



CONTRACTS FOR:

All Infrastructure Works:-

Civil, Hard & Landscape work

Earth work

Road work

Water & Firefighting work

Irrigation work

Sewage & Stormwater work

Electrical work (LV, MV, HV)

Communication & CCTV work



الشركة السعودية للكهرباء

Saudi Electricity Company Vendor ID VD10305



Vendor ID RCJ000632

الرامكو السعودية
Saudi Aramco



Vendor ID10051112



CONTENT TABLE

01	Introduction
02	Chairman's Message
03	CEO Message
04	Company Overview
05	Company General Information
06	Key Contact Persons
07	Vision, Mission & Values
08	People, Priorities & Project
09	Legal Company Documents
10	Our Services
11	Organization Chart
12	Work Experienced Projects
13	On-Going Projects
14	Resources
15	Manpower
16	Own Equipments List
17	Quality, Policy & Objectives
18	Safety Program
19	Sanitation
20	Security Plan
21	Project Gallery



INTRODUCTION

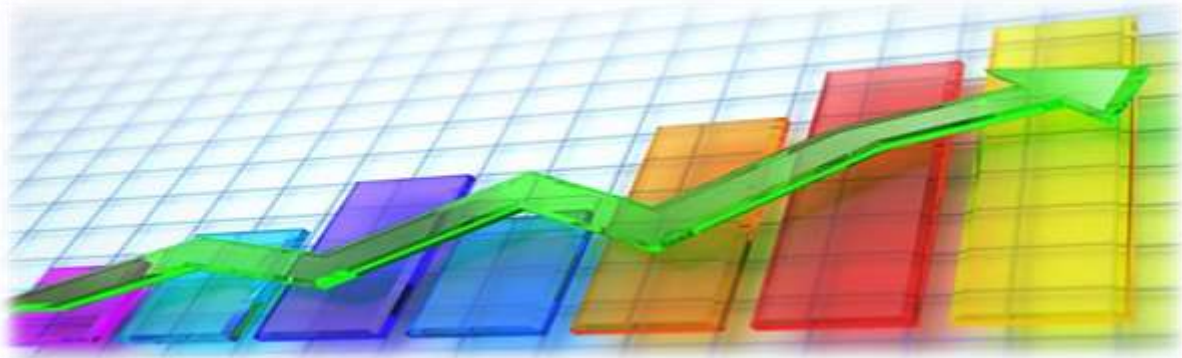
Rawad Al Biniah Cont. Est. is a design, Engineering & Contracting Est, promoted by Mr. Nasser M.D. Al Haider. It is Established with 100% Saudi owned, the owner is Saleh Ibin Nasser Ibin Haider registered as General Contractor under Commercial Registration No. 2066612155, built-up with the skilled manpower and high quality equipment and high qualified expert personnel in the largest infrastructure Projects. We own our experience with SEC (Saudi Electricity Company), SAUDI ARAMCO, MARAFIQ, STC (Saudi Telecommunication Company), Petrochemical and other sectors. We now looking forward to participate in the industrial development in the Kingdom with substantial and positive manner.

Rawad Al Biniah Cont. Est. is located in Ras Tanurah. We have a wide expert personnel more than 300, wide range of construction equipment and a large fleet of vehicles.

Our financial resources supports us to execute all type of projects. Our management gives highest priority to Safety and Quality.

We are using the most civilized computerized system for monitoring all projects and sites. We follow the Engineering system to execute all projects. We can control the site in spot to prevent any wrong actions reports to the Clients by systems.

The most important issue for the owner and the high management on execute the work in good quality and best timing.





CHAIRMAN'S MESSAGE

We take pride in being one of the pioneer engineering and contracting firms in Saudi Arabia to achieve remarkable growth and contributing significantly to the development of Saudi Arabia. The Establishment looking to attained prominence as a leader in the field of all infrastructure works as well as in the field of Civil works (Water & Water waste Treatment, & Irrigation), Electrical works (LV, MV, HV & street Lights), Mechanical, Telecommunication, Road works & Landscape, and services (Manpower & equipment's Rental) through competence, competitiveness and timely delivery with highest quality standards and recognized safety performance. We have a long tradition of serving our valued customers for their complete satisfaction through efficient management and excellent workmanship, to reach the best successful projects with maintaining our untiring efforts.

In an era of advanced technologies and new techniques, we continuously strive for innovation and enhanced efficiency.

Offering services spanning a wide range of engineering fields in All Infrastructural Works . Rawad Al Biniah Cont. Est. is the preferred choice for many clients because of its reliability and commitment for quality and safety.

As we look to the years ahead, we renew our pledge to remain committed to excellence, keep abreast of changes and innovations, adopt better management and construction techniques and successfully overcome all challenges before us.



Mosfer Ibin Haider

Chairman



CEO MESSAGE

Welcome To **Rawad Al Biniah Cont. Est.**

This profile is designed to provide a comprehensive and in-depth review of our Est., reflecting our continuing growth and current success. It conveys our sense of mission and vision - to become the preferred leader in Constructions.

Rawad Al Biniah Cont. Est. corporate culture is characterized by its ability to adapt quickly to our customer needs and requirements. Our tradition of ingenuity has driven continuous improvement in the way we operate and a relentless drive for growth. Our business meets the needs of customers in all over Saudi Arabia. Every day, our services touch the lives of all Saudi people through Electrical, Civil, Sewages, Mechanical, Telecom and all infrastructure works . Rawad Al Biniah Cont. Est. projects are fundamental to achieve the improving and quality of life.

Our work to protect and sustain the environment in which we all share; our pioneering technology and innovation to build a better future; the high quality we offer to our customers.

We are striving to sustain and build on the remarkable success, which we have enjoyed since Rawad Al Biniah Cont. Est. launch. Our focus then and now is to challenge the status quo; working proactively with our customers to find the best solutions and applications to assure 'sustainable' long-term relationships.

These are exciting times for Rawad Al Biniah Cont. Est. and I think you will get a sense of our passion, expertise, reliability, and innovative nature as you browse through this profile.

Nasser Ibin Haider

Chief Executive Manager



COMPANY OVERVIEW

Rawad Al Biniah Cont. Est., is one of the Saudi's construction companies with capability in Civil works (Water & Water waste Treatment, & Irrigation), Electrical works (LV, MV, HV & street Lights), Mechanical, Telecommunication, Road works & Landscape, and services (Manpower & equipment's) in Kingdom of Saudi Arabia. The Establishment has grown steadily, owns a fleet of employs workforce of over 300.

The Establishment's endeavor towards excellence in construction quality, safety, performance, employee satisfaction and social responsibility has enabled it to be the most trusted and sought after Engineering, Procurement, Construction, Operations & Maintenance and Project Management companies in the region. It has consistently delivered projects, providing value-added engineering, construction and service skills to customers for whom the quality of execution, efficiency and reliability are critical.

Since its inception, Rawad Al Biniah Cont. Est., with its strong leadership has executed a focused strategic vision. For the short term, growth is already built into our order book based on the plans of our major clients and partners. It has also identified areas for growth based on regional trends and evolving market conditions.

Rawad Al Biniah Cont. Est., with its Infrastructural, Civil works (Water & Water waste Treatment, & Irrigation), Electrical works (LV, MV, HV & street Lights), Mechanical, Telecommunication, Road works & Landscape, and services (Manpower & equipment's) , has the experience and expertise to undertake construction projects of scale and technical complexity. Its portfolio of completed and ongoing projects is impressive as it is diverse.

At Rawad Al Biniah Cont. Est. we never rest upon our laurels and are passionate and driven to continue the high levels of customer satisfaction we have achieved. We undertake a variety of projects for a wide range of cliental – from small private developments to large Government projects. Our unique and flexible project management systems ensure that a positive outcome is achieved regardless of size or nature of the project.





Rawad Al Biniah Cont. Est. always has the highest concern for safety and this is evidenced by securing some of the best records for Safety in its operations.

From humble beginnings, Rawad Al Biniah Cont. Est. has expanded over time to be the established major player in the Kingdom Infrastructural and civil construction industry that we see today.

The growth of this small, sole-proprietor building operation was inevitable as Rawad Al Biniah Cont. Est. began to take on larger projects over a larger geographical area.

Rawad Al Biniah Cont. Est. underwent a major transformation, with the same top management, skilled engineers and workforce. This significant step has led to the birth of the name of Saleh Ibin Nasser Ibin Haider Est.

Despite several years of successful operation in the building industry, Rawad Al Biniah Cont. Est. sensed further opportunities in the civil construction industry and the establishment's strategic direction was altered to take advantage of these opportunities.

This decision proved to be very prudent as Rawad Al Biniah Cont. Est. achieved steady growth due to the successful completion of a variety of regional projects. The establishment had now become medium-sized with increased staff levels and turnover.

Since 2012 Rawad Al Biniah Cont. Est. has gone from strength to strength, taking on larger and more ambitious projects. Project and contract management systems have been re-engineered to guarantee customer satisfaction.

With a long and intimate history, it is no wonder the culture at Rawad Al Biniah Cont. Est. is one of continual improvement. With this "can-do" attitude we, at Rawad are excited to confront the challenges and seize the opportunities the future will bring.





COMPANY GENERAL INFO

Establishment Name: - Rawad Al Biniah Cont. Est.

Trade Name: - Rawad

Rawad is a sister company for MANCO & KNCC.

Type of Entity: - Establishment

Commercial Registration No: 20666121555

Registered & Administrative Office: -RasTanurah

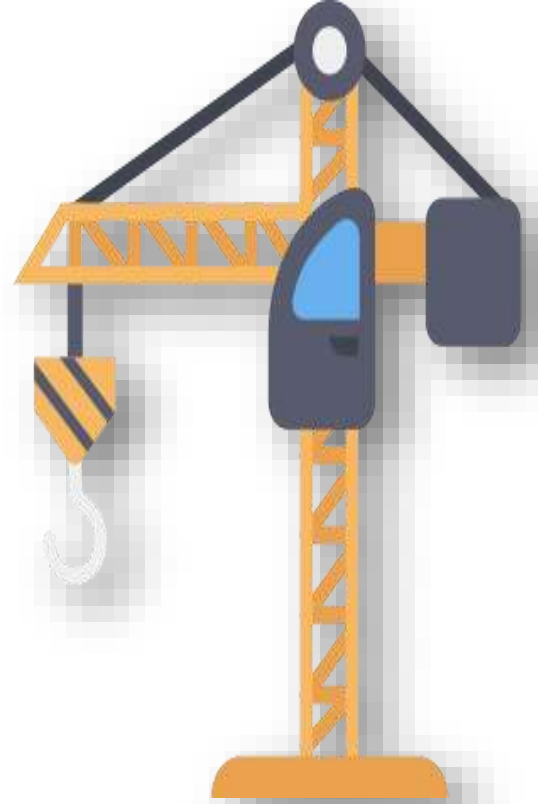
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KEY CONTACT PERSONS

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2. Mosfer Ibin Haider

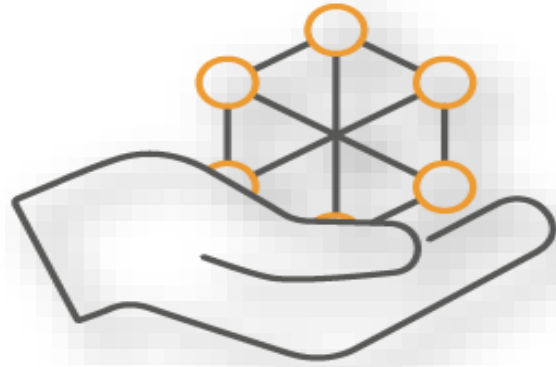
General Manager

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3. Eng. Ali Allam

Projects Manager

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VISION, MISSION & VALUES

OUR VISION

We have a doubtless vision of being recognized as one of the best construction companies in the region by playing an outstanding role in the building and contracting industry of the KSA, and to contribute to the development of the communities residing within. We intend to become the key player and leader in construction in KSA.

OUR MISSION

Our mission is to strengthen our reputation for flawless integrity, complete excellence and thorough experience as one of the most reliable building and contracting company in the KSA. We seek to do so by continuously improving the quality of our services and jobs, and by exceeding our client's expectations. We aim to provide our employees with a challenging secure and safe environment in which they can pursue their career goals.

OUR VALUES

At Rawad Al Biniah Cont. Est. Construction Establishment, we set ourselves apart from our competitors by the way we treat our employees, clients, communities and others we do business with. Our Establishment is built on and operates by the following core values and we look for employees who possess these same values.





INTEGRITY, HONESTY & TRUST

In the construction industry, a solid reputation is essential. We keep our promises and our commitments. We work hard to maintain high ethical standards and to do what's "right".

COMMITMENT TO QUALITY & SAFETY

We are committed to finding solutions for our clients that best achieve their goals. We place a high value on relationships, as these relationships have built our success. Our work comes from repeat clients, with whom we have developed lasting relationships. We are committed not only to the quality of the projects we complete, but also to the safe working environment of these projects. Zero Injuries is not just a plan, procedure, or goal – it is our core value.

TEAMWORK

Our most important asset is people and we foster teamwork at all levels. We value our people and our relationships and enjoy seeing success in others, whether we are helping an employee to reach their full career potential or helping a client by delivering a successful project.

RESPECT

Mutual respect is essential. We respect individuals and their opinions and we exhibit the knowledge, skills and attributes to gain respect from others.

PASSION

Last, but certainly not least, we are passionate about what we do. We are excited to be able to provide our clients with a solution that meets their needs and to deliver a quality project. It is what gets each of us up each morning and gives us the internal drive to exceed expectations.





PEOPLE, PRIORTIES & PROJECTS

PEOPLE

At Rawad Al Biniah Cont. Est. we believe that the ultimate success of any project hinges primarily on the quality of the people involved. We have therefore made recruiting and retaining talented personnel a corporate priority. Our group of dedicated personnel are second to none.

PRIORITIES

Rawad Al Biniah Cont. Est. has been building long-term relationships with customers through a commitment to on-time and on-budget delivery of services. Most of our assignments are repeat business or come through referrals. We recognize that even though superior customer service is more than desirable, customer service alone cannot replace technical ability and experience in the consulting engineering field. As such, investment in personnel training and professional development is another high priority

PROJECTS

Rawad Al Biniah Cont. Est. has provided multi-discipline engineering services to industrial clients. Our company fosters an innovative problem-solving environment that presents fast and flexible responses to client needs. The highly qualified team at Rawad Al Biniah Cont. Est. can offer complete engineering services from the project feasibility phase through to detailed design and construction management.



LEGAL COMPANY DOCUMENTS





CHAMBER CERTIFICATE

Membership Certificate - شهادة الاشتراك	
	
The Unified Number: 7017450862	الرقم الموحد للمنشأة: 7017450862
Classification : Fifth	الدرجة : الخامسة
Date of Issue : 09/11/2022	تاريخ الاصدار : 15/4/1444
Asharqia Chamber Certifies that :	تشهد الغرفة التجارية الصناعية بالمنطقة الشرقية بأن :
Rawad Al-Buniah General Contracting Est.	مؤسسة رواد البنية للمقاولات العامة
Membership No : 291911	رقم الاشتراك : 291911
Registered with Chamber since : 08/07/2020 and	مشاركة في الغرفة منذ : 17/11/1441
the certificate expires on : 06/06/2023	وينتهي سريان هذه الشهادة في : 17/11/1444
31941 رأس لتورق .533	533 رأس لتورق .31941
	
	
https://www.chamber.nogaa.gov.sa/VerifyCert يمكنك التحقق من صحة هذه الشهادة	



ZAKAT & TAX CERTIFICATE



رقم الشهادة: ١٤٠٩٦٩٣٣٠
التاريخ: ١٤٤٣/٠٦/٠٢ هـ
الرقم المميز: ٣٠٦٠٩٥٥٤٢



الهيئة العامة للزكاة والدخل
General Authority of Zakat & Tax

المملكة العربية السعودية
الهيئة العامة للزكاة والدخل
General Authority of Zakat & Tax

شهادة CERTIFICATE

تشهد الهيئة العامة للزكاة والدخل بأن المكلف / مؤسسة رواد البنية للمقاولات العامة
سجل مدني رقم ١١٢٦٥٨٠٨٠٠ وسجل تجاري رقم ٢٠٦٦١٢١٥٥
قدم إقراره عن الفترة المنتهية في ٢٠٢١/٠٧/٠٧

وقد منح هذه الشهادة لتمكينه من إنهاء جميع معاملاته بما في ذلك صرف مستحقاته
النهائية عن العقود.

يسري مفعول هذه الشهادة حتى تاريخ ١٤٤٤/٠٤/١٣ هـ الموافق ٢٠٢٢/١١/٠٧ م.
(الثالث عشر من ربيع الثاني ألف و أربعمائة و أربعة و أربعون هجري)



الختم الرسمي

هذه الوثيقة مستخرجة من النظام الآلي ولا تحتاج إلى توقيع
لا يعتد بهذه الشهادة إلا بعد التحقق من موقع الهيئة www.gazt.gov.sa



VAT

التاريخ: ١٤٤٤/٠٤/١٥ هـ
الموافق:
الرقم المميز:
الرقم المرجعي للطلب: ٦٠٠٠٠٦١٩٥٨٨

هيئة الزكاة والضريبة والجمارك
Zakat, Tax and Customs Authority

إشعار طلب التسجيل (غير خاضع)

اسم المكلف : مؤسسة رواد البنية للمقاولات العامة
عنوان المركز الرئيسي :
سجل تجاري رقم :
الرقم المميز : ٣١٠٦٠٩٥٥٤٣

نود إبلاغكم بأنه تم قبول الطلب رقم ٦٠٠٠٠٦١٩٥٨٨ كغير خاضع لضريبة القيمة المضافة .

مع تحياتنا...
هيئة الزكاة والضريبة والجمارك...

لمزيد من المعلومات نرجو الاتصال بالهيئة على الرقم ١٩٩٩٣.

هذه الوثيقة مرسلتة من النظام الآلي ولا تحتاج إلى توقيع

هيئة الزكاة والضريبة والجمارك





OUR SERVICES

What we offer?

The Establishment mainly engaged in all infrastructure works such as Civil works, Mechanical (Water & Water waste Treatment, & Irrigation), Electrical works (LV, MV, HV & street Lights), Telecommunication, Road works & Landscape, and another (Manpower & Renting Equipments). We follow international standard for all work and the quality of executed work, safety and environment.

Our work activity mainly but not limited to:

1. All infrastructural Works.
2. Civil Works.
3. Road Works.
4. Landscape & Hardscape works.
5. Electrical Works (LV/MV/HV).
6. Mechanical Works.
7. Telecommunication Works.
8. Manpower and Rental Equipments.





INFRASTRUCTURE WORK

Rawad Al Biniah Cont. Est. focusing on development, engineering, managing, operating and maintaining of all infrastructure works in the field of Civil works (Water & Water waste Treatment, & Irrigation), Electrical works (LV, MV, HV & street Lights), Mechanical, Telecommunication, Road works & Landscape.

Rawad Al Biniah Cont. Est. is dedicated to ensure cost effective and affordable services as well as the application of the most suitable technologies in consideration of cultural and societal needs and issues. Quality and effectiveness is a top priority, therefore latest technology are considered whenever appropriate, rather than on default. Intelligent technologies and management structures are to be developed and applied in a framework of cultural awareness.

- Electrical Works
- Site preparation works
- Road works
- Water supply and sewer works
- Water Plants
- Water transmission pipelines
- Irrigation projects
- Installation & Termination & Commissioning and All Earthling works For Unit Sub-Station & RMU from 300kva up to 1500 kva 13.8kv- up to 36 kva
- Installation of all Cables LV & MV Jointing Termination, To RMU and Transformer
- Street light works installation, of the street lighting poles 8-10-12-14-16-20-25 mtr height complete with foundation and flood light fixtures
- Installation of all cables for street light works
- Communication works





ELECTRICAL ENGINEERING WORK

Rawad Al Biniah Cont. Est. offers the following in the field of Electrical Engineering to provide services right from the earliest stages of project development through commissioning and bring expertise to the industries that we serve while applying core competencies and skills to all our work. Our electrical services include but are not limited to the installation, testing and commissioning of the following:



SUBSTATION / SWITCH

- MV/HV Power Transformer
- HV Surge Arrester
- CT/CCVT
- Power Circuit Breaker
- HV Load Break Disconnect
- HV Post Insulators
- MV/HV Bus Ducts
- MV/HV Cabling
- Erection of Supports
- Grounding System



Industrial Lighting System

- Lighting Poles
- Perimeter & Tunnels Lights
- Emergency Lighting Fixtures
- Flood Lighting Fixtures
- Area, Landscape & Amenity lights
- High Bay Fixtures
- Indoor & Commercial Fixtures
- Hazardous Lighting Fixtures





SUBSTATION CONTROL BUILDING

- MV Switchgear
- Relay & Control
- Power Circuit Breaker
- Battery Bank Charger
- Power Distribution Panel Board
- LV/MV Cabling
- Cable Tray & Loaders
- Consulting & Supports
- Termination & Ferruling
- Fire Alarm System



AUXILIARY & MISCELLANEOUS WORKS

- Instrumentation works
- Lighting protection system
- CATV/MATV System
- Wiring Devices
- Industrial & Commercial Bldg.
- Cable Pulling
- Splicing & Termination

CATHODIC PROTECTION

- Installation of Cathodic Protection equipment for underground Process piping.
- Testing and commissioning of cathodic protection system carried by NACE certified Cathodic Protection Specialist.
- Design and materials of cathodic protection system will be arranged through third parties.

