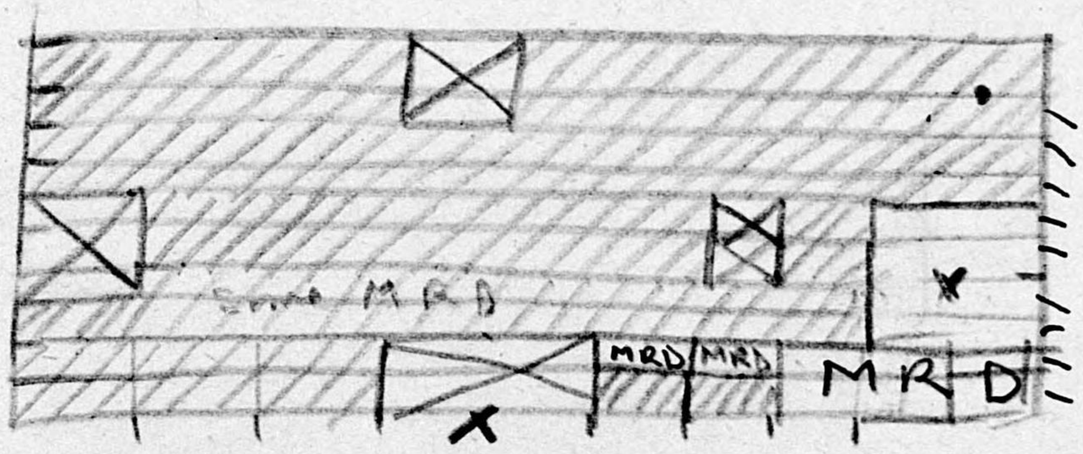
Wood framing
Asbestos cement roofing + siding
Concrete floor
Destroyed

Bldgs 69-71 Same as 68

Bldg 74

Concrete floor
Wood purlins + siding
Steel frame
Asbestos cement roofing + siding





U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg 73

Probably
Wood frame
Asbestos cement roofing
& siding
Concrete floor

Destroyed
H.E.

BLDG. NUMBER

SHEET OF

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

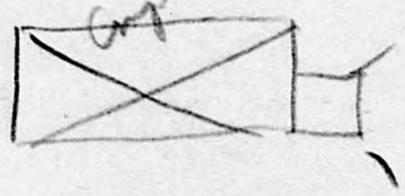
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

59 Six Concrete Kdy.
Wood frame structure concrete floor
roofing + siding
Completely destroyed - H.E. + fire

60 Contract Little structure
destroyed - H.E.

61 Wood framed - Light siding
with reinforced concrete cover at west end
1/2 - 2 story Spec type
1/2 - one story



Completely leveled damage - H.E.
reinforced concrete cover
2 stories
steel framed
concrete

Bldg 62

120'

Concrete floor

raw twisted steel from Conc. arches and roofing walls Wood purlins

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

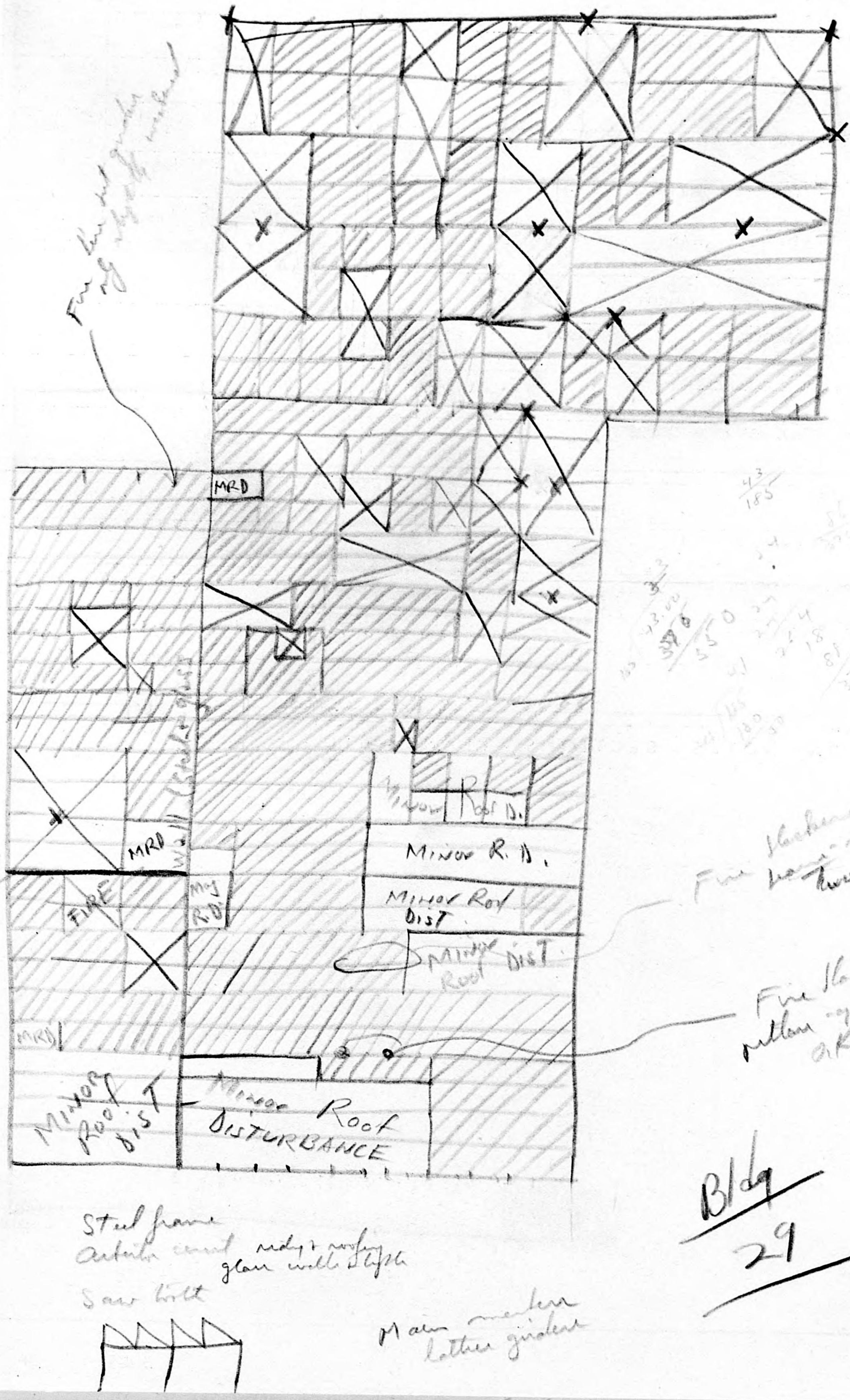
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

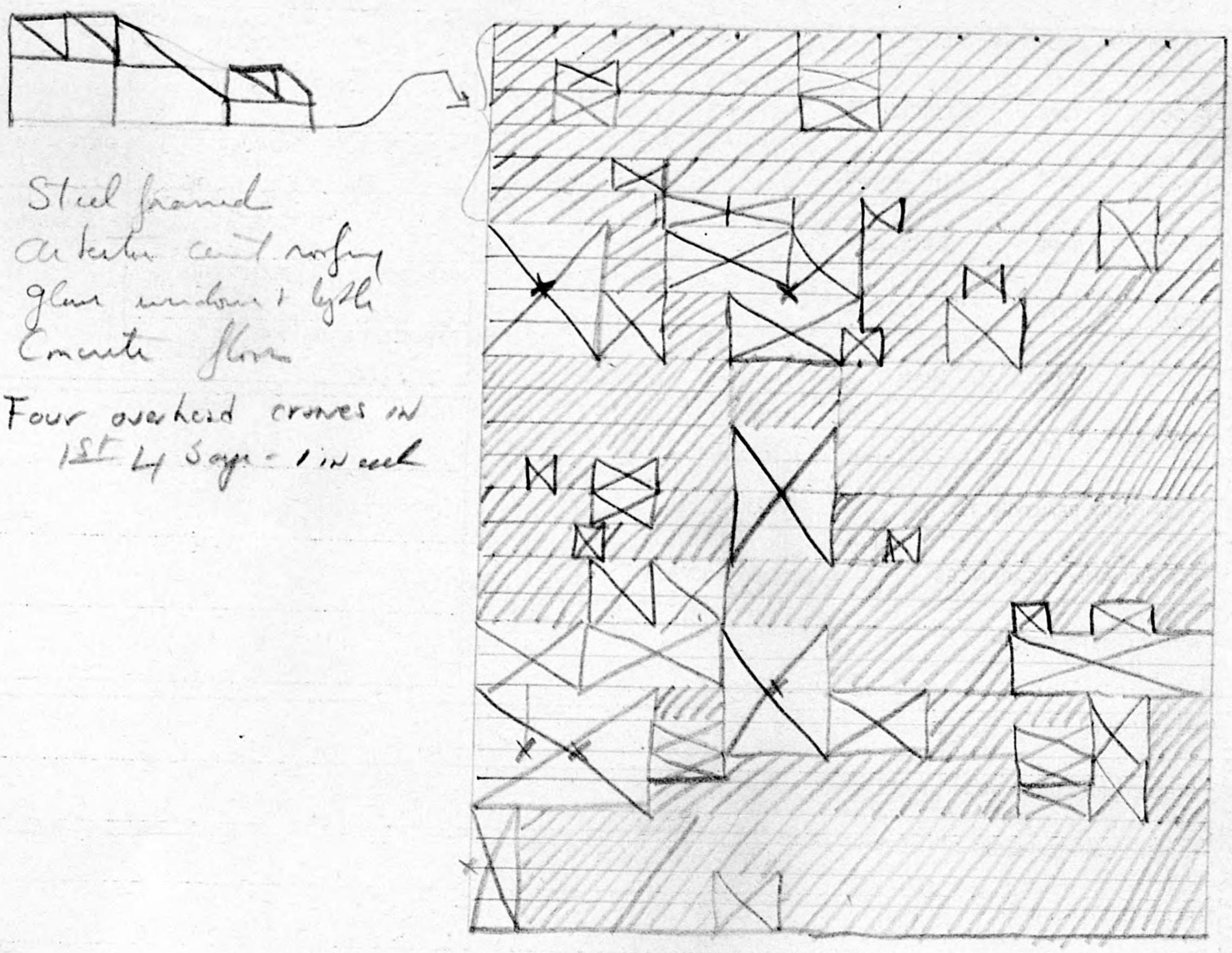
63-67 Destroyed

Structure = "Cement on wood construction

BLDG. NUMBER


MRD
MRD
MRD
FIRE
MRD
Minor R. D.
Minor Roof Dist.
Minor Roof Dist.
Minor Roof Dist.
Minor Roof Disturbance
Roof D.
Glass Sky Light
Fire blanket
Fire blanket
Fire blanket
Bldg 29
Steel frame
Asbestos covered
Main rafters
Lattice girders
Saw tooth

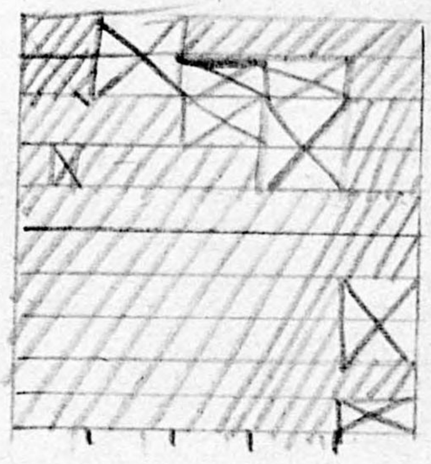
Bldg 105



Steel framed
Asbestos cement roofing
glass windows + lights
Concrete floor

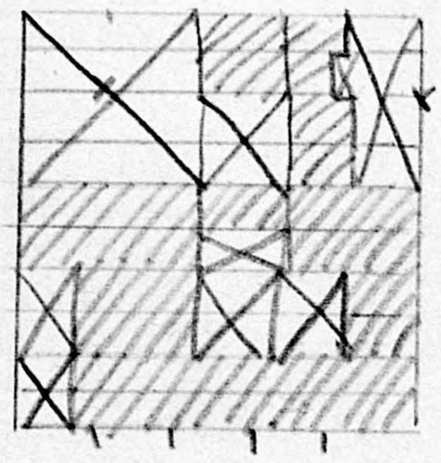
Four overhead cranes in
1st Lg Bays - 1 in each

Bldg 114



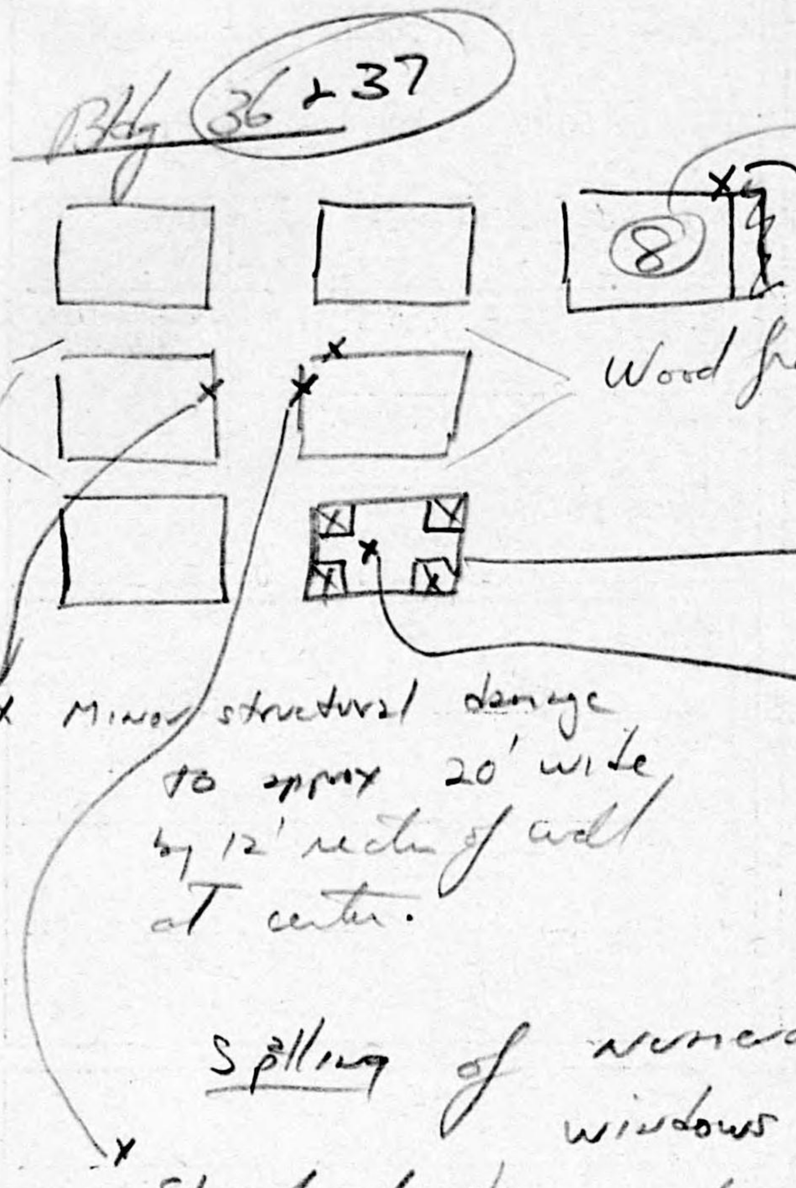
Sawtoothed
Steel frame
Asbestos cement roofing
2½ feet of brick
Glass windows + lights
Concrete floor

Bldg. 121

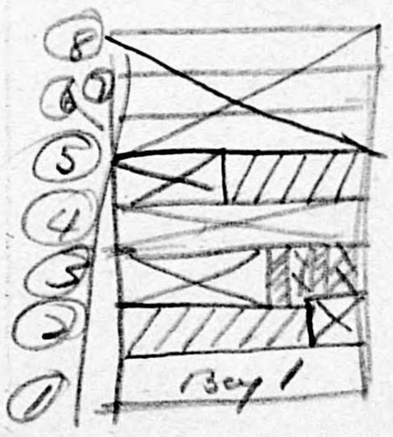


Sawtoothed
Steel frame
Asbestos cement roofing
Concrete floor
Over half
of main wall
Window out

Bldg 36 & 37



Bldg 38 ~~37~~



38
Sawtooth roof
Asbestos cement shingles
on Wood frame
Concrete floor
Bay 1 - Complete structural damage
Bay 2 - X structural damage
/// superficial damage
Bay 3 - upright as noted
Bay 4 - structural damage
Bay 5 - As noted
Bay 6-8 - Destroyed

Bldg 39
Construction same as 38 — destroyed

Bldg 40 " "
Bldg. 44 " (no markings) "

Bldg 43, 42, 41 " "

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT

TYPE OF INDUSTRY

CITY	TARGET NO.	BLDG. NO.
LAT.	LONG AREA	
INTEL. SUBJECT NUMBER		DATE

PHOTOGRAPHY	ROLL - NEG NUMBER
INTERIOR	EXTERIOR
STRUCT. DETAIL	NO. OF EXPOSURES

TEAM

DAMAGE ASSESMENT

DESTROYED

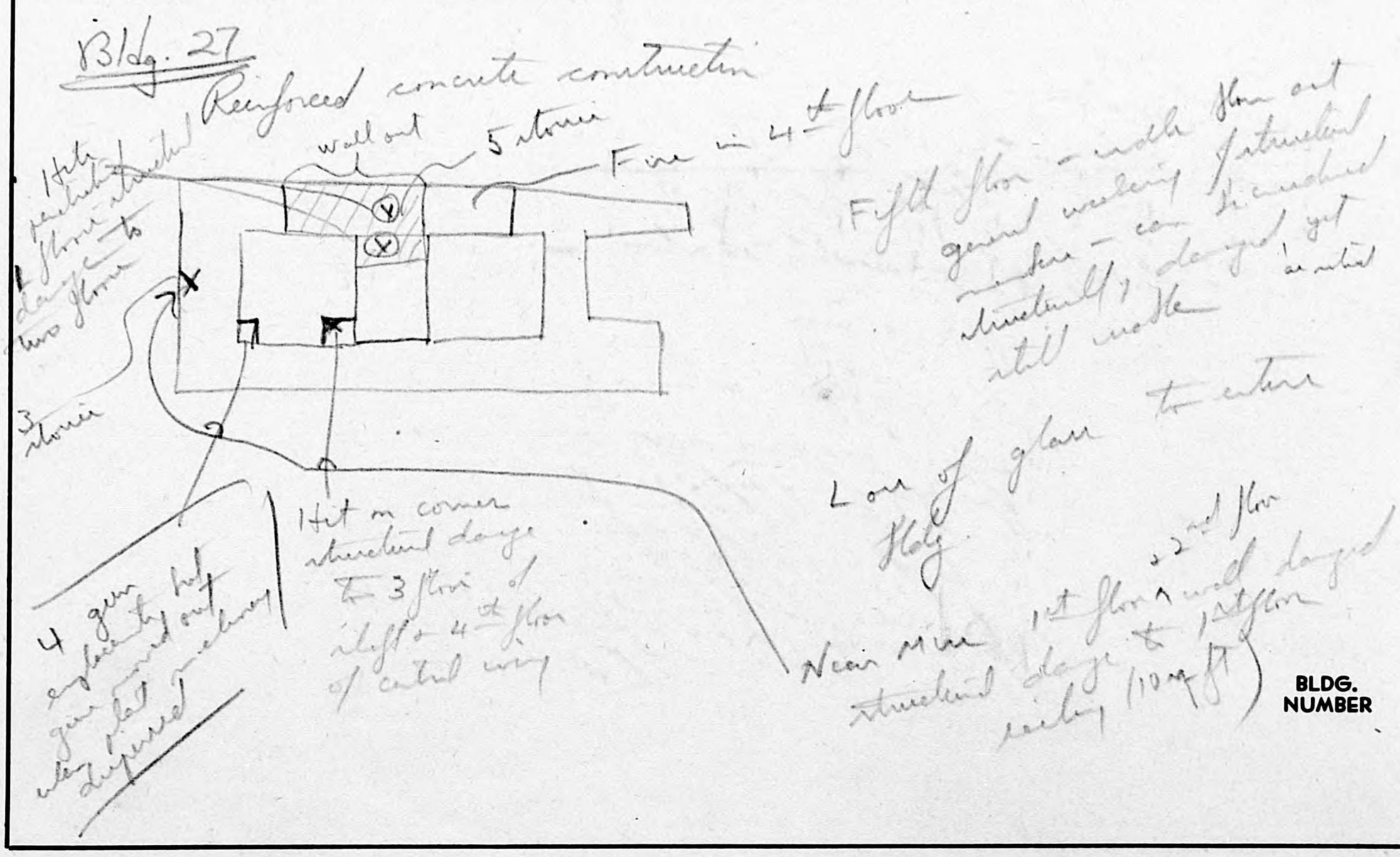
STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

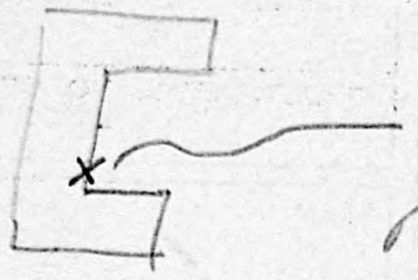
GENERAL NOTES - SECTIONS - PLANS - ETC -



BLDG. NUMBER

Bldg 28

Fragmentation damage mainly to roof & walls
Complete loss of window glass
Small amount of structural damage observed



10 ft. of tar & gravel roofing torn loose
Reinforced concrete 3 stories

Bldgs. 46-51

Apparently - asbestos cement on wood framing
Concrete floors
All destroyed - Primarily H.E.
Some fire in Bldg. ~~51~~ 46

Cont. Bldg 52

Bldg 52

Construction similar to above (46-51)
Destroyed fire & H.E.

Bldgs 53-55

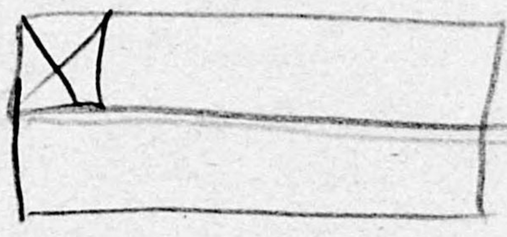
Construction as above
all destroyed
53 by H.E.
54 by Fire

Bldgs 57&8

Construction as above
Destroyed
Fire & H.E.

