

## **Invitation to Bid**

#### ITB - 056/14

# ESTABLISHMENT OF MINI PLAYGROUNDS IN AL DAIR & AL NASHWAH, IN THE MAJNOON AREA OF BASRAH, IRAQ

#### **Volume II**

#### **Section 3**

### Schedule of Requirements and Technical Specifications

Part 1 - Scope of Works

Part 2 - General Requirements

**Part 3 - Technical Specifications** 

Part 4 - Drawings

June 2014



#### **Table of Content**

1 P.	ART 1: - SCOPE OF WORKS	4
	OBJECTIONS AND ENVISGED OUTCOMES	
1.1.1	1 General	4
1.1.2	2 Objectives	5
1.1.3	3 Expected Outcomes	5
1.2	PROJECT AREA	5
1.3	PROJECT DESCRIPTION	5
1.4	WORKS TO BE PROVIDED	5
1.4.1	1 Nature of Contract	5
1.4.2	2 Works To Be Provided Under This Contract	5
1.4.3	Works To Be Provided By The Local Council / Municipality	6
1.4.4	· · · · · · · · · · · · · · · · · · ·	
1.4.5	•	
1.5	CONTRACT DURATION	6
1.6	MATERIALS TO BE PROVIDED	7
1.6.1		
1.6.2	* *	
1.0.2	2 Hadenals to be 110 Hada by 614,01	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	FACILITIES TO BE PROVIDED	7
1.7.1	1 Facilities Provided by UNDP	7
1.7.2	2 Facilities Provided by The Contractor	7
1.8	GENERAL RESPONSEBILITIES / REQUIREMENTS	7
1.8.1		
1.8.2	2 Contents of Report	7
1.8.3	3 Photography & Video Material	7
1.8.4	~ · ·	
1.8.5	5 Translation of Documents	8
1.8.6	6 Project Specific Support Services	9
1.9	DRAWINGS	9
2 P.	ART 2: - GENERAL REQUIREMENTS	10
2.1	SITE OFFICES	10
2.2	SERVICES	10
2.3	SAMPLES, TESTING & INSPECTION	10
2.4	HEALTH, SAFETY & ENVIROMENTAL (HS&E) REQUIREMENTS	10



2.5	SITE SURVEY	10
2.6	SITE PREPARATION	10
2.7	MEASUREMENT OF QUANTITIES	10
2.8	TRANSPORTATION OF MATERIALS	11
2.9	REDUNDANT EQUIPMENT	11
2.10	PROGRAMME FOR THE WORKS	11
3	PART 3 – TECHNICAL SPECIFICATIONS	12
3.1	GENERAL TECHNICAL SPECIFICATIONS FOR BUILDING WORKS IN IRAQ	12
4	PART 4: - DRAWINGS	18



#### 1 PART 1: - SCOPE OF WORKS

Shell Iraq Petroleum Development B.V. (Shell) has been working with United Nations Development Programme (UNDP) Iraq on a multi-faceted programme in Basrah Governorate. The motivation for Shell's initial request to UNDP was to implement (1) Hiring of local (skilled) labourers and service providers as a good business practice and a longer term cost-reduction measure, and (2) Local area development activities and local community incorporation to reduce social unrest, a major cause of past disruptions of oil field production.

The Oil & Gas Industry is of critical importance in Basra Governorate, especially after the Government of Iraq granted work permits to oil companies in order to invest in this Governorate. As a result, approximately 5,000-7,000 job opportunities in skills required by the Oil & Gas Industry – including welding, rigging, scaffolding, electrical works, civil works etc., – are expected to be created in the next five years. Initial scoping has seen a high demand for many of these positions now, and this demand is expected to rise sharply. International Oil Companies (IOCs) operating in Basrah and throughout Iraq are strongly encouraged to maximize their hiring of Iraqi employees and use of goods and services supplied locally. However, this has proven difficult as economic difficulties and wars experienced by Iraq over the previous 30 years have depleted the nation's supply of skilled labour and its small business base. If the local supply of qualified workers remains insufficient for IOC production/construction needs, foreign contractors and labourers will have to be imported, leading to significantly higher operating costs for IOCs, and jobs given to internationals, thus prolonging local unemployment and leading to possible future discontent and social unrest.

Under the **Local Area Development Programme** (**LADP**) implemented from 2007-2010, seven UN Agencies have been working in districts in Northern, Central and Southern Iraq on local area development planning. The LADP programme was delivered through national Area Co-ordinators (from ILO/UNOPs working in Sulymaniyah; UN-Habitat working in Babylon and UNDP in the Marshlands area (Basrah, Missan and Thi-Qar) who led a wide range of representatives from the local population through a participatory planning process to determine local development priorities across the sectors from water and sanitation to education, health and municipal services. This project is expanding this LADP approach in Al Dair and Al Nashwah Sub-Districts in the Majnoon Area, aiming at improving access for all to quality essential service delivery, and livelihood revival and diversification. This stands to benefit Shell's reputation as well as to support local vulnerable populations.

#### 1.1 OBJECTIONS AND ENVISGED OUTCOMES

#### 1.1.1 General

The LADP project's primary envisaged outcome is to assist local government and village leaders to develop a process whereby local communities through their chosen representatives together with civil society and the private sector are able to articulate their local development priorities. Communities will monitor the delivery of services and participate in the stewardship of local assets and resources thereby contributing to increased transparency and accountability. This process ensures representation of interest groups (i.e. farmers and business men) and inclusion of the vulnerable and underserved groups. The focus of assistance will be to build awareness and participation in local governance. A network of representatives within the communities will be identified to form a platform to raise community concerns and engage in dialogue with all of the



development partners, including the private sector. Another envisaged outcome is to implement certain projects that are identified by community members as critically needed.

#### 1.1.2 Objectives

As part of Shell's road safety initiative in the area of Majnoon, UNDP has identified the need to construct playgrounds and mini-football fields. The playground areas will provide a safe place for children to play and families to congregate away from the busy roads used by large trucks operating at Majnoon that run through the communities. The construction of playgrounds and minifootball fields will have a high impact on the community by providing a safe space for children.

#### 1.1.3 Expected Outcomes

The expected outcomes are as follows:

- Promote play and healthy activities for children;
- Provide a safe space for children in the communities;
- Reduce number of children near busy roads.

#### 1.2 PROJECT AREA

The proposed playgrounds are located, in the central and southern areas of Al Dair and Al Nashwah, in the Majnoon area of Basrah, Iraq as reflected in the attached drawings

#### 1.3 PROJECT DESCRIPTION

The project aims to establish four (4) playground/mini-football field facilities. Each facility will have the capacity to benefit approximately 200 children and provide separate areas with facilities for children between the ages of 5 and 12 and also for older children from 12 and up. Each facility will include:

- Mini-football field for 5 on 5 play;
- Playground equipment, such as Play Tower, Swings, Seesaws, etc.;
- Outdoor fitness facilities for youth and adults;
- Green Park with a theme of "Peace"

#### 1.4 WORKS TO BE PROVIDED

The overall project is designed to include local contractors from the area, participation of the Local Councils together with national and international suppliers / contractors. Accordingly this project is divided into two (2) separate activities as described hereunder.

#### 1.4.1 Nature of Contract

This contract includes supply, delivery, installation, testing and commissioning of civil, electrical, mechanical, etc., materials, playground equipment and appropriate training for the "Works" detailed in this Scope of Works, the attached Technical Specifications and Price Schedule/Bill of Ouantities.

#### 1.4.2 Works To Be Provided Under This Contract

The Works include the establishment of four (4) playgrounds in the central and northern areas of Al Dair and Al Nashwah as summarized below:

- Preparation and levelling of areas for playground equipment;
- Import of appropriate soil and compaction;
- Drainage system;



- Interlock paving for walking and fitness area for adults;
- Fencing of the areas;
- Establishment of the football area;
- Concrete tables and seating:
- Refuse bins:
- Water supply for irrigation system;
- Area lighting:
- Sponsor's "Bill Board";
- Signs and Memorial Plaque;
- Concrete slab and rubber tiles in in the playground area;
- Concrete footings for Outdoor Fitness & Playground Equipment;
- Playground equipment;
- Outdoor Fitness equipment;
- Recommended spares parts as deemed necessary and approved by UNDP;
- Operating and maintenance manuals

The works including supply, install all the required materials and equipment, testing and commissioning of all related equipment and as detailed in the Price Schedule/Bills of Quantities and all other ancillary work required to complete the entire scope of works.

The Works includes provision of required manpower, machinery and materials for the works as described hereunder and under the Technical Specifications, Price Schedule/Bills of Quantities and Drawings.

#### 1.4.3 Works To Be Provided By The Local Council / Municipality

The Local Council and the Municipality of Al Nashwah will be responsible to supply and install the following:

- Potting soil and fertilizers for plants;
- Trees, shrubs, plants, etc.;
- Water supply connection point;
- Drinking water;
- Operation and maintenance of the playgrounds

#### 1.4.4 <u>Transportation of Materials</u>

Transportation of materials shall be contractor's responsibility.

#### 1.4.5 <u>Test and Commissioning</u>

The scope of work includes testing and commissioning of all the equipment installed by the contractor.

#### 1.5 CONTRACT DURATION

All works shall be completed within <u>eight (8) weeks of contract</u> award.



#### 1.6 MATERIALS TO BE PROVIDED

#### 1.6.1 <u>Materials to be provided by the Contractor</u>

The contractor shall be required to provide all equipment and materials as listed under the Bills of Quantities and Specifications" in accordance with the specifications provided.

#### 1.6.2 Materials to be Provided by UNDP

No materials will be supplied by UNDP

#### 1.7 FACILITIES TO BE PROVIDED

#### 1.7.1 Facilities Provided by UNDP

No site facilities shall be provided by UNDP.

#### 1.7.2 Facilities Provided by The Contractor

All required facilities for proper development of all phases of the project shall be its own responsibility. Unless otherwise explicitly called upon, any facilities shall be deemed included and/or surcharged in/to the contractor's price.

#### 1.8 GENERAL RESPONSEBILITIES / REQUIREMENTS

The Services shall also include some duties normally performed by UNDP field staff, which includes the establishment and maintenance of contacts with counterparts and other stakeholders. These shall include, yet not be limited to, liaising and maintaining strong working relations with all stakeholders and obtain all required letters, approvals, documentation...etc.

#### 1.8.1 Reporting

Given the remote management nature of the project and the fact that UNDP cannot maintain prolonged and/or frequent on-the-ground presence, one of UNDP's management tools is through comprehensive progress reports supported by photographs, videos and similar materials from its implementation partners. The same also applies for illustrating project impacts.

#### 1.8.2 Contents of Report

During implementation the contractor shall provide UNDP with weekly progress reports including yet not limited to:

- Meetings held with counterparts, contractors .....etc.
- Progress reporting, delays....etc
- Staff employed by contractor, sub-contractors, counterparts.
- Financial status, predicted cash flow, expected variations.
- Technical Issues.

#### 1.8.3 Photography & Video Material

The contractor shall provide adequate photographs and video materials as an integral part of any submitted report with the purpose of illustrating progress, impact, elements requiring particular



attention and so forth. Photographs and videos shall also be captured and submitted as frequent as requested by UNDP.

While in certain instances the photographs/videos shall be required to portray the status of technical elements, which necessitates that these be of technical nature portraying an engineering view of the photographed element (i.e. defective bearing, leaking pipeline, broken cable, defective concrete, etc), in other instances the photographs/videos are rather required for general illustrative purposes and should convey a general inclusive overview for non-engineering purposes. It should be noted that these should have an artistic essence to them.

The contractor is alerted to the particular requirements for non-engineering purposes photography/videos, which are required to achieve several purposes including yet not limited to: Conveying the overall extent and magnitude of the intervention.

- Conveying the overall intervention nature.
- Conveying a broad overview of the overall intervention.
- Conveying the pre-intervention conditions (i.e. impact of not having the intervention in place such as streets flooded with wastewater, child without access to water and the like).

Conveying the post-intervention conditions (i.e. impact of having the intervention in place such as dry and clean streets, child with access to water and the like), which are generally used to assess the intervention impact.

Although many professionals have adequate capacity to capture photographs and videos, the contractor shall ensure a professional photographer/cameraman is appointed for this particular purpose that has adequate capacity to capture technical and non-technical photographs with the required artistic essence.

Photographs and videos must be accompanied by basic caption information linked to each image file name identifying the date, location, subject and (if relevant) UNDP activity. The name and contact of the staff photographer should also be provided for follow-up queries. The contractors cost shall be deemed included and/or surcharged in/to the rates for each activity.

#### 1.8.4 Close Out Report

Upon completion of all activities of the project the contractor shall submit a collective Close-Out Report which reflects all aspects encountered during implementation inclusive of all original documentation, photographs...etc. The report shall first be submitted in a draft form to UNDP. The contractor shall do a report presentation during which UNDP shall present and discuss their comments and remarks.

The report shall then be presented in its final form following incorporation of all UNDP comments and remarks.

The contractor shall, at least, submit two (2) hard copies to UNDP (1) soft copy to UNDP.

#### 1.8.5 <u>Translation of Documents</u>

The contractor shall not convey any Arabic language correspondences to UNDP all official correspondences with the counterparts and other relevant material shall be translated to the English language by a certified translator. The contractor shall always submit the Arabic version together



with the translated version including due stamping and sealing of the translated version with sufficient proof that the utilized translator is certified the Government.

The contractors cost shall be deemed included and/or surcharged in/to the rates for each activity.

#### 1.8.6 Project Specific Support Services

The support services may include fees for payments settled by the contractor on behalf of UNDP for the ongoing activities under the contract. Such as, but not limited to, payments for placing advertisements, printing services, renting site equipment, technical team resources support and so forth. The payment shall be settled based on clear instructions from UNDP after at least three quotations are collected and submitted by the contractor to UNDP and the lowest responsive quoted price is approved by UNDP.

UNDP, upon the requirement, shall instruct the contractor to perform the above mentioned services by collecting a minimum of three simple quotations for each type of services.

#### 1.9 DRAWINGS

The attached drawings are to be read together with the Scope of Works, Technical Specifications and the Price Schedule/Bills of Quantities.

PART END



#### 2 PART 2: - GENERAL REQUIREMENTS

#### 2.1 SITE OFFICES

Within one (1) week of the "Commencement Date", the contractor shall establish a temporary site office which shall include one (1) office for UNDP's engineer.

#### 2.2 SERVICES

The Contractor shall be responsible for the provision of services such as electricity, water, sewerage, telecommunications and roads and other facilities required to execute works.

#### 2.3 SAMPLES, TESTING & INSPECTION

Cost of all samples and testing shall be borne by the Contractor and deemed to be included in the Contract price.