CIVIL ENGINEERING

Rawad Al Biniah Cont. Est. has involved in the field of Civil Engineering to Provide Services right the earliest stages for Design and Construction of all types of building and or structures.



Rawad Al Biniah Cont. Est. offers in the following areas:

- Paving Operations.
- Industrial Structures
- Underground Utilities.
- Fencing Installations.
- Indoor/ Outdoor switchyards
- Earth Moving, irrigation
- Mechanized soil & rock excavation
- Concrete work for irrigation structures
- Comprehensive services
- Soil investigation and recommendation
- Design and construction of all types of Bored and driven piles.
- Well foundations, diaphragm walls
- Ground improvement works
- Dewatering.

- Reinforced Concrete Construction.
- Pre – engineered Steel Building Erections.



We are equipped with qualified and experienced engineers who have vast local experience and have been involved in major concrete assessment and repair projects. We provide specialized services in assessment, repair design and corrosion protection design for existing and new structures.



MECHANICAL ENGINEERING

Rawad Al Biniah Cont. Est. also offers Turnkey packages covering comprehensive design, construction, procurement, supply and erection in the field of mechanical engineering through careful planning, detailed project executions like the project electrification, and other services in thermal, gas based, fuel oil based, cogeneration and captive power plants including the following areas:

- HVAC Installation.
- Water & Sewer Line Installation.
- Sewage System.
- Agricultural & Irrigation system
- Erection & Commissioning of all Mechanical Systems.
- Turnkey Projects.
- Operation & Maintenance of Power Plants, Water Plants.
- Scaffolding Services.
- Site Fabrication.
- Installation and Supervision of equipment with required machineries by skilled personnel for all kinds of Pressure.
- Repair and Refurbishment Services of Storage Tanks including Tank bottom replacements etc.



Rawad Al Biniah Cont. Est. has also offer Turnkey packages covering comprehensive construction, procurement, supply and erection in the field of telecommunication engineering through careful planning and detailed project executions like the project electrification and other services including the following areas:

- Underground / Overhead Utilities for Distribution System.
- Networking System.
- Cable Splicing, Termination.
- Sub-station Erection & Commissioning.
- Erection & Commissioning.
- Logic Control System.
- Operation & Maintenance.



WIDE AREA, LOCAL AREA NETWORK INSTALLATION

Cisco System Network Equipment

- ❖ Installation, Configuration and testing of Cisco System Network equipment
- ❖ Design and detail engineering of wide / and Local Area through Cisco golden partner
- ❖ Support and Maintenance after installation.

Fiber Optic Cable

- ❖ Design of Network and recommendation of products.
- ❖ Installation, termination and testing of single mode,
- ❖ Multi-mode and Hybrid Fiber Optic cables, patch panels, equipment for outside, and inside plant.
- ❖ Inside and outside Plant cabling work.

UTP Cable

- ❖ Installation, termination and testing of Cat-6 UTP cables.
- ❖ Various Face Plates requirements.
- ❖ R&M Patch panels & Network accessories
- ❖ Testing of Cat-6 and Fiber Link according to latest international Standards.
- ❖ Level-4 accuracy test equipment shall be used for testing.

Scaffolding Hire Services

Rawad Al Biniah Cont. Est. is a young established engineering Est., with considerable experience in local markets over the past years. It has a record of accomplishment of expertise gained in design, supply & installation of a wide range of industrial scaffolding, including supply of highly skilled work force, equipment rental, supply & installation of insulations solutions and fabrication & welding of parts in private and public industries to process equipment for the Environmental Engineering sector.

These include:

- ❖ Design, Supply & Erection of Scaffolding
- ❖ Design, manufacture, assembly of core locmoulds.
- ❖ Design & manufacture of sheet metal products.
- ❖ Manufacture of engineering parts.
- ❖ Manpower deployment services
- ❖ Equipment rental services
- ❖ Water Proofing Insulation
- ❖ Thermal Insulation
- ❖ Custom Built services



We at Rawad Al Biniah Cont. Est., aim to be your reliable partners for all your needs in scaffolding systems and access solution. We analyze the requirement of every project/customer enquiry and conduct various studies and surveys to work out customized and practical solutions for individual requirement. Rawad Al Biniah Cont. Est. believes and adopts a five – fold approach which also sums up as our core competencies:

- Safety First.
- Scaffolding Supply
- Suited to Needs
- Affordable
- Specialists

Rawad Al Biniah Cont. Est. already has acknowledged for its extensive portfolio comprising a track record of successful completion of significant projects, handled for many reputed clients.

HUMAN RESOURCES HIRE SERVICES.

We are also willing to provide services of our employees directly under clients control on hourly rate basis. Our supervisory staffs are well experienced and very familiar to modern Industrial Technical Standards and Safety Regulations. A significant number of skilled and semi – skilled individuals are utilized in the project work.

Rawad Al Biniah Cont. Est. has at its core, a team of competent, dedicated and motivated employees who straddle most industrial sectors providing management and supervision capability to project. Its policy to invest heavily in its people through appraisal, coaching and training at all levels.

Our recruiting agencies in INDIA, PAKISTAN, EGYPT, PHILIPPINES, YEMEN, SUDAN, NEPAL and BANGLADESH can mobilize engineers, skilled and semi – skilled artisan as required in short time.

We are focused to consistently improve the high quality and safety standards of personnel. We develop and train the indigenous labor force wherever possible.

HEAVY EQUIPMENT HIRE SERVICES.

We are also willing to provide services of our Equipment directly under clients control on hourly, Daily, Weekly & Monthly rate basis. Our supervisory staffs are well experienced and very familiar to modern Industrial Technical Standards and Safety Regulations. A significant number of Heavy Equipment's are utilized in the project work.



Rawad Al Biniah Cont. Est., is engaged in the business of offering its target market segments with vast array of EQUIPMENTS SERVICES through its One Divisions which are engaged in various equipment related services via:-

Equipment Rental Division:- Provides equipment rental services, through a network team & with its fleet of more than 100 equipment's namely Cranes, Compressors, Welding Machines, Generators, Automobiles, Fork Lifts and Earth Moving Equipment's.

- Rawad Al Biniah Cont. Est. has a strong & highly varied asset base valued in excess of SR 20 Million with more than 100 pieces of equipment of various kinds in different categories to suit every specialized, individualistic & comprehensive needs of our valued clientele. Rawad Al Biniah Cont. Est. is a young & dynamic organization, which is on fast-growth track. It is strategically structured with each functional area



built around skilled & expert personnel sharing a common vision and cherished values and professionally oriented towards meeting customer satisfaction. It has created a niche for itself in the realm of equipment hiring. It is commanding an enviable, unparalleled & peerless position in the KSA market for equipment services. It has an impressive line-up of high profile clientele. Gradually, Rawad Al Biniah Cont. Est. is planning to expand its wings to other GCC countries as well.



LANDSCAPE DESIGNS AND PROJECTS MANAGEMENT DEPARTMENT

Rawad Al Biniah Cont. Est. is one of the leading companies in the fields of general and detailed site planning, parks and garden designs of various types. our team is strictly engaged to implementation of high standards in all stages of work, to assure client satisfaction.

EXECUTION DEPARTMENT

Execution Division is an important division in Rawad Al Biniah Cont. Est., working in the following activities:

- ❖ Irrigation systems.
- ❖ Planting and softscape.
- ❖ Hardscape works
- ❖ Lighting works.

INSTALLATION OF IRRIGATION SYSTEM

1. Irrigation System Installation:

Irrigation staff in Rawad Al Biniah Cont. Est. is very keen in using high quality irrigation materials approved by the biggest company in the kingdom such as (Saudi Aramco & Sabic) as well as most consultants.





2. Gardening & Landscape:

As we believe in the importance of careful selection of plants and choosing it according to the location nature, climate and the availability and quality of irrigation water, all necessary tests have to be done based on which that plants and ground cover will be selected and distributed aesthetically according to the approved design.



3. Hardscape works:

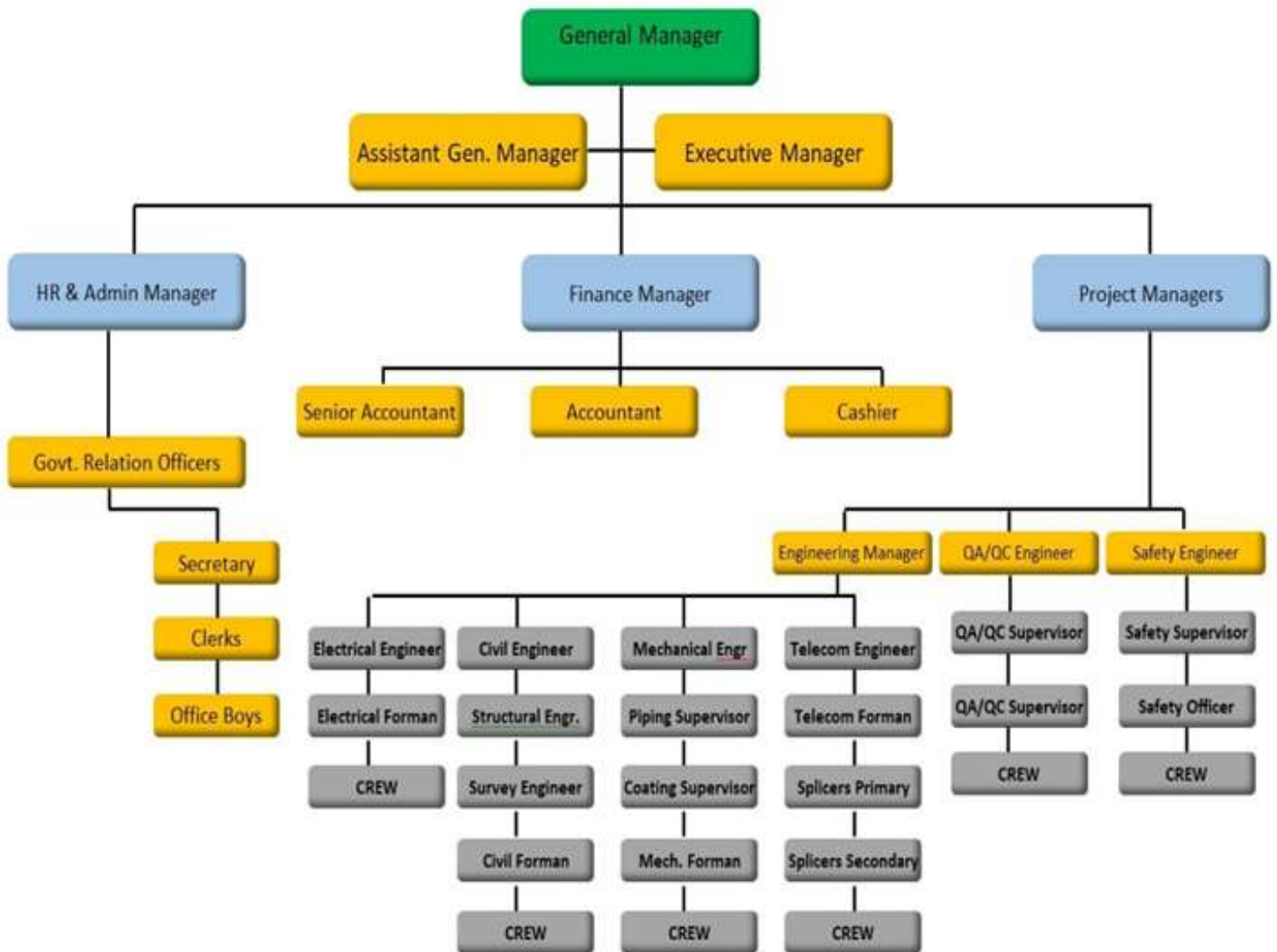
Rawad Al Biniah Cont. Est. has highly skilled technicians in the field of installation of all works of used in pavements, walkways and other hardscape works, taking into consideration the nature of the site and the use of environmentally friendly materials according to the drawings and approved samples.

- Pavements – Walkways
- Fountains & Waterfalls
- Natural stone works
- Lighting works





ORGANIZATION CHART





ON GOING PROJECT

Sn	Contract#	Client	Project Name	Area	Description	Project Value SR
1	011 4031888	Ministry of Housing	Infrastructure works For Dawadmi Housing Project Main Contractor Mohammed Ali Al swailem Group (MASCO)	1600,00 0 M2	Infrastructure work, electrical, Mechanical, Telecommunication, Laying of street lights and Poles, Installation and supply of 63 Substation 1000KV and 63 RMU, 36000 meter of cable 3x 300 copper for MV 13.8 KVA & LV works.	162537 858
2	011 403 7878	Ministry of MOI	INFRASTRUCURE MEP WORKS-DAHRAN AL JANOUB(S03) Main Contractor (ABV ROCK GROUP)	180000 0 M2	All Infrastructure works, electrical, Mechanical, Telecommunication, Laying of street lights and Poles, Installation and supply of 63 Substation 1000KV and 63 RMU, cable 3x 300 copper for MV 13.8 KVA & LV works.	134494 102.5
3	011 403 7878	Ministry of MOI	INFRASTRUCURE MEP WORKS-QAHMA (S01) Main Contractor (ABV ROCK GROUP)	950000 M2	All Infrastructure works, electrical, Mechanical, Telecommunication, Laying of street lights and Poles, Installation and supply of 63 Substation 1000KV and 63 RMU, cable 3x 300 copper for MV 13.8 KVA & LV works.	105340 571.04
4	011 403 7878	Ministry of MOH	INFRASTRUCURE MEP WORKS-AI Quriyaat Main Contractor Mohammed Ali Al swailem Group (MASCO)	800000 M2	All Infrastructure works, electrical, Mechanical, Telecommunication, Laying of street lights and Poles, Installation and supply of 63 Substation 1000KV and 63 RMU, cable 3x 300 copper for MV 13.8 KVA & LV works.	564206 15



WORK EXPERIENCED PROJECTS

NO	PROJECT NAME	CLIENT/OWNER	PROJECT VALUE
01	(HARDSCAPE AND LANDSCAPE WORKS) , Irrigation, Curbstone, Interlock, Asphaltting, Excavating, Backfilling, Covering of Agricultural Network Pipe, Street Light, Street Light, at Danat Al RamazQatif.	Abdullah Al Suliaman & Amjad Al Noah	99,400,000
02	Backfilling, Excavating, Asphaltting, Curbstone, Interlock, street Lighting, Irrigation Network & Landscaping.	StarSharq	40,000,000
03	Backfilling, Excavating, Asphaltting, Curbstone, Interlock, street Lighting, Irrigation Network & Landscaping.	Ahmed Al-Moosa Eng'g Consultants	8,380,000
04	(HARDSCAPE AND LANDSCAPE WORKS) , Backfilling, Excavating, Asphaltting, Curbstone, upply and Install of Street Lighting.	Ataas Int. For Dev. Of Real Estate	48,752,341
05	(HARDSCAPE AND LANDSCAPE WORKS) , Irrigation, Curbstone, Interlock, Asphaltting, Excavating, Backfilling, Supply and Install of StreetLighting.	AhmedAl-MoosaEng'g Consultants	16,312,500
06	Backfilling, Excavating, Asphaltting, Curbstone, Interlock, landscape, hardscape works, Substation, RMU & Street Lighting Project, SewerLine, WaterLine & Communication Crossing	Al-Afaliq	24,800,000
07	(HARDSCAPE AND LANDSCAPE WORKS) , Irrigation, Curbstone, Interlock , Asphaltting, Excavating, Backfilling Supply and Installation of Street lighting project	Amanat Al Qassim	38,416,000
08	(HARDSCAPE AND LANDSCAPE WORKS) , Irrigation, Curbstone, Interlock , Asphaltting, Excavating, Backfilling, Electrical, Street Light, Drainage & Sewage work	Ministry of transportation	32,944,774
09	(HARDSCAPE AND LANDSCAPE WORKS) , Irrigation, Curbstone, Interlock , Asphaltting, Excavating, Backfilling, Electrical, Street Light, Drainage & Sewage work	Al- Masharif, Abha	48,752,341
10	(HARDSCAPE AND LANDSCAPE WORKS) , Irrigation, Curbstone, Interlock , Asphaltting, Excavating, Backfilling, Electrical, Street Light, Drainage & Sewage work	Al-Fanateer Hills Royal Commission	40,000,000
11	(HARDSCAPE AND LANDSCAPE WORKS) , Irrigation, Curbstone, Interlock , Asphaltting, Excavating, Backfilling, Electrical, Street Light, Drainage & Sewage work	Hai Muhudsin Dammam	15,000,000



NO	PROJECT NAME	CLIENT/OWNER	PROJECT VALUE
12	Covering of Agriculture Channel AT Qatif (By Ministry of Agriculture and Water Al Hassa)	Ministry of irrigation	14,165,000
13	(HARDSCAPE AND LANDSCAPE WORKS), Irrigation, Curbstone, Interlock , Asphaltting, Excavating, Backfilling , Supply and Installation of Street lighting	Al-Qassim Municipality	14,488,000
14	(HARDSCAPE AND LANDSCAPE WORKS), Irrigation, Curbstone, Interlock , Asphaltting, Excavating, Backfilling , Supply and Installation of Street lighting	Al-Qassim Municipality	15,274,000
15	Street Lighting, Landscape and Hardscape.	Al Mousa real estate	8,496,994
16	Electrical Work at 2nd Industrial City At Abqaiq.	Al-Zoman Contracting Co.	50,696,817
17	(HARDSCAPE AND LANDSCAPE WORKS), Irrigation, Curbstone, Interlock , Asphaltting, Excavating, Backfilling, Covering of Agricultural Network Pipe, Electrical, Street Light, Drainage & Sewage work	Ministry of water & electricity	20,911,517
18	(HARDSCAPE AND LANDSCAPE WORKS), Irrigation, Curbstone, Interlock, Asphaltting, Excavating, Backfilling, Covering of Agricultural Network Pipe.	Ministry of water & electricity	26,835,075
19	Unified Contract for Distribution Network up to 36KV (AL JOUF).	Saudi electrical company	68,000,000
20	Infrastructure works For Al -Quriyyat Housing Project Main Contractor Mohammed Ali Al swailem Group (MASCO)	Ministry of Housing	25,298,442
21	Madina Al-Hajj Project Main Contractor (AL Fozan Co.)	Al-Fozan Contracting Company	13,142,800



22	Infrastructure works For Sakaka Housing Project Main Contractor Mohammed Ali Al swailem Group (MASCO)	Ministry of Housing	35,948,791
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RESOURCES

Full Name	Position	Nationality	Highest Educational Qualification
Mr. Mosfer Ibin Haider.	General Manager	Saudi	Graduate
Mr. Nasser Ibin Haider.	Executive Manager	Saudi	Graduate
Mr. Ahmed Ali.	Asst. G. Manager	Yemeni	Graduate
Engr. Ashraf Amin.	Senior Engineer	Egyptian	Graduate
Mr. Haney Abdulqader.	Finance Manager	Egyptian	Graduate
Engr. Mohd. Abdul Moniem.	Senior Project Manager	Sudanese	Graduate
Engr. Saber Al-Syed.	Project Manager	Egyptian	Graduate
Engr. Mahmoud Azzaz.	Senior Manager	Egyptian	Graduate
Mr. Amr Najeeb.	Purchaser	Egyptian	Graduate
Mr. Kanan Asaad.	O & M. Manager	Syrian	Graduate
Mr. Leresh Ramanan.	Manpower Coordinator	Indian	Graduate
Mr. Sajmal Nazir.	Manpower Coordinator	Indian	Master
Mr. Khalid Ibin Haider.	Govt. Relation Officer	Saudi	Graduate
Mr. Rayed Al-Najdi.	Govt. Relation Officer	Saudi	Graduate
Mr. Zeeshan Haider.	Executive Secretary	Indian	Graduate
Engr. Samir Mohammed.	Sr. System Engineer	Jordan	Graduate
Engr. Abdul Hadi.	Sr. Electrical Engineer	Egyptian	Graduate
Engr. Othman Mohammed.	Sr. Telecom Engineer	Sudanese	Graduate
Engr. Mohammed Misaad	Sr. Civil Engineer	Egyptian	Graduate
Engr. Imran Shiakh	Sr. Safety Engineer	Indian	Graduate
Engr. Ahmed Mahmoud	Civil Engineer	Egyptian	Master
Mr. Mohammed Hassan.	Surveyor	Egyptian	Diploma
Mr. Ibrahim Rofaie.	Surveyor	Egyptian	Diploma
Mr. Waiel Mostafa.	Surveyor	Syrian	Diploma
Mr. Ahmed Dahish	Projects Assistance	Egyptian	Graduate
Mr. Essam Ala.	Projects Assistance	Egyptian	Graduate
Mr. Mohammed Mostafa.	Secretary	Egyptian	Graduate
Mr. Leresh Ramanan.	H.R	Indian	Master



