



## VISION Developers (Pvt) Ltd.

To

Dated: 16-02-2017

**The Registrar,**  
National Electric Power Regulatory Authority  
NEPRA, Islamabad

**Subject: APPLICATION FOR 08 MW GENERATION LICENSE FOR  
VISION DEVELOPERS (PRIVATE) LIMITED SPONSORED  
RIVER EDGE HOUSING SCHEME / PARK VIEW VILLAS, 3-  
KM THOKAR NIAZ BAIG, MULTAN ROAD, LAHORE**

I, **Mr. Omer Farooq Mannan (CNIC # 35201-7611344-5)**, the Director Administration, Vision Developers (Private) Limited, being the duly authorized representative of Vision Developers (Private) Limited by virtue of Board Resolution dated January 02, 2017 hereby apply to the National Electric Power Regulatory Authority for the grant of the subject Generation License to Vision Developers (Private) Limited pursuant to the section 7(2)a read with section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

I certify that the documents in support attached with this application are prepared and submitted in conformity with the provisions of the National Electric Power Regulatory Authority Licensing Application and Modification Procedure regulations. I further undertake to abide by the terms and provisions of the above-aid regulations. I further undertake and confirm that the information provided in the attached documents in support is true and correct to the best of my knowledge and belief.

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## VISION Developers (Pvt) Ltd.

Pay Order for a sum of Rs. 146,448/- (Rupees One Lac Forty Six thousand Four Hundred Forty Eight being the non-refundable license application fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999 is also attached herewith.

Sincerely

Omer Farooq Mannan  
Director Administration  
Vision Developers (Private) Limited



Attached:  
① Bank Albalah Draft No. PO EME 00012142 dated 10/2/2017 in Favour of NEPRA.  
② Two additional Copies.

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VISION Developers (Pvt) Ltd.

**EXTRACTS OF THE MEETING AND RESOLUTION**

PASSED IN THE MEETING OF THE BOARD OF DIRECTORS OF VISION  
DEVELOPERS (PRIVATE) LIMITED ON JANUARY 02, 2017

It is hereby certified that in Reference Meeting of Board of Directors of Vision Developers (Private) Limited held at its registered office on **January 02, 2017** the following **resolution** was passed:

Resolved that **Mr. Omer Farooq Mannan (CNIC # 35201-7611344-5)**, Director Administraton is hereby appointed and authorized to sign, present pursue applications to NEPRA for grant of distribution license to Vision Developers (Private) Limited for the power generation and distribution project at company's sponsored River Edge Housing Scheme / Park View Villas, 3-km Thokar Niaz Baig, Multan Road, Lahore

  
Imran Anwar  
Company Secretary



January 02, 2017

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GOVERNMENT OF PAKISTAN



CERTIFICATE OF INCORPORATION

(Under section 32 of the Companies Ordinance, 1984 (XLVII of 1984))

Company Registration No. 12815/20030702

Thereby certify that VISION DEVELOPERS (PRIVATE) LIMITED

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is this day incorporated under the Companies Ordinance, 1984 (XLVII of 1984) and  
Shares.

that the company is limited by

Lahore

Given under my hand at

7<sup>th</sup>

July

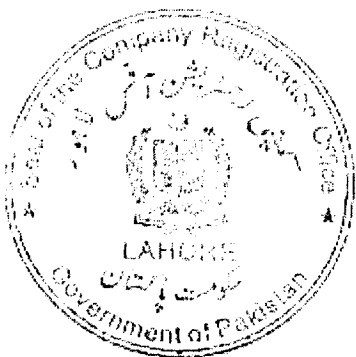
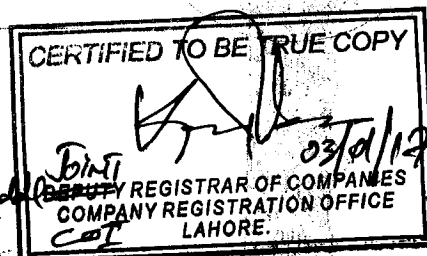
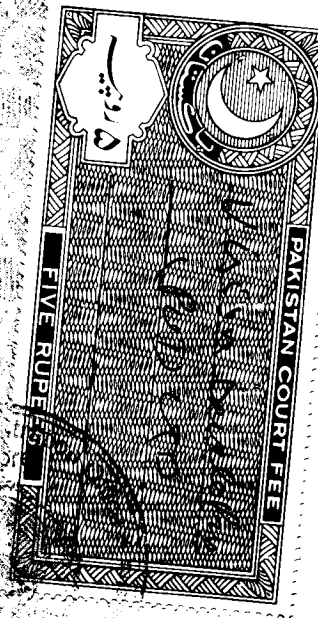
this \_\_\_\_\_ day of \_\_\_\_\_

Three,

two thousand and

=2,65,200/-

Fee Rs. \_\_\_\_\_



( Tahir Mahmood )  
JOINT  
REGISTRAR OF COMPANIES

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Am

THE COMPANIES ORDINANCE, 1984

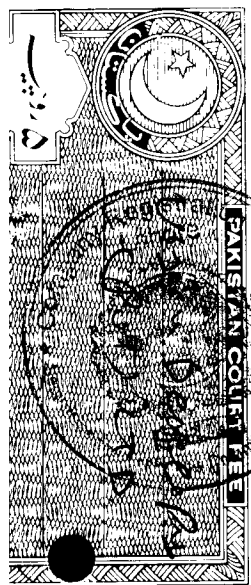
COMPANY LIMITED BY SHARES

MEMORANDUM OF ASSOCIATION

OF

VISION DEVELOPERS (PRIVATE) LIMITED

- I. The name of the Company is "VISION DEVELOPERS (PRIVATE) LIMITED".
- II. The Registered Office of the Company shall be situated in the Province of the Punjab, Pakistan.
- III. The objects for which the company is established are to carry out in or outside Pakistan with permission where necessary, all or any of the following:-
  - I. To acquire by purchase or otherwise lands and develop the same in plots and sell or establish housing estates, construct houses, community building, flats, commercial buildings and multi-storyed buildings thereon and sell or let on hire houses, commercial buildings, flats and to provide roads, water, gas, sewerage, electricity and other facilities to housing schemes wherever required in the interest and for the benefit of the Company.
  - II. To carry on the business of construction houses, appartments, buildings, etc and to lease hire, manage or otherwise deal with all kinds of constructed and developed immovable property whether belonging to the Company or not, and to advance and lend money to builders and other who may be willing to improve or build any land and buildings for the construction of dwelling houses, trade premises, public and other buildings, and to advance and lend money or assets of all kinds on such terms in connections with all or any of the Company's objects or purposes as may be determined.
  - III. To carry on the business and profession of construction of roads, dams, bridges, spillways, highways, reservoirs, airports, seaports, appartments, plazas, multistoried flats, business office, shops, markets, warehouses, industrial and commercial building and structures of all descriptions and to equip the same or any part thereof, with all or any conveniences, drainage and sewerage facilities, water supply, electric and gas installations subject to any permission required by law.



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4. To act as Town Planners and to promote housing schemes for selling to individuals, shops, plazas, flats apartments or residential accommodation of any kind, subject to any permission if required by law.
5. To make, enter into, perform and carry out contracts for constructing, altering, decorating, maintaining, furnishing fitting up and improving land, buildings of every sort and kind; to advance money to and enter into contracts and arrangements of all kinds with builders and property owners; to carry on in all their respective branches the business of builders, contractors, decorators, dealers in stones, bricks, timber hardware and other buildings materials or requisite; to purchase or resale on hire purchase or easy payment system the shops, houses, apartments, plazas, flats, villas residential premises. Land building, real property of all kinds.
6. To acquire by purchase or otherwise own, buy, hold, convey, lease, mortgage, personal or mixed and to survey, sub divide, plot, improve, and develop lands for the purpose of sale or otherwise and to do and perform all things needful and lawful for the development or improvement of the same for residence, trade or business purposes.
7. To purchase, take in exchange or otherwise acquire either absolutely or by lease, license, concession, grants or otherwise from person or from Government including all related or concerned agencies, corporations, bodies, departments or institutions thereof any lands, mines, quarries, minerals, rights, and privileges and to search for ores, minerals and mines and/or grant licences for mining in or any lands, which may be acquired by the company and to lease out such lands for building, mining, or agricultural use.
8. To won, prospect for, explore, acquire, lease, license, purchase of otherwise open, work, develop and maintain natural deposits of salt, sulphur, birne, natron, soda nitrate, and other chemical substance of all kinds, clay and sand pits, clabs, stone, chalk and limestone, quarries, coal mines, copper mines, iron mines, mineral oil fields and mines of all kinds and to sell or otherwise dispose off any of the above products, to manufacture, prepare, treat quarriable chemical or mineral substances or products of all kinds obtained as aforesaid for sale or use or for manufacturing building or any other purpose and to manufacturer there from any kind of products including heavy chemicals and to expend such sums of money as may be deemed requisite and advisable in exploration, survey and developments for any of the above purposes.

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9. ✓ Generally to purchase take on lease or in exchange, hire or otherwise acquire any movable or immovable property and any rights or privileges which the Company may think necessary or convenient for the purposes of its business and in particulars any land, building, easement machinery plant and stock-in-trade.
10. ✓ To survey, design, report, construct, or supervise the construction of any project connected with civil, electrical, mechanical, & environmental engineering.
11. ✓ To carry on the business of civil, mechanical and/or electrical engineers, and of estimation, drawing up of specifications, interior & exterior decorations and contracts, quantity surveying, supervisions and execution of construction works and all installations and maintenance thereof.
12. ✓ To act as civil, work/mechanical/electrical contractors to Government of Pakistan, Provincial Government, Foreign Agencies, Public/Local Authorities, Municipalities or otherwise, Semi-Government, autonomous corporation, Private/Public companies or to any private person.
13. ✓ To construct, erect or maintain buildings, bridges, Sewers, road, waterworks, bricks kilns and erection of any description whatsoever; and to provide all civic facilities of occupiers or tenants thereof as are commonly provided.
14. ✓ To carry on the trade or business of engineer, founders, smiths mechanics, fabricators, civil, electrical and mechanical engineer and to engage in land drainage work, dewatering land, urban or rural of all sorts.
15. ✓ To carry on the business of contractors and suppliers of goods of all descriptions to Government, Central and Provincial, C.D.A., Local Bodies, Municipalities, L.D.A., K.D.A., or any Development Authorities, Port-Trusts, Railway, P.W.D., M.E.S., Irrigations, Sui Northern Gas, Wapda and other autonomous bodies, persons, hotels, hospitals, firms or corporations and to supply goods of all kind for this purpose subject to any permission required by law.
16. ✓ To Carry on the of supervisors, administrators, executors, contractors, agents (except managing agents), expert, collaborators, advisors and negotiators more particularly in the field of mechanical engineering, civil engineering, hydraulic engineering, chemical engineering, mining, metallurgy, agriculture, afforestation soil conservation and reclamation, industries, aeronauties, telephones, telegraphs and wireless communication, rail, road, water and air transport and all affairs relating thereto, petroleum-products, machinery for exploration of gas, mines, petrol and petroleum products.

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17. To apply for, tender, offer and accept purchase or otherwise acquire any contracts and concessions for or in relation to the projection, execution, carrying out improvements, management, administration or control of works, and conveniences and undertake, execute, carry out, dispose of or otherwise turn to account the same.
18. To purchase, buy, deal in or acquire interest in agricultural property, agricultural equipment or materials for the purpose of exploiting land or area whatsoever or to associate with, schemes, programmes, execute, participate in or develop and research stations, demonstration farms, depots for agricultural products, and or to associate with or be involved in any interest scheme, plan or programme which has any such objects, if such association is considered desired and conducive to the interest of the Company.
19. To carry on the business of manufacturers and sellers of agricultural commodities, foodstuffs, products, preparations and to prepare, finish, fashion, buy, sell or deal in all agricultural items including seeds, manures; soil, conservants, chemicals, and chemical substances as well as formulation/intermediates/by-products thereof and to procure, cultivate, utilize, test, conduct, research on, buy, sell, deal in or act as agents for all such materials or to make them available in any form considered or desirable.
20. To purchase, build, bid auction or otherwise acquire, hold, maintain, alter, develop in any manner, sell, deal in, assign or otherwise dispose of Mills, factories, undertakings, enterprises, movable and constructed properties of all kinds in accordance with the law for the time being in force.
21. To carry on the business of manufacturer, sellers, importers, exporters, promoters, dealers in all types of construction materials including those based on gypsum, cement concrete or their products which can be devised, compounded, produced or produced from any of the substances made by the Company or elsewhere; their by-products or intermediate and to sell, manufacture, prepare, package or deal in all such materials in any form whatsoever and all kinds of ingredients thereof.
22. To carry on and undertake trading business of all sorts to act as indenters, exporters, traders, suppliers and commission agents or products, commodities and materials in any form or shape manufactured or supplied by any company, firm, association of persons, body, whether incorporated or not, individuals, Government, Semi-Government Authority.

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23. ✓ To carry on the business of general order suppliers including Government Semi-Government Agencies, Armed Forces, Army, Military or Defence and to act as commission agents, indenters, traders general merchants, wholesalers, retailers dealers, distributors, stockists in any goods or product or within the scope of the object of the company and subject to any permission required under the law.
24. ✓ To establish laboratories, research and development centers to perform such research and developments as the Company may deem advisable or feasible.
25. ✓ To advance money to such persons of companies and on such terms as may seem expedient and in particulars to customers and others having dealings with the Company but not to act as an investment finance or a banking Company.
26. ✓ To carry on agency business (except managing agency) and to acquire and hold selling agencies and to act as selling agents, commission agents, manufacturers, representatives and distributing agents of and for the distribution of all kinds of merchandise, goods, commodities, products, materials, substances, articles and things whether finished, semi-finished, raw, under process, refined, treated or otherwise pertaining to trade and commerce and for that purpose to remunerate them and to open and maintain depots and branches.
27. ✓ To purchase, take on lease or in exchange, hire, apply for or otherwise acquire and hold for nay interest, any rights, privileges, lands, building, easements, trade marks, patent right, copyrights, licences, secret process, machinery, plants, stock-in-trade, and any movable and immovable property of any kind necessary or convenient for the purposes of or in connection with the Company's business or any branch or department thereof and to use, exercise, develop, grant licences in respect of or otherwise turn to account any property, rights, and information so acquired, subject to any permission required under the law.
28. ✓ To acquire by concession, grant, purchase, barter, license either absolutely or conditionally and either solely or jointly with others any lands, buildings, machinery, plants equipments, privileges, rights, licences, trade marks, patent, and other movable and immovable property of any description which the company may deem necessary or which may seem to the Company capable of being turned to account, subject to any permission as required under the law.
29. ✓ To act as representatives, for any person, firm or company and to undertake and perform sub-contracts, and also act in the business of the Company through or by means of agents, sub-contractors and to do all or any of the things mentioned herein in any part of the world and either alone or in collaboration with others and by or through agents, sub-contractors, or otherwise.

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45. To provide corporate services to other companies and statutory corporations whether incorporated or formed in Pakistan or outside Pakistan, such services to include, without limitation, the provision of a registered commercial branch officers and other accommodations, transportations, secretarial practice, liaison work, marketing, communications like telephone, telex and computer service together with any other services except management services.
46. To render and provide corporate services to the individuals, firms, companies or statutory corporations whether incorporated in Pakistan or outside Pakistan who are engaged in the business to Textile, Sugar, Jute, Cotton Civil constructions. Ghee Mills and Food processing or Freezing and to erect, maintain, alter, extend, purchase or otherwise acquire plant and machinery for the purpose of gunning, preparing, combing, spinning, weaving, manufacturing, bleaching, dyeing, mercerizing printing to otherwise working any of fabrics and materials and to erect, maintain, alter, extend purchase and sell mills, factories, warehouses, engine houses, dwelling houses for employees and other building on any land purchased, lease or otherwise acquired by or for the company or for any of the purposes connected with the business of the Company.
47. To issue/accept guarantee for the performance of contracts, agreements, obligations or discharge of any debt or liability of the company or on behalf of any associated company or any other company or any other person in relation to the payment of any financial facility including but not limited to loans, advances, letters of credit or other obligations through creation of any or all types of mortgages, charges, pledges, hypothecation, on execution of the usual banking documents or instruments or otherwise encumbrance on any or all of the movable and immovable properties of the company, either present or future or both and issuance of any other securities or sureties by any other means in favour of banks. Non-Banking Finance Company (NBFCs) or any financial institutions and to borrow money for purpose of the company on such terms and conditions as may be considered proper.
48. To take part in the promotion, floatation, management, superintendence supervision or control of the business or operation of any company or undertaking having or proposing to have similar objects as of this Company.
49. To take or otherwise acquire and hold shares in any other company having objects altogether or in part similar to those of this Company.
50. To invest and deal with the money of the Company not immediately required in such manner as may from time to time be determine but not to act as investment, finance, or a banking company.
51. To employ and remunerate the officials and servants of the Company of the any person, firm or Company rendering services to the Company.

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52. ✓ To undertake and execute any trust, hospital or charitable institution the undertaking whereof may seem desirable and either gratuitously otherwise.
53. ✓ To apply for and obtain any provisional order or Act of legislature or any consents, permission and licences from the Government, Central or provisional and any agencies of the Government for enabling the Company to carry on any of its objects into effect or for affecting any modification of the Company constitution or for any other purpose which may seem expedient.
54. ✓ To sell any patent rights or privileges belonging to the Company or which may be acquired by its or nay interest in the name, and to grant licences for the use and practice of the same or any of them and to let or allow to be used or otherwise deal with any inventions, patents or privileges in which the Company may be interested and to do all such acts and things as may be deemed expedient in connection therewith.
55. ✓ To expend money on experimenting upon and testing and improving or securing any process or processes, patent or protecting any invention or inventions which the Company may acquire or propose to acquire or deal with.
56. ✓ To distribute among the members of the Company in kind or otherwise any property of the Company and in particular and shares debentures or securities of other companies belonging to this Company or of which this Company may have the power of disposing.
57. ✓ To pay out of the funds of the company all expenses of and incidental to the formation, registration, advertisement of this company.
58. ✓ To create any reserve funds, sinking fund, insurance fund, or any other special fund whether for depreciation or for repairing, improving extending, or maintaining any of the property of the company or for any other purpose conducive to the interests of the Company.
59. ✓ To do all such other things as are incidental or conducive to the attainment of the above objects, or any of them as may be thought fit by the Company.
60. ✓ It is declared that notwithstanding anything contained in the foregoing object clauses of this Memorandum of Association nothing contained therein shall be construed as empowering the Company to undertake or indulge in business of banking company, banking investment or insurance business directly or indirectly as restricted under law or any other unlawful operations.

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61. ✓ It is undertaken that the company shall not, by advertisement, pamphlets, other means or other negotiation, offer for sale or take advance money for the further sale of plots, houses, flats etc., to the general public or individuals unless such plots, houses or flats etc., are owned developed by the company.

IV. ✓ The liability of the members is limited.

V. ✓ The Authorised Capital of the Company is Rupees 100,000,000/- (Rupees One Hundred Million only) dividend into 10,000,000 (Ten Million) ordinary shares of Rupees 10/-(Rupees Ten Only) each with power to increase or reduce the capital and to divide the shares in the capital for the time being into several clauses as may for the time being be provided by the regulations of the Company in accordance with law.



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We the several persons, whose names and addresses are subscribed below, are desirous of being formed into a Company, in pursuance of this Memorandum of Association, and we respectively agree to take the number of shares in the Capital of the Company as set opposite to our respective names.

| S#                              | Name and Surname<br>(Present and Former)<br>in Full<br>(in Block Letters) | Father's/ Husband's<br>Name in Full | Nationality<br>with any<br>Former<br>Nationality | Occupation               | Residential<br>Address<br>(in Full) | Number of<br>Shares<br>Taken by<br>Each<br>Subscriber | Signature |
|---------------------------------|---|-------------------------------------|--|--------------------------|-------------------------------------|---|-----------|
| 1                               | ABDUL ALEEM KHAN  | Abdul Rahim Khan                    | Pakistani  | Construction<br>Business | 421-X, Defence,<br>Lahore           | 1,000<br>One<br>Thousand                              |           |
| 2                               | MRS. NASEEM KHAN  | Abdul Aleem Khan                    | Pakistani  | House Hold               | 421-X, Defence,<br>Lahore           | 1,000<br>One<br>Thousand                              |           |
| Total Number of<br>Shares Taken |   |                                     |  |                          |                                     | 2,000<br>Two<br>Thousand<br>only                      |           |

CERTIFIED TO BE TRUE COPY

REGISTRAR OF COMPANIES  
COMPANY REGISTRATION OFFICE  
LAHORE

Dated this .....

Witness to the above Signatures:

Nationality : Pakistani

Full Name: HASSAN UD DIN ANSARI

Occupation: Service

Father's/Husband's

Full Address: #352-N, Samanabad,

Full Name: HAJI KHUDA BAKHSI

Lahore

Signature \_\_\_\_\_

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# THE COMPANIES ORDINANCE, 1984

## COMPANY LIMITED BY SHARES

### Articles of Association

of

## VISION DEVELOPERS (PRIVATE) LIMITED

1. The regulations contained in Table "A" of the First Schedule to the Companies Ordinance, 1984 shall apply to this Company (so far as these are applicable to private companies) except as the same are modified, altered, repeated or added to by these Articles.

### DEFINITION AND INTERPRETATIONS

2. In these presents unless there be something in the subject or context inconsistent therewith, words signifying the singular number only, shall include the plural and vice versa and words signifying males only shall extend to and include females and words signifying persons, shall apply mutatis mutandis to bodies corporate.

"The Company" shall mean **VISION DEVELOPERS (PRIVATE) LIMITED.**

"The Office" shall mean the registered office of the Company for the time being.

"Section" means Section of the Ordinance.

"Ordinance" means the Companies Ordinance, 1984.

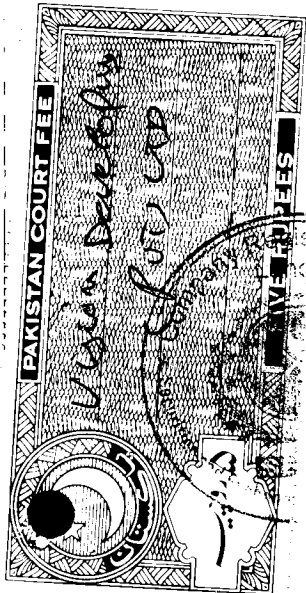
"Month and Year" shall mean the calendar month and calendar year respectively

"The Register" means the register of members to be kept pursuant to section 147 of the Companies Ordinance, 1984.

"In Writing or Written" includes printed, lithographed and typewritten or other modes of representing words in visible and legible form.

"Dividend" includes bonus.

"Capital" shall mean the capital of the company for the time being raised for the purpose of the Company.



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"Shares" shall mean the shares in the capital of the Company for the time being.

"These Presents" shall mean the Memorandum of Association of the Company and these Articles and all supplementary, substituted or amended Articles for the time being in force.

"The Seal" in relation to a company means the common seal of the Company.

