BUSINESS PLAN

FOR

CONSTRUCTION AND ESTABLISHMENT AND RUNNING

OF

A PRE-STRESSED CONCRETE POLES FACTORY
AT
SEGERA HANDENI DISTRICT-TANGA REGION

Presented to:
The Managing Director
Tanzania Investment Centre (TIC)
Shaban Robert Street
P.O Box 938
Dar es Salaam

Presented By:

Tanga Concrete Poles Company Limited

Manufacturers and Suppliers of Concrete Poles of All sizes and Lengths and other Concrete Products

Postal Address:	**Factory Physical Address:**
P.O. Box 16598 Dar es salaam	Segera, Handeni Tanga – Tanzania
Head Quarter Physical Adress: 8th Floor - FayKat Building, Morroco area, Dar es Salaam	+255784436666, +255768009009 tangaconcretepolesltd@gmail.com

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Abbreviations and Acronyms

BRELA	Business Registration and Licensing Agency
CCM	Chama cha Mapinduzi
COMESA	Common Market for Eastern and Southern Africa
CSP	Concrete Spun Poles
DED	District Executive Director
EIA	Environmental impact Assessment
EPZ	Export Processing Zone
FDI	Foreign Direct Investment
FDI	Foreign Direct Investment
ICT	Information and Communications Technology
ICT	Information Communications Technology
IIDS	Integrated Industrial Development Strategy
LTD	Limited
MME	Micro Manufacturing Enterprise
MT	Metric Tons
NACTE	National Council for Technical Education
NEMC	National Environmental Management Council
NSSF	National Social Security Fund
OSHA	Occupational Safety and Health Authority
PO	President's Office
P-S	Pre- Stressed
SADC	Southern African Development Cooperation
SIDP	Sustainable Industrial Development Policy
SME	Small and Medium Enterprises
SWOT	Strengths Weakness Opportunities and Threats
SWOT	Strengths Weaknesses Opportunities and Threats
TANESCO	Tanzania National Electricity Supply Company
TBS	Tanzania Bureau of Standards
TCPM	Tanzania Concrete Poles Manufacturing
TIC	Tanzania Investment Centre
TRA	Tanzania Revenue Authority
TTCL	Tanzania Telecommunications and Communications Limited
VETA	Vocational Education Training Authority

Executive Summary

Tanga Concrete Poles is a Company Limited by shares registered in Tanzania by the Business Registration and Licensing Agency (Brela). It was incorporated under section 15 of the companies' act of 2002 as a limited company. The company Offices are located on the 8th Floor, FayKat Building, along Handeni Road, factory Planned to be located in Segera area, Handeni District, Tanga Region of Tanzania. The company is involved in numerous activities which includes, but not limited to: -

- Pre-Stressed Concrete Spun Poles (P-S CSP)
- Round Curvets
- Square Curvets
- Rectangular curvets
- Rectangular fencing poles
- Announcement, advertising and promotion sign post poles

The factory is set to be located in Segera village, Handeni district of Tanga region and will supply poles to the rest of the country beginning with Tanga region and the northern zone.

We are in the processes of importation of machinery and warehouse construction materials and all necessary equipment for establishment and running of a concrete spun pole. We are asking for investment incentives from Tanzania Investment Centre (TIC).

The inception phase, will begin with production of 50 concrete spun poles per day in the lengths of 8 meters, 9meters, 10 meters12 meters through to 17 meters to meet market demands. The second phase will involve factory expansion to 100 poles per day depending on the number of purchase orders received by our factory. Factory expansion will involve purchase of additional equipment such as molds and additional of the then existing steaming pits to accommodate additional 8 Meters, 12 meters, 15 meters and 17 meters concrete spun poles.

This factory will occupy land totaling 50 acres, out of which surrounding edges will be used for planting of trees as required by the National Environmental Management Council (NEMC) to absorb carbon emissions that will supposedly be generated by the factory.

The market for concrete spun poles is huge in Tanzania and the rest of Africa given the circumstantial evidence of the scarcity of transmission and distribution poles especially in electrical power and telecommunication industries. The world has now shifted from wooden poles to the use of concrete spun poles as one of the measures to protect and preserve the environment and efficiency, cost-effectiveness and durability. These reasons will form our basis to strategize to reach out to the rest of the African market using available opportunities such as the Southern African Development Cooperation (SADC), COMESA and the African Union etc.

The company therefore is seeking TIC incentives for us to not only afford initial and ongoing costs for running of the factory and management of the business at large.

Thank you very much, best regards to you and we look forward to working with you.

Levis Paul
Chief Executive Officer (CEO)

1.0. Background Information

Tanga Concrete Poles is a Company Limited by shares registered in Tanzania by the Business Registration and Licensing Agency (Brela). It was incorporated under section 15 of the companies' act of 2002 as a limited company. The company Offices are located on the 8th Floor, FayKat Building, along Handeni Road, factory Planned to be located in Segera area, Handeni District, Tanga Region of Tanzania. Company's internal stakeholders have relevant expertise to run all company and factory activities and strategies. The next table presents Tanga Concrete Poles's legal compliance details as follows: -

Table 1: Tanga Concrete Poles Company Compliance Details

Tanga Concrete Poles Company Registration Details			
Registration Regulation	Company's Act, Cap 212 of 2019 & Periodic Updates	Registration Number	174457409
Registration Status	Valid& updated	Registration Authority	BRELA
Physical Address	FayKat Building, Morroco area, Dar es Salaam	Registration Date	8th May 2024
Communications	P.O. Box 16598 Dar es salaam	Ownership	Limited Co by Shares
Email and Website	tangaconcretepolesltd@gmail.com	Contact Phone	+255784436666, 0768009009
District	Kinondoni	Country	Tanzania
Region	Dar es Salaam	TIN	174457409

2.0. Project Consultancy Vision, Mission and Objectives

2.1. Project Vision

An internally satified Tanzanian market for concrete spun poles

1.1. Company Mission

To produce a broad range of high-quality concrete pole products for the local and international markets at competitive prices.

1.2. Governance

Our company is guided by an able Board of Governors and strong management team that steer our long-term growth strategy and ensure we are aligned to our mission and vision.

1.3. Technologies

TCP aims at to install the latest Concrete Spun pole (CSP) technology with synchronized and timed activities from the batching plant, spinning machines, molding, heating to demolding.
The CSP technology stipulates placing of well knitted flexible thin steel rods surrounding the middle outer layer of each pole, leaving a straight round hole from the bottom to the top of the pole. This ensures the production of high-quality flexible concrete poles whose concrete is not only strong to withstand all weather conditions and environment but also are flexible and bendable in times of heavy and strong storm.

The Quality control laboratory at the factory and Quality Assurance systems will ensure that final product is of higher standard both domestically and internationally following the manufacturing guidelines which are checked by the Tanzania National Electrical Supply and Company (TANESCO) and other relevant authorities.

1.4. Our Products and Services

At inception TCP will be manufacturing round concrete spun poles of different sizes from 8 meters, 9 meters, 10 meters through to 17 meters. Other products will include rectangular and round curvets of all sizes and quality.

1.1. Objectives of the Proposal

The company's objectives are to construct, furnish, equip and run a concrete spun poles (CSP) factory in Segera, Handeni, Tanga, Tanzania and many other concrete products.

1.1.2 Specific Objectives

TCP is seeking to invest in a concrete spun poles factory through construction, furnishing, equiping and running of a concrete spun poles (CSP) factory in Segera, Handeni, Tanga, Tanzania. Therefore, this business plan is prepared for a number of reasons which include: -

- Submission to Tanzanian Investment Centre (TIC) for compliance
- Statutory compliance
- To secure financial loan approval from company directors
- To secure financial loans when need be

1.2. Justifications of the Project

Justifications for the project hence this business plan are divided into four folds which include justifications from the perspectives of the Tanzanian government industrial policy (Facilitating factors), justifications perceived from Tanga Concrete Poles company limited (Supply side) and justifications perceived from the customers (demand side).

