



Dohyun Machine Works

Introduction

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Key Personnel - Dohyun Machine Works

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Managing Director: Mr. Frederick B. Ibey , P.E.

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History & Timeline

2003 Commence business activity

Dohyun Machine Works “DMW” began operation in 2003.

At first the main product was Spur Gears and Chain Wheels for winches.

DMW purchased 3 used Gear Cutting machines that have a capacity of:

Up to 72 inch diameter gears

And

Up to #1 DP cutters

2008 Initial Growth

DMW purchased a larger shop (#3) and dedicated the facility to EDM Technology.

Installation of an outside slab area designed to round up Bull Gears, container rings and roller paths assure correct fit up and diameters are within tolerance.

Land area 2,310 Sq Meters

Shop area is 460 Sq Meters and is equipped with a 5 tonne crane.

Supply of large Bull Gears using wire cutting “EDM Technology” was added to the range of products by DMW.

Gear cutting for small gears and chain wheels were subcontracted instead of in house manufacture. This allowed the shop space to become more efficient to produce and handle the large segmental bullgears.

DMW naturally branched out to the supply of the large roller paths and container rings for the offshore cranes of NOV AmClyde.

DMW also received orders to supply Main Hook Blocks and various weldments for the tackle and revolving systems for AmClyde cranes.

During this time period DMW also quoted and received orders to supply:

- Mooring system components
- Fairlead assemblies and
- Chain stoppers.

Developed DMW's facility expansion plan for the following 4 years (2009-2012) and have elected not to enter into engineering design. DMW's base is that of a major sub-vendor for existing equipment suppliers. DMW does involve themselves in manufacturing design improvements and recommendations for material conversions.

2009 thru 2010 Growth and Facility Expansion

In 2009 DMW purchased additional property. Total area of the property is 9,240 Sq Meters.

During 2009 and 2010 DMW built the following facilities on above property:

- **Assembly Shop-#1** (920 Sq Meters) Equipped with 30/10 ton crane, 10 ton crane and a 5 ton crane. This is a high bay building with the 30/10 ton crane running above the 5 and 10 ton cranes.
-
- **Weld Shop- #2** (441 Sq Meters) Equipped with quantity 1- 10 ton crane and 1 -5 Ton Crane
- **Machine shop #1A** (441 Sq Meters) Equipped with quantity 1- 10 ton crane and 1 – 5 Ton Crane.
- **Main Office** (400 Sq Meters) complex.

During this period DMW began manufacturing more major components for NOV AmClyde and some smaller structures for other customers.

Main Product Base

- A- Bull Gears up to 20 meter diameter with segmental design.
- B- Large Container Rings for Deck to Tub interface on large cranes.
- C- Hoists and winches.
- D- Fairleads and Chain stoppers
- E- Crane blocks from 40 ton to 4000 ton conventional and underwater designs.
- F- Many small components such as sheaves/ axles / Ball bushings etc.
- DMW received their ISO 9001 certification with ABS in 2010.

2011 thru 2012 Purchase additional land and build facility

In 2011 DMW purchased an adjoining property with a total land area is 6,500 Sq. Meters.

- This property had an existing Office and a Shop. The office (#4A) is 300 Sq meters and was remodeled during 2011. This building contains the Quality personnel, documentation room and cafeteria.
- The existing shop (#4) is 1000 Sq Meters. A 5 ton crane was installed and additional upgrades were completed. This shop is used as an assembly shop, the main warehouse and receiving.
- During 2012 a second High bay building # 6 was constructed. It has a working area of 1,270 Sq Meters and is primarily for fabrication of large structures and assembly. This shop (#6) is equipped with a 30/10 Ton High crane , Qty 1 -15 ton and a 7.5 Ton lower level Cranes.

2013 - An added shop was constructed adjacent to #4 and is shop #7. The EDM Wire Cutting was moved from #3 shop to #7 shop.
This shop is total of 160 sqm and has a 5 Ton Crane.

Number 3 Shop was then upgraded with a 15Ton/10Ton new crane and runway. The existing 5 Ton is on the high crane runway.

2014 - During this year DMW made acquisition of additional machine tools.

Toshiba Table Mill
SNK 3N Planar Miller
Toshiba Vertical Lathe

Number 3 Shop was designated as the second machine shop and houses the SNK 3N Planar miller and the Toshiba 2M Dia Vertical Lathe.