### PRIVATE COMPANY

3. The Company is a Private Company within meanings of section 2 (1) clause 28 of the Companies Ordinance, 1984, and accordingly :-

- (a) No invitation shall be issued to the public to subscribe for any shares or debentures of the Company.
- (b) the number of the members of the Company (exclusive of the persons in employment of the Company) shall be limited to Fifty provided that for the purpose of this provisions where two or more persons hold one or more shares jointly, they shall be treated as single members, and:
- (c) the right to transfer of shares in the Company is restricted in the manner and to the extent hereinafter provided.

### REGISTERED OFFICE

4. The registered office of the Company shall be situated at such place in the Province of Punjab as the Directors may determine from time to time.

### BUSINESS

5. The business of the Company may include all or any of the objects enumerated in the Memorandum of Association and can be commenced immediately after the incorporation of the Company, notwithstanding that a part of the capital has been subscribed.

### CAPITAL

6. The authorized share capital of the Company is Rs. 100,000,000/- divided into 10,000,000 ordinary shares of Rs. 10/- each with power to increase, decrease, consolidate, or otherwise re-organise the share capital of the Company in accordance with the provisions of the companies Ordinance, 1984.

### SHARES

7. Subject to provision of the Ordinance, the shares shall be under the control of the Board of Directors who may allot or otherwise dispose of the same to such persons, firm or corporation, on such terms and conditions, for such consideration and at such times as may be thought fit.

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8. The shares in the Capital of the Company may be allotted or issued in payment or part payment of any land, building, machinery or goods supplied or any services rendered to the Company in promotion and establishment thereof or in conduct of its business. An shares so allotted may be issued as fully paid up and not otherwise.

9. If a share certificate is defaced, lost or destroyed it may be renewed on payment of such fee, if any, not exceeding five rupee, and on such terms, if any, as to evidence and indemnity and payment of expenses incurred by the company in investigating title as the directors think fit.

10. Except to the extend and in manner allowed by section 95, no part of the funds of the Company shall be employed in the purchase of or in loans upon the security of, the Company's shares.

### TRANSFER AND TRANSMISSION OF SHARES

11. The instrument of transfer of any share in the Company shall be executed both by the transferor and transferee, and the transferor shall be deemed to remain holder of the shares until the name of the transferee is entered in the register of members in respect thereof.

12. Shares in the Company shall be transferred in the following forms, or in any usual or common form which the directors shall approve:-

I ..... of ..... in consideration of Rupee ..... paid to me by ..... of ..... (hereinafter called "the transferee") do hereby transfer to the said transferee ..... the share (or shares) number ..... to ..... inclusive, in the VISION DEVELOPERS (PRIVATE) LIMITED, to hold unto the said transferee, his executors, administrators and assigns, subject to the several conditions on which I held the same at the time of the execution hereof, and if, the said transferee, do hereby agree to take the said share (or shares) subject to the conditions aforesaid.

As witness our hands  
of .....  
with

this ..... day

Signature

Signature ..... dated  
Full Address

Transferor

Witness

Signature  
Transferee

Signature .....

Full Name, Father's  
Husband's Name

Full Address .....

Nationality

Occupation and Full  
Address of Transferee

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13. The Directors may decline to register any transfer of shares and shall not be bound to show any reason for exercising their discretion.

#### TRANSMISSION OF SHARES

14. The executors, administrators, heirs, or nominees, as the case may be, of a deceased sole holder of a share shall be the only person recognised by the Company as having any title to the share in the case of a share registered in the names of two or more holders, the survivor or survivors, or the executors or administrators of the deceased survivors shall be the only person recognized by the Company as having any title to the share.

15. Any person becoming entitled to a share in consequence of the death or insolvency of a member shall, upon such evidence being produced as may from time to time be required by the directors have the right either to be registered as member in respect of the share or, instead of being registered himself to make such transfer of the share as the deceased or insolvent person could have made; but the directors shall in either case, have the same right to decline or suspend registration as they would have had in the case of a transfer of the share by the deceased or insolvent person before the death or insolvency.

16. A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled in he were the registered holder of the share, except that he shall not, before being registered as a member in respect of the share, be entitled in respect of it to exercise any right conferred by membership in relation to meetings of the Company.

#### ALTERATION OF CAPITAL

17. The Company may from time to time, by special resolution increase the share capital by such sum, to be divided into shares of such amount, as the resolution shall prescribe.

18. Subject to the province of the Ordinance, all new shares shall, before issue, be offered to the existing share holders who at the date of the offer are entitled to receive notices from the Company of general meetings to proportion, as nearly as the circumstances admit, to the amount of the existing shares to which they are entitled. The offer shall be made by notice specifying the number of shares offered, and limiting a time within which the offer if not accepted, will be deemed to be declined, and after the expiration of that time, or on the receipt of any intimation from the person to whom the offer is made that he declines to accept the shares offered, the directors may dispose of the same in such manner as they think most beneficial to the Company. The directors may likewise so dispose of any new shares which (by reason of the ratio which the new shares bear to shares held by persons entitled to an offer of new shares) cannot, in the opinion of the directors, be conveniently offered under this regulation.

19. The new shares shall be subject to the same provisions with reference to transfer, transmission and otherwise as the shares in the original share capital.

20. The Company may, by ordinary resolution:-

- (a) Consolidate and divide its share capital into shares of large amount then its existing shares;
- (b) Sub-divide its existing shares or any of them into shares of smaller amount than in fixed by the memorandum of association, subject, nevertheless, to the provisions of clause (d) of sub-section (1) of section 92;
- (c) Cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person.

21. The Company may by special resolution, reduce its share capital in any manner and with, and subject to, any incident authorized and consent required, by law.

### GENERAL MEETING

22. The general Meeting of the Company shall be held within 18 months from the date of its incorporation and thereafter once at least in every calendar year within a period of four months following the close of its financial year and not more than fifteen months after the holding of the last preceding annual general meeting as may be determined by the Directors.

23. The above mentioned general meeting shall be called annual general meeting, all other general meeting shall be called extraordinary general meetings.

24. The Directors may, whenever they think fit, call an extraordinary general meeting and extraordinary general meeting shall also be called on such requisition or in default may be called by such requisitionists as is provided by Section 159. If at any time there are not within Pakistan sufficient directors capable of acting to form a quorum, any director of the company may call an extraordinary general meeting in the same manner as nearly as possible as that in which meetings may be called by the directors.

### NOTICE AND PROCEEDINGS OF GENERAL MEETING

25. Twenty-one day's notice at the least (exclusive of the day on which the notice is served or deemed to be served, but inclusive of the day for which notice is given) specifying the place, the day and the hour of meeting and, in case of special business, the general nature of that business, shall be given in manner provided by the Ordinance for the general meeting, to such persons as are under the Ordinance or the regulations of the company, entitled to receive such notices from the company but the accidental omission to give notice to or the non-receipt of notice, by any member shall not invalidate the proceeding at any general meeting.

26. All business shall be deemed special that is transacted at an extraordinary general meeting, and also all that is transacted at an annual general meeting with the exception of declaring a dividend the consideration of the account, balance sheet and the reports of the directors and auditors, the election of directors, the appointment of, and the fixing of the remuneration of the auditors.

27. No business shall be transacted at any General Meeting unless a quorum of members is present at the time when the meeting proceeds to business. Two members present personally who represent not less than 25% of the total voting power, either in their own account or through proxies shall be a quorum for a general meeting.

28. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if called upon the requisition of members, shall be dissolved; in any other case, it shall stand adjourned to the same day in the next week at the same time and place, and if at the adjourned meeting a quorum is not present within half an hour from the time appointed for the meeting, the members present being not less than two, shall be quorum.

29. The Chairman of the Board of directors, if any, shall preside as chairman at every general meeting of the Company, but if there is no such chairman, or if at any meeting he is not present within fifteen minutes after the time appointed for the meeting, or is unwilling to act as chairman, any one of the directors present may be elected to be chairman, and if none of the director is present, or willing to act chairman, the members present shall choose one of their number to chairman.

30. The Chairman may, with the consent of any meeting at which a quorum is present (and shall it so directed by the meeting), adjourn the meeting from time to time but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place. When a meeting is adjourned for ten days or more, notice of the adjourned meeting shall be given as the in the case of an original meeting. Save as aforesaid, it shall not be necessary to give any notice of an adjournment of the business to be transacted at an adjourned meeting.

31. At any General Meeting a Resolution put to the vote of the meeting shall be decided on a show of hands, unless a poll is (before or on the declaration of the result of the show of handed), demanded. Unless a poll is so demanded, a declaration by the Chairman that a Resolution has, on a show of hands, been carried or carried unanimously, or by a particular majority, or lost, and an entry to that effect in the books of the proceedings of the Company shall be conclusive evidence of the fact without proof of the number or proportion of the votes recorded in favour of, or against, the Resolution.

32. A poll may be demanded only in accordance with the provisions of section 167.

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33. If a poll is duly demanded, it shall be taken in accordance with the manner laid down in section 168 and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded.

34. A poll demanded on the election of chairman or on a question of adjournment shall be taken at once.

35. In the case of an equality of votes, whether on a show of hands or on a poll, the chairman of the meeting at which the show of hands takes place, or at which the poll is demanded, shall have and exercise a second or casting vote.

### VOTES OF MEMBERS

36. Subject to any right or restrictions for the time being attached to any class or classes of shares, on a show of hands every members present in person shall have one days except for election of directors in which case the provision of section 178 shall apply. On a poll every members shall have voting rights as laid down in section 160.

37. In case of joint-holders, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint-holders; and for this purposes seniority shall be determined by the order in which the names stand in the register of members.

38. A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on show of hand or on a poll, by his committee or other legal guardian, and any such committee or guardian may, on a poll, vote by proxy.

39. On a poll votes may be given either personally or by proxy, Provided that no body corporate shall vote by proxy as long as a resolution of its Directors in accordance with the provisions of section 162 is in force.

40. (1) The instrument appointing a proxy shall be in writing under the hand of the appoint or of his attorney duly authorized in writing. A proxy must be a member.

(2) The instrument appointing a proxy and the power-of-attorney or other authority (if any) under which it is signed, or a notarially certified copy of that power or authority, shall be deposited at the registered office of the Company not less than forty-eight hours before the time for holding the meeting at which the person named in the instrument proposes to vote and in default the instrument of proxy shall not be treated as valid.

41. An instrument appointing a proxy shall be in the following form; or a form as near thereto as may be:-

..... Limited.  
I ..... of ..... in the district of .....  
being a member of the ..... Limited, hereby appoint ..... of .....  
as may proxy to vote for me and on my behalf at the (annual extra-ordinary, as the case may be) general meeting of the Company to be held on the ..... day of ..... and at any adjournment thereof.

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42/ A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death or insanity to the principal or revocation of the proxy of the authority under which the proxy was executed, or the transfer of the share in respect of which the proxy is given, provided that no intimation in writing of such death, insanity, revocation of transfer as aforesaid shall have been received by the Company at the office before the commencement of the meeting or adjourned meeting at which the proxy is used.

### DIRECTORS

43/ Unless otherwise determined by the Company in General Meeting the number of Directors shall not be less than two and more than seven.

44/ The following shall be the first Directors of the Company who shall hold office uptill the first annual general meeting:-

1. ~~Mr.~~ **Abdul Aleem Khan**
2. ~~Mrs.~~ **Naseem Khan**

45/ The Directors of the Company shall subject to Article clause 43, fix the number of elected Directors of the Company not later than 35 days before the convening of the General Meeting at which Directors are to be elected and the number so fixed shall not be changed except with the prior approval of the General Meeting of the Company. As provided under Section 178 (5) of the Companies Ordinance, 1984, the Directors shall be elected by the members of the Company in General Meeting in the following manner namely :-

- (a) A member shall have such number of votes as is equal to the product of the number of voting shares or securities held by him and the number of Directors to be elected.
- (b) A member may give all his votes to a single candidate or divide them between more than one of the candidates in such manner as he may choose and
- (c) The candidate who gets the highest number of votes shall be declared elected as Director and then the candidate who gets the next highest number of votes shall be so declared and so on until the total number of Directors to be elected has been so elected.

46/ A Director elected under Article clause 25 shall hold office for a period of three years unless he earlier resigns, becomes disqualified for being a Director or otherwise ceases to hold office.

47/ Any casual vacancy occurring among the Directors may be filled up by the Directors and the person so appointed shall hold office for the remainder of the term of the Directors in whose place he is appointed.

48. Subject to the provisions of Section 181 of the Companies Ordinance, 1984, the Company may by Resolution in General Meeting remove a Director appointed under Articles clauses 44, 45 and 47 hereof.

49. A Director may retire from office upon giving one month's notice in writing to the Company of his intention to do so and such resignation shall take effect upon the expiry of such notice or its earlier acceptance.

50. On the date of the first Annual General Meeting of the Company, all Directors of the Company for the time being who are subject to election, shall stand retired from office and thereafter all such Directors shall retire on the expiry of the terms laid in Article clause 456.

51. The Company may, in the manner mentioned in Section 181 of the Companies Ordinance, 1984, remove any Director before the expiration of his period of office and appoint a duly qualified person in his place. The person so appointed shall hold office during such time only as the Director in whose place he appointed would have held the same if he had to been removed.

52. Each Directors shall have power to nominate any person to act as an alternate Director in his place during his absence for a period of not less than three months from Pakistan and at his discretion to revoke such nomination, and on such appointment being made, each Alternate Directors while so acting shall exercise and discharge all the functions, power and duties and undertake all the liabilities and obligations of the Directors he represents. A nomination as an alternate director shall ipso facto be revoked if the appointer returns to Pakistan or ceases for any reason to be Director.

53. To Directors may also sanction the payment of such additional sums as they may think fit to any Director for any special service, he may render to the Company or be thought capable of rendering subject to approval of shareholders in the general meeting.

54. The Directors who reside out of station shall all be entitled to be paid such travelling and other expenses as may be fixed by the Directors from time to time.

55. Every Directors other than regular paid Chief Executive and full time working Director shall be paid a fee not exceeding Rs. 500/- for attending a board meeting as may be approved by the directors subject to the conditions provided in law.

56. The qualification of a Director who must be a member of the Company shall be the holding of shares of the face value of Rs. 5,000/- in the Company in his own name and right.

57. Subject to the provisions of the Companies Ordinance, 1984. A Director is entitled to contract with the Company, either as vendor, purchaser, agent, broker or otherwise and he will not be disqualified from his office on this account, nor any such contract be voided and any profit thus made by the Director shall be his private property not to be required by the Company to account for the same. But no such Director shall be allowed to vote with regard to that contract at any meeting in which such contract is considered and decided and if he votes, his vote shall in no case be counted.

58. Notwithstanding anything contained in the Articles of Association of the Company during the currency of a loan advanced by a lending institution specially set up by the Government it will have the right to appoint its nominee on the Board of Directors of the Company and such a nominated director will not be required to hold any qualifications shares. The lending institution shall have the power from time to time to replace the directors so nominated. Any such nominated director will not be liable to removal as long as any loan from such institution subsists, without the approval of the lending institution.

### PROCEEDINGS OF DIRECTORS

59. The directors may meet together for the dispatch of business, adjourn and otherwise regulate their meetings, as they think fit. Questions arising at any meeting shall be decided by a majority of vote. In case of an equality of votes, the chairman shall have and exercise a second or casting vote. A director may and the secretary if any, on the requisition of a director shall, at any time, summon a meeting of directors. It shall not be necessary to give notice of a meeting of directors to any director for the time being absent from Pakistan.

60. The directors may elect a chairman their meeting and determine the period for which he is to hold office; but, if no such chairman is elected, or if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the directors present may choose one of their number to be chairman of the meeting.

61. The Directors may delegate any of their powers not required to be exercised in their meeting to committees consisting of such member or members of their body as they think fit; any committee so formed shall, in the exercise of the powers so delegated, conform to any restrictions that may be imposed on them by the directors.

62. (1) A committee may elect a chairman of its meetings; but if no such chairman is elected, or if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the members present may choose one of their number to be chairman of the meeting.

(2) A committee may meeting and adjourn as it thinks proper. Questions arising at any meeting shall be determine by a majority of votes of the members present. In case of an equality of votes, the chairman shall have and exercise a second or casting vote.

63. All acts done by any meeting of the directors or of a committee of directors, or by any person acting as a director, shall, notwithstanding that if be afterwards discovered that there was some defect in the appointment of any such directors or persons acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a director.

64. A resolution in writing signed by all the directors for the time being entitled to receive notice of a meeting of the directors shall be as valid and effectual as if it had been passed at a meeting of the directors duly convened and held.

## MANAGEMENT

65. The business of the Company shall be managed by the Directors, who may pay all expenses incurred in getting up and registering the Company and may exercise all such powers of the Company as are not, by the Companies Ordinance, 1984, or any statutory modification thereof for the time being in force, or by these Articles, required to be exercised by the Company in General Meetings, subject nevertheless to any regulation of these Articles, or to the provisions of the said Ordinance and to such regulations being not inconsistent with the aforesaid provisions, as may be prescribed by the Company in General Meeting; but no regulation made by the Company in General Meeting shall invalidate any prior act of the Directors who would have been valid if that regulation had not been made.

66. Subject to the provisions of Section 196 of the Companies Ordinance, 1984, the Board of Directors shall be responsible for the direction and management of the business and shall control all books, papers and effects. The Board may from time to time constitute any committee or committees comprising of one or more Directors to perform such of the following, power duties and functions which are not required to be exercised by the Directors in their meeting.

67. Without prejudice to the general powers conferred by the last preceding articles and the other powers conferred by these presents, it is hereby expressly declared that the Directors shall have the following powers, that is to say, powers:

- (a) To pay the cost, charges and expenses, preliminary and incidental to the promotion, establishment and registration of the Company.
- (b) To take on lease, purchase or otherwise acquire for the Company any property, rights or privileges which the Company is authorized to acquire at such price and generally on such terms and conditions as they may think it.



- (c) To appoint any person or persons to hold in trust for the Company any property, belonging to the Company or in which it is interested or for any other purpose and execute and do all such instruments and things as may be requisite in relation to any such trust.
- (d) To let, mortgage, sell, exchange or otherwise dispose of absolutely or conditionally all or any part of the property, privileges and undertaking of the Company upon such terms and conditions and for such consideration as they may think fit.
- (e) To buy or procure the supply of the plant, machinery, materials, stock-in-trade, stores, fuel, implements, immoveable and other moveable property required for the purpose of the Company.
- (f) To sell deal in and dispose of all articles and goods manufactured by the Company.
- (g) To engage, fix and pay the remuneration of and dismiss or discharge all managers, agents, secretaries clerks, servants, workmen and other persons employed in, or in connection with the Company's business after observing usual formalities.
- (h) To appoint any person or persons to be attorney or attorneys of the Company for such purposes and with such powers, authorities and discretions and for such period and subject to such condition, as they may from time to time think fit.
- (i) To enter into, carry out, rescind or vary all financial arrangements with any banks, persons or corporations for or in connection with such arrangements to deposit, pledge or hypothecate property of the Company or the documents representing or relating to the same.
- (j) To make and give receipts, releases and other discharges for money payable to the Company and for the claims and demands of the Company.
- (k) For and on behalf of the Company to draw, accept, endorse and negotiate all such cheques, bills of exchange, bills of lading, promissory notes, hundies, drafts, Government and other securities as shall be necessary in or for carrying on the affairs of the Company.
- (l) To compound and allow time to the payment or satisfaction of any debts due to or by the Company and any claims and demands by or against the Company and to refer any claims or demands by or against the Company to arbitration and observe and perform the award.

- (m) ☒ To institute, prosecute, compromise, withdraw or abandon any legal proceedings by or against the Company or its officers or otherwise concerning the affairs of the Company.
- (n) ☒ To invest and deal with any of the moneys of the Company not immediately required for the purposes thereof upon such securities or investments and in such manner as they may think fit and from time to time to vary or realize such securities and investments.
- (o) ☒ To enter into such negotiations and contracts and rescind or vary all such contracts and execute and do all such acts, deeds and things in the name and on behalf of the Company as they may consider expedient for or in relation to any of the matters aforesaid or otherwise for the purposes of the Company.
- (p) ☒ To pay for any property or rights acquired by or services rendered to the Company or the premiums payable in respect of any leases take by the Company either wholly or partially in cash or in shares, bonds, debenture, or other securities of the Company and any such shares to be issued either as fully paid up as may be agreed upon and any such bonds, debentures or securities to be either specially charged upon all or any part of the property of the Company.
- (q) ☒ From time to time to make, vary and repeal bye-laws for the regulations of the business of the Company, its officers and servants.
- (r) ☒ To give to any officer or other person employed by the Company, a commission on the profits of any particular business or transaction and such commission shall be treated as part of the working expenses of the Company.
- (s) ☒ To provide funds for the welfare of employees or ex-employees of the Company, and the wives, widows or families or the dependents of such persons in such manner as they think fit.
- (t) ☒ To raise and borrow money from time to time for the purposes of the Company on the mortgage of its property or any part thereof and including any part of the capital of the Company uncalled and either on any bond or debenture payable to bearer on interest and payables in such manner and generally upon such terms as they think fit.
- (u) ☒ To delegate any of these powers to any person, agent or manager as they think fit.

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- (v) To open current accounts or letters of credit, of any amount with any bank or banks and to give instructions for operation of such accounts.
- (w) Before reckoning any dividend, to set aside out of the profits of the Company, such sums as they may think proper for depreciation or special funds or reserves to meet contingencies.
- (x) To appear before any civil, criminal, revenue, excise, income-tax and other authorities for and on behalf of the Company and to sign any statement and documents on behalf of the Company and to sign Mukhtarnamas, etc., on behalf of the Company in favour of any person to represent, defend and safeguard the interest of the Company.

### CHIEF EXECUTIVE

68. Subject to the provision of Sections 198, 199, 200 and 201 of the Companies Ordinance, 1984, the Directors may from time to time appoint one of their body to be the Chief Executive of the Company on such terms and conditions as may be approved by them.

69. The First Chief Executive of the Company shall be appointed according to the Companies Ordinance, 1984.

70. The remuneration of Chief Executive shall be determined by the Board of Directors in accordance with the conditions laid down in law.

71. The Chief Executive shall, subject to the control and supervision the Board of Directors, have the powers to the engagement and dismissal of managers, engineers, assistants, clerks, employees and labourers and shall have power and control over the management of the business of the Company with full power to do all acts, matters, and things deemed necessary, proper or expedient for carrying on the business and concerns of the Company including the power to make and sign all contracts and to draw, sign, accept, endorse and negotiate on behalf of the Company all bills of exchange promissory notes, hundies cheques, drafts and Government securities and other instruments. All moneys belonging to the Company shall be paid to such bankers as the Directors shall deem expedient and all receipt for money paid to the Company shall be signed by the Chief Executive, whose receipt shall be an effectual discharge for the money stated therein to have been received. The Chief Executive may delegate all or some of his powers to any other directors, managers, agents, or other persons, as he may think fit, and shall have power to grant to any such persons such powers of attorneys as he may deem expedient and such powers at pleasure to revoke.