1.2.1. Government Led Justifications (Policy Based Justifications)

The recent government business and industrial reforms not only looked into issues of proliferation of industries in Tanzania, but also emphasize quality and equity in industrial coverage in the country. The government has created conducive environment for both local and foreign direct investments. To operationalize conducive business environment, the government has reduced taxation to businesses in the manufacturing sector. Other government led justifications include: -

- To complement government efforts to realize industrialization milestones
- Tanzania has all necessary resources for both locally propriated and Foreign Direct Investments (FDI)
- Availability of all necessary resources for concrete spun poles industry investment.
- The increasing demand for concrete spun poles and other concrete products way higher than the current production capacity in Tanzania
- Our quest for business expansion in manufacturing

1.2.2. Company Led Justifications

Our company has a number of justifications for us to request for this loan from your bank. These include but not limited to: -

- Our company quest and desire for business expansions
- Tanga Concrete Poles' sister company Shunda Construction LTD is known for quality and is a most preferred brand in Tanzania and enjoys one of the highest brand statuses in her field. This will effectively trickle down to Tanga Concrete Poles company limited to enjoy quality number one brand in concrete spun poles productions.
- Our desire to not only acquire but also to maintain the number-one Brand Status in Tanzania as highest selling CSP and other concrete products and be among the Top Brands in East Africa.

1.2.3. Justifications Based on Customer Experiences and Perspectives

This will also increase the market demand for concrete spun poles, not only in Tanzania but also the rest of Africa beginning with east and central Africa. These are coupled with other project justifications such as: -

- To set a stage for quality modern industries in the CSP subsector in Tanzania
- Increasing customers' preference for CSP for they reduce power cuts in comparison to wooden pole related emergencies
- To preserve the environment by shifting from using wooden poles for transmission and distribution of electricity and telecommunications to the use of concrete spun poles in the electrical and telecommunications industry.
- Better performance in transmission, distribution and long-lasting stability
- To bring quality CSP closer to industrial estates in need of them and at grassroots levels
- Numerous customer requests and beyond existing factories' ability and capacity to deliver the CSP volumes asked for.
- The fact that CSP have been the most preferred pole products in the Markets.

1.2.4. Supply Led Justifications

There are a number of justifications drawn from CSP producers' relationships with our competitive desire and focus, and these include but not limited to: -

- The increasing demand for CSP way higher than the current production capacity to Tanzania
- To set a stage for quality modern industries in the concrete spun poles subsector in Tanzania
- To bring quality concrete spun poles and other concrete products closer to citizens and meet the demand in the country
- To complement government efforts to realize industrialization milestones

1.3. The Tanzanian Market for Pre-Stressed Concrete Spun Poles (PS-CSP)

The pre- independent Tanzania had no electrical power supply until when the country was placed under the German protectorate after the second world war in 1945. The Germans installed a power generator which served only a handful houses owned by the Germans in Dar es Salaam. To date the whole country of 945 square kilometers of land are covered with a network of

electrical distribution poles in all districts in the country, have electricity, at least district headquarters. The government is implementing long term plans for urban and rural electrification and robust generation, distribution and installation of electric power in every homestead in Tanzania. This demands lots of investments especially in electric distribution poles.

From inception of electricity in Tanzania in 1945, the country has been using wooden electric poles which has now proven not to be cost effective due to the fact that they are delicate to rot and decay, especially in the wetlands, above all they are vulnerable to fire burns.

With this in mind therefore, Tanzania electric supply company (TANESCO) made a resolution to change electric power distribution poles from wooden ones to concrete poles. This resolution therefore requires changing of all distribution poles in the country from wooden poles to concrete poles. It is roughly estimated that this might take a total of twenty-five years to supply the whole country with concrete electric distribution poles. Feasibility studies done by the Tanzania concrete poles manufacturing Company (TCPM) covering the country with all concrete poles for electricity distribution will require a minimum of 35 factories producing a minimum of 100 poles per day. This entails a rough estimate of an annual distribution of a minimum of twenty thousand concrete poles in every region. This is a business opportunity that invites the private sector to invest in the production of pre-stressed concrete poles. It has to however be noted that investments in the industrial sector need large funding and the funding sector in Tanzania has numerous challenges that need policy improvements.

1.3.1. Market Quantity and Business Analysis

The market for concrete spun poles is so big to an extent that the existing companies are not enough and do not have the capacity to produce even a quarter of the needs for the poles in the country. Tanzania electrical supply company (TANESCO) has indicated and seems to be the current leading buyer and consumer of the concrete spun poles in the country. Table 2 presents just a tip of the iceberg of the demand for concrete for the only one region in the country.

Table 2: Minimum Annual Average Regional Demand for Concrete Transmission Poles

Length in Meters	Unit Price in USD	Unit Price in Tshs	Qty	Projected Minimum Annual Sales
8	120	282,000	1,940	547,080,000
9	150	352,500	4,410	1,554,525,000
10	141	330,848	5,285	1,748,531,680
12	277	649,884	7,574	4,922,221,416
13	314	737,833	3,750	2,766,873,750
15	351	825,781	1,500	1,238,671,500
17	500	1,175,000	1200	1,410,000,000
Total				**14,187,903,346**

The quantity of the demand for concrete poles by TANESCO per region vary from one region (province) to the other. Some regions demand more than others; therefore, this concept note presents minimum demand only.

Other consumers and users of concrete spun poles include transmission and distribution of telecommunication lines and connections. Other users include private companies and industries, city and district councils for street lighting. Tanzania has hundreds of private companies and industries in need of concrete poles, five telecommunications companies among which Tanzania Telecommunications company limited (TTCL). Unlike other telecommunication companies, TTCL installs both mobile and landline line networks, therefore requires concrete spun poles for transmission and distribution of landline telecommunication networks. This company serves as our second market target with a projection of an annual consumption of over fourteen billion (14b) Tanzanian shillings after TANESCO who are potentially will give us the market to generate over twenty-two billion (22b) Tanzanian shillings annually. The rest of the consumers and users of concrete spun poles are likely going to give us the market worth of over one billion (1b) Tanzania shillings.

1.4. Project Description

This is a business plan to institute a concrete spun poles (CSP) factory in Handeni district of Tanga. There are three companies involved in this. Two companies are initiators of the business idea and together they established a third company called Tanga Concrete Poles Limited (TCPL). Apart from statutory compliance the company hopes to execute all available opportunity for its growth. Such opportunities include acquisition of available incentives and loans which include incentives from Tanznian Investment Centre (TIC) and soft loans from different local and international lending entities like banks.

Once instituted the TCP factory will begin with production of 50 concrete spun poles per day in the lengths of 8, meters, 9 Meters, 10 meters 12 meters through to 17 meters as will be specified by TCPM using machinery and materials that will be soon procured both locally and internationally. Locally available materials include cement, gravel, and sand just to get the factory producing and equipped to meet all orders and tenders to supply concrete spun pole and other concrete products.

The second phase will involve factory expansion to increase production to 100 poles per day to and depending on the number of purchase orders received by our factory. Factory expansion will involve purchase of additional equipment such as molds and additional steaming pits to accommodate additional poles of the same lengths.

This factory ownership will occupy land totaling 50 acres, out of which surrounding edges will be used for planting of trees as required by the National Environmental Management Council (NEMC) to absorb carbon emissions that potentially will be generated by the factory.