ABS Quality Evaluations

Certificate Of Conformance

This is to certify that the Quality Management System of:

DoHyun Machine Works

#576-17, Jaene-ri, Oedong-eup, Gyeongju-si,
Gyeongbuk
Korea

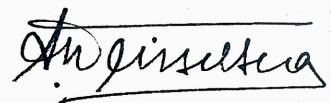
has been assessed by ABS Quality Evaluations, Inc. and found to be in conformance with the requirements set forth by:

ISO 9001:2008

The Quality Management System is applicable to:

MANUFACTURING AND SERVICING OF MARINE CRANE PARTS, WINCH AND INDUSTRIAL MACHINERY

Certificate No:	45822
Original Certification Date:	10 January 2011
Effective Date:	19 January 2014
Expiration Date:	09 January 2017
Revision Date:	19 January 2014



Alex Weisselberg, President



Validity of this certificate is based on the periodic audits of the management system defined by the above scope and is contingent upon prompt, written notification to ABS Quality Evaluations, Inc. of significant changes to the management system or components thereof.

ABS Quality Evaluations, Inc. 16855 Northchase Drive, Houston, TX 77060, U.S.A.

Validity of this certificate may be confirmed at www.abs-qe.com/cert_validation.

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Equipment List for DMW

- 1 Assembly Work.
 - Complete equipment outfitting for large assembly's
Hand tools / power tools / torque wrench's / 15 ton crane weigh scale.
- 2 Fabrication-
 - 6 FCAW units,
 - 1 TIG Unit
 - 1 SAW unit
 - Hand tools
 - Bug and circle burning equipment
 - Arc Gouging
 - Hand power tools.
 -
- 3 EDM Wire Cutting
 - Qty 2 machines that have cutting area 1.4 Meter X 2.0 Meter X 1 meter height.
 - Qty 6 machines that have cutting area 1.4 Meter X 1.4 Meter X 1 meter height.
 - Qty 1 machine that has a cutting area 1.2 Meter X 1.0 Meter X 1 meter height.
 - Qty 3 machines that have a cutting area 0.6 Meter X 0.45 Meter X 0.6 Meter height
- 4 Band saw capacity is 400 mm X 400 mm X 6 Meter length.
- 5 2 Shop drill presses with capacity of 50 mm Drilling
- 6 Machine Shop is equipped with
 - Qty 3 CNC planer mills. Max size is 1.2 Meters X 3 Meters.RB2N SNK
 - Qty 1 CNC planer mills. Max size is 2.4 Meters X 3.5 Meters.RB3N SNK
 - Qty 1 CNC Horizontal Table Mill. Max size is 1.0 Meters X 1.0 Meters.
 - Qty 1 CNC Vertical Lathe. Max size is 2. Meters X 1.6 Meters.
 - Qty 1 Horizontal Milling Machine. Manual. Equipped with a 3.5 inch spindle and Digital readout..
 - Qty 1 conventional lathe.
 - Qty 1 CNC Lathe.
 - Qty 1 Knee Mill – Digital Readout
 - Qty 1 Key Grinder
- 7 DWM has the following for material handling and transportation.
 - Qty 1 - 3 ton Electric Forklift. Case
 - Qty 1 – 8 Ton diesel forklift. Hyundai
 - Qty 1 - 1.4 Ton truck.Kia
 - Qty 1 - 5 Ton truck.Hyundai
 - Qty 2 - SUV personnel vehicles.Hyundai and Kia.

Employees of DMW

<u>Job Description</u>	<u># Personnel</u>
• President	1
• Managing Director.	1
• Welding 2 welders are qualified to ABS and AWS D1.1	2
• Assembly	2
• Yard	1
• Purchasing-	1
• Quality Assurance-	2
• Order entry and control -	1
• Accounting-	1
• Shipping and receiving-	1
<u>Total Employees</u>	<u>13.</u>

Product Size and Weight.

Road clearance from DMW factory to the Port Ulsan Busan or Masan.