Bldg 56

Construction as above
structural damage & W.W. cover
& then replaced by corrugated iron
sheets & roof
H again



57A

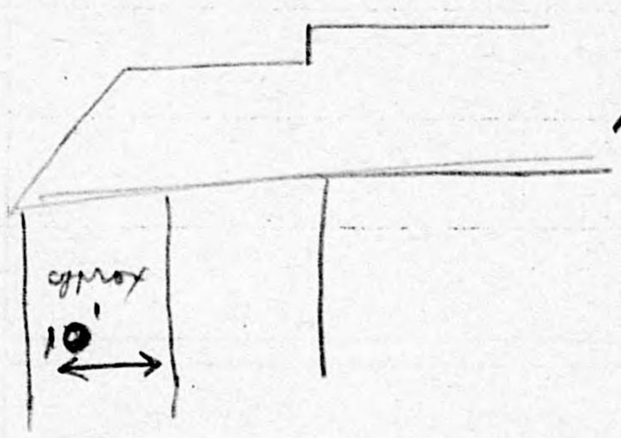
Reinforced concrete
Substructure
Some fire in
roof end

Damage to outside by
fragments - Slight
Probable weakening of
members but no
much structural
damage

Bldg 11 Steam boiler plant

Steel framed
Corrugated iron sheeting - Walls + roof
(possibly repaired)
8 ~~[redacted]~~ boilers (at least 2 in operation 29 Oct)

3 Reinforced concrete stacks
Actual stack structurally damaged
Lightning conductor on stack and at base
Minor roof disturbance only



Bldgs 9+10

Contents similar to 16-18

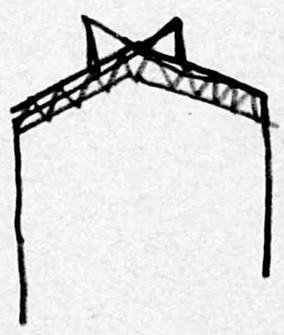
Also similarly damaged - i.e. condition similar now

No 9 Machine shop - grinding of ~~bearing~~ bearings

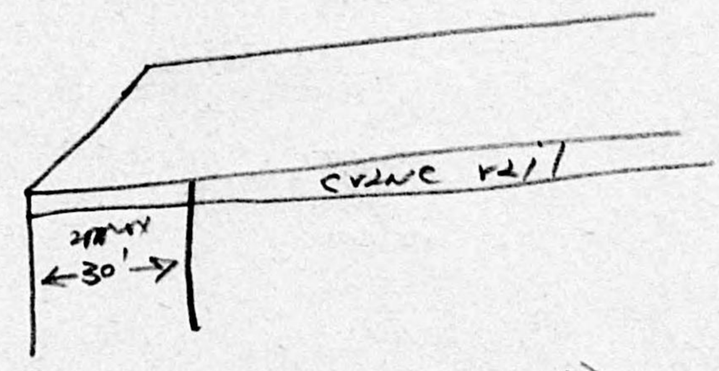
No 10 Pump house

Bldg 7A (Foundry) + Forging
Corrugated iron sheeting on steel frame
Minor roof + wall disturbance

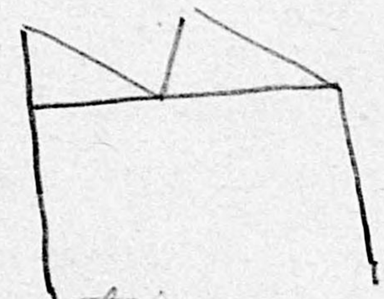
3 Bays



Storage yd served by overhead crane continuing from Bldg at W. end



Southern bay



concrete floor in southern bay

Bldg. in operation 29 Oct.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT

TYPE OF INDUSTRY Sub-Station (15)

CITY	TARGET NO.	BLDG. NO. 15
LAT.	LONG AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE No structural damage (?)

SUPERFICIAL DAMAGE Minor spalling on walls (probably from fragmentation)

ROOF DISTURBANCE

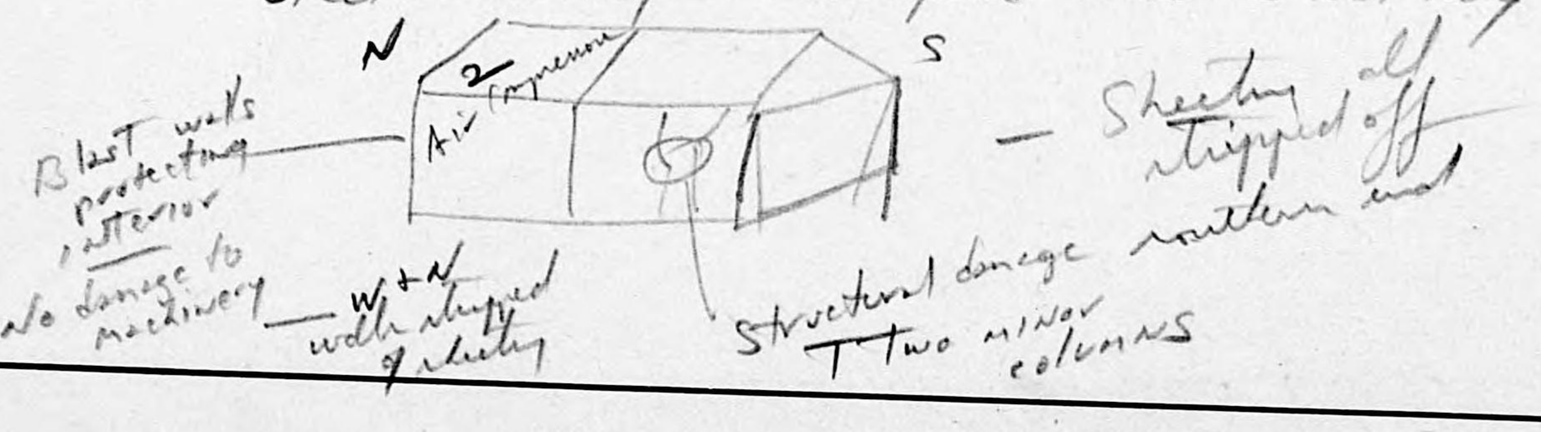
MINOR DAMAGE Window glass blasted out + frames twisted

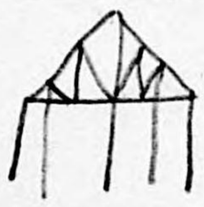
GENERAL NOTES - SECTIONS - PLANS - ETC -

15/ Reinforced concrete
Surrounded by blast wall - blast wall partially burned + blown apart
N. End of bldg. - concrete + reinforcing rods torn around window
Blast walls built around transformers inside of bldg.
- apparently effective

13/ Bldg. destroyed by fire
Wood framing - corrugated iron sheeting

14/ Saved from fire in adjacent (13) by blast wall between.
Steel framing - corrugated iron sheeting





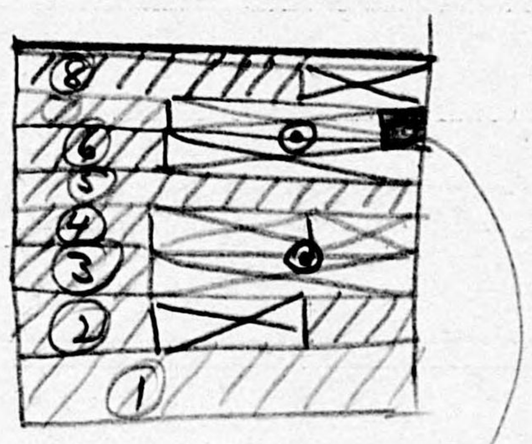
BLDG. NUMBER

Bldg. 12

Constructed like #31

2 floors

1st reinforced concrete
2nd Saw tooth steel frame – asbestos cement sheeting roof
+ glassed in walls with asbestos cement walling



Bay 1 Fermentation + rust of main structural members might render them useless.

" (2) Ditto for superficially damaged part of 2

" (3) ⊙ Circled member bottom + should be removed ensuring structural repair to large upper superficially damaged area.

" (6) ⊙ Ditto above

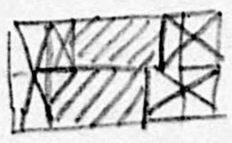
Complete demolishing of roofing + walling

structural damage to reinforced concrete floor

Bldg 26

Wood framing
Asbestos cement roofing
Concrete floor

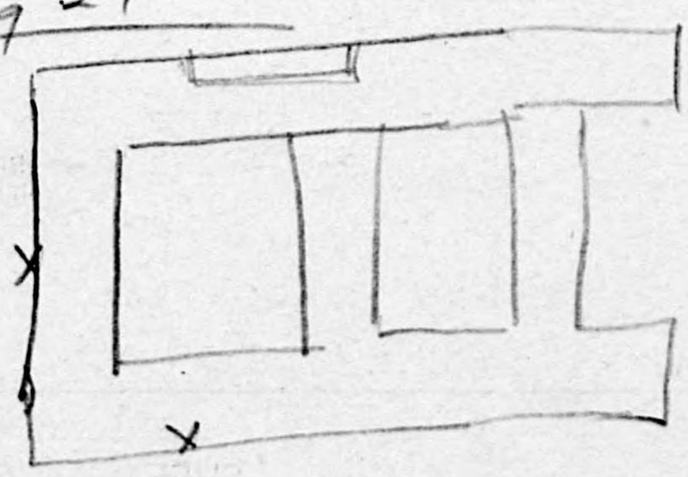
Completely demolished
Stge. 0/4.



Bldgs 22, 23, 24, 25

All destroyed
Probably similar to #26 in construction

Bldg 27



U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT

TYPE OF INDUSTRY

CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

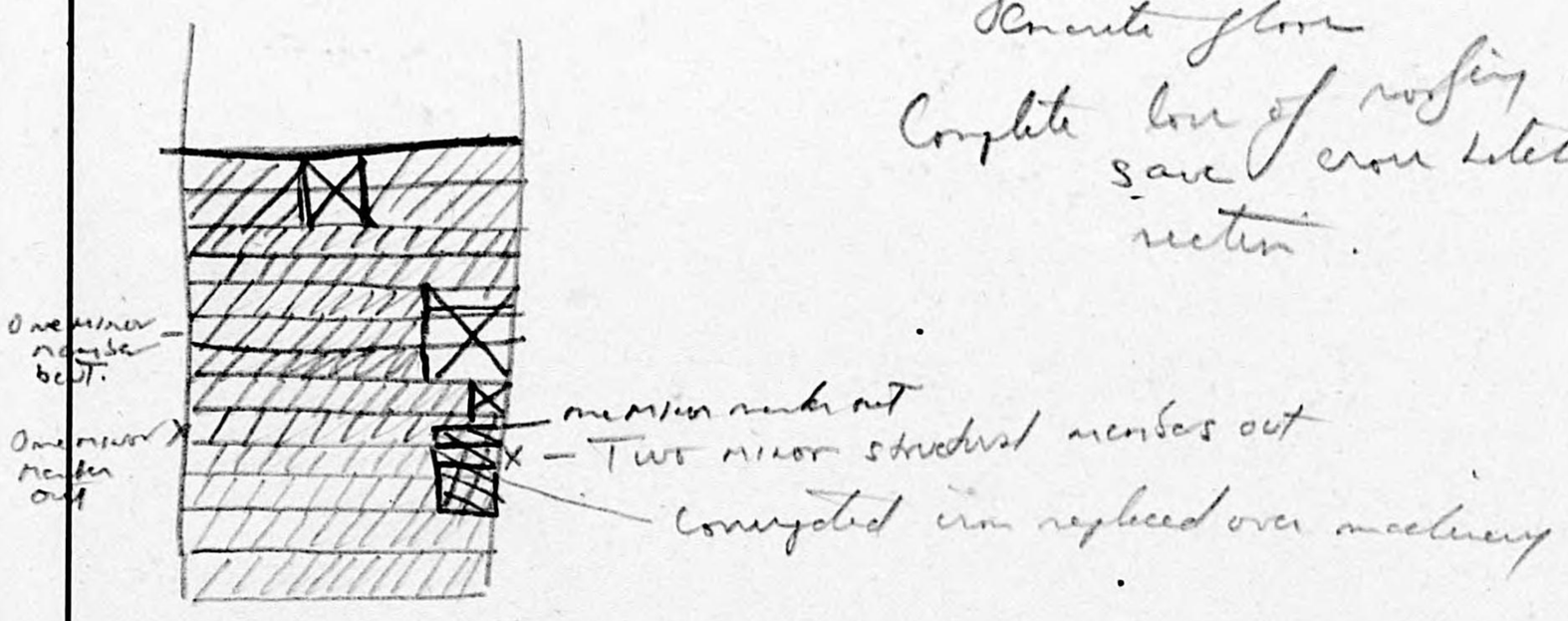
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg 8

Asbestos cement sheeting on steel frame
Saw toothed roof
glass window walls
Concrete floor

Complete loss of roofing on valley.
Some corrugated repaired
section.



BLDG. NUMBER

SHEET OF

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT	
TYPE OF INDUSTRY	
CITY TARGET NO.	BLDG. NO. 18 17 16
LAT. LONG AREA	
INTEL. SUBJECT NUMBER	DATE
PHOTOGRAPHY	ROLL - NEG NUMBER
INTERIOR EXTERIOR	
STRUCT. DETAIL NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

16, 17, 18 Concrete floors
Wood framing
Apparently asbestos cement covering

Floor was used for storage of parts
removed when delivered & removed

21 Concrete floor
Wood framing
Ditto above

19 (Ditto above)

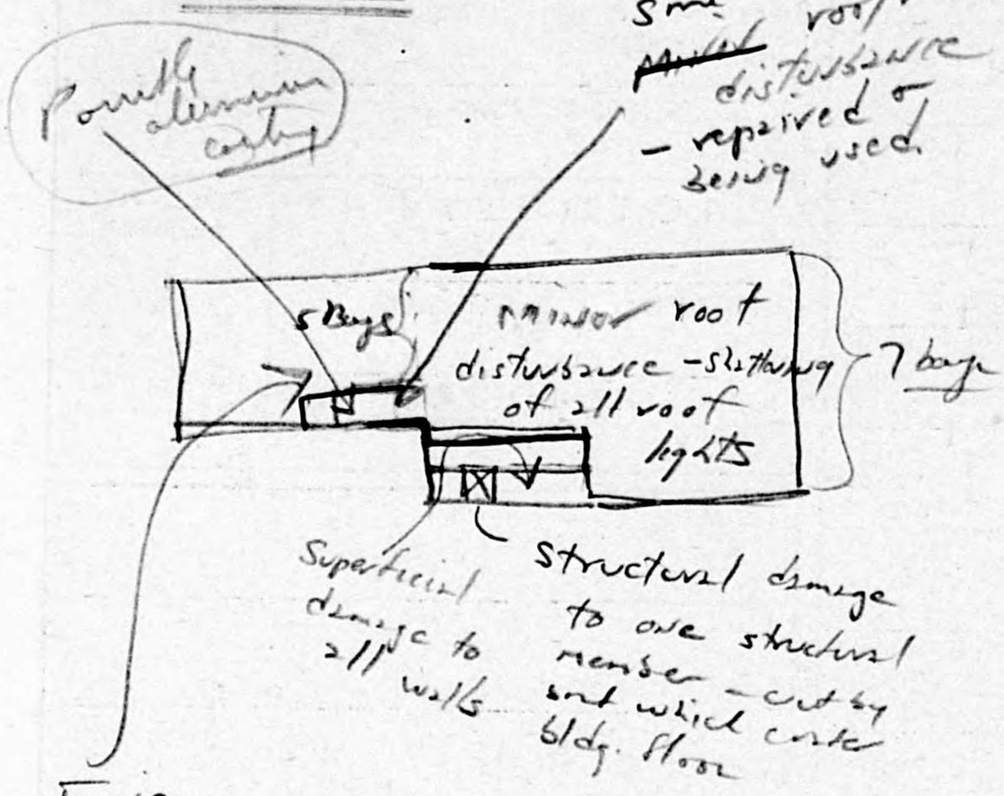
BLDG. NUMBER

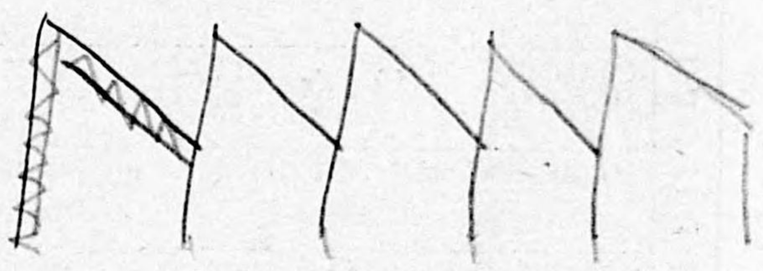
SHEET OF

76 (

Some superficial roof & wall — 8 sections approx. 10' each
~~Many~~ disturbance
- repaired & being used

Concrete floor
Steel framing
Corrugated iron sheet roofing + walling
Wood purlins
Saw tooted roof —





Some repair of asbestos cement roofs by substitution of corrugated iron — probably from early raids.

Five

Superficial damage to walls + roof (generally)

One or Two small sections of structural members slightly twisted but usable

Sheds roofs in centre & end of 3 bays 4 ± of a roofed. appox ½ of bldg being used.

1+2 ~~Corrugated~~ Asbestos cement on wood frame
Concrete floor
Destroyed

(3) Asbestos cement sheeting on wood frame
Dirt floor Complete structural damage

(4) Asbestos cement on wood frame — ⅔ structural damage
⅓ of b (minor disturbance noted up)

5+6 Similar to 1+2

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

2321

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT	
TYPE OF INDUSTRY (storage)	A/c ENG.
CITY Nagoya	TARGET NO. 193
LAT. LONG AREA	BLDG. NO. 20
INTEL. SUBJECT NUMBER	DATE 29 Oct.
PHOTOGRAPHY	ROLL - NEG NUMBER
INTERIOR EXTERIOR	
STRUCT. DETAIL NO. OF EXPOSURES	

TEAM
PIC - S

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE
3rd Bay approx ½ removed (N-end) - 4th & 5th Bays partially removed S. end

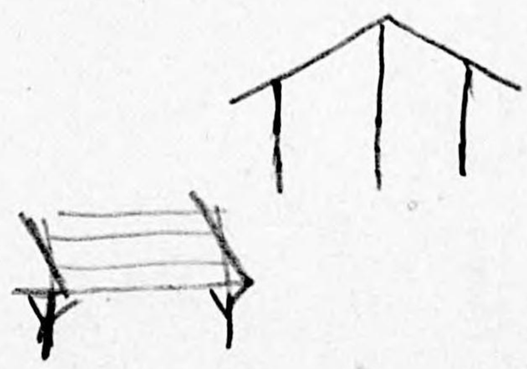
SUPERFICIAL DAMAGE
All roof & wall covering blown off (sheltered

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Simple shed type structures
Wood framing
Eaves - 8'
Ridge pole - 15'
Corrugated asbestos cement sheeting
Walls & roof
Stanchions set in concrete
6 Sheds separated by about 15' - 2(½) sheds
Could easily be put back in shape
by minor repairs & re sheeting
Bomb Hit approx 50' from S. end of 5th Bay



Sheds on Hokkaido

BLDG. NUMBER

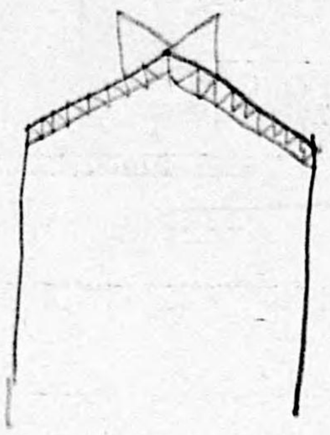
SHEET OF

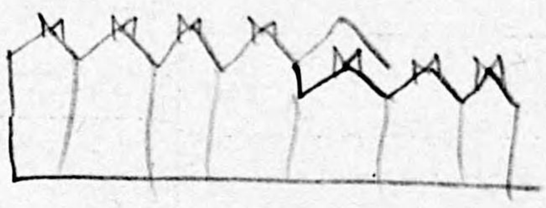
6.8
215 | 1480
1290
190 (7) 1

215 | 18
2 | 30

Bldg 7C Roll 3
Pkt (7) from SW corner looking N.E.
Pkt (8) looking N from SW corner

9

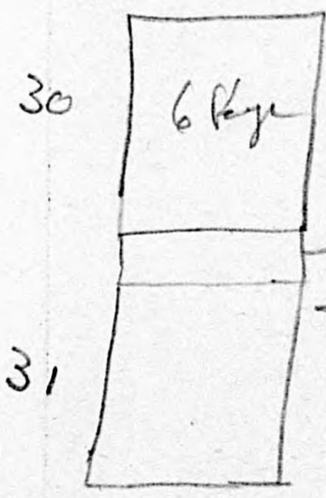




Almost complete superficial damage to walls + roof
Two floors Still have about 75% of roofing. Little glass in walls.