1.5. Factory Geographical Location and Condition

The factory is located in Segera village, Handeni district of Tanga region which is not only an strategic area for CSP factory but also an upcoming largest market in the northern zone of Tanzania for industrial development corridor given the fact that Tanga has one of the largest seaport and will be hosting the longest oil pipeline in east and central Africa.

1.6. Quality Assurance

In terms of quality the project has made strategies for internationally accepted standards within the factory for quality CSP productions. The strategy begins with the quality of the warehouse,

the quality of the infrastructure and the environments, the quality of machines to be purchased for the factory, the quality and highly paid and supported employees to meet labor related laws. These will lay grounds for quality productions and significant development progress compete with other top-class factories not only in the country, but also in Africa and overseas.

1.7. Production Target Schedule

The first phase of the project will be completed and put into production in about 8-18 months.

Table 3: Project Schedule

Year	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
2024	Preliminary compliance procedure and procurement of finances.											
2025	Construction stocking Staffing & related statutory compliance											
2026	Marketing, production, sales and distribution											
2027 to infinity	Marketing, production, sales and distribution											

Table 3 shows both project construction, stocking, production schedule and sales and distribution.

1.8. Funding Segmentation and Indicative Terms and Conditions

Project funding will be facilitated by TCP to ensure the money is available from different sources, and in phases as indicated in the budget in the annexes.

For situations which TCP cannot or fails to finance project activities then company directors have contractually committed to come in and foot all the unpaid bills and liabilities.

1.9. Project Social Analysis

There many ways in which we can analyse the relevancy of our project. This proposal analyses our pre-stressed concrete spun pole factory activities using a social analysis approach of measuring strengths weaknesses, opportunities and threats (SWOT).

1.9.1. Project Strengths, Weakness, Opportunities and Threats (SWOT)

We analysed our business by having to weigh our business strengths and weaknesses, take advantage of opportunities and calculate the number of threats that might be stumbling blocks to the business. Here is a presentation of our Strengths, Weaknesses, Opportunities, and Threats (SWOT).

INTERNAL FACTORS	
STRENGTHS (+)	**WEAKNESSES (-)**
There are a number of strengths that Tanga Concrete Poles company has to qualify for this great tender,	In every endeavor there are always challenges that can be posed as

some of these include: - 1. Recent government industrialization reforms that give strengths to privately industries, and actually receive full support and recognition from the government 2. Our company strategic location of Handeni area the strategic area for CSP procurement catchment for the northern zone. 3. Our strategic inclination to bring concrete related services and products to customers 4. Availability of all technology and services needed for CSP factories such as Information Communication Technology (ICT), infrastructure. 5. Great and accountable management, administration and company leadership teams and subsequent project team. 6. The existing social network that has been built over the last twenty years of existence the company directors and initiators of TCP. 7. Highly trained, creative, experienced and esteemed managers, professional and support staff.	weaknesses, but good leadership always puts measures in place to curb them, some of these weaknesses could include; 1. We are highly esteemed and ambitious and ready for the project to an extent that we have over invested in planning for quality and best service delivery. 2. Should the project NOT be successful, our company will count millions of preparation losses in terms of money, energy and time invested.
EXTERNAL FACTORS	
OPPORTUNITIES (+)	**THREATS (-)**
1. Government reforms that give strengths, and actually receive full support and incentives from the government such as the TIC incentives. 2. The increasing demand for pre-stressed concrete spun poles with only two functioning factories in the country while the demand is 36 factories producing a minimum of 100 CSP per day. 3. Tanzania has all necessary resources facilities and support P-S CSP and related services which our company has tapped into 4. Increased demand for private service providers	Tanga Concrete Poles company limited is very optimistic that these our loan request will be successfully accepted however there are a number of threats that will be encountered; they include: - 1. Time factor: the project being proposed is timed to be constructed within the shortest time possible from the date of application to meet client timed needs; however, knowing this, we are now organized. 2. Our profit, experience, turnover

in CSP subsector. 5. The fact that we have no competition in the area, we stand the tallest focusing on improvement of our services 6. Our competitors' poor and insufficient facilities and network 7. Excellent turnover that can be utilized for business development and further investments 8. Close relationships and compliance with authorities and financial institutions 9. Increasing market scope and quantity	and business upscale will be challenged in a way that we will have to analyze out teams to discover causes to this effect for our own improvement.

1.10. Stakeholder Presentation and Analysis

The Project has numerous stakeholders with different interests of benefits and responsibilities. These are categorized policy, operational, financial, economic, social and political levels. They are presented in Table 5.

Table 4: Stakeholder Presentation

	Stakeholders	Friendly/ Supportive	Unfriendly
1	Citizens	Supportive	
2	Customers (TANESCO, TTCL, Industries etc)	Supportive	
3	District Executive Director (DED)	Supportive	
4	Financial institutions like banks	Supportive	
5	Tanzania Concrete Poles Manufacturing (TCPM)	Partner	
6	Local government	Supportive	
7	Ministry of trade and industries	Supportive	
8	National Social Security Fund (NSSF)	Supportive	
9	Neighbors to the factory	Supportive	
10	Occupational Safety & Health Authority (OSHA)	Supportive	
11	The two pre-stressed concrete spun pole industries		Competitors
12	President's office, Regional Administration and Local Government (PoRALG)	Supportive	
13	Shareholders	Supportive	
14	Tanzania Bureau of Standards (TBS)	Supportive	
15	Tanzania revenue authority (TRA)	Supportive	
16	The management and staff	Supportive	

17	The Regional Commissioner	Supportive	
18	The ruling Party Chama Cha Mapinduzi (CCM) and the official opposition party	Supportive	
19	Vendors and services suppliers	Supportive	

1.11. Stakeholder Analysis

It is quite obvious in figure 2 that there are 19 groups' stakeholders, 18 of them are friendly and in support of the project against one (1) category of external stakeholders who happen to be competitors of the project. it is also intriguing that we are partners to the National Concrete poles manufacturing company. This gives us the assurance of the market and government related supply tenders. From this presentation and analysis, it is quite clear that the project is desirable, viable and will successfully not only win support from everyone but also will gain enormous surplus.

2. Projected Project's Capacity

The project is of acceptably recommended standards both quality machines for pre-stressed concrete spun pole workshop. The factory will have an in-built computer laboratory for ICT internet-based production management aides. This will aim at to help the management to have a well-balanced control of production and supply.

Table 5: Projected Capacity of the Factory for the next Five Years

Annual Production	2025	2026	2027	2028	2029
PS-CSP productions	14,400	14,400	28,800	28,800	43,200

TCP has put in place strategies to ensure the projects grows as per signs of the times. This means TCP PS-CSP project will grow in line with the growth of all the other sectors as long as the CSP maintains maximum surplus. As presented in table 6 the first two years will begin with production of 50 concrete poles per day which will generate a total of 14,400 poles annually. The third and fourth year will generate 100 pear day which is a annual total of 28,800 poles and the fifth year will generate 150 poles a day which is 43,200 poles a year. This production projections have considered the market situations; it has to however be noted that there could be changes in plans to add or minus projections depending on the situations of the time. That is part of the reasons as to why the management is there for.

3. Market and Marketing

The project has put in place a marketing strategy which takes advantage of the market analysis, stakeholder analysis and looks into the SWOT analysis to maximize market opportunities and capitalize on them.

3.1. Market Target

The business catchment area as mentioned earlier in the proposal include Tanzania and the rest of the six (6) east African countries. Each of these countries has an average of 20 million people. Each of these countries produce an average of 8 million construction sites each year. 75% of these sites will demand for concrete spun poles and related products for construction mainly from Tanzania in the next 90 years. The desire to improve construction and infrastructure is enormous and shared between all countries. So, these will serve as customers for the project and

the demand for concrete products will continue to increase as the demand for construction increases. TCP has seen this as not only a ***business opportunity***, but also an opportunity to ***complement governmental efforts*** of industrialization and to meet the demand for pre-stressed concrete poles and related needs.