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**BORROWING POWER**

72. (a) The Directors may from time to time raise or borrow any sums of money for and on behalf of the Company from the members or other persons; companies, or banks or they may themselves advance money to the Company upon such terms and conditions as they may approve from time to time.
- (b) The Directors may from time to time secure the payment of such money in such manner and upon such terms and conditions in all respects as they may think fit and in particular by then issue of debentures or bonds of the Company or by mortgage or charge of all or any part of the property of the Company.
- (c) Debentures, debenture stock, bond or other securities may be issued with any special privileges as the redemption, surrender, allotment of shares and appointment of Directors or other privileges subject to Section 114 of the Companies Ordinance.

**DIVIDENDS AND RESERVES**

73. The Company in general meeting may declare dividends but no dividend shall exceed the amount recommended by the Directors.

74. The directors may from time to time pay to the members such interim dividends as appear to the directors to be justified by the profits of the Company.

75. No dividends shall be paid otherwise than out of profits of the year of any other undistributed profits.

76. Subject to the rights of persons (if any) entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid on the shares, but if, and so long as nothing is paid upon any of the shares in the Company dividends may be declared and paid according to the amounts of the shares.

77. (1) The directors may, before recommending any dividend, set aside out of the profits of the Company such sums as they think proper as reserve or reserves which shall, at the discretion of the directors, be applicable for meeting contingencies, or for equalizing dividends, or for any other purpose to which the profits of the Company may be properly applied, and pending such application may at the like discretion, either be employed in the business of company or invested in such investments (other than shares of the Company) as the directors may, subject to the provisions of the Ordinance, from time to time think fit.

(2) The directors may carry forward any profits which may think prudent not to distribute, without setting them aside as a reserve.

78. if several persons are registered as joint-holders of any share, any one of them may give effectual receipt for any dividend payable on the share.

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79. Notice of any dividend that may have declared shall be given to the person entitled to share in the manner provided by the Ordinance.

80. The dividend shall be paid within the period laid down in the Ordinance.

### ACCOUNTS

81. The Directors shall cause to be kept proper books of accounts as required by section 230 of the Ordinance with respect to:-

- a. All sums of money received and expended by the Company and the matter in respect of which the receipts and expenditure takes place;
- b. All sales and purchases of goods by the Company;
- c. All assets of the Company;

82. The books of accounts shall be kept at the registered office of the Company or at such other place as the directors shall think fit and shall be open to inspection by the Directors during business hours.

83. The Directors shall from time to time determine whether and to what extent and at what times and places and under what conditions or regulations the accounts and books of the Company or any of them shall be open to the inspection of members and no member shall have any rights of inspecting any account or books, or document of the Company except as conferred by law and authorised by the Directors or by the Company in general meeting.

84. The Directors shall as required by Section 233 and 236 of the Companies Ordinance cause to be prepared and to be laid before the Company in general meeting such profit and loss account or income and expenditure account, balance sheet duly audited and reports as are referred to in those sections.

85. A balance sheet profit and loss account income and expenditure account and other reports referred to above shall be made out in every year and laid before the Company in the annual general meeting made up to a date not more than four months before such meeting. A balance sheet and profit and loss account or income and expenditure account shall be accompanied by a report of the auditors of the Company and the report of directors.

86. A copy of the balance sheet and profit and loss account or income and expenditure account and reports of directors and auditors shall, at least twenty-one days preceding the meeting, be sent to the persons entitled to receive notices of general meeting in the manner in which notices are to be given hereunder.

87. The directors shall in all respect comply with the provisions of section 230 to 236.

## AUDIT

88. First Auditors of the Company shall be appointed by the Directors within 60 days of the date of incorporation of the Company who shall hold office uptill the first Annual General Meeting. The remuneration of the first Auditors shall be determined by the Directors and that of the subsequent Auditors shall be determined by the Company in the General Meeting.

## NOTICES

89. (1) A notices may be given by the Company to any member either personally or by sending it by post at his registered address or (if he has no registered address in Pakistan) to the address, if any, within Pakistan supplied by him to the Company for the giving of Notices to him.

(2) Where a Notices is sent by post, service of the Notice shall be deemed to be effected by properly addressing, prepaying and posting a letter containing the Notice, unless the contrary is proved, to have been effected at the time at which the letter would be delivered in the ordinary course of post.

90. If a member has no registered address in Pakistan, and has not supplied to the Company an address within Pakistan for the giving of Notices to him, a Notice addressed to him or to the shareholders generally and advertised in a newspaper circulating in the neighbourhood of the Registered Office of the Company shall be deemed to be duly given to him on the day on which the advertisement appears.

91. A Notice may be given by the Company to the joint-holders of a share by giving the Notice to the joint-holder named first in the register in respect of shares.

92. A Notice may be given by the Company to the persons entitled to a share in consequence of the death or insolvency of a member by sending it through the post in a prepaid letter addressed to them by name, or by the title of representatives of the deceased, or assignee of the insolvent or by any like description, at the address (if any) in Pakistan supplied for the purpose by the person claiming to be so entitled, or (until such an address has been so supplied) by giving the Notice in any manner in which the same might have been given if whether death or insolvency had not occurred.

93. Notice of every General Meeting shall be given in same manner herein-before authorised to (a) every member of the Company except those members who having no registered address within, Pakistan, have not supplied to the Company an address within Pakistan for the giving of Notice to them, and also (b) every person entitled to a share in consequence of the death or insolvency of a member, who but for his death or insolvency would be entitled to receive the Notice of the Meeting and (c) to the Auditors of the Company for the time being.

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**SEAL**

94. The Company shall have a common Seal and the Directors shall provide for the safe custody thereof. The Seal shall not be applied to any instrument except by the authority of a Resolution of the Directors or by a Committee of Directors authorised in this behalf by them from time to time and in presence of at least two Directors or such other persons as the Directors may appoint for the purpose, and those two directors or any other person, shall sign every instrument to which the Seal is affixed such signatures shall be conclusive evidence of the fact that the Seal has been properly affixed.

95. (1) If the Company is wound up, the liquidator may, with the sanction of a Special Resolution of the Company and any other sanction required by the Ordinance, divide amongst the members, in specie or kind, the whole or any part of the assets of the Company, whether they consist of property of the same kind or not.

(2) For the purpose aforesaid the liquidator may set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members.

(3) The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trusts for the benefit of the contributories as the liquidator, with the like sanction, thinks fit, but so that no member shall be compelled to accept any shares or other securities whereon there is any liability.

**INDEMNITY**

96. Every Officer or Agent for the time being of the Company may be indemnified out of the assets of the Company against any liability incurred by him in defending any proceedings, whether civil or criminal arising out of his dealings in relation to the affairs of the Company, except those brought by the Company against him, in which judgement is given in his favour or in which he is acquitted, or in connection with any application under Section 488 in which relief is granted to him by the Court.

**ARBITRATION**

97. (1) The Company may by written agreement refer to Arbitration, in accordance with Arbitration Act, 1940 (X of 1940), an existing or future difference between itself and any other Company or person.

(2) Companies, parties to the arbitration, may delegate to the Arbitrator power to settle any term or to determine any matter capable of being lawfully settled or determined.

(3) The provisions of the Arbitration Act, 1940 (X of 1940), shall apply to all arbitration between the Company and persons in pursuance of this Ordinance.



## MISCELLANEOUS

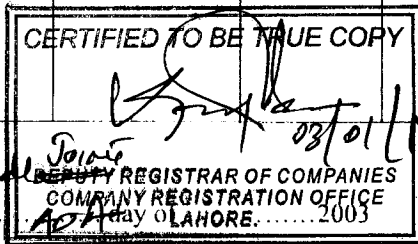
98/ Subject to the provisions of the Companies Ordinance, 1984, no shareholder or other person shall be entitled to enter the property of the Company or to inspect or examine the Company, premises or the books of accounts of the Company without the permission of the Directors of the Company for the time being, or to require discovery of any information respecting any detail of the Company's trading or matter which is or may be in the nature of the trade secret, mystery of trade or secret process or of any matter whatsoever which relates to the conduct of the business of the Company and which in the opinion of the Directors would be inexpedient in the interest of the Company to communicate.

99/ Copies of the Memorandum and Article of Association of the Company shall be available to the members of the Company on payment of Rs. 5/- but the Directors shall have their option to distribute or to issue such copies free of charge to such persons as they may think fit.



We the several persons, whose names and addresses are subscribed below, are desirous of being formed into a Company, in pursuance of this Articles of Association, and we respectively agree to take the number of shares in the Capital of the Company as set opposite to our respective names.

| Sl#                                     | Name and Surname<br>(Present and Former)<br>in Full<br>(in Block Letters) | Father's/ Husband's<br>Name in Full | Nationality<br>with any<br>Former<br>Nationality | Occupation               | Residential<br>Address<br>(in Full) | Number of<br>Shares<br>Taken by<br>Each<br>Subscriber | Signature |
|---|---|-------------------------------------|--|--------------------------|-------------------------------------|---|-----------|
| 1                                       | <b>ABDUL ALEEM KHAN</b>   | Abdul Rahim Khan                    | Pakistani  | Construction<br>Business | 421-X, Defence,<br>Lahore           | 1,000<br>One<br>Thousand                              |           |
| 2                                       | <b>MRS. NASEEM KHAN</b>   | Abdul Aleem Khan                    | Pakistani  | House Hold               | 421-X, Defence,<br>Lahore           | 1,000<br>One<br>Thousand                              |           |
| <b>Total Number of<br/>Shares Taken</b> |   |                                     |  |                          |                                     | <b>2,000<br/>Two<br/>Thousand<br/>only</b>            |           |



Dated this .....

Witness to the above Signatures:

Full Name: HASSAN UD DIN ANSARI

Father's/Husband's

Full Name: HAJI KHUDA BAKHSH

Signature \_\_\_\_\_

Nationality : Pakistani

Occupation: Service

Full Address: #352-N, Samanabad,  
Lahore

# Vision Group

Vision Group is striving for excellence by being a market leader. We create luxurious living through our various construction initiatives and contribute to the urban landscapes of cosmopolitan cities. Our elegant aesthetics and modern functionality, makes for a convenient and comfortable living.

## **PROJECTS OF VISION GROUP**

### **PARK VIEW VILLAS**

**Starting 2007**

- When it comes to construction industry, the Vision Builders (PVT) has proved its skills, excellence and dependability time and again. It remains committed to strengthen its resources and abilities through continuous learning and innovation. This is why each one of the Groups project is better than the previous one. Vision Group believes in creating sustainable, safe and integrated communities for its customers. The Group only invests in highest design standards, quality, materials and approaches that are approved by the Environmental Protection Agency of Pakistan

### **PARK VIEW VILLAS (MULTAN ROAD-LAHORE)**

**Starting 2002**

- The developers of Park View Society that houses 4500 families in a well-equipped society of 7000 Kanals, have now come up with the project of Park View Villas. Our teams of experienced consultants and engineers have enabled us to present affordable villas in various sizes and designs. Park View Villas is an accomplished state of the art society, with a Community Center, Commercial Area, Health Club, Mosque, Security cameras/surveillance along with a well-built protective boundary wall.

Located in Lahore, it is on main Multan Road and right opposite to DHA EME Sector. It is accessible from all parts of the city:

- 1- 3 km from Thokar Niaz Baig Fly Over.
- 2- Signal-less approach from Canal road.
- 3- 2 km from Lahore Motorway.

Registered with Lahore Development Authority, Park View Villas at River Edge Housing Scheme comprises of residential plots of 4 Marla, 5-Marla, 8 Marla 10-Marla and 1-Kanal

### **PARK VIEW APARTMENTS (GULBERG-LAHORE)**

- Transforming the heart of Lahore into the most desirable living spot. Bustling with dynamism and exuberance, Park View Apartments is where the road to luxury living begins. Located just off the Liberty Market Lahore, at the epicenter of extravaganza, 'Park View Apartments' is truly perched for future living. Park View Apartments is a new benchmark for the city's elite that has emerged as the most desirable place in Lahore."

## **PARK VIEW APARTMENTS (GULBERG-LAHORE)**

January 2015

- Within the hustle and bustle of the Gulberg Area, Park View Apartments is perfect for those who want to settle in the heart of a city. A fully equipped building that facilitates you in all ways. A classic foyer with reception and waiting area welcomes you when you step in the building. The apartment building houses its own trendy spa and beauty salon where you can treat yourself. The gym is well equipped and has lockers and changing rooms. We make sure that you live luxuriously and that is why we have a swimming pool exclusively for the residents. The Executive Lounge Sitting is also created for our esteemed residents. The building is also accessible through capsule lifts and stairs. It has:

1 Floor for Penthouses: 05 Units 2 Bedroom Apartments: 24 Units

1 Bedroom Apartments: 22 Units 3 Bedroom Apartments: 11 Units

Park View Apartments at 18 D-1 have exclusive basement car parking facility as well as a car wash area in basement 2. We also provide servant quarters for your domestic help

## **PARK VIEW CORPORATE CENTER (MALL ROAD-LAHORE)**

February 2015

- A custom designed office structure including facilities, amenities and services imposing luxury. Corporate Center provides you with an elegant office place with carefully designed facilities keeping in mind all the needs of a corporate worker including waiting area, capsule lifts and parking area. The natural light inducing design of the building provides you with an office space that is different from other offices and the enchanted outdoor ambiance adds to the overall look of the building. Modern day privileges like gym, kitchen and dining room allows you to blow off steam after a hectic working day. Corporate Center provides you with a luxurious and well equipped office space up scaling your working life.

## **Apna Ghar Project**

February 2011

- In February 2011, the Foundation established an orphan house for female children of destitute families, in Lahore, under the name APNA GHAR.

Thereafter, the project has been expanded from one Apna Ghar in 2011 to three Apna Ghars in 2013.

The Apna Ghars are housed in spacious villas located in secure and posh locality of Lahore cantonment.

The project started with 9 children in 2011. At present there are 38 children in Apna Ghar-1 and 40 children in Apna Ghar-2. Apna Ghar-3 is in the process of being furnished. The Apna Ghars have been equipped with air-conditioned boarding rooms, TV Lounge, Computer Lab, good kitchen, healthy potable water, generator set to cater for electricity load shedding, and, have spacious lawns with slides and swings for the children to play with.

Boarding, lodging, food, clothing, books / stationery for school, female maids, administrative support staff, and Security of APNA GHAR, besides schooling in excellent schools including pick/drop, are all provided by APNA GHAR free of cost. (Updated on 25 April 2013)

## **The National School**

- "He who opens a school door, closes a prison" –Victor Hugo  
Welcome, all the parents and the students of The National School Ained Education!  
Believe in practicing equality, I have established this school to ensure access to quality education narrowing the gap between the elite and government schools of Pakistan. "The right to education is not an end to itself but an important tool in improving the quality of life." With this perspective, "The National

School Aided Education” came into being two years ago,.

The sub-continent was noted all over the world as a glorious center of education and culture where students from all parts of globe used to pour in. It was an ideal system of education which apart from disseminating light, infused into the minds of students, a spiritual urge for coming in contact with these educational institutions. But now it is asserted with great regret that our educational system is steadily falling. The discrimination among various classes of our society has its visible reflection on our education system which consequently continues to serve to train children for future occupations according to the opportunities their specific class offers. This disparity can be resolved if emphasis be laid on meaningful quality education, accessible to all and suggests reforms that would allow contribution towards equality in rights and opportunities for more sustainable future of our nation.

Education for me is the overall development of a child, his/her moral and cultural growth so he/she becomes a beneficial citizen of the world. My aim is to bring such reforms in the overall education system that hold promising institutions producing committed citizens making healthier communities and a better world

### **Abdul Aleem Khan Foundation**

Starting 2002

- Abdul Aleem Khan Foundation is a progressive and dynamic non-profit organization which is leading the way in humanitarian assistance and poverty alleviation by providing viable financial support to those in need, in the forms of shelter, education, health care and disaster relief. The Foundation envisages that all human beings, of any color, creed, religion, or community across the globe, deserve to live honorable lives. We, therefore, also provide care and support services for special children particularly girls. Mr. Abdul Aleem Khan, a businessman turned politician, is the Chairman and Founder of this Foundation. The developers of Park View Society that houses 4500 families in a well-equipped society of 7000 Kanals, have now come up with the project of Park View Villas. Our teams of experienced consultants and engineers have enabled us to present affordable villas in various sizes and designs. Park View Villas is an accomplished state of the art society, with a Community Center, Commercial Area, Health Club, Mosque, Security cameras/surveillance along with a well-built protective boundary wall.

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### **Health Care Activities:**

- **Health Care Activity at Shaukat Khanum Cancer Hospital**

We have sponsored the construction of Four patient's rooms with eight beds on Third Floor of Shaukat Khanum Cancer Hospital, Lahore at a cost of PKR 10 million. In recognition of the donation made to them, Shaukat Khanum Hospital has named the Third Floor of the patient's ward as ABDUL RAHIM KHAN FLOOR (on the name of Mr. Abdul Aleem Khan's father). Further, a sum of PKR 20 million has also been donated to the same Hospital for treatment of poor patients who are unable to afford their treatment.

- **Work with Ghurki Trust Teaching Hospital, Lahore**

The foundation is helping many poor people in getting medical treatment through Ghurki Trust Teaching Hospital, Lahore.

- **Shalamar Hospital Lahore**

The foundation donated One Mercedes Benz Ambulance Vehicle to Shalamar Hospital, Lahore.

- **Rajana Hospital**

A Hospital in Rajana (near Toba Tek Singh) operating under Pakistan International Foundation has been given PKR 55,20,000 donation

- **Donation to Sughra Shafi Hospital**

The foundation has also made handsome donation to Sughra Shafi Hospital at Narowal, which is operating under the patronage of SAHARA FOR LIFE TRUST.

- **Anmol Hospital Lahore**

The foundation has provided 500kva generator to Anmol hospital Lahore in February 2014.

## **Educational Activities:**

- Abdul Aleem Khan Foundation work with NAMAL
- Co-operation with NAMAL the foundation has Donated Mrs. Naseem Khan Computer Laboratory containing more than 40 branded computers and their allied accessories, to Mr. Imran Khan's Engineering College at a remote village NAMAL near Mianwali.
- Rising Sun Institute
- Abdul Aleem Khan Foundation taking care of Rising Sun Institute for the mentally retarded children, located in XX Block, D.H.A Lahore. The foundation has also made major contribution in up-grading various laboratories of the institute.
- The Rising Sun - Mughalpura Chapter
- Abdul Aleem Khan Foundation has been for the past many years, have been associated with The Rising Sun, an institute for Special Children, keeping in mind the need of such an institute in the old city of Lahore, The Rising Sun has extended its campus to Mughalpura, for which land and a purpose-built building was required by the management of the institute. AAK Foundation has provided funding for acquiring the land and developing a purpose-built building for the Project. The project is in progress and shall be completed this year.
- Work with FRESH Foundation for Rehabilitation & Education of Special Children (FRESH) We are fully sponsoring 30 children in Foundation for Rehabilitation & Education of Special Children (FRESH)

## **Social Welfare**

- **Earthquake of Year 2005**

A severe earthquake in the year 2005 caused colossal damage to life and property in upper parts of Pakistan, especially in Khyber Pakhtunkhwa (KP), and in Azad Kashmir. We sent over 50 trucks load of relief goods, worth about PKR 8 million, containing food stuff, medicines, quilts, blankets, warm clothing and tent age, for the affected people of Bala Kot area of KP, and Bagh and surrounding areas of Azad Jammu and Kashmir.

- **Floods of Year 2010**

During the devastating Floods of mid-year 2010, we again participated in the relief activity in a big way. Mr. Abdul Aleem Khan not only made significant donation to Punjab Chief Minister's Fund for Relief & Rehabilitation of the flood victims, but, the foundation also sent almost 50 trucks load of relief goods, worth about PKR 12 million, containing food stuff, medicines, potable water, quilts, and clothing to far flung areas of SWAT, Mardan, Nowshera, Muzafargarh and Taunsa Barrage. In the same context, the AAK Foundation also made donations to Rotary Club of Lahore and few other welfare organizations.

- **Ramadan Package**

Abdul Aleem Khan Foundation announced Ramadan Package for the needy and poor.

## **Upcoming Projects of Vision Group**

- **Park View City Housing Islamabad**

Approved by CDA, this project is located on an eye-catching location near Rawal Dam Islamabad. A mesmerizing scenic area over the hills and a unique one of its kind beautiful project, the City Housing Scheme is valued and treasured by those who carry an eye for the finer things.

- **55-C II Residential Lahore**

An extravaganza filled with luxury and class. 55-C II can be termed as the "Tower 2 Project" of Park View Apartments. It is to provide a one window solution for convenient living. Equipped with the best amenities, 55-C II is also destined to pave ways of success in the real estate industry of Pakistan.

- **Corporate Office Mall Road Lahore**

A Vision Group corporate office property delivers client-focused data center solutions to meet the strategic and operational requirements of our customers, especially those seeking secure environments. Our customers trust us because of our strong technical experience and operational skills, backed by the resources of an established, well capitalized real estate investment trust.

- **Park View Corporate Center, II Chandigarh Road Karachi.**

Convenience and magnificence come together at the Park View Corporate Center Karachi, which sits in the hub of Karachi's business district. With numerous meeting spaces, stylish guest rooms, wide range of shopping opportunities, spa, and a top-notch cuisine spot, Vision Group is setting up new heights for your business travel experiences in Karachi.

**VISION DEVELOPERS (PRIVATE) LIMITED**

**POWER GENERATION PROJECT**

For

***RIVER EDGE HOUSING SCHEME / PARK VIEW VILLAS***

**(Project Feasibility Report)**

**Gross Capacity 8328 kW**

**Net Capacity 7495.20 kW**

Prepared By:

**Khalid Mahmood Baig**

Consultant / Advocate High Court

**Fescon (Pvt.) Ltd**

2<sup>nd</sup> Floor, Sheraz Plaza, 13-Fane Road, Lahore Cell # 0322-4001285



# **Power Generation Project**

**For**

## ***River Edge Housing Scheme / Park View Villas***

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### **2. Executive Summary**

### **3. Introduction**

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## **POWER GENERATION PROJECT**

For

### ***River Edge Housing Scheme / Park View Villas***

#### **1. PREFACE**

Vision Developers (Private) Limited is the sponsor of River Edge Housing Scheme and Park View Villas located at 3-km Thokar Niaz Baig, Multan Road, Lahore. Electricity is one of the basic amenities to be provided to the residents of a housing scheme. The sponsors of the housing scheme have also promised to customers who have purchased plots in the housing scheme to provide them all the basic amenities including electricity facility. Initially the sponsors had planned to arrange electricity for the housing scheme from Lahore Electric Supply Company (LESCO) but now they have planned to provide the electricity facility in the housing scheme by generating electricity by their own means. The sponsor company is desirous to provide the best services to the residents of the housing scheme and for the purpose it would be appropriate that the facilities provided to the residents of the housing scheme to be managed and controlled by the sponsor company. The project of generation and distribution of electricity by the sponsors requires a huge financial investment but the sponsors have decided to invest their finances in this project to provide consumer satisfactory services the residents of the housing scheme to make their lives easier, hassle free and pleasurable.