#### 2.4 HEALTH, SAFETY & ENVIROMENTAL (HS&E) REQUIREMENTS

The Contractor throughout the execution and completion of the works shall fully comply with international recognized safety regulations specified under the Technical Specifications i.e.:

- Take care for the safety of all persons engaged at site works,
- Use reasonable efforts to keep the site and works clear of unnecessary obstruction so as to avoid danger to these persons,
- Provide and maintain electrical materials, diesel generators, guarding and watching of the works until completion and taking over of the works,
- Take all reasonable steps to protect the environment on and off site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other cause arising as a consequence of his method of operation.
- Provide to all site workers safety clothes, equipment, materials, etc., to perform ongoing
  activity such as portable earths, safety helmets, working and insulated gloves and safety
  shoes.

#### 2.5 SITE SURVEY

The Bidder shall be deemed to have inspected and examined the site and its surroundings, and to have satisfied himself with site conditions before submitting his Bid.

#### 2.6 SITE PREPARATION

The Contractor shall be responsible for all site preparation works.

#### 2.7 MEASUREMENT OF QUANTITIES

UNDP reserves right to increase, decrease quantities or cancel any items in the BoQ as per actual requirements.



Bidders shall familiarize themselves with the conditions on site and actual quantities required as the prices submitted in the bid shall be inclusive of everything required for successful completion of the project.

#### 2.8 TRANSPORTATION OF MATERIALS

The Contractor shall be responsible for transport of all equipment to the site including loading, off-loading, etc. and all costs and expenses involved in transport from the warehouse storage works to the sites.

The Contractor's responsibility shall also include the construction of an adequate access way, if necessary, for construction and delivery of plant from the public highway to each site. The Contractor shall ensure that damage to any public or private roads or footpaths used by any vehicles or plant proceeding to or from the site kept to a minimum and shall be responsible for the cost of all repairs necessary to restore such roads or footpaths at least to the condition previously obtaining.

#### 2.9 REDUNDANT EQUIPMENT

Redundant equipment as identified by the Engineer shall be carefully removed and delivered to the warehouse as indicated by the Engineer

The contractor shall keep inventory of the quantities and obtain signature of acceptance from the applicable authority.

#### 2.10 PROGRAMME FOR THE WORKS

The Contractor shall within one (1) week of the "Commencement Date" submit a time-scaled linked bar chart in "Microsoft Projects" for approval by the UNDP.

The program shall identify all key activities required to complete the works, show intermediate milestones for the purpose of assessing progress on the works and the proposed timing for all Contract deliverable's including documentation.

This program shall be maintained by the Contractor throughout the project and shall only be varied with the approval of the Engineer.

#### **PART END**



#### 3 PART 3 – TECHNICAL SPECIFICATIONS

#### 3.1 GENERAL TECHNICAL SPECIFICATIONS FOR BUILDING WORKS IN IRAQ

The works shall be carried out strictly in accordance with **UNDP's General Technical Specifications for Building Works in** Iraq, Rev 0, which is **available upon request** and as summarized below:

#### 1 SECTION 1 – GENERAL REQUIREMENTS

- 1.1 GENERAL TECHNICAL SPECIFICATIONS
- 1.2 MARKINGS
- 1.3 PACKING AND SHIPPING
- 1.4 SERVICE CONDITIONS
- 1.5 ELECTRICAL SYSTEM CONDITIONS
- 1.6 CONTRACT MANAGEMENT
- 1.7 WORKING PRACTICES
- 1.8 QUALITY ASSURANCE REQUIREMENTS
- 1.9 DRAWINGS
- 1.10 INSPECTIONS AND TESTING
- 1.11 CO-ORDINATION AND MEETINGS
- 1.12 PROJECT COORDINATION
- 1.13 SUBMITTALS
- 1.14 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
- 1.15 CONTRACT CLOSE-OUT
- 1.16 CLEANING

#### 2 SECTION 2 - BUILDING DEMOLITION

- 2.1 GENERAL
- 2.2 BUILDING DEMOLITION
- 2.3 HAZARDOUS MATERIALS

#### 3 SECTION 3 - GROUND INVESTIGATION

- 3.1 GENERAL
- 3.2 BOREHOLES
- 3.3 PITS AND TRENCHES
- 3.4 SOIL SAMPLING
- 3.5 IN SITU TESTING, INSTRUMENTATION AND MONITORING
- 3.6 LABORATORY TESTING

#### 4 SECTION 4 – PILING WORKS

- 4.1 GENERAL REQUIREMENTS FOR PILING WORK
- 4.2 GENERAL REQUIREMENTS FOR CONCRETE PILES

#### 5 SECTION 5 - CONCRETE

- 5.1 GENERAL
- 5.2 AGGREGATES
- 5.3 CEMENT
- 5.4 WATER
- 5.5 ADMIXTURES



- 5.6 PROPERTY REQUIREMENTS
- 5.7 BATCHING AND MIXING
- 5.8 TRANSPORTATION AND PLACING OF CONCRETE
- 5.9 FORMWORK
- 5.10 CURING
- 5.11 REINFORCEMENT
- 5.12 JOINTS
- 5.13 INSPECTION AND TESTING OF HARDENED CONCRETE
- 5.14 PROTECTIVE TREATMENTS FOR CONCRETE
- 5.15 HOT WEATHER CONCRETING
- 5.16 MISCELLANEOUS
- 5.17 TESTING OF WATER RETAINING STRUCTURES

#### 6 SECTION 6 - UNDERGROUND WORKS

- 6.1 GENERAL
- 6.2 SITE CLEARANCE
- 6.3 EARTHWORKS
- 6.4 ASPHALT WORKS
- 6.5 KERBS, FOOTWAYS AND PAVED AREAS
- 6.6 ROAD LIGHTING
- 6.7 ROAD DRAINAGE
- 6.8 MISCELLANEOUS

#### **7 SECTION 7 - SEWERAGE**

- 7.1 GENERAL
- 7.2 EARTHWORKS
- 7.3 PIPES AND FITTINGS MATERIALS
- 7.4 PIPELINE INSTALLATION
- 7.5 PENSTOCKS AND APPURTENANCES
- 7.6 METAL WORKS
- 7.7 GLASS REINFORCED PLASTICS
- 7.8 PAINTING AND PROTECTIVE COATINGS
- 7.9 TRENCHLESS PIPELINE CONSTRUCTION
- 7.10 PIPELINE CLEANING AND INSPECTION SURVEY
- 7.11 SEWER REHABILITATION
- 7.12 VACUUM SEWERAGE SYSTEM

#### 8 SECTION 8 - MECHANICAL AND ELECTRICAL WORKS

- 8.1 GENERAL
- 8.2 SUBMERSIBLE PUMPS
- 8.3 CENTRIFUGAL PUMPS (VERTICAL SPINDLE, DRY-WELL TYPE)
- 8.4 SUMP PUMPS

#### 9 SECTION 9 - EARTH WORKS

- 9.1 GENERAL
- 9.2 EXCAVATION
- 9.3 FILLING
- 9.4 UTILITY TRENCHES
- 9.5 INSTALLATION OF PROTECTIVE MEMBRANES

#### 10 SECTION 10 - MASONRY



- 10.1 GENERAL
- 10.2 MORTAR AND GROUT
- 10.3 ACCESSORIES
- 10.4 UNIT MASONRY
- 10.5 MASONRY LAYING

#### 11 SECTION 11 - ROOFING

- 11.1 GENERAL
- 11.2 MEMBRANE ROOFING
- 11.3 METAL AND PLASTIC ROOFING
- 11.4 ROOF AND DECK INSULATION
- 11.5 ROOFING TILES AND SHINGLES

#### 12 SECTION 12 - THERMAL INSULATION OF BUILDINGS

- 12.1 GENERAL
- 12.2 BUILDING INSULATION
- 12.3 COLD STORES

#### 13 SECTION 13 - STRUCTURAL STEEL WORKS

- 13.1 GENERAL
- 13.2 MATERIALS
- 13.3 DRAWINGS
- 13.4 FABRICATION
- 13.5 WELDING
- 13.6 BOLTING
- 13.7 ACCURACY OF FABRICATION
- 13.8 ERECTION
- 13.9 ACCURACY OF ERECTED STEELWORK
- 13.10 PROTECTIVE TREATMENT

#### 14 SECTION 14 - METAL WORKS

- 14.1 GENERAL
- 14.2 MATERIAL TYPES AND FINISHES
- 14.3 METAL DOORS AND WINDOWS
- 14.4 ARCHITECTURAL METAL WORK
- 14.5 LIGHT METAL SUPPORT AND CLADDING SUPPORT
- 14.6 WORKMANSHIP

#### 15 SECTION 15 - CARPENTRY, JOINERY AND IRONMONGERY

- 15.1 GENERAL
  - 15.2 WOOD TREATMENT
  - 15.3 STRUCTURAL TIMBER
  - 15.4 ARCHITECTURAL TIMBER
  - 15.5 JOINERY
  - 15.6 FASTENERS AND ADHESIVES
  - 15.7 IRONMONGERY

#### 16 SECTION 16 - PLUMBING WORKS

- 16.1 GENERAL
- 16.2 WATER DISTRIBUTION
- 16.3 PLUMBING PIPEWORK IN TRENCHES



- 16.4 COLD WATER STORAGE
- 16.5 HOT WATER STORAGE
- 16.6 COMMISSIONING OF SYSTEMS
- 16.7 PLUMBING FOR GASES
- 16.8 STEAM BOILER

#### 17 SECTION 17 - DRAINAGE WORKS

- 17.1 GENERAL
- 17.2 INTERNAL DRAINAGE WORKS
- 17.3 EXTERNAL DRAINAGE WORKS
- 17.4 DRAINAGE PIPES IN TRENCHES
- 17.5 STRUCTURES RELATED TO DRAINAGE WORK
- 17.6 SURFACE WATER DRAINAGE
- 17.7 COMMISSIONING OF SYSTEMS

#### 18 SECTION 18 - ELECTRICAL WORKS

- 18.1 GENERAL PROVISIONS FOR ELECTRICAL INSTALLATION
- 18.2 FACTORY BUILT ASSEMBLIES (FBA'S)
- 18.3 PROTECTIVE DEVICES
- 18.4 MOTOR STARTERS
- 18.5 VARIABLE SPEED CONTROLLERS
- 18.6 CABLES AND SMALL WIRING
- 18.7 CONDUITS AND CONDUIT BOXES
- 18.8 TRUNKING
- 18.9 CABLE TRAYS
- 18.10 WIRING ACCESSORIES AND GENERAL POWER
- 18.11 LIGHT FITTINGS
- 18.12 EMERGENCY LIGHTING
- 18.13 TELEPHONE INSTALLATIONS
- 18.14 STRUCTURED CABLING SYSTEMS
- 18.15 ELECTRIC MOTORS
- 18.16 POWER FACTOR CORRECTION CAPACITORS
- 18.17 DIESEL GENERATOR SET
- 18.18 UNINTERRUPTIBLE POWER SUPPLY SYSTEMS
- 18.19 SOUND AND CALL SYSTEMS
- 18.20 EARTHING AND BONDING
- 18.21 INSPECTION AND TESTING

#### 19 SECTION 19 - AIR CONDITIONING REFRIGERATION AND VENTILATION

- 19.1 GENERAL
- 19.2 CENTRAL REFRIGERATION & AIR CONDITIONING EQUIPMENT950
- 19.3 UNITARY EQUIPMENT
- 19.4 AIR HANDLING EQUIPMENT
- 19.5 DUCTWORK AND AIR-SIDE EQUIPMENT
- 19.6 THERMAL INSULATION
- 19.7 EXHAUST FANS
- 19.8 ACCESSORIES

#### 20 SECTION 20 - FIRE FIGHTING AND FIRE FIGHTING SYSTEMS

- 20.1 GENERAL
- 20.2 FIRE ALARM AND DETECTION SYSTEMS



- 20.3 ANALOGUE ADDRESSABLE FIRE ALARM SYSTEM
- 20.4 FIRE FIGHTING SYSTEM
- 20.5 TESTING AND COMMISSIONING

#### 21 SECTION 21 - FINISHING TO BUILDINGS

- 21.1 GENERAL
- 21.2 LATH AND PLASTER
- 21.3 DRY LINING (WALLBOARD)
- 21.4 SPECIAL WALL SURFACES
- 21.5 TILES
- 21.6 TERRAZZO
- 21.7 STONE FLOORING
- 21.8 UNIT MASONRY FLOORING
- 21.9 FLOOR SCREEDS AND TREATMENTS
- 21.10 JOINTS, CAULKING AND SEALANTS
- 21.11 RECESSED DUCT COVERS
- 21.12 CARPETING
- 21.13 OTHER FLOOR COVERINGS
- 21.14 CEILINGS

#### 22 SECTION 22 - GLASS & GLAZING

- 22.1 GENERAL
- 22.2 GLASS
- 22.3 WORKMANSHIP

#### 23 SECTION 23 - PAINTING & DECORATING

- 23.1 GENERAL
- 23.2 SURFACE PREPARATION FOR PAINTING
- 23.3 PRIMERS, PAINTS AND COATINGS
- 23.4 DECORATIVE PAPERS AND FABRICS
- 23.5 DECORATIVE PAPERS AND FABRICS

#### 24 SECTION 24 - EXTERNAL WORKS

- 24.1 GENERAL
- 24.2 BLOCK PAVED AREAS
- 24.3 FENCES AND GATES
- 24.4 FOUNTAINS AND AQUATIC FEATURES
- 24.5 SITE FURNITURE
- 24.6 FLAG POLES
- 24.7 PROTECTIVE OR SHADE COVER SYSTEMS
- 24.8 PLAY FIELD AND PARK EQUIPMENT
- 24.9 MISCELLANEOUS OTHER EXTERNAL WORKS