3.2. Marketing Strategy (4Ps)

All marketing gurus have come up with numerous marketing strategies for marketing management in companies and businesses. One of the legends in the marketing field was Henry Fayol who asserts that marketing strategies has nine (9) elements. Most companies in businesses tend to use only for marketing strategy elements that TCP hope to tap into, and they include the product, promotion, pricing, and placing. The other important elements such as packaging, people of target, partnership and passionate staff are also in covertly strategized.

3.2.1. Product

Tanga Concrete Poles Limited has so far demonstrated practical plans to produce excellent P-S CSP products this has already built a great reputation for itself in the market. The products we are bringing to the market as our new business is pre-stressed concrete spun poles. Some other products will include.

- Pre-Stressed Concrete Spun Poles (P-S CSP)
- Round Curvets
- Square Curvets
- Rectangular curvets
- Rectangular fencing poles
- Announcement, advertising and promotion sign post poles

3.2.2. Promotion

The management has charted out the following strategies to promote the project and its projected products they include:

- Strategic Partnerships with like-minded partners such as TCPM
- Establishing contacts with agents who would organize for potential customers.
- Advertisements through TV, newspapers, radio, calendars, business cards, and brochures.
- The company will continue to maintain customers' and stakeholder database which will help the project to keep agents, customers and stakeholders abreast.
- Promotion through government designated fairs organized by the ministry of trade and industry, such as SabaSaba, NaneNane and others.

3.2.3. Pricing

The majority of factories of international standards such as this charge their pricing in united states dollars but this project is set to charge its products in Tanzania shillings. Other convertible currencies will be used at customer demand and need. Our prices will be in line with the market rates; however, we will ensure our prices are so competitive enough for the market.

3.2.4. Placing

Location of the project is so strategic to an extent that it markets itself. The factory is set to be located at Segera village, Handeni district which is a strategic and designated area for such industries and easily accessible to all our markets especially the northern zone. We hope to place

our products very close to our customers using our already available network that we created for CSP sales and through product distribution with our trucks.

4. Employees and their Qualifications

All employees set to be qualified and meet all the standards outlined in the industrial policy 2015 (as amended), and all relevant operational clauses charted out by the ministry of trade and industry, Vocational Education Training Authority (VETA), National Council for Technical Education (NACTE) and ministry responsible for Labor and employment. These have embedded clauses for remunerations, rewards, motivations and cash bonuses for high performance. This proposal has also taken into consideration of providing incentives and good remunerations for employees and consultants in the same way that TCP is applying for TIC incentives.

4.1. Volunteers / Interns

The project will provide opportunities for internships for qualifying people from diverse locations. Currently the company TCP has a number of them not only providing support, but also gaining professional experiences.

5. Financial and Economic Analysis

Details of capital and operating facts and assumptions are given in separate attachments as annexes. These give a highlight about the project's financial and economic profitability and general performance. However, this proposal presents the factory construction and establishment budget up until the end of the first year.

5.1. Projected Profit and Loss Accounts

The projected profit and loss accounts will be presented separately in the books of project accounts. However, it is important to note that in normal circumstances we expect profits before tax will experience turbulence at the beginning of factory productions but gradually going to rise in the second quarter in the first year of production and sales.

Revenues and profits will to continue rise by more than 82% by the end of the year 2025. Sales revenues will rise in 2026 by 100% and by then the factory will have stabilized the project which will be selling all products that will be produced at its maximum capacity and still not able to satisfy the market.

5.2. Projected Cash Flows, Income Statements and Balance Sheets

The projected cash flows, income statements and balance sheets indicate that the project will have enough funds to run the project and meet other cash obligations including re-investments as they fall due. Projected cash flows, income statements and balance sheets are presented differently as annexes in the books of accounts.

6. Development Aspects

The project will bear the following significant contributions to Tanzania:

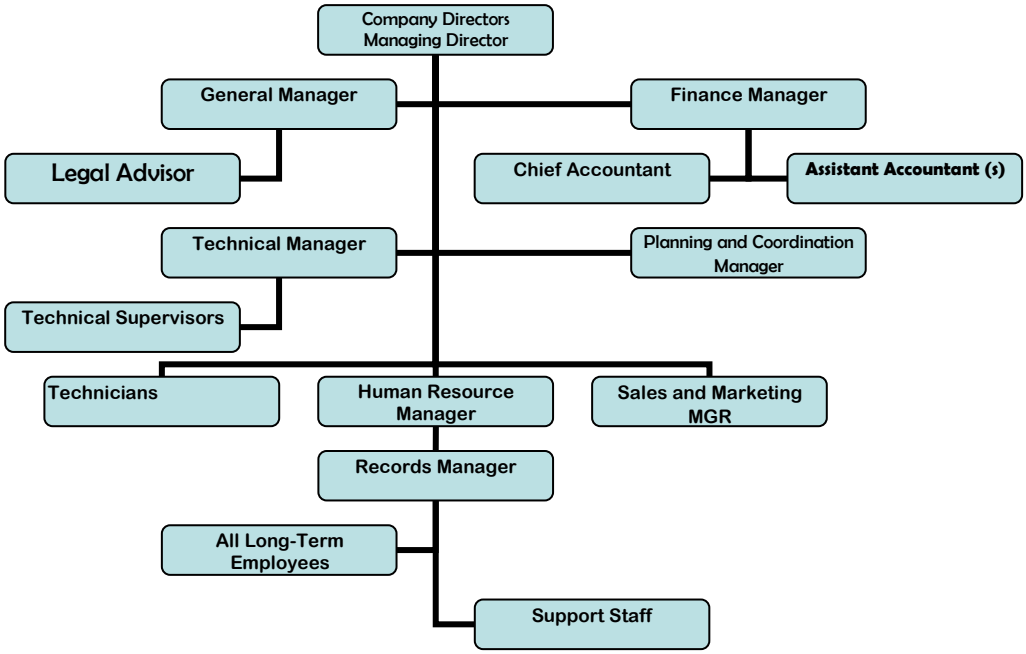
- Employment opportunities of more than 69 direct employments and more than 250 indirect employments
- Government revenue earnings though import levies, VAT, PAYE and other taxes etc.
- Promotion of quality industries of acceptable international standards in the country.

- Contributions to the realization of National Strategies such as vision 2025, 2030 and 2050
- Contributions to the aide memoires and other milestones of the Presidents office responsible for Labour and employments.
- Contribution to the ministry of trade and industry Aide memoire especially in both trade and in industrialization milestones.
- Environmental and social Government benefits given the fact that we adopted environmentally friendly policies and guidelines.

7. Management and Organization

Tanga Concrete Poles company limited has put in place an excellent management and administration system to govern the factory. The System is at two levels namely; policy level and operational level. Figure # shown the project organogram, the policy level comprises of the shareholders and the operational level crosses from the General Manager through the support staff to the final customers.

Figure 1: Project Organizational Chart (Organogram)



8. Necessity and Favorable Conditions for PS-CSP Factory Investment

From the perspective of market capacity and development prospects, Africa will still need a basic industrialization process in the next decades of years. At present, the global population is about 6 billion people. Global average household number is estimated at 6.2 in the developing countries like Tanzania. This brings us to a total of 857,142,857 housing units in need of electricity thus concrete electric poles. Africa has a population of 1.285 billion people, with a consumption of over 10.5 million pieces and a per capita consumption of 2.7 million pieces of CSP. As the most cost-effective, the largest desired, and also the output and usage of CSP to

measure the degree of demand for CSP of a country and region in the world, there is no doubt that the gap demand and supply of CSP in Africa is extremely high. Therefore, from this perspective, the long-term development of CSP products in Africa is dire necessity for Economic growth in Africa and Tanzania is at the center of demand for CSP.