MAN POWER

No.	Category	Nationality	Total
1	Civil Engineer	Egyptian/ Indian/ Jordan/ Palestine	18
2	Mechanical Engineer	Egyptian	1
3	Electrical Engineer	Egyptian/ Sudanese/ Palestine	3
4	Telecommunication Engineer	Sudanese	1
5	Forman	Egyptian/ Indian	7
6	Survivor	Egyptian/ Syrian	10
7	Web Designer	Indian	1
8	Finance Manager	Sudanese	1
9	Cost Controller	Yemen	1
10	Accountant	Egyptian	6
11	Coordinator	Indian	4
12	Supervisor	Bangladeshi	1
13	Secretary	Egyptian/ Indian	5
14	Forman/ Elect. Tech.	Indian	1
15	Bachoe Operator	Indian	3
16	Excavator Operator	Indian	2
17	Electrician	Indian	1
18	Driver	Bangladeshi/ Indian	3
19	Operator	Yemen	8
20	Scaffolder	Indian	1
21	Office Boy/ Labor	Bangladeshi/ Indian	2
22	Hydraulic Mechanic	Indian	1
23	Loader Operator	Indian	1
24	Pipe fitter	Indian	1
25	Plumber / Pipefitter	Indian	7
26	Mason	Indian	2
27	Duct man	Indian	1
28	Carpenter	Syrian	1
29	Steel Fixer	Indian	1
30	Steel Fixer/ Plumber	Indian	1
31	Painter	Indian	3
32	Labor	Bangladeshi/ Indian	212
Total			311



OUR EQUIPMENTS LIST

No.	Type of Equipment/Tool & Capacity	Qty. Owned
1	Air Compressor 750 cfm	5
2	Asphalt Cutter	8
3	Back-Hoe Loader	15
4	Bobcat	4
5	Boom Truck	3
6	Civil/Mechanical/Electric Tools	Asreqd.
7	Dewatering Pumps	4
8	Forklift	3
9	Dump Truck 16 cum	12
10	Dump Truck 3 cum	3
11	Excavator	20
12	Flat Plate Compactor 60cm	5
13	Flatbed Truck (16ft)	2
14	Flatbed Truck 40ft with Crane	2
15	Jack Hammers	6
16	Scaffolding Material	Asreqd.
17	Portable Generators	8
18	Portable Lighting Sets	10
19	Oxy-Acetylene Torch Set	4
20	Safety Sign Boards	Asreqd.
21	Shoring Plates	Asreqd.
22	Shuttering	Asreqd.
23	Transport Vehicle Bus	4
24	Utility twin Crew Cab	24



No.	Type of Equipment/Tool & Capacity	Qty. Owned
25	Vibratory Roller Compactor	4
26	Water Tanker	5
27	Welding Machine 400A	3
28	Loader	5
29	Grader 14GCat	1
30	Trailer	7
31	Lowbed	1
32	Drum trailer	5
33	Cable Puller Machine	2
34	Digger for micro-trench	1
35	Hydraulic Excavator	6
36	12M Basket	3
37	14M Basket	3
38	Cement Mixer	4
39	Large Loader	2
40	Mini- Loader	4
41	Electrical Generator	4
42	Large Smooth Steel Wheel Roller	3
43	Small Smooth Steel Wheel Roller	3
44	>10 ton truck	10
45	Vibratory Plate Compactor	6
46	Pickup Truck	12
47	8 ton Winch	3
48	10 ton Winch	3



No.	Type of Equipment/Tool & Capacity	Qty. Owned
49	Pole Installation hooks	12
50	Conductor Puller machine	3
51	Water truck	3
52	Asphalt Scraper	1
53	Asphalt paver	1
54	Poles Digger	2
55	String & Pull Overhead Conductor car	4
56	Handheld winch to pull conductor	4
57	Hydraulic Presses	2
58	Drill	6
59	Metal Cutting Machine	8
60	Set of wrenches & screwdrivers	12
61	Automatic range bag	3
62	Test Instruments (Odometers/Clamp meter)	2
63	Insulation measuring devices (Megger 5 kV)	1
64	Device to deduct cable route	6
65	Cable identification device	2
66	Lay Cable Roll	430
67	Lay Cable Angle Roll	70
68	Total Station	4
69	GPS Device	1
70	Hilti Gun	8
71	Hot Stick	6
72	Earth resistance measuring device	2



QUALITY, POLICY & OBJECTIVES

GENERAL

1.1 Purpose:

- ❖ Project Quality Plan defines the procedures, to be adopted for Quality Assurance and Control for all projects.
- ❖ The Scope of Work Inspection, Quality control, contract and a series, work Procedures implemented by Rawad Al Biniah Cont. Est., for the execution of job of various disciplines shall be the basis for a quality control projects.

1.2 Purpose:

- ❖ Quality Plan is applicable for all Projects awarded to Rawad Al Biniah Cont. Est. according to the scope of contract.
- ❖ The Project Quality Plan (PQP) itself or any part of it shall not be used for any other purpose without the written approval of the issuing authority.
- ❖ This PQP shall be supplemented or revised, after getting the approval from client's in case of the revision of roles, responsibilities or technical standards.

1.3 Project Quality Statement:

- ❖ Our Top Management recognizes the need for quality in every aspect of its operation, and actively advocates and encourages all personnel to demonstrate their commitments to this.
- ❖ As a part of the implementation of the quality system, Rawad Al Biniah Cont. Est. has developed and is practicing a series of Establishment work procedures and instructions.
- ❖ It is Mandatory for all the personnel involved in the project to comply with the Project Quality Plan and supporting procedures and instructions.
- ❖ The Projects Manager has the overall responsibility to ensure the implementation of the Quality Plan and any problem arising from it is brought to the notice of the Operation Manager, and where necessary to the Rawad Al Biniah Cont. Est. Top Management.
- ❖ Every effort will be made by BDCE to ensure that the project is completed in time and within budget, to the required quality and as per scope of work.
- ❖ The Quality Systems shall be subjected to periodic auditing by QA/QC Manager.

1.4 Terms and Definitions:

The following definitions shall apply to the Project Quality Plan.

- ❖ Quality: The totality of features and characteristics of service that bear on its ability to satisfy stated or implied needs.
- ❖ Quality Assurance: All those planned and systematic activities necessary to provide adequate confidence that a product or service will satisfy given requirement of quality.



- ❖ Quality Control: The operational techniques and activities that are used to fulfill requirements for quality.
- ❖ Quality Plan: A document setting out the specific quality practices, resources and sequences of activities relevant to particular product, service, contract or project.
- ❖ Quality Audit: A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements is implemented effectively and is suitable to achieve objects.
- ❖ Inspection & Test Plan: A document, which defines or identifies the inspection, test method(s), procedures and acceptance criteria to be utilized during fabrication/ construction.

1.5 Quality Assurance And Quality Control Responsibilities:

- ❖ The Quality Assurance requirements for the project are defined in Quality Plan.
- ❖ The QA/QC Manager is responsible for
 - Preparation of the Quality Plan
 - Revision of Quality Plan to reflect the changing operational requirements as advised by clients.
 - Auditing compliance with the Quality Plan and the issue of Corrective Action Notice for non-conformities.
 - Follow up of the corrective action to ensure their implementation.
- ❖ The QA/QC Engineer shall be responsible for preparation of the Project Quality Plan, Project Procedures, and Construction Method Statement required for the effective implementation of quality on the project.
- ❖ The Quality Control requirements for the project are defined in Establishment Procedures and references documents referred in this quality plan.
- ❖ The Project Manager has the overall responsibility for the implementation of the quality plan and the project QA/QC Engineer has specific responsibility for implementation of the project QC requirements.

1.6 Distribution Of The Project Quality Plan

Key personnel on the project shall be issued with a controlled copy of the Project Quality Plan and the project QA/QC Engineer has specific responsibility for implementation of the project QC requirements.

1.7 Management Reviews

The quality system documentation shall be reviewed during the course of the project to ensure that the quality system is effective and reflect the working methods and objectives of the project. The Rawad Al Biniah Cont. Est., QA/QC Manager (or) his



authorized representative shall carry out the review and the results shall be reported to Rawad Al Biniah Cont. Est. Executive Management.

PROJECT QUALITY MANAGEMENT

2.1 Level 1 Quality System:

- ❖ The Project Quality Plan is the Level 1 and governing document of the Quality Management System.
- ❖ The PQP refers to the Scope of Work, Project Specifications, and Inspection/Quality Plan/ Contract. Rawad Al Biniah Cont. Est. Procedures and references documents, meeting the requirements of the Project Quality Statement.
- ❖ The QA/QC Engineer shall review and update the Quality Plan to ensure that it matches with the Project Scope requirements, as advised by the Project Manager and submit for approval to client.

2.2 Level 2 Quality System:

- ❖ Rawad Al Biniah Cont. Est. Procedures and Project Procedures prepared by client from the Level 2 of the Quality Management System.
- ❖ The QA Department, as the general quality control tool, issues Rawad Al Biniah Cont. Est. Procedures. Project Procedure shall be prepared by the relevant personnel within the project team to supplement the Establishment Procedures or to develop specific procedures for operational a quality activities applicable to the Project.

PROJECT QUALITY SYSTEM REQUIREMENT

3.1 Management Responsibility:

The Management responsibility for the project is to assign qualified and technically experienced Engineers and other staffs for this project is to monitor the quality as per this plan.

3.2 Quality System:

The Quality System applied for the project shall be described in Appendix 1 & 2 of the PQP, through work Procedures, reference documents and Inspection Test Plan.

3.3 Contract Review:

- ❖ On contract award, the contract documents shall be reviewed to assess the scope; equipment, material and other resources required for the execution of the contract and to verify whether the technical, quality and commercial aspects are adequately defined.
- ❖ The contract shall be kept on periodic review to monitor the change of scope, specifications and any other requirements. The Quality System applied for the



- ❖ project shall be described in Appendix 1 & 2 of the PQP, through work Procedures, reference documents and Inspection Test Plan.

3.4 Design & Specification Control

Rawad Al Biniah Cont. Est. will prepare isometric and shop drawings to which type of work it required and will submit to client.

3.5 Document Control:

- ❖ Technical documents shall be as per the Project Engineering Standard, Specification etc.
- ❖ The Document Controller shall be responsible for the control of the technical documents.
- ❖ The Project QC Inspector shall control all other documents and data.

3.6 Purchasing:

3.6.1 Purchasing of materials and equipment supplied by Rawad Al Biniah Cont. Est. shall be controlled in accordance with the scope of work.

- ❖ Inquiries for purchasing
- ❖ Preparation of Material Submittal
- ❖ Purchasing of Material and equipment

3.6.2 Receipt, storage and issue of materials shall be controlled as following.

- ❖ Materials Receipt
- ❖ Material Storage
- ❖ Material Issue
- ❖ Material Reconciliation

3.7 Control of Client Supplied Equipment & Materials:

3.7.1 The materials and equipment received at the site from the client or sub-contractors shall be controlled according to the following establishment procedures.

- ❖ Site Material Receipt/Storage/Issue
- ❖ Protection and Preservation of Materials / Equipment

3.8 Identification and Traceability:

Product identification and trace ability shall be as defined in the project specifications and quality plan. The specific requirements for trace ability shall be covered in accordance with scope of work.

3.9 Process Control:

3.9.1 Process Control is applied on specialized process like welding. The following establishment Procedures shall be applied for welding Process Control.

- ❖ Control of Production Welding
- ❖ Qualification of Welding Procedures



- ❖ Qualification of Welders
- ❖ Control of Welding Consumables

3.9.2 Process shall also be executed and controlled as per the requirements given in the Project Scope of Work and Specifications.

3.10 Inspection and Testing:

Inspection and Testing shall be carried out as per the requirements given in the Project Scope of Work and specifications.

- ❖ On site Quality Control
- ❖ Inspection and Testing using Inspection and Test Plan

3.11 Control of Inspection, Measuring and Test Equipment:

3.11.1 Inspection, measuring and Test equipment shall be controlled as per the following establishments Procedures.

- ❖ Control of Inspection, Measuring and Test Equipment.
- ❖ Calibration of Instruments by Specialist Calibration Agencies.

3.11.2 Type II Measuring instruments such as micrometers, venire calipers, depth gauges, measuring tapes, etc., shall be internally calibrated using Calibrated standard blocks. The calibration procedures shall be performed as per approved procedures.

3.11.3 Type – 1 Instruments such as Pressure gauges, Drying ovens, Psychrometers etc., which requires specialized calibration methods, shall be calibrated through accredited independent calibration agencies

3.11.4 Increase of hired equipment, only those with valid calibration shall be accepted.

3.12 Inspection and Test Status:

3.12.1 Inspection and Test shall be controlled and reported by means of various inspection reports defined in the establishment Procedures.

3.12.2 The QA/QC Engineer to highest prepares QC Weekly reports.

- ❖ Overall achievement in the week
- ❖ Specific matters, which requires the attention of the concerned manager.
- ❖ NCRs, concession requests, rejection and quarantine notes issued or outstanding.
- ❖ Project Manager reviews the Weekly Reports.

3.13 Control of Non-Conforming Products

- ❖ Nonconforming products or activities shall be controlled through stage inspection.
- ❖ Non-conformances observed shall be handled



3.14 Corrective and Preventive Action

3.14.1 The requirement for Corrective and Preventive action shall be identified from the following reports.

- ❖ Non-Conformance Report.
- ❖ QC Weekly Report
- ❖ Weekly Projects Status Report (Prepared by the Planning Engineer)
- ❖ Internal Quality Audits.

3.14.2 Corrective and preventive action shall be taken through the following ways.

- ❖ Modification of Project Procedures.
- ❖ Management action through normal “chain of command”
- ❖ Training and guidance to the Project Team and Work Force at all levels.

3.15 Handling, Storage and Delivery:

- ❖ Handling, Storage and delivery shall be carried out in accordance with the following procedures.
- ❖ Material Receipt and Protection and Preservation of Materials/Equipment.

3.16 Control of Quality Records:

3.16.1 Quality Records consist of the following

- ❖ As Built drawings
- ❖ Inspection Reports defined in the applicable CPs, & PPs
- ❖ Queries and Clarifications from the client

3.16.2 Quality records shall be controlled.

3.16.3 The QA/QC Engineer assisted by the Document Controller shall maintain the Quality records for completion in the project QC dossier.

3.16.4 Project QC Dossiers shall be complied.

3.17 Internal Quality Audit:

Rawad Al Biniah Cont. Est. personnel who are trained and appointed as Internal Auditors are not members of the project team shall carry out quality audits. The audits shall be carried out in accordance with the following procedure.

- ❖ Preparation of Internal Quality Audit Programs
- ❖ Conduct of Internal Quality Audits

3.18 Training:

3.18.1 All Personnel assigned to the project shall attend the following orientation program as a minimum



- ❖ Safety procedures of Rawad Al Biniah Cont. Est. and Project specific safety procedures.
- ❖ Rawad Al Biniah Cont. Est. Policies and Procedures
- ❖ Element of the Quality Plan those are relevant to the role of the personnel.

3.18.2 Wherever required, HRD Manager and Project Manager Shall arrange specialized training for the concerned personnel.

RAWAD AL BINIAH CONT. EST. QUALITY MANAGEMENT SYSTEM

4.1 General Requirements:

Rawad Al Biniah Cont. Est. has developed, written and formally issued, installed, maintained and, where possible, continue to improve our quality management system based on the requirement of client. Rawad Al Biniah Cont. Est. Have:-

- ❖ Identified the processes needed for the quality management system and its application throughout the organization.
- ❖ Determined the sequence and interaction of these processes
- ❖ Determined the criteria and methods needed to ensure that both the operation and control of these processes are effective.
- ❖ Made available the resources and information necessary to support the operation and monitoring of these processes.
- ❖ Set up system to monitor measure and analyses these process.
- ❖ Taken and continue to take any actions necessary to achieve planned results and to continual improvement of these processes.

4.2 Requirement for Documentation:

4.2.1 General Requirements for Documentation

The quality management system documentation have been developed, written, issued, installed and maintained, include the following:-

- ❖ A quality policy and quality objectives statement, which is formally issued, signed and dated,
- ❖ A quality standard manual,
- ❖ Quality plan / operating procedures,
- ❖ Any additional documents or forms needed by the establishment to ensure the effective planning, operation and control of its processes.

4.2.2 Quality Policy Manual / STANDARDS

Rawad Al Biniah Cont. Est. have established and maintained a quality policy manual /Standards that includes.

- ❖ The scope of the quality management system, including details of and justification for any exclusion is provided in the standards.
- ❖ Reference to the associated operating procedures / standard
- ❖ A Description of the interaction between the processes of the quality management system.



4.2.3 Control of Documents

Documents required by the quality management system are controlled. Documented procedures have been developed and installed to provide the necessary controls to.

- ❖ Check document to ensure they are correct and also to formally approve before issue,
- ❖ Review and update documents where necessary and to re-approved and re-issue such new or amended documents.
- ❖ Ensure that changes are recorded and the current revision status of documents are identified.
- ❖ Ensure that relevant version of appropriate documents are readily available at the points of use.
- ❖ Ensure that documents remain legible and readily identifiable,
- ❖ Ensure that appropriate documents of external sources are identification and their distribution controlled.
- ❖ Prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for historical reference or any purpose.

4.2.4 Control of records

Records are established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system. Controls exist to ensure records remain legible, readily identifiable and retrievable. A documented procedure has been established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

MANAGEMENT RESPONSIBILITY

5.1 Management commitment:

Top management provides evidence of its commitment to the development and implementation of the quality management system. Controls exist to ensure records remain legible, readily identifiable and retrievable. A documented procedure has been established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

- ❖ Communicating to all of Rawad Al Biniah Cont. Est. Staff, the impotence of meeting customer requirements, whilst also meeting statutory and regulatory requirements,
- ❖ Documenting and authorizing the quality policy,
- ❖ Ensuring that quality objectives are established,
- ❖ Conducting management reviews,
- ❖ Ensuring the availability of resources.

5.2 Focusing on customer requirements:

Prior to accepting an assignment, the establishment will determine the stated and implied needs of the customer. As contractor requirement evolve the contract will be reviewed and changes will be implemented. The implementation plan and resources



will also be continually evaluated to ensure the customer derives maximum benefit from our services.

At the completion of each project, management or design will review the customer contract to ensure any written or implied requirements were met. At this time a

methodology for getting customer feedback will be identified and evidence of the feedback will be maintained in the client / project file.

The client will be contacted immediately if issues or questions are detected. Clients will be contacted on regular basis to see if there is ongoing satisfaction with the services provided. Clients will be informed when new services are designed that may enhance the processes already in place.



5.4 Planning:

A copy of the latest issue of this Quality Policy is displayed in the foyer, in all sections and project site offices.

5.4.1 Quality Objectives

- ❖ Management is directly responsible to ensure that quality objectives are part of each year's strategic planning and that they are measurable and fit within the framework of the quality policy.
- ❖ Top management has introduced a formal Operating Procedure on Continuous improvement and Quality Objectives.
- ❖ These objectives can be on either, the management systems or, services.

5.4.2 Quality management system planning

The management is responsible to ensure that quality management planning is scheduled and carried out and that the integrity of the system is maintained. The following items will be considered as input to the planning.

- ❖ Quality Policy and Objective
- ❖ Customer feedback
- ❖ Needs and expectations of the client
- ❖ Standards and weakness of previous projects



- ❖ Strength and weakness of previous projects
- ❖ Corrective actions.
- ❖ Customer suggestions and preventive actions
- ❖ Perceived opportunities and threats
- ❖ Necessary assessments, measurements, verification, validation and monitoring.
- ❖ Changes affecting QMS.

5.5 Responsibility, Authority and Communication:

5.5.1 Responsibility, and Authority

- ❖ Top management have ensured that responsibilities and authorities are defined and communicated within the establishment structure of Rawad Al Biniah Cont. Est. is shown at STANDARD 03 to this Quality standard. This chart simply shows functional relationships and responsibilities. It does not simply relative seniority or importance of position.
- ❖ The General Manager who, whilst maintaining executive control, review and responsible, has delegated the Departmental Managers with day-to-day management and reporting of the Quality System to General Manager.
- ❖ The General Manager, and all managers, and supervisors ensure that all the requirements of the Quality Policy Manual / Standards and the Operating

Procedures have been fully implemented and are maintained. They also ensure all staff understand the requirements of the Operation Procedures (OR Standing or Temporary Work Instructions) affecting their tasks and the requirements of each contract. The General Manager, Departmental Managers and supervisors also ensure that their staff have the necessary procedures, work instructions, training, specifications, drawings, tools and equipment to effectively carry out the work.