Steel framed
Asbestos cement slates — roofs
Concrete floor
Glazed-in walls + roof lights

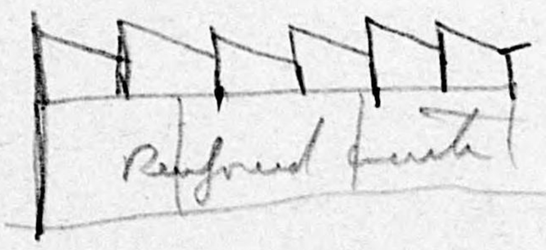
Bldgs. 30+31



Bldg 30
One floor
Steel frame
Asbestos slate roof
Glass walls
Saw toothed construction

Superficial damage to east wall (repaired with corrugated iron)
Minor damage to roof + roof lights + other walls

Bldg 31 — 2 floors
1st floor reinforced concrete walls floor + ceiling with reinforced concrete pillars
2nd floor saw toothed steel framed Bldg with asbestos cement slates on roof — glass walls + roof lights

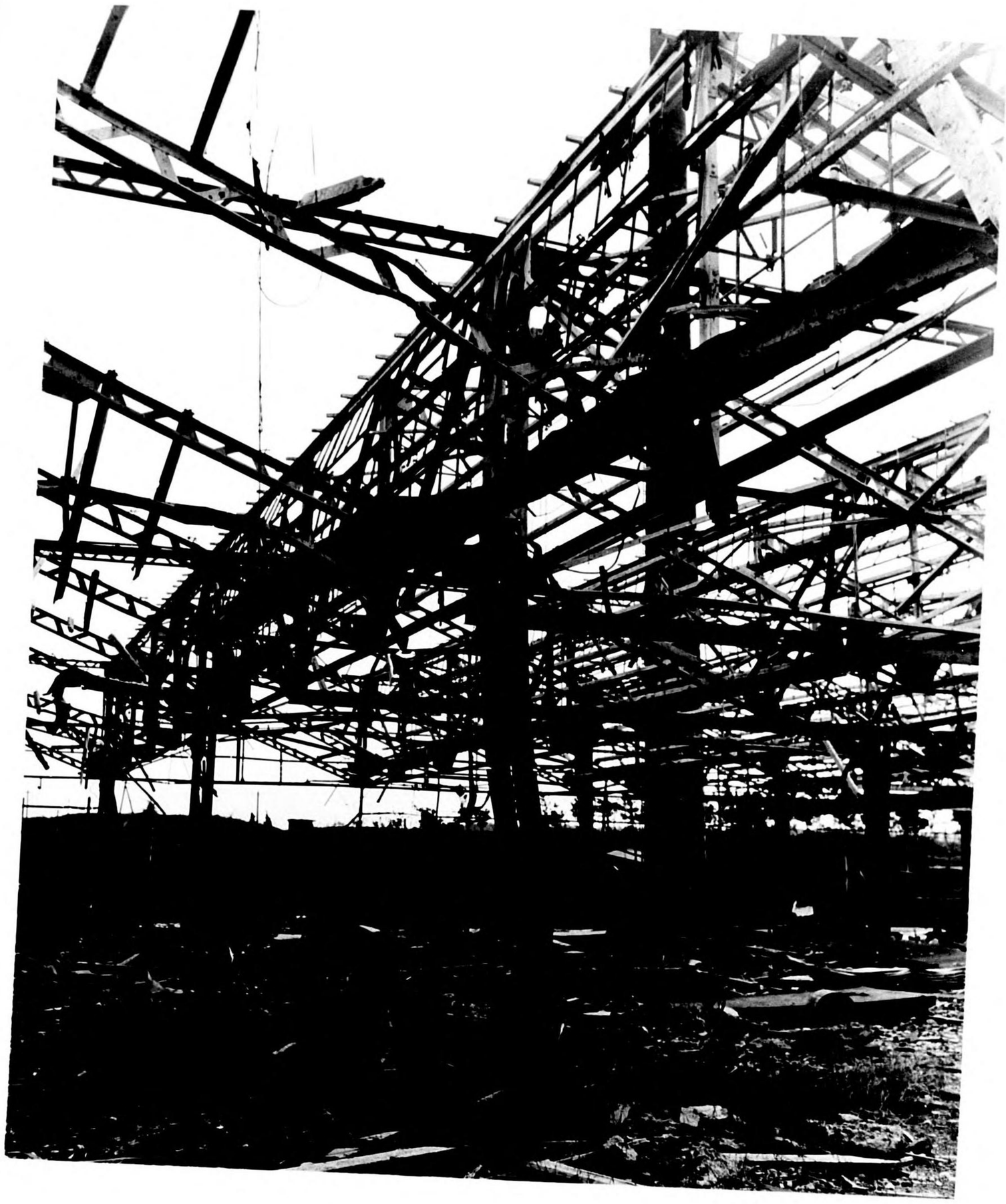


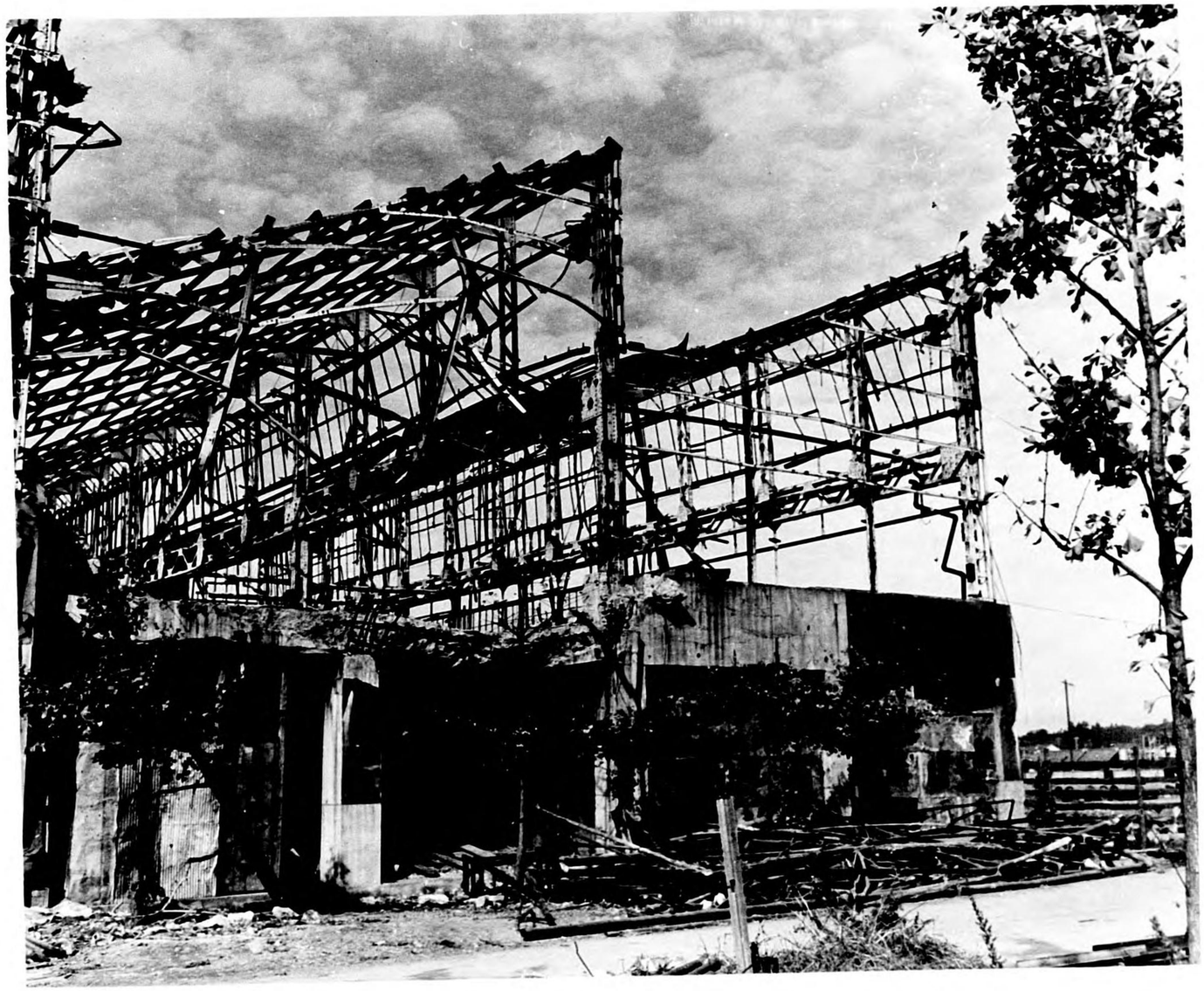
Minor damage to roof + windows

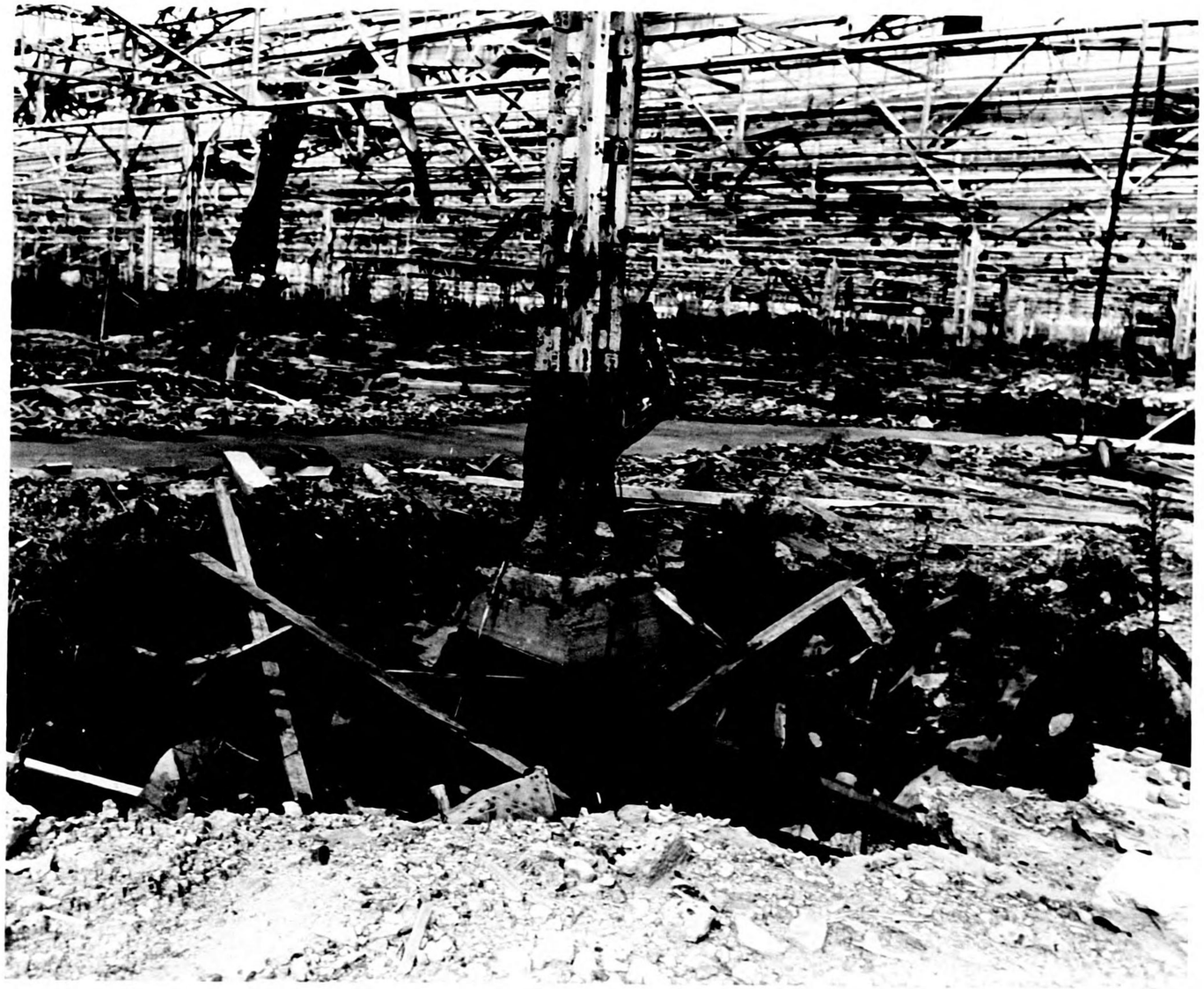
Bldg. 35

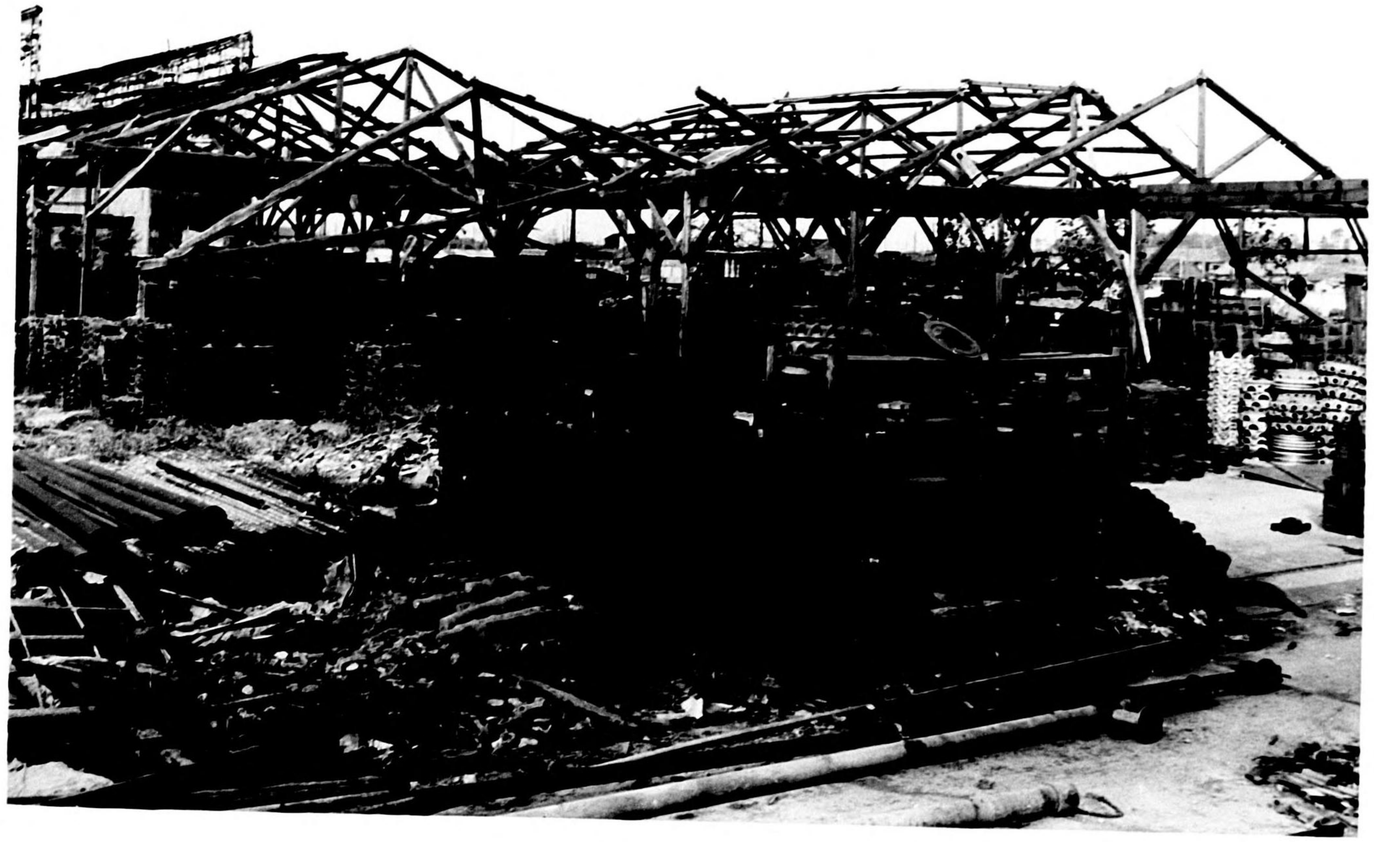
Concrete floor
Steel frame
2 bays
Saw toothed
Asbestos cement roof
glazed in walls

Complete superficial damage to walls + roof
One minor structural member in west wall at 4 bays
Eastern 130' (approx) of roof on both bays removed with corrugated iron sheeting









AC/AS, INTELLIGENCE- PHOTOGRAPHIC DIVISION
MITSUBISHI AIRCRAFT ENGINE WORKS
NAGOYA CITY, JAPAN
TARGET NO. 90.20-193 REPORT F/A 12
Approximate Scale
1000' 0' 1000'
CONFIDENTIAL
MISSION
3PR 4M17
PRINTS
2V:15
743.751
PHOTOGRAPHY OF 23 NOV. 1944

CONFIDENTIAL

PHOTO INTELLIGENCE SECTION
EVALUATION BRANCH
PHOTOGRAPHIC DIVISION
AC/AS, INTELLIGENCE

20 18

FUNCTIONAL ANALYSIS REPORT NO. F/A-12

Date 13 December 1944

TARGET: 90.20-193 MITSUBISHI A/C ENGINE WORKS, NAGOYA
(MITSUBISHI JUKOGYO K.K., NAGOYA HATSUDOKI SEISAKUSHO)

LOCATIONS: NAGOYA, JAPAN COORDINATES: 35°11'N - 136°57'E

PHOTOGRAPHY:

Date	Mission	Prints
23 Nov 1944	3PR/4M17	R1-V20 R2-V14,15,16 R3-R24,25,26 R3-L24,25,26

BUILDING IDENTIFICATION:

1. Storage
2. Storage
3. Storage
4. Storage
5. Storage
6. Storage
** 7.a Shop, *Airframe small parts
** b,c Foundry
** d,e Forge
** 8. Shop, *Valves
9,10. Unidentified
** 11. Boiler Houses (reported smelter)
12. Shop, *electrical
13. Storage
14. Storage
15. Storage
16,17. Storage
18. Storage
19. Unidentified
20. Storage
21. Possible Office
22. Possible Office
23. Mess Halls
24. *Personnel Office
25. Personnel Office
26. Possible Quarters
**27. Main office bldg - prob. 4 story
28. Office type building - *school
**29. Shop, Main
    a. *Engine Assembly
    b. *Main machine shop area
    c. Heat treatment
30. Shop
31. Shop
**32. 6 test cells and shop
33. Unidentified
34. *Mess hall
35. *Mess hall
**36. 48 test cells

CONFIDENTIAL

F/A REPORT NO. F/A-12 (Cont'd)

BUILDING IDENTIFICATION (Cont'd)

**37. 16 test cells
38. Possible tool shop
39. Probable storage
40. Unidentified
41. Unidentified
42. Unidentified
43. Unidentified
44. Unidentified
45. Unidentified
46. *Warehouses
thru
58.
59. Unidentified
60. *Dispensary
61. *Fire house
**62. Shop, main
a. *Engine assembly
b. *Machining of: Manifolds, cylinder heads, crankcase, valves and cylinder assembly.
c. *Machining of: Pistons, cylinder barrels, crankshafts.
63. Unidentified
64. Unidentified
65. Storage
66.)*Foundry
67.)
68. Storage
thru
73.
**74. Shop, machine
75. Storage (underground access on south side of this building)
76. Storage
thru
79.
**80. *Foundry
81. Storage
thru
88.
89. Boiler house
90. Storage
thru
98.
99. Probable transformer station
100. Storage
**101. 16 test cells
**102. 4 test cells
**103. 4 test cells
**104. 4 test cells
**105. Shop, main
a. Engine assembly
b. Machine shops
106. Offices
107. Storage
thru
112.
113. Shop
**114. Shop, machine
115. Storage
thru
120.

F/A REPORT NO. F/A-12 (Cont'd) 20 18

BUILDING IDENTIFICATION (Cont'd)

**121. Shop, machine, *tool and repair
**122. Shop, machine, *tool and repair
**123. Shop, machine, *tool and repair
124.
thru
126. Storage

* Indicates a reported function which can neither be proved or disproved by the aerial photography.
** Indicates numbers appearing on the Photo Target Illustration P-2.

INTERPRETED BY:

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Captain, AC

JTG CONSULTANT

EDWARD MAYER

APPROVED BY:

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Chief, Photo Intelligence Section
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Office of the Asst Chief of Air Staff,
Intelligence.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

(1)

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT: Mitsubishi A/C Eng. -193

TYPE OF INDUSTRY: A/C Eng.

CITY	TARGET NO.	BLDG. NO.
Nagoya	193	
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE

PHOTOGRAPHY Taken By A/C #2

INTERIOR EXTERIOR

PIC - 5

STRUCT. DETAIL NO. OF EXPOSURES

ROLL - NEG NUMBER

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

BLDGS. 1 + 2: (Probable Storage)

@ Wood framing
(b) Corrugated asbestos cement roofing & siding
(c) Saw toothed roof framing
(d) Concrete floors
(e) Both buildings destroyed - apparently by HE

BLDG. 3: (Probable Storage)

@ Wood framing.
(b) Corrugated asbestos cement roofing & siding.
(c) Dirt floor.
(d) Complete structural damage.

BLDG. 4: (Probable Storage)

@ Wood framing
(b) Corrugated asbestos cement roofing and siding.

BLDG. NUMBER

SHEET

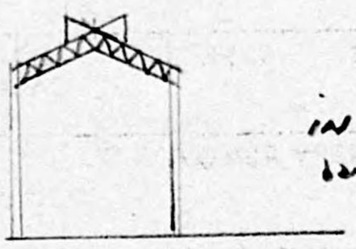
(c) 2/3 (Northern end) structural damage.
(d) 1/3 (remaining) minor roof disturbance patched up.

Bldgs. 5 & 6 (Probable Storage)

@ Similar in constructin to 1 & 2.
(b) Both destroyed.

Bldg. 7A (Forge) PIC-S-713

@ Steel framed structure
4 Northern bays →
5th, Southern bay →



Cranes in two central bays of four.

(b) Corrugated iron sheeting – roof + siding
(c) Storage yd. served by overhead cranes extending from bldg. at west end.
(d) Concrete floor in northernmost bay
(e) Bldg. still in operation – some minor damage to walls and roof has been repaired.