In the subdivision of concrete products, concrete materials are often the initial and long-term demand in all constructions, roadworks, electricity and telecommunications. The consumption of concrete building, transmission and distribution materials especially in the electricity, road, housing construction and telecommunications should be considered first. This is because it can cover not only building materials, but also other materials in the construction and housing industry.

From the perspective of regional consumption, Tanzania has the most dynamic economic development in Africa with a very large domestic market capacity. Economies of neighboring countries such as Congo, Uganda, Rwanda, Kenya and Ethiopia are also relatively large and complement each other with Tanzania. This goes in line with the fact that, Dar es Salaam is a seaport city with excellent shipping conditions and wide sales channels.

It also has to be noted that this factory is located in Handeni district, a district which lies along both a beach cost and ancient sea port which is currently in the expansion stages for construction of another huge seaport in Southern and easter Africa. This expanded seaport will stir up the factory business in the northern zone, Tanzania and Africa.

In addition, the project also has set long-term strategies for cooperative enterprises of CSP and practical experience in the concrete production and construction, which has a very good foundation for product sales in the regions, market segmentation and improving product profits.

From the perspective of raw material supply and conditions, the output of some of the raw materials such as iron bars from European countries, Turkey, India and Mainland China are very large, and the tariff is relatively low thus gives for the company leeway to import. In addition, the company's location is convenient for shipping, so the supply should not be a problem.

Therefore, it can be seen from the above analysis that there is a long-term strong demand for the implementation of the project not only in Tanzania but also in East Africa.

As a continent with sustained population growth like other continents, Africa is still nearly 20 times behind the target of industrialization. The completion of industrialization is of course a long-term development process, but it also shows that the development of CSP is a necessary direction for reasons beyond just durability and environmental protection. From the perspective of long-term development, as long as the product positioning of the project is reasonable and the product quality is guaranteed, it will certainly benefit several local economies and the enterprise can also obtain good benefits.

We are quite confidence in the construction of the project and the future development of the enterprise.

8.1. Tanzanian National Priorities in Industrial Development and Experiences

The National Development Vision 2025 (VISION 2025) recognizes the leading role of the industrial sector in the process of transforming Tanzania's economy to a self-sustainable industrial economy.

Sustainable Industrial Development Policy 1996-2020 (SIDP) declared the government's decision to phase the public sector out of productive activities and allow the private sector to become the principal vehicle for economic growth. Though the shift from the public to private sector has been successfully accomplished under Sustainable Industrial Development Policy (SIDP). Tanzania's industrial sector is still in the infancy stage and has not played the key role in leading the economy towards self-sustaining growth.

The Tanzanian economy has shifted to a steady growth path as in the 2000s, made possible through massive inflow of foreign direct investment while local industrial capital has yet to reach the level of playing a leading role in contributing to growth. The Integrated Industrial Development Strategy 2025 (IIDS 2025) reviews the policies of SIDP in the context of the emerging economic environment and prepares a road map for implementation of the SIDP strategies so as to achieve the objectives of the industrial sector as mandated under VISION 2025 and 2050 targets.

8.2. Concrete Production Sub-sector

Poles made of wood, steel, and concrete have been used to support power transmission, telephone and telecommunication lines, street lighting, overhead power lines for railroads, and antenna masts. Concrete poles were first used over 60 years ago and were then made of normal reinforced concrete. As technology improved, production and use of concrete poles gradually increased. Prestressed concrete poles (PSC Poles) are highly durable and strong. PSC Poles are fabricated from excellent quality concrete material. These poles are used extensively in electrical industry, for establishing electrical connections and fittings. The poles are ecofriendly and require very low maintenance. The PSC poles have consistent material properties throughout their length. PSC poles are not susceptible to rot and decay. The PSC poles have the same strength throughout its service life. PSC poles are not susceptible to insect and animal attack. Furnish and install prestressed concrete poles for services pole applications, luminaire support, and strain poles for span wire support of traffic signals, signs, and other devices. And often support wires and other components for many utilities such as electric power, telecommunications, cable television, and fiber optic. The demand for Prestressed (Pre-cast/Reinforced) concrete-cement (PCC) poles directly depends on the growth of electric power and telecommunications sector. The growth in generation and supply of electric energy gives rise to demands for PCC poles & other systems by way of OEM & replacement/renovation demands. A large network of electricity distribution for rural electrifications, agricultural & irrigational consumptions can be catered to only by establishing an efficient generation & distribution standard. All these factors have essentially raised the demand for not only electrical equipments but also distribution materials including poles.

8.3. Types of Utility Distribution Poles and their Respective Advantages

There are three types of distribution poles namely:

i. Tangent poles, (curved)

ii. Guyed poles, (supported)
iii. Self-supporting poles (straight)

Prestressed concrete poles are being used nowadays. These poles have many advantages when compared to traditional poles like mild steel poles. The manufacturing process is heavy duty process and involve many steps. This is mainly focused on the Electrification poles used by the distributing transmission lines. The main factors considered in manufacturing and designing of such poles are economy, required strength and durability. The various material used are steel, cement, admixers like curing compounds, rapid hardening compounds etc.

Prestressed concrete poles are commonly mass produced and are used in most countries for power transmission, antenna masts etc. These poles offer several advantages: pre-stressed concrete poles are lighter and stronger, and they require less reinforcing steel. The concrete is generally in compression, so cracking is unlikely except from rough handling, and the concrete used is of higher strength so it can withstand the pre-stressing operation. Due to the special manufacturing process, in which the poles are spun at high speeds, they have a smoother surface that is denser and less permeable.

Prestressed concrete poles suitable for use in overhead power, traction and telecommunication lines. Prestressed Concrete Poles offer a cost effective, permanent solution for the lighting, utility and surveillance industries. They are fabricated from engineered materials and have consistent material properties throughout their length. These are not susceptible to rot and decay; they have the same strength throughout its service life.

The demand for prestressed concrete electric pole directly depends on the growth of electric power sector. Because these poles are solely meant for overhead transmission and distribution of power to consumer units. As the pole industry grew, however, it became increasingly apparent that it would be helpful, from the stand point of both users and designers.

The power sector is one of the crucial inputs to the growth of other industrial sectors and overall economic growth of Tanzania. Tanzania has very high installed power generation capacity in world but the per capita consumption of electricity is currently very low, owing to a huge gap between demand and supply of power. Traditionally the power sector was dominated by the public sector but has now been opened for competition from private and foreign players by the government sector.

9. Design Considerations of Prestressed Concrete Poles

Prestressed concrete poles are designed as members with uniform prestressing since they have to resist equal bending moments in opposite directions which is not the case for other prestressed structures. The magnitude of prestress required is half that of the normally provided for bending in one direction. Prestressed poles are casted in filed and transported to job site later. So, handling, transportation and erection stresses will be considered while designing prestressed poles. These poles are designed as cantilever structure and therefore we will consider both axial and bending loads acting it. Bending moment is predominant in prestressed poles when compared to axial loads and shear forces. These are resilient members.

9.1. Manufacturing Methods of Prestressed Concrete Poles

Three methods are generally used to manufacture prestressed concrete poles and they are

1. Centrifugal Casting Method

2. Long Line Method
3. Mensel's Method

9.1.1. Centrifugal Casting Method

Centrifugal casting method is also called as spin casting method which is used to manufacture hollow and tapered prestressed concrete poles. In this method, concrete is partially filled in a steel forms and they are placed in spinning machine the concrete in the forms is consolidated by the centrifugal force created by spinning machine which will rotate for several minutes. While spinning, the concrete squeeze out water from it and this excess water is poured from the hollow cavity created in the center of the pole. Finally, the form is exposed to steam for curing for a period until the strength of concrete reaches 3500 psi. After that prestressed wire is released and allowed for air curing for a period of 28 days. Finally hollow prestressed concrete pole is obtained.