#### 25 SECTION 25 - LANDSCAPE

25.1 LANDSCAPE PLANTING

#### 26 SECTION 26 - HEALTH SAFETY AND ENVIRONMENTAL PROVISIONS

- 26.1 LIFE SAVING RULES
- 26.2 PROTECTIVE CLOTHING
- 26.3 WORK AREA
- 26.4 FIRST AID



- 26.5 FIRE PRECAUTIONS
- 26.6 WELFARE FACILITIES
- 26.7 CONTROL OF HAZARDS TO HEALTH
- 26.8 HS&E MOBILIZATION CHECKLIST

## 27 SECTION 27 – INSTRUCIONS FOR PREPARATION OF OPERATION AND MAINTENANC MANUALS

- 27.1 GENERAL PROVISIONS
- 27.2 CONTENT OF O&M MANUAL
- 27.3 ASSET GROUPS

**PART END** 



## **Invitation To Bid**

ITB - 056/14

**FOR** 

## ESTABLISHMENT OF MINI PLAYGROUNDS IN AL DAIR & AL NASHWAH, IN THE MAJNOON AREA OF BASRAH, IRAQ

**Volume II** 

**Section 3** 

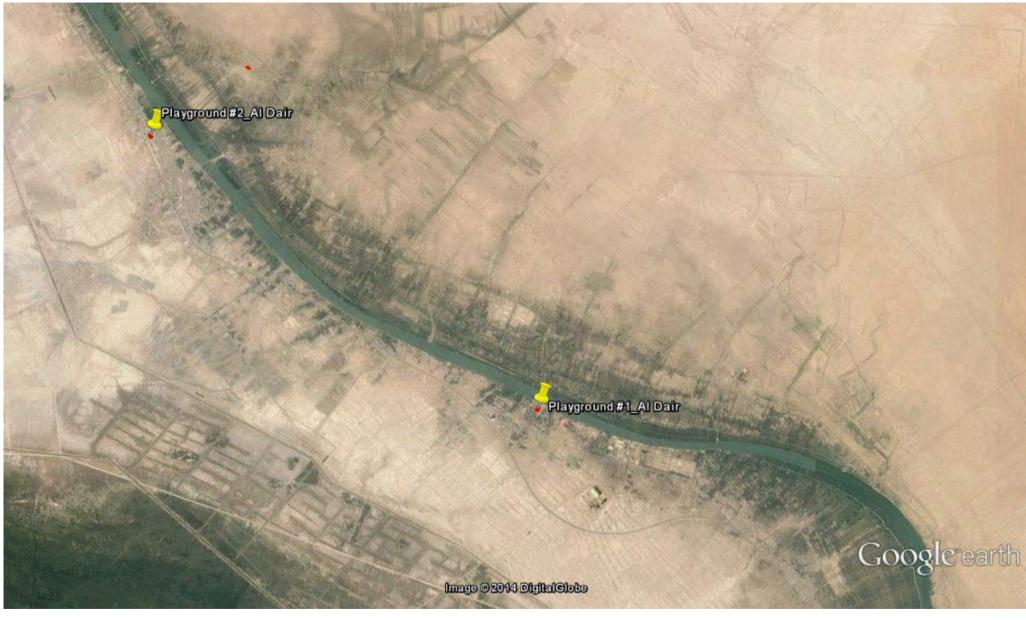
**PART 4: - DRAWINGS** 





T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  PROGRAMME  PROGRAMME  PROJECT (NAME & NO.)			
T · 02 Google Earth Map_Plaground #1_Al Dair T · 03 General Layout #1 of Playground #1_Al Dair T · 04 General Layout #2 of Playground #2_Al Dair T · 05 Google Earth Map_Playground #2_Al Dair T · 06 General Layout #1 of Playground #2_Al Dair T · 07 General Layout #1 of Playground #2_Al Dair T · 08 Google Earth Map_Playground #2_Al Dair T · 09 Google Earth Map_Playground #1_Al Nashwah T · 09 Georal Layout #1 of Playground #1_Al Nashwah T · 10 General Layout #1 of Playground #1_Al Nashwah T · 11 General Layout #2 of Playground #2_Al Nashwah T · 12 Google Earth Map_Playground #2_Al Nashwah T · 13 General Layout #1 of Playground #2_Al Nashwah T · 14 General Layout #1 of Playground #2_Al Nashwah T · 15 Typical Elevations Plan Layout T · 16 Typical Elevations Plan Layout T · 17 Typical Elevations Details Layout T · 18 Typical Fonc's Footing Plan Layout T · 19 Typical Floor Cross Sections & Details T · 20 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches T · 22 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard T · 24 Typical Structural Details #2 Layout / Football Goal Details T · 27 Typical Sewrage Details T · 27 Typical Sewrage Details T · 28 Children Playground Area (Age 1 · 6 Years) 3D Photos T · 28 Children Playground Area (Age 7 · 4 Years) 3D Photos	T - 00	Index	
T - 03 General Layout #1 of Playground #1_Al Dair T - 04 General Layout #2 of Playground #2_Al Dair T - 05 Google Earth Map_Playground #2_Al Dair T - 06 General Layout #1 of Playground #2_Al Dair T - 07 General Layout #2 of Playground #2_Al Dair T - 08 Google Earth Map_Playground #2_Al Dair T - 09 Google Earth Map_Playground #1_Al Nashwah T - 10 General Layout #1 of Playground #1_Al Nashwah T - 11 General Layout #2 of Playground #1_Al Nashwah T - 12 Google Earth Map_Playground #2_Al Nashwah T - 13 General Layout #1 of Playground #2_Al Nashwah T - 14 General Layout #1 of Playground #2_Al Nashwah T - 15 Typical Elevations Plan Layout T - 16 Typical Elevations Details Layout T - 17 Typical Elevations Details Layout T - 18 Typical Floor Cross Sections & Details T - 21 Typical Floor Cross Sections & Details T - 21 Typical Floor Cross Sections & Details T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard T - 24 Typical Structural Details #3 Layout / Football Goal Details T - 25 Typical Irrigation Plan & Details Layout T - 26 Typical Sewerage Details T - 27 Typical Equipment List T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos T - 09 Fitness Area (Age 7 + Years) 3D Photos	T - 01	Google Earth Map_Playgrounds #1 & 2_Al Dair	
T - 04 General Layout #2 of Playground #1_Al Dair T - 05 Google Earth Map_Playground #2_Al Dair T - 06 General Layout #1 of Playground #2_Al Dair T - 07 General Layout #2 of Playground #2_Al Dair T - 08 Google Earth Map_Playgrounds #1 & 2_Al Nashwah T - 09 Google Earth Map_Playgrounds #1 & 2_Al Nashwah T - 10 General Layout #1 of Playground #1_Al Nashwah T - 11 General Layout #1 of Playground #2_Al Nashwah T - 12 Google Earth Map_Playground #2_Al Nashwah T - 13 General Layout #1 of Playground #2_Al Nashwah T - 14 General Layout #1 of Playground #2_Al Nashwah T - 15 Typical Elevations Plan Layout T - 16 Typical Elevations Plan Layout T - 17 Typical Elevations Details Layout T - 18 Typical Floor Cross Sections & Details Layout T - 19 Typical Floor Cross Sections & Details T - 21 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches T - 23 Typical Structural Details #3 Layout / Football Goal Details T - 24 Typical Structural Details #3 Layout / Football Goal Details T - 25 Typical Structural Details #3 Layout / Football Goal Details T - 26 Typical Sewerage Details T - 27 Typical Equipment List T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 02	Google Earth Map_Plaground #1_Al Dair	
T - 05 Google Earth Map_Playground #2_Al Dair T - 06 General Layout #1 of Playground #2_Al Dair T - 07 General Layout #2 of Playground #2_Al Dair T - 08 Google Earth Map_Playgrounds #1 & 2_Al Nashwah T - 09 Google Earth Map_Playgrounds #1 & 2_Al Nashwah T - 10 General Layout #1 of Playground #1_Al Nashwah T - 11 General Layout #2 of Playground #2_Al Nashwah T - 12 Google Earth Map_Playground #2_Al Nashwah T - 13 General Layout #1 of Playground #2_Al Nashwah T - 14 General Layout #1 of Playground #2_Al Nashwah T - 15 Typical Elevations Plan Layout T - 16 Typical Elevations Plan Layout T - 17 Typical Elevations Details Layout T - 18 Typical Floor Finish Level Plan Layout T - 19 Typical Floor Finish Level Plan Layout T - 20 Typical Floor Finish Level Plan Layout T - 21 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches T - 23 Typical Structural Details #3 Layout / Football Goal Details T - 24 Typical Structural Details #3 Layout / Football Goal Details T - 25 Typical Irrigation Plan & Details Layout T - 26 Typical Sewerage Details T - 27 Typical Equipment List T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 03	General Layout #1 of Playground #1_Al Dair	
T - 06 General Layout #1 of Playground #2_Al Dair T - 07 General Layout #2 of Playground #2_Al Dair T - 08 Google Earth Map_Playground #1_Al Nashwah T - 10 General Layout #1 of Playground #1_Al Nashwah T - 10 General Layout #1 of Playground #1_Al Nashwah T - 11 General Layout #2 of Playground #1_Al Nashwah T - 12 Google Earth Map_Playground #2_Al Nashwah T - 13 General Layout #1 of Playground #2_Al Nashwah T - 14 General Layout #1 of Playground #2_Al Nashwah T - 15 Typical Elevations Plan Layout T - 16 Typical Elevations Plan Layout T - 17 Typical Elevations Details Layout T - 19 Typical Floor Finish Level Plan Layout T - 19 Typical Floor Finish Level Plan Layout T - 20 Typical Floor Cross Sections & Details T - 21 Typical Structural Details #2 Layout / Memorial Plaque, Concrete Tables & Concrete Benches T - 23 Typical Structural Details #2 Layout / Memorial Plaque, Concrete Tables & Concrete Benches T - 24 Typical Structural Details #3 Layout / Football Goal Details T - 25 Typical Irrigation Plan & Details Layout T - 26 Typical Sewerage Details T - 27 Typical Equipment List T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 04	General Layout #2 of Playground #1_Al Dair	
T - 07 General Layout #2 of Playground #2_Al Dair T - 08 Google Earth Map_Playgrounds #1 & 2_Al Nashwah T - 09 Google Earth Map_Playgrounds #1 & 2_Al Nashwah T - 10 General Layout #1 of Playground #1_Al Nashwah T - 11 General Layout #2 of Playground #2_Al Nashwah T - 12 Google Earth Map_Playground #2_Al Nashwah T - 13 General Layout #1 of Playground #2_Al Nashwah T - 14 General Layout #1 of Playground #2_Al Nashwah T - 15 Typical Elevations Plan Layout #2 of Playground #2_Al Nashwah T - 16 Typical Elevations Details Layout T - 17 Typical Elevations Details Layout T - 19 Typical Fence's Footing Plan Layout T - 19 Typical Foot Finish Level Plan Layout T - 20 Typical Floor Finish Level Plan Layout T - 21 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard T - 24 Typical Structural Details #3 Layout / Football Goal Details T - 25 Typical Irrigation Plan & Details Layout T - 26 Typical Sewerage Details T - 27 Typical Equipment List T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 05	Google Earth Map_Playground #2_Al Dair	
T - 08 Google Earth Map_Playgrounds #1 & 2_AI Nashwah  T - 09 Google Earth Map_Playground #1_AI Nashwah  T - 10 General Layout #1 of Playground #1_AI Nashwah  T - 11 General Layout #2 of Playground #2_AI Nashwah  T - 12 Google Earth Map_Playground #2_AI Nashwah  T - 13 General Layout #1 of Playground #2_AI Nashwah  T - 14 General Layout #2 of Playground #2_AI Nashwah  T - 15 Typical Elevations Plan Layout  T - 16 Typical Elevations Plan Layout  T - 17 Typical Elevations Details Layout  T - 19 Typical Floor Finish Level Plan Layout  T - 20 Typical Floor Finish Level Plan Layout  T - 21 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Structural Details #3 Layout / Football Goal Details  T - 26 Typical Structural Details #3 Layout / Football Goal Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos	T - 06	General Layout #1 of Playground #2_Al Dair	
T - 09 Google Earth Map_Plaground #1_Al Nashwah  T - 10 General Layout #2 of Playground #1_Al Nashwah  T - 11 General Layout #2 of Playground #1_Al Nashwah  T - 12 Google Earth Map_Playground #2_Al Nashwah  T - 13 General Layout #1 of Playground #2_Al Nashwah  T - 14 General Layout #2 of Playground #2_Al Nashwah  T - 15 Typical Elevations Plan Layout  T - 16 Typical Elevations Plan Layout  T - 17 Typical Elevations Details Layout  T - 18 Typical Fence's Footing Plan Layout  T - 20 Typical Floor Finish Level Plan Layout  T - 21 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Sewerage Details  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 07	General Layout #2 of Playground #2_Al Dair	
T - 10 General Layout #1 of Playground #1_Al Nashwah  T - 11 General Layout #2 of Playground #2_Al Nashwah  T - 12 Google Earth Map_Playground #2_Al Nashwah  T - 13 General Layout #1 of Playground #2_Al Nashwah  T - 14 General Layout #2 of Playground #2_Al Nashwah  T - 15 Typical Elevations Plan Layout  T - 16 Typical Elevations Details Layout  T - 17 Typical Elevations Details Layout  T - 18 Typical Floor Finish Level Plan Layout  T - 20 Typical Floor Cross Sections & Details  T - 21 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 24 Typical Structural Details #2 Layout / Sponsor Billiboard & Warning Billiboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 08	Google Earth Map_Playgrounds #1 & 2_Al Nashwah	
T - 11 General Layout #2 of Playground #1_Al Nashwah  T - 12 Google Earth Map_Playground #2_Al Nashwah  T - 13 General Layout #1 of Playground #2_Al Nashwah  T - 14 General Layout #2 of Playground #2_Al Nashwah  T - 15 Typical Elevations Plan Layout  T - 16 Typical Elevations Details Layout  T - 17 Typical Elevations Details Layout  T - 18 Typical Floor Finish Level Plan Layout  T - 19 Typical Floor Cross Sections & Details  T - 21 Typical Floor Cross Sections & Details  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7+ Years) 3D Photos	T - 09	Google Earth Map_Plaground #1_Al Nashwah	
T - 12 Google Earth Map_Playground #2_Al Nashwah  T - 13 General Layout #1 of Playground #2_Al Nashwah  T - 14 General Layout #2 of Playground #2_Al Nashwah  T - 15 Typical Elevations Plan Layout  T - 16 Typical Elevations Details Layout  T - 17 Typical Elevations Details Layout  T - 18 Typical Floor Finish Level Plan Layout  T - 19 Typical Floor Finish Level Plan Layout  T - 20 Typical Floor Cross Sections & Details  T - 21 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Sewerage Details  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7 + Years) 3D Photos	T - 10	General Layout #1 of Playground #1_Al Nashwah	
T - 13 General Layout #1 of Playground #2_Al Nashwah  T - 14 General Layout #2 of Playground #2_Al Nashwah  T - 15 Typical Elevations Plan Layout  T - 16 Typical Elevations Details Layout  T - 17 Typical Elevations Details Layout  T - 18 Typical Floor Finish Level Plan Layout  T - 19 Typical Floor Finish Level Plan Layout  T - 20 Typical Floor Cross Sections & Details  T - 21 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7+ Years) 3D Photos	T - 11	General Layout #2 of Playground #1_Al Nashwah	
T - 14 General Layout #2 of Playground #2_Al Nashwah  T - 15 Typical Elevations Plan Layout  T - 16 Typical Elevations Details Layout  T - 17 Typical Elevations Details Layout  T - 18 Typical Floor Finish Level Plan Layout  T - 19 Typical Floor Finish Level Plan Layout  T - 20 Typical Floor Cross Sections & Details  T - 21 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 12	Google Earth Map_Playground #2_Al Nashwah	
T - 15 Typical Elevations Plan Layout  T - 16 Typical Elevations Layout  T - 17 Typical Elevations Details Layout  T - 18 Typical Fence's Footing Plan Layout  T - 19 Typical Floor Finish Level Plan Layout  T - 20 Typical Floor Cross Sections & Details  T - 21 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Sewerage Details  T - 26 Typical Sewerage Details  T - 27 Typical Elevations Plan & Details Layout  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 13	General Layout #1 of Playground #2_Al Nashwah	
T - 16 Typical Elevations Layout  T - 17 Typical Elevations Details Layout  T - 18 Typical Fence's Footing Plan Layout  T - 19 Typical Floor Finish Level Plan Layout  T - 20 Typical Floor Cross Sections & Details  T - 21 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 14	General Layout #2 of Playground #2_Al Nashwah	
T - 17 Typical Elevations Details Layout  T - 18 Typical Floor Finish Level Plan Layout  T - 19 Typical Floor Cross Sections & Details  T - 20 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7 + Years) 3D Photos	T - 15	Typical Elevations Plan Layout	
T - 18 Typical Fence's Footing Plan Layout  T - 19 Typical Floor Cross Sections & Details  T - 20 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 16	Typical Elevations Layout	
T - 19 Typical Floor Finish Level Plan Layout  T - 20 Typical Floor Cross Sections & Details  T - 21 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7 + Years) 3D Photos	T - 17	Typical Elevations Details Layout	
T - 20 Typical Floor Cross Sections & Details  T - 21 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7 + Years) 3D Photos	T - 18	Typical Fence's Footing Plan Layout	
T - 21 Typical Mini Football Court's Markings Layout  T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7 + Years) 3D Photos	T - 19	Typical Floor Finish Level Plan Layout	
T - 22 Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches  T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7 + Years) 3D Photos	T - 20	Typical Floor Cross Sections & Details	
T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7 + Years) 3D Photos	T - 21	Typical Mini Football Court's Markings Layout	
T - 23 Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard  T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 22	Typical Structural Details #1 Layout / Memorial Plaque, Concrete Tables & Concrete Benches	DEVELOPMENT
T - 24 Typical Structural Details #3 Layout / Football Goal Details  T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 23	Typical Structural Details #2 Layout / Sponsor Billboard & Warning Billboard	DP
T - 25 Typical Irrigation Plan & Details Layout  T - 26 Typical Sewerage Details  T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 24	Typical Structural Details #3 Layout / Football Goal Details	Establishment of Mini Playgrounds in Al Dair & Al Nashwah Sub-Districts,
T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area ( Age 7 + Years) 3D Photos	T - 25	Typical Irrigation Plan & Details Layout	DESIGN GROUP Sheet no.
T - 27 Typical Equipment List  T - 28 Children Playground Area (Age 1 - 6 Years) 3D Photos  T - 29 Fitness Area (Age 7 + Years) 3D Photos	T - 26	Typical Sewerage Details	
T - 29 Fitness Area (Age 7+ Years) 3D Photos	T - 27	Typical Equipment List	DRWG. STATUS
T - 29 Fitness Area ( Age /+ Years) 3D Photos	T - 28	Children Playground Area (Age 1 - 6 Years) 3D Photos	DRWG. NO.
	T - 29	Fitness Area ( Age 7+ Years) 3D Photos	111111
·	1		