## **2. EXECUTIVE SUMMERY**

River Edge Housing Scheme is duly approved by Lahore Development Authority (LDA) comprising of 765.75 Kanal area since 2006 and Park View Villas are the part of the housing scheme. The sponsors of the housing scheme have planned to extend the scheme further in future to the adjoining area. The initial approved lay out plan of the housing scheme is comprised of 992 residential and 197 commercial units besides the public places, waste water disposal and drinking water supply schemes. The sponsors have got sanctioned 1.3 MW load from LESCO for the initial blocks of the housing scheme and also got installed overhead distribution setup according to the WAPDA standards and the requirements of LESCO in the initial blocks but till now the same has not been energized by LESCO and the residents are being provided electricity through the installed distribution network with temporary arrangements managed and controlled by the sponsor company in coordination of LESCO and generation of electricity by diesel generators. The ultimate load of the currently approved area of the housing scheme is estimated to 03 MW and the load for the proposed extended area is estimated about 30 MW. Therefore, to meet the current requirements of the housing scheme the sponsors have planned to install diesel generators of capacity 08 MW at present and for future to meet the extended power requirements for the housing scheme to construct and install 132 kv Gird station and purchase power from WAPDA or DISCO or otherwise from other power generators. Presently the load of the consumers in

the housing scheme is about 1.5 to 02 MW. The sponsors have enough resources and capabilities to implement their plan successfully. The proposed power generation facility has gross generation capacity of 8328 kW (8.328 MW) while after excluding the auxiliary consumption of 832.8 kW the Net generation capacity of the facility has been calculated as 7495.20 kW. The generated electricity will be distributed in new developed blocks through underground distribution network while in the existing four blocks the power supply is being distributed through over head distribution network.

### **3. INTRODUCTION**

The sponsors' housing scheme is one of the best housing schemes of the area and the sponsors have full zeal and determination to provide best civic facilities of the residents of their housing scheme. Pakistan is currently facing a severe power crisis and long spells of load-shedding have become unbearable for them. Therefore, the sponsors have preferred to make efficient arrangements for the supply of electricity to the residents of the housing scheme duly managed and controlled by them. The proposed Power Generation Units are environment friendly and will be able to provide uninterrupted electricity supply to the residents of the housing scheme. Population in the housing scheme is growing gradually and with the correspondence growth of population the demand of electricity is also growing rapidly. Therefore, instant arrangements to

meet the supply requirements the sponsors have to take urgent measure to avoid any inconvenience to their valued customers.

#### **4. PROJECT PROFILE**

##### **4.1 Profile of the Company**

Vision Developers (Private) Limited is a private limited company incorporated under the Companies Ordinance, 1984. Vision Group is striving for excellence by being a market leader. We create luxurious living through our various construction initiatives and contribute to the urban landscapes of cosmopolitan cities. Our elegant aesthetics and modern functionality, makes for a convenient and comfortable living. The group has hired the services of renowned companies and consultants for the execution of its power generation and distribution projects. The company is one of the leading companies in land development and has sufficient resources for the proposed projects. Detail profile of the company is attached separately.

##### **4.2 Project Brief**

The power generation project for River Edge Housing Scheme / Park View Villas has been conceived by the sponsors of the housing scheme on the demand of the residents of the housing scheme. Basic purpose of the project is to facilitate the residents of the housing scheme in an efficient manner.

Initially the sponsors moved for the electrification of the housing scheme from supply from LESCO and submitted proposal to LESCO for the electrification of the housing scheme which was approved by the competent authorities and overhead distribution network has been constructed in the initial four blocks of the housing scheme while for the other blocks extended and developed later underground distribution network has been planned. The residents of the housing scheme are being fed with electricity from LESCO under temporary connections arrangements. The sponsors of the housing scheme has now planned to generate electricity through their own source to meet the requirement of electricity for the residents of new developed blocks of the housing scheme and to distribute electricity through their own arrangements. As per plan, a power generation facility of capacity about 08 MW will be set up using generator sets operated by diesel oil / HFO instantly while to meet the ultimate load of the housing scheme in future to construct a 132 kv grid station and purchase power from WAPDA or some power generator for its distribution to the residents through their own distribution network. Therefore, the sponsors are submitting applications to NEPRA for the grant of power generation as well as distribution licenses. According to the existing population of the housing scheme the power requirement at present is 1.5 to 02 MW which is increasing

gradually with the increase in population in the housing scheme.

#### **4.3 Location and Size**

The power generation facility would be located adjacent to the River Edge Housing Scheme situated at Multan Road, Lahore on an area of 32 Kanal approx. The gross installed generation capacity of the Facility will be 8328 kW (8.328 MW) while after excluding the auxiliary consumption of 832.8 kW the Net generation capacity of the facility has been calculated as 7495.20 kW. The power so generated will be distributed to the residents of the Housing Scheme. The sponsors have also planned to construct 132 kv grid station to meet the future power demand of the residents of the housing scheme. Detail technical feasibility report prepared by Unicity Engineering Industrial Process Solutions is attached separately.

#### **4.4 Need and Acceptability**

The shortage of the electricity and sudden shut downs of power has disturbed the life routine badly. The sponsors have provided a luxurious life style in the housing scheme and also determined to provide the residents of the housing scheme a proper electricity supply system for smooth and regular electric supply according to their demands. The sponsors have taken initiative of self generation of electricity on the demands of their customers who are ready to pay for the services.



Therefore, the sponsors have planned to make a huge investment for the facilitation of the consumers.

#### **4.5 Project Investment**

The total estimated project cost is estimated about 500 million rupees. The sponsors of the housing scheme will arrange whole financial requirements of the project. The sponsors of the housing scheme have sufficient financial resources to meet the capital requirements for the project.

#### **4.6 Technical Expertise/Assistance**

The power generation facility will be constructed, installed and commissioned by Unicity Engineering, a renowned industrial solutions provider company and the staff of the same company will be available to resolve technical issue if any. The power house staff will also be able to manage and look after the proper functioning of the power generators and their ancillary equipment.

#### **4.7 Human Resource Management**

The availability of the required human resources for the installation, operation and maintenance of the project is quite feasible. The project is a diesel / HFO operated Generators Power Generation Facility and the generated electricity will be distributed to the residents of the housing society in a small and limited area. The experts, engineers, technicians and other

technical workers are easily available in the local market. Therefore the project will not face any kind of problems regarding the technical and non-technical human resources for its installation, operation and maintenance. The details of the staff required for the operation and maintenance of the power generation unit are given below:

- a. Power House Manager (Electric Engineer)
- b. Dy. Manager (Electrical)
- c. Dy. Manager (Mechanical)
- d. Dy. Manager (Automation)
- e. Dy. Manager Commercial and Stores
- f. Lab Supervisor
- g. Technicians
- h. Electricians
- i. Operators
- j. Helpers
- k. Security guards

The staff at the power house will work in three shifts round the clock.

#### **4.8 Project Stakeholders**

The successful completion of the project requires the active contribution and coordination by the project stakeholders. Unicity Engineering, a renowned industrial solutions provider is leading the project who will execute the construction, installation and commissioning of the project while the other

key stakeholders include the sponsors of the housing scheme being the financial supporters and other technical experts providing services in the execution of the project besides the concerned government authorities and institutions including LESCO, NEPRA, EPA etc.

## **5. PROJECT TECHNICAL DETAILS AND CAPACITY**

### **5.1 Power Generation Facility Type and Description**

The power generation facility will be comprised of 06 Wartsila 9L20 Generators having multi fuel options operated mainly on diesel oil and will be able to use HFO as alternative fuel. The generator sets would be synchronized with each other through an automatic control system to maintain load.

### **5.2 Power Generation Facility Design and Drawings**

The power generation facility is designed by Unicity Engineering, a renowned industrial process solutions provider company. The design and drawings of the facility are attached.

### **5.3 Environment Protection**

The power generation facility has been designed keeping in view all necessary requirements for the environment protection. All necessary equipment will be installed and arrangements will be done to make the facility environment friendly. The generation units will be safe and will not disturb

the surrounding population in any way. Details of the environment protection plan are attached separately.

#### **5.4 Project Life**

The generation facility will use Diesel Generators; therefore, the life of the each generation unit is about 23 to 25 years with major over hauling after every 3 years.

### **6. FUEL AND SUPPLY ARRANGEMENTS**

#### **6.1 Main Fuel**

The proposed generation facility will mainly use Diesel Oil for its operation. Fuel in required quantity for the facility is easily available in the local market. The sponsors are already buying fuel from some suppliers for running of already installed power generators in the housing scheme.

#### **6.2 Alternative Fuel**

The proposed power generation facility will also be capable to be run on HFO. Therefore, HFO will be used as alternative fuel to run the facility in case of shortage or non-availability of the main fuel. However chances of non-availability or shortage of the main fuel are very rare.

#### **6.3 Fuel Supplies**

The main fuel of the power generation facility is diesel oil and the alternative fuel is HFO. The fuel for the generation facility

will be available easily from the local market and the sponsors will enter into fuel supply contracts with the fuel supply companies and their authorized dealers for the regular supply of the fuel at the project site according to the fuel requirements of the generation facility. Therefore, there would be no issue in regular fuel supply for the generation facility.

## **7. CONSTRUCTION AND INSTALLATION**

### **7.1 Construction, Supply and Installation**

A complete power house will be constructed with all the requisite facilities at the project site. Unicity Engineering, a renowned industrial process solution provider company will supply the generators for the generation facility. They will also be responsible for the designing, installation and commissioning of the generation facility. The sponsors have provided sufficient space for the proposed power house and have also arranged suitable road access for proper and necessary transportation of material and fuel etc. Besides the power generators they will also supply fuel storage tanks and other necessary equipment for the smooth operation of the generation facility. Detailed plan for the construction, installation and commissioning of the power house prepared by Unicity Engineering Industrial Process Solutions is attached separately.

## **7.2 Project Standards**

The construction and installation of the project has been planned, designed and committed according to the recognized industrial and professional standards. The sponsors are determined not to compromise in any way to maintain and meet the requisite standards for the construction, installation and commissioning of the proposed power house.

## **8. OPERATION AND MAINTENANCE**

### **8.1 Operational Setup**

The proposed power generation facility can easily managed and maintained as the most of the operation of the generation facility will be automatic. The requisite engineering and technical staff for the proper and efficient operation and maintenance is available locally. The sponsors have hired the services of expert and professionally trained staff for the operation and maintenance of the generation facility. In the circumstances there will be no problems in the management, operation and maintenance can be foreseen and if there would be some issues those too may be resolved easily in very short span of time.

### **8.2 Maintenance Setup**

The generation facility will not require too much maintenance and repair during its continuous operation. The operational

staff will be able to take care of its routine maintenance. However, the suppliers of the generator sets will also be available for the maintenance of the facility in case of any major issue. Spares for the maintenance are available locally and a reasonable stock to meet the urgent requirement will be maintained at the facility.

### **8.3 Technical Assistance**

The sponsors have hired the services of expert and properly trained engineering staff and subcontractors for the execution of the project. Services of Unicity Engineering, Industrial Process Solutions and Fescon Pvt. Ltd. have been hired for the proper and efficient execution of the project. The system and technology used in the generation facility is common and local engineers and technicians can operate and manage the same quite easily and efficiently. Therefore, technical assistance for the establishment, operation and maintenance of the proposed generation facility may comfortably be arranged and there are very rare chances for any kind of extraordinary problems.

## **9. SALES AND DISTRIBUTION**

### **9.1 Consumers**

All the residents of River Edge Housing Scheme / Park View Villas will be the consumers of the project. Total current

estimated demand for the residents of the existing part of the housing scheme has been assessed about 03 Mega Watt while the ultimate future extended load demand is estimated about 30 MW. The sponsors have planned to meet the ultimate electricity demand to construct and establish their own 132 kv Grid Station and to procure electricity from other power producers and suppliers. It is planned that when the 132 kv grid station will be installed and become operational the proposed generation facility will be used as a backup source of power supply.

## **9.2 Distribution Arrangements**

The sponsors of the housing scheme has set up a distribution net work within the premises of the housing scheme for the existing consumers and has planned to extend the distribution network to the whole existing approved area of the housing scheme and the future extension of the housing scheme. The electricity generated under the requested license will be distributed among the residents of the River Edge Housing Scheme / Park View Villas within the isolated premises of the housing scheme through the distribution network set up within the premises of the housing scheme by the sponsors of the housing scheme for the purpose. A separate application for the grant of Distribution License is being submitted to NEPRA by the sponsors for the purpose.



**10. Environment Protection**

The Environment Protection Plan and Feasibility Report are attached.

**11. Conclusion**

It is an admitted fact without any doubt that electricity is the basic need of life and without it activities of daily life cannot be done. People who have purchased properties and constructed houses, commercial concerns in the housing scheme would be unable to enjoy the benefits of their properties without electricity and similarly the electricity also a basic requirement for the proper management and utilization of public places and areas in the housing scheme as well. The proposal for generation of power to supply the same to the residents of the housing scheme through Diesel Generators to meet the current demand of electricity of the residents of the housing scheme which is very low at present is quite workable and feasible rather the same is essential to meet the requirements of the people currently residing in the housing scheme. As the sponsors have planned to construct and establish 132 kv grid station to meet the ultimate extended power requirement of the housing scheme in future therefore when the 132 kv grid station will be established and become operative the proposed generation facility will be useful as supportive as well as backup power supply. The sponsors of the housing scheme have enough financial and technical capacity to execute the whole proposed power supply generation and distribution project successfully. In the circumstances their application for grant of power generation license merits approval in the public interest and for the benefit of the consumers who are the residents of the housing scheme.

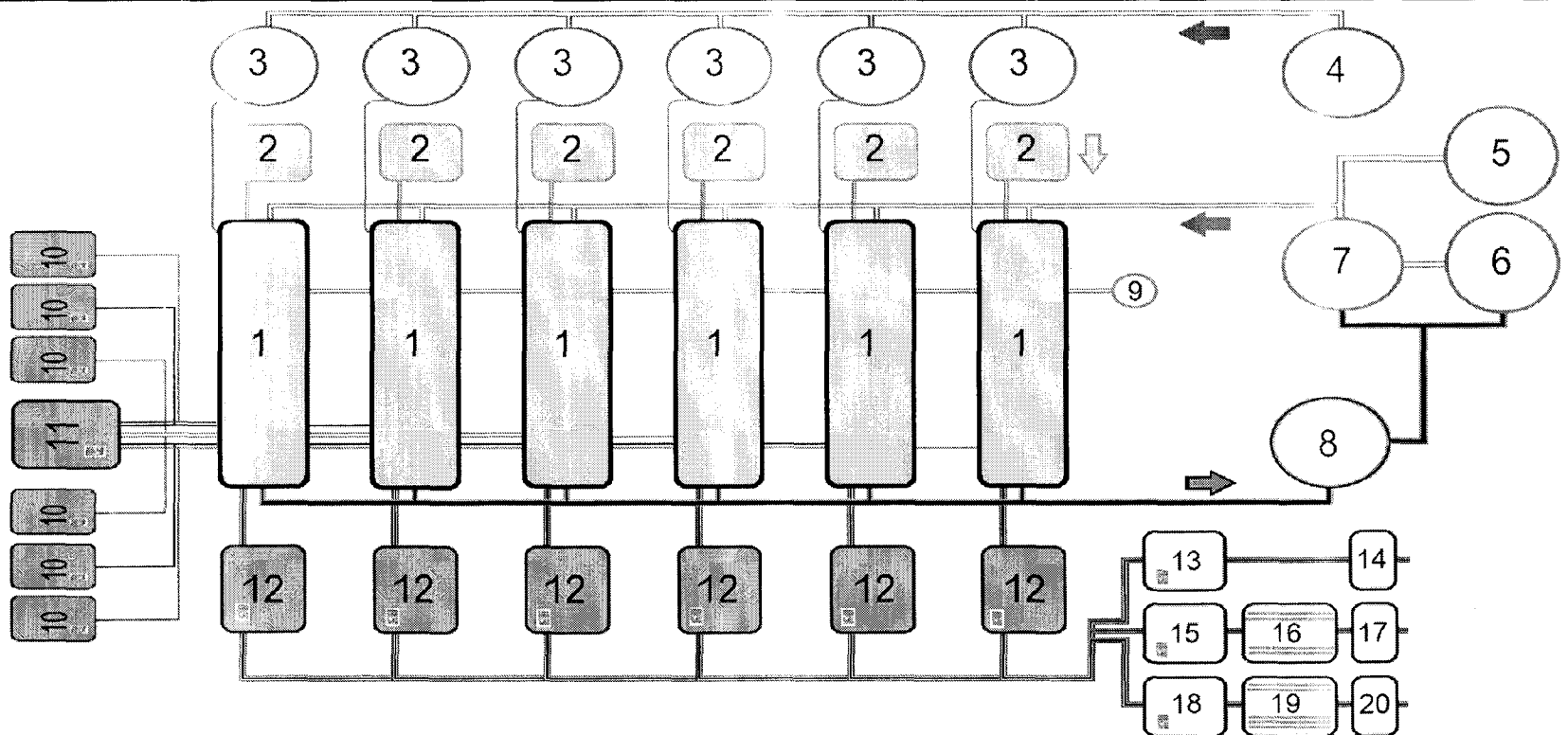
## CAPACITY CHART

| Gen Set               | Model           | Make    | Gross Capacity | Auxillary Consumption | Net Capacity |
|-----------------------|-----------------|---------|----------------|-----------------------|--------------|
| 1                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 2                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 3                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 4                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 5                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 6                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| Total Net Capacity kW |                 |         |                |                       | 7,495.20     |

### BASIC INFORMATION ABOUT WARTSILA 9L20 POWER GENERATOR

|  |                |
|--|----------------|
| Total Life of Each Power Generator                                 | 200,000 hours  |
| Major Over Hauling   | 24,000 hours   |
| Top End on   | 6,000 hours    |
| Routine Shut down time   | 720 hours      |
| Maintenance time required like oil change,<br>filter change etc.   | 12 hours       |
| Restart time for sudden shut down                                  | 30--60 minutes |
| <u>Derated Capacity :</u>  |                |
| 10 % on 6000 hours   |                |
| 20 % on 12,000 hours   |                |
| 30 % on 18,000 hours   |                |
| 40-- 50 % on 24,000 hours  |                |
| <u>Note: On Major Over Hauling Capacity Revives as per actual.</u> |                |

## OWER PLANT ELECTRICAL & MECHANICAL LAYOUT



## LAYOUT DETAILS

- |                                      |                                 |
|--------------------------------------|---------------------------------|
| 1 POWER GENERATOR                    | 11 SYNCHRONO SCOP PANEL         |
| 2 AIR PROCESSING UNIT                | 12 POWER INCOMING PANEL ( PIP ) |
| 3 COOLING TOWER                      | 13 AUXILARY PANEL               |
| 4 WATER FEEDING TANK                 | 14 AUXILARY ENERGY METER        |
| 5 DIESEL STORAGE & SERVING TANK      | 15 OUTGOING PANEL ( FEEDER 1 )  |
| 6 MAIN HFO STORAGE TANK              | 16 STEP UP TRANSFORMER 1        |
| 7 HFO FUEL SERVING TANK              | 17 OUTGOING ENERGY METER 1      |
| 8 HEAT RECOVERY BOILER               | 18 OUTGOING PANEL ( FEEDER 2 )  |
| 9 NEUTRAL GROUND RESISTANCE (N.G.R.) | 19 STEP UP TRANSFORMER 2        |
| 10 GENERATOR CONTROL PANEL ( GCP )   | 20 OUTGOING ENERGY METER 2      |

# **PROSPECTUS**

## ***River Edge Housing Scheme / Park View Villas***

### **POWER GENERATION PROJECT**

#### **1. PREFACE**

Vision Developers (Private) Limited is the sponsor of River Edge Housing Scheme and Park View Villas located at 3-km Thokar Niaz Baig, Multan Road, Lahore. Electricity is one of the basic amenities to be provided to the residents of a housing scheme. The sponsors of the housing scheme have also promised to customers who have purchased plots in the housing scheme to provide them all the basic amenities including electricity facility. Initially the sponsors had planned to arrange electricity for the housing scheme from Lahore Electric Supply Company (LESCO) but now they have planned to provide the electricity facility in the housing scheme by generating electricity by their own means. The sponsor company is desirous to provide the best services to the residents of the housing scheme and for the purpose it would be appropriate that the facilities provided to the residents of the housing scheme to be managed and controlled by the sponsor company. The project of generation and distribution of electricity by the sponsors requires a huge financial investment but the sponsors have decided to invest their finances in this project to provide consumer satisfactory services the residents of the housing scheme to make their lives easier, hassle free and pleasurable.

## **2. EXECUTIVE SUMMERY**

River Edge Housing Scheme is duly approved by Lahore Development Authority (LDA) comprising of 765.75 Kanal area since 2006 and Park View Villas are the part of the housing scheme. The sponsors of the housing scheme have planned to extend the scheme further in future to the adjoining area. The initial approved lay out plan of the housing scheme is comprised of 992 residential and 197 commercial units besides the public places, waste water disposal and drinking water supply schemes. The sponsors have got sanctioned 1.3 MW load from LESCO for the initial blocks of the housing scheme and also got installed overhead distribution setup according to the WAPDA standards and the requirements of LESCO in the initial blocks but till now the same has not been energized by LESCO and the residents are being provided electricity through the installed distribution network with temporary arrangements managed and controlled by the sponsor company in coordination of LESCO and generation of electricity by diesel generators. The ultimate load of the currently approved area of the housing scheme is estimated to 03 MW and the load for the proposed extended area is estimated about 30 MW. Therefore, to meet the current requirements of the housing scheme the sponsors have planned to install diesel generators of capacity 08 MW at present and for future to meet the extended power requirements for the housing scheme to construct and install 132 kv Gird station and purchase power from WAPDA or DISCO or otherwise from other power generators. Presently the load of the consumers in

the housing scheme is about 1.5 to 02 MW. The sponsors have enough resources and capabilities to implement their plan successfully. The proposed power generation facility has gross generation capacity of 8328 kW (8.328 MW) while after excluding the auxiliary consumption of 832.8 kW the Net generation capacity of the facility has been calculated as 7495.20 kW. The generated electricity will be distributed in new developed blocks through underground distribution network while in the existing four blocks the power supply is being distributed through over head distribution network.

### **3. INTRODUCTION**

The sponsors' housing scheme is one of the best housing schemes of the area and the sponsors have full zeal and determination to provide best civic facilities of the residents of their housing scheme. Pakistan is currently facing a severe power crisis and long spells of load-shedding have become unbearable for them. Therefore, the sponsors have preferred to make efficient arrangements for the supply of electricity to the residents of the housing scheme duly managed and controlled by them. The proposed Power Generation Units are environment friendly and will be able to provide uninterrupted electricity supply to the residents of the housing scheme. Population in the housing scheme is growing gradually and with the correspondence growth of population the demand of electricity is also growing rapidly. Therefore, instant arrangements to

meet the supply requirements the sponsors have to take urgent measure to avoid any inconvenience to their valued customers.