- ❖ Each employee of Rawad Al Biniah Cont. Est. is responsible for maintaining the specified standards of work for each contract at all times. As a general policy, any supervisor may perform the tasks of those under their supervision, if supervisors can demonstrate adequate qualifications and /or experience.

5.5.2 Management Representative

The nominated Management Representative will be responsible to ensure the system is established, documented, implemented and maintained. Any concerns or needs for improvements will be communicated to management through the management representative. The Management Representative will ensure that QMS and customer requirements are communicated to all who have the need to know. He will also communicate with external parties, clients on matters relating to the Quality Management System.

5.5.3 Internal Communication

It is management's responsibility to ensure that genuine dialogue occurs throughout the establishment, especially regarding the QMS and customer. Management will ensure there is a forum available for all to communicate.



5.6 Management Review:

Top management formally reviews Rawad Al Biniah Cont. Est. Quality Management System, at planned intervals, to ensure its continuing suitability, adequacy and

effectiveness. Management review can take on any reasonable from the previous planning, management reviews and inputs are considered. The main objective is continual improvement. Any deficiencies found will be reviewed and discussed to ensure they are not left out of future planning. Employees who make great strides in

improvement of QMS will be recognized. Minutes of reviews will be maintained and will include action items and timeframes for completion. Action items can be completed by any means as long as documentation is kept for each item and everyone in the management review gets communication of the resolution.

RESOURCE MANAGEMENT

6.1 Provision of Resources:

Rawad Al Biniah Cont. Est. have determined, planned and provided the resources needed to implement and maintain the quality management system, to continually improve its effectiveness, and to enhance customers' satisfaction by meeting customer requirements and exceptions. Resources allocation and availability will be continually reviewed and

identified. Rawad Al Biniah Cont. Est. may discover during management reviews, customer input, or with new business review that further resources are needed. Management will maintain enough resources and staff to support the QMS objectives and client needs as monitored by internal audits and customers satisfaction measures.

6.2 Competence, awareness and training:

Rawad Al Biniah Cont. Est. has procedures to:

- ❖ Determine the necessary competence for personnel performing work affecting product or service quality.
- ❖ Provide training or other appropriate actions to satisfy these needs,
- ❖ Review and evaluate the effectiveness of the actions taken,
- ❖ Ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives,
- ❖ Maintain appropriate records of education, training, skills and experience.

6.3 Infrastructure:

Rawad Al Biniah Cont. Est. plans, provides and maintains the infrastructure needed to achieve conformity to service requirements. Including where applicable.

- ❖ Building, workspace and associated utilities,
- ❖ Processes equipment (both hardware and software),
- ❖ Supporting services such as transport or communication
- ❖ Equipment including vehicles and tools
- ❖ Accommodation, Catering.



MEASUREMENT, ANALYSIS AND IMPROVEMENT

7.1 General:

Rawad Al Biniah Cont. Est. will plan and implement the monitoring, measurement, analysis and improvement processes needed to:

- ❖ Demonstrating conformity of the service,
- ❖ Ensure conformity of the quality management system, and

Continually improve the effectiveness of the quality management system.

This will include determination of applicable methods, including statistical techniques, and the extent of their use.

7.2 Monitoring and Measurement:

7.2.1 Customer Satisfaction

Customer issues and conflicts will be immediately addressed and resolved. Feedback from these situations will be communicated to all concerned for education, growth, and

rectification if so. Information from customer evaluation forms and customer surveys will be distributed to all concerned. Periodic visits to active and past customers will be conducted and directed by the General Manager to ensure the customer is satisfied or to determine if further assistance is needed.

7.2.2 Internal Audits

- Rawad Al Biniah Cont. Est. have implemented documented procedures to carry out internal audits at planned intervals to determine whether the quality management system. Audits of the QMS, customer files, documents, customer satisfaction, applicability of service materials, and training needs will be accomplished on schedule basis by qualified personnel independent of the work being audited.
- Conforms to the planned arrangements
- Is to the quality management system requirements established by the establishment
- Is effectively implemented and maintained.
- An audit program will be planned twice in year initially thereafter once in a year, taking into the status and importance of the processes and areas to be audited, as well as the result of previous audits. The audit criteria, scope, frequency and methods will be defined. Selection of auditors and conduct of audits will ensure objectivity of the audit process.
- Auditors will not audit their own work.
- The responsibilities and requirements for planning and conducting audits, and for reporting results and maintaining records are defined in the documented procedure.
- The management responsible for the area being audited will ensure that actions are taken without undue delay to eliminate any nonconformity found and the causes. Follow-up activities will include the verification of the actions taken with appropriate recording and reporting.



7.2.3 Monitoring and measurement of processes

Rawad Al Biniah Cont. Est. apply suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, corrective and preventive action is taken, as appropriate, to ensure conformity of the product or service.

7.3 Analysis of Data:

The data gathered from process, product, customer and supplier evaluation will be analyzed to identify trends. Negative trends will be evaluated for immediate reduction,

root-cause analysis and future elimination. Positive trends will be evaluated for replication in other areas to improve the QMS. Summary of each data and methods to correct and eliminate nonconformities will be including in inputs to management reviews and communication to all I concerned.

7.4 Improvement:

7.4.1 Continual improvement

Rawad Al Biniah Cont. Est. is committed to striving for excellence by evaluating all data and feedback for each business unit or project and incorporating improvements when feasible. Improvements will only be incorporated when they are beneficial to Rawad Al Biniah Cont. Est. and the customers. All feedback from customers will be responded to even if it does not warrant a change or improvement. In fact, whenever possible, the customer will be contacted to them for their input. When input is received via the corrective and preventive action process, the response will be processed using this vehicle.

7.4.2 Corrective action

- ❖ Rawad Al Biniah Cont. Est. will take action to eliminate the cause of non-conformities in order to prevent recurrence.
- ❖ Corrective actions will be appropriate to the effects of the non-conformities encountered.
- ❖ A documented procedure has been established to define requirements for:
 - ❖ Reviewing non-conformities (including customer complaints).
 - ❖ Determining the causes of non-conformities.
 - ❖ Evaluating the need for action to ensure that non-conformities do not recur.
 - ❖ Determining and implementing action needed.
 - ❖ Records of the results of action taken.
 - ❖ Reviewing corrective action taken.





QUALITY ASSURANCE / QUALITY

CONTROL PROGRAM

OBJECTIVE:

Quality Assurance and Quality Control (QA/QC) program is very important for the success of any project. A well- planned, organized and efficient Quality plan / Quality program shall result in satisfaction of the client. Achieving project completion time and maintenance of high quality control over every activity of this project. This Quality plan / Quality Program describes the application of our policy on quality to the activities at all phases of this project and at all levels of the management.

It is our fundamental principle to provide our client with services, which are in accordance with its own standards and those specified by the client; meeting the contractual requirements which are specified in the scope of work, Technical specification, Material/Design standards and relevant Drawing.

All activities from project start-up until completion are bound within the framework of the quality system. Any conflicts / deviations to the system shall be resolved without jeopardizing quality. Written quality procedures prescribed in this Quality system are followed strictly into working practices.

The Quality policy shall be implemented from project start-up until completion and shall be communicated to all levels. Arrangements are in place to ensure that they are understood, implemented and maintained through the established management system procedures.

All personnel are responsible and accountable for the implementation and operation of the procedures set forth in this QA/QC program for a high standard quality system.

The QA/QC personnel at any level shall report to immediate supervisors responsible for producing the work being inspected. QA/QC personnel are free from the pressures of cost, schedule and production and shall be given the necessary authority and independence to perform their roles effectively.

ORGANIZATION CHART:

The project Manager is the ultimate authority for quality within the organization. The QA/QC engineer(s) reports directly to the project Manager. They are independent to initiate action to identify, record, correct, reject or to issue a directive to stop any



activity at any stage, which is contrary to the principles of the Quality plan. Their actions are supported at Management level even if they hinder project progress. The number of QA/QC engineers shall be as required in the instruction to Bidders for Technical proposal.

PROCUREMENT CONTROL:

QA/QC Engineer(s) shall review all products and services prior to procurement to ensure conformance to specified requirements. Procurement shall include source evaluation and selection, source inspection and evaluation of objective of quality furnished by supplier/vendor against specifications.

These product shall cover materials/equipment's but not limited to the testing services, fill materials, Portland cement concrete and additives, asphalt concrete, water steel structures, HVAC materials and formwork materials.

Basic criteria for supplier/vendor approval are prior approval of vendor by client through assessment. The vendor must have supplied similar to earlier projects to the full satisfaction of both the contractor and client, history of quality supply and proven record shall be considered most valuable for vendor evaluation. New vendors are assessed through documented procedures.

Manufacturer/Suppliers of major requirements must be pre-qualified and approved by the client. Vendor / suppliers are provide with Scope Of Work (SOW), Technical Specification, Material standards, relevant Drawing and agreed inspection and Test plan for their compliance.

Manufacturer / Suppliers of major equipment / material shall develop, present and implement Quality control plan, Inspection and Test plan (ITP) for each of their equipment / material to be supplied for the project.

Locally procured materials shall comply with Technical Specification Material standards, drawing / catalogues and approved material list of client. Construction materials are approved based on documented procedures of In- House Testing or through approved independent inspection laboratory. Technical Data sheets of materials must contain relevant information, for prior approval by the client. Client's Material Specification Data schedules are completed and presented wherever applicable.

QUALITY AUDIT :

Successful, efficient operation of Quality system requires periodical review. Project Manager(s) duty is supported by QA/QC. Engineer(s) shall review internal audits of



Quality system in order to ensure compliance to the standard and specification and the effectiveness of the project Quality system. Deficiencies and shortcomings are identified, exhaustive inferences are drawn to correct and actions shall be taken to enhance the effectiveness of the Quality system. Review and actions are recorded to modify established working procedures. This review applies to all phases of the project and not limited to sign, procurement, construction, installation, and testing, commissioning and as built documents.

Each element of the Quality system shall be assessed at least once during the currency of the project. The schedule and frequency shall be adjusted if one or more of the following conditions exist:

- ❖ Changes in the client's requirement.
- ❖ Changes required suiting the unexpected change according to site condition.
- ❖ Significant changes made in the Quality plan/Quality program.
- ❖ Result of previous audit indicates a need to perform them more frequently.
- ❖ Safety, performance or reliability of an item is questionable due to non-conformance.
- ❖ Verification of corrective action implementation.

The personnel conducting the audit are not involved / directly responsible for specific activities or areas being evaluated or assessed.

NON-CONFORMANCE CONTROL:

Initially non-conforming products and services are identified at the manufacturing facility through a sub-contracted approved international inspection Agency. Identifying Non-conforming products are documented segregated, isolated, evaluated disposition is documented and field in order to prevent shipment of these products.

Materials / Equipment's received at the site / warehouse are subject to joint inspection between client's representative and QA/QC Engineer. Acceptance is subject to conformance with Test Reports and Technical specifications. Non-conforming products are identified, segregated, isolated, market and shipped back to manufacturer to prevent unintended use. Material disposition documents shall accompany the Non-conforming reports. Utmost care is exercised to prevent shipment of Non-conforming products from the manufacture's end. Non-conforming material disposition is done through written procedures.

Critical examination resulting in identification of non-conforming of product being minor in nature shall be documented. Non-conformance report (NCR) shall be prepared and submitted to the client for review and comment. Due course of action is initiated after client's response, QA/QC Engineer shall re-inspect, required & reworked non-conforming item and shall not use any repaired or reworked item



without the approval from the client. Under this clause, the following definitions apply as per ISO 8402:

- ❖ Repair – Action taken on a non-conforming product so that it will fulfill the intended usage requirements although it may not conform to the original specified requirements.
- ❖ Rework - Action taken on a non-conforming product so that it will fulfill the specified requirement.

QA/QC Engineer shall have the freedom to issue NCR, verify implementation of corrective actions and prevent use of non – conforming items until the deficiency has been satisfactorily resolved. QA/QC Engineer shall submit bi-weekly site QA/QC reports to the client about non-compliances.

CORRECTIVE ACTION:

This action shall be initiated from the very beginning whenever non-conformances are identified. Manufactures / Suppliers are provided with all relevant documents before the start of the job. They shall be instructed to avoid any inadvertent delivery of non-conforming goods. Non-conformance / compliance reports initiated are delivered to manufacturer / supplier to inform about the cause of rejection. Disposition of Non-conforming products shall be done through documented procedures and records maintained.

Delivery documents and shipment certificate are scrutinized to immediately identify non- conforming equipment's/ materials. QA/QC Engineer with his team initiates corrective action at their end. New procedures or changes to existing procedures resulting from identification of the root cause and potential root cause of non-conformances shall be documented and implemented. Follow-up action shall be taken to verify effective implementation of corrective action.

The identified cause and corrective action shall be included in the bi-weekly site QA/QC reports and submitted to client.

QUALITY RECORDS :

Systematic documentation and preservation of Quality Document / Records is done at each phase of the project.

Manufacturer's / supplier's documents such as inspection and test plan reports, factory test reports, witnessed test reports and any Non-conformance reports received shall be documented.

Field inspection checklists, laboratory test reports, Equipment calibration records / certificates, inspection logbooks, construction drawings, specifications, approved



submittals and Non-conformance reports generated on site are documented and filed systematically.

QA/QC Engineer and his team shall maintain these archives both in main office and at project site office as a reference.

All the records/reports shall be scrutinized and reviewed before documentation. Any discrepancies shall be notified and needed action implemented.

CONTROL OF INSPECTION, MEASURING & TESTING EQUIPMENT:

All measuring, test equipment and devices of different disciplines, which can affect the quality of construction is classified and serialized. They are stored at the storage room, which in turn is monitored by storekeepers and supervisor. Test Equipment are issued on receipt of Authorized material issue request, signed by none than the manager project. Issue and receipt of all equipment is controlled through a logbook and issued to qualified personnel.

Calibration of all test equipment is done through an approved independent testing laboratory. Test certificate sticker are pasted on the equipment mentioning the serial number, name of laboratory, initial of personnel who has carried out the calibration, date of calibration and validity of certificate of due date for recalibration.

Calibration certificated and test results are filed both in main office and at project site office as a reference. A copy of calibration certificate and test results is attached with each equipment for user's reference.

The QA/QC Engineer ensures that properly identified and calibrated measuring & testing equipment's and devices are only used in this project.

DOCUMENT CONTROL:

Control of all documents pertaining to the project curbs confusions, Project document of various disciplines, are controlled by different authorized personnel.

1.1 Engineering & Design:

An external design consultancy that has been approved by the client is engaged for overall design. Their responsibilities includes but not limited to the following:

A. Preparation of all drawings pertaining to various disciplines at different phases of project i.e. base design stage, detailed design stage, IFC Stage and As-built stage. Design comments from the client are incorporated in the drawings with updated revision numbers. Drawing control sheet shall be updated from time to time.



- B. The client shall issue Field changes / sketches requiring mirror deviation from the original drawings per requirement after consultation and approval.
- C. Drawing wherever applicable are supported by detail Engineering calculation. The client shall review design input and output of calculation.

Issuance of drawings & documents for clients review and release to site are closely monitored and controlled. QA/QC Engineer shall ensure that all pertinent and current issues of appropriated documents are available at location where they are essential and obsolete or superseded documents are promptly removed. Latest revision, which has been approved for construction are only made available to site personnel. QA/QC Engineer controls the issue of drawing and documents at all stages of the project.

1.2 Construction :

Inspection, testing and checklist reports after approval by the client are filed, as they represent detailing aspects of project fulfilling contractual requirements.

Test reports of independent testing laboratory/agencies shall include test methods deployed with Rawad Al Biniah Cont. Est. standards.

1.3 Manufacturing:

Client approves Quality control plan, inspection and test plan received from the manufacturer. External inspection agencies are made aware of our Quality program and it shall be followed during inspection. Factory test reports and witnessed test report from these agencies are directly issued to client with a copy to the Client (Main Contractor).

1.4 Quality Documents:

Project Quality plan/Quality program Document shall be the basis of effective implementation of Quality system. Project Manager Supported by QA/QC Engineer controls periodical review of implementation. Review of these documents and changes incorporated are filed with current revisions.

1.5 General

Systematic control of correspondence between client and AHC, as well as AHC and independent inspection agencies, independent testing laboratories, vendors/ suppliers and sub-contractors are documented and stored. Technical submittals for review and approval by the client such as shop drawings, product catalogs, Material samples and test reports are also controlled through serialized submittals. These documents are recorded, processed and monitored for current status and revision.

MATERIAL / EQUIPMENT HANDLING , STORAGE, IDENTIFICATION AND CONTROL:

Inspection of materials / Equipment is against packing list. Inadequacy is reported immediately and documented. Damage during transit are identified, inspected and



record until further action is evolved. Storage of Material / Equipment's is done at both central warehouse and site stores in a systematic manner. Material / Equipment's requested are dispatched / issued through documents controlled by QA/QC Engineer authorizing store personnel for needed action.

QA/QC Engineer shall ensure that all material / equipment meet prescribed contractual requirements and are properly handled. Identified, traced, cleaned, preserved and stored.

DESIGN CONTROL :

An external design consultancy that has been approved by client shall be engaged for overall design. All design input and output shall be reviewed prior to release to the next stage. Hold points shall be applied as per Quality program. QA/QC Engineer shall ensure that in addition to design review, design verification shall be conducted so that the design stage output meets the design stage input requirements.

QA / QC Engineer shall ensure that all design computation; design drawing and other design documents are properly controlled and checked prior to submission to the client.

QA / QC Engineer shall also ensure that the person who prepared and checked those sign design documents.

FIELD TESTING / INSPECTION & CONSTRUCTION / INSTALLATION CONTROL:

QA/QC Engineer shall conduct inspection and testing activities at all phases and quality audit at Appropriate Stages of the Project construction/installations.

For each equipment/material/process/activity, field inspection checklist shall be applied. The Field inspection checklist outlines the characteristics to be verified, inspection method, acceptance criteria and clause reference of the applicable standard or specification. The QA/QC Engineer shall indicate the result of inspection, date of inspection, and his name in the fielded inspection checklist and should sign the same. The activities covered under field inspection checklist shall include but not limited to all pre-commissioning and commissioning checks and tests, material / equipment receiving inspection, concrete pre-pour inspection, and asphaltting, typical formats of these field inspection checklist shall be submitted to the review and comment. Only after getting the approval, inspection shall be started accordingly.

QA/QC Engineer shall review the test results for its acceptance to relevant documents and it shall be safely stored both in main office and at project site office as a reference. QA/QC Engineer shall record all his comments and observations made on the inspection, in the inspection logbook. If there is any deficiency or nonconformance, same also to be recorded and intimated to the client. After approval, the deficiency



shall be rectified and results shall be recorded in the inspection logbook as a reply to the earlier recorded deficiency. This ensures that all unsatisfactory observations on an item are cleared before any activity proceeds to the succeeding stage of that item.

QUALITY ASSURANCE & QUALITY CONTROL SERVICES – CONTRACTOR'S (INDEPENDENT INSPECTION AGENCY (IIA) :

An approved QA/QC service contractor shall be contracted to perform Quality surveillance and inspection of all major equipment is both for foreign and local manufacturing. Pre-qualification of IIA is obtained from the client and resumes of their personnel witnessing testing & inspection of different equipment's are submitted to the client for review and approval.

The specific material / equipment to be inspected, manufacturer and location of manufacturing plan shall be identified for each proposed inspector of IIA.

After approval of IIA and its personnel from the client, contractual obligation is finalized with IIA; Detailing them with relevant and binding any portion of the contacted work to any other sub-contractor shall be furnished with a copy of the scope of work (SOW) finalized with IIA.

IIA shall be provided with the following list of documents to carry out their activities in correlation with the manufacturer:

- ❖ Un-Priced copy of purchase order placed to supplier / manufacturer.
- ❖ Relevant section of project scope of work and Technical specification.
- ❖ Applicable developed standard and specification and approved design drawings.
- ❖ Manufacturer's technical specification i.e completed data schedule.
- ❖ Approved of material / equipment and applicable clarification issued by
- ❖ Approved test program, manufacturing Quality control plan, inspection and test plan.
- ❖ Any deviation / exemption already accepted by the client.
- ❖ IIA in turn provide directly to copies of its inspection reports, test reports and material status with copy to the company.

Copy of technical correspondence exchanged between AHC and IIA shall be submitted to the client.