T - 01 Google Earth Map\_Playgrounds # 1 & 2\_Al Dair





miles km 10



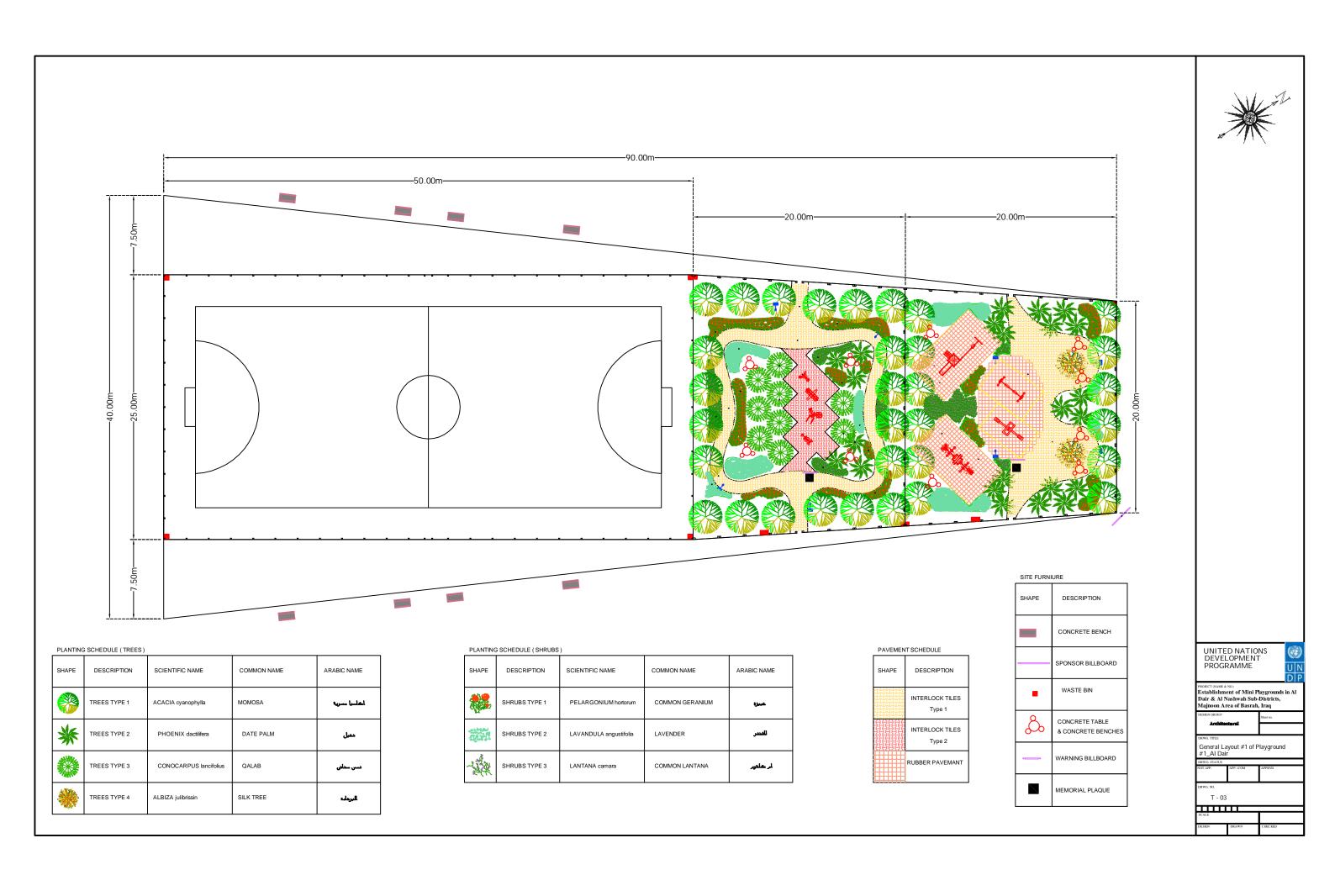
T - 02 Google Earth Map\_Playground #1\_Al Dair

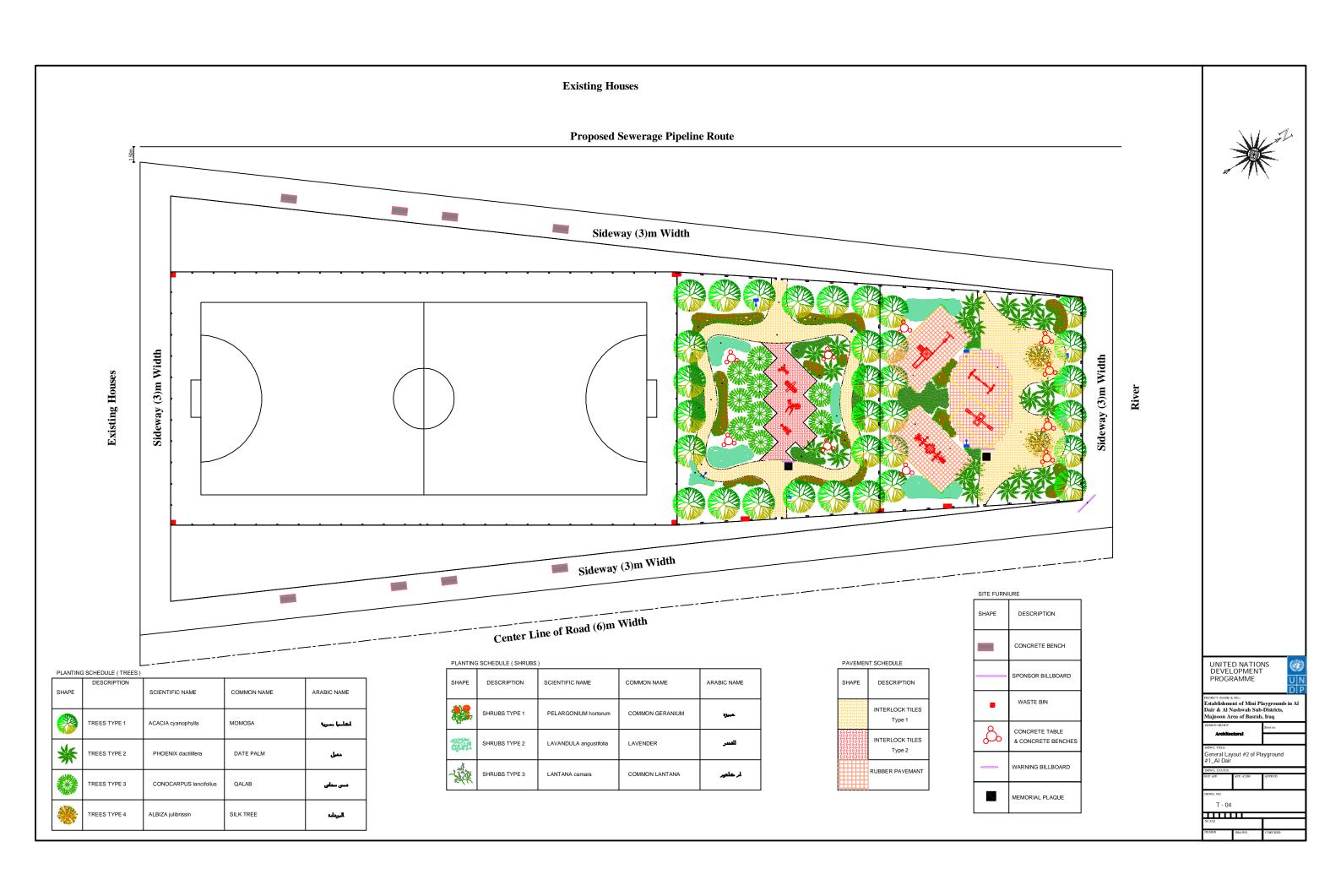




feet 3000 km







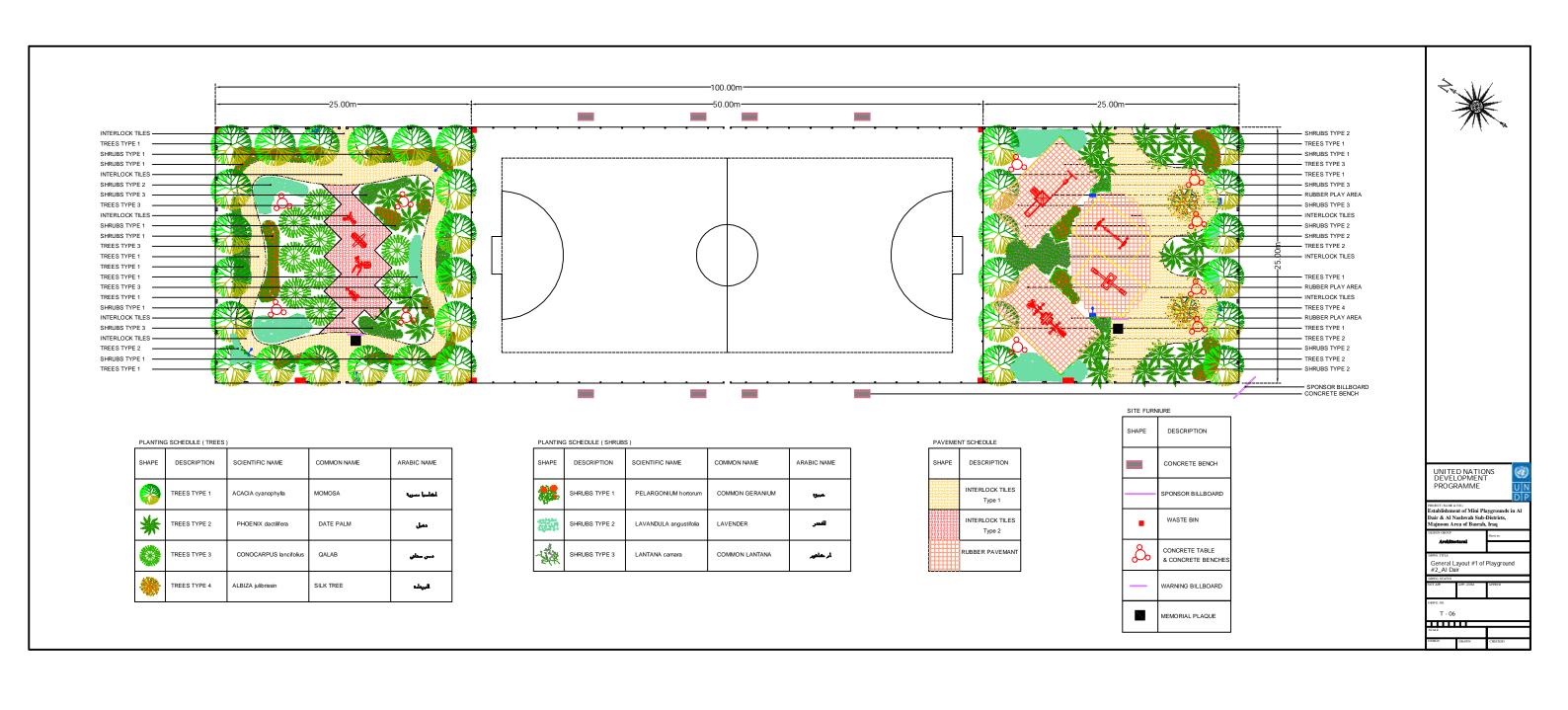
T - 05 Google Earth Map\_Playground #2\_Al Dair