Figure 2: Centrifugal Casting Heavy Steel Molds

9.1.2. Long Line Method

Long line method is most commonly used method for making solid prestressed concrete poles. In this method, molding forms are positioned end to end on casting bed. These forms are placed up to a length of 400 feet. The molding forms contains bulkheads at its ends and holes are provided to these bulkheads using which prestressing wires are threaded. These wires are pretensioned against supports at each end of line of forms. This pretensioning is done once at a time for multiple poles. Now molding forms are filled with concrete which is vibrated externally. Using this method, many shapes of solid poles such as square, rectangular, I shaped, Y shape etc. can be manufactured. This method can be done at any precast site or yard.

Figure 3: Long line Heavy Steel Molds

9.1.3. Mensel's Method

Mensel's method of prestressed poles making is more mechanized process. In this, poles are made on a production line which consists of horizontal molds of light weight. These molds will move from one station to other in production line. The concrete is poured in these molds and a block out is provided in the middle of mold while pouring concrete to make hollow concrete poles. The concrete in the molds is consolidated by vibration. When the concrete is begun to harden, block out in the middle is rotated and removed at fully hardened stage. These poles are heated to a temperature of 73^{o}C for 24 hours and cooled down to room temperature.

Figure 4: Mensel's Method Made Circular Hollow Concrete Poles

10. Advantages of Prestressed Concrete Poles

Advantages of prestressed concrete poles over normal reinforced concrete poles are as follows:

- Less in weight and easy to handle.
- Installation of prestressed concrete poles in drilled holes is easier and simple.
- They are less permeable and provides good Resistance to corrosion of prestressing wire especially in hot weather regions.
- Good Resistant to erosion in desert regions.
- Good fire resistance which is useful when bush fires or grass fires occur near the ground line.
- Good resistance against freezing and thawing occurred in colder regions.
- They have more rigidity and can carry higher loads than normal RCC poles.
- They can be manufactured in number of shapes with clean and neat finishing which makes it good in appearance.
- Requires less maintenance because of good resistance properties.

10.1. Uses of Prestressed Concrete Poles

Because of their durability prestressed concrete poles are widely used all around the world now a days. They can be used as

- Lighting poles
- Railway power and signal supporting poles
- Telephone poles
- Flag poles
- Antenna masts etc.

Figure 5: Picture of Concrete Poles in Use for Transmission of Electric Lines

11. Pre-Stressed Concrete Poles Manufacturing Parameters of each Production Unit

These specifications apply to the manufacturing of centrifugally cast, prestressed reinforced concrete poles ("spun concrete poles"). All spun concrete pole designs and wind loading calculations shall be prepared by an experienced licensed engineer. The manufacturer shall have a minimum of 20 years' experience in the design and production of spun concrete poles.

11.1. Certification, Design and Manufacturing Specifications

The design and manufacturing of spun concrete poles shall meet the following standards and specifications:

- As a manufacturing company we are certified to meet all national and international standards in the Pre-stressed Concrete Spun Poles sub sectors.
- Poles shall be designed to the latest revision to withstand a second gust wind speed that is determined by geographical area utilizing the wind map;
- Poles shall be designed/manufactured in accordance to: the latest
- Revision of Concrete Poles Roadway and Area Lighting Equipment –
- The latest Guide Specification for Prestressed Concrete Poles, issue of the Journal of the Prestressed Concrete regulatory authority

11.2. Raw Materials

All raw materials will be locally sourced and will meet all nationally acceptable international standards. These include, coarse aggregate admixtures of cement, steel, sand and water.

11.2.1. Coarse Aggregate

Shall be clean washed limestone or granite with a maximum size of ½", graded as to achieve optimum quality in the finished product and shall conform to ASTM-C33.

11.2.2. Fine Aggregate

Shall be clean washed concrete grade sand, free of clay and other deleterious matter and shall conform to ASTM-C33.

11.2.3. Cement

Shall be equal to ASTM C-150, Type I/II and CSA Type 10 or Type 30.

11.2.4. Admixtures

Water reducers, retarders or accelerating admixtures shall conform to ASTM-C494. Air entrainment and efflorescence control shall also be used.

11.2.5. Water

Shall be free of acids, alkalis and organic materials.

11.2.6. Color Pigments

Where used shall be non-fade iron or chromium oxides.

11.2.7. Steel

- Prestressing steel reinforcement shall be uncoated 7-wire strand and shall conform to as specified by customer requirements
- Deformed reinforcing bars shall conform to customer specification requirements
- Helical reinforcing wire shall conform to customer specification requirements and when applicable have a hot dipped galvanized coating as per ASTM A641, Class 3.

12. Prestressed Concrete Poles Manufacturing

12.1. Internal Steel Reinforcement

- Skeleton: Rings increasing in diameter are welded to a continuous longitudinal steel bar. A bare
- copper wire is bonded to the continuous longitudinal steel bar and exiting the hand hole box. The
- taper of the skeleton is equal to the taper of the pole to ensure proper concrete coverage.
- The required stress wires and/or rebar are tied to the skeleton. Size and quantity will vary
- based upon pole length and class.
- Plastic spacers are used to ensure a minimum concrete cover of ¾” on all longitudinal
- reinforcing steel.
- The skeleton and longitudinal reinforcing steel cage shall be wrapped in both directions with
- galvanized steel helical reinforcement. The pitch shall not be greater than 3.5” or the radius of
- the pole, whichever is less. Diameter of helical reinforcement is determined by pole class.
- Ornamental poles shall have additional reinforcing rings at large bell locations for added
- durability.

12.2. Mold Set Up

The mold is set up to include all through holes, hand hole boxes, apertures, etc. per customer specifications. The steel cage is placed into the mold and centered with precision drilled end

plates and spools. To further center the cage within the mold, the bottom cables are pre stressed to remove any slack in the cable.

12.3. Concrete Batching

- A fully automated batching system is to be used for all concrete batches. These batches are
- to be recorded and kept for a minimum of 10 years.
- A concrete cylinder test shall be performed for each 52 cubic yards (40 cubic meters) of
- concrete poured. Air entrainment and slump tests are performed at the same time.
- The concrete used shall achieve a minimum 28-day compressive strength of 8,000 psi (55
- Mpa).
- Air entrainment admixture shall be used to produce 5-8% air content in the static cast cylinder.

12.4. Stressing

- Prestressing steel reinforcement shall be stressed to a maximum of 70% of their ultimate
- capacity.
- Elongation is to be measured on all strands.

12.5. Spinning

Pre-stressed Concrete Spun Pole Spinning Machine is a kind of mold equipment, which used for making a variety of different diameter and length of reinforced concrete poles and other cement products.

Pre-stressed Concrete Spun Pole Spinning Machine is operated by remote-controlled continuously variable motor. It runs smoothly and has a variable-speed range. So, the production of concrete pipes and piles are good at quality.

The base of the machine is welded in box-type structure, sturdiness and durability. The bearings are sealed and reliable, long life. Random electric control equipment is complete and easy to use.