- Weight to 225 Tonne
- Width- 6200 mm (20 feet)
- Height-4500 mm (14.5 feet)
- Length -17,000 mm (55.5 feet)

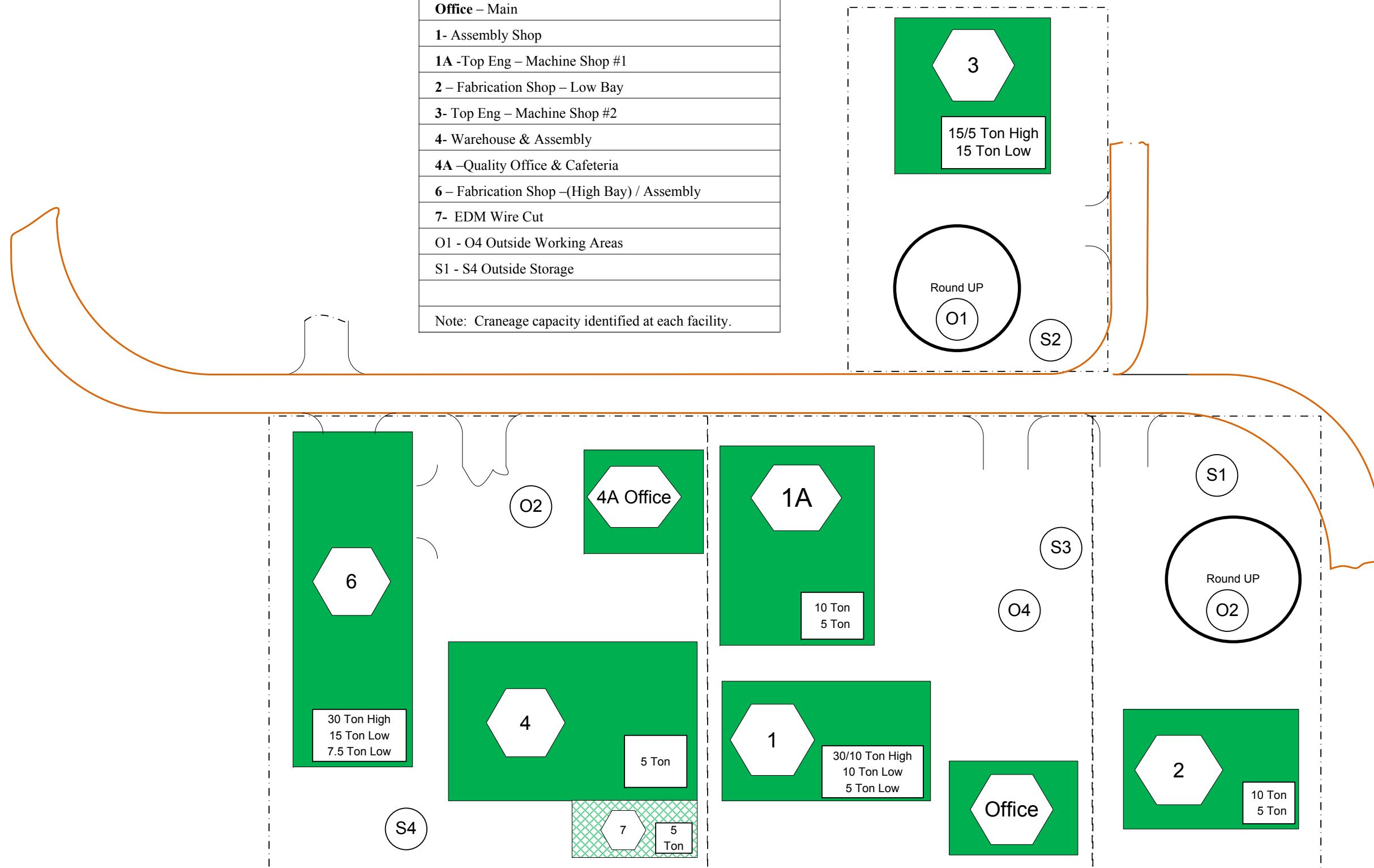
For larger load outs DMW trial assembles and then ships in smaller sections to the Port of Ulsan for final assembly and load out.