Bldg. 7B (Foundry) PIC-S-714

@ Steel framed saw tooth structure
(b) Asbestos cement roofing and siding on wood purlins – repatched with corrugated iron sheeting
(c) Concrete floor
(d) Two bays at S.W. corner raised above remainder of bldg. To house furnace equipment.
(e) West wing of 5 bays contained fire but no structural members were twisted. All bays superficially damaged. Sheds rebuilt beneath members in eastern end of 3 north bays. South bay repatched at eastern end with corrugated iron sheeting
(f) Loss of glass in roof lights and wall windows throughout bldg.
(g) Structural damage to one roof member in raised portion of bldg.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

(2)

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT.	LONG AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

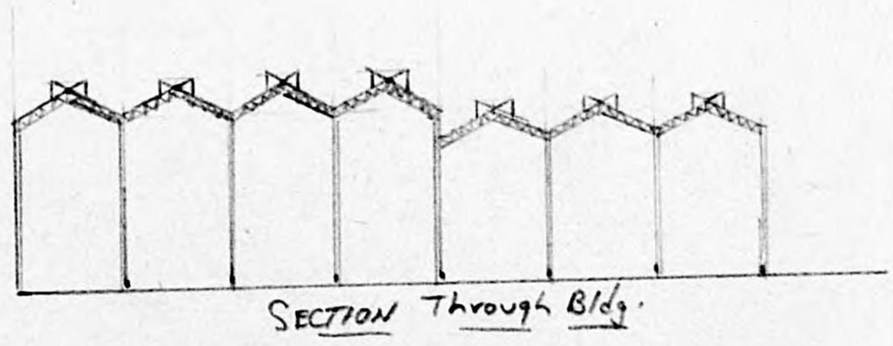
DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

PIC-S-3: 7+8
PIC-S-7: 5

Bldg. 7c (Foundry)

- (a) Steel framed bldg.
- (b) Asbestos cement sheeting on steel roof.
- (c) Glass windows in major portion of walls.
- (d) Concrete floor
- (e) Almost complete superficial damage to walls and roof.
- (f) Two easternmost bays only 25% superficial roof damage - remaining 75% - minor roof disturbance



SECTION Through Bldg.

Bldg. 8 (Shop - values)

- (a) Saw toothed steel frame structure
- (b) Asbestos cement sheeting roof
- (c) Glass window walls + lights
- (d) Concrete floor
- (e) Complete loss of roofing and walling

BLDG. NUMBER

SHEET OF

ⓑ Corrugated iron sheeting replaced over machines at east end of 3rd & 4th bays from the south end of bldg.

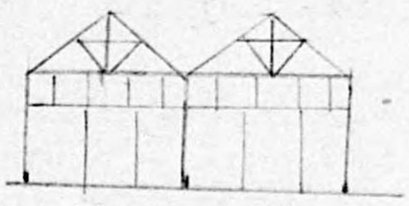
Bldg. 9 - (Grinding Shop)

@ Wood framing

ⓑ Corr. Asb. Cement siding & Roofing

ⓒ Concrete floor

ⓓ Destroyed



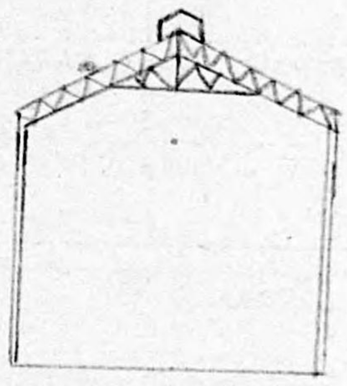
(This type of construction known hereafter as Type I building.)

(See PIC-S-6: 12)

Bldg. 10 - (Pump House)

@ Construction similar to bldg. 9

ⓑ Bldg. destroyed except for small shed rebuilt over principal pumps



Bldg. 11 (Steam Boiler Plant)

@ Steel frame (see sketch)

ⓑ Corrugated iron sheeting walls & roofing (probably the result of repairs)

ⓒ Three reinforced concrete stacks - hole in central stack where aerial torpedo passed through. Also hole at base of stack.

ⓓ Only minor roof and wall disturbance to iron sheeting

ⓔ 8 boilers

Bldg. 12 (Dining Room) PIC-S-7: 1+2

@ Two floors - first floor reinforced concrete walls & ceiling with reinforced concrete pillars for support. (Apparently used as storage floor)

- second floor: saw toothed steel framed structure, asbestos cement sheeting on roof and walls, glass windows in roof lights and wall windows

ⓑ Complete denuding of walling & roofing.

ⓒ Structural damage to small section (about 100 sq ft) of 1st floor ceiling at N.E. corner. (See chart for other damage.)

Bldg. 13

@ Simple wood framing with corrugated iron sheeting covering walls and roof.

ⓑ Bldg. destroyed by fire

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

(3)

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg. 14 (Air Compressor Bldg.)

ⓐ Steel framed with corrugated iron walls & roofing. (Sheeting probably result of repairs from previous raids – formerly walls & roof were probably covered with asbestos cement sheeting)

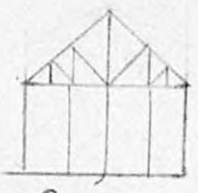
ⓑ Bldg. protected from fire on 13 sy wood & earth blast wall.

ⓒ Concrete floor.

ⓓ Blast walls protecting interior machinery – no damage to machinery

ⓔ Sheeting stripped off southern half structural damage to two lesser members of S.W. wall

ⓕ W. & N. walls of northern half stripped of sheeting



SECTION OF 14

BLDG. NUMBER

Bldg. 15 (No. 1 - Sub-station)

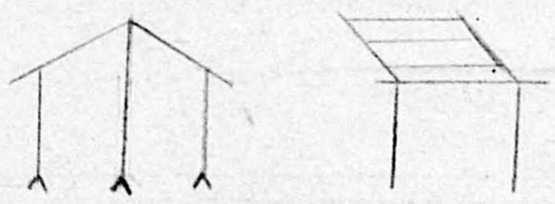
ⓐ Reinforced concrete structure
ⓑ Blast wall (wood filled) surrounding building - partially burned & blown apart
ⓒ Blast walls built around transformers inside bldg. - apparently effective
ⓓ N. End of bldg: concrete and reinforcing rods torn around windows - minor spalling to other walls from fragmentation.
ⓔ Complete loss of window glass.

Bldg 16, 17, 18, 19

ⓐ Two bayed type I bldgs. (see bldg. 9)
ⓑ Concrete floors now used for storage of parts
ⓒ All destroyed

Bldg. 20

ⓐ Bldg. consists of 6 simple wood sheds - about 15' apart, 8' to eaves, 15' to ridge pole
ⓑ Corrugated asbestos cement sheeting (roof)
ⓒ Stanchions set in concrete
ⓓ 2½ sheds could easily be covered with sheeting & used



ⓔ All sheds superficially damaged
3rd shed from W. approx ½ removed (N. end); 4th & 5th sheds partially removed from S. end.

Bldg. 21

ⓐ Type I Construction (see Bldg. 9)
ⓑ Destroyed

Bldg. 22

ⓐ Destroyed

Bldg. 23, 24, + 25

ⓐ Type I construction
ⓑ Destroyed

Bldgs 26 SPIC-S-6:12

ⓐ Type I construction
ⓑ Completely denuded of cover
ⓒ See chart for damage.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

(4)

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT

TYPE OF INDUSTRY

CITY | TARGET NO. | BLDG. NO.

LAT. | LONG | AREA

INTEL. SUBJECT NUMBER | DATE

PHOTOGRAPHY | ROLL - NEG NUMBER

INTERIOR | EXTERIOR

STRUCT. DETAIL | NO. OF EXPOSURES

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg 27 (Head Office) PIC-S-6: 9-11

Steel Frame

(a) Reinforced concrete construction

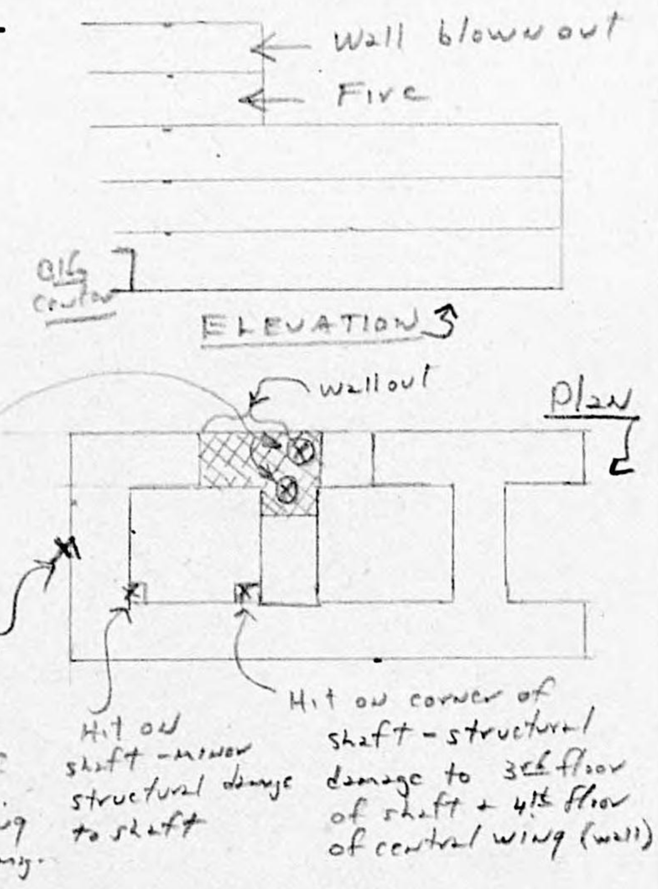
(b) Fifth Floor — wall blown out along front of bldg. — general weakening of structural members — hits penetrated to 4th floor as noted

(c) Cross hatch denotes structural damage to fifth floor

(d) Fire in 4th floor

(e) 4 M/G emplacements on roof of central section (5th floor) — guns removed after April + May raids.

(f) Loss of glass to entire bldg.



BLDG. NUMBER

SHEET OF

Bldg. 28 (Laboratory)

@ Reinforced concrete structure (3 floors) similar to Bldg. 27

(b) Fragmentation from near misses caused spalling to south wall

(c) Small amount of structural damage from hit on east roof (15 ft of roof girder weakened

(d) Complete loss of window glass.

Bldg. 29 a, b (No.1 Mfg. Dept. - Machining + Series Exp. Assembly) + c (Heat treatment + electro-plating)

@ Steel framed saw-tooth roof construction PIC-S-7: 11

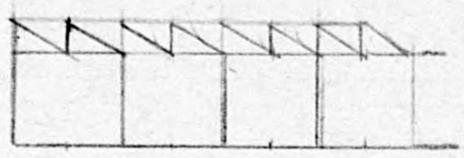
(b) Asbestos cement siding + roofing

(c) Main structural members - all lattice girders

(d) Glass roof lights and wall windows

(e) About 1/4 structural damage

(f) About 1/7 minor roof disturbance — remainder superficial damage.



(g) Wall separating 29 c from 29 a + b + dividing 29 c in two parts

Bldg. 30 (Wood Pattern Shop)

@ Steel framed saw toothed roof construction (single story)

(b) Asbestos cement roofing - glass lights + wall windows

(c) Complete loss of glass

(d) Minor roof disturbance

(e) Superficial damage to east wall - repaired with corrugated iron sheeting.

Bldg. 31 (Mess Hall)

@ Construction like Bldg. 12 - Two floors : 1st reinforced concrete supported by rein. con. pillars, 2nd saw toothed steel frame construction

(b) Minor damage to roof - loss of all glass in lights + windows

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

(5)

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg. 32 (Engine Test cells)

@ Reinforced concrete cells — 2 on west end, 4 on east end

(b) Between two groups of cells stands a steel framed, saw tooth, shop b/dg. with asbestos cement roof & glass walls.

(c) Complete superficial damage to shop — one small section of lower wall in eastern cells structurally damaged.

Bldg. 33 (Engine Testing Room)

@ Simple wood framed b/dg. with asbestos cement roofing

(b) Two bays (gable), concrete floor — overhead crane in south bay collapsed

(c) Bldg. destroyed by Fire + H.E.

BLDG. NUMBER

SHEET OF

Bldg. 34 (Testing Room)

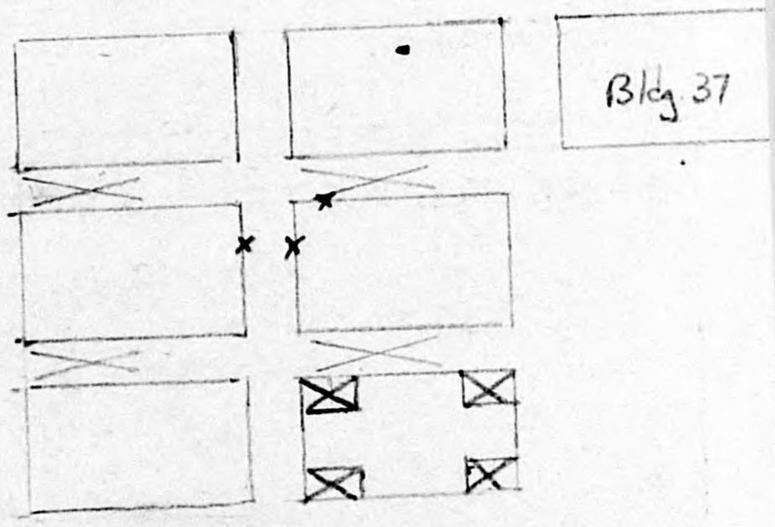
ⓐ Steel frame saw tooth structure - 2 bays wide
ⓑ Asbestos cement roofing - glass lights & walls
ⓒ Concrete floor
ⓓ Structural damage to approx 80' of south wall new construction
ⓔ " 40' of north wall "
ⓕ Complete superficial damage to wls and roof.

Bldg. 35 (Testing Room)

ⓐ Construction the same as Bldg. 34
ⓑ Complete superficial damage to walls & roof.
ⓒ One minor structural member in south wall cut by frag.
ⓓ Approx. 130' of roof at east end of both bays reroofed with corrugated iron sheeting (one machinery not disturbed.

Bldg. 36 (Engine Test Cells) PIC-S-7:6+7

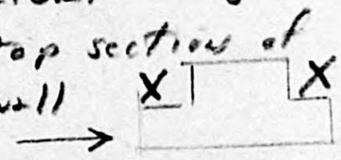
ⓐ Six separate blocks (3 stories) of reinforced concrete test cells
ⓑ Structural damage as noted
ⓒ Spalling of numerous walls from fragmentation
ⓓ Windows in control sections blown out in many cases - also heavy doors to cells in a few cases ripped off by blast damage from near misses.



X = Single story wood frame storage sheds. Frame only, left standing.

Y = Minor structural damage to upper wall sections

⊠ = Structural damage to entire top section of wall



Bldg. 37 (Engine Test Cells) PIC-S-7:9

ⓐ Construction like Bldg. 36 - except bldg. apparently intended for larger sized engines. Cells somewhat longer.
ⓑ Structural damage to base of wall & 1st major stanchion by near miss at N.E. corner of bldg.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

(6)

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT

TYPE OF INDUSTRY

CITY | TARGET NO. | BLDG. NO.

LAT. | LONG | AREA

INTEL. SUBJECT NUMBER | DATE

PHOTOGRAPHY | ROLL - NEG NUMBER

INTERIOR | EXTERIOR

STRUCT. DETAIL | NO. OF EXPOSURES

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg. 38 (Plating Shop) PIC-S-7:8

@ Wood frame, saw toothed roof construction
(b) Asbestos cement sheeting on roof and walls.
(c) Concrete floor.
(d) Almost complete structural damage (see plot chart)

Bldg. 39

@ Construction - TYPE I (see Bldg. 9)
(b) Destroyed

Bldgs. 40 - 45

@ Construction - Type I (no concrete floor in 44)
(b) All destroyed.

BLDG. NUMBER

SHEET OF

Bldgs 46 - 58

#5-6 looking NE

ⓐ Type I Construction

ⓑ Bldgs. 46-55, 57, & 58 all destroyed primarily by H.E. - some fire in Bldgs. 54, 57 & 58

ⓒ Bldg. 56 superficial (complete) damaged repeated with corrugated iron sheeting - subsequent structural damage to n.w. corner & stripping of roof sheeting in 3 places.

Bldg. 56 - PIC-S-9:1

Bldg. 59A (Sub-station) PIC-S-4:2 PIC-S-8:12

ⓐ Reinforced concrete construction (like

ⓑ Fragmentation along south wall - blast damage to windows - possible weakening of structural members but no such effect visible - some fragmentation to machinery (transformers) in east end.

ⓒ Fire in transformer room (e. end of bldg)

ⓓ Some protection to bldg. afforded by now demolished blast wall of wood filled with dirt (appror 2' thick)

Bldg. 59 (Air Compressor Bldg.)

ⓐ Type I construction

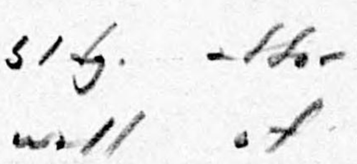
ⓑ Completely destroyed by H.E. & Fire despite protective blast wall.

Bldg. 60

ⓐ Type I Construction

ⓑ Destroyed by H.E.

Bldg. 61



ⓐ Wood framed

ⓑ Small west end: two stories, blk siding covered with concrete

ⓒ Fire wall between sections

ⓓ Complete structural damage to one story section (H.E.)

ⓔ Complete superficial damage to two story section - stripping of concrete cover.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg. 62 (No. 2 Mfg. Plant) PIC-S-7:10 + 12; PIC-S-8: 1-4; PIC-S-4: 3-5

✓ @ Steel framed saw toothed roof construction (like Bldg. 29)

(b) Corrugated asbestos cement roofing + walling

(c) Glass lights + wall windows

(d) Wood purlins

(e) Concrete floor

12 Bay frames

Bldgs. 63-71+73

@ TYPE-ONE CONSTRUCTION.

(b) All destroyed.

Bldg. 72 PIC-S-8:5

@ Nine simple wood storage sheds (like Bldg. 20)

(b) 80-90 % destroyed by H.E. - parts remaining superficially damaged.

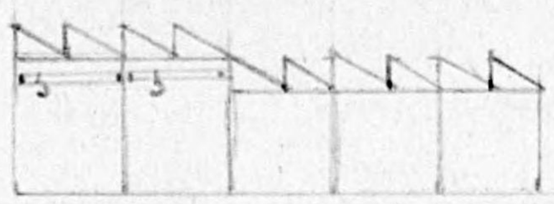
BLDG. NUMBER

SHEET OF

Bldg. 74 (Machine Tool Shop) PIC-S-4! 6
PIC-S-8! 6-8

@ Saw toothed steel frame construction
(b) Asbestos cement roofing + siding
(c) Concrete floor
(d) Wood purlins

N. Bay Interior looking W.



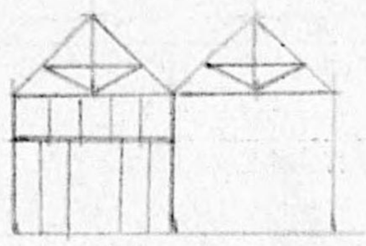
LATTICE COLUMNS

Bldg. 75-78 Probable Parts Whse.)

@ TYPE I CONSTRUCTION
(b) 75 + 76 destroyed
(c) 77 complete structural damage.
(d) 78 superficial damage - repatched with corrugated iron sheeting - minor roof damage to iron sheeting.

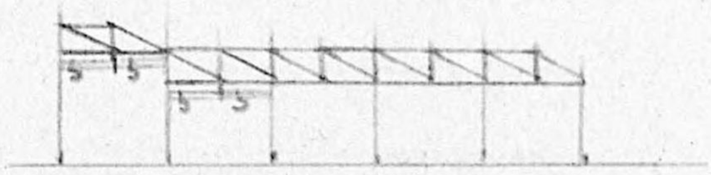
Bldg 79, 81

@ Wood framing
(b) Wood siding
(c) Tile roof on wood purlins
(d) Structural damage to 20' of Bldg 79 at east end - minor roof dist. to remainder
(e) Bldg. 81 destroyed



Bldg. 80 (Prototype Eng. mfg. Dept.) PIC-S-8! 9

@ Except for different arrangement of north bays, construction similar to Bldg. 74
(b) 4 overhead cranes
(c) Lattice columns



Bldgs. 82-84

@ TYPE I construction
(b) 82 - 4 bays complete structural damage.
(c) 83 - 3/4 destroyed, remainder superficial damage
(d) 84 - destroyed

Bldg. 85 (Sub-station)

@ Reinforced concrete (like Bldg. 59A)
(b) Slight structural damage to north wall - holes between columns
(c) Loss of windows
(d) Fragmentation holes in west wall (small)
(e) Structural damage to 1/4 of south wall (no damage to columns)
(f) Blast wall surrounding - largely destroyed.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT	
TYPE OF INDUSTRY	
CITY	TARGET NO. / BLDG. NO.
LAT. LONG AREA	
INTEL. SUBJECT NUMBER	DATE
PHOTOGRAPHY	ROLL - NEG NUMBER
INTERIOR EXTERIOR	
STRUCT. DETAIL NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg. 86

ⓐ Type I construction
ⓑ Complete structural damage

Bldg. 87 (Air Compressor Bldg) PIC-S-8:11

ⓐ Wood framing
ⓑ Asbestos cement roofing
ⓒ Concrete floor + lower 2' of wall
ⓓ Wood framed, dirt filled blast wall surrounding bldg.
ⓔ Bldg. 2/3 destroyed - remainder superficially damaged

Bldg. 88

ⓐ Type I construction.
ⓑ Destroyed,

BLDG. NUMBER

SHEET OF

PIC-S-4:7
PIC-S-8:10

Bldg. 89 - (Boiler House)

ⓐ Reinforced concrete floor raised approx. 15' on reinforced concrete pillars.

ⓑ Remainder of bldg. steel framed (like bldg. 11 only smaller).

ⓒ 4 boilers.

ⓓ 2 reinforced concrete stacks.

ⓔ Cooling tower at west end.

Bldg. 90-98

ⓐ Type I construction.

ⓑ All destroyed.

Bldg. 99

ⓐ 2 bldgs - reinforced concrete walls & roof members.

ⓑ Wood roof with asbestos cement cover

ⓒ Superficial damage to roofs of both bldgs.

Just w. of 99 a water tower & revetted reinforced concrete pumphouse - with tile covered wood roof. Major roof disturbance of tile.

Bldg. 100

ⓐ Type I construction.

ⓑ Destroyed by fire.

Bldg. 101 (Engine Test Cells -16)

ⓐ Reinforced concrete - like Bldg. 36

ⓑ Burst in cell at s.w. corner caused structural damage to walls of 3rd story.

Bldgs. 102-104

ⓐ Apparently Type I construction

ⓑ Dirt floors

ⓒ All destroyed by fire.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT.	LONG AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

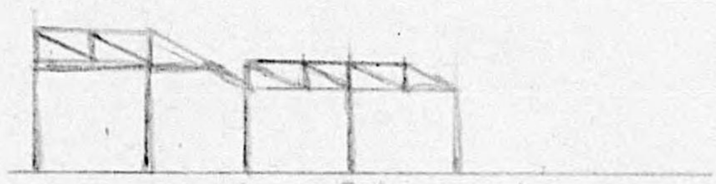
ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg. 105 (No. 3 Mfg. Dep't.)