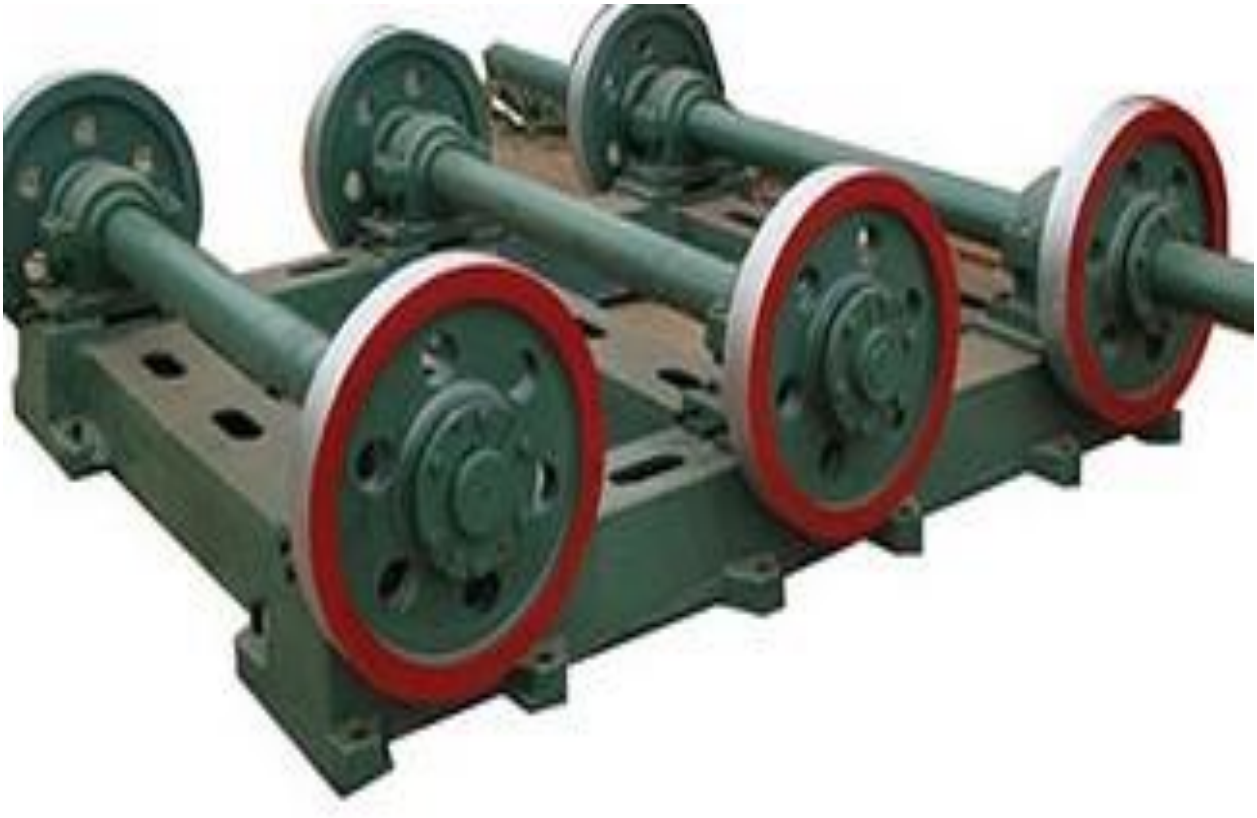
i. Spun pole steel mold operates together with pole spinning machine.

ii. This mold forms pile under the force of centrifugal. There are longitude stiffeners and latitude stiffeners on the mold surface.

iii. The mold rotates in high speed under the motor driven. The redundant water in the slurry is released by the force of centrifugal, and the concrete is dense and high in strength. And the spun pile is formed around the inner wall of the mold.

iv. Molds are to be spun at 300 – 350 rpm for a minimum duration of 6-15 minutes depending on the capacity of the spinning machine.

Figure 6: Spinning Machine Rollers



12.6. Curing

- Steam is not to be introduced for a minimum of 45 minutes after the spinning process is
- complete.
- Concrete temperature not to exceed 140 degrees Fahrenheit (60 degrees Celsius).

12.7. Demolding

Prestressing strand shall not be released until a minimum concrete compressive strength of 3,500 psi (25 Mpa) is achieved. Or as updated by respective responsible concrete policy authority.

12.8. Finishing

poles are to be finished in one of the three options and as per customer specification:

1. Mold finish, standard gray
2. Etched finish
3. Polished finish

Coating options included silane, acrylic or anti-graffiti.

13. Quality Control

- A production drawing shall be provided for each type of pole manufactured.

- A quality control technician shall approve each stage of manufacturing before proceeding to
- the next.
- All quality control procedures shall be mandated in a written manual and be available for
- review.

14. Standard Accessories

- All lighting poles shall be provided with a fish wire to facilitate cable installation.
- Acceptable number of copper ground wire shall be supplied inside the hand hole, bonded to the pole's internal steel cage.
- Hand holes shall be box type, rugged high density cast zinc and shall be supplied with a close
- fitting inset cover of the same material. Cover plate shall be mounted to the hand hole box with
- stainless steel screws. Metallic hand hole boxes shall be electrically grounded.
- Wiring apertures, giving access to the raceway of the pole, shall be free from any sharp edges or debris.
- Standard through hole sizes include ½", ¾", and 1" diameter.
- Standard threaded inserts shall be diecast zinc or hot dipped galvanized in sizes ranging from ¼" – UNC to ¾" – UNC.

15. Optional Accessories

- Decorative aluminum fin caps.
- Silane sealer, an invisible protective coating, for use in high roadside corrosive environments.
- GFI electrical receptacles.
- Steps and safety cables.
- Banner arms, ladder rests and flag holders.
- Base plate mounted poles shall be supplied with one template drawing indicating the bolt circle.
- Base plate covers and nut covers.
- Lightning rod.
- Other accessories available upon request.

16. Warranty

Manufacturer shall provide a limited lifetime warranty for its spun concrete pole products to be free
from defects in materials and workmanship for the intended lifetime of the product

17. Public and Auxiliary Facilities

In order to ensure the normal operation and effective production of process equipment, appropriate public and auxiliary facilities are provided.

17.1. Electrical & Power Supply Facilities

Some facilities belonging to Class II power load in this project include steamer (furnace) load of coal or, protective gas station, etc. Once power failure occurs, product quality will be degraded and economic loss will be great. The rest of the electrical facilities are all Class III loads.

The new 200kv switching stations are built in the plant area: 1#10kv switching station in the spinning machine area and 10kv switching station in the concrete batching area. Two 10kv power incoming lines are introduced into the 10kV switching station, and the connection mode is single bus sectional connection, which mainly supplies power for two reversible spinning rollers one bars bending, cutting, head lumping and pre-stressing line and some public and auxiliary systems. Two switch station leads two 10kV power supply incoming lines, and the connection mode is single-bus configuration.
Cable laying in the external power network of this project mainly adopts the combination of cable trench, steel pipe penetration and direct burial.

17.2. Water Supply and Drainage Facilities

The necessary water treatment facilities include: comprehensive water pump station (including fire water supply facilities), demineralized water station, wastewater treatment station, waste acid regeneration station, fire water supply system of the plant area, water supply and drainage pipe network of the plant area, etc.
Main principles of water supply and drainage design:

- Ensure the water requirements of all water users in the factory;
- Adopt water-saving measures to save water as much as possible;
- Adopt economic, reasonable and advanced water uses process;
- Adopt safe water supply measures to ensure safe production of poles

17.3. Fire Hydrant Water Supply System

The main outlet pipe of fire hydrant water supply pump is provided with a pressure switch to interlock with the system pressure. In case of fire, when the water pressure of the system drops, the pressure switch of the alarm valve of the water supply main pipe sends a pump start signal, and the fire control cabinet starts the pump directly and stops the pump manually.
Two DN200 fire hydrant outlet pipes in the fire pump station are connected into an annular pipe network along each single building in the factory area, with the layout spacing of outdoor fire hydrants ≤120m and the protection radius not greater than 150m.