DOHYUN MACHINE WORKS

Property Lay out

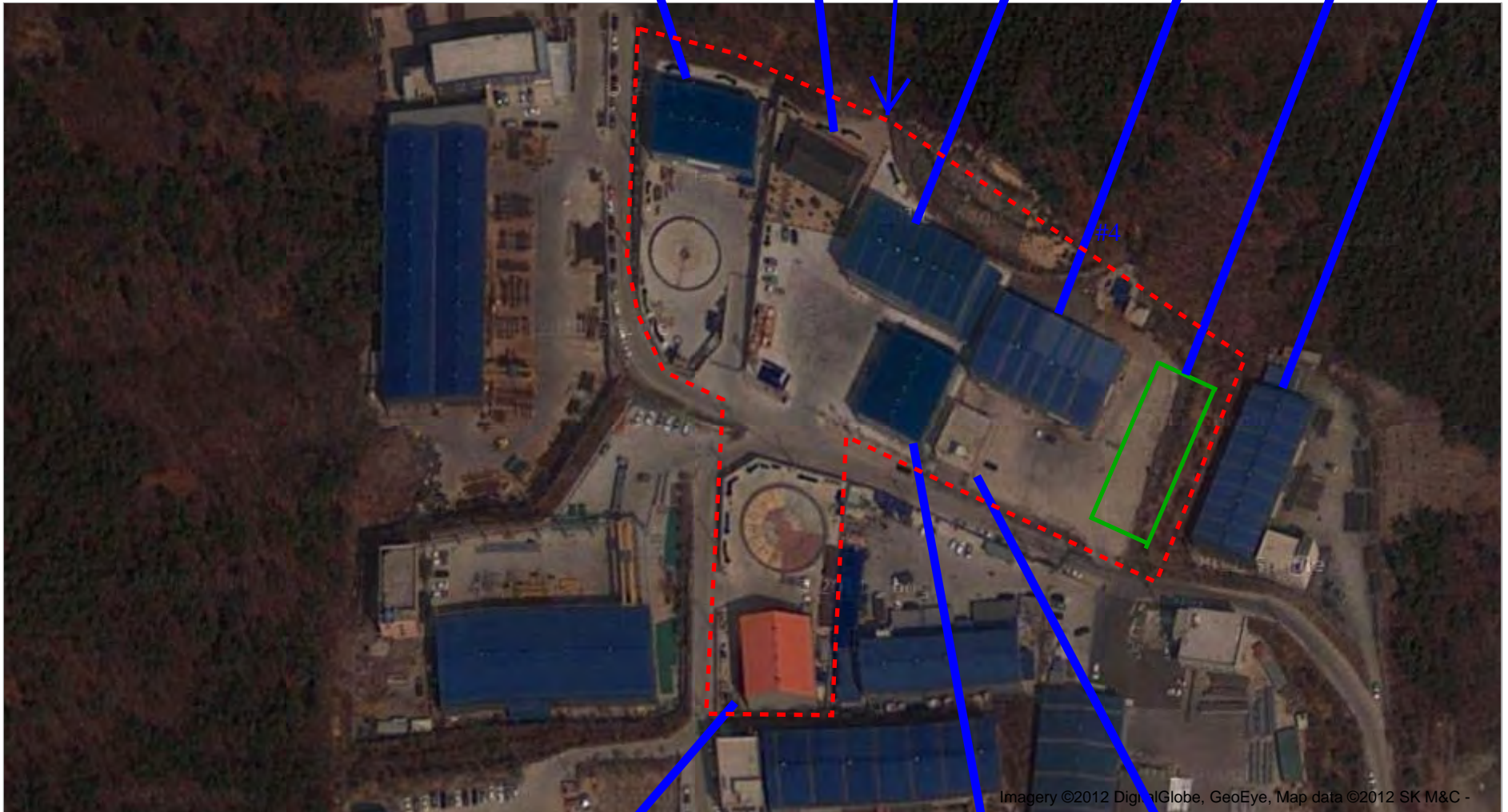
Dohyun Machine Works Properties

Office – Main
1- Assembly Shop
1A -Top Eng – Machine Shop #1
2 – Fabrication Shop – Low Bay
3- Top Eng – Machine Shop #2
4- Warehouse & Assembly
4A –Quality Office & Cafeteria
6 – Fabrication Shop –(High Bay) / Assembly
7- EDM Wire Cut
O1 - O4 Outside Working Areas
S1 - S4 Outside Storage
Note: Craneage capacity identified at each facility.



Owned by DMW 

Copied from Google Map 10/1/12



NE-RI, OEDONG-EUP, GYEONGJU-CITY YOUNG BUCK, GYEONGJU 780-825 Korea, Republic Of
correctly.

#3

#1 A

#4 A



Main Office



Number 1 Shop – Assembly







Machine Shop 1A - "Top Eng"









Number 2 Shop – Fabrications





Number #3 Shop – Machining







Number #4 Shop- Warehouse/Assembly







Number #4 A – Quality Offices



Number #6 Shop – Fabrication & Assy







Number #7 Shop- EDM





Past Projects



by Dohyun Machine Works