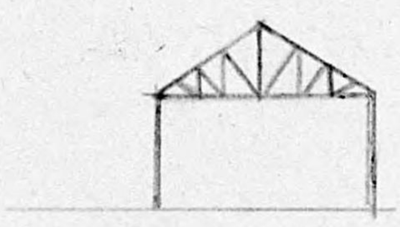
ⓐ Steel framed - sawtoothed roof construction
ⓑ Asbestos cement roofing
ⓒ Glass windows + lights
ⓓ Concrete floor
ⓔ Overhead cranes in excl of 4 north bays.



Lattice Columns

Bldg. 106

ⓐ Wood framed
ⓑ Completely re-covered with corrugated iron roofing + siding
ⓒ Concrete flor



BLDG. NUMBER

SHEET OF

Bldg. 107 - 111

ⓐ TYPE I construction

ⓑ 107 - ⅓ structural damage (e. end) - remainder superficial damage

ⓒ 108 - destroyed

ⓓ 109 - 111 - destroyed - some fire in each.

Bldg. 112 (Wash-stand)

ⓐ Low wood framed shed structure (gable roof) - 15' elevation to peak

ⓑ Concrete floor - tile roof.

ⓒ Minor roof disturbance.

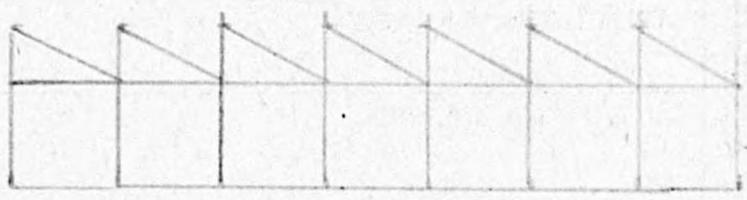
Bldg. 113 (Dining Room)

ⓐ Simple saw-toothed roof construction

ⓑ All wood framing

ⓒ Concrete floor

ⓓ Asbestos cement roofing



Bldg. 114 (Heat treatment shop.)

ⓐ Saw toothed construction

ⓑ Steel framed bldg. (like Bldg. 35)

ⓒ Glass windows + lights

ⓓ Asbestos cement roofing

ⓔ Concrete flor - and 2½' wall at base of columns,

Bldg. 115 (Small Shop.)

ⓐ Wood framing (gable roof)

ⓑ Tile roof cover

ⓒ Concrete floor

ⓓ Loss of siding - minor roof dist.

Bldg. 116

ⓐ Const. like 11.6 with addition of interior wood partitions for office + storage rooms.

ⓑ Loss of siding - minor roof dist.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldgs. 117-120

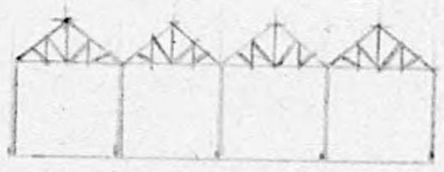
ⓐ All wood structures - gable roof - single bay
ⓑ Tile on wood roofs
ⓒ All destroyed
ⓓ Possibly for storage of jig parts.

Bldg. 121 (Tool Shop)

ⓐ Saw toothed roof structure - roof framing like Bldg. 114
ⓑ Major members steel - minor wall members, wood; purlins wood
ⓒ Asbestos cement roof, concrete floor
ⓓ Over half of minor wood wall members out.

Bldgs. 122 + 123 (Tool Shops)

ⓐ Wood framed, multi-bayed, gable roofed bldg.
ⓑ Tile on wood roof
ⓒ Concrete floor
ⓓ Destroyed by fire



BLDG. NUMBER

SHEET OF

Bldgs. 124 - 126

@ All wood structure - 2 Story ed (like 122 + 123)
ⓑ Tile on wood roof
ⓒ 124 + 126 - complete structural damage
ⓓ 125 - Walls stripped of cover, minor roof disturbance

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

BLDG. NUMBER

SHEET OF

PIC-S - Report #12

SX-6 90.20-193 MITSUBISHI A/C Eng. WKs.

LOCATION: N.E. NAGOYA CITY - 35°11'N; 136°57'E

Products: A/C Engines (For details see Lt. Craig - A/C Team #2
Mfg, Assembly, Test

Bomb DAMAGE: FINAL Assessment charted on photographic blow-up
For results of individual raids: See Lt. Craig

FA: Comparison of JTG Report with Jap report enclosed

SA: Report attached

Boundaries: See photographic blow-up

Dispersal: For details contact Lt. Craig
Dispersal was extensive + nearly complete.

Production Statistics: See Lt. Craig

Ground photos enclosed:

Additional photos taken by A/C Team #2 - negs. available in USSBS files.

Scale Check: From N.W. Corner Bldg 29 to N.E Corner of Bldg 62 measures 1480'

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT.	LONG AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

Scale

NW Corner Bldg 29
to NE corner Bldg 62
1480'

DAMAGE ASSESMENT

- DESTROYED
- STRUCTURAL DAMAGE
- SUPERFICIAL DAMAGE
- ROOF DISTURBANCE
- MINOR DAMAGE

4/ (1) Bldg. 56 - looking N.E.
PIC-S-9

GENERAL NOTES - SECTIONS - PLANS - ETC -

3/
(1.) Twisted roof member - Bldg 62 - Bay 4 from west wall
Bay 17 from north wall
(2) Bldg. 62 - Major Roof damage Bays 6 - 8 from N.
in part d.
PIC-S-8
BEK
(3) ✓ Bldg 62 - Broken stanchion - Bay 6 part d
reading from N.
(4) ✓ Bldg. 62 - Broken stanchion (1) - Bay 12 reading from S.
Bay 3 reading from E.
(5) Bldg 72 - Looking W.
(6) ✓ Bldg. 74 - N. Bay Interior - looking W
(7) Bldg. 74 - Skewed up slope in Bay 4 - looking W
(8) Bay - 3+4 from N. Bldg. 74 - looking W.
(9) Bldg. 80 - W. wall looking N.E.
(10) Bldg. 89 - looking east
(11) Bldg 87 - looking west
(12) Bldg 59A - Looking N.E.

BLDG. NUMBER

SHEET OF

Target 193

N. Wall

(9) Bldg. 27 — looking S.W.

PIC-S-6 Pack

(10) ✓ Bldg. 27 — 5th floor looking N.W.

(11) Bldg. 27 — W. wall looking N.E.

(12) ← Bldg. 26 — Type I Construction — Looking W.N.W.

PIC-S-7 Pack

(1) Bldg. 12 — Looking W.N.W. — S. end

(2) ✓ Bldg. 12 — Looking N.W. — N. end

(3) Bldg 7a — Looking east

(4) Bldg 7b — Looking N.E.

(5) Bldg. 7c — Looking N

(6) Bldg 36 — Looking N. on S.W. corner

(7) Bldg 36 — Looking N.E. at damaged portion

(8) Bldg. 38 — Looking W.

(9) Bldg. 31 — Looking W at east wall

(10) Bldg 62 — Broken stanchion at W. end of bay & ready for S wall — roofing still intact

(11) Bldg 29a — Looking W at east wall

(12) Bldg 62 — Broken stanchion in 14th bay reading from south

Mitsubishi A/c Eng.

JTG Bldg No.	Reported Function Bldg	Actual Function Bldg
1	Stores	
2	"	Apparatus storage Bldgs. (Now destroyed)
3	"	
4	"	
5	"	
6	"	
7a	Shop - Airframe small parts	Forging Shop
7b / 7c	Foundry	Foundry - Casting aluminum + Mag. alloys
8.	Shop - valves	No. 4 machine Shop - machining auxiliary units + cylinder heads
9.	U/I	Grinding Shop
10.	U/I	Gas pump house
11.	Boiler House	No. 1 - Boiler House
12.	Shop - electrical	Dining Room
13.	Storage	—
14	"	No. 1 Air Compressor
15.	"	No. 1 Sub-Station
16.	"	Probable storage
17.	"	

18.	Storage	Prob. Storage	
19.	U/I	—	
20.	Storage	Storage	
21	Possible office	—	
22	Possible office	—	
23	Mess halls	—	
24	Personnel office	—	
25	"	—	
26	Possible quarters	—	
27.	Main office blg. - prob. 4 story	——	Office
28.	Office type blg. - school	——	Laboratory
29 t.	Main machine shop area	——	No. 1 Mfg. Dept. Machining + Some Engine Assembly 150mm - 18 cycle
29a	Engine Assembly	—	" other No 1 + a 104 (cut)
		—	machine shop (roughmachining of castings (west)
29 c	Heat treatment	——	No. 1 Heat treating shop - Heat treatment + chemistry
30	Shop	——	Wood pattern shop
31	Shop	——	Dining Room

32	Test cells	Testing cells
33	"	—
34.	Mess hall	Testing Room
35.	"	Testing Room
36.	Test cells	Testing cells
37	"	Testing cells
38	Possible Tool shop	Plating shop
39	Prob. stge.	—
40	"	—
41	"	—
42	"	—
43	"	—
44	"	—
45	"	—
46	Warehouses	—
47	"	—
48	"	—
49	"	—
50	"	—
51	"	—
52	"	—
53	"	—
54	"	—
55	"	—
56	"	—
57	"	—
58	"	—
59	"	Sub-Station & Air Compressor Room
60	Dispensary	

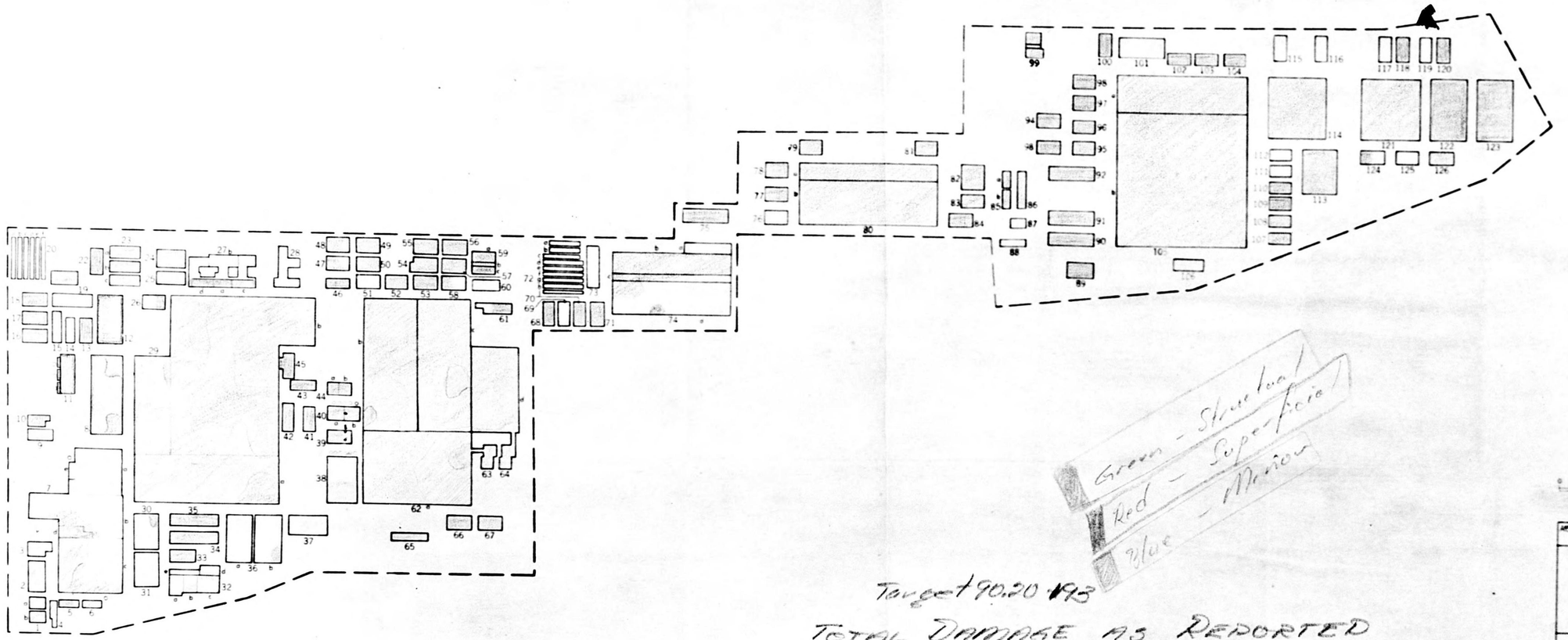
61	Fire House		—
62	Main Shop		
@	Eng. Assembly		
Ⓓ	Machine Shop: manfctg. cyl. heads, valves, crankcase & under assembly		No 2 Mfg. Dep't.
C	" : Pistons, cylinder liners, crankshafts		—
63	Util		—
64	"		—
65	Storage		—
66	Foundry		—
67			
68-73	storage		—
74	Shop - Machine	— — — —	Machine Tool Shop Machining + Repairing Machine Tools
75	Stge (enlarge access on south side of this bldg.		—
A	Not included as part of plant.		Hospital
B			Boarding House
C			School for Apprentices
76-79	storage		—
80	Foundry	— — — —	Prototype Eng. Mfg. Dep't.
81	storage		—
82-84	storage		—
85	storage	— — — —	No. 3 Sub-Station
86	"		—
87	"	— — — —	No. 3 - Air Compressor Room
88	"		—
89	Boiler House	— — — —	No. 2 - Boiler Rm.
90-98	storage		—

99	Prob. transformer station	—
100	Storage	—
101	16 test cells	Testing Cells
102 - 104	Test cells	—
105	Main Shop ⓐ Eng. assembly ⓑ Machine shops	No. 3 Mfg. Dept
106	Offices	—
107 - 112	Storage	—
113	Shop	Dining Room
114	Shop Machine	No. 3 - Heat Treatment Shop
115	Storage	—
116	"	—
117 - 120	"	—
121	Machine shop - tool repair	Tool Shop
122	"	"
123	"	"
124 - 126	Storage	—

MAKE 15½" (538)

LT. SIEFFERT

CONFIDENTIAL



Green - Structural
Red - Superficial
Blue - Motion

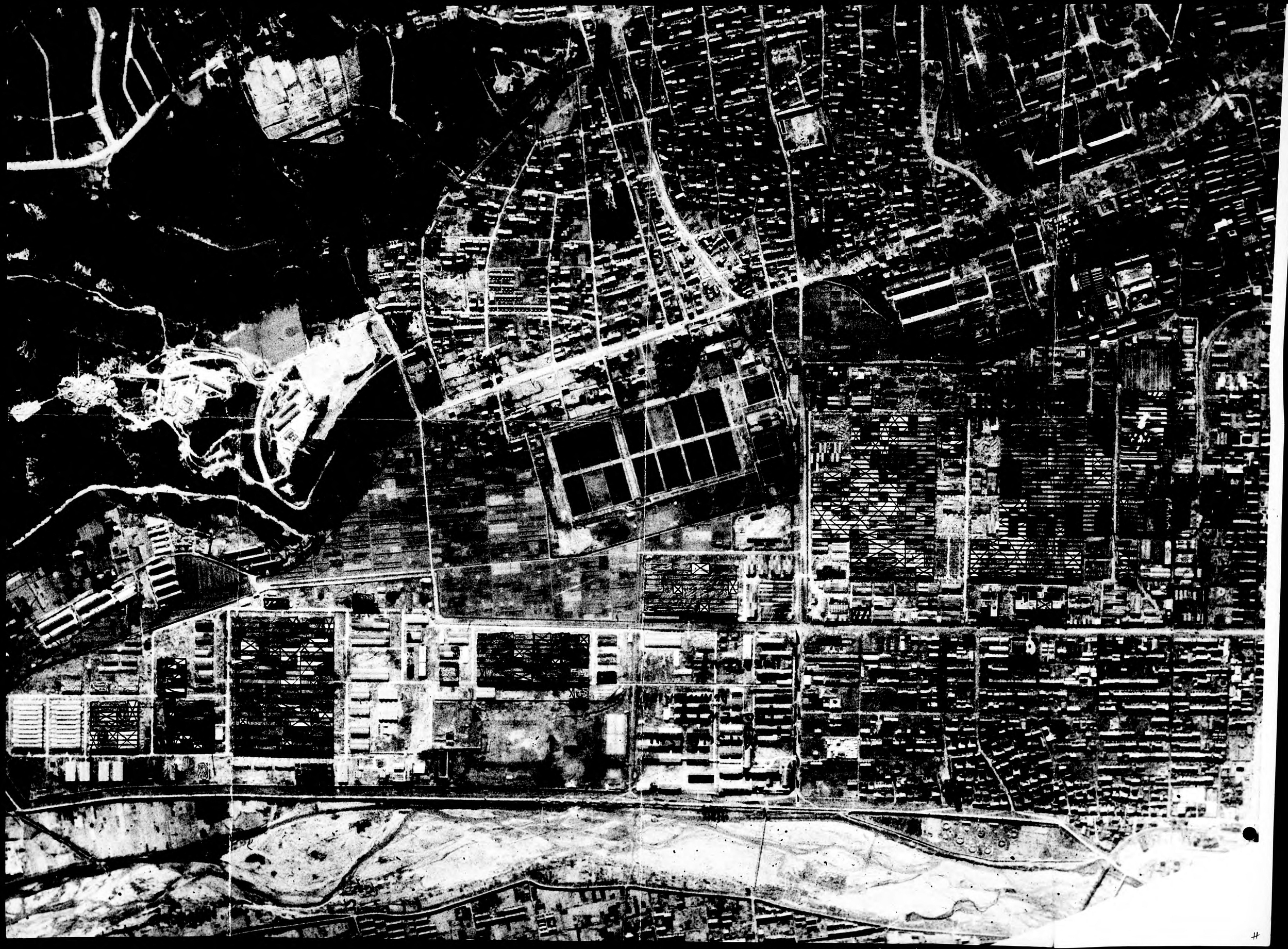
CONFIDENTIAL
SCALE IN FEET
1:1600
0 200 400 600 800 1000

MITSUBISHI AIRCRAFT ENGINE WORKS
NAGOYA JAPAN

TARGET NO. 90.20.193

C.F.L. 744.018

Target 90.20.193
TOTAL DAMAGE AS REPORTED BY 20AF, CIU.



UNIT_____ No._____

DATE TAKEN_____

WHERE TAKEN _____

GIVE COMPLETE STORY OF PICTURE

Include following where applicable:
Names, with initials or first names, rank and hometown; DETAILS of occasion or action; ALTITUDE flown and FOCAL LENGTH of lens (in all aerial photos).

OFFICIAL U. S. NAVY PHOTOGRAPH.

PIC-S-9

PIC-SX7

UNIT_____ No._____

DATE TAKEN_____

WHERE TAKEN _____

GIVE COMPLETE STORY OF PICTURE

Include following where applicable:
Names, with initials or first names, rank and hometown; DETAILS of occasion or action; ALTITUDE flown and FOCAL LENGTH of lens (in all aerial photos).

OFFICIAL U. S. NAVY PHOTOGRAPH.