#### **4. PROJECT PROFILE**

##### **4.1 Profile of the Company**

Vision Developers (Private) Limited is a private limited company incorporated under the Companies Ordinance, 1984. Vision Group is striving for excellence by being a market leader. We create luxurious living through our various construction initiatives and contribute to the urban landscapes of cosmopolitan cities. Our elegant aesthetics and modern functionality, makes for a convenient and comfortable living. The group has hired the services of renowned companies and consultants for the execution of its power generation and distribution projects. The company is one of the leading companies in land development and has sufficient resources for the proposed projects. Detail profile of the company is attached separately.

##### **4.2 Project Brief**

The power generation project for River Edge Housing Scheme / Park View Villas has been conceived by the sponsors of the housing scheme on the demand of the residents of the housing scheme. Basic purpose of the project is to facilitate the residents of the housing scheme in an efficient manner.

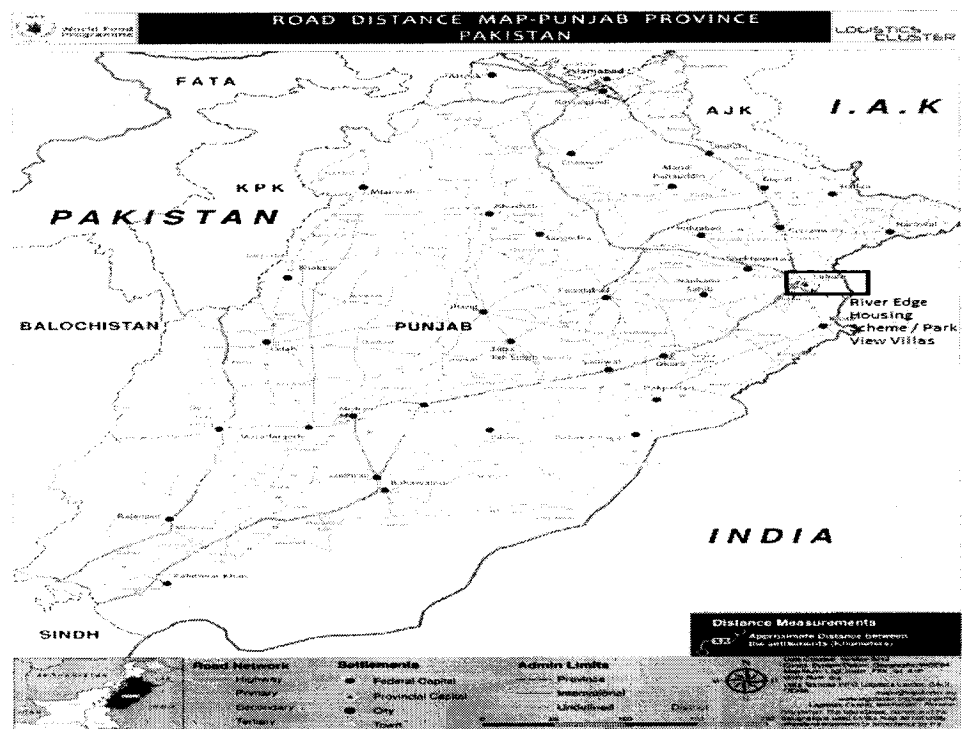
Initially the sponsors moved for the electrification of the housing scheme from supply from LESCO and submitted proposal to LESCO for the electrification of the housing scheme which was approved by the competent authorities and overhead distribution network has been constructed in the initial four blocks of the housing scheme while for the other blocks extended and developed later underground distribution network has been planned. The residents of the housing scheme are being fed with electricity from LESCO under temporary connections arrangements. The sponsors of the housing scheme has now planned to generate electricity through their own source to meet the requirement of electricity for the residents of new developed blocks of the housing scheme and to distribute electricity through their own arrangements. As per plan, a power generation facility of capacity about 08 MW will be set up using generator sets operated by diesel oil / HFO instantly while to meet the ultimate load of the housing scheme in future to construct a 132 kv grid station and purchase power from WAPDA or some power generator for its distribution to the residents through their own distribution network. Therefore, the sponsors are submitting applications to NEPRA for the grant of power generation as well as distribution licenses. According to the existing population of the housing scheme the power requirement at present is 1.5 to 02 MW which is increasing



gradually with the increase in population in the housing scheme.

#### 4.3 Location and Size

The power generation facility would be located adjacent to the River Edge Housing Scheme situated at Multan Road, Lahore on an area of 32 Kanal approx. The gross installed generation capacity of the Facility will be 8328 kW (8.328 MW) while after excluding the auxiliary consumption of 832.8 kW the Net generation capacity of the facility has been calculated as 7495.20 kW. The power so generated will be distributed to the residents of the Housing Scheme. The sponsors have also planned to construct 132 kv grid station to meet the future power demand of the residents of the housing scheme. Location of the project is given below:



Detail of generation capacity of the proposed power house is given below:

| Gen Set               | Model           | Make    | Gross Capacity | Auxillary Consumption | Net Capacity |
|-----------------------|-----------------|---------|----------------|-----------------------|--------------|
| 1                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 2                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 3                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 4                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 5                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 6                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| Total Net Capacity kW |                 |         |                |                       | 7,495.20     |

#### 4.4 Technical Expertise/Assistance

The power generation facility will be constructed, installed and commissioned by Unicity Engineering, a renowned industrial solutions provider company and the staff of the same company will be available to resolve technical issue if any. The power house staff will also be able to manage and look after the proper functioning of the power generators and their ancillary equipment.

#### 4.5 Human Resource Management

The availability of the required human resources for the installation, operation and maintenance of the project is quite feasible. The project is a diesel / HFO operated Generators Power Generation Facility and the generated electricity will be distributed to the residents of the housing society in a small and limited area. The experts, engineers, technicians and other

technical workers are easily available in the local market. Therefore the project will not face any kind of problems regarding the technical and non-technical human resources for its installation, operation and maintenance. The details of the staff required for the operation and maintenance of the power generation unit are given below:

- a. Power House Manager (Electric Engineer)
- b. Dy. Manager (Electrical)
- c. Dy. Manager (Mechanical)
- d. Dy. Manager (Automation)
- e. Dy. Manager Commercial and Stores
- f. Lab Supervisor
- g. Technicians
- h. Electricians
- i. Operators, Helpers, Security guards

The staff at the power house will work in three shifts round the clock.

## **5. PROJECT TECHNICAL DETAILS AND CAPACITY**

### **5.1 Power Generation Facility Type and Description**

The power generation facility will be comprised of 06 Wartsila 9L20 Generators having multi fuel options operated mainly on diesel oil and will be able to use HFO as alternative fuel. The generator sets would be synchronized with each other through an automatic control system to maintain load. Brief of the generator sets used in the facility is given below:

## BASIC INFORMATION ABOUT WARTSILA 9L20 POWER GENERATOR

|  |                |
|--|----------------|
| Total Life of Each Power Generator                               | 200,000 hours  |
| Major Over Hauling   | 24,000 hours   |
| Top End on   | 6,000 hours    |
| Routine Shut down time   | 720 hours      |
| Maintenance time required like oil change,<br>filter change etc. | 12 hours       |
| Restart time for sudden shut down                                | 30--60 minutes |

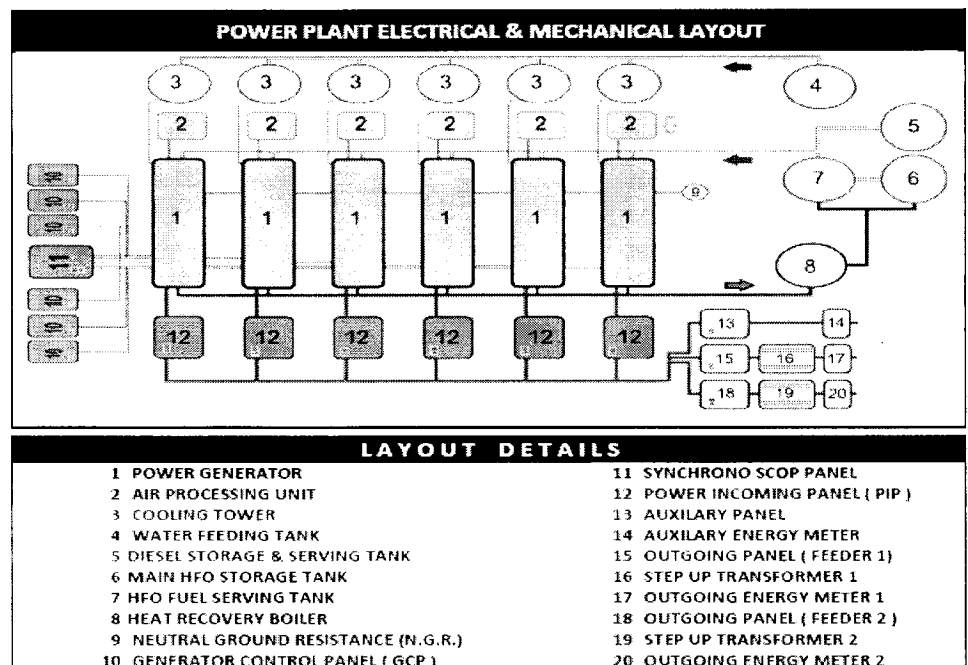
### Derated Capacity :

|                           |
|---------------------------|
| 10 % on 6000 hours        |
| 20 % on 12,000 hours      |
| 30 % on 18,000 hours      |
| 40-- 50 % on 24,000 hours |

Note: On Major Over Hauling Capacity Revives as per actual.

## 5.2 Power Generation Facility Design and Drawings

The power generation facility is designed by Unicity Engineering, a renowned industrial process solutions provider company. The design and drawings of the facility are given below:



### **5.3 Environment Protection**

The power generation facility has been designed keeping in view all necessary requirements for the environment protection. All necessary equipment will be installed and arrangements will be done to make the facility environment friendly. The generation units will be safe and will not disturb the surrounding population in any way. Details of the environment protection plan are attached separately.

## **6. FUEL AND SUPPLY ARRANGEMENTS**

### **6.1 Main Fuel**

The proposed generation facility will mainly use Diesel Oil for its operation. Fuel in required quantity for the facility is easily available in the local market. The sponsors are already buying fuel from some suppliers for running of already installed power generators in the housing scheme.

### **6.2 Alternative Fuel**

The proposed power generation facility will also be capable to be run on HFO. Therefore, HFO will be used as alternative fuel to run the facility in case of shortage or non-availability of the main fuel. However chances of non-availability or shortage of the main fuel are very rare.

### **6.3 Fuel Supplies**

The main fuel of the power generation facility is diesel oil and the alternative fuel is HFO. The fuel for the generation facility will be available easily from the local market and the sponsors will enter into fuel supply contracts with the fuel supply companies and their authorized dealers for the regular supply of the fuel at the project site according to the fuel requirements of the generation facility. Therefore, there would be no issue in regular fuel supply for the generation facility.

## **7. CONSTRUCTION AND INSTALLATION**

### **7.1 Construction, Supply and Installation**

A complete power house will be constructed with all the requisite facilities at the project site. Unicity Engineering, a renowned industrial process solution provider company will supply the generators for the generation facility. They will also be responsible for the designing, installation and commissioning of the generation facility. The sponsors have provided sufficient space for the proposed power house and have also arranged suitable road access for proper and necessary transportation of material and fuel etc. Besides the power generators they will also supply fuel storage tanks and other necessary equipment for the smooth operation of the generation facility. Detailed plan for the construction, installation and commissioning of the power house prepared

by Unicity Engineering Industrial Process Solutions is attached separately.

## **8. OPERATION AND MAINTENANCE**

### **8.1 Operational Setup**

The proposed power generation facility can easily managed and maintained as the most of the operation of the generation facility will be automatic. The requisite engineering and technical staff for the proper and efficient operation and maintenance is available locally. The sponsors have hired the services of expert and professionally trained staff for the operation and maintenance of the generation facility. In the circumstances there will be no problems in the management, operation and maintenance can be foreseen and if there would be some issues those too may be resolved easily in very short span of time.

### **8.2 Maintenance Setup**

The generation facility will not require too much maintenance and repair during its continuous operation. The operational staff will be able to take care of its routine maintenance. However, the suppliers of the generator sets will also be available for the maintenance of the facility in case of any major issue. Spears for the maintenance are available locally

and a reasonable stock to meet the urgent requirement will be maintained at the facility.

### **8.3 Technical Assistance**

The sponsors have hired the services of expert and properly trained engineering staff and subcontractors for the execution of the project. Services of Unicity Engineering, Industrial Process Solutions and Fescon Pvt. Ltd. have been hired for the proper and efficient execution of the project. The system and technology used in the generation facility is common and local engineers and technicians can operate and manage the same quite easily and efficiently. Therefore, technical assistance for the establishment, operation and maintenance of the proposed generation facility may comfortably be arranged and there are very rare chances for any kind of extraordinary problems.

## **9. SALES AND DISTRIBUTION**

### **9.1 Consumers**

All the residents of River Edge Housing Scheme / Park View Villas will be the consumers of the project. Total current estimated demand for the residents of the existing part of the housing scheme has been assessed about 03 Mega Watt while the ultimate future extended load demand is estimated about 30 MW. The sponsors have planned to meet the ultimate



electricity demand to construct and establish their own 132 kv Grid Station and to procure electricity from other power producers and suppliers. It is planned that when the 132 kv grid station will be installed and become operational the proposed generation facility will be used as a backup source of power supply.

## **9.2 Distribution Arrangements**

The sponsors of the housing scheme has set up a distribution net work within the premises of the housing scheme for the existing consumers and has planned to extend the distribution network to the whole existing approved area of the housing scheme and the future extension of the housing scheme. The electricity generated under the requested license will be distributed among the residents of the River Edge Housing Scheme / Park View Villas within the isolated premises of the housing scheme through the distribution network set up within the premises of the housing scheme by the sponsors of the housing scheme for the purpose. A separate application for the grant of Distribution License is being submitted to NEPRA by the sponsors for the purpose.

## **10. Environment Protection**

The Environment Protection Plan and Feasibility Report are attached.

## **ENVIRONMENTAL AND SOCIAL SOUNDNESS ASSESSMENT (ESSA)**

### **ENVIRONMENT PROTECTION PLAN**

The Environmental and Social Soundness Assessment study of the project is being conducted by the environmental experts according to the standards and codes of the environmental protection. The initial study of the project site has found the project viable and feasible in the existing circumstances without having any environmental issue. Furthermore the project plan and design is included all necessary measures for the environment protection.

The report of the Environmental and Social Soundness Assessment study will be provided later.

The equipment used for the generation of power is environment friendly and the manufacturer of the equipment has designed the generation sets keeping in view of environment standards. However, the design of the power generation facility is also prepared keeping in view that it must not create any environmental issue and do not create any type of disturbance. The facility will be away from the population and trees will also be planted at the generation facility to keep the air environment clean. The installed equipment will not emit any harmful gasses. Additional environmental protection measures will also be taken as and when required.

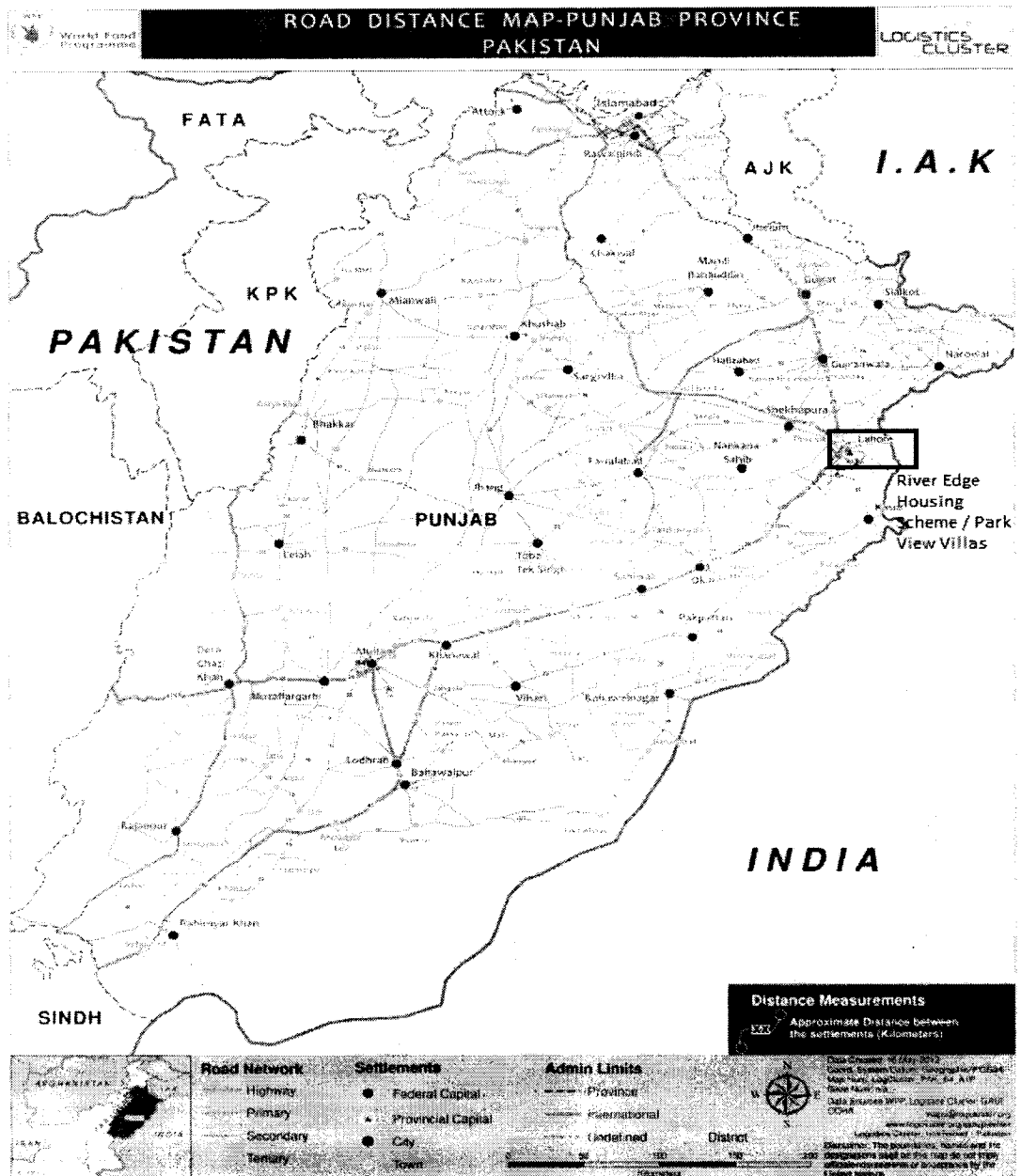
**INFORMATION / DATA / DOCUMENTS  
REQUIRED AS IN**

**Schedule - III**

### SCHEDULE III

#### 1. LOCATION MAPS, SITE MAPS, LAND

The housing scheme wherein the power generation facility is proposed is situated at 17 kilometer Multan Road, Lahore just at 3 kilometers from Thokar Niaz Baig, Lahore. The proposed power house will be constructed over a piece of land measuring 32 Kanal situated adjacent to the housing scheme. Location and site maps are attached.



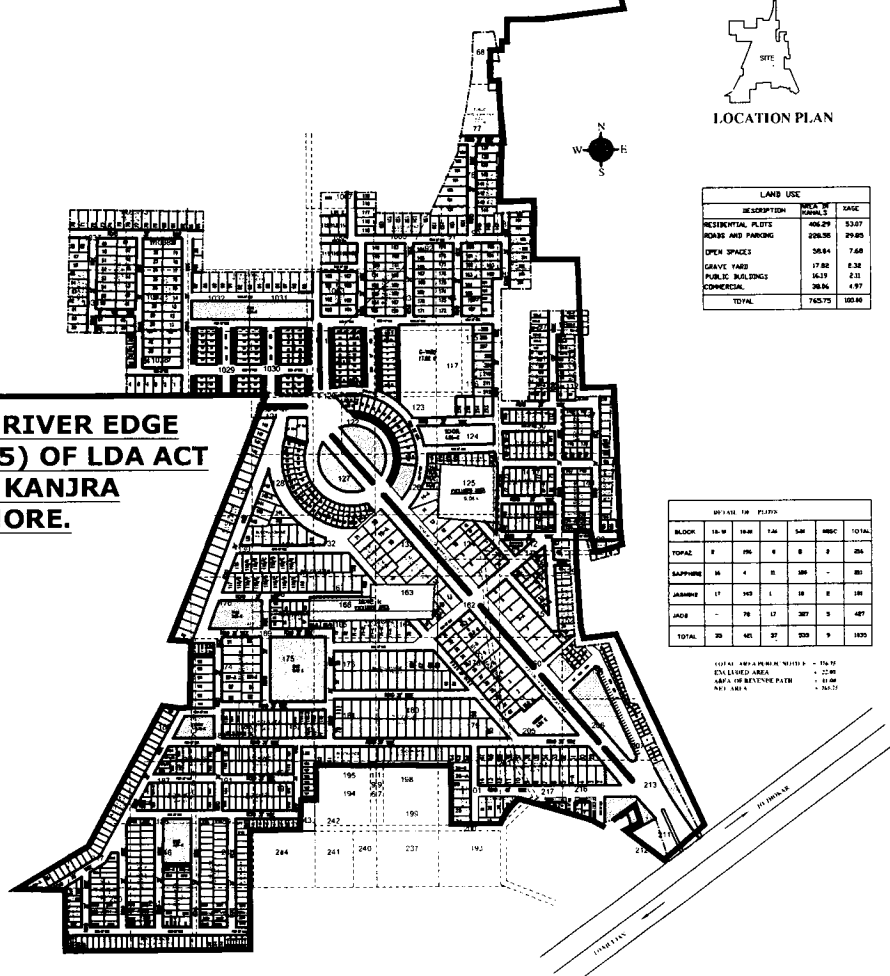
FUTURE EXTENSION

APPROXIMATELY  
6591 KANAL

SITE FOR POWER HOUSE

32 KANAL

**REVISED LAYOUT PLAN OF RIVER EDGE  
HOUSING SCHEME U/S 13(5) OF LDA ACT  
1975 SITUATED AT MOUZA KANJRA  
17 K.M. MULTAN ROAD LAHORE.**



| LAND USE          |                 |        |       |
|-------------------|-----------------|--------|-------|
| DESCRIPTION       | AREA IN SQUARES | HA     | ACRES |
| RESIDENTIAL PLOTS | 406.29          | 53.07  |       |
| ROADS AND PARKING | 208.35          | 29.85  |       |
| OPEN SPACES       | 56.84           | 7.68   |       |
| GRAVE YARDS       | 17.82           | 2.32   |       |
| PUBLIC BUILDINGS  | 16.19           | 2.12   |       |
| COMMERCIAL        | 38.86           | 5.17   |       |
| TOTAL             | 745.75          | 100.00 |       |

| BLOCKS FOR PLANNING |       |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|-------|
| BLOCK               | 16-19 | 16-18 | 16-17 | 16-16 | 16-15 | TOTAL |
| TOTAL               | 9     | 190   | 4     | 8     | 9     | 200   |
| SAPPHIRE            | 16    | 4     | 8     | 8     | -     | 36    |
| JADE                | 17    | 165   | 1     | 18    | 8     | 199   |
| PEARL               | -     | 78    | 17    | 387   | 9     | 487   |
| TOTAL               | 26    | 462   | 22    | 533   | 9     | 1052  |

TOTAL AREA OF THE SITE IS 745.75 HA  
ESTIMATED AREA 100 ACRES  
AREA OF THE SITE IS 100 ACRES

## 2. TECHNOLOGY, SIZE OF PLANT, NUMBER OF UNITS

Power will be generated by diesel generators which will also be able to run on HFO. The gross installed generation capacity of the Facility will be 8328 kW (8.328 MW) while after excluding the auxiliary consumption of 832.8 kW the Net generation capacity of the facility has been calculated as 7495.20 kW. 06 number of power generators will be installed for the purpose.