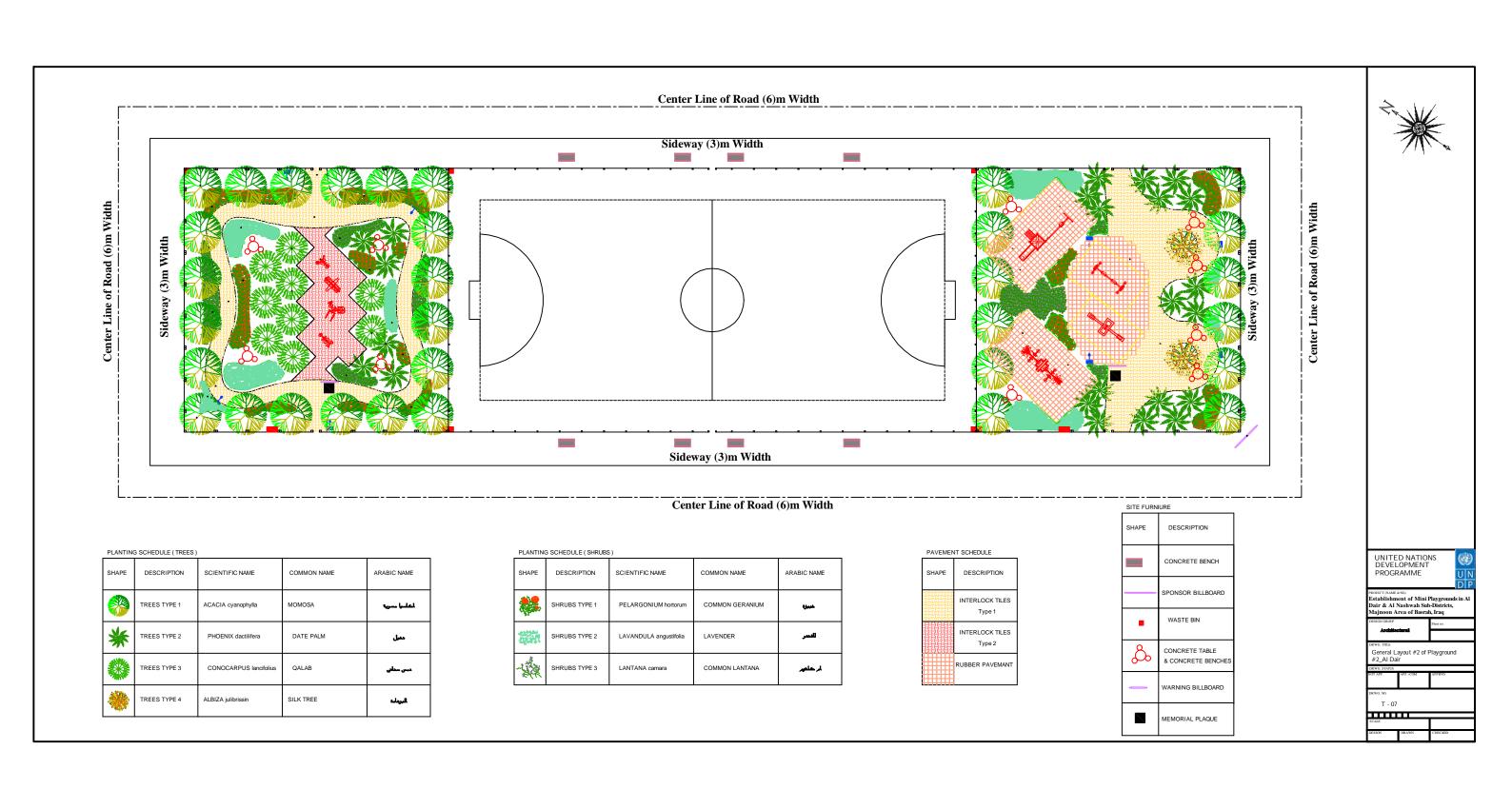




feet 3000 km







T - 08 Google Earth Map\_Playgrounds #1 & 2\_Al Nashwah





miles 4



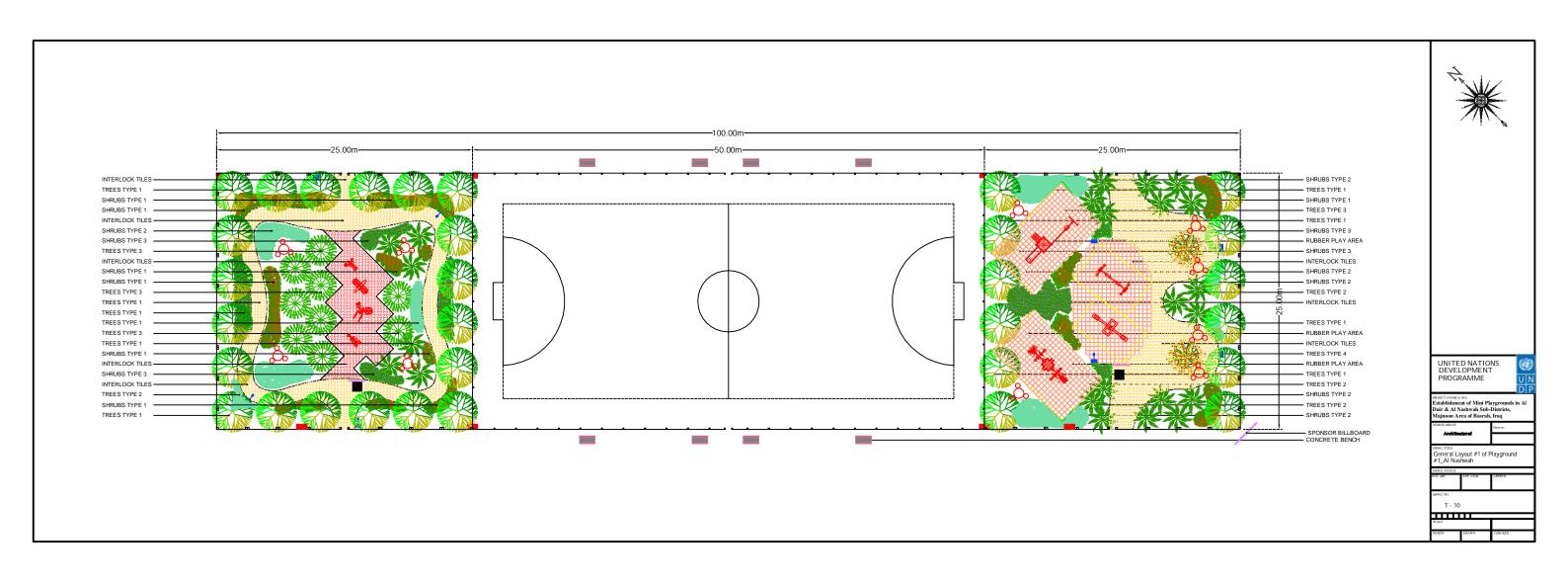
T - 09 Google Earth Map Playground #1\_Al Nashwah

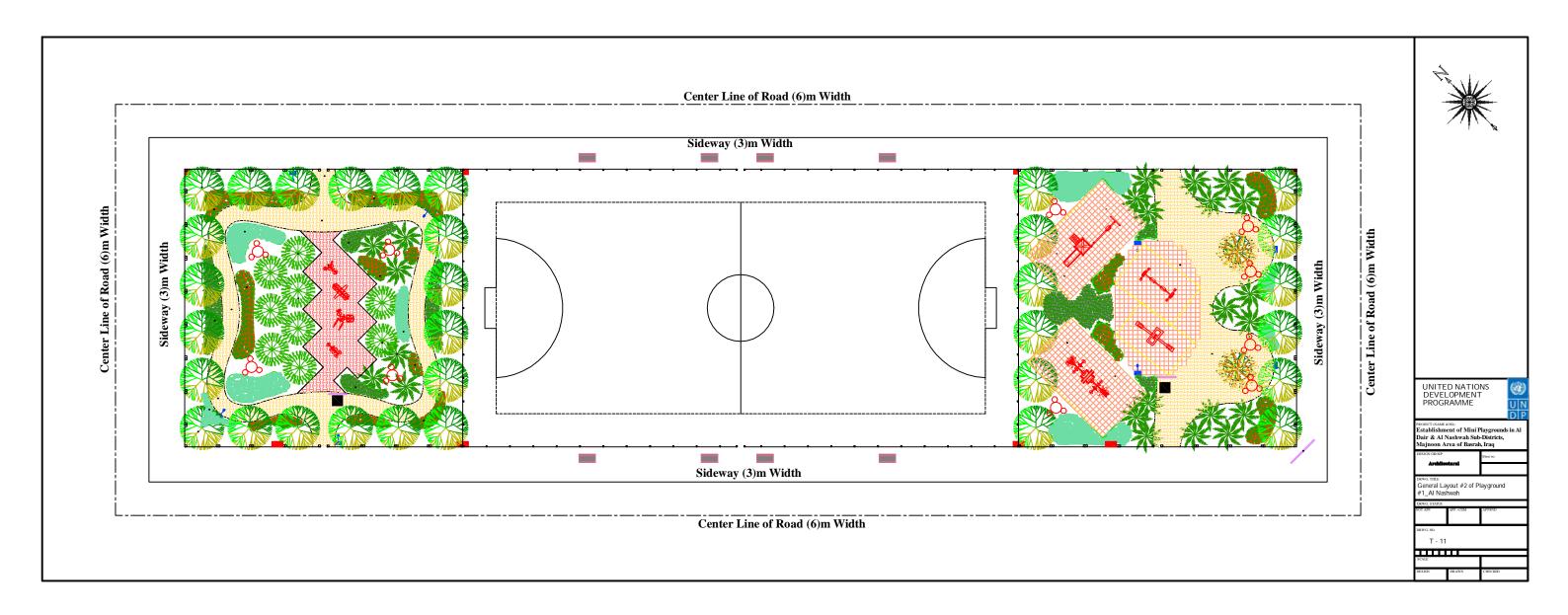




miles 1







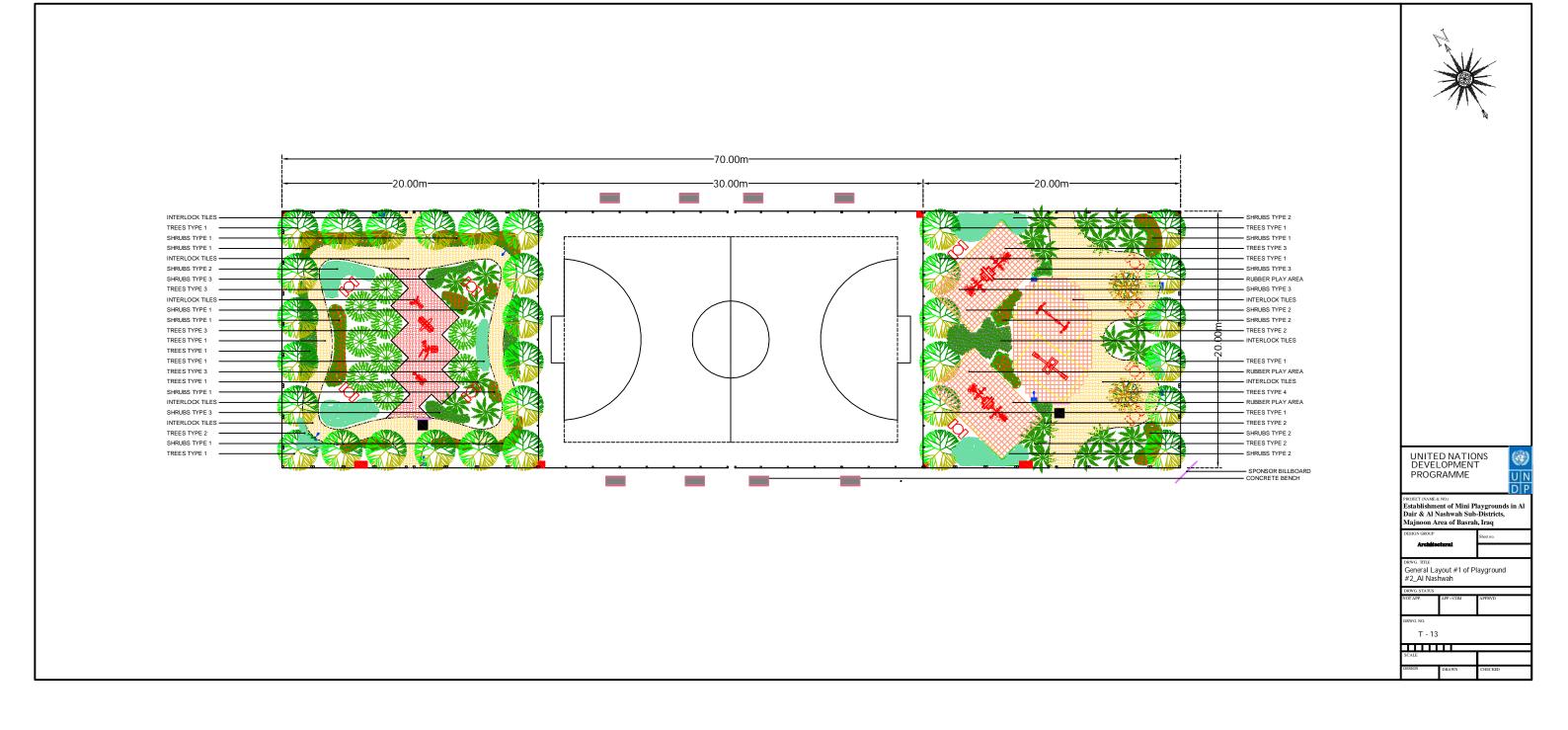
T - 12 Google Earth Map\_Playground #2\_Al Nashwah