IIA shall verify and check each material / equipment for conformance against the project scope of work and technical specification and each clause of the applicable. Material standard specification (SMSS) and report all deviation that are not included in the issued clarifications. The report of IIA shall include the following:

- ❖ Project title, contact number.
- ❖ Complete description of the inspected material / equipment.
- ❖ Report number and date.



- ❖ Place and date of inspection, scope of inspection.
- ❖ Documents used during inspection.
- ❖ Manufacturer and plant location where the equipment was manufactured.
- ❖ Detailed description of the inspection and testing activities and their results, deviations to specification,

Manufacturer's explanation and copy of the outline drawing of the inspected material / equipment. Witnessed tests and reviewed test data shall be identified in the inspection reports.

IIA shall provide directly to the client by express mail or fax, four (4) copies of material status, quality surveillance reports, inspection and test reports within seven (7) days after the inspection, all pages of the inspection and test reports shall be reviewed, signed and stamped by the approved inspector from IIA.

14. RELEASE FOR SHIPMENT CERTIFICATE :

This certificate is issued by AHC to the supplier / manufacturer to release the described material for shipment after recommendation by IIA. This document controls and guarantees that the inspection conducted for particular equipment / material by IIA meets and satisfies the requirements of both and AHC. This Certificate release for shipment. Certificate shall be signed and stamped by both client and AHC before issuing to the supplier / manufacturer.

QA/QC Engineer shall ensure that the manufacturer / supplier without the approved "release for shipment certificate ship no material / equipment.

Approved independent testing laboratory is controlled by AHC to conduct testing of materials and field testing services.

They are instructed not to re-assign any portion of their contracted testing work. Scope of work issued to and finalized with the independent testing laboratory shall be provided.

Contractor shall make reasonable effort to obtain timely access to the independent testing laboratory's facilities, and should exercise the option to witness any or all the tests and verify the calibration status of the testing equipment.

QA/QC Engineer ensures that the calibrated equipment / testing kits are utilized for all testing activity. The independent testing laboratory shall send four (4) copies of the test results and reports directly to within (3) days of the test completion. Test report shall indicate the tested characteristics, test methods, acceptance criteria and applicable standard. The project contact number shall be used as reference on all reports.

QA/QC Engineer coordinates with the independent testing laboratory.



16. RESPONSIBILITY OF QA/QC ENGINEERS:

The Overall Quality Assurance and Quality Control responsibility of the project rests on project manager. He is supported by his QA/QC Engineer to ensure the complete implementation of the project QA/QC program.

The duties and responsibility of QA/QC Engineer include: He reports directly to project manager.

- ❖ He interfaces directly with concern department.
- ❖ Interface and interaction between engineer / design consultant, material purchaser, planning & scheduling group, sub-contractor and site personnel.
- ❖ Assist and advise in the preparation and implementation of quality system.
- ❖ Surveillance on inspection and quality of material / equipment is conforming to the specification and drawings.
- ❖ Preparing, review of final submittals of all documents, construction material, drawings and field test reports for client's review and approval.
- ❖ Processing request for site inspection and material inspection with the client. Prepares material disposition from initiate's corrective action wherever necessary.
- ❖ Processing request for site inspection and material inspection with the client. Prepares material disposition from initiate's corrective action wherever necessary.
- ❖ Monitoring all activities of site and initiating action of any conflicts with the specification. Coordinates with the client on all quality aspects.
- ❖ Control of all documents and drawings both at head office and at site, logging, filling and maintaining records of all field test reports.
- ❖ Monitors activities of independent testing laboratory on site and testing at laboratory.
- ❖ Monitors materials received at site for proper documents, probable damage in shifting / handling and proper storage.
- ❖ Hall ensure that all phases of the project are built, tested and commissioned in accordance with the requirements of the project scope of work, technical specifications and drawings.



SAFETY PROGRAM



SAFETY CONTROL DEPARTMENT RESPONSIBILITIES

To be able to set-up and administer applicable safety standards aiming to protect lives and preserve properties through an implemented zero accident action plan.

DUTIES AND RESPONSIBILITIES

1.1 Safety Manager / Senior Safety Officer:

The Safety Manager or a Senior Safety Officer (SSO) will be responsible for the overall and accident prevention activities of the establishment. He will administer all phase of the Safety Manual be it personal, public or occupational. To carry out these functions, he should:

- ❖ Verifies that Project Management maintains the effective safety and environment programs of this document.
- ❖ Act as Project advisor to assist in decision-making processes.
- ❖ Inspects on a regular basis all aspects of filed operation to ensure compliance with the existing policies standards to the Project Manager.
- ❖ Submits reports and statistical information about the project previous and status to the Project Manager.
- ❖ Develop and promote working liaison along with different authorities, agencies departments, industries etc.

1.2 Site Supervision – SAFETY:

The Safety Manager or the Senior Safety Officer (SSO) has the overall responsibility for administration and surveillance of the Safety Loss Prevention, Health and Environment Program.

The Project Management is fully responsible and is accountable for the implementation and maintenance of the safety requirements noted in this Safety Loss Prevention, Health & Environment Manual at their location. Each site shall appoint personnel in positions of Site Safety Officer and Site Safety Engineers who shall liaise with work supervisors, foreman, sub- contractors and the independent consulting engineer (ICE) and conduct continuous surveillance to verify the safety, Loss Prevention, Health and Environment requirements are being fulfilled.

The functions of the Site Safety Engineers shall be:

- ❖ Ensure on ground implementation of Safety regulation by establishment / Sub – contracted staff.
- ❖ Inform Site Safety Officer of progress daily in compliance with safety rules and reports all cases of non-compliance.
- ❖ Maintain and keep all records of safety meetings.
- ❖ Organize safety orientation training for new employees and maintain record there-of.



- ❖ Maintain and keep all records on Personal Protective Equipment and firefighting equipment.
- ❖ Liaise with the sub-contractor's safety staff, supervisors and foreman.

SITE SAFETY MANAGEMENT

1.3 Employee Participation:

The responsibility for the success of all safety programs rest, with not only the Project Manager and their nominated safety personnel, but also with all permanent and temporary site personnel whose safety and welfare is the primary aim of this manual.

All permanent site personnel shall receive:

1. A copy of this document to read and introductory briefing as to how the project Management shall implement its requirement.
2. On-site instruction / directive as to safe working practices and routines, including protective clothing consideration.
3. Information as to location of project facilities, channels of communication relating to accident reporting / prevention, personal responsibilities etc. and shall be encouraged to participate in its successful implementation.

3.2 Safety Meeting:

The objective of such meetings is to identify "before the fact" situations, which may lead to personal suffering or even loss of life, and to review this document In relation to actual day-to-day activities.

Communication coupled with quick positive action, is the key to successful safety procedures. There is no room for apathy with regard to safe practices.

It is the establishments' policy to ensure compliance with various rules and regulations pertaining to safety meeting in consideration of these standards, the following meeting will be held.

3.2.1 on a monthly basis - the Project Manager including all representatives and management of sub-contractor's safety staff.

3.2.2 On a weekly basis – supervisory staff meets under the direction of the Senior Supervisor.

3.2.3 Weekly – Foreman's safety meets (TOOLBOX PROJECT DISCUSSIONS)

3.2.4 Additional meetings as required by Project Management.

All Meetings shall be noted and will include follow up actions and cross-referenced to nominated personnel and / or sub – contractors.

3.3 Sub-Contractor Safety Program:

It is essential that all sub-contractors working on our projects are aware of the S.H. & E. standards and their responsibilities towards maintaining and promoting a safe environment of employment. Wording in this effect will be including in any written subcontract entered into. They shall participate and adhere to the regulation of this document, without exception.



3.4 Control Of Nonconforming Events:

3.4.1 The following procedures will be implemented wherever non-compliance with good safety practices is observed.

3.4.1.1 Personal discussion with individuals responsible by the monitoring safety staff.

3.4.1.2 Discussion at safety meetings covering area of violation

3.4.1.3 Recurring violations are presented to sub-contractors by the letter, which shall require them to process immediate "Corrective Actions" to assure compliance with requirements.

3.4.1.4 Directions that sub-contractors remove people who continuously refuse to follow practices or policies.

3.5 Fire Protection And Prevention:

An integral part of the safety program is Fire Protection and Prevention. It takes into account the hazards that surround construction and makes allowances for the different types of fire and its ignition. The type of equipment provided caters to its extinguishment in the most expeditious and effective way. This also includes the site offices and labor camps.

3.5.1 PLANNING:

In order that fire protection and prevention is planned to meet the construction activities, Safety engineers shall:

- ❖ Review the latest international codes and standards applicable.
- ❖ Include the local Fire Department in its implementation such as but not to be limited to, communications, project hazards, planned access routes, water, supplies and pressures etc.
- ❖ Liaise with planning to ensure the scheduling of the construction activities is done in such a manner, as to minimize the possibility of such an occurrence.

3.5.2 TRAINING AND EDUCATION:

Nominated employees will be given knowledge as to proper use of firefighting equipment and hazard control. Fire protection methods shall be included in safety meetings and pre-job employee orientation sessions.

DOCUMENTATION

4.1 Accident Reporting and Investigation:

4.1.1 OBJECTIVES:

Objective of this procedure is to ensure that Safety Department is notified of all accident the soonest possible. This procedure will also provide a systematic method



of investigating and reporting an accident at construction site and identify corrective action steps to prevent a reoccurrence. This procedure also outlines the method of communicating with Safety Department.

4.1.2 DEFINATION:

4.1.2.1 Fatal:

Death resulting from an accident

• 4.1.2.2 LTI (Lost Time Incident):

An injury causing disablement of an injured person beyond 48hrs excluding the days of accident and reporting to work back, which should also include Fridays and holidays.

- Immediate loss of any part of the body or any limb or part thereof.
- Crushed or serious injury to any part of the body due to which loss of the same is obvious.
- Any injury which is likely to prove fatal.
- Unconsciousness due to accident
- Severe burns or scalds due to chemicals, steam or any other cause.

• 4.1.2.3 Dangerous Occurrences:

Bursting of vessel used for steam having pressure greater than atmosphere pressure.

- ❖ Collapse or failures of any lifting machine (crane sling, wire rope, hoist, chain pulley block etc.) and lifts {passenger, goods and service}.
- ❖ Explosion, fire, bursting out, leakage or escape of any molten metal, hot liquor or gas, which results into injury or material damage.
- ❖ Explosion of a receiver or container used for storing any substance (gas, liquid, solid etc.) at a pressure greater than atmospheric pressure.
- ❖ Collapse or subsidence of any floor, gallery, roof, bridge, tunnel, chimney, wall or building.

4.1.2.4 Minor Injury:

An injury, which requires Medical treatment causing any disablement of injured person from work less than as mention in LTI. Person is resumed the site within 48hrs after receiving an injury.

4.1.2.5 First aid Injury:

An injury, which requires first-aid treatment only without causing any disablement of the injured person from work. Person is resumed sit within two hrs. After receiving injury.



4.1.2.6 Near – Miss Occurrence:

These are indicates / occurrences wherein a serious accident as described above has not happened but could have happened or could happen, if the unsafe situation/ act continues, or it did not happen due to absences of a factor, which could have resulted in an accident and /or dangerous situation.

4.1.3 PROCEDURE: The procedure deals with reporting of accidents involving people, machinery, building, structure, surroundings and environment (air, water, land) dangerous occurrence and near accident & first aid occurrence, which could have resulted in an accident and /or dangerous situation.

- ❖ Responsibility of reporting – Project Manager.
- ❖ Reporting – As per distribution given in the forms.
- ❖ Method of reporting – email / by fax / courier (procedure by verbal report within 4 hours in case of major mishap/fatal accident to Safety Manager or the Operation Manager.
- ❖ Report forms: There are four basic forms.

4.1.4 FORMS:

4.1.4.1 Accident Report:

This is for reporting Fatal, Lost Time Accident. Minor injuries, and Fire Other dangerous occurrence. To be filled by the Site Safety Officer/ Engineer and sent to his site in charge with copies for Site Manager and others as shown in the form, immediately within 24hrs. If there is any fatality, an oral report must be made to Safety Manager with 4hrs and following information must be provided.

- ❖ The facility name;
- ❖ The location of the incident;
- ❖ The time if incident;
- ❖ The no of fatalities or hospitalized employees and their names;
- ❖ The name of contact person and his telephone number and;
- ❖ Brief description of the incident.

4.1.4.2 Accident Investigation:

It is for reporting investigation of the accident / dangerous occurrence already reported. It has to be filled in by the SSO/Person investigation or nominated by the Safety Manager and copies to be sent as shown in the form within 72hrs. When indicated by the severity of the incident, steps to secure the incident site must be initiated immediately to ensure the investigating party can reconstruct the events leading to the incident. Individual interviews should be conducted with each person at the time of incident.

- ✓ The witness should be interviewed promptly, separately and privately.
- ✓ The interviewer should explain the purpose of the investigation to individual.
- ✓ The interviewer should avoid questions that give a yes or no answer.



- ✓ After the interview, the interviewer should document any concerns identified.
- ✓ The investigation should be directed at determining the root cause.
- ✓ The investigation team must focus on getting accurate and complete information
- ✓ The investigation will identify corrective actions, both immediate recovery actions and long term follow-up actions to prevent the incident from reoccurring.

4.1.4.3 Near Miss:

It is for reporting – near – miss accident, which does not come under above category i.e. Lost time accident, minor, first aid should be send as shown in the form within 24hrs after an accident take place and is to filled by the Site Safety Officer.

4.1.4.3 First Aid Cause:

It is for reporting only first aid cases (please refer definition). To be filled by SSO/person investigating or nominated by Site Engineer, one copy to be send to Safety Control Dept. and others as shown in the form with first week of the month.

4.1.5 ADMINISTRATION:

Safety Control Department will send procedures with the forms to all sites. The reports in Photocopy or in typed form should be prepared and submitted to Safety Department within stipulated period s mentioned in the form. In case of Lost Time Incident, the Site Manager or client's project manager will have to send separate reports to the authorities as per the client's requirement.

4.1.6 EMPLOYEES RESPONSIBILITY:

Inform immediately to SSO or concern supervisor for work related illness inform and injuries (i.e. on the same day).

4.1.7 RECORDS:

FORMS

Inform immediately to SSO or concern supervisor for work related illness inform and injuries (i.e. on the same day).

1. Accident Report.
2. Accident Investigation.
3. Near Miss Accident Report.
4. First Aid Accident Report.



4.2 Monthly Reporting & Analysis of Mishap at Construction Sites:

4.2.1 OBJECTIVES:

This procedure is to report and highlight monthly safety performance record of sites to the management. Based on these reports, the management can take necessary steps and augment safety efforts as required at these sites.

4.2.2 PROCEDURE:

SSO shall write the correct Accident Data & Man-Hours as per the standard format given by the Safety Department. SSO shall sign and to be forward to Safety Control Dept. in the first week of every month. Monthly statistical reports are processed and analyzed by the Safety Department and performance is evaluated for further action

and will be published quarterly in the safety bulletin.

4.2.3 ADMINISTRATION:

Site Safety Officer of the Project is or Main Contractor shall send the report to Safety Department by the first week of every month. If SSO is not present, PM will be responsible to send the report to SCD. If there is nothing to report in a particular month then, " Nothing to report" will be written in" Month under report" and the same cumulative data as that of previous month shall be written.

4.2.4 CLARIFICATION:

- ❖ After an accident to a contractor's workers, if another worker replaces him, then there are two types of man-hours lost.
- ❖ ACTUAL person-hours lost, which equals to stoppage of work by the injured person/s i.e. No of injured persons/s X no of hours not worked.
- ❖ NOTIONAL person-hours lost which equals to no. of hours not worked for medical treatment, etc. by the injured person/s. even if he is replaced/ transferred to
other site, after his recovery from the ailment.
- ❖ Total man-hours lost due to stoppages of work, as a result of accident/mishap, by the site work-force may also be reported as a third parameter, to record overall consequence of the accident.

4.2.5 RECORD:

FORM

Monthly Statistical Report.

4.3 Positive Reporting on Safety at Construction Site:

4.3.1 OBJECTIVES:

Procedure at 4.1 and 4.2 deal with reporting of accidents and mishaps at construction sites. These reports give negative information, albeit necessary, about Safety



performance & Management at the sites and enables measurement of safety in terms of reduction in injury/harms/loss.

However, when safety Performance is good, and injury & Loss are low at a particular site, these negative measurements are not sufficient to have adequate feedback for managing safety, because potential for injury/mishap may be high at the site but likelihood of risk of events may be very low. Hence, absences of accidents is not a sufficient indication of good Safety Management and other measurements of safety Performance are necessary to have assurance that the absence of accidents is due to good Safety Management.

4.3.2 PROCEDURE:

The procedure deals with formally reporting to the Safety Department in writing, about the positive aspects of safety such as follows in construction activities at sites.

- ❖ Compliance to Safety Control Procedures (CSC) in the procedure Manual
- ❖ Provision and use of APTs.
- ❖ Regular On-site training of workmen, mock fire-drills etc.
- ❖ First Aid and Fire Fighting Training of site personnel
- ❖ Any additional safety provision at site
- ❖ Any aspect of safety promotion at site such as Safety Slogans/essay/quiz competition, safety poster display etc.
- ❖ Compliance with statutory requirements.
- ❖ Interaction with the client/contractor on safety matters like joint safety inspection (weekly).
- ❖ Achieve milestones such as accidents-free 100,000 man-hours.

4.3.3 ADMINISTRATION:

- ❖ Whenever a positive action is taken at the site, SSO will send its details to SCD in the form attached to this Procedure. Both PM and SSO will sign the form.
- ❖ The information may be sent at any time, as and when the positive safety action is taken at the site.
- ❖ Safety Officer from SCD will check the actual provision of the measure/s reported by

SSO/PM when he visits the site.

- ❖ Compliance/provision must be seen as having definite and positive effects on preventing mishaps and personal injuries at the site.

4.4 Safety Committee:

4.4.1 INTRODUCTION:

Each site should have a safety Committee having equaled number of representatives from Management and worker/contractor. A well-planned Safety committee is a great motivator for safety. It's primary purpose is to enable management and workers to work together to monitor the site safety plan, so as to prevent accidents and improve working conditions in the state concerned, but is should always be an action oriented group of people in which both management and workers are represented. The safety committee ferrying out a site inspection together raises the level of safety committee



ferrying out a site inspection together raises the level of safety consciousness at the site.

The procedure for forming the safety committee, scope and objectives of the committee, meeting procedures, minute is preparation and circulation.

Formation of Safety Committee, membership, objectives, meetings, minutes and follow up action is listed in annexure.

4.4.2 FORMATION OF SAFETY COMMITTEE:

4.4.2.1 Each site will have one Safety Committee:

Safety Committee will consist of/be represented by site-in-charge of all contractors/sub-contractors and headed by the Project Manager. This committee will have periodic meeting headed by Project Manager/SSO.

4.4.2.2 Meeting Frequency:

- ❖ Meeting of the Safety Committee shall be held at least once in a month, in the second week of each month.
- ❖ Dates of the next meeting shall be informed to all members in the proceeding meeting, so that the members can make themselves available for the next meeting. This is important so that the members find/make time available to attend the meeting.
- ❖ Special safety committee meeting shall be held as required to discuss serious accidents, potentially accident-prone activities and such matters

4.4.3 SCOPE / OBJECTIVES OF THE SAFETY MEETINGS:

- ❖ Regular and frequent meetings to discuss the safety and health program on site and to make recommendations to management.
- ❖ Discussion of accident and illness reports in order to make recommendations for prevention
- ❖ Evaluating improvements made.
- ❖ Examination of suggestions made by workers, particularly by safety representatives.
- ❖ Planning and taking part in educational and training programs and information sessions.

4.4.4 ADMINISTRATION:

Agenda of safety meetings shall be prepared by SSO/PM at the site and sent to all participants at least one week in advance. Agenda shall include review of MOM of previous month, acceptance by all participants (to be recorded) and record of actual completion dates of action items.



THE TRAINING

4.1 Safety Tool – Box Meeting / Talk (TBT) at Construction Sites:

4.1.1 OBJECTIVES:

Awareness of safety in construction, and knowledge about hazard and their elimination/minimization in construction activities is one of the prime functions of the Project Manager/SSO. This awareness is essential to prevent accidents to man, machine and environment under his control & responsibility.

In Order to prevent accidents, SSO/PM has to put his knowledge about safe practices into action, to being himself, and then ensure that safe practices are followed by all, who are working at his site and particularly by workmen, who actually carryout the construction Activities.

Due to the typical nature of construction activities/sites, knowledge, culture, skills and attitudes of workers to safety vary from site to site and it is necessary for PM to impart to workers the knowledge and skill about safe practices in construction activities, in general and specific to his site.

4.1.2 PROCEDURE:

This procedure spells out the requirement of conducting TOOL BOX TALKS (TBT) at each site their timings, their frequency, subjects and responsible person/s. The annexure to the procedure gibes Top-Box Talks details for some of construction sites.