PIC-S-10

PIC-SX7

194

Roll 4 PIC-S-9

2. Looking N.E. toward Bldgs 106 - 102

3. Looking W. across training school area

4. Interior of Bldg 4 ©, looking east along bay 3 & 4 from S

5. Bldg. 5 ~~4~~ — looking east

6. Bldg. 5 ~~4~~ — Leavy truss construction on E. side of Bldg.

7. Bldg 4 — looking east
E. wall looking N.E.

8. Bldg 5 ~~4~~ — interior looking toward N.E. corner

9. Bldg 7 — looking N.

10. Bldg. 9 — looking N.E.

11. Bldg 11 — looking N.E., shot from ruins of Bldg. 10.

12. Looking N.W through tunnel out area that was Bldgs 12, 13, & 16

Roll 5. PIC-S-10

1. Bldg ~~B~~ Looking N.W.

2. Bldg 29+30 Looking E. across earthquake damaged 25

3. Bldg 26 — Looking S.W.

4. Bldg. 25 — Looking N. across earthquake damage

5. N. end of Bldg 24 — looking east

6. S. end of Bldg 24 — looking west

7. W. wall Bldg. 19 — looking west

8. N. Bay Bldg 27A — looking east

9. Bldg 37 — S.E. corner looking N.E.

10. Looking N.W. across roof of Bldg 37

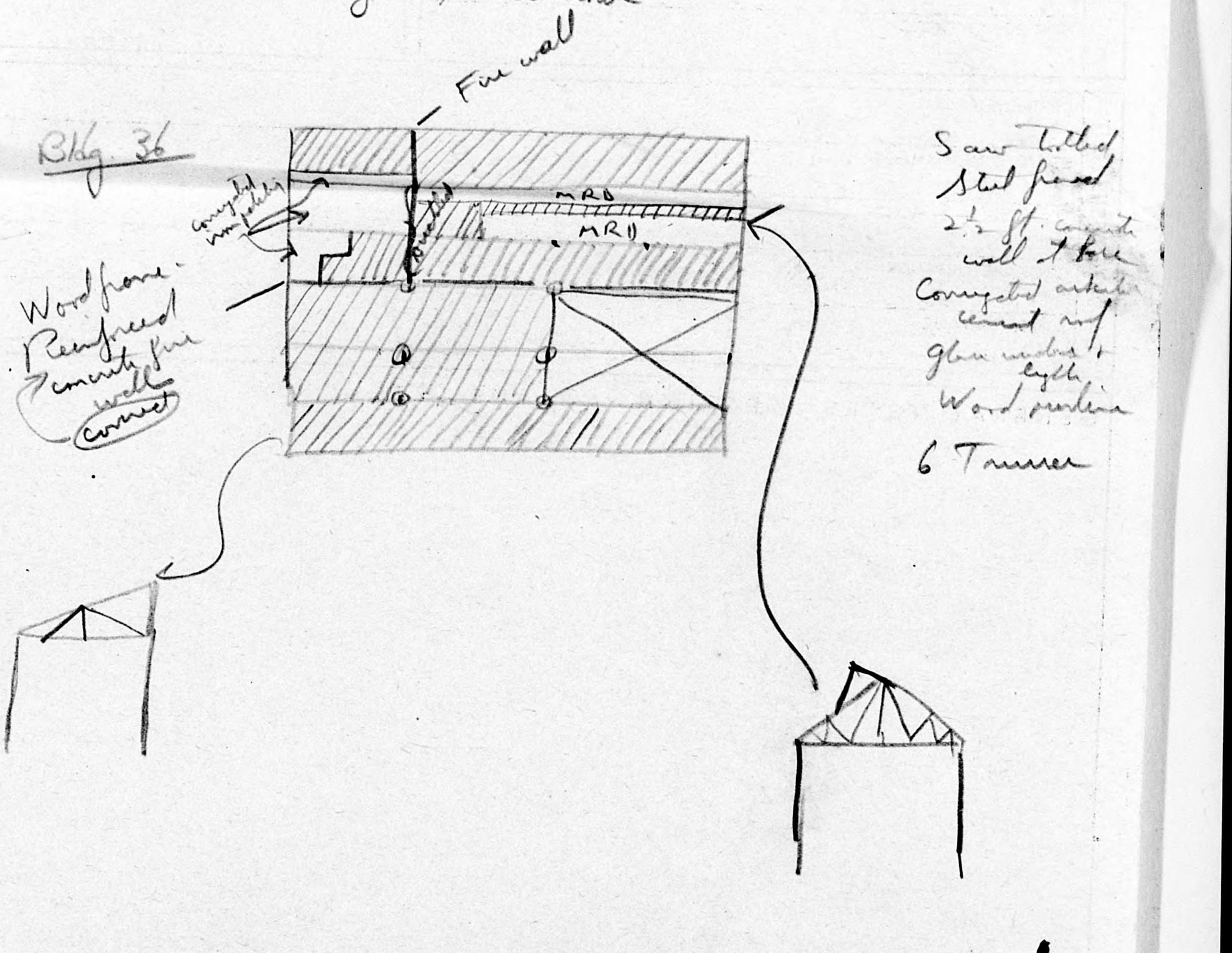
11. Looking N. across roof of Bldg 37 — 52 & 53 background

12. S.E. corner of Bldg 35 looking N.E.

Bldg 37 – Heavy Reinforced concrete & Storage Bldg
3 stories
~~4th Fl~~
Roof of stairwell destroyed – only damage
11 rivets in roof

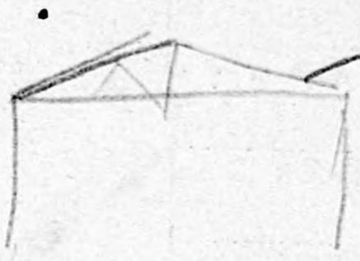
Bldg 38

1 Story reinforced concrete storage Bldg
Minor damage to windows



Bldg 28 (lat)

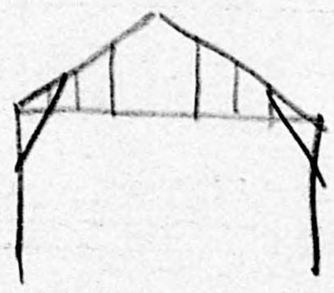
Reinforced concrete bldg



→ Steel trusses in roof

only minor damage & glass windows

Bldg 31

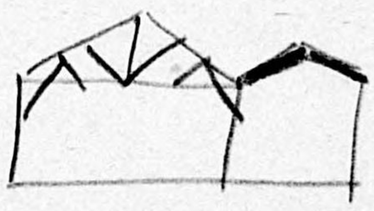


Wood framed
Corrugated iron sheet cover
Concrete floor
Minor roof holes
Wall windows blown out in
Slight cracking of timber
see also bldg 32

Bldg 32

Destroyed by fire
Corrugated iron debris

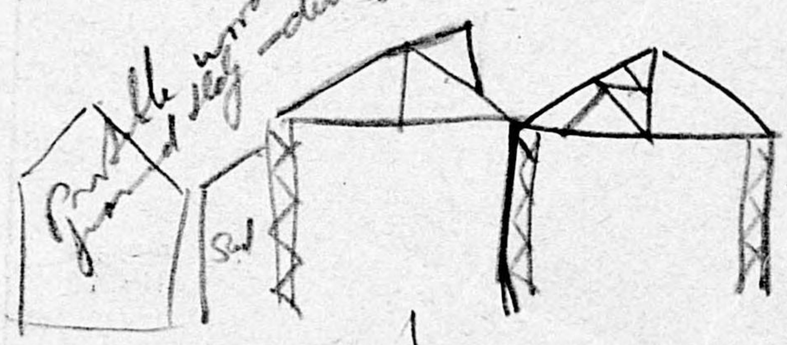
Bldg 33



Wood framed
Corrugated iron cover
Concrete floor
minor holes

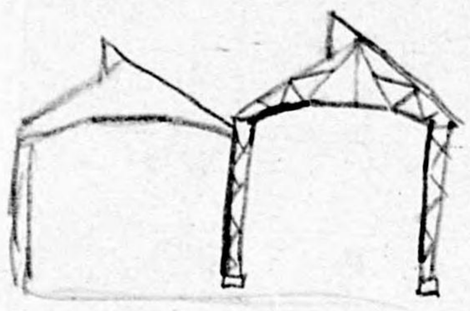
Bldg 34

Partially destroyed by fire

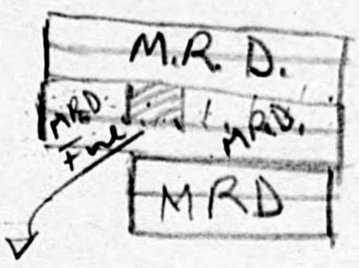


Steel framed
Corrugated iron cover
W. wall damaged - minor roof holes
N + W walls out - minor roof holes
& S timber - & trusses

Bldg. 30 - 29



Steel framed
Corrugated iron sheeting
6 Sections (Stanchion)
12 Trusses
glass light + wall windows
MRD only

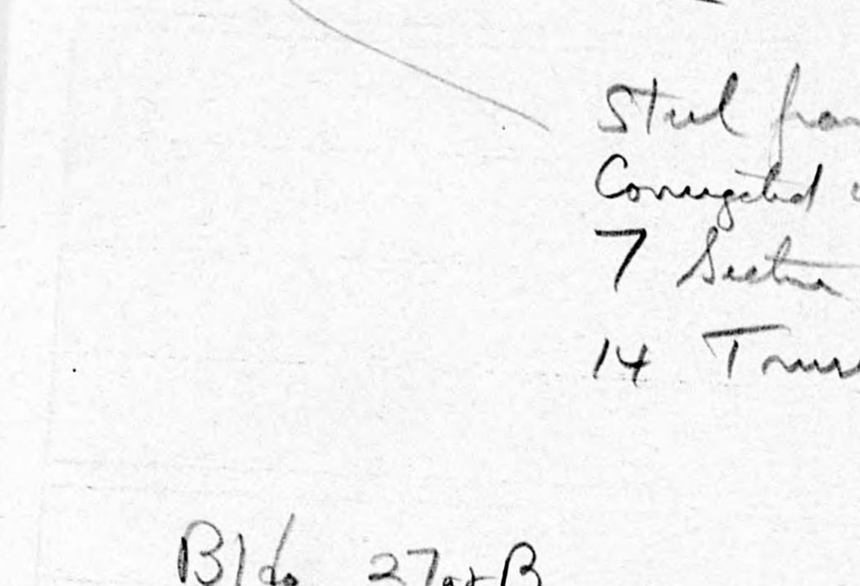


Some slight weather damage

236/138

18/108

Bldg 27 a+B

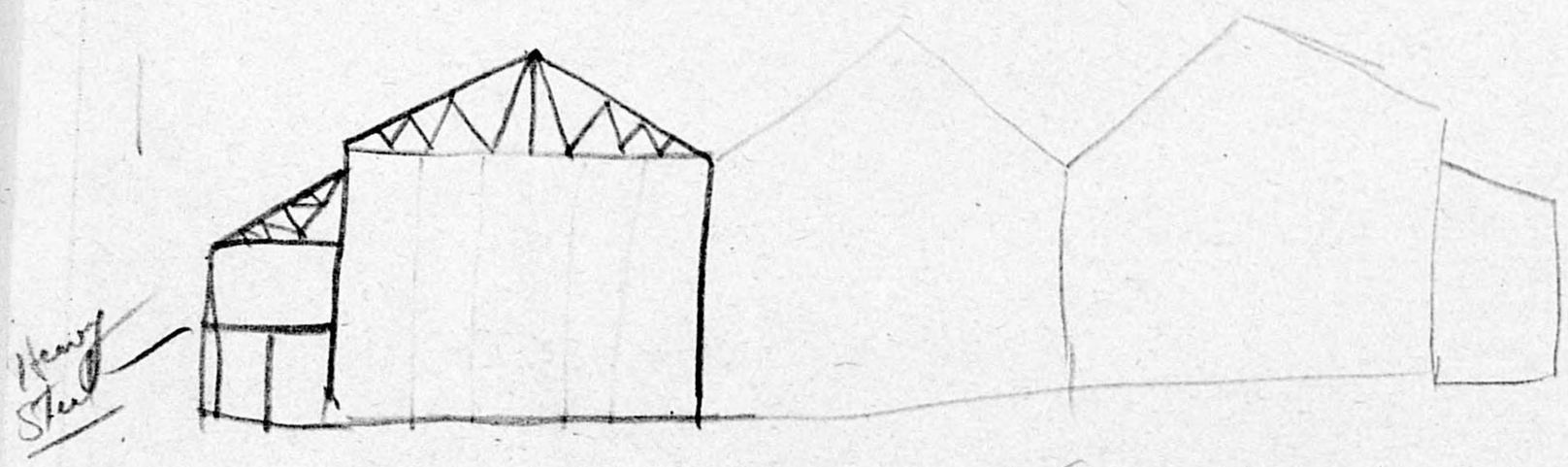


Steel framed
Corrugated iron cover
7 Sections (Stanchions)
14 Trusses

(b) Partially wood framed
(b') corbelled and roofing
"

(a) Steel framed
(b) Corrugated iron cover

Structurally weakened
— some members buckled but will be used
could probably still be used



166/96

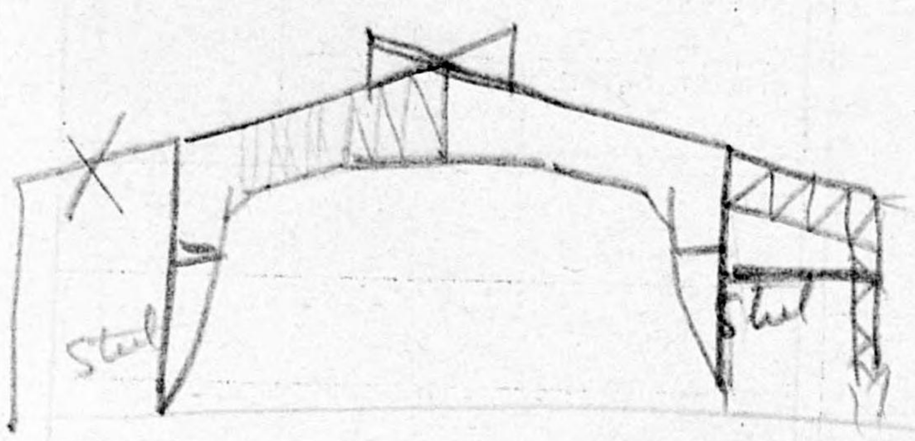
9 Stanchions
9 Trusses

536/330

192/53

Bldg 11

Steel framed
Corrugated iron cover



10 sections longitudinally

11 trusses

4 stanchions on outside
— bays to each truss

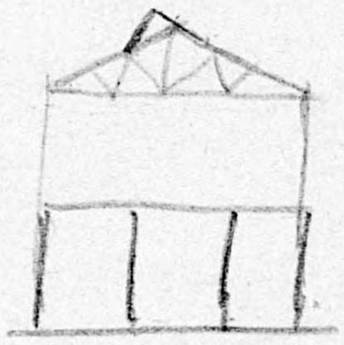
Low pressure glass
Roof tube
Mine Roof
which would be
completely lost if
roof + walls
replaced damaged

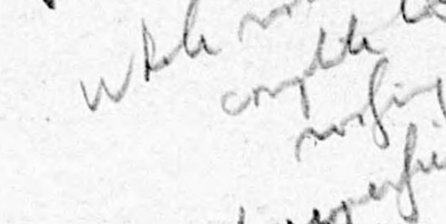
Structure of Bldg (11) a complete wreck
old shattered

Bldg 26

2 stories

Reinforced concrete floor (slab)
steel framed

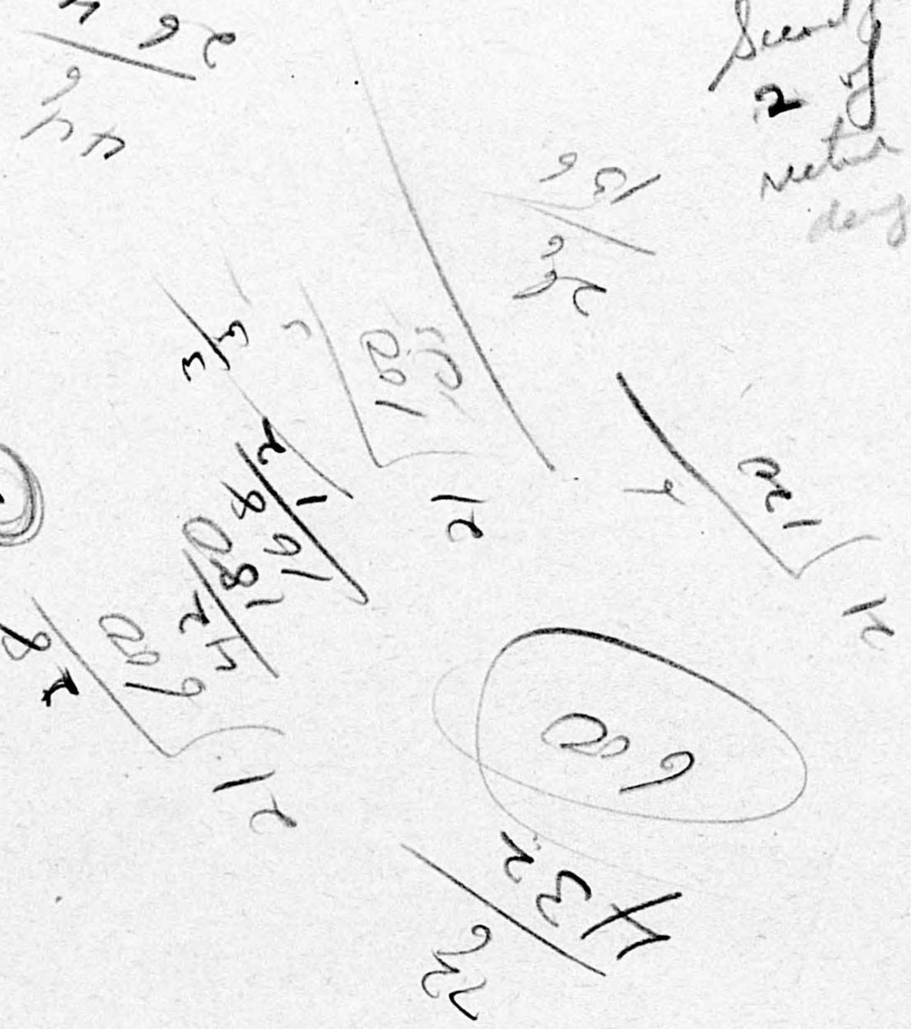




Top floor
has
completely
structural
damage

Second floor
2
steel structure
damaged

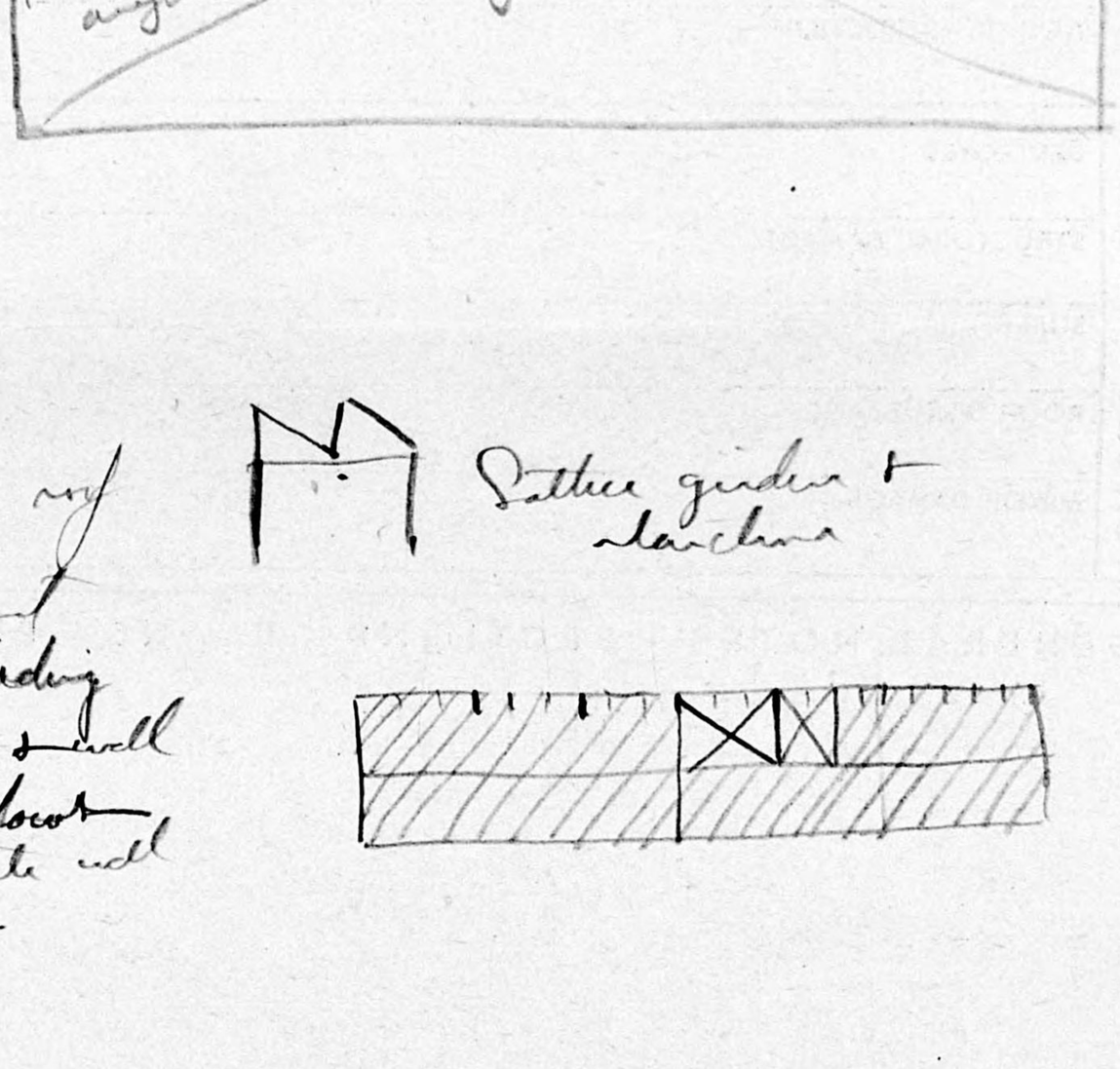
14



Steel framed
large framed
Saw tooth entrata
4 bays
Monitor
standing
Corrugated ~~asbestos~~ (?)
~~roof~~ roof & walls
Main doors to
glass lights &
windows only
Large sliding type doors
in east wall

Bldg 25

MRD



Bldg. N. of 24
2 Bays
Saw tooth roof
Interior cement
roofing & siding
Glass lights & wall
windows
2½ foot concrete wall
at base

Lattice girders &
monitors

A/13

13

21 3¹⁰ 21/100

312

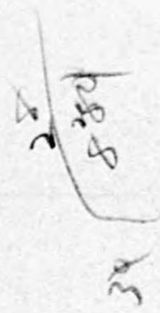
402

Bldg 4

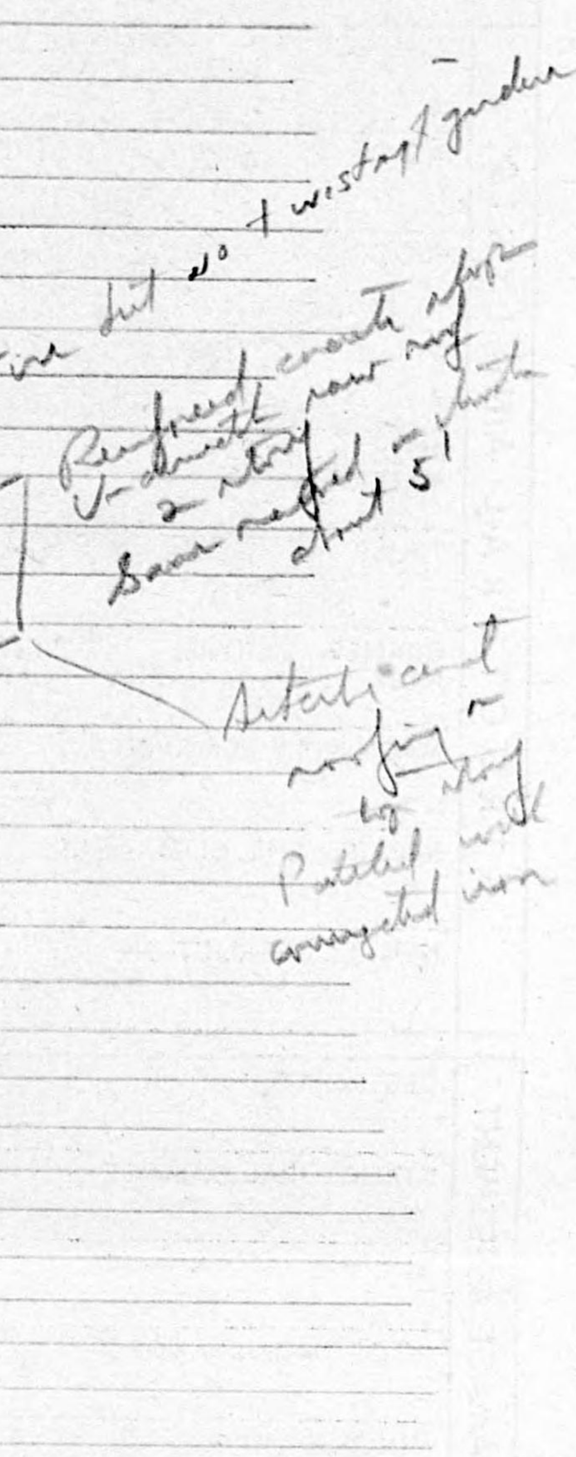
Bldg at S. end
Steel framed corrugated
iron roof - glass window
walls - Concrete floor
Very Many Roof Holes