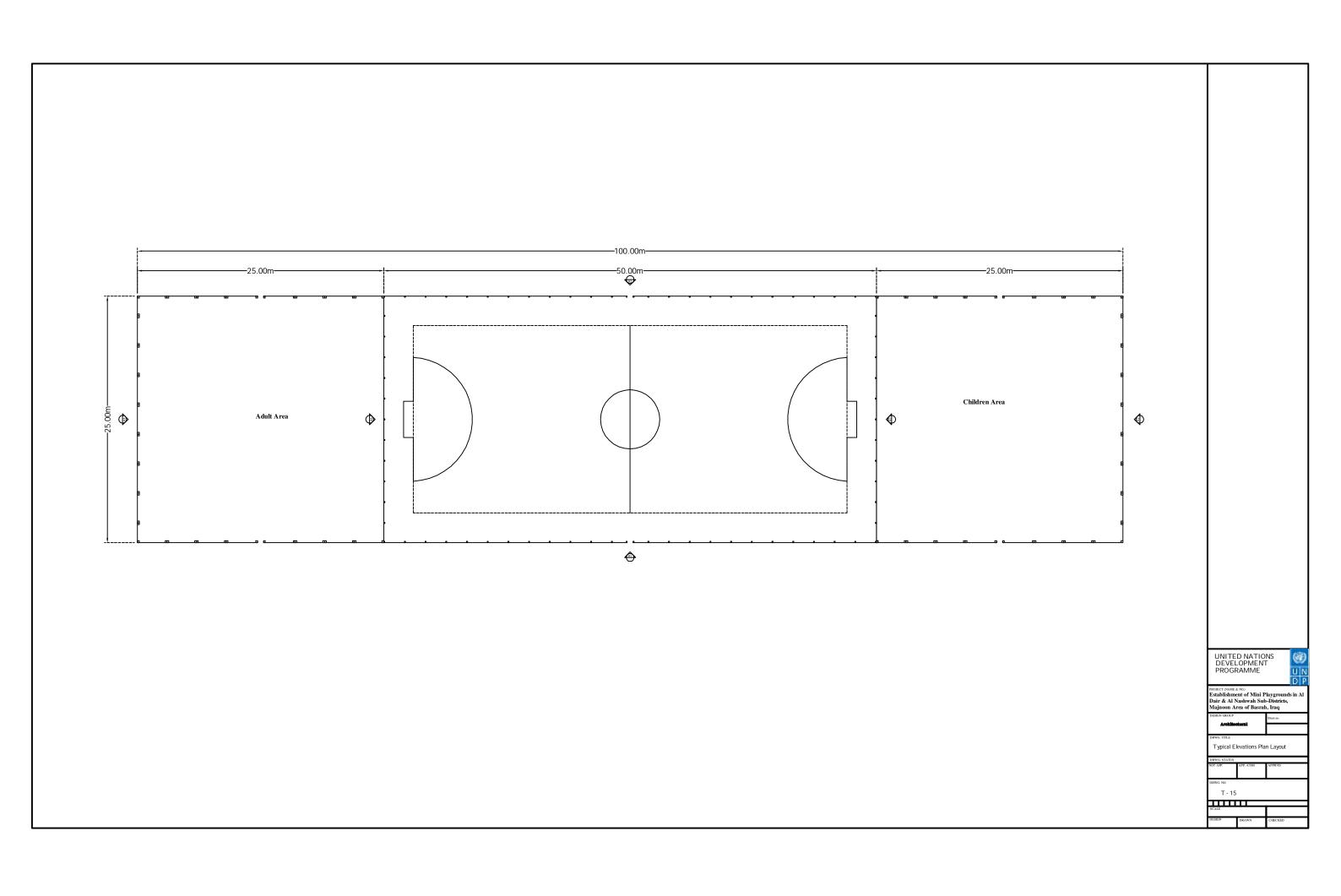


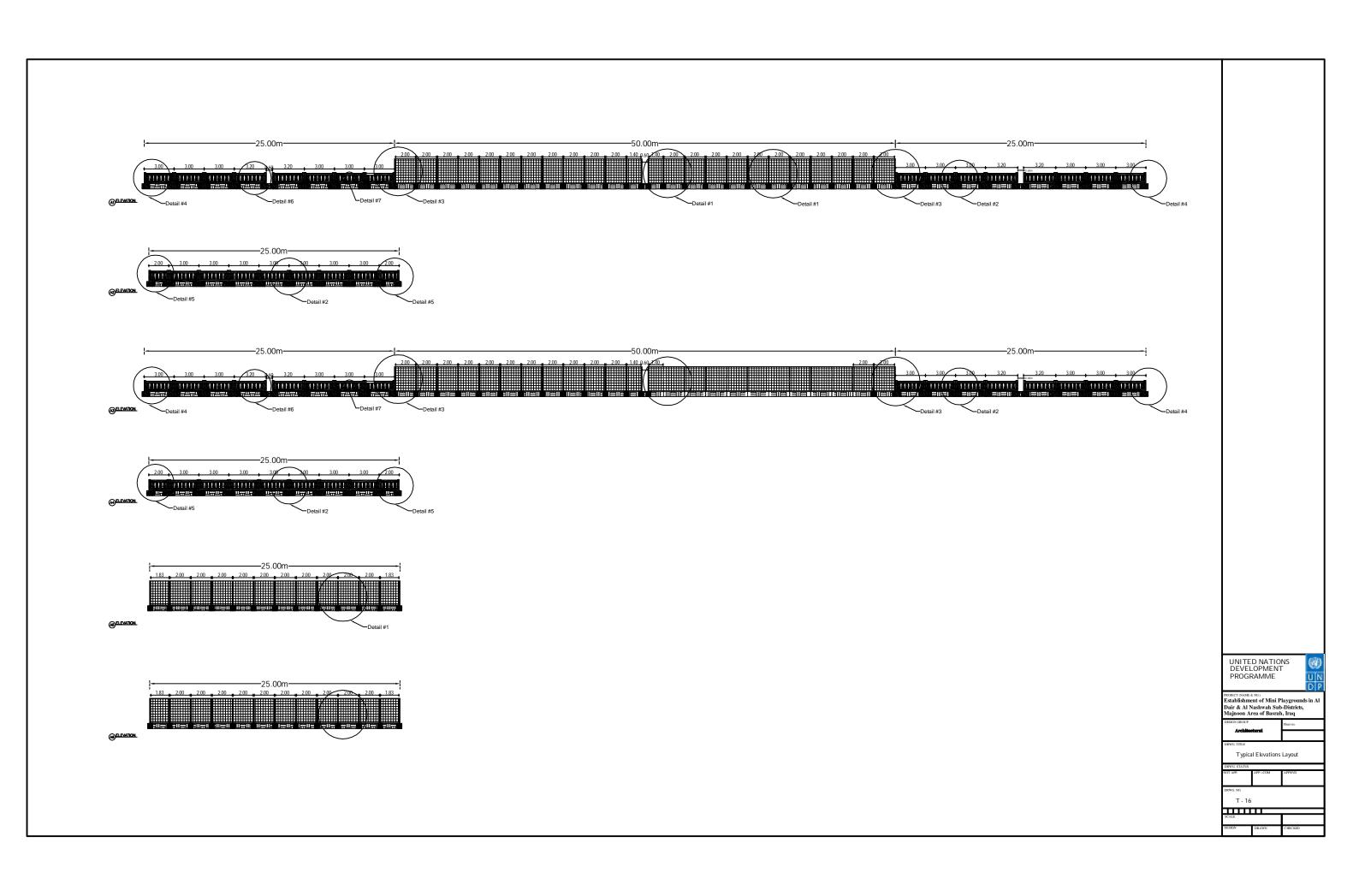
feet 3000 km

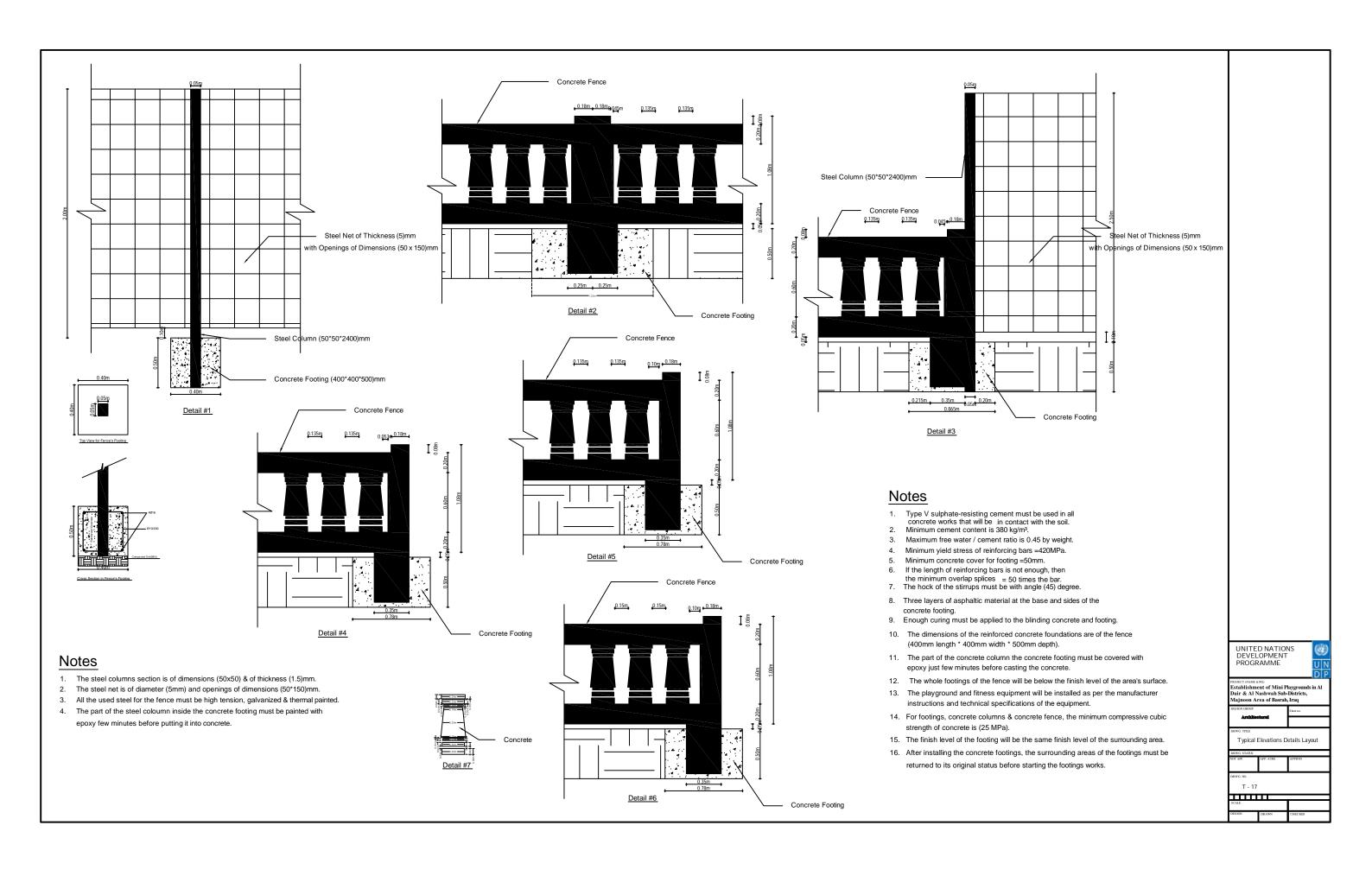


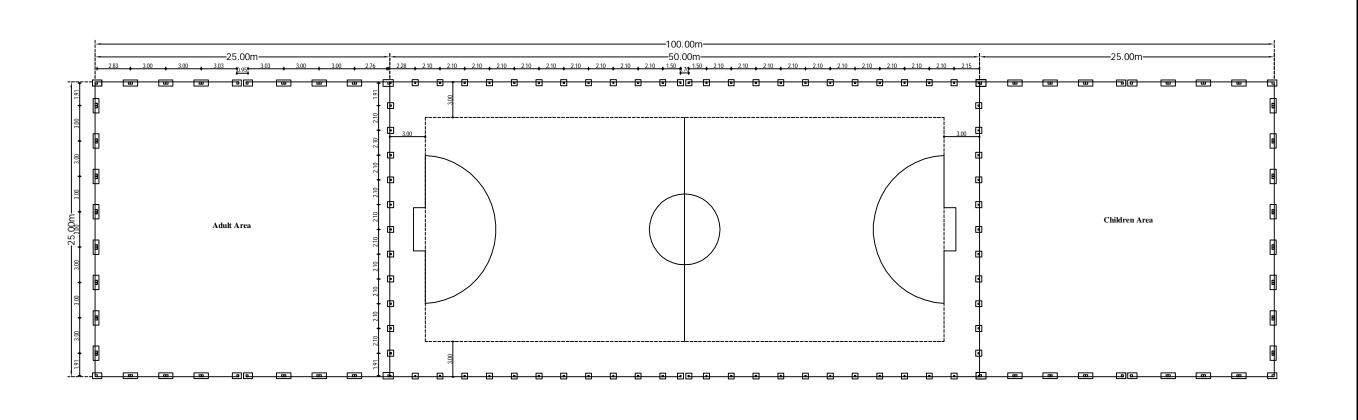












UNITED NATIONS DEVELOPMENT PROGRAMME

PROJECT (NAME & NO.)
Establishment of Mini Playgrounds in Al Dair & Al Nashwah Sub-Districts, Majnoon Area of Basrah, Iraq

DESIGN GROUP

Architectural

Typical Fence's Footing Plan Layout

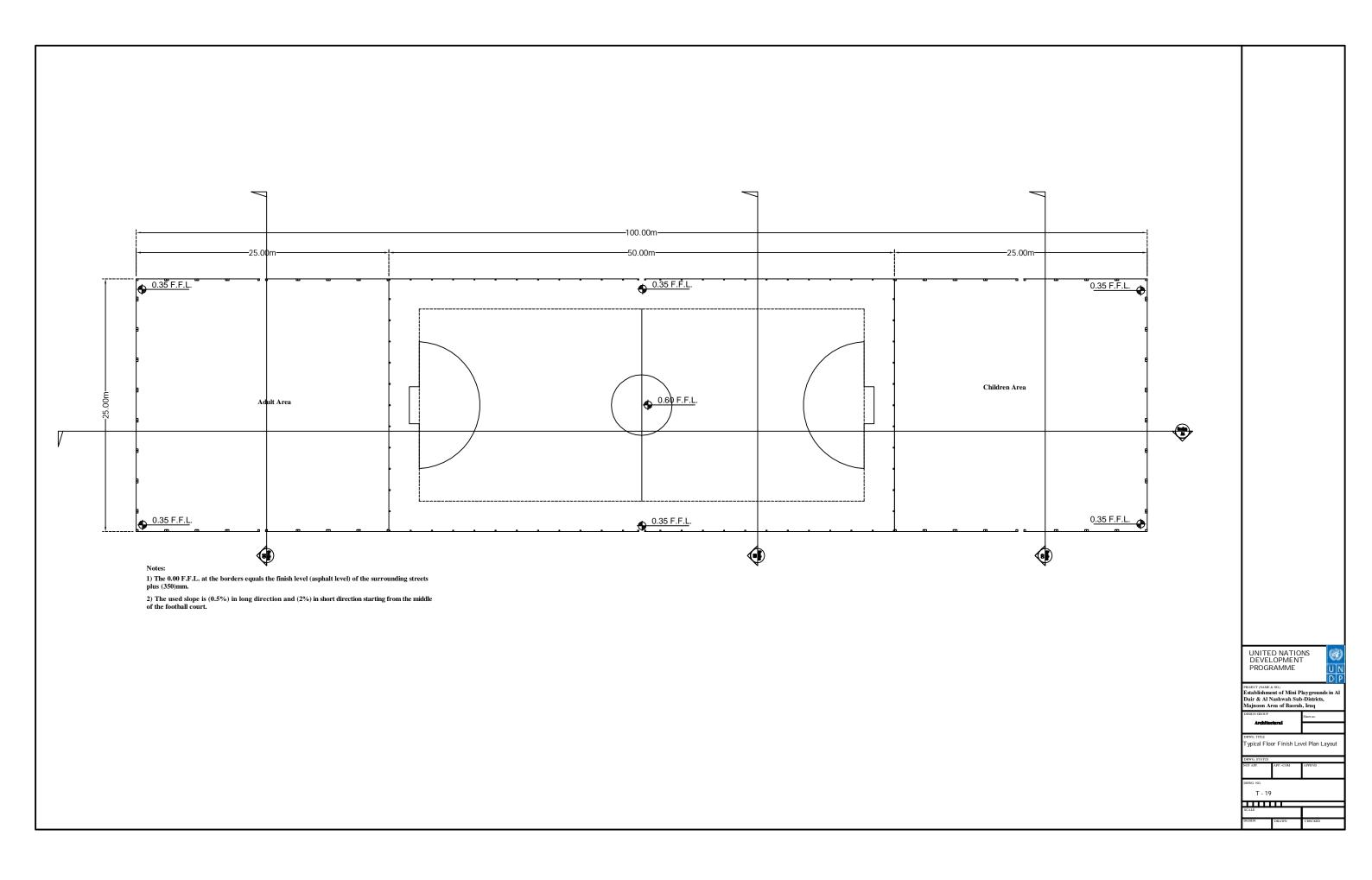
WG. STATUS
T APP. APP.+COM APP.