### CAPACITY CHART

| Gen Set               | Model           | Make    | Gross Capacity | Auxillary Consumption | Net Capacity |
|-----------------------|-----------------|---------|----------------|-----------------------|--------------|
| 1                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 2                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
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| 5                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| 6                     | Wartsila 9 L 20 | Finland | 1,388 kW       | 138.8 kW              | 1,249.20     |
| Total Net Capacity kW |                 |         |                |                       | 7,495.20     |

Basic information regarding the proposed generators is given below:

#### BASIC INFORMATION ABOUT WARTSILA 9L20 POWER GENERATOR

|   |                |
|---|----------------|
| Total Life of Each Power Generator                            | 200,000 hours  |
| Major Over Hauling  | 24,000 hours   |
| Top End on  | 6,000 hours    |
| Routine Shut down time  | 720 hours      |
| Maintenance time required like oil change, filter change etc. | 12 hours       |
| Restart time for sudden shut down                             | 30--60 minutes |

#### Derated Capacity :

- 10 % on 6000 hours
- 20 % on 12,000 hours
- 30 % on 18,000 hours
- 40-- 50 % on 24,000 hours

Note: On Major Over Hauling Capacity Revives as per actual.

**3. FUEL: TYPE, IMPORTED/INDIGENOUS, SUPPLIER, LOGISTICS, PIPELINES ETC.**

The proposed power generators will use diesel oil and HFO which will be purchased from local market from authorized dealers and suppliers. The supplies will be through tankers and will be stored in store tanks at the power house. The fuel used by the generators is safe in and do not contain any harmful ingredients.

**4. EMISSION VALUES**

Emission values are given below:

|      |                        |               |
|------|------------------------|---------------|
| i.   | <b>SO<sub>2</sub>:</b> | 818 ppm       |
| ii.  | <b>NOX:</b>            | 1200 ppm      |
| iii. | <b>CO<sub>2</sub>:</b> | Less than 800 |
| iv.  | <b>Particulate:</b>    | Less than 200 |

**5. COOLING WATER SOURCE: TUBE WELLS, SEA/RIVER/CANAL, DISTANCE FROM SOURCE, ETC.**

Cooling water source for the generation facility is Tube Well which will be installed at the site.

**6. INTERCONNECTION WITH NATIONAL GRID CO. DISTANCE AND NAME OF NEAREST GRID, VOLTAGE LEVEL (SINGLE LINE DIAGRAM)**

No interconnection with the National Grid is required for the proposed generation facility as the whole power generated will be consumed in the housing scheme.

**7. INFRASTRUCTURE: ROADS, RAIL, STAFF COLONY, AMENITIES**

The housing society is situated on main Lahore – Multan Road. The sponsor have right of way and the project site is connected to the main road through a road constructed by the sponsors of the housing scheme. Necessary civil constructions for work, offices, stores and residences are also part of the plan of the proposed power house.

**8. PROJECT COST, INFORMATION REGARDING SOURCES AND AMOUNTS OF EQUITY, DEBT.**

The project cost is presently estimated as 500 million rupees which will be arranged by the sponsors of the housing scheme. Total finance for the project is equity based however if at any stage any credit or finance will be required from banks or any other source the sponsors will make necessary arrangements.



**9. PROJECT COMMENCEMENT AND COMPLETION  
SCHEDULE WITH MILESTONES**

The time for the completion of the project is estimated as 10 months. The project will start from March 2017 and will complete by the end of year 2017.

**10. ESSA (ENVIRONMENTAL AND SOCIAL SOUNDNESS  
ASSESSMENT)**

The ESSA (ENVIRONMENTAL AND SOCIAL SOUNDNESS ASSESSMENT) study for the project is being conducted by the environment consultants, which will be finalized soon and be presented later accordingly.

**11. SAFETY PLANS, EMERGENCY PLANS**

Safety and emergency plans are attached

**12. SYSTEM STUDIES, LOAD FLOW, SHORT CIRCUIT,  
STABILITY, RELIABILITY**

System studies, load flow, short circuit, stability and reliability data and information are given in detail in the Technical Feasibility of the project attached with the application.

**13. PLANT CHARACTERISTICS: GENERATION VOLTAGE,  
POWER FACTOR, FREQUENCY, AUTOMATIC  
GENERATION CONTROL, RAMPING RATE, CONTROL  
METERING AND INSTRUMENTATION**

The proposed generators will produce power at 415 volts which will be converted to 11 kv through step up transformers for transmission through 11 kv transmission line. Plant Characteristics including Generation Voltage, Power Factor, Frequency, Automatic Generation Control, Ramping Rate, Control Metering and Instrumentation are provided in the Technical Feasibility of the project attached with the application.

**14. CONTROL, METERING, INSTRUMENTATION AND PROTECTION**

The proposed power house will be controlled with full automation system. Metering and instrumentation details are provided in the technical feasibility of the project attached with the application.

**15. TRAINING AND DEVELOPMENT**

The staff of the proposed power house will be provided frequent training opportunities to enhance and develop their skills and expertise. The staff will be offered two types of training which will be internal training which will be arranged at the facility and conducted by the senior technical staff of the power house and the other will be of training programs organized by the external technical institutions.

**16. FEASIBILITY REPORT.**

Technical and General Feasibility Reports of the project are attached with the application.

## **SAFETY PLAN**

A comprehensive safety plan would be implemented to provide a safe and protected working environment to the staff working at the facility.

Key features of the safety plan are given below:

**A. Awareness regarding safety measures**

All the staff working at the facility will be given detail briefings regarding different types of safety measures so that they would be able to identify risks and to take necessary measures of safety and protection during their working.

**B. Trainings for proper use of Safety Gears and Equipment**

All the staff working at the facility will be provided necessary trainings regarding how to use the safety gears and equipment in proper way for better safety.

**C. Use of Safety Gears and Equipment**

The staff working at the facility will be provided all necessary safety gears and protection equipment for use during working at the facility.

**D. Safety procedures and practices**

Use of proper safety gears and protection equipment shall be mandatory for all the staff of the facility.

**E. Emergency Alarm**

Access to emergency alarm will be made easy to raise the emergency alarm in case of any type of emergency.

**F. Emergency Help Call Numbers**

Emergency help call numbers will be displayed in bold on prominent places in the facility.

**G. Shutdown of Operating Systems or Equipments**

The Emergency Control Team shall be responsible to ensure immediate shutdown of operation systems and Equipment if required in the emergency situation. Necessary equipment will also be installed for the emergency shutdown of the operating systems and equipment.

**H. First Aid Facilities and Staff**

The availability of first aid facilities and necessary staff to provide urgent and immediate first aid facilities will be ensured at the facility.

**I. Ambulance Service**

Availability of ambulance service at the facility will be ensure for quick shifting to the staff members to hospitals in case of any accident and health hazards.

**J. Emergency Exit**

Emergency exit ways will be mentioned prominently in the power house for immediate exit of the premises is case of any emergency situation or accident.

## **EMERGENCY PLAN**

A comprehensive emergency plan would be implemented to meet all type of emergencies to ensure zero injuries, damages and loss of any life or property.

Key features of the emergency plan are given below:

### **A. Awareness regarding different types of emergencies**

All the staff working at the facility will be given detail briefings regarding different types of emergencies so that they would be able to identify an emergency situation to take necessary measures of safety and protection in the situation.

### **B. Trainings to react on an emergency alert alarm**

All the staff working at the facility will be provided necessary trainings regarding how to react an emergency alert alarm.

### **C. Use of Safety Gears and Equipment**

The staff working at the facility will be provided information, guidance and trainings to use the safety gears and equipment in an emergency situation.

### **D. Emergency escape procedure and routes**

The staff working at the facility will be made aware of the Emergency escape routes and procedure for a quick and safe escape.

### **E. Emergency escape procedures and routes map**

Emergency escape procedure and routes maps will be displayed on prominent places in the facility.

### **F. Safe and Refuge Areas**

The staff working at the facility will be briefed about the save and refuge areas in case of various types of emergencies for their safe escape.

### **G. Emergency Alarm**

Access to emergency alarm will be made easy to raise the emergency alarm in case of any type of emergency.

### **H. Emergency Help Call Numbers**

Emergency help call numbers will be displayed in bold on prominent places in the facility.

### **I. Emergency Control Team**

A team of trained and responsible members of the staff will be formed which will be responsible to take all necessary measures and decisions to tackle with and control any type of emergency.

### **J. Emergency Rescue and Relief Team**

Another team comprising of experienced and responsible members of the staff will be formed to provide relief and support to the members of the staff if required during the emergency situation.

### **K. Shutdown of Operating Systems or Equipments**

The Emergency Control Team shall be responsible to ensure immediate shutdown of operation systems and Equipment if required in the emergency situation. Necessary equipment will also be installed for the emergency shutdown of the operating systems and equipment.

### **L. First Aid Facilities and Staff**

The availability of first aid facilities and necessary staff to provide urgent and immediate first aid facilities will be ensured at the facility.

### **M. Protection of Data and Record**

Duplicate of all necessary data and record will be prepared and placed at some safe place for its safety and security of the data and record.

#### **N. Emergency Equipment**

Emergency equipment like fire extinguishers will be provided at the facility to tackle with different types of emergencies.

#### **O. Ambulance**

Availability of ambulance service at the facility will be ensure for quick shifting to the staff members to hospitals in case of any accident and health hazards.

#### **P. Emergency Response Review**

The management of the facility shall conduct regular frequent meetings to review the emergency response facilities and procedures.

#### **Q. Emergency Exit**

Emergency exit ways will be mentioned prominently in the power house for immediate exit of the premises is case of any emergency situation or accident.



VISION Developers (Pvt) Ltd.



VISION Developers (Pvt) Ltd.





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## EXECUTIVE SUMMARY

### TITLE AND LOCATION OF THE PROJECT

Subject project for which this Initial Environmental Examination Study has been conducted is construction of proposed installation of 8 MW Power Generation facility adjacent to River edge Housing Scheme / Park Niew Villas 17 Km Multan Road, District Lahore, under the name of Vision Developers (Pvt.) Ltd. it will supply electricity to all nearby proposed housing societies. Total 6 generators, "Wartsila 9 L 20" Finland make will be installed & they use diesel as a fuel.

Project can be considered under Category B of Schedule 1 for IEE, of PEPA, Regulations, 2000. TORs of the study under clause 5 (f) of policy and procedure for the filing, review and approval of environmental assessment are annexed as **Annexure-H**.

### LOCATION

Site proposed for the installation of power generation facility is located adjacent to River edge Housing Scheme / Park View Villas 17 Km Multan Road, District Lahore, under the name of Vision Developers (Pvt.) Ltd.

Land coordinates of the project site/ generator yard are given below:

**North:** .....Agricultural Land

**South:** .....Park View Villas Main Road

**East:** .....Park Views Villas Housing Scheme

**West:** .....Agricultural Land

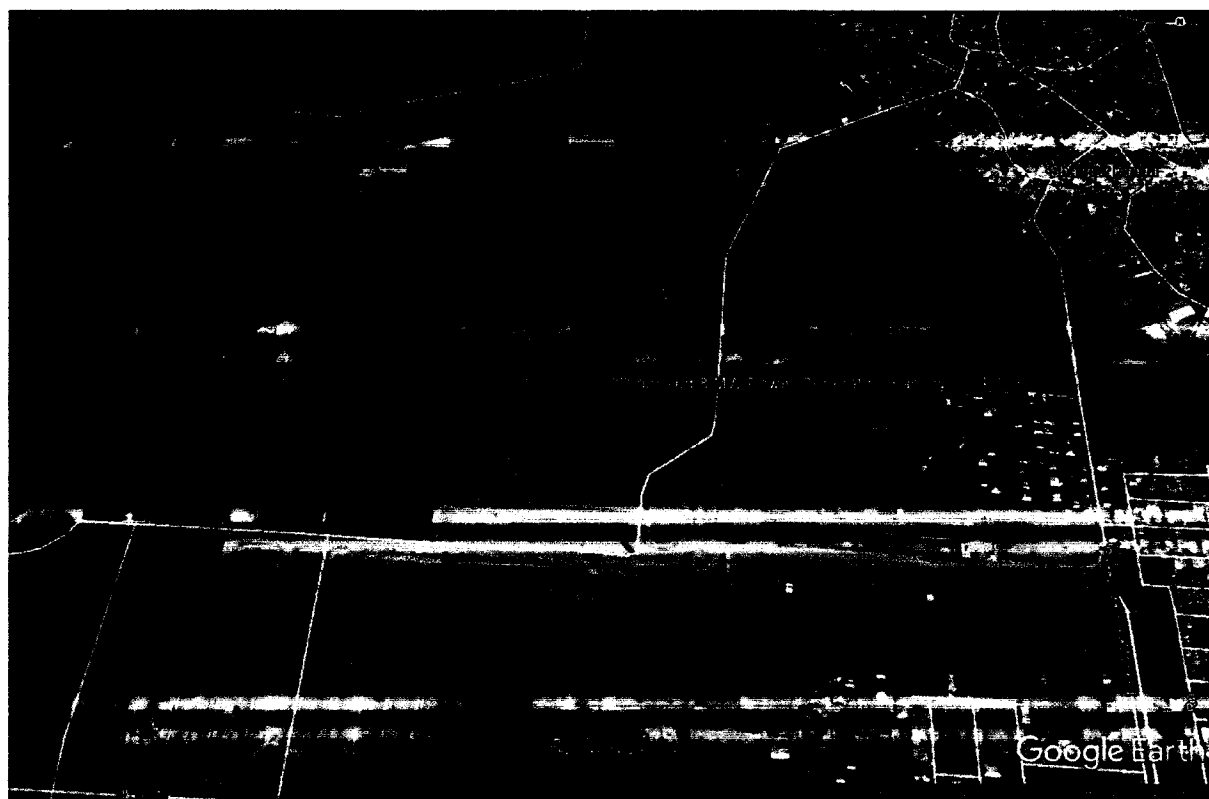


Figure 1: Proposed project Site

## PROJECT PROPONENT

Table 1: Project Proponent

|                 |                               |
|-----------------|-------------------------------|
| Name            | Omer Farooq Mannan            |
| CNIC            | 35201-7611344-5               |
| Mailing Address | 55-C-II, Gulberg III, Lahore. |

For further details CNIC copies of proponent and undertaking witnesses and land ownership documents are attached as **Annexure-A**.

## ENVIRONMENTAL CONSULTANT

Pak Green Enviro-Engineering (Pvt.) Ltd, as independent consultants, has been appointed by the proponent to conduct Initial Environmental Examination (IEE).

Company office address is 46-M, Gulberg III, Lahore

Contact: 042-35441444, 0303-4442335.

Authority letter in the favor of the consultant has been attached as **Annexure-B**.

For detail company profile see the *Chapter # 1 "Introduction"*

## **BRIEF OUTLINE OF THE PROPOSAL**

Subject study has been conducted to study construction of proposed installation of 8 MW Power Generation facility adjacent to River edge Housing Scheme / Park View Villas 17 Km Multan Road, District Lahore, under the name of Vision Developers (Pvt.) Ltd. Power generation facility will supply electricity to River Edge Housing Scheme / Park View Villas

Status of the project is proposed and generators will be installed after getting the environmental approval from EPA Punjab. Total 6 generators, "Wartsila 9 L 20" Finland make will be installed & diesel will be used as a fuel. Estimated cost of the project is approx. 90 million rupees.

## **THE MAJOR IMPACTS AND RECOMMENDATIONS FOR MITIGATION MEASURES**

In order to identify all the activities associated with the project during construction and operation phase with potential to cause environmental impacts and harm, a thorough review has been conducted. Project will not have any significant impacts on the nearby community and on environment. Overall the project will have positive impacts w.r.t provision of electricity, reduction mental stress & wellbeing of the society at large. Moreover, the environmental enhancement measures have been recommended to compensate the carbon footprint of the proposed project.

Table 2: Summary of Environmental and social impacts of the project during the construction phase of the project

| Environmental Impact   | Criteria for determining Significance | Key Mitigation Measures  |
|--|---------------------------------------|--|
| <b>Construction Noise</b><br>Constructional noise can impact the workers involved in constructional activity & currently there is no human settlement near the project area. | PEQS for Noise                        | Pre-construction noise survey;<br>Reduce noise at source; Take noise levels in consideration during detailed design and construction planning<br>The worker must be provided with PPEs if noise level exceed the permissible limit at the work place |

|   |  |  |
|---|--|--|
| <b>Dust Emission</b> —Particulate matter emitted during construction activities can result in deterioration of ambient air quality in the vicinity of the source, and be a nuisance at the workplace. | An increase in visible dust beyond the boundaries of the construction site;<br>or Concentration of PM <sub>10</sub> in excess of 150 µg/m <sup>3</sup> per 24 hours. | Sprinkling of water on unsealed Surfaces is recommended; Use of wind shield around stockpiles, Vehicle speed restrictions, transportation of material in covered trucks is recommended |
| <b>Vegetation Loss</b><br>Low impacts because at the selective site there are no trees  | Grasses are present  | The low impact (removal of grasses) will be converted into positive impact due to the plantation during the operational phase of the project.  |
| <b>Soil Contamination</b> —Oil spills can contaminate the soil if proper mitigation measures has not been adopted   | Use of oil by constructional vehicles  | Provision of spill prevention and control kits; Use of impermeable surfaces at workshops, and storage areas.   |
| <b>Socioeconomic Impact</b><br>The project will exert positive impact w.r.t socio-economic.   | Continuous supply of electricity to the housing scheme, more work hours in the commercial of the housing & mental stress reduction.                                  | Employment at the proposed project should be given to locals.  |



Table 3: Summary of Environmental and social impacts of the project during the Operational phase of the project

| Potential Impact  | Criteria for determining Significance | Key Mitigation Measures  |
|---|---------------------------------------|--|
| Plant Noise at workplace can impact the employees   | PEQS / OSHA Standards for Noise       | Generators will be acoustically shielded and then will be placed inside the specially constructed generator room / yards; Provision of PPEs must be ensured. |
| <b>Gaseous Emission —</b><br>Flue gases coming from stack can impact the ambient if periodic tuning / overhauling of the gen-set is not ensured | PEQS for Ambient Air                  | Periodic tuning of the gen-sets is recommended   |

### **PROPOSED ENVIRONMENTAL MONITORING & ENHANCEMENT MEASURES**

To oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program has been formulated which will ensure effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations. Monitoring, frequency, monitoring body & regulatory body has been given in below table

#### **Following parameters will be measured:**

- i. Ambient Air Quality Monitoring
- ii. Stack emission Analysis
- iii. Noise Level Monitoring
- iv. Wastewater Monitoring
- v. Drinking Water Monitoring
- vi. HSE Assessments

Monitoring will be done as per NEQ's Rules 2001.

### Proposed Environmental Monitoring Program

| Sr. No. | Parameters   | Monitoring Schedules During Construction               | Monitoring Schedules During Operation                  | Monitoring Duration                      |
|---------|--|--|--|--|
| 1       | Stack Emission Analysis  | Monthly (Site Generator) if use                        | Monthly  | As per PEQ's                             |
| 1       | Ambient Air Monitoring (NO <sub>x</sub> , CO <sub>2</sub> , SO <sub>2</sub> , PM <sub>10</sub> ) | Quarterly<br>But PM will be measured on Monthly Basis. | Quarterly<br>But PM will be measured on Monthly Basis. | As per PEQ's                             |
| 2       | Noise Level  | Monthly  | Monthly  | As per PEQ's                             |
| 4       | Drinking water quality   | Quarterly  | Quarterly  | Some parameters on site<br>Others in lab |
| 5       | Waste Water  | Monthly  | Monthly  | Some Parameters on Site<br>Others in Lab |

#### Environmental Enhancement Measures:

Plantation will be done as per Carbon foot prints generated by the said project. Actual carbon foot prints will be measures after the operation of the project and according to the carbon foot print, the plantation will be done to compensate the anticipated Environmental pollution.

#### Conclusion:

The project is recommended for the issuance of Environmental Approval, because the project proponent is willing to run the project in Environment friendly way and to adopt the Environmental Enhancement measures.

**CHAPTER # 1****INTRODUCTION****PURPOSE OF THE REPORT**

Initial Environmental Examination (IEE) / Environmental & Social Soundness Assessment (term use by NEPRA) report is being submitted to the Environmental Protection Agency (EPA), Government of the Punjab, Lahore for the compliance of Section 12 & the same report is being submitted to the NEPRA as a part of prerequisite for the approval of the said project.

Various aspects like environmental, social, physical and other aspects of the project both during construction and its regular occupancy are highlighted in this IEE report. Measures necessary to be adopted to mitigate any environmental impacts on any part of the environment around are also described. All the important information is also provided as described under the format used to help decision makers, EPA Punjab in the present case, before issuing the desired Environmental Approval.

**IDENTIFICATION OF THE PROJECT AND PROPONENT**

Project can be considered under Schedule I Category– B for IEE, of PEPA, Regulations, 2000.

**PROJECT PROPONENT**

Table 4: Detail of Proponent

|                 |                               |
|-----------------|-------------------------------|
| Name            | Omer Farooq Mannan            |
| CNIC            | 35201-7611344-5               |
| Mailing Address | 55-C-II, Gulberg III, Lahore. |

For further details CNIC copies of proponent and undertaking witnesses and land ownership documents are attached as **Annexure – A**.

**DETAILS OF CONSULTANT**

Pak Green Enviro-Engineering (Pvt.) Ltd is an independent company, who conducts IEE, EIA, EMP and other environmental investigations through its panel of environmental



*[Handwritten signature]*

consultants, public participation practitioners and experienced environmental managers. The company has its own recommended instruments to check the baseline environmental data/PEQS and lab analysis facility for water, waste water priority parameters.

Contact: Pak Green Enviro-Engineering (Pvt.) Ltd.