Two-way water inlet pipes are set in all the buildings of the workshop and connected into annular pipe network indoors. The layout of indoor fire hydrants meets the requirement that two fire hoses and two enriched water columns reach any part at the same time on the same plane. The dynamic pressure at the hydrant mouth is ≥0.35MPa and the enriched water column of fire hydrants is calculated as 10 m. Each set of fire hydrant box is equipped with an alarm button, a single outlet DN65 fire hydrant, a 19-water gun, a rubber-lined hose with a length of DN65X25m and two 4Kg portable ammonium phosphate fire extinguishers.

17.3.1. Other Fire Extinguishing Systems

According to the requirements of Code for Design of Fire Extinguishers in Buildings, sufficient mobile ammonium phosphate dry powder fire extinguishers are set in the electrical control room, hydraulic station and other facilities of the workshop.

17.4. Ventilation, Air Conditioning and Dust Removal Facilities

The main public and auxiliary facilities supporting the construction of this project include: 10kV switching station, circulating water pump station, wastewater treatment station, desalted water station, boiler room, machine repair room and spare parts warehouse.
This design mainly includes:

- Ventilation and smoke exhaust of the workshop;
- Ventilation of circulating water pump station, wastewater treatment station, desalted water station, machine repair room and spare parts warehouse;
- Ventilation and emergency ventilation of protective gas station and boiler room;
- Electrical room air conditioning;
- Dust removal and mist removal design of the unit.

17.5. Inspection Facilities

The inspection and testing facilities of this project are responsible for the routine inspection of finished products from the concrete batching plant, water, stones, sand and cement. Specific random testing of a given number of ready-made concrete poles (say one of every 20 poles) is done in the pole testing area to ensure quality, strength and durability.

17.6. General Layout Transportation

This project is located in the light industrial area in Segera Handeni district. A gate for import and export is pre-designed. The raw material for production are sand, gravel, cement, water, coal, steel bars 4.8mm and binding wire, which will be transported into the factory by trucks. There are tarmacked strong roads around the workshop to facilitate the transportation of goods. The main entrance road is 20m wide, the line width of raw material unloading is 20m, the approach road of workshop is 7m wide, and the minimum turning radius of kerb stone of main road is 15m.
The incoming goods and finished products will be transported in or out after weighing. There is a government owned 100t electronic weighbridge near the factory. The weighbridge has a maximum weighing capacity of 100t, a minimum indication value of 20kg and a V size of 25.0×15m: All road transportation outside the factory is government owned.

17.7. Environmental Protection Measures

Before the project begins measures will be taken into account so that the project complies with guidelines laid down by the National Environmental Council (NEMC). The project will therefore adopt an already done comprehensive Environmental Impact Assessment (EIA) for this project in Segera village of Handeni district of Tanga Region. Once the EIA certificate is issued to Tanga Concrete Poles Limited by NEMC then the company will start production.

All environmental and climate management features will be stipulated in the Environmental Impact Assessment (EIA) report and as will be directed by relevant authorities. However, some of the expected features include advanced and effective treatment technologies and measures for carbon emissions, waste water, noise and solid waste, water pollution, which meet the requirements of national environmental protection.

17.8. Waste Gas Pollutants and Control Measures

- Coal steaming boiler: boiler dust and carbon generated from the steaming boiler

- Concrete mixing, batching and loading line: mixed concrete wastes

Degreasing and cleaning alkali mist, the main pollutants are NaOH, etc.

17.9. Solid Waste and Control Measures

The solid wastes generated during the normal operation of this project are mainly as follows:

- Debris of Concrete mixture
- Cutting head, trimming, rolling waste produced by each unit;
- Sludge and waste oil and grease

Solid waste treatment measures are as follows:

Steel heads cutting, pole edge, rolling debris, and waste concrete mixture in the rolling process of each unit will be collected and reused/ recycled.

18. Conclusion

In light of the information provided and analyzed in this project proposal, and the realities on the ground. It is quite obvious that the project is desirable to all stakeholders and will be greatly profitable. TCP is earnestly asking for your support this project with Tanzania Investment Centre Incentives (TIC) and in any other way possible we assure you that Tanga Concrete Poles Limited will be honest enough to honor what is stipulated in this business plan and the application letter.

We look forwards and are open to successful working relationships.

Best regards

Tanga Concrete Poles Company Limited	
Postal Address: P.O. Box 16598 Dar es salaam **Head Quarter Physical Adress:** 8th Floor - FayKat Building, Morroco area, Dar es Salaam	**Factory Physical Address:** Segera, Handeni Tanga – Tanzania +255784436666, +255768009009 tangaconcretepolesltd@gmail.com

Annexes:

Annex I: BRELA Certification
Annex II: Taxpayer's Identification Number
Annex III: Pictorial Presentation of the Quotation

Figure 7: BRELA REGISTRATION CERTIFICATE

C1

TANZANIA

BRELA

BUSINESS REGISTRATIONS AND LICENSING AGENCY

Certificate of Incorporation of a Company

Section 15

No: 174457409

I HEREBY CERTIFY THAT

TANGA CONCRETE POLES LIMITED

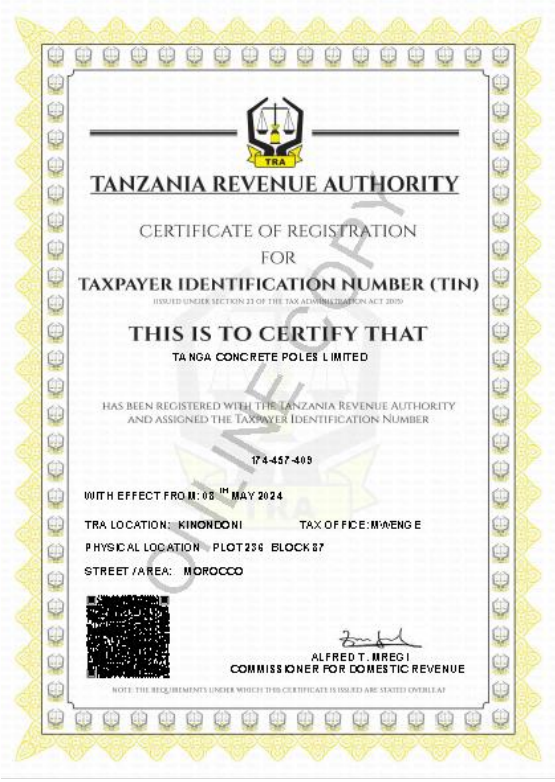
is this day incorporated under the Companies Act, 2002 and that the Company is Limited.

GIVEN under my hand at Dar es Salaam this **8th** day of **MAY TWO THOUSAND AND TWENTY FOUR**.

REGISTRAR OF COMPANIES TANZANIA

PRINCIPAL REGISTRAR OF COMPANIES

Figure 8: Taxpayer's Identification Number



TRA

TANZANIA REVENUE AUTHORITY

CERTIFICATE OF REGISTRATION

FOR

TAXPAYER IDENTIFICATION NUMBER (TIN)

ISSUED UNDER SECTION 23 OF THE TAX ADMINISTRATION ACT 2015

THIS IS TO CERTIFY THAT

TANGA CONCRETE POLES LIMITED

HAS BEEN REGISTERED WITH THE TANZANIA REVENUE AUTHORITY AND ASSIGNED THE TAXPAYER IDENTIFICATION NUMBER

174-457-409

WITH EFFECT FROM: 08TH MAY 2024

TRA LOCATION: KINONDONI TAX OFFICE: MWENGE

PHYSICAL LOCATION PLOT 236 BLOCK 87

STREET /AREA: MOROCCO

[redacted]

ALFRED T. MREGI

COMMISSIONER FOR DOMESTIC REVENUE

NOTE: THE REQUIREMENTS UNDER WHICH THIS CERTIFICATE IS ISSUED ARE STATED OVERLEAF

Figure 9: Pictorial Presentation of the Equipment Quotation