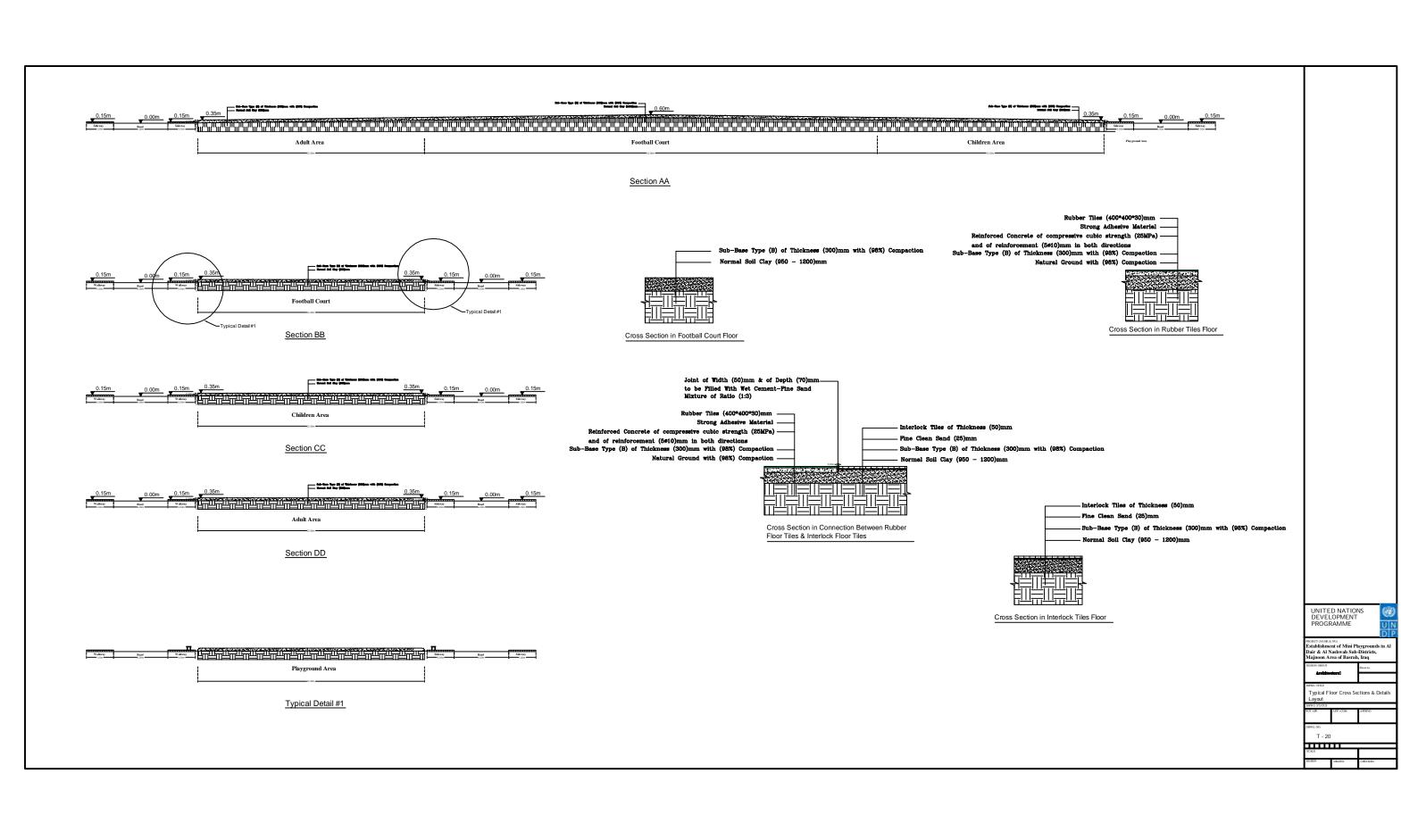
RWG. NO.

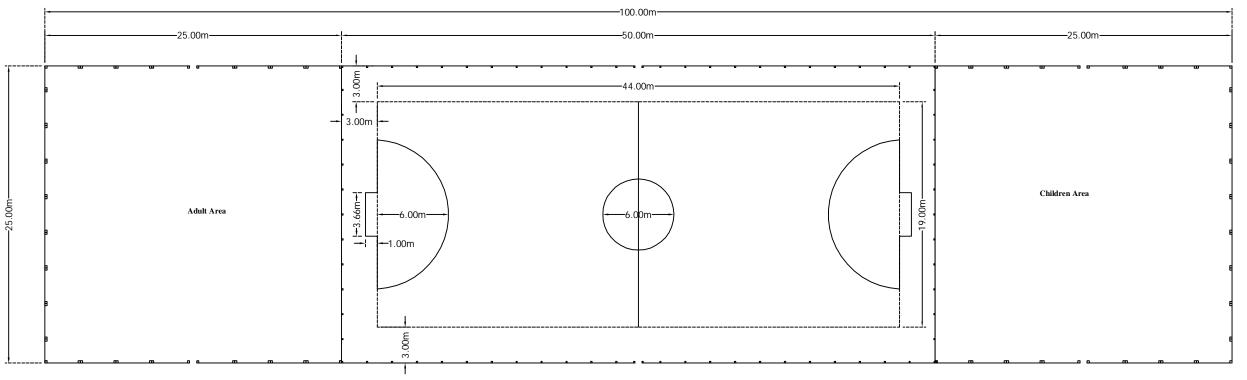
T - 18

SCALE

DESEN DRAWN CHECKED







Notes:

- 1) Width of the lines of football court is (100)mm.
- $2) \ The \ lines \ of \ the \ football \ court \ will \ be \ implemented \ by \ using \ fine \ white \ sand \ mixed \ with \ chalk.$

UNITED NATIONS DEVELOPMENT PROGRAMME

PROBET NAME & NO.)
Establishment of Mini Playgrounds in Al Dair & Al Nashwah Sub-Districts, Majnoon Area of Basrah, Iraq
DISSEN GROUP
Steet Inc.

DRWG.TITLE
Typical Mini Football Court's Mark

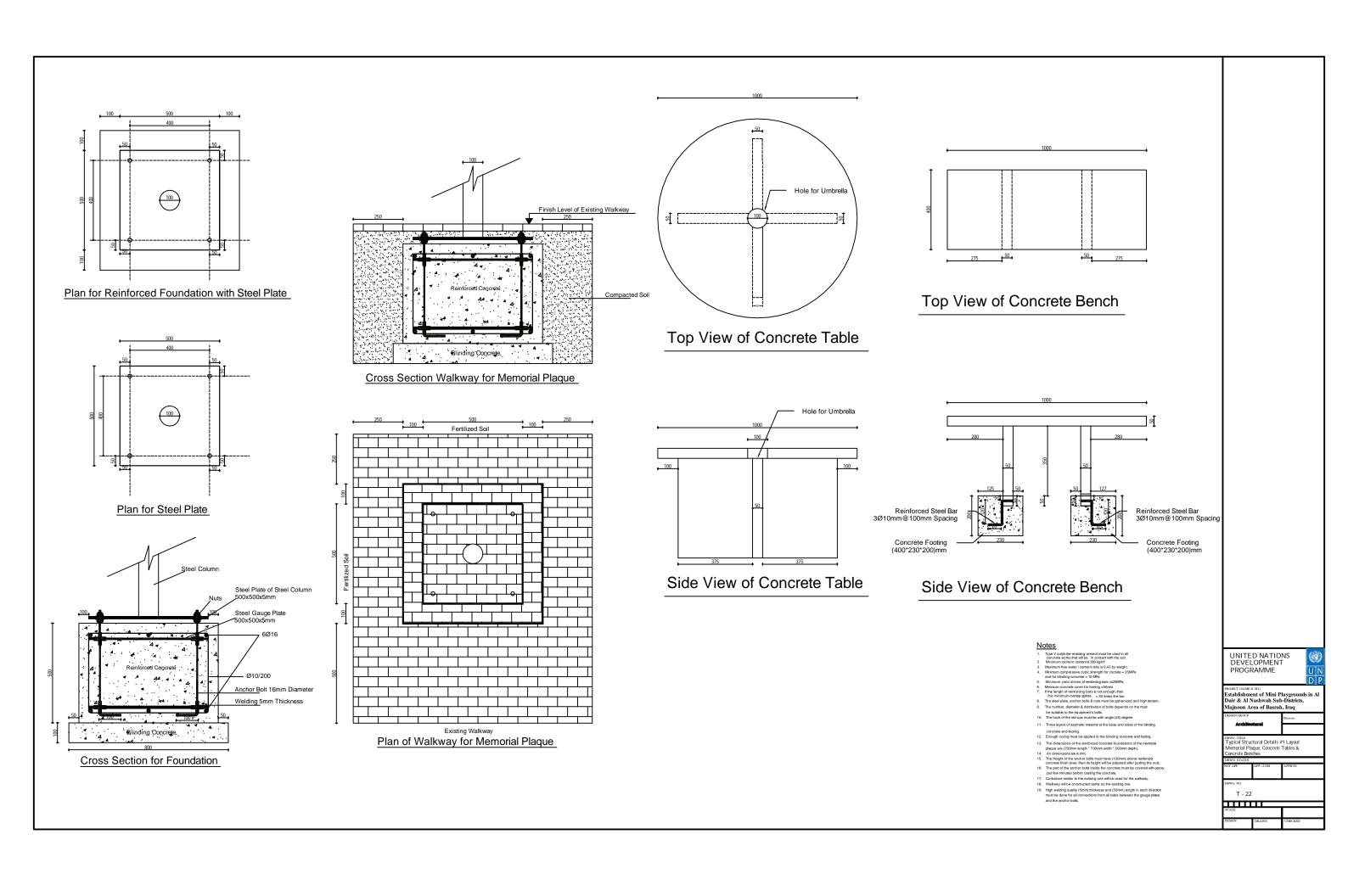
Typical Mini Football Court's Markings Layout

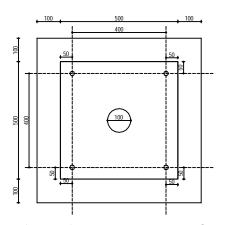
DRWG. STATUS
NOT APP. | APP. +COM | APPRVD

RWG NO. T - 21

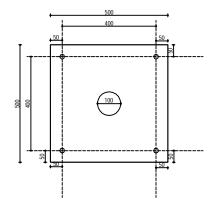
T - 21

SCALE
DESIGN DRAWN CHECKED

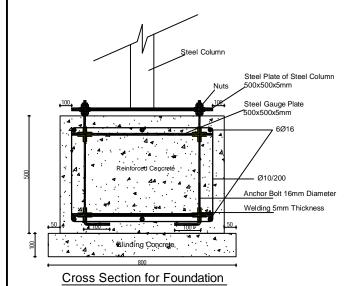




Plan for Reinforced Foundation with Steel Plate



Plan for Steel Plate



Finish Level of Existing Walkway

Z50

Reinforcett Concrete

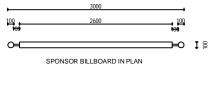
Compacted Soil

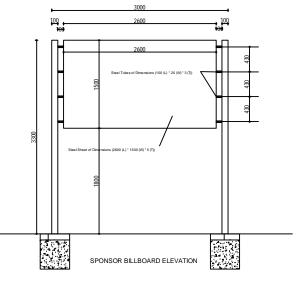
A Blinding Concrete

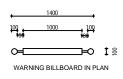
Cross Section Walkway

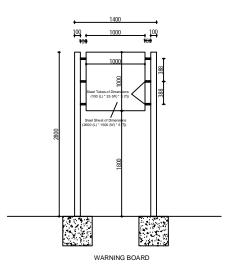
Existing Walkway

Plan of Walkway









## Note

- Type V sulphate-resisting cement must be used in all
   concrete works that will be
- Minimum cement content is 380 kg/m².
   Maximum free water / cement ratio is 0.45 by weight
- Minimum compressive cubic strength for cocrete = 25M and for binding concrete = 15 MPa
- Minimum concrete cover for footing =50mm.
   Make length of reinforcing hors is not appear.
- If the length of reinforcing bars is not enough, then the minimum overlap splices = 50 times the bar.
- The number, diameter & distribution of bolts depends on the must
- 11. Three layers of asphaltic material at the base and sides of the
- concrete and footing.

  12. Enough curing must be applied to the blinding concrete and foo
- 13. The dimensions of the reinforced concrete founds
- All dimensions are in mm.
   The Height of the anchor bolts must have (100mm) above reinforced
- just few minutes before casting the concrete.
- and the anchor bolts.
- all sides between the steel tubes connections, the steel frame and the s sheet of the board.
- 19. Three layers of paint must be applied to the steel, first layer is anti-corrosion paint, the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and third layers are from the final paint finish which must lead to the second and t
- external type.