Office No. 46 M, Gullberg III, Lahore

Tel: 042-35441444, 03034442335

Email: [info@pakgreen.pk](mailto:info@pakgreen.pk); [pak.green@hotmail.com](mailto:pak.green@hotmail.com)

The current study was carried out by the following professionals:

Table 5; Detail of Environmental Consultants

|   | Designation  | Name of Consultant  | Experience                                 |
|---|--|---|--|
| 1 | Chief Environmentalist/<br>Lead Environmental Professional | Abdul Hafeez Nasir<br>PhD Scholar Environmental Management    | Ten Years' Experience as Environmentalist  |
| 2 | Senior Environmentalist/<br>Environmental Professional     | Iftikhar Ahmed<br>M.Phil Environmental Sciences               | Five Years' Experience as Environmentalist |
| 3 | Chief Chemist/<br>Subject Matter Specialist (SMS)          | Muhammad Raza ullah<br>M.sc Chemsitry GCU Lahore              | Twenty Years' experience                   |
| 4 | Project Coordinator  | Ahmed Raza<br>B.com, PU, Lahore                               | Eight Years' Experience                    |
| 5 | Environmental Professional                                 | Fida Hussain<br>M.Phil. Quaid-i-Azam University, Islamabad    | 2.5 Years' Experience as Environmentalist  |
| 6 | Subject Matter Specialist                                  | Madeeha Aslam<br>MS. Environmental Engineering<br>UET, Lahore | Two Years' Experience as Environmentalist  |
| 7 | Associate  | Tahreem Majid   | 2.5 Years' Experience as                   |

|    |                                      |   |  |
|----|--------------------------------------|---|--|
|    | Environmental professional           | M.Phil. Lahore College for Women University, Lahore                           | Environmental                              |
| 8  | Associate Environmental professional | Kiran Irshad<br>M.phil. GCU, Lahore   | 2.5 Years' Experience as Environmentalist  |
| 9  | Associate Environmental professional | Umair Rasheed<br>BS (Hons) GC University Lahore                               | Two years' Experience as a Deputy Analyst  |
| 10 | Subject matter specialist            | Quratulain<br>BS (Hons)(Chemistry) GC University Lahore                       | 1 year Experience as a Lab Analyst         |
| 11 | Associate Environmental professional | Hamza Afzal<br>Environmental Engineering UET Lahore                           | 1 year Experience                          |
| 12 | Associate Environmental Professional | Umair Khalid<br>BSc (Hons) Environmental Sciences (UAF), M.Phil Scholar (UOL) | 2 years' Experience as an environmentalist |

Authority letter in the favor of the consultant has been attached as **Annexure-B**.

### **BRIEF DESCRIPTION OF NATURE, SIZE AND LOCATION OF PROJECT**

Subject study has been conducted to study construction of proposed installation of 8 MW Power Generation facility adjacent to River edge Housing Scheme / Park View Villas 17 Km Multan Road, District Lahore, under the name of Vision Developers (Pvt.) Ltd. Power generation facility will provide energy River Edge Housing Scheme / Park View Villas.

Status of the project is proposed and generators will be installed after fulfilling related legal requirements. Total 6 diesel generators, "Wartsila 9 L 20" Finland make will be installed .

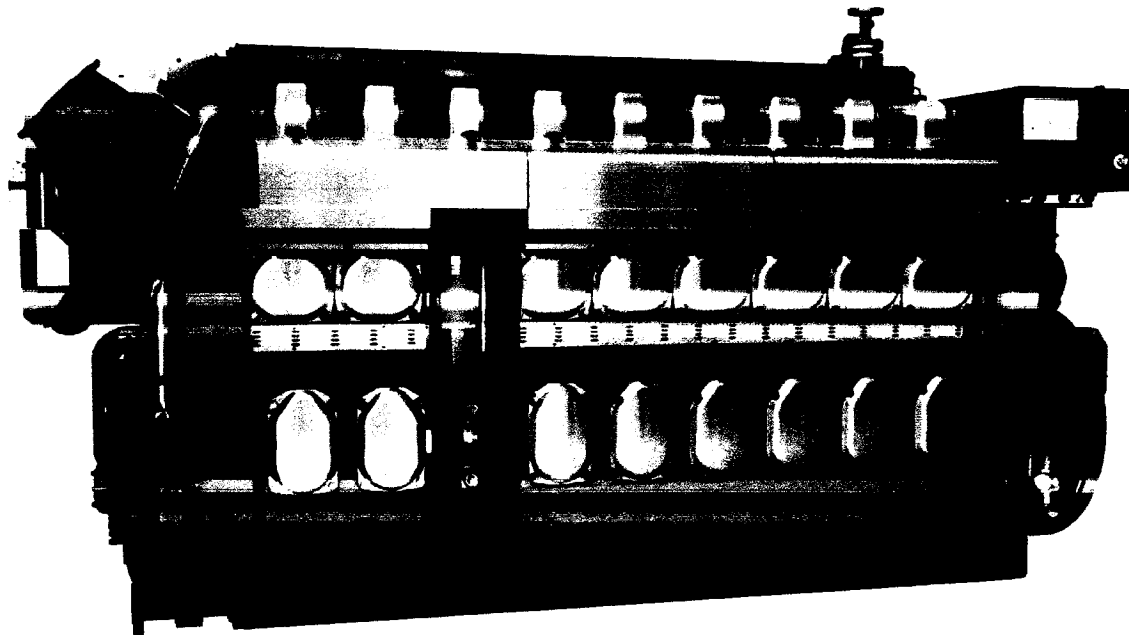


Figure 2: Generator Model "Wartsila 9 L 20"

### **LOCATION**

Site proposed for the installation of power generation facility is located adjacent to River edge Housing Scheme / Park View Villas 17 Km Multan Road, District Lahore, under the name of Vision Developers (Pvt.) Ltd.

Land coordinates of the project site/ generator yard are given below:

**North:** ..... Park View Villas Land

**South:** .....Park View Villas Land

**East:** .....Park Views Villas / Link Road

**West:** .....Agricultural Land

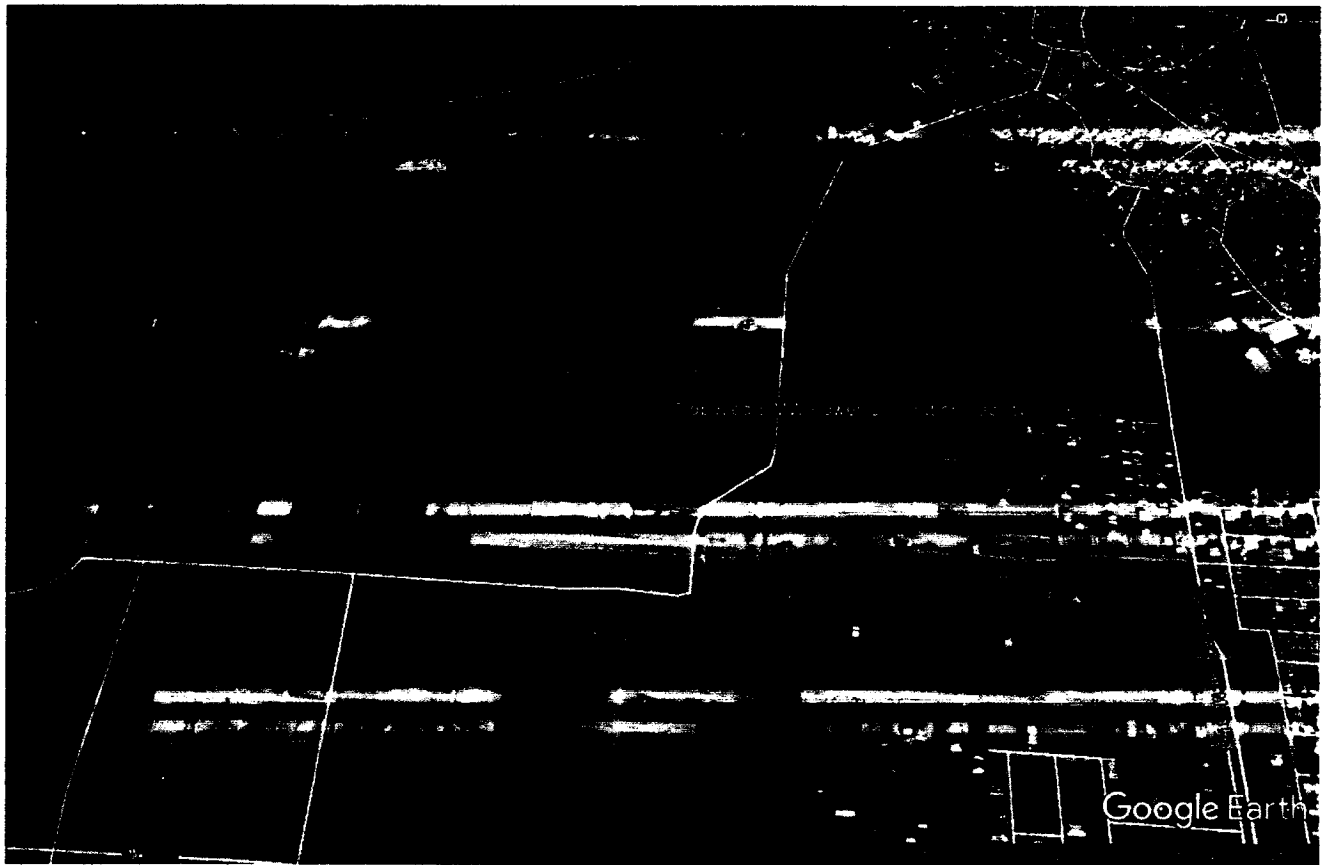


Figure 3: Aerial View of Proposed Project Site

### **OBJECTIVE OF THE REPORT:**

Objectives to conduct IEE/E&SSA are as following:

- ✓ It is mandatory according to Punjab Environmental Protection Act-PEPA 1997 (Amended 2012)
- ✓ It is requirement of NEPRA.
- ✓ To identify the environmental issues pertaining to the operational site.
- ✓ To evaluate the ability of the site in view of social acceptance and environmental soundness.
- ✓ To provide the maximum information to the proponent and other stakeholders about the existing environmental conditions and the implications of the operational project.
- ✓ Collection of available data, reports and other relevant information about area of subject project.
- ✓ Propose mitigation measures to eliminate or to reduce the impacts to an acceptable level.

## **CHAPTER # 2**

### **DESCRIPTION OF THE PROJECT**

#### **TYPE AND CATEGORY OF THE PROJECT**

Subject study has been conducted for proposed installation of 8 MW Power Generation facilities adjacent to River edge Housing Scheme / Park View Villas 17 Km Multan Road, District Lahore, under the name of M/S Vision Developers (Pvt.) Ltd. it will supply Power generation facility will supply electricity to River Edge Housing Scheme / Park View Villas.

6 generators, "Wartsila 9 L 20" Finland make will be installed and diesel will be used as fuel. Project may be considered under Schedule I Category- B for IEE, of PEPA, Regulations, 2000.

#### **OBJECTIVES OF THE PROJECT**

The objectives of the installation of this facility are:

- To provide the power of nearby housing schemes.
- Decrease the burden to national Grid.
- Benefit to the local marketing and national economy of the country.

#### **ALTERNATIVES CONSIDERED, & REASONS FOR THEIR REJECTION**

##### **LOCATION ALTERNATIVE**

Purpose of installation of subject Power Generation Facility is to provide power/electricity to Park View Villa housing scheme. The subject proposed site is located adjacent to that housing scheme. Any other location cannot be considered for the subject project, because if it will be installed at any other location, long transmission lines will be required for transmission of power to the said Housing Scheme. That's why current site is most suitable for the installation of Power Generators.



### **DEMAND ALTERNATIVE**

In Pakistan load shedding is one of major problem of the country. LESCO is not able to meet the requirements of the present and proposed housing societies. This project not will only meet the requirements but also decrease the burden to nation grid.

### **PROJECT ALTERNATIVES**

The alternatives of Diesel Generators could be Coal, HFO due to emissions from burning of Coal. Resources of coal in Pakistan are minimum so using diesel is a step to save natural resources

- Secondly, the power need for the said Housing Scheme is not neither there are the requirements of such a bigger source of energy nor is the space nor capacity available for the power plant.
- Installation of power plant would be more costly than the installation of generators.
- Power plant will be more damaging for the environment as compared to the generators in terms of its emissions, fuel, ash, slag, wastewater and high amounts of water required for its process etc.
- Socially, the power plant has more adverse impacts on community as compared to generators in terms of its noise, emissions etc.

### **DESIGN ALTERNATIVE**

Generators will be installed in specially constructed rooms, also known as the canopy or the generator yard. The canopy of the generator yard will be made up of high quality steel and will be completely powder coated. The paint of three step process will ensure protection against erosion, scratching, and corrosion.

### **LOCATION AND SITE LAYOUT OF THE PROJECT SITE**

Site proposed for the installation of generators is located adjacent to River edge Housing Scheme / Park View Villas 17 Km Multan Road, District Lahore, under the name of M/S Vision Developers (Pvt.) Ltd.

**REASON OF SELECTION**

- No land dispute
- Site is at safe distance from said Housing Scheme.
- Site is present adjacent the housing scheme.
- Small distribution line will be installed to provide electricity to all nearby demanding areas.

Land coordinates of the project site/ generator yard are given below:

**North:** .....Agricultural Land

**South:** .....Park View Villas Main Road

**East:** .....Park Views Villas Housing Scheme

**West:** .....Agricultural Land

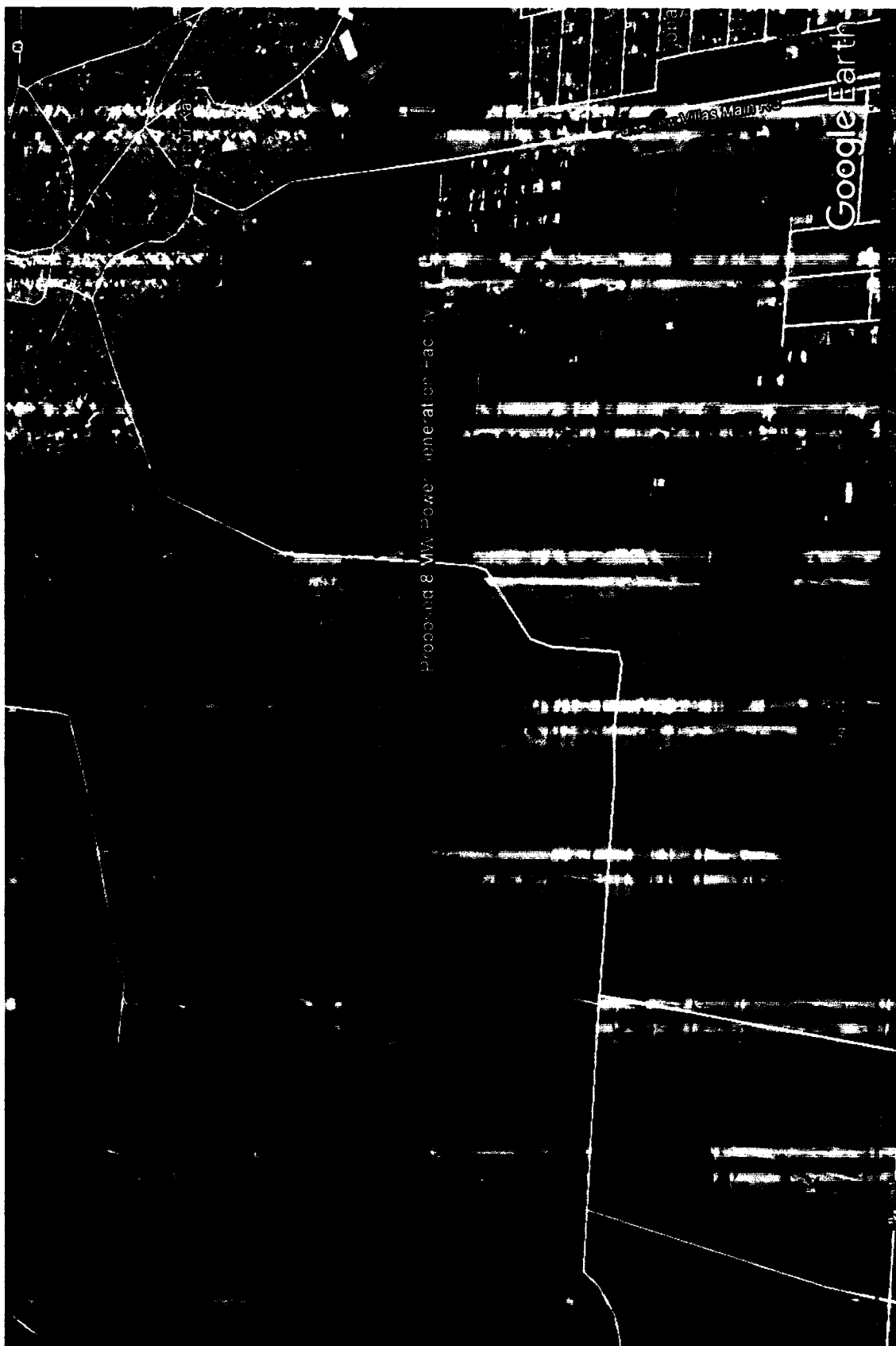


Figure 4: Aerial View & Boundary of Proposed Project Site

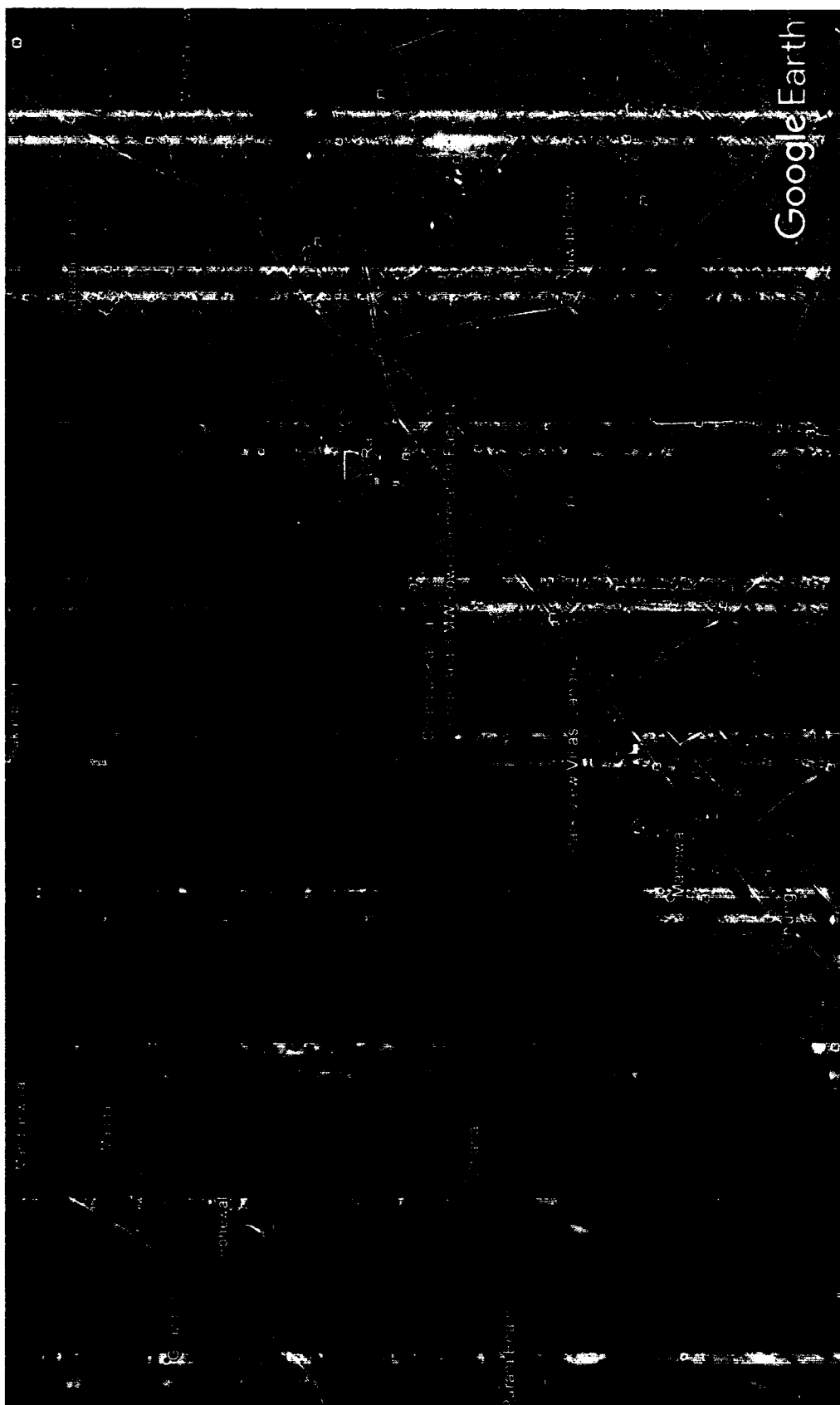
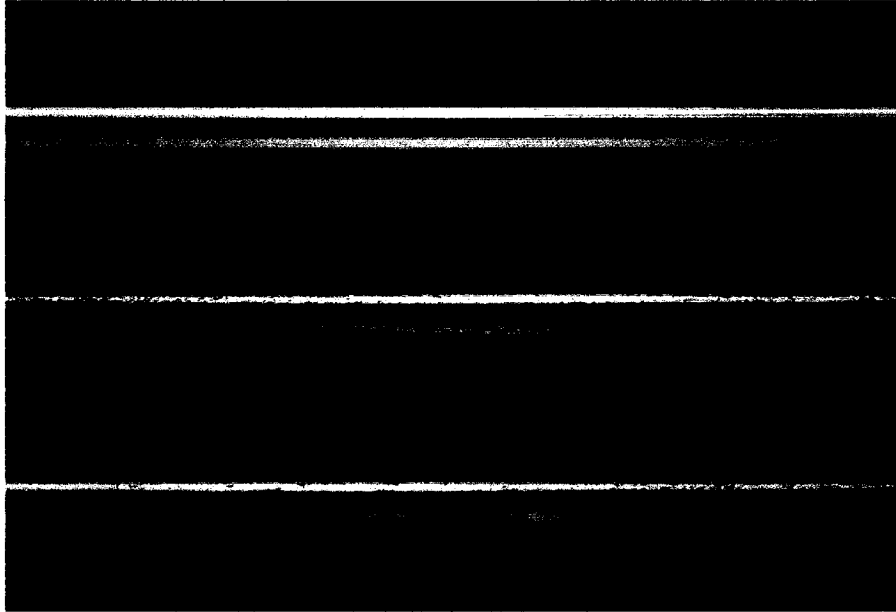


Figure 5: Proposed Project site & nearby Residential & Industrial Areas



**Figure 6: Proposed Project Site**

### **LAND USE ON SITE**

Proposed project site is the property of Vision Developers Pvt. Ltd. All laws and by laws of the government are applicable to any land planning and use as well. Currently the land is just an open plot.



**Figure 7: Land use of proposed project site**

## ROAD ACCESS

Park View Villas link road is Access road for the project site.