4.2 Administration:

5.2.1 Uncontrolled copies of this procedure along with the annexure will be sent to all SSOs.

5.2.2 Safety Manager shall check up-to-date logbook records of TBTs conducted by SSO at the site and communicate his observations in the visit report

5.2.3 SM shall also interact with SSO, during the site visit, on additional TBTs, which need to be included in the annexure and about revision in the contents of TBTs in the Annexure.

4.3 Training at Sites:

4.3.1 INTRODUCTION:

An effective accident prevention and occupational health hazard control program is based on proper job performance. When people are trained to do their job properly, they will do them safely. In addition, training is the only way to influence human behavior.

4.3.2 INTRODUCTION NEEDS:

A training program is needed.

- ❖ For New and redesigned employees.
- ❖ When new equipment or processes are introduced.
- ❖ When procedure have been revised or updated.
- ❖ When new information must be made available and,



- ❖ When Employee's performance needs to be improved.

4.3.3 PROGRAM OBJECTIVES:

Training programs should be based on closely defined objectives that determine the scope of the training and guide the selection and preparation of the training materials. Objective should be planned carefully and written down. They should indicate what the trainee is to know or do by the end of the training period.

The General topics covered by SCD in its training program are given in annexure 1. Annexure 2 contains the subjects normally covered in supervisors training program. Apart from the conventional training program covered in annexure 2, there are other types of training program. Some of the important programs are listed below.

- ❖ On – the – job – training
- ❖ Conference method of watching like problem solving Conference
- ❖ Group training techniques, encouraging participation, discussion regarding standardization procedure
- ❖ Simulation
- ❖ Quiz program on specific topic
- ❖ Television / screening of films.
- ❖ The annexure gives the existing program schedules and a model training program schedule.

4.4 Safety Training:

- ❖ Safety Philosophy
- ❖ Hazard Recognition and Risk Analysis
- ❖ Personal Protective Equipment
- ❖ Good Housekeeping
- ❖ Fall Protection
- ❖ Traffic Safety
- ❖ Scaffolding Safety
- ❖ Confined Space Entry
- ❖ Fire Control, Prevention & Safety
- ❖ Pressure Safety

- ❖ Rigging Safety
- ❖ Lock-out and Tag-out System
- ❖ Excavation and Trenching Safety
- ❖ Welding and Hot-Works Safety
- ❖ Industrial Radiation Safety
- ❖ Material Handling and Storage
- ❖ Participants: Both regular and contractors employees.



4.5 Model Course Contents of Supervisory Training Program:

SESSION 1

- ❖ Safety and the supervisor.
- ❖ Safety and efficient production go together.
- ❖ Accident affects morale and public relations the cities of supervisor under OSHA.



SESSION 2

- ❖ Known Your Accident Problems.
- ❖ Elements of an accident, under acts, unsafe conditions, accident investigations, measurement of safety performance, Accident costs.

SESSION 3

- ❖ Human Relation
- ❖ Motivation, Basic needs of workers
- ❖ The supervisor as leader
- ❖ The alcohol and drug problem

SESSION 4

Maintaining interest in Safety Committee functions and maintaining good employee relations. The supervisor's role in off-the-job safety.

SESSION 5

- ❖ Instruction for safety
- ❖ Impotence of job instruction
- ❖ Making a job Safety Analysis (JSA)
- ❖ Job Instruction Training (JIT)

SESSION 6

- ❖ Industrial Hygiene.
- ❖ Environmental health hazards and skin diseases.
- ❖ Lighting, noise, Ventilation, temperature effects.

SESSION 7

- ❖ Personal Protective Equipment
- ❖ Eye protection, face protection, foot and leg protection
- ❖ Hand protection, Respiratory Protective Equipment, Protection against Ionizing Radiation

SESSION 8

- ❖ Industrial Housekeeping
- ❖ Good Housekeeping
- ❖ OSHA requirement

SESSION 9

- ❖ Material Handling and Storage
- ❖ Lifting and carrying, Handling specific shapes
- ❖ Hand tools for material handling, motorized equipment,
- ❖ Hazardous liquids and compressed gases

SESSION 10

- ❖ Guarding Machines and Mechanisms.
- ❖ Principle of guarding, Benefit of good guarding, Types of guards.
- ❖ Standards and codes. OSHA regulation.

SESSION 11

- ❖ Hand and Portable.
- ❖ Tools Handling and Storage.
- ❖ Training in the safe care.



6. SPOT SITE SAFETY INSPECTIONS

The Senior Safety Officer will conduct independent safety inspections. These visits will be pre-arranged however; the Site Safety Officer will accompany him around the site on each visit. Total cooperation will be afforded to the Senior Safety Officer and he will be provided with such information or access, as he deems necessary to make his own assessment of the Safety procedures being implemented.

These visits to site will be at not less than one-month intervals but not to exceed two months and at additional times, as he considers appropriate.

The Senior Site Officer shall audit all reports or notice being issued within the work site and maintenance of other prescribed documents on various safety related matters. This is to include non-compliance notice to DLPS / sub-contractors and actions initiated by these said departments / sub

– Contractors for corrective action.

SPECIFIC SAFETY PROCEDURES REGULATION AND RESPONSIBILITIES

ANNEX I – RESPONSIBILITIES:

I. FOREMAN / SUPERVISOR

- ❖ To conduct daily check of workers safety gears such as hard hat, safety shoes, gloves, safety glasses, safety belts, ear plug etc. and to make them mandatory for workers.
- ❖ To organize site so that work is carried out to the required standard with minimum risk to men, equipment and materials.
- ❖ Plan and provide good housekeeping.
- ❖ Be familiar with work permit procedures.
- ❖ Coordinate with subcontractors and other contractors on the site to avoid any confusion about areas of responsibilities.
- ❖ Make sure that all men know how to obtain and administer first aid properly and
- ❖ efficiently to all injured persons. They should also know how to summon assistance in case of emergency and nominate others to acting on their recommendation.
- ❖ Co-operative with Safety Officer and the fire department by acting on their recommendation.
- ❖ Check that equipment and tools (Both power and hand tools) are maintained in good operation conditions.
- ❖ To remain on job site as long as the work is in progress.
- ❖ To remain on job site as long as the work permit requirements.



- ❖ To keep first aid kit and fire extinguisher available at job site.
- ❖ To make sure that workers do not smoke in the prohibited areas.

- ❖ Not to allow eating or sleeping inside.
- ❖ Correct unsafe acts, such as horseplay or the taking of unnecessary risk.
- ❖ Commend men who by action or initiative eliminate hazards.
- ❖ To use barriers and warning tapes.
- ❖ To see that all machines are properly grounded.
- ❖ To create safe working environment for workers.
- ❖ To keep good housekeeping.



II. RESPONSIBILITIES OF WORKER

- ❖ Wear personal protective equipment.
- ❖ Not to start work unless the site Supervisor given them permission.
- ❖ Avoid smoking other than designated area.
- ❖ Turn off power and unplug power tools before repairing or maintenance.
- ❖ Wear hard hats and safety shoes at all times.
- ❖ Defective electrical cables, loose electrical connections should be immediately reported to the supervisor.
- ❖ Not to do any horseplay or practical jokes in the job site.
- ❖ To report immediately any accident to the Site Supervisor.
- ❖ To keep fire extinguisher in the jobs site and must know how to operate.
- ❖ Not to leave loose tools over head by edges of holes.
- ❖ Inspect tools and equipment daily and to report defects to Supervisor.
- ❖ Obey your supervisor and follow his instructions.
- ❖ Do nothing to endanger self or work mates.

III. WORKING IN HAZARDOUS AREA

- ❖ All the personnel deployed to work in hazardous area shall be given short training regarding the nature of hazard, its completion, safety pre-cautions to be taken; in case of an accident how to deal with the help of safety officer.
- ❖ A safety officer of the establishment will deputize full time as long as the work in hazardous areas is being carried out.
- ❖ Strict vigilance and discipline by the personnel while working in hazardous area will be maintained all cost.
- ❖ All vehicles and equipment deployed in hazardous area shall strictly conform to client's requirement for use in hazardous area.
- ❖ All power tools, hand tools should conform to client's requirement for use in hazardous area.
- ❖ All electrical temporary connections required to be done at hazardous area shall confirm to client's requirement for us in hazardous area.



- ❖ Hot work in hazardous area. Wherever hot work is to be done in hazardous area, hot work permit is to be obtained from the concerned Safety Department. All hot work shall be done in presences of client's safety personnel and as per his instructions.
- ❖ When hot work is being carried out, the area shall be cordoned off with fire blanket.
- ❖ Provision for adequate gas mask and fire extinguisher suitable for the type of fire anticipation shall be provided.
- ❖ Adequate fire hoses/sprinklers shall be provided in that area to detect the gas leaks.
- ❖ Enough gas detectors shall be provided in and around the area of hot work.
- ❖ All drain near the hot work area shall be flushed out of all flammable liquids and all drains covered to prevent spark or hot metal pieces getting into these drain.
- ❖ The completely hot work area shall be cooled off before the hot work start and during the hot work operation.

- ❖ All vessels, tanks and pipes, which are expected to carry hydrocarbon vapors shall be, flushed out as per recommendation of client's safety personnel and before any hot work is started. Client's safety officer's permission on start hot work is to be obtained.
- ❖ If gas leaks injurious to health are anticipation in the hazardous area, enough gas tight enclosures with oxygen mask shall be provided.



ANNEX II – SPECIFIC WORK OPERATION INSTRUCTIONS:

I. SCAFFOLDING:

- ❖ All scaffolding to be erected by qualified scaffolders.
- ❖ Only approved scaffold members are to be used in the construction of static scaffolding.
- ❖ Mobile scaffold towers over 3000mm high shall have out riggers for stability.
- ❖ Mobile scaffold must only be used on level surfaces, no artificial surfaces to be placed under the wheels.
- ❖ Employees must alight from mobile scaffold prior to moving the tower.
- ❖ Platforms shall not be less than 600mm wide and will be provided with a guardrail around the exposed perimeter.
- ❖ Platform shall cover the full void of the scaffold, no open areas will be allowed. Toe boards will be placed around external perimeters of scaffold, at each level.
- ❖ Platform boards shall not overhang its support members and will be firmly fixed to the same.

- ❖ Fixed scaffold must be secured every 7500mm vertical and 9000mm horizontally.
- ❖ Safety lines and life vests must be used when working over water.



- ❖ Employees are prohibited from crossing catwalks whilst raising the support frame.
- ❖ Stripping crews will ensure that forms are accessible by way of ladders etc. after panels or forms are raised.
- ❖ All projecting nails shall be removed or turned down immediately.
- ❖ All scaffold and ladders to be erected by qualified riggers.
- ❖ Scaffold ladders must have rungs spaced at uniform centers. Any ladders with missing or defective rungs are to be immediately replaced or repaired.

II. STEEL REINFORCEMENT HANDLER:

- ❖ The steel must be sited on firm ground or platforms.
- ❖ Use suitable slings for lifting re-enforcement bundles. Do not lift by the binding wire.
- ❖ Safe place of work must be provided for steel fixers. Other persons should be kept away.
- ❖ Reinforcement should be laid out before fixing so that individual bars may be easily removed or used
- ❖ Suitable eye protection must be worn while cutting.
- ❖ Those involved in cutting and bending should wear protective gloves.
- ❖ Only trained and authorized operatives will do the cutting and will use only recommended blades on the disc cutters.
- ❖ Do not use cutting torches on steel, which may be adversely affected by the heat.
- ❖ While cropping off bar ends, ensure that cropped off ends do not fly off and injure others.
- ❖ After fixing, suitable walkways should be provided.

III. CEMENT HANDLER:

- ❖ Refrain from wearing clothing that will irritate the skin.
- ❖ Brakes on rail cars will be checked before approaching a main line switch.
- ❖ Hand breaks and blocking must be set immediately when rail car is seen.
- ❖ Do not stand in front of down loader when they are in operation.
- ❖ After work bathe thoroughly. Gloves and goggles are to be worn when handling cement
- ❖ Compressed air is dangerous. Do not apply to body or use to clean off clothing.
- ❖ Protective glasses or goggles must be worn when conditions warrant; chipping grinding and jackhammer work are examples of work when they are required.
- ❖ Protective cream or oil on hand and face before starting to work with cement and concrete. Respirators are to be worn when working in cement dust. Filters to be checked regularly.
- ❖ Approved type goggles shall be worn when chipping grinding welding handling (corrosive liquids) and working with compressed air or when necessary to be close to such an operation being performed by another employee. Employees are to familiarize themselves with regulations covering specific work operations as to "when and where" to wear goggles.

IV. MIXING PLANT, GRAVEL PLANT, CONVEYORS:

- ❖ When working on machinery or equipment, open motor switch and hang a signed danger tag on switch; when work is finished, remove the tag. These



- tags may be obtained at the Tool Room
- ❖ Do not remove a tag signed by anyone else.
- ❖ Do not close a switch that is tagged.

- ❖ Screens shall be used at all times when welding.
- ❖ All railings shall be kept in good repair and uniform height.
- ❖ No repairs of any kinds should be made while machinery or conveyer is in motion.

- ❖ Any gear belt or chain drives in which an employee might become caught should be guarded with enclosures or substantial railings.
- ❖ Use Extreme caution when working on stockpiles or bins. Never enter the cone of a material pile without having a safety rope secured above and a man on guard.
- ❖ Only employees authorized by supervisors or foreman will be permitted to use power drive equipment.
- ❖ Powered equipment, which is apparently defected, not performing to its usual standard or generally unsafe, will not be operated. Foreman to be notified immediately to organize replacement /repair.

V. TRUCKS PICKUP AND “CAT” DRIVERS:

- ❖ When cranking motors place thumb next to index finger. Grasping the cranking handle in this manner will avoid injury if the motor “Kick back”.
- ❖ Do not stay in open cabs when trucks are being loaded with heavy rock shovel or drag line. When dismounting from the cab, stand clear and observe loading.
- ❖ “Thumbs Up” when driving. Do not grasp steering wheel with thumbs inside the spokes.
- ❖ When carrying overhanging loads, make sure they are protected with a red flag in daylight and or red light at night.
- ❖ Never back a vehicle without looking behind first or having proper guidance of a spotter. Reversing alarms will be used on all vehicles.
- ❖ Check vehicle when shift is finished. Report any defects in breaks, light or other parts of machine to foreman.
- ❖ Be sure that helpers, spotters and others are in the clear before machine is moved.
- ❖ Keep windshield and side of cab clear at all times.
- ❖ Do not drive too close to edge on shoulder of fills.
- ❖ Do not allow anyone to travel on sideboards of pick-ups / trucks.
- ❖ Know and abide by the Saudi Traffic Laws when driving, slow down and use caution at blind intersections and crossing where employees are going to and from work. Observe traffic regulations.
- ❖ Constrictions plant/vehicles or machinery will not be used as transport vehicles for employees.
- ❖ Employees are to ensure that they do not extend any part of their body outside the designated transport vehicle.
- ❖ Authorized drivers are not to allow any persons to ride inside the cab of the vehicle they are driving.
- ❖ Employees are not to alight from vehicles while they are still moving.



- ❖ Never pass another vehicle on curve.

VI. RIGGING:

- ❖ When working with cranes or hoisting equipment qualified one Rigger only is to direct the operator.
- ❖ The following procedure is to be adopted on instructing drivers/operators, without exception:
 - Hoist or Raise Load – Forefinger pointed up and rotating in circular motion.
 - Raise Load Slowly – Elbows extended horizontally and hands held in front of the body with palms extended and facing each other approximately 8 to 12 inches apart. The top hand is held still while the bottom hand makes an up and down motion.
 - Lower the load – The arm is extended horizontally and with the palm facing down makes an up and down motion with the hand.
 - Lower the Load Slowly – Elbows are extended horizontally from the body with the hand held in front of the body palms extended and facing each other approximately 10 to 12 inches apart.

The bottom hand is held still while the upper hand makes an up and down motion.

- Raise the Boom – The thumb is held extended from the clinched hand in an up direction.
- Raise the Boom Slowly – Elbows are extended horizontally and the hands are held in front of the body. The top hand is held motionless with the palm extended and facing down. The bottom hand is held in clinched position with thumb extending from the closed fist towards the upper palm.
- Raise the Boom and Lower the Load – One hand is clinched with the thumb extended in a up position while the other hand is held underneath with the palm extended, face down and moving in an up and down motion.
- Lower the Boom – The arm is held extended with the hand clinched and the thumb extended in a down direction.
- Lower the Boom Slowly – The elbow of one arm is extended in a horizontal position with the hand held in a clinched position with thumb extended in down position. The other hand is beneath with the palm extended facing the thumb.
- Lower the Boom and Hold the Load – One hand is held in extended position in a clinched position with the thumb facing down. The other hand is held underneath with the forefinger extended and rotating in a circular motion.
- Swing the Load – Swing the load in direction fingers points with arm extended and forefinger indicating the direction that the signalman wishes the load swan.
- Dog or secure everything – Hands extended horizontally from side with both palms pointing down.
- Open Clam Shell Bucket – Hand held extended in horizontal position from the body with the palm facing down and the hand in a position imitating an open clamshell bucket.
- Close Clamshell Bucket – Hand held extended in horizontal position from the body and the hand held motionless in a fist position.



- ❖ Whilst working with crew where crane or hoist is used, one person is directing the movement of the load. Standard crane operations and Riggers signals and rules are to be used. Stay out from under boom.
- ❖ Safety belts must be worn and secured by adequate tie off on all work off ground level or when falling hazards exists.
- ❖ Signal the boom directly over the load before starting the hoist to avoid swinging the load as the lift is started.
- ❖ Do not request lifts beyond the safe carrying capacity of sling chain, rope slings, wire cable and chain falls.
- ❖ Be sure that the slings are attached to the load properly and that all loose material or parts have been removed from the load before starting the lift.
- ❖ Be sure that all persons and equipment are in the clear before you start the lift. Do not swing loads over heads of workers.
- ❖ Do not permit to be ridden or you yourself ride or stand in suspended loads or booms.
- ❖ Signals for safe spotting of boom before leaving rig or hoist for any down time.
- ❖ Do not enter rigs at any time

- ❖ Do not operate hoist unless you have been authorized to do so.
- ❖ Inspect personal rigging belts and all slings, rope and cables that are being used. Unsafe equipment should be immediately turned in for replacement.

- ❖ Use choker cable or boom in all heavy timbers or members which may receive strain or stress beyond their safety, while loads are being hoisted or moved
- ❖ Avoid swinging loads high, in travel loads are kept low and hand walked. Use tag lines where practical.
- ❖ When rigging equipment is to be towed the equipment is to be towed the equipment must be secured by two safety chains in addition to the regular tow line or bar and placed so that equipment will be in balance to the regular equipment should fail.
- ❖ Do not direct load to swing with three (3) meters of power lines. Under no conditions shall any employee other than electrician clear any load, which has come in contact with electrical lines.
- ❖ Securely block or crib any load, which is to be left suspended.
- ❖ When spotting loads make sure they do not overload storage platforms or decks.
- ❖ Loads will be spotted in such a manner as not to obstruct walkways or to cover air house, water lines or electric lines.
- ❖ Ensure that mobile cranes are situated on suitable bearing ground. Wheels must be raised above the ground when lifting.
- ❖ Boom indicators to be regularly checked.

VII. CRANE OPERATION:

- ❖ It is the responsibility of the crane driver to be familiar with all features of the crane before it is operated.
- ❖ Ensure all safety devices are in good working order. Report any defects to the foreman at once.
- ❖ Operate the crane safely at all times. If you are in doubt as to safety, refuse to handle the load until safety is assured.
- ❖ Do not start the load with a jerk. Stop the crane in the same way, gradually



- stopping the load. Do not allow the load to swing. After becoming familiar with the crane the operator should be able to bring a swinging load to rest by movement of the carriage in the direction of swing.
- ❖ Take signals only from one man who is supervising the lift except where it is apparent that to do so would result in accident. Obey a stop signal at all times, no matter who gives it.
 - ❖ Accept only the standard crane signals:
 - Forefinger pointed up for hoist
 - Forefinger pointed down for lower.
 - ❖ Place the load boom directly over the load before starting the hoist to avoid swinging the load as the lifted is started.
 - ❖ Do not lower the block below the point where less than two wraps of chain or cable remain on the drum. Do not make lifts beyond the safe carrying capacity of sling chains, rope, and slings and wire cable.
 - ❖ Ensure that slings are attached to the load properly and that all those material or parts have been removed from the load before starting the lift.
 - ❖ Ensure that everyone is clear before a lift is started.
 - ❖ Ensure the load is under safe control when lowering. Refuse to put a load in a unsafe place.
 - ❖ Never permit anyone to ride on the load or hooks.
 - ❖ Do not permit any load to be left hanging on the crane during the lunch period or after the working day.