  20. Curbotone similar to the existing one will be used for the walkers.

UNITED NATIONS
DEVELOPMENT
PROGRAMME

PROCECT OMME & NO.)
Establishment of Mini Playgrounds in Al
Dair & Al Nashwah Sub-Districts,
Majnoon Area of Basrah, Iraq

DESME GROUP

Architectural

DENNE STREE
Typical Structural Details #2 Layout
Sporsor Billboard & Warning Billboard

DENNE STRES

NOT AIR

AFF.-COM

AFFE-COM

AFFE-COM

AFFE-COM

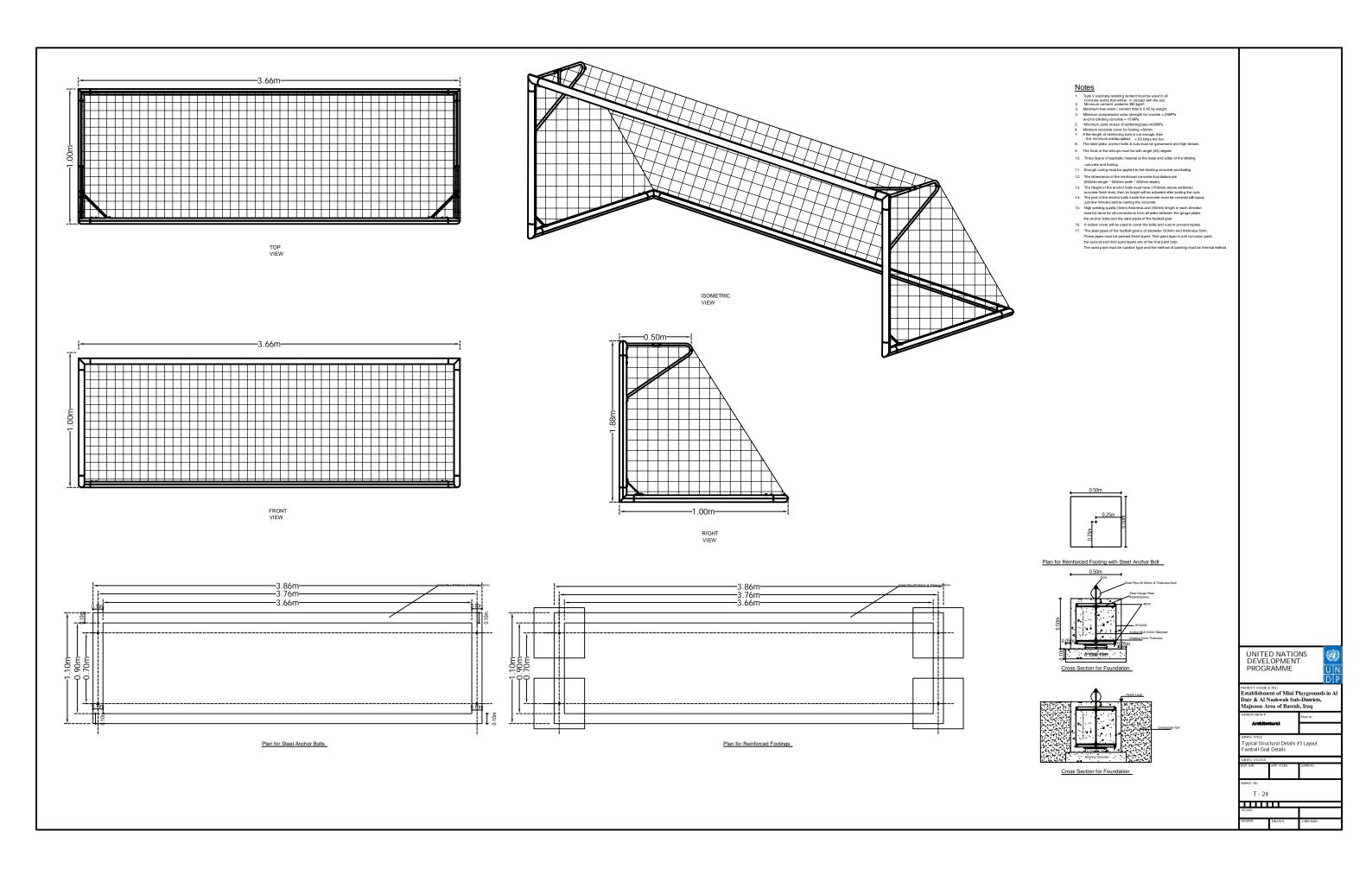
CLECKED

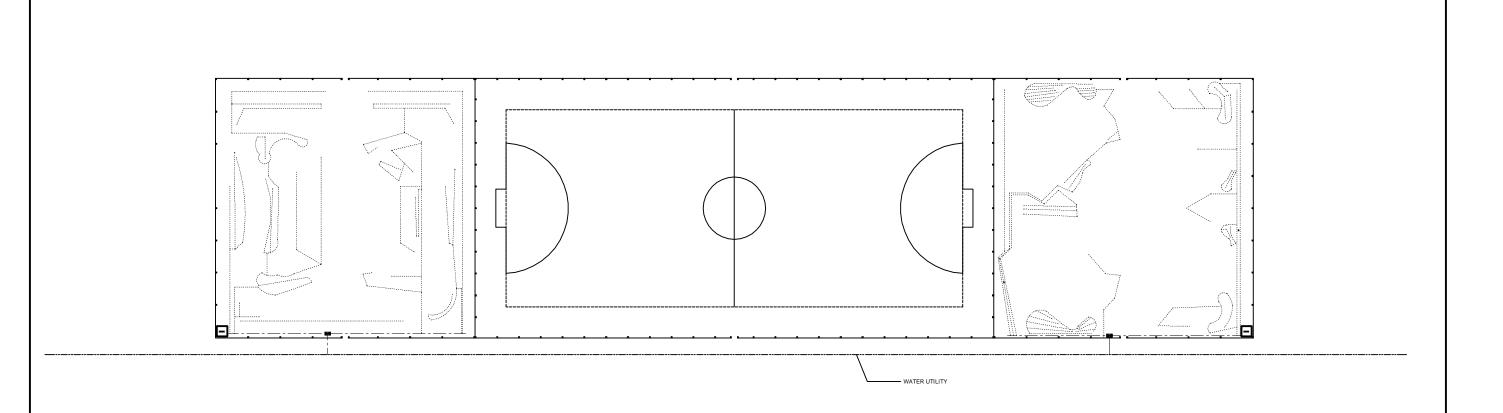
DESMEN DEAWN

CLECKED

DESMEN DEAWN

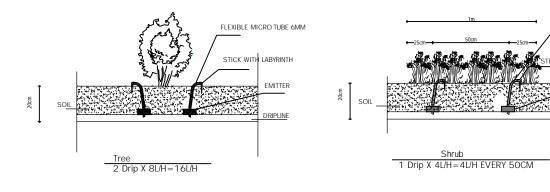
CLECKED





## Irrigation Legend

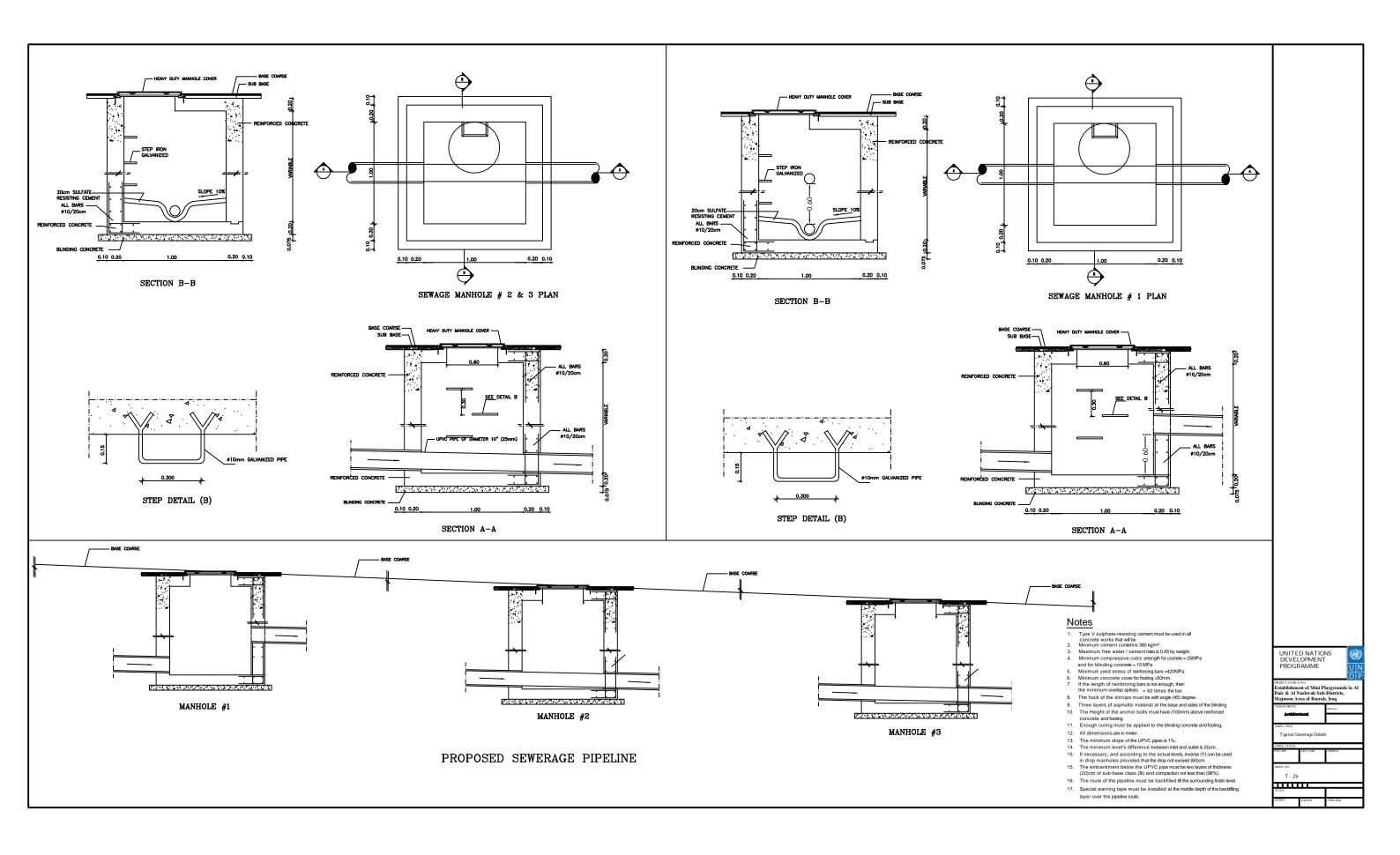
Symbol	Item Description	Unit	Estimated Qty.
	P.E pipe 16mm	Meter	1300
	P.E pipe 32mm	Meter	45
	Water Utility	Meter	N/A
	Drip soloneiod valve	No.	2
wader tank	water tank	No.	2



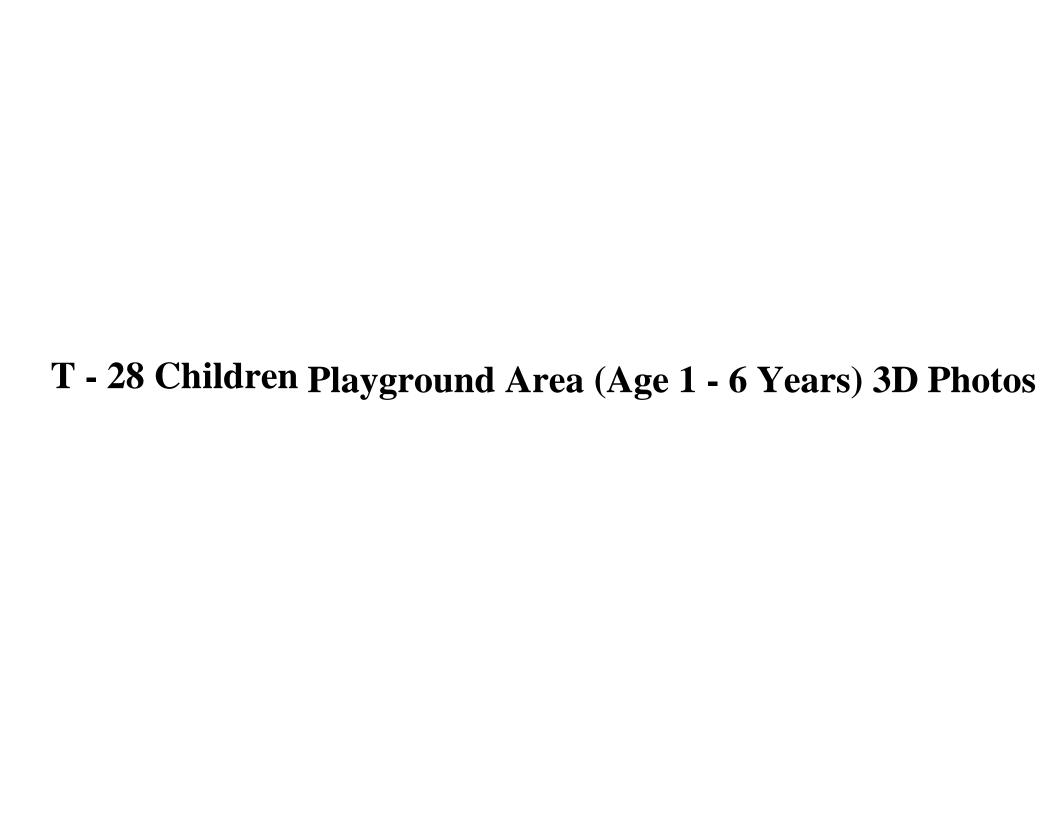
FLEXIBLE MICRO TUBE 6MM

ГурісаІ Irrigation Plan & Details Layou

T - 25



## Legend: Waist Stretching Equipment Seesaw Cycle & Step Equipment Play Tower (Slide & Swing) Leg Pushing/Strengthening Equipment **Traditional Classic Swing Body Building Equipment** Mini Fitness Set for Waste Bin Children **UNITED NATIONS DEVELOPMENT** Sponsor Billboard PROGRAMME Concrete Bench PROJECT (NAME & NO.) Establishment of Mini Playgrounds in Al Dair & Al Nashwah Sub-Districts, Solar Lighting Pole Majnoon Area of Basrah, Iraq Concrete Table & Benches Architectural DRWG. TITLE Typical Equipment List **Equipment Safety Zone** DRWG. NO. T - 27











T - 29 Fitness Area (Age 7+ Years) 3D Photos