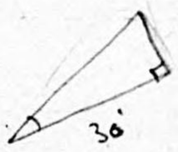
Concrete floor
Heavy steel frame - some bolted & fly.
Approx 25' clear to knee of frame
3 roof & 4 bay N.S.
5 bays E & W.
Corrugated iron roofing & walls
glass light - glass windows in walls

Over 60% glass large recessed hole (wall) in corrugated iron roof

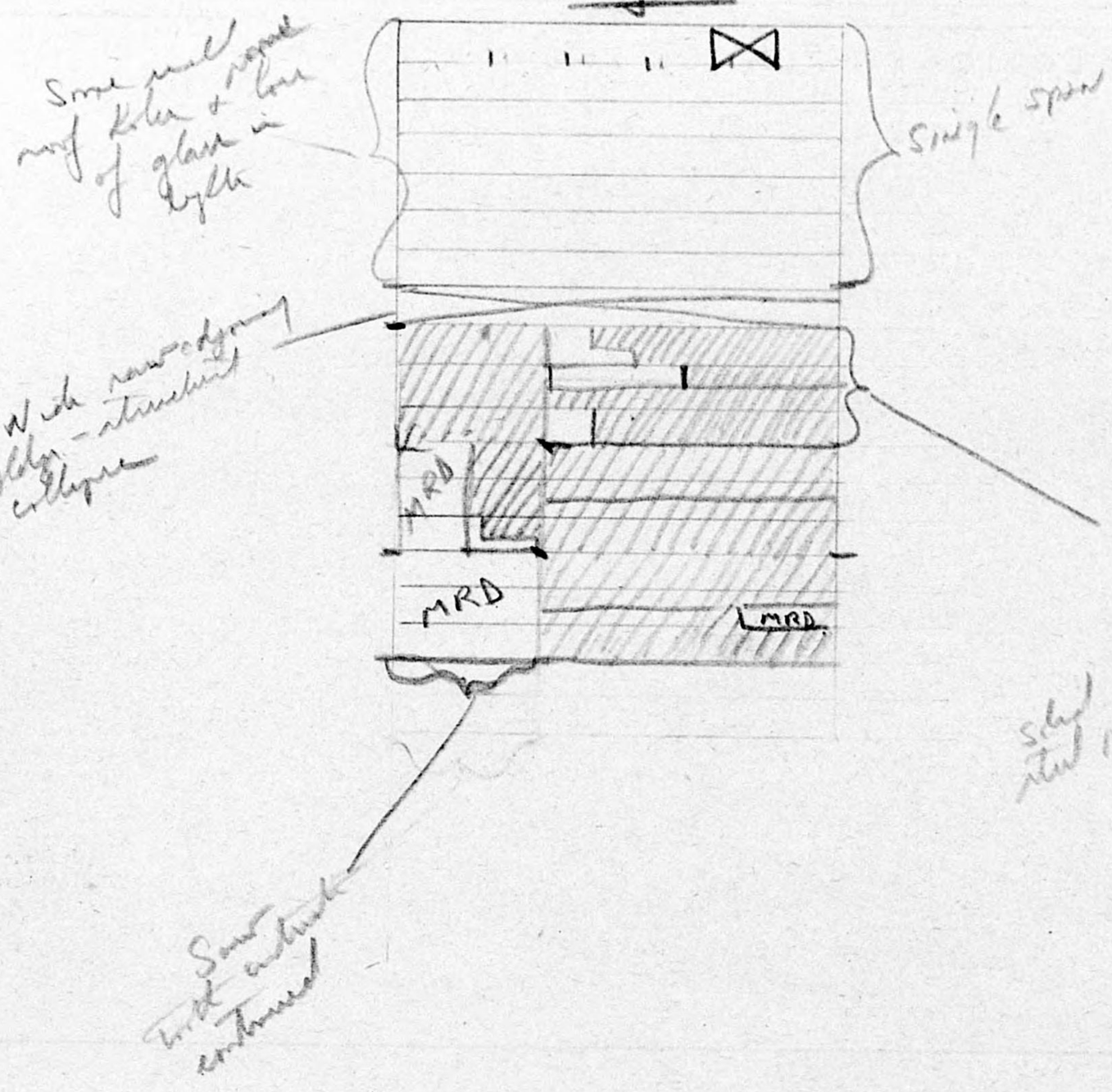


+ westerly gradient



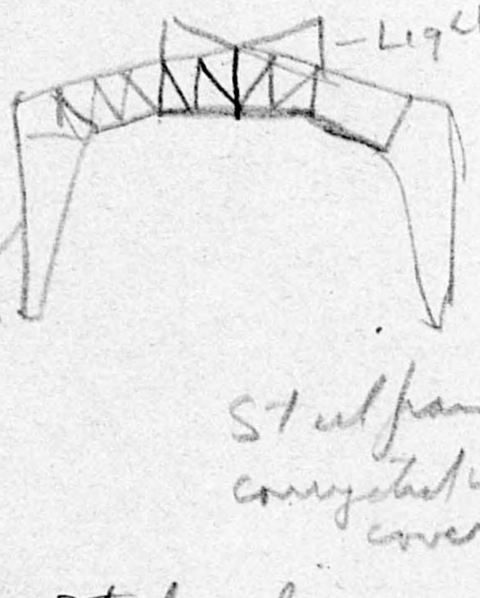


Bldg. 5



Heavy roof lattice structure
Corrugated iron roofing
Glass in corrugated iron roofing

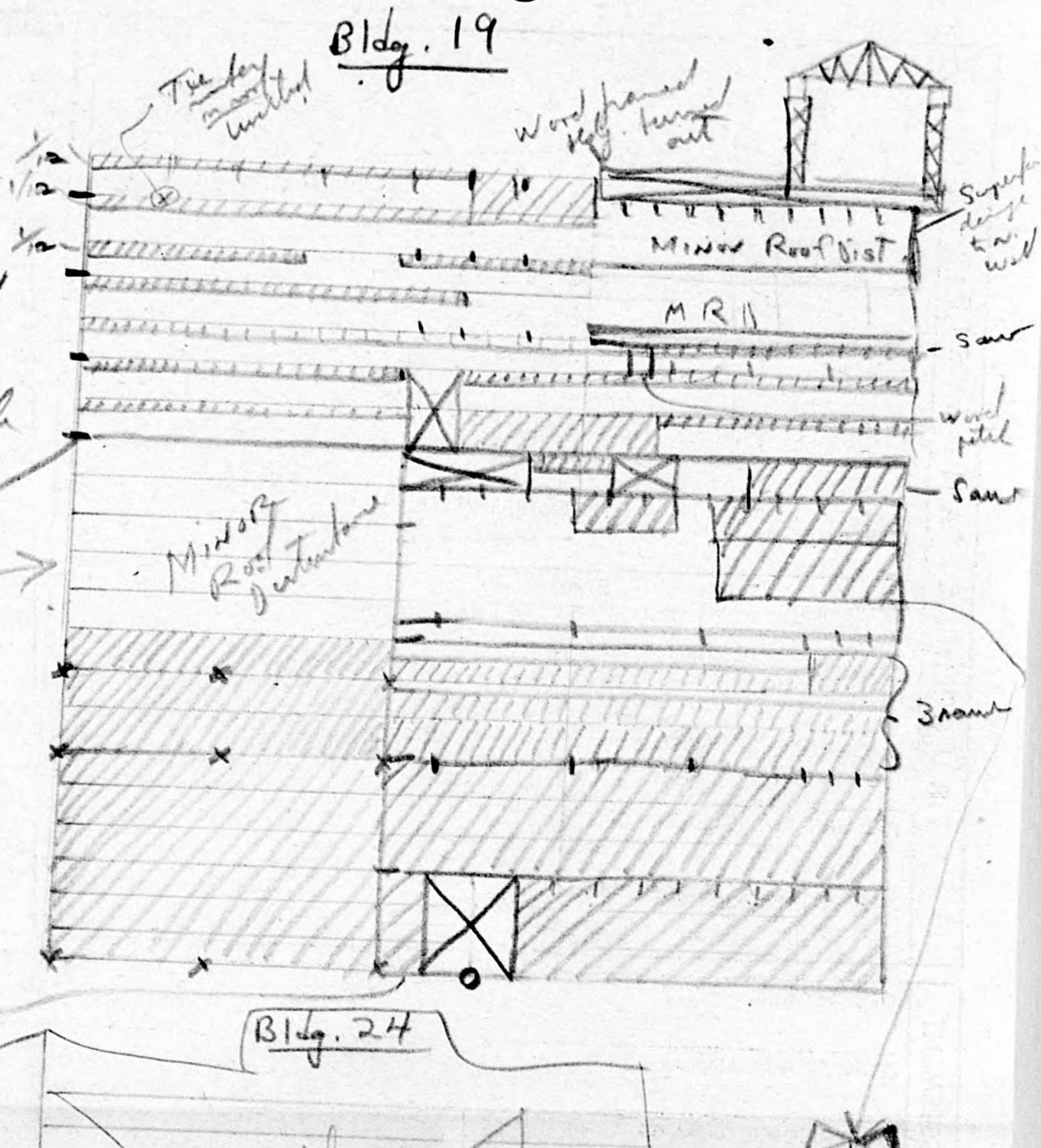
30-40' height & roof length approx 60' long



S-1 roof frame corrugated iron cover

Steel purlins

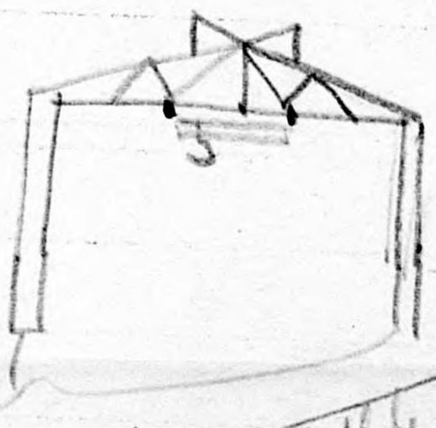
Bldg. 19



Steel framed Bldg
Asbestos cement roof & siding
Glass window walls & roof lights

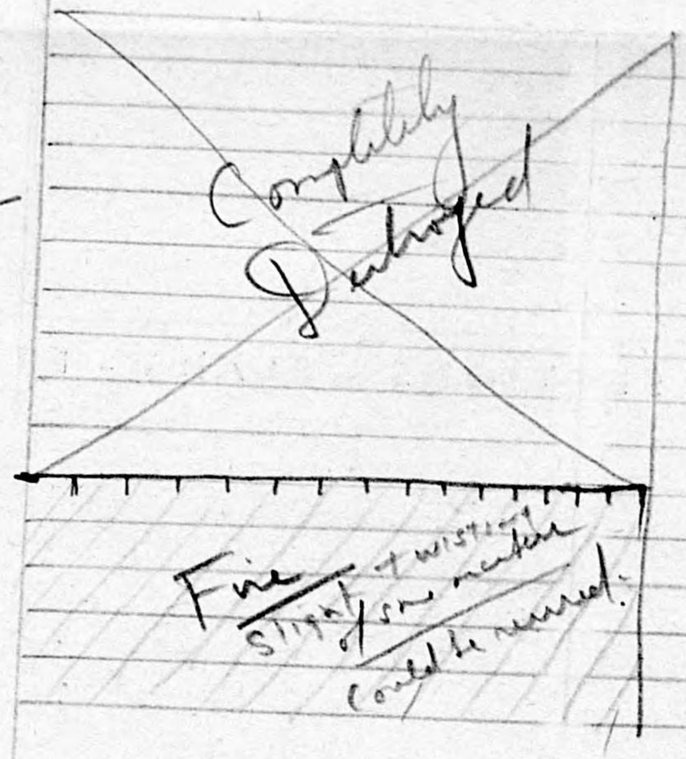
approx 33% glass in walls & roof

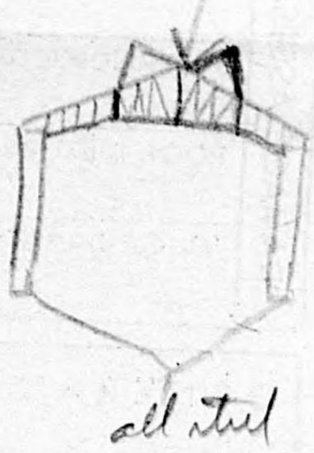
Bldg. 24



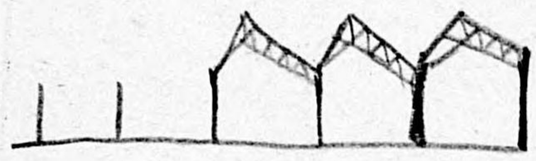
All steel

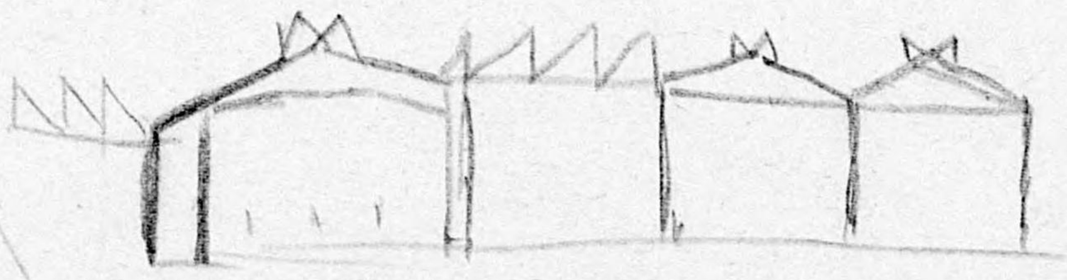
Steel framed bldg with asbestos cement siding
Some bolt roof
Solid steel beam between stanchions c.o.w





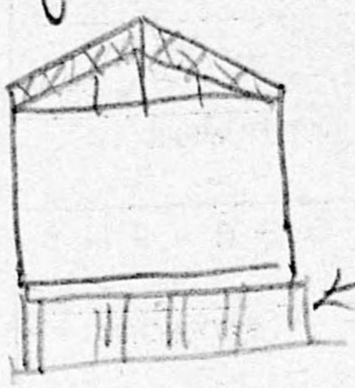
all steel



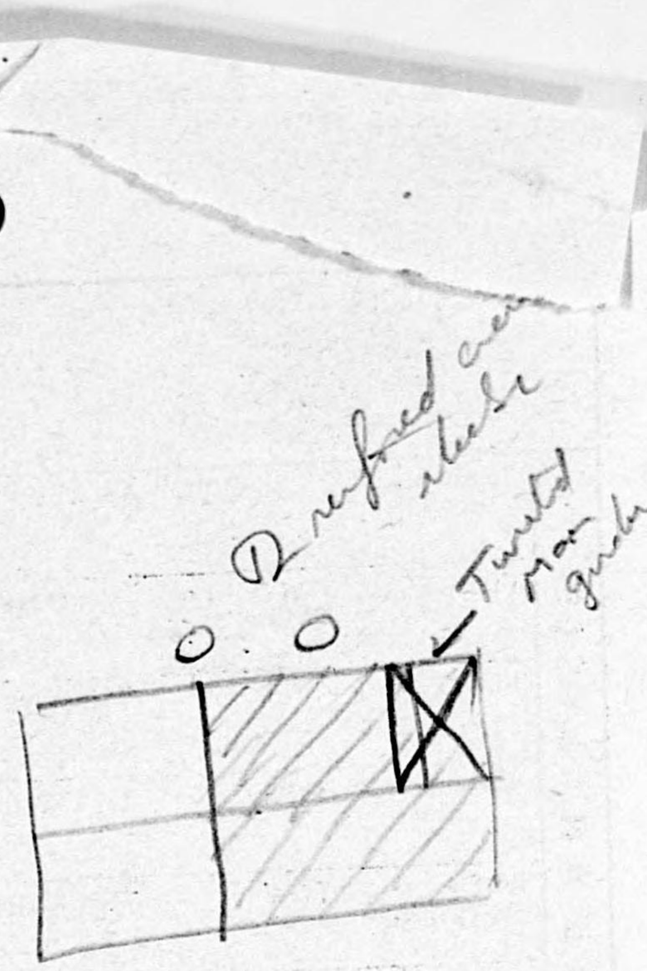


Bldg 20
All steel framed
28 metre light
Single bay
Complete structural damage
Probably corrugated iron cover
Glass windows in walls

Bldg 23 (Boiler House)



Reinforced Concrete frame
Steel frame
Boiler
Corrugated iron
Part
Sheet roof



Reinforced concrete
Twisted iron

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT		
TYPE OF INDUSTRY		
CITY	TARGET NO.	BLDG. NO.
LAT. LONG	AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

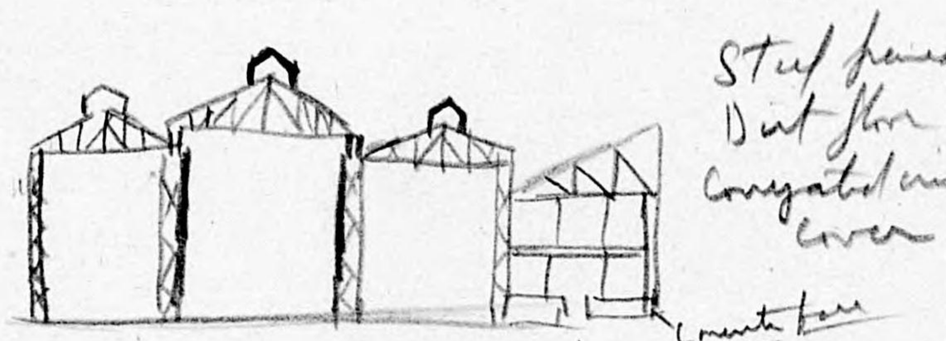
SUPERFICIAL DAMAGE

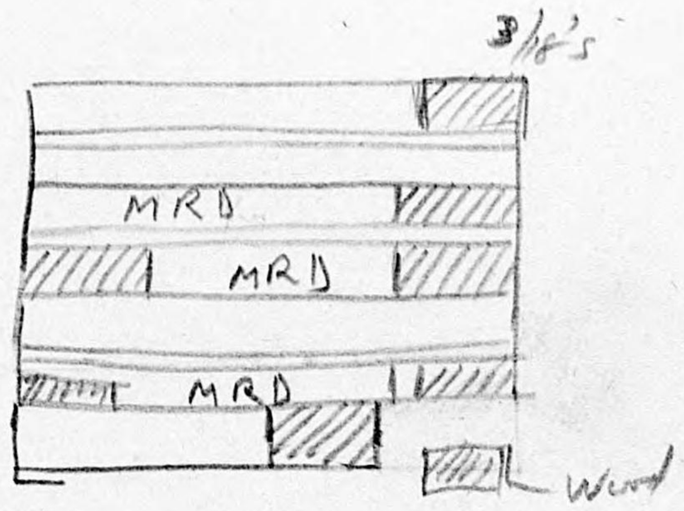
ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Blg 21 (Heat treatment ?)





26

35 | 90 .0
70 0
200
210

BLDG. NUMBER

SHEET OF

- DISPER
COMPL
OF DESTROY
TO EARTH QU

CONFIDENTIAL

F/A [illegible]

PHOTO INTELLIGENCE SECTION
EVALUATION BRANCH
PHOTOGRAPHIC DIVISION
AC/AS, INTELLIGENCE

18 8

FUNCTIONAL ANALYSIS REPORT NO. F/A-11

Date 26 December 1944

TARGET: 90.20-194, MITSUBISHI AIR CRAFT WORKS

LOCATION: NAGOYA CITY, JAPAN COORDINATES: 35°05N 136°54E

PHOTOGRAPHY:	Date	Mission	Print Nos.
	23 Nov 44	3PR/4M17-2V	V7,8,9

1. FUNCTION

The Mitsubishi A/C Works manufactures components and assembles aircraft for both the Army and Navy. It is one of the most important airframe plants in Japan. Experimental and new model developement is also carried out at this plant.

2. LOCATION

This target is located on the East Shore of [illegible]ya Harbor on reclaimed land. The target area is roughly triangular in shape, it's greater dimension E-W is approximately 5100' and the N-S dimension is approximately 3200'. The target is bounded by water on the N-W and S sides and by swamp area and water to the E.

3. SERVICES

The Plant is served by spurs from the Takanabe RR and by excellent harbor facilities, as well as by highways.

4. IDENTIFICATION OF FACILITIES

A. NAVY PLANT NOS. 1 - 38
1. Storage - Receiving & Shipping
2. Storage - Receiving & Shipping
3. Storage - Receiving & Shipping
*4.a Final Assembly
b Wing Plant & Sub-Assembly
c Final Assembly
*5. Final Assembly & Sub-Assembly (N half of Bldg. camouflaged over saw tooth roof)Part of S under repair, debris in road.
6. Probable Research
7. Office
8. Office
*9. General Administrative Office (MG's on roof)
10. Navy Office
*11. Parts Plant
12. Not identified
13. Not identified
14. Compressor House
15. Not identified
16. Not Identified
17. Probable Storage
18. Not identified
*19. Major Airframe Components Assembly - Part of roof appears to be under repair
20. Probable Storage
21. Foundry
22. Not identified
*23. Boiler House (2 stacks)

F/A Report No. 11 cont'd.