 - ❖ Keep all loose material on the crane picked up and in proper compartments or receptacles.
 - ❖ Gather up oily waste before operating to avoid fires. Keep waste in external box with cover.
 - ❖ Each cab type crane should be provided with a carbon tetrachloride fire extinguisher.
 - ❖ The operator shall not leave the rig while hoist motor is running.
 - ❖ Leave boom in safe position or lower boom to soil pile during down time.
 - ❖ Do not leave keys in unattended fixed and mobile cranes.
 - ❖ All other items are as covered in the General Safety Appendix.

VIII. WELDING:

- ❖ Be alert all times to protect personnel and materials around welding and / or hot areas.
- ❖ Keep a fire extinguisher available to put out any fires, which might occur. Know the location of your extinguisher.
- ❖ Hydrogen, Oxygen, acetylene cylinders must be kept in upright position and securely fastened. They must be kept outside when not in use. Caps must be kept on all cylinders when not in use. Cylinder shall be stored in well-ventilated structures out of the sun.
- ❖ Gauges must be removed from cylinders when transporting cylinders from one job to another, unless being moved by hand in a cylinder cart.
- ❖ Keep grease and oil away from oxygen cylinder, connections and gauges.
- ❖ Always close shut off valves on gauges and cylinders before leaving your place of work.
- ❖ Keep your sleeves rolled down and wear head covering at all times while welding. Protect all parts of your body when welding. Always wear gloves while



welding, cutting and chipping.

- ❖ Electric welding earth shall be made directly to ground wherever possible.
- ❖ Combustible material shall not be used to support hot work.
- ❖ When working on pipelines or with moving machinery makes sure all controls and valves are properly tagged out and locked out.
- ❖ Always wear goggles and face shield when handling molten metals.
- ❖ Handling gas cylinders is a two – man job.
- ❖ Only designated operators are permitted to use welding equipment. Gloves must be worn wherever practicable.
- ❖ An area will be designated for the storage of spare gas cylinders.
- ❖ Portable electric equipment will not be left lying around where they may cause injury. Portable electric equipment is to be disconnected when not in use.
- ❖ Protective glasses or goggles must be worn when conditions warrant; chipping, grinding and jackhammer work is examples of work these are required.
- ❖ Approved type goggles shall be worn when chipping grinding welding handling (corrosive liquids) and working with compressed air or when necessary to be close to such an operation being performed by another employee. Employees are to familiarize themselves with regulations covering specific work operations as to “when and where” to wear goggles.

IX. OILERS AND PITMEN (MECHANICS):

- ❖ When ready to oil or grease the under carriage, advise the operator so the machine will not be moved
- ❖ Never grease blocks on boom or shovel when machine is in operation.
- ❖ Use only oil and grease supplied for machine; do not experiment.
- ❖ Be careful of fingers when blocking treads or tracks of equipment.
- ❖ Heed the advice of the operator, he is experienced. His advice may save you time and possible injury.
- ❖ Oily rags, waste and other combustible material shall be kept in metal containers provided for that purpose.
- ❖ Never stand under overhanging banks.
- ❖ Assist the operator by signaling when spotting for equipment movement. Use standard signals understood by all.
- ❖ Never let a car or truck drive over electric cables or pipes unless they are protected or buried.
- ❖ Do not service fuel tanks with the motor running.
- ❖ Never spot trucks too close to soft shoulder or edge of blank.
- ❖ Cooperate with the truck drivers to enable them to perform their duties.

X. MACHINE TOOLS AND WORKSHOP:

- ❖ Do not use hands for holding work when drilling. Proper holding devices will avoid injury. Whenever possible, fasten work to table. Only one person is to operate drill at any one time.
- ❖ Electricians shall do repair replacements or alternations to electrical equipment only.
- ❖ Wear approved cup type goggles when grinding, even if wheel is equipped



with a safety glass shield. Only one person to use doubles every wheel at one time.

- ❖ Remove all sharp edges from machine or welding work.
- ❖ Protective glasses or goggles must be worn when conditions warrant; chipping, grinding and jackhammer work is examples of work when these are required.
- ❖ Portable equipment will not be left lying around where they may cause injury. Portable electric equipment is to be disconnected when not in use.
- ❖ No machine shall be operated unless all guards are in place, and suitable protective clothes being worn.
- ❖ Loose clothing will not be worn whilst working around or operating moving machinery.
- ❖ Only employees authorized by supervisors or foremen will be permitted to use power driven equipment. Power equipment, which is apparently defective, not performing to its usual standards or generally unsafe, will not be operated. Foremen to be notified immediately to organize replacement/repair.
- ❖ Oily rags, waste and other combustible materials shall be kept in metal containers provided for that purpose.
- ❖ Approved type goggles shall be worn when chipping grinding welding handling (corrosive liquids) and working with compressed air or when necessary to be close to such an operation being performed by another employee. Employees

are to familiarize themselves with regulations covering specific work operations as to “when and where” to wear goggles.

XI. EXCAVATION AND TRENCHING WORK:

- ❖ Prior to commencing any excavation work, drawing must be carefully checked considering any existing underground facilities that may possibly be encountered during the operation.
- ❖ Operate the excavating machine safely at all times, especially when encountering warning devices leading to an underground facility.
- ❖ Men working in trench of 1200mm depth or more must be provided with ladder and placed in every 15200mm intervals, but in no event shall a person work more than 7600mm from a ladder.

- ❖ Excavation of 1500mm or more in unstable soft ground shall be sloped in an approved manner.
- ❖ Excavated materials shall be placed alongside of the trench with a sufficient distance to avoid material falling back inside the trench.
- ❖ No materials shall be placed or stored within 900mm from the edge of excavated area.
- ❖ Provide barricades around excavation and trenches on site, such as: Drums/barrels half filled with sand – location along roadways or any traffic route. Lumber/Steel Rods – for location outside traffic areas.
- ❖ Strip ribbon (red & white) must be bended all around the barricades.
- ❖ Where necessary, warning signs and directional arrow signboards must be placed to indicate vehicles passageway. Fencing lights or blinkers must be provided during nighttime for excavation along roadways on any traffic route.



XII. CONCRETING OPERATION:

- ❖ Safe access must be provided.
- ❖ Debris should be directed away from other persons.
- ❖ Eye protection must be worn by those using lances and by other persons nearby.
- ❖ Concrete should not be poured too rapidly, or from such a height as to overload the framework.
- ❖ When using crane a properly trained banks man should be appointed to ensure good communication between the crane driver and concreting gang.
- ❖ Concrete pumping units should not be allowed to accumulate on the false work, the outside of forms, scaffolding, access areas or delivery strips.
- ❖ Tempting or leveling beams should be light enough to be handled comfortably.
- ❖ Pumps should be properly maintained and checked before use.
- ❖ Concrete pumping units should be sited to allow safe access for truck mixers and particular care must be taken to ensure that there is no danger of a placement boom approaching too close to overhead electric cables or other obstructions.
- ❖ Pump lines should be laid to form as little hazards or hindrance as possible and care must be taken to avoid contact with or close approach to overhead lines.
- ❖ An effective system of communication between the pump operator and the placing gang must be established. Where any part of the boom or placement hose is out of sight of the pump operator a competent banks man should be appointed.
- ❖ Pump receiving hoppers are to be guarded.
- ❖ When cleaning out pump lines, care should be taken that material is ejected in safe direction and that unnecessary debris is not caused.
- ❖ Compressed air is dangerous. Do not apply to body or use to clean off clothing.
- ❖ All hose and vibrator lines are to be run under ladders and walkways, never overhead rails.



XIII. GUARDING OF FLOOR OPENING AND HOLES:

- ❖ Floor and Roof Openings – Openings shall be guarded by a cover or railing on all exposed sides or shall be constantly attended by a person.
- ❖ Floor and Roof Holes – Holes that constitute hazards to persons shall be



protected by covers or guarded by suitable barriers.

- ❖ Hatchways and Chute Floor Opening – These shall be guarded by one of the following:
 - A hinged floor opening cover and a railing with only one side exposed, when the opening is not in use. The cover shall be closed or removable railings shall guard the exposed side.
 - Removable railings with toe boards on two sides or fixed railing with toe boards in all exposed sides shall be used.
- ❖ Pits and Trap Door Opening – These shall be guarded by floor opening covers. When the covers are not in place, a railing shall guard all exposed sides.
- ❖ Manhole Floor Opening – covers shall guard these. When the cover is not in place, the opening shall be protected by railings or constantly attended by a person.
- ❖ Railings will guard wall Openings – Wall opening where the bottom is 6ft. Or more above the adjacent floor or ground.
- ❖ Window Wall Opening – All such opening 6ft above floor level shall be guarded until glass or some other material is fixed.
- ❖ Ladder Ways – Ladder ways floor opening shall be guarded by a railing on all exposed sides with passage through the railing guarded.

XIV. HV CABLES, TEMPORARY WIRING AND OVERHEAD WIRING:

High Voltage Wiring

- ❖ Warning signs of high voltage should be displayed on the panel boards.
- ❖ All metallic enclosures shall be grounded.
- ❖ Maximum operating voltage shall be marked on the enclosures.
- ❖ Extension cords shall not be hung from nails or suspended by bare wire.
- ❖ Fuse cabinets shall have close fitting doors which can be locked.
- ❖ Switch or circuit breakers shall have means to lock in the “OFF POSITION” during maintenance.
- ❖ Rating of electrical circuit and the circuit breaker must match.
- ❖ Portable and semi-portable equipment shall be grounded.

TEMPORARY WIRING

- ❖ Warning Temporary wiring shall be guided, buried or isolated by elevation.
- ❖ Safe overhead clearance shall be maintained.
- ❖ Supporters of hanging cables shall be insulated.
- ❖ Wiring in conduit pipes shall have bushing at all terminals and outlets.
- ❖ Temporary wiring shall not be suspended by their electric wires unless so designed.
- ❖ Temporary wiring shall be checked for polarity, ground continuity and ground resistance prior to use or after any modifications.
- ❖ Temporary wiring shall be protected from foot traffic.
- ❖ Temporary wiring joints shall have proper insulation and shall not be covered with paper tape.
- ❖ Electric circuit more than the rated capacity of the wiring shall not be passed through.
- ❖ Temporary cables shall be fitted with approved plugs and sockets.



OVERHEAD POWER CABLE

- ❖ All Transmission lines shall be buried where there is a possibility of too much movement of heavy equipment having capabilities of encroaching upon overhead clearance.
- ❖ Sufficient overhead clearance for vehicles and heavy equipment shall be maintained.
- ❖ If movements of materials encroach upon overhead clearance, the lines shall be de-energized.
- ❖ If lines are de-energized, measures shall be taken to prevent accidental energizing.
- ❖ Any overhead lines shall be considered energized unless proven otherwise.
- ❖ Any combustible or inflammable materials in the near vicinity shall be moved away before commencing work on / near overhead power lines.

XV. HANDLING AND STORAGE OF COMPRESSED GASES:

- ❖ Compressed gasses are very sensitive, have explosive characteristics and can explode anytime if not handled, stored and used properly. The safety points listed below must be borne in mind when operating with compressed gasses.
- ❖ All compressed gas cylinders should bear color-coding identifying the gas contained
- ❖ Cylinder should be stored in well-ventilated places with overhead covers to protect them from the sun.
- ❖ Cylinder containing oxygen, acetylene or other fuel gasses shall not be taken into confined spaces where there is likelihood of presence of inflammable gasses / vapors.
- ❖ Empty and filled cylinders shall be well away from other flammable or combustible materials.
- ❖ The storage place shall well away from other flammable or combustible materials.
- ❖ Cylinder containing different gases shall not be stored together.
- ❖ No smoking shall be allowed where gases are stored or used.
- ❖ Cylinder shall be protected from physical damage or electric current.
- ❖ Cylinder valves shall be closed when not in use. Valve protective caps shall be on when the regulator is taken off or when the cylinders are in storage.
- ❖ Lifting of cylinder shall be by racks, carriage shall be on hand carts. No manual lifting shall be one.
- ❖ Valve shall be opened slowly and valve-opening wrench/wheel shall be in operating position.
- ❖ Cylinder shall be handled carefully so as not so to damage the valve or cylinder.
- ❖ Leaking cylinder shall be taken to an isolated place and the gas allowed escaping. This area should be very well away from combustible and inflammables. Such cylinders should be marked "DFECTIVE".
- ❖ Cylinder containing different gases shall not be bled simultaneously.
- ❖ Only qualified personnel shall be performing the bleeding of any toxic gas cylinders.
- ❖ Compressed gas shall not be used as a substitute for compressed air.
- ❖ Compressed gas hoses, which have been subjected to flashback, shall be pressures tested prior to re-use. Defective or doubtful hoses shall not be used.
- ❖ Oxygen and fuel gas regulators and gauges shall be in proper working order.



- ❖ A suitable fire extinguisher shall be kept in easy reach wherever the gases are being used.
- ❖ Compressed gases shall not be used for blowing dust or cleaning personal clothes.
- ❖ No oil or grease shall be allowed into contact with hoses, connections, regulator or cylinders.

XVI. FIRE RESPONSE, FIRE PREVENTION & FIRE PROTECTION:

Fire Response Plan

- ❖ It is the responsibility of all personnel to report all fires or potential fires to Safety & Security Department immediately on discovery.
- ❖ Small fires may be extinguished by using appropriate portable fire extinguisher at the fire. All such fire shall be reported to the Safety Officer or Site Safety Engineer for their knowledge and records.
- ❖ If it is found that the fire is growing in proportion and getting out of control, the spotter of the fire shall immediately contact Safety / Security Department.
- ❖ The caller shall identify himself and give the following information.
 - a) Location of fire.
 - b) Brief description of fire.
 - c) Type & extent of fire and related hazards.
 - d) Whether ambulance is required.
- ❖ The operator shall contact the Site Safety Officer or Site Safety Engineer and relay the same information verbatim.
- ❖ The Site Safety Officer / Engineer shall notify the civil fire authorities, if so required depending on the extent of fire.
- ❖ Fire alarms shall be activated and personnel evacuated from offices, accommodation, mess halls and recreation facilities etc. immediately on discovery of fire.
- ❖ Main electricity supply shall be cut off to avoid personnel from being exposed to electrical shocks.

• Fire Response Plan

PROHIBITED AREA

Smoking and open flame / heat producing devices shall be prohibited in all areas designated. "NO SMOKING" areas, including paint shops, gasoline or similar flammable liquid storage areas, fuel dispensing vehicles, refueling operations, mechanical workshops or in any activities where hazard exist.

REGULATION

- ❖ Receptacles and suitable placards and signs shall be placed at all entrances to buildings and areas where smoking is prohibited.
- ❖ Proper metal ashtrays shall be provided in building where smoking is permitted.
- ❖ Ashtrays shall be provided in buildings where smoking is permitted.
- ❖ All ashtrays provided in smoking areas shall contain small quantity of water for



immediate wetting of any lit cigarettes butts.

ELECTRICAL APPLIANCES

- ❖ Approved appliances must be maintained regularly and kept in good working condition.
- ❖ All electrical extension cords must be equipped with non-conductive plugs and must not be draped or hung over nails, metal objects, etc. Electrical extension cords by means of multiple outlet plugs from single outlet is permitted, provision of fuses shall be made at the single

outlet to avoid overheating due to excessive power loads.

- ❖ All Electrical appliances and equipment must be disconnected or turned off when not in use.
- ❖ All maintenance, servicing, alterations or repair work to any electrical appliance or qualified personnel must carry out equipment.

WARNING SIGNS

- ❖ Warning signs shall be strategically located to give adequate warning of the existence of fire hazards when approaching from all directions.
- ❖ Warning signs shall state the minimum distance up to which a hazard may be approached if in possession of any open flames or heat producing devices.

FLAMMABLE FUEL STORAGE & DISPENSING

- ❖ Flammable fuel must be kept in approved steel aluminum tanks, be relief vented and separated by not less than 15 meters from any building or equipment.
- ❖ The contents of the tank shall be shown clearly. "Danger" or "No Smoking" signs must be strategically placed.
- ❖ Anti-static grounding shall be installed with a flexible grounding lead attached to all vehicles dispensing fuel.

FLAMMABLE MATERIALS

- ❖ Flammable liquids shall be stored in covered containers in designated separate storage cabinets. Flammable liquids shall not be kept in any buildings except in small quantity of low volatility or lubricating greases for immediate use. Such cabinets shall be marked "Flammable – keep Fire Away".
- ❖ Flammable liquids shall not be used for cleaning purposes. The use of gasoline or similar flammable is strictly prohibited.
- ❖ Flammable floor wax shall not be used.
- ❖ Plastic and glass containers are prohibited for flammable. All containers used for storing flammable shall be approved type and clearly labeled gasoline, paint thinner, alcohol and the like.

WASTE CONTAINERS

- ❖ Waste Containers shall be emptied when full or at the close of each day or shift. Trash shall be placed on bins located at specific places at safe distances.



- ❖ All combustible waste shall be moved to areas outside the location for burning and these burning areas shall be predetermined.
- ❖ Waste materials shall not be accumulated in areas such as warehouses, welding shops or spray painting rooms where flammable liquids and gases are stored or used.

STORAGE AREAS & WAREHOUSES

- ❖ All warehouse supervisors shall ensure that employees under their control are fully instructed in emergency procedures associated with fire and other safety hazards inherent to their areas.
- ❖ Effective fire protection system shall be installed and good housekeeping practices shall be followed.
- ❖ Smoking and other heat producing devices shall be prohibited in all fire hazards areas.
- ❖ All materials must be stored in a manner that will minimize hazards and protect the materials being stored.
- ❖ A minimum clearance of 60 cm shall be maintained below roof trusses, sprinkler defectors and light or heating fixtures.

PROTECTION MEASURES

- ❖ Firefighting equipment will be obtained and strategically placed, including clear visibility posters, showing the type of the equipment and instructions of its usage.
- ❖ Access routes will be maintained. Directional signs leading to the firefighting points are provided on locations that are visible to all.
- ❖ Facility exit plans shall be developed, then explained and posted for the information of employees.
- ❖ Fire containment/ protection measures, included in the construction design, should closely follow building progress.
- ❖ Through inspections shall be made on regular basis to locate and rectify hazardous situations.
- ❖ Every Fire shall be investigated and be reported to the Site Security Officer, for inclusion into his separate report.
- ❖ Whenever possible, new water mains should be completed to provide water for firefighting. Once turned on, establish controls so they will not be inadvertently turned off.
- ❖ Connections points shall be clearly, visibly indicate, and be located within easy reach of fire equipment.
- ❖ Fire blankets shall be obtained and placed at important locations and such locations informed to all personnel assigned to work in those specific areas.

GENERAL SAFETY REGULATION:

I. PERSONAL PROTECTION EQUIPMENT (PPE):

- ❖ Hard Hats – All project construction areas will be considered “Hard Hat Areas”. The wearing of hard hats by all employees and visitors in the construction areas



will be strictly enforced.

- ❖ For increased protection, each hat will be supplied with chinstrap to secure hat on head.
- ❖ Ample supply of hard hats will be located on site to accommodate visitors to site.
- ❖ All hard hats will be free from defects, periodic checks by site Safety Officer will ensure this.
- ❖ All employees will wear body – covering shirts unless complete overalls or similar clothing adequately covers the body. The wearing of short trousers will not be permitted in the designated work areas. All members of staff and operatives in any designated work areas will wear suitable heavy duty or equivalent footwear. Loose clothing will not be worn whilst working around or operating moving machinery. Approved goggles shall be worn when chipping, grinding, welding, handling (corrosive liquids) and working with compressed air or when necessary to be close to such an operation being performed by another employee. Employees are to familiarize themselves with regulations covering specific work operations as to “when and where” to wear goggles. Gloves and goggles are to be worn when handling cement.
- ❖ Rubber boots are to be worn when wading in concrete. Watch out for the “other” guy be observant. All injuries, no matter how slight, shall be reported to First Aid and work foreman immediately. All injuries requiring further treatment or dressing will be attended by the First Aid, on the date shown on the injury card.

II. EVERY PERSON IS A SAFETY OFFICER:

- ❖ Housekeeping, safety and efficiency go hand in hand. Always keep the job area clean of waste and debris.
- ❖ Each individual shall contribute to good housekeeping and job arrangement. This will include disposal of lunch bags, bottles and any personal scrap, into waste skips or container that will be placed at a reasonable distance from the designated work area.
- ❖ Oily rags, waste and other combustible materials shall be kept in metal containers provided for that purpose.

III. FIRE HAZARDS:

- ❖ All Types of fire extinguishers i.e. Dry Powder, CO2, blankets etc. will be provided in strategic locations around the site. Directional signs indicating these locations will be provided. Water hose reels will also be provided should a suitable pressurized water network be available on the site.
- ❖ Fire extinguisher locations shall be kept plainly marked and free from all interfering obstacles that would delay emergency use of this protective equipment. Employees are to familiarize with extinguisher locations.
- ❖ Regular testing of firefighting appliances will take place, to ensure their workability. Spare parts and total appliances will be readily available from stores on site for replacement.
- ❖ Firefighting stock items will be reviewed on regular basis.