*24. Sub-Assembly & Parts Plant (spars)
*25. Parts Plant * N half of Bldg appears to be covered with flat top cammouflage
26. Cutting & Press Shop, Probable paint shop.
*27.a Press Shop
b Metal Shaping & Cutting
28. Not Identified
29. Not Identified
30. Not Identified
31. Not Identified
32. Not Identified
33. Not Identified
34. Not Identified
*35. Machine Shop
36. Machine Shop
37. Material Warehouse - 3 floors(A/A on roof)
38. Warehouse

B. Army A/C Plant Numbers 39 - 65

39. Warehouse
40. Machine Shop
41. Storage
42. Machine Shop
43. Office
44. Probable Office
45. Probable Office
46. Not identified
47. Not Identified
48. Storage
49. Storage
50. Storage
*51. Final Assembly
*52. Fuselage Assembly
*53. Sub-Assembly
54. Not Identified
55. Press and Hammer Shop
*56. Boiler House
57. Not Identified
58. Not Identified
*59. Components & Parts
*60. Component Erection
61. Not Identified
62. Storage Hangar Type
63. Not Identified
64. Not Identified
65. Not Identified

C. ARMY A/C Unit 66 - 94 (New Plant area, does not appear to be in full production)

66. Parts storage
67. Parts & Storage
68. Parts & Storage
69. Parts & Storage
70. Parts & Storage
71. Parts & Storage
72. Parts & Storage
73. Parts & Storage
74. Hangar Type Bldgs. Pos. Dis-Assembly & Shipment
75. Hangar Type Bldgs. Pos. Dis-Assembly & Shipment
76. Not Identified
77. Office

F/A Report No. 11 con'td

18 8

78. Unidentified Hangar Type Bldg.
*79. Final Assembly & Major Assembly
80. Warehouse
*81. Sub-Assembly
*82. Sub-Assembly
*83. Components erections & Parts Assembly
*84. Components Erections & Parts Assembly
*85. Press Shop
*86. Press Shop
87. Material Preparation & Sheet Cutting
88. Material Preparation & Sheet Cutting
89. Material Preparation & Sheet Cutting
90. Storage
91. Probable Shop
*92. Boiler House - 2 stacks
93. Storage
94. Storage

D. NANKO PLANT & YOUTH SCHOOL

95. Shop Building
96. Components/Parts Storage
97. Not Identified
98. Boiler House - 1 large stack
99. Not Identified
100. Office - Experimental Engineering
101. Office A/A on roof
*102. Final & Major Assembly
*103. Sub-Assembly
104. Shop & Storage
*105. Sub-Assembly
*106. Final & Major Assembly
107. Shop Building
108. Not Identified
109. Not Identified
*110. Reported Youth School
111. Probable Youth School
112. Probable Youth School
113. Reported Dispensary - Physical Exams.
114. Not Identified
*115. Sub-Assembly - wings
116. RR Siding Warehouses

E. APPRENTICE SHOP & WAREHOUSE AREA

117. Mitsubishi Hospital
118. Warehouse
119. Parts Shop
120. Mitsubishi Hospital
121. Apprentice Shops
122. Apprentice Shops
123. Apprentice Shops
124. Apprentice Shops
125. Apprentice Shops
126. Apprentice Shops
127. Probable Associated with Apprentice School
128. Probable Associated with Apprentice School
129. Probable Associated with Apprentice School
130. Probable Associated with Apprentice School
131. Probable Associated with Apprentice School
132. Boiler House - 1 stack
133. Warehouse
134. Warehouse
135. Warehouse

F/A Report No. 11 cont'd.

136. Warehouse
137. Warehouse
138. Warehouse
139. Warehouse
140. Warehouse
141. Warehouse
142. Warehouse
143. Warehouse
144. Warehouse
145. Warehouse
146. Probable Parts Plant
147. Warehouse
148. Warehouse
149. Warehouse
150. Probable Parts Plant.
151. Machine Shop - parts
152. Not Identified
153. Warehouse Type Bldgs.
154. Not Identified
155. Probable Warehouses
156. Probable Warehouses
157. Probable Warehouses
158. Probable Warehouses
159. Probable Warehouses
160. Probable Warehouses
161. Probable Warehouses
162. Not Identified
163. Not Identified
164. Barracks Type Bldgs. Probable Youth School Dormitories.

5. DISCUSSION

The small scale and poor quality of the photo cover does not permit detailed interpretation except for the following statements. The 150' wide roadway between the Final Assembly Bldgs. 4 and 5 is cluttered with a great quantity of material and possible debris which appears to have come from the SW portion of 5 where the roof is undergoing some repair or alterations. Bldg. 19 also appears to have an unexplainable roof condition. The new plant area (C) to the E containing bldgs. 66 - 94 does not appear to be in large scale operation and the Boiler Plant seems to be inactive. The large buildings have not as yet been camouflaged in the area.

6. ACTIVITY

Some rolling stock is seen on the RR sidings throughout the plant and smoke is seen to be coming from the stacks in the navy area (A). No barges are visable at the shipping point between buildings 4 and 5, but several fighter aircraft and several possible fuselages are seen in this area.

REMARKS:

* - Denotes buildings annotated on P.T.I.

F/A Report No. 11 cont'd.

18 8

INTERPRETED BY:

Arthur L. Ganung,
Major, Air Corps

JTG CONSULTANT

G. SHASKAN

APPROVED BY:

for LEWIS E. STEVENS
Major, Air Corps
Chief, Photo Intelligence Section
Evaluation Br., Photographic Division
Office of Asst Chief of Air Staff,
Intelligence

AC/AS, INTELLIGENCE- PHOTOGRAPHIC DIVISION
MITSUBISHI AIRCRAFT WORKS
NAGOYA CITY, JAPAN
TARGET NO. 90.20-194 REPORT NO. F/A 11
Approximate Scale
1000' 0' 1000'
CONFIDENTIAL
MISSION
3PR/4MI7 2V
743, 772
PRINTS
V7-8-9
PHOTOGRAPHY OF
23 NOV. 1944

Bomb Plot & Bomb Damage
by Date - ww
4. Craig
McTeer #2

Mitsubishi A/C - 194

Total Floor Area of Plant Bldgs.

No. 1 (A) Area - 2,106,400
No. 2 (B) Area - 1,700,150
No. 3 (C) Area - 1,003,600
No. 4 (D) Area - 926,400
Other - 533,700

6,270,250

Floor Area Sq Ft Bldg No	F/A	Activity
(1)	Stge. - Rec. & Shipping	—
(2)	"	—
(3)	"	—
(4) 307,500	@ Final Assembly ③ Wing Pl. & Sub-Assembly © Final Assembly	No. 7 Workshop of No. 1 Works Dep't. (Assembly (Wing Assembly & Final Assembly) Shop)
(5) 269,100	Final Assembly & Sub-Assembly	No. 5 Workshop of No. 1 Works Dep't. (Final Assembly)
(6) 49,100	Probable research	Misc. Parts Stge.
(7) 5,800	Office	Transformer Room
(8)	Office	—
(9) 87,200	General administrative office	General (Head) Business Off.
(10) 65,800	Navy office	Business Office of No 1. Works Dep't.
(11) 79,600	Parts Plant	Parts Production Shop (Welding & welding maintenance)
(12)	Not identified	—
(13)	"	—
(14)	Compressor House	—
(15)	Not identified	Dining Hall
(16) 34,900	Not identified	Business (Labor) Office
(17) 5,700	Probable storage	Compressor room
(18) 5,000	Not identified	Transformer room
(19) 295,800	Major airframe components assembly	No. 4 workshop of No 1 Dep't. (Ass'y. & Finishing)
(20)	Probable storage	—
(21) 23,110	Foundry	Forging shop
(22) 14,800	Not identified	Heat Treatment shop & Boiler Rm
(23) 15,810	Boiler House	Boiler House
(24) 10,700	Sub-Assembly & Parts Pl.	No. 2 Workshop of No 1. Wks. Dep't. (Sub-Assy) Heat Treatment (W. end)

(25) 179,200	Parts Plant.	No. 3. Workshop of No. 1. Wks. Dep't. (Sub-Assy)
(26)	Cutting & Press Shop, Possible paint shop	—
(27) 111,700 (a)	Press shop	No. 8. Wkshop. of No. 1 Wks. Dep't. metal Sheet cutting - Sheet metal Shop.
(b)	Metal shaping & cutting	
(28)	Not identified	Laboratory
(29)	"	— Wood working shop
(30)	"	
(31)	"	— Small shop
(32)	"	—
(33)	"	
(34)	"	Paint shop
(35) 176,100	Machine Shop	
(36)	Machine Shop	- No. 1 Wkshop. of No. 1 Wks Dep't. (Machine shop
(37) 142,300	Material Whse (3 floors)	- Plating Shop
(38)	Warehouse	- Stores (Whse. No. 1)
(39)	Warehouse 64,500	—
(40)	Machine Shop 14,200	Stores (Whse. No. 2)
(41)	Storage 12,200	Material Cleaning
(42)	Machine Shop 74,500	Found parts storage
(43)	Office 37,650	~~Business office of Insp. office~~ Mgr's Tool Rm.
(44)	Possible Office	Business Office
(45)	"	—
(46)	Not identified	—
(47)	"	—
(48) 36,100	Storage	Stores
(49)	" (48) Stge	Stores (Parts storage)
(50)	"	Tooling workshop (Paint Assy Shop)
	7,100	Tooling workshop Packing Rm
	7,100	
	14,200	

(51) 311,650	Final Assembly	No. 5 Workshop of No 2 Works Dept. (Wing Assy - Assly of wing assembly) (Assembly Shop)
(52) 116,950	Fuselage Assembly	No. 4 Workshop of No. 2 Works Dept. (Wing Assy. - Large Sub Assy)
(53) 222,500 + 97,150 = 319,650	Sub-Assembly	No. 3 Workshop of No 2 Wks Dept
(54)	Not identified	No. 2 (Sub Assy shop (Rivetting) Spot welding Metal cutting - Sheet Metal shop) —
(55) 43,600	Press & Hammer Shop	No. 1 Workshop of No. 2 Wks Dept (Casting, forging) Sub contract - forming of pipes & wires)
(56) 7,600	Boiler House	Boiler Room
(57) 5,050	Not identified	Elec. Power Stn. (Transformer Room) Air Compressor Room.
(58) 2,650	"	
(59) 130,800	Components & Parts	Parts Production Shop (Machining of small parts. Sand blasting. Sub-Assy - (Fuel Tank, Undercarriage, Part assembly) Machine Shop — Stores at N. end
(60) 210,700 + 54,050 = 264,750	Component erection	—
(61)	Not identified	Dining hall & Canteen
(62) 53,500	Storage (Hangar Type)	Tank cleaning
(63) 13,250	Not identified	Pressure test for tanks
(64) 6,950	"	Air Compressor Room
(65)	"	
(66)	Parts + Storage	Stores
(67)	"	Stores
(68)	"	Dining Hall
(69)	"	—
(70)	"	} Stores
(71)	"	

72		Parts + Stge.		Dining Hall
73		"		
74	86,300	Hanger Type Bldg. — Prob. Dis-Assembly + Shipment		Spare shop + parts storage
75		"		"
76		Not identified		Iron
77	41,900	Office		Packing + dispatching
78	21,700	U/I		
79	240,100	Final Assembly +	Major Assembly	Assembly Shop
80	21,300	Warehouse		Paint Shop
81	97,000	Sub - Assembly		Parts Prod. Shop (Sub assy)
82	97,000	"		Wood Shop. Welding + welding sub assy
83	74,600	Components erection + Parts Assembly		Machine shop
84	74,600	"		Shop Metal Parts
85		Press shop		(not finished
86		Press Shop		Heat Treatment shop (Not finished)
87		Mat. Prep. + Sheet Cutting		—
88		"		—
89		"		—
90		Stge.		Transformer Sub-Sta.
91		Prob. Shop.		—
92		Boiler House		?
93		Stge.		Air Compressor Rm.
94		Stge.		Boiler House

95		Shop Bldg.	—
96	36,500	Components parts stge	Machine Shop Expt. Parts Shop
97	3,750 4,050 7,800	Not identified	Transformer Rm Compressor room
98	5,900	Boiler House	Boiler Room
99		Not identified	—
100	52,700	Office - Exp't. Eng.	Research Shop Material Test Lab
101	46,100	Office - A/A on roof	Wind tunnel
102	105,800	Final + Major Assembly	Prototype Assembly Shop Many exp't. shops
103	151,000	Sub-Assembly	Parts Prod. Shop Lofting pattern + moulds Jigs + Tool shop for Many
104	14,450	Shop + Stge.	Exp't. parts shop
105	135,050	Sub-Assembly	Parts Prod. Shop Lofting pattern + moulds Jigs + Tool shop for Many
106	105,800	Final + Major Assembly	Prototype Assembly Shop Many Exp't. shops
107	23,600	Shop Bldg.	Research Shop (Instrument Test Lab)
108		Not identified	—
109		"	—
110	88,000 (E. Part)	Reported Youth School	Design Office.
111		Probable Youth School	—
112		"	—
113		Reported Dispensary	Dining Hall
114		Not identified	—
115	65,000	Sub-Assembly - Wings	Stores (Parts storage)
116		RR. siding warehouse	—
117		Mitsubishi Hospital	—
118		Warehouse	Youngmans School
119		Parts Shop	" - Dining hall in southern end stores in extreme north end.
120		Mitsubishi Hospital	—

121	Apprentice Shops	Training Wkshops
122	"	"
123	"	"
124	"	"
125	"	"
126	"	"
127	Prob. Assoc. Will Approx. School	—
128	"	—
129	"	Training Wkshop.
130	"	"
131	"	—
132	Boiler House	—
133	Warehouse	Stores
134	"	"
135	"	"
136		—
137		—
138		—
139		Stores
140		Stores
141		—
142		—
143		—
144		—
145	↓	stores
146	Prob. Brks Pl.	stores
147	Warehouse	—
148	"	—
149	"	—

150	Prob. Parts. Plant.	Stores
151	Machine shop – parts	"
152	Not identified	—
153	Warehouse type bldg.	storage
154	Not. ident.	—
156 - 161	Prob. Whses.	—
162 - 163	Not ident.	—
164	Barracks (Youth School Dorms)	—

Minor bldgs. not identified in Top column were used principally for storage or as service bldgs. (i.e. canteens ~~etc~~ washrooms etc.)

Area A - Head Office + Cont. of Navy H/C

Area B - For Construction of Army H/C only

Area C. - Expanded area for construction of Army planes

Area D - Exp. t. reserve + Design Stop area

PIC-5- Report # 13

SX7 — 90.20 -194 Mitsubishi A/C WKS.

Location: Nagoya City Waterfront

Product: Army, Navy + Exp't. Finished A/C
(For details of organization + production
see Lt. Craig - A/C Team # 2)

F/A — Enclosed with AC/AS report
Comprisin of AC/AS report with Jap. reported FA

S/A — Following attached sheets (Navy A/c Production Section only)

BDA — Following attached sheets - (compare with plot of
Japanese report of damage on photographic blow-up)
- BDA - on Navy A/c Production Section Only
- Jap. report of damage on entire plant

Legend of BDA
- Structural damage
- Superficial damage
- Minor Roof disturbance

Plan View of All Bldgs. on following sheets oriented N-S + i.e. N. is at top of paper.

Scale Check
Bldg 35 n.e. corner — Bldg 5 n.w. corner
1686'

Bldg 4 — n.e. corner to s.e. corner
842'

Plant Boundaries: Correctly drawn.

Photos
PIC-5-9 } Film Packs
PIC-5-10 }
Other negs taken by A/C Team # 2
in USSBS files

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

(1)

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT: MITSUBISHI A/C WKS.		
TYPE OF INDUSTRY: AIR FRAME WKS.		
CITY: NAGOYA	TARGET NO.: 194	BLDG. NO.
LAT.	LONG AREA	
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY: PIC-S-9 +10		ROLL - NEG NUMBER: Film Bcks
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

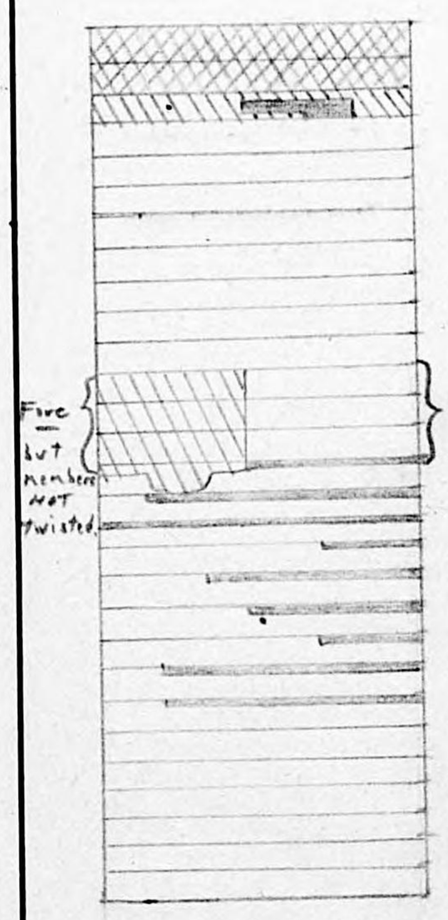
STRUCTURAL DAMAGE — FOR DAMAGE: COMPARE JAP REPORT PLOTTED

SUPERFICIAL DAMAGE — ON PHOTOGRAPHIC BLOW-UP.

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -



Scale: 1mm = 10'

Bldg. 4 - WING ASSEMBLY & FINAL ASSEMBLY

ⓐ Steel framed saw toothed bldg. - single story (except as noted)
ⓑ Columns every three bays N. + S.
ⓒ 5 bays e. + w.
ⓓ Corrugated iron sheet roofing + siding
ⓔ Glass lights - glass windows + walls
ⓕ 15 southern bays - approx 40' elevation
ⓖ 14 northern bays - approx 50' elevation.
ⓗ Over 60% glass damage - occasional frag holes in roof not marked for damage

① Bldg. 5 of 4 + siding - steel framed (gable truss) - corrugated iron roofing - concrete floor - (small shop) - minor roof holes.

PIC-S-9:4 Interior of bldg. 4 ⓒ - looking east along bays 324 reading from south.

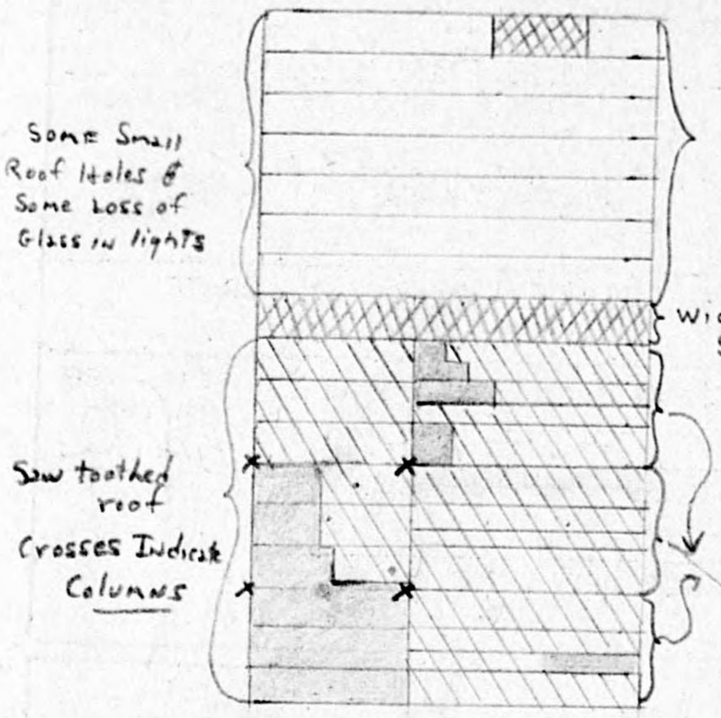
PIC-S-9:7 E. wall of bldg. ④ looking N.E.

Photos show framing.

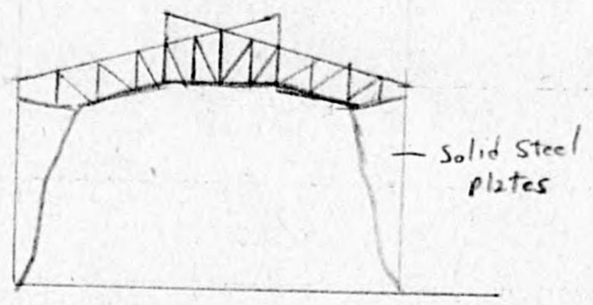
BLDG. NUMBER

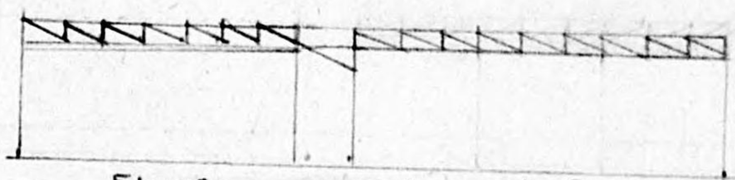
SHEET OF

Bldg. 5 - Final Assembly



Scale: 1mm = 10'





Elevation - w. section Bldg 5 - scale approximate.

ⓐ Framing as noted - all steel (including purlins)
ⓑ Corrugated iron sheeting - roof + walls
ⓒ Glass lights + windows
ⓓ Heavy steel hanger doors along w. wall.
ⓔ Approx 60' elevation - n. end.
ⓕ Approx 65-70' elevation - s. end.

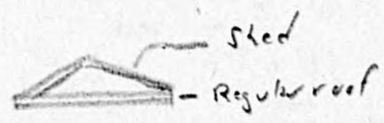
Compare Photos For Framing: PIC-5-9
- #5 - looking e. at w. wall
- #6 - heavy truss construction on e. side of Bldg.
- #8 - north end - interior looking to damage at NE. corner

Bldg. 6 - Mess + Parts Storage

ⓐ Bldg. destroyed.
ⓑ Wood framed.

Bldg. 7 - Sub-Station

ⓐ Reinforced concrete bldg.
ⓑ Windows concreted over
ⓒ Wood framed shed with corrugated iron sheet cover on roof - shed partially collapsed.



ⓓ No damage to concrete part of bldg.

Photo - PIC-5-9:9

Bldg. 8

ⓐ Bldg. destroyed.
ⓑ Wood framed.

Bldg. 9 - Head Business Office

ⓐ Three-story reinforced concrete office bldg.
ⓑ Bldg. undamaged save for a few panes of glass.

Photo: PIC-5-9:10

Also PIC-5-9:12