IV. CONSTRUCTION SITE MACHINERY/EQUIPMENT/ VEHICLES:

- ❖ Machinery / Equipment's will not be used as transport vehicles for employees. Only



operational, certified people will allow using, no passengers.

- ❖ Employees are to ensure that they do not extend any part of their body outside the designated transport vehicles.
- ❖ Authorized drivers are not to allow any person to ride inside the cab of the vehicles they are driving.
- ❖ Employees are not to alight from vehicles when in motion.
- ❖ Heavy loads must not be lifted without adequate assistance. Never attempt to lift any load, which is out of the normal capacity of any individual.
- ❖ Respect areas of work, which have been isolated by, colored rope or equivalent are at times danger zones and shell as such. Admittance to or passage through is prohibited to all unauthorized employees.

V. TOOLING:

- ❖ All broken or defective tools and equipment are to be surrendered to the work foreman for disposal, replacement or repair.
- ❖ Only authorized persons are permitted use specialized types of tools and other equipment.
- ❖ No machine shall be operated unless all guards are in place, and suitable protective cloths are being worn.
- ❖ Protective goggles, or glasses, must be worn when conditions warrant; chipping, grinding and jackhammer work are examples of work when they are required.
- ❖ Keep all tools, materials and equipment in safe orderly manner. Keep passageway and walkways clear all times.
- ❖ Use tools for their intended purpose only.

VI. SCAFFOLDING:

- ❖ All scaffolding and ladders to be erected by qualified scaffolders under the supervision of qualified supervisors.
- ❖ Scaffold ladders must extend 1200mm beyond scaffold walkways and be firmly secured.
- ❖ All scaffold ladders must have rungs spaced at uniform centers. Any ladders with missing or defective rungs are to be immediately replaced or repaired. Scaffold braces must never be used as ladders.
- ❖ Extreme caution is to be exercised when walking on platforms.
- ❖ Materials and tools are not to be stored on forms or walkways.
- ❖ Materials, tools or waste must never be thrown over the sides of the scaffolds.
- ❖ Always face the ladder when going up or down, with both hands free.
- ❖ One person should climb a ladder at any one time.
- ❖ All employees are to be alert and avoid swinging loads.
- ❖ Whilst working with crew where cranes or hoist is used, one person is directing the movement of the load. Standard Crane Operation, and Rigger signals and rules are to be used. Stay out from under the boom.
- ❖ Safety belt must be worn and secured by adequate tie off on all work off ground level or when falling hazard exists.
- ❖ All employees to heed warning signs – and acquaint themselves with rules of the area or f the craft with which you are working.



VII. GENERAL WORKS:

- ❖ Portable electric equipment will not be left lying around where they may cause injury. Portable electric equipment is to be disconnected when not in use.
- ❖ Any board or long material being handled must have a man at each end if it is sufficiently long or heavy to be hazardous.
- ❖ Wear gloves when handling rough materials that may cause hand or finger injuries. Protective cream or oil on hand and face before starting to work with cement and/or concrete. Respirators are to be worn, when working in cement dust. Filters to be checked regularly.
- ❖ All stairs wells and other circulation areas will be well lit and free from obstructions.
- ❖ No attempt is to be made to repair electrical or other powered machinery by unqualified employees.
- ❖ Only employees authorized by Supervisors or foreman will be permitted to use power driven equipment.
- ❖ Powered equipment, which is apparently defective, not performing to its usual standards or generally unsafe, will not be operated. Foreman to be notified immediately to organize replacement / repair.
- ❖ All hazards / warning signs to be heeded at all times.

SANITATION

Foreword

Ever since inception of Rawad Al Biniah Cont. Est., we are following International Committee of the Red Cross (ICRC), acting based on international humanitarian law, has been devising and conducting activities for the protection of labors. For the ICRC, the term “conditions of detention” encompasses the degree of respect for the labors’ physical and mental integrity shown by the whole range of personnel in charge of their lives in detention; material conditions of detention (food, accommodation, hygiene); access to health care.

Project site should include the same range of basic facilities and services designed to meet the:

- material needs of the labors and management requirements:
- Buildings containing single or multiple occupancy rooms where labors sleep.
- Sanitary installations for personal hygiene: toilets and showers.
- Laundry facilities for washing and drying clothes.
- Kitchens.
- Health-care facilities.
- Prayer room(s).
- Storerrooms.
- Multi-purpose rooms.



- Water and sewerage systems.
- Staff accommodation and services.

The profile deals with the following matters:

Bedding

The labors must be able to sleep on beds and must have bedding (sheets, blankets) suitable for the climate.

The recommended minimum size for beds is 1.6 m², that is, 2 m long and 0.8 m wide.

The picture illustrates the minimum area essential to allow each labor to sleep.



Bunk beds

Setting up bunk beds in cells increases the number of sleeping places and frees floor space, which the labors can use for leisure activities and physical exercise.

Where bunk beds are used, it is essential that minimum standards in terms of floor space and ventilation be respected so as to provide decent conditions of detention. Bunk beds are usually in two tiers or three if the ceiling is high enough and security standards permit. They may be set up in different ways, depending on the size of the cells or dormitories in question and the location of the doors, windows, and any interior sanitary facilities.

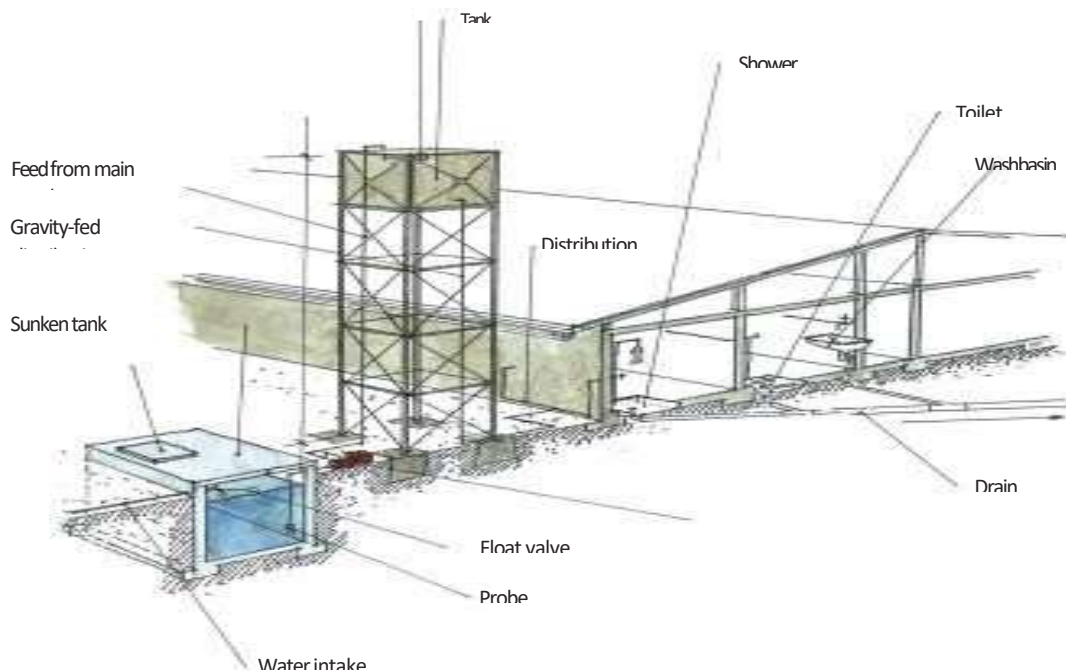
Picture gives an example of bunk beds which conform to minimum standards in terms of the size of sleeping space, floor space and ventilation, and which allow lateral access.





Storage and distribution systems

The following Figure gives a diagrammatic view of how water is distributed in a site. Where there is an elevated water storage tank, there must be sufficient pressure to fill it. The water is then distributed by gravity to the various parts of the site. A storage tank whose base is about 5 meters high provides sufficient pressure to supply building at ground level.

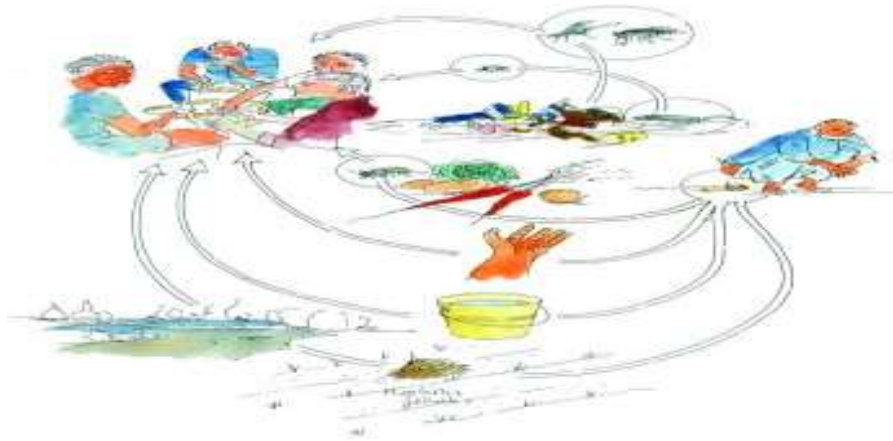


Waste water and refuse disposal

Waste water and refuse disposal is often the most intractable sanitation problem in the places. A large proportion of the diseases observed among the inmates of such establishments. To keep the site in good health, special attention must be paid to waste-disposal systems.



The next Figure illustrates how tiny particles matter can be ingested by the labors, and how the accumulation of refuse attracts flies, rats and cockroaches, which are potential vectors of disease.



Feces are the most frequent source of pathogens transmitted by the faecal-oral route. Urine contains only a few pathogens, which are transmitted to man via contaminate water or by means of breeding cycles involving aquatic intermediate hosts.

Quantity of waste generated

Every human being generates waste. One individual produces an average of 1 to 2 liters of waste per day. This figure represents the volume of urine and feces, and does not include the material used for anal cleansing or the amount of water used for washing.

Wastewater evacuation and storage systems must be commensurate with the amount of waste produced.

Fresh solid matter decreases in volume by decomposition. Decomposition occurs by evaporation, by digestion and the production of gas, by liquefaction and by the dissolving of soluble substances. It is then compacted by the accumulation of new layers of matter. The cumulated amount of excreta produced by an individual is estimated to be 40 to 90 liters per year (0.04 m³ to 0.09 m³/person/year).

Amounts of water necessary for waste-disposal systems

Lack of water is a frequent cause of the dysfunction of wastewater and sewage disposal systems. In situations where water is in short supply, ensuring proper excreta disposal and keeping the toilets in working order often seems an impossible task.

Too much water, on the other hand, also causes serious problems, especially for disposal systems based on percolation in the soil. When the nature of the soil does



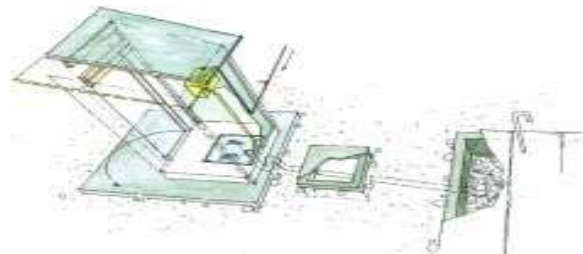
not allow absorption of large quantities of water, the water level will rise in the soak pit or septic tank, which will sooner or later overflow. It will no longer be possible to flush the toilets and sewage will spread over the ground.

Careful thought should therefore be given to the choice of disposal systems.

Flush latrines

Latrines flushed with water are used in most sites .They are fitted with a water seal which prevents odors and insects (especially cockroaches) from coming up from the septic tank into the latrines. It is made of glazed earthenware, plastic or cement. Cement pan shave the advantage of being less costly and more robust, but as the surface is not as smooth it is more difficult to clean. It is, however, possible to add to the cement materials, which make it smoother and easier to clean. It is estimated that about 2 liters of water are necessary to flush the pan.

The Figure shows a type of flush latrine.



Kitchen

Location

The location of the kitchen within the site is important. Wastewater and smoke have to be evacuated properly, without creating a nuisance for the labors. The choice of location

should therefore take into account the direction of prevailing winds and the location of cells, dormitories, exercise yards and other places where the labors spend their time.

The building where the kitchen is located should be near the premises where stocks of food and fuel are kept to limit the work involved in handling supplies. For obvious reasons of hygiene (insects attracted by food, contamination by pathogens, foul odors), the kitchen must not be too close to the latrines.

If the kitchen is outside the site, special care should be taken to ensure that the food is transported in the best possible hygiene conditions (with lids kept on food containers, for example).



Roofed area

The kitchen must occupy a large enough area to be functional. When the kitchen is too small, this has a negative impact on the working conditions of the people in charge of preparing meals and on hygiene:

- There is a greater risk of accidents (cooking pots upset, jostling, and burns).
- The heat from the stoves is often unbearable.
- Foodstuffs are temporarily kept on the floor before being used because there are not enough working surfaces.
- Finally, adequate ventilation is impossible, so kitchen staff is exposed to toxic fumes emanating from the stoves.

For proper working conditions, the area of the kitchen in a small site (100-200 labors) must be at least 20 m². This area increases along with the number of labors. For over 200 labors, the figure of 0.1 m²/ labor is used. That means an area of 100 m² per 1,000 labors.

Number of stoves and capacity of cooking pots

The number of stoves required depends on the number of meals to be prepared daily and on the way the distribution of meals is organized.

The capacity of the cooking pots depends on the composition of the food rations.

For a basic standard ration (a mixture of cereal flour and a legume, oil and salt), it is considered that the total capacity of the cooking pots must be at least 1.2 to 1.4 liters per labor. For ergonomic reasons, the capacity of each pot should be no more than 200 liters. Above that, the pots are too heavy to lift and move.

Example:

540 labors

Calculation: $540 \times 1.4 =$ total capacity in number of liters = 756 Rounded up to the nearest hundred = 800 liters, total capacity required

The choice of capacity (100 or 200 liters) and the number of cooking pots will depend on the composition of the food rations.

In our example:

Total capacity = 800 liters



Option 1: three 200-litre pots = 600 liters + two 100-litre pots = 200 liters
Option 2: four 200-litre pots = 800 liters

For site with less than 100 labors, 50-litre pots can be used.

The cooking pots, preferably made of stainless steel (2-4 mm thick), must have handles on opposite sides so that they can be lifted by two people. They must also have lids.

Saucepans and other containers used for distributing meals must be easy to carry and must have lids.

Utensils

For reasons of hygiene and to show proper respect for the labors, it is essential that each labor be given eating utensils similar to those used outside the site.

The utensils used to prepare meals vary from one country to another. Whatever the local custom, preference should be given to metal utensils or utensils whose working ends are metal, as they are easier to wash and disinfect than wooden ones. They must be put away carefully after each use, preferably in a closed drawer or cupboard to protect them from cockroaches and other insects.

The Figure shows some examples of cooking and eating utensils.

Food storage

In every site, there must be a place set aside for the storage of foodstuffs to be used for the preparation of meals. Food supplies must be kept in a clean, dry and well-ventilated place.

Foodstuffs can deteriorate during storage. The main factors involved in such deterioration are temperature, humidity and various pests (insects and rodents).

Food storerooms must be designed and managed in such a way as to avoid deterioration of the supplies they contain. The main rules to be observed in building storerooms are as follows.

- The wall and foundations must be designed to prevent rodents from entering. Walls should not be made of mud bricks, as rats can easily burrow holes in them.
- The floor must be cemented to avoid rising dampness.
- The walls and openings in the walls must not let in water.
- Metal doors are better than wooden doors.



- All windows and other openings must be screened.
- The temperature must be kept as low as possible by means of insulation and a suitable ventilation system; it is useful to have two doors or windows opposite each other, if possible in the direction of the prevailing wind, so as to create a through draught.
- When food supplies are delivered, every bag must be checked. Those that are infested with insects must be put aside and used first, unless the infestation has rendered them inedible.
- The food store must be regularly inspected for the presence of rats or insects.
- Disinfestation and rat extermination operations must be carried out periodically.

Food supplies should be stored in crates or bags and on pallets or shelves, and separated according to type of food rather than being heaped together.

In general, the layout of the food store will leave:

- A one-meter space between the food supplies and the wall of the storeroom;
- Passage ways 2 meters wide for handling purposes.

SECURITY PLAN

1. OBJECTIVE

To draw a policy for proper security and protection of the work sites. This policy upon approval shall be implemented at the site.

2. RESPONSIBILITY OF IMPLEMENTATION

Site-in-charge will be responsible for proper implementation of the policy. The site-in-charge will review this plan and if required changes shall be carried out in the policy.



3. UNDERSTANDING OF REQUIREMENT

It is essential that each person engaged at site strictly follow the security policy. The site in charge will hold a joint meeting fortnight with all Rawad Al Biniah Cont. Est. personnel. It will be ensured that the adopted plan is well conceived by all concerned personnel. SECURITY PROCEDURES AT SITE OFFICE AND STORAGE AREA. The security procedures are described hereafter.



4. Security Procedures at Site Office.

- ❖ Site Office it will be secured by security fence.
- ❖ Material receipt forms and delivery logbook will be available for the incoming and outgoing materials.
- ❖ “SMOKING IS STRICTLY PROHIBITED”.
- ❖ Two security guard for Site Office provided to work on two shifts 12 hours daily duty.
- ❖ Material receipt forms and delivery logbook will be available for the incoming and outgoing materials.

4.1 Security Procedures at Storage Area.

- ❖ Two security guard for Storage area will be provided to work on two shifts 12 hours daily duty.
 - ❖ Store, which is located at near place from site work and it, belong to Rawad Al Biniah Cont. Est. it is secured by concrete wall and security fence.
 - ❖ Each car or motor vehicle leaving the premises will be thoroughly checked.
 - ❖ A safe and secure plan will be implemented upon start mobilization.
 - ❖ Proper logging will be made for all incoming and outgoing men and materials.
- Visitors' entry will be restricted and will be allowed only with the proper authorization of a responsible person.
- ❖ No cooking or open fires will be allowed in the work and maintenance area.
 - ❖ “SMOKING IS STRICTLY PROHIBITED”
 - ❖ Safety Engineer is responsible to control and advise the day/night security crews.

5. SECURITY PROCEDURES AT WORK SITE AREA

The first requirement for Rawad Al Biniah Cont. Est. employees when they arrive on work site to carry out any type of work, work permit receiver must get the work permit and necessary information's from work permit issuer. Proper guarding of area in which they are working by safety barricades, safety ribbons tied in rope and refectories plastic mesh, etc. The following are required:



- ❖ Barriers and reflectorize plastic mesh to guard the working area this will not only protect the workers from traffic, but also protect the public from any danger that may exist, or occur during the course of work.
- ❖ Warning signs to tell drivers and pedestrians that work is being carried out ahead of them.
- ❖ Signs that tell the public who is doing the work, these signs should be in Arabic and English, with a contact telephone number, during working hours and after working hours. These signs must be at the start and finish of the area of the trench, but if the trench passes, the front of any property there must be access available for the people to enter their houses or shops.

- ❖ All materials must be barricaded; all wheeled or tracked vehicles should have yellow rotating warning lights.
- ❖ All workers should be aware of the traffic regulations that exist within the Kingdom of KSA.
- ❖ All workers must be using complete PPE.
- ❖ All employees must adhere to these regulations as Client's laid down procedures for the contract.
- ❖ If the trench is crossing a road, road-closed signs must be placed at the most convenient place to warn traffic that the road is closed and "DETOUR AHEAD" signboards placed to send traffic to the correct areas. The road-closed signs must be placed on both sides of the excavation.
- ❖ Not all material, no matter where it is stored, must be protected and barricaded this only protects the material, but is also protects the public from danger. If the excavation is to be left open during darkness, warning lights and reflective signs must be used to protect the work and to warn the public and traffic.
- ❖ When needed, on any road, where work is being carried out, use a flagman to warn traffic, this gives you an extra pair of eyes to protect your work force.
- ❖ Before any type of work can start, all other types of services that may be in the area must be verified and indicated in the area of excavation. Care must be taken when excavating around these services. All damaged services must be reported and repaired the same day.



- ❖ No work may start until all the proper work permits are obtained, must be displayed on the boards at the site.
- ❖ No unauthorized person (s) will be allowed to enter in the lay down area.
- ❖ All tool boxes and high value equipment will be secured after working hours.
- ❖ Proper lighting will be installed at work sites, lay down yards and camp areas to illuminate the night and afford easy visual observation.





CIVIL & MECHANICAL WORKS





































ELECTRICAL WORKS























ROAD WORKS























LANDSCAPE & HARDSCAPE WORKS

























SAFETY MEETINGS & ORIENTATION













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