Figure 8: Pak View Villa Main Road



Figure 9: Road Access to Park View Villa From Multan Road

## VEGETATION FEATURES OF THE PROJECT SITE

Site proposed for the installation of power generation facility is an open plot and no tree cutting will be involved in the process.



Figure 10: Pictorial View of proposed Project site

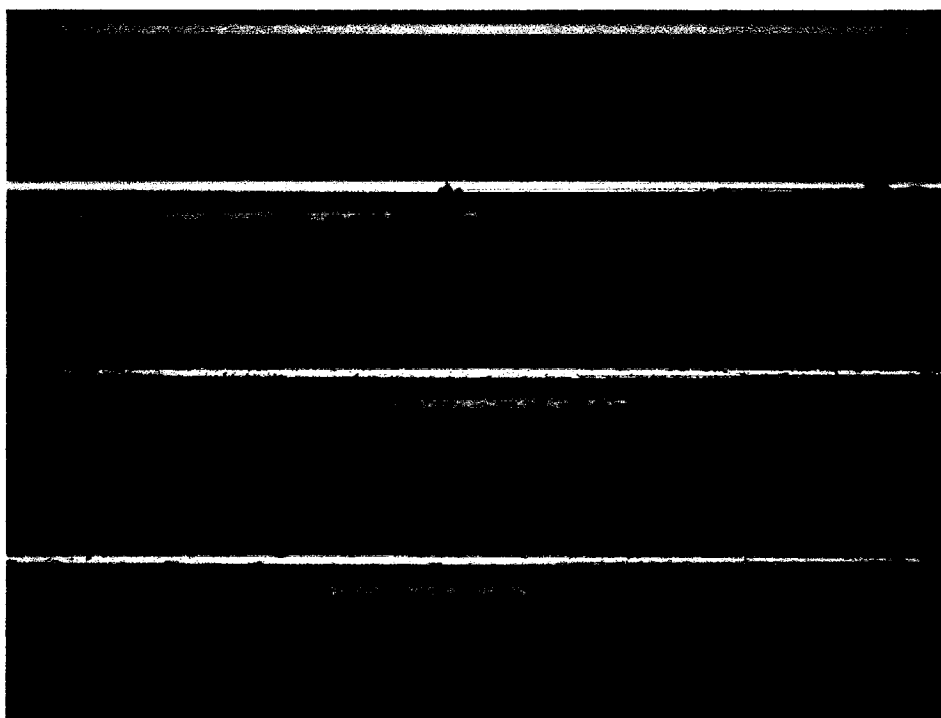


Figure 11: Vegetation features of proposed project site

**COST AND MAGNITUDE OF OPERATION:**

Cost required for the installation of 8 MW Power Generation Facility will be approx. 90 million rupees.

**SCHEDULE OF IMPLEMENTATION**

Necessary legal and administrative have being finalized. Proposed facility will be installed after getting the approval. Estimated completion time will be 1- 1.5 from the date of environmental approval.

- Construction of Building
- Installation of Generators

**STATUS OF THE PROJECT**

The project is only just proposed. There is no construction activity present there. The construction will be start after the approval of NOC.

**DESCRIPTION OF THE PROJECT**

Subject study has been conducted for construction of building for proposed installation of 8 MW Power Generation facilities at River edge Housing Scheme / Park View Villas 17 Km Multan Road, District Lahore, under the name of Vision Developers (Pvt.) Ltd. it will supply electricity to nearby proposed housing scheme. 6 generators, "Wartsila 9 L 20" Finland make will be installed & they use diesel as a fuel.

Table 6: Features of the project

|                               |  |
|-------------------------------|--|
| <b>Name of Company</b>        | Vision Developer Pvt. Ltd.                                 |
| <b>Purpose of the Project</b> | Installation of 8 MW Power Generations<br>I.e. Generators. |
|                               |  |
| <b>No. of Generators</b>      | 6 Generators   |



*[Signature]*



|  |  |
|--|--|
| <b>Fuel</b>                              | Diesel   |
| <b>Total capacity</b>                    | 8 MW   |
| <b>Running Time</b>                      | Continuous Running<br>Stop for only maintenance purposes   |
|  |  |
| <b>Water consumption for the project</b> | 1200 liter / day in Constructional Phase<br>400 l/d in Operational Phase   |
| <b>Source of water drinking water</b>    | Underground water  |
| <b>Ways of extraction</b>                | Motor pump   |
| <b>Depth of ground water table</b>       | 100 feet approx.   |
| <b>Boring Depth</b>                      | Approx. 200-250ft  |
| <b>Source of Water consumption</b>       | Domestic   |
| <b>Amount of waste water</b>             | About 80% of daily consumption in operational phase  |
| <b>Source of waste water</b>             | Construction Activities & Domestic Waste   |
| <b>Mode of Disposal</b>                  | Septic tank will be present to treat wastewater, after treatment water will be disposed of into housing scheme's Drain         |
|  |  |
| <b>Source of solid waste generation</b>  | Constructional waste.<br>Only Domestic waste in operational phase  |
| <b>Mode of disposal</b>                  | Constructional waste will be handed over to local contractor.<br>Domestic waste will be handed over to local waste collectors. |



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|                    |  |
|--------------------|--|
| <b>Labor Force</b> | About 91 person during construction<br>About 10-15 person during operation |
|--------------------|--|

**PROJECT TECHNOLOGY DISCRIPTION****BASIC INFORMATION ABOUT WARTSILA 9 L 20 POWER GENERATOR**

|  |                 |
|--|-----------------|
| Total Life of Each Power Generator                               | 200000 hours    |
| Major Over Hauling   | 24000 hours     |
| Top End on   | 6000 hours      |
| Routine Shut down time   | 720 hours       |
| Maintenance time required like oil change,<br>Filter change etc. | 12 hours        |
| Restart time for sudden shut down                                | 30 – 60 minutes |

**CAPACITY CHART**

Generator use for this Project is make of Finland and model of generator is “Wartsila 9 L 20”.

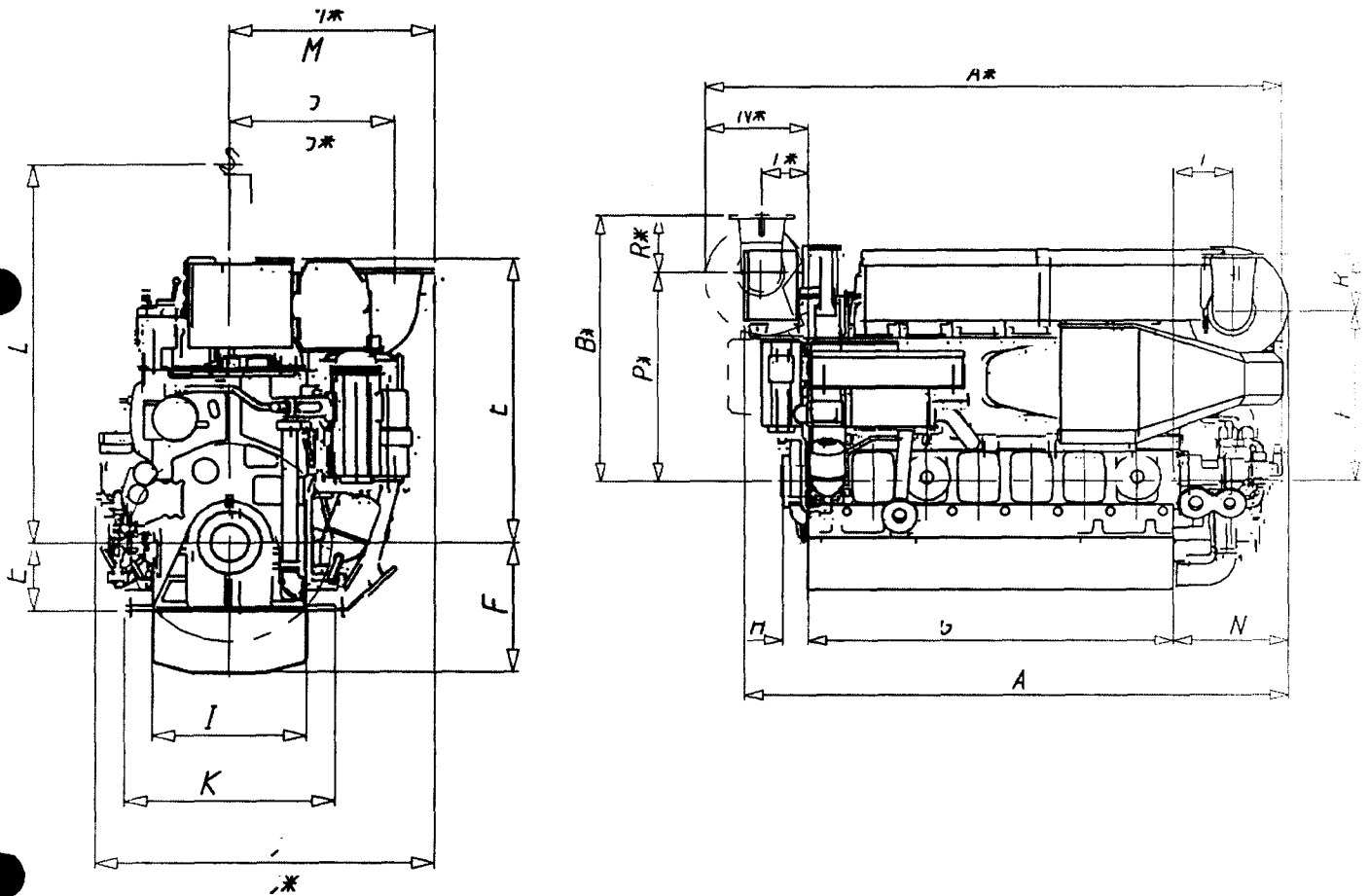
Total capacity of all 6 generators is given below.

Table 7: Capacity of 6 Generators

| Gen. Set              | Model           | Make    | Gross Capacity | Auxiliary Consumption | Net capacity |
|-----------------------|-----------------|---------|----------------|-----------------------|--------------|
| 1                     | Wartsila 9 L 20 | Finland | 1388 KW        | 138.8 KW              | 1249.20      |
| 2                     | Wartsila 9 L 20 | Finland | 1388 KW        | 138.8 KW              | 1249.20      |
| 3                     | Wartsila 9 L 20 | Finland | 1388 KW        | 138.8 KW              | 1249.20      |
| 4                     | Wartsila 9 L 20 | Finland | 1388 KW        | 138.8 KW              | 1249.20      |
| 5                     | Wartsila 9 L 20 | Finland | 1388 KW        | 138.8 KW              | 1249.20      |
| 6                     | Wartsila 9 L 20 | Finland | 1388 KW        | 138.8 KW              | 1249.20      |
| Total Net Capacity KW |                 |         |                |                       | 7495.20      |

## TECHNICAL SPECIFICATION

### Main Engine



| Engine | A   | A    | B*  | B   | C*  | C   | D   | E   | F   | G   | H  | I  | K            |
|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|----|----|--------------|
| 9L20   | 42  | 407  | 161 | 144 | 175 | 171 | 180 | 325 | 624 | 298 | 15 | 71 | 980          |
| Engine | M*  | M    | N*  | N   | P*  | P   | R*  | R   | S*  | S   | T* | T  | Weight<br>** |
| 9L20   | 112 | 1084 | 69  | 731 | 122 | 100 | 390 | 39  | 907 | 86  | 32 | 33 | 11.6         |

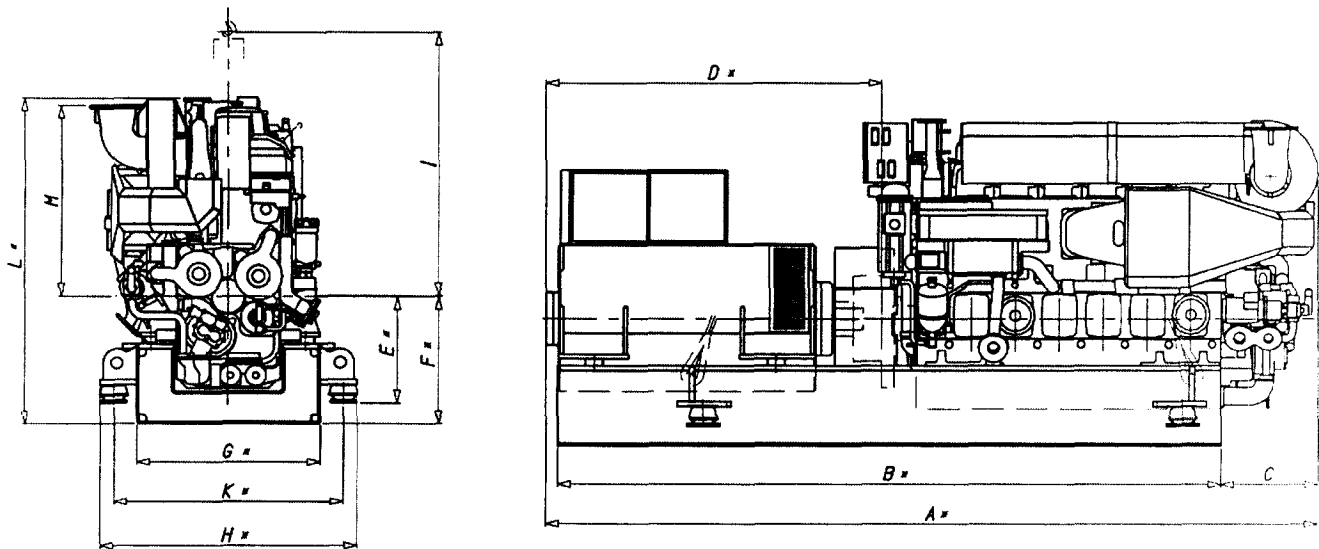
\* Turbocharger at flywheel end

\*\* Weights (in Metric tons) with liquids (wet sump) but without flywheel



*[Handwritten signature]*

### Auxiliary Engine



| Engine | A*   | B*   | C   | D*   | E*  | F*            | G*            | H*            | I    | K*            | L*            | M    | Weight [ton] |
|--------|------|------|-----|------|-----|---------------|---------------|---------------|------|---------------|---------------|------|--------------|
| 9L20   | 6550 | 5415 | 731 | 2580 | 728 | 1075/<br>1125 | 1570/<br>1800 | 2070/<br>2300 | 1800 | 1880/<br>2110 | 2524/<br>2574 | 1390 | 23.8         |

\* Values are based on standard alternator, whose type (water or air cooled) and size affects to width, length, height and weight. Weight is based on wet sump engine with engine liquids.

### Technical Data Sheet

Table 8: technical Data Sheet of Generator

| Diesel engine Wärtsilä 9L20 |  |     | ME       | AE  | AE  | AE  | AE   |
|-----------------------------|--|-----|----------|-----|-----|-----|------|
| Engine speed                |  | RPM | 100<br>0 | 720 | 750 | 900 | 1000 |

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|   |    |                 |          |      |         |      |      |
|---|----|-----------------|----------|------|---------|------|------|
| Engine output                           |    | kW              | 162<br>0 | 1170 | 1215    | 1530 | 1620 |
| Engine output                           |    | HP              | 220<br>0 | 1590 | 1650    | 2080 | 2200 |
| Cylinder bore                           |    | mm              |          |      | 200     |      |      |
| Stroke                                  |    | mm              |          |      | 280     |      |      |
| Swept volume                            |    | dm <sup>3</sup> |          |      | 79,2    |      |      |
| Compression ratio                       |    |                 |          |      | 15      |      |      |
| Compression pressure, max.              |    | bar             | 167      | 150  | 150     | 167  | 167  |
| Firing pressure, max.                   |    | bar             | 185      | 170  | 170     | 185  | 185  |
| Charge air pressure at 100% load        |    | bar             |          |      | 0,3     |      |      |
| Mean effective pressure                 |    | bar             | 24,<br>6 | 24,6 | 24,6    | 25,8 | 24,6 |
| Mean piston speed                       |    | m/s             | 9,3      | 6,7  | 7       | 8,4  | 9,3  |
| Idling speed                            |    | RPM             | 350      |      |         |      |      |
|   |    |                 |          |      |         |      |      |
| Flow of air at 100% load                |    | kg/s            | 3,4<br>3 | 1,98 | 2,11    | 3,09 | 3,43 |
| Ambient air temperature, max.           |    | °C              |          |      | 45      |      |      |
| Air temperature after air cooler        |    | °C              |          |      | 45...60 |      |      |
| Air temperature after air cooler, alarm |    | °C              |          |      | 75      |      |      |
|   |    |                 |          |      |         |      |      |
| Exhaust gas flow (100% load)            | 3) | kg/s            | 3,5<br>2 | 2,05 | 2,18    | 3,17 | 3,52 |
| Exhaust gas flow ( 85% load)            | 3) | kg/s            | 3,0<br>5 | 1,79 | 1,91    | 2,76 | 3,08 |



*(Signature)*

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|  |       |           |          |      |        |      |      |
|--|-------|-----------|----------|------|--------|------|------|
| Exhaust gas flow ( 75% load)                     | 3)    | kg/s      | 2,6<br>7 | 1,62 | 1,73   | 2,47 | 2,79 |
| Exhaust gas flow ( 25% load)                     | 3)    | kg/s      | 1,7<br>4 | 1,18 | 1,27   | 1,76 | 2,05 |
| Exhaust gas temp. after turbocharger (100% load) | 1) 3) | °C        | 340      | 360  | 360    | 340  | 340  |
| Exhaust gas temp. after turbocharger ( 85% load) | 1) 3) | °C        | 350      | 360  | 360    | 340  | 340  |
| Exhaust gas temp. after turbocharger ( 75% load) | 1) 3) | °C        | 350      | 370  | 370    | 340  | 340  |
| Exhaust gas temp. after turbocharger ( 50% load) | 1) 3) | °C        | 370      | 380  | 380    | 350  | 330  |
| Exhaust gas back pressure drop, max.             |       | kPa       |          |      | 3      |      |      |
| Diameter of turbocharger connection              |       | mm        |          |      | 300    |      |      |
| Exhaust gas pipe diameter, min.                  |       | mm        | 450      | 350  | 350    | 450  | 450  |
| Calculated dia for 35 m/s                        |       | mm        | 470      | 365  | 376    | 446  | 470  |
|  |       |           |          |      |        |      |      |
| Jacket water                                     |       | kW        | 380      | 280  | 291    | 353  | 380  |
| Charge air                                       |       | kW        | 495      | 342  | 355    | 458  | 495  |
| Lubricating oil                                  |       | kW        | 244      | 177  | 183    | 229  | 244  |
| Exhaust gases                                    |       | kW        | 104<br>4 | 771  | 800    | 985  | 1044 |
| Radiation  |       | kW        | 79       | 63   | 66     | 75   | 79   |
|  |       |           |          |      |        |      |      |
| Pressure before injection pumps                  |       | kPa (bar) |          |      | 600(6) |      |      |
| Pump capacity, MDF, engine driven                |       | m³/h      | 1,9<br>2 | 1,48 | 1,54   | 1,73 | 1,92 |
| Fuel consumption (100% load)                     | 3)    | g/kWh     | 191      | 192  | 192    | 190  | 191  |



*[Handwritten signature]*

|  |              |     |           |           |     |     |
|--|--------------|-----|-----------|-----------|-----|-----|
| Fuel consumption ( 85% load)                   | 3) g/kWh     | 189 | 192       | 192       | 190 | 190 |
| Fuel consumption ( 75% load)                   | 3) g/kWh     | 190 | 193       | 193       | 190 | 191 |
| Fuel consumption ( 50% load)                   | 3) g/kWh     | 195 | 202       | 202       | 198 | 199 |
| Leak fuel quantity, clean MDF fuel (100% load) | kg/h         | 1,3 | 0,9       | 1         | 1,2 | 1,3 |
|  |              |     |           |           |     |     |
| Pressure before engine, nom.                   | kPa (bar)    |     |           | 450 (4,5) |     |     |
| Pressure before engine, alarm                  | kPa (bar)    |     |           | 300 (3)   |     |     |
| Pressure before engine, stop                   | kPa (bar)    |     |           | 200 (2)   |     |     |
| Priming pressure, nom.                         | kPa (bar)    |     |           | 80 (0,8)  |     |     |
| Priming pressure, alarm                        | kPa (bar)    |     |           | 50 (0,5)  |     |     |
| Temperature before engine, nom.                | °C           |     |           | 63        |     |     |
| Temperature before engine, alarm               | °C           |     | 80        |           |     |     |
| Temperature after engine, abt.                 | °C           |     | 78        |           |     |     |
| Pump capacity (main), engine driven            | m³/h         | 50  | 50        | 50        | 50  | 50  |
| Pump capacity (main), separate                 | m³/h         |     | 30        |           |     |     |
| Pump capacity (priming)                        | 4) m³/h      |     | 6,9/8,4   |           |     |     |
| Oil volume, wet sump, nom.                     | m³           |     | 0,55      |           |     |     |
| Oil volume in separate system oil tank, nom.   | m³           | 2,2 | 1,6       | 1,6       | 2,1 | 2,2 |
| Filter fineness, nom.                          | microns/60 % | 25  | 25        | 25        | 25  | 25  |
| Filter difference pressure, alarm              | kPa (bar)    |     | 150 (1,5) |           |     |     |
| Oil consumption (100% load), abt.              | 5) g/kWh     |     | 0,6       |           |     |     |
|  |              |     |           |           |     |     |

|  |              |    |                      |    |    |
|--|--------------|----|----------------------|----|----|
| <b>High temperature cooling water system</b> |              |    |                      |    |    |
| Pressure before engine, nom.                 | kPa<br>(bar) |    | 200 (2,0) + static   |    |    |
| Pressure before engine, alarm                | kPa<br>(bar) |    | 100 (1,0) + static   |    |    |
| Pressure before engine, max.                 | kPa (bar)    |    | 350 (3,5)            |    |    |
| Temperature before engine, abt.              | °C           |    | 83                   |    |    |
| Temperature after engine, nom.               | °C           |    | 91                   |    |    |
| Temperature after engine, alarm              | °C           |    | 105                  |    |    |
| Temperature after engine, stop               | °C           |    | 110                  |    |    |
| Pump capacity, nom.                          | m³/h         | 45 | 40      42           | 44 | 45 |
| Pressure drop over engine                    | kPa (bar)    |    | 50 (0,5)             |    |    |
| Water volume in engine                       | m³           |    | 0,16                 |    |    |
| Pressure from expansion tank                 | kPa<br>(bar) |    | 70...150 (0,7...1,5) |    |    |
| Pressure drop over central cooler, max.      | kPa<br>(bar) |    | 60 (0,6)             |    |    |
| Delivery head of stand-by pump               | kPa (bar)    |    | 200 (2)              |    |    |
| <b>Low temperature cooling water system</b>  |              |    |                      |    |    |
| Pressure before charge air cooler, nom.      | kPa<br>(bar) |    | 200 (2) + static     |    |    |
| Pressure before charge air cooler, alarm     | kPa<br>(bar) |    | 100 (1) + static     |    |    |
| Pressure before charge air cooler, max.      | kPa (bar)    |    | 350 (3,5)            |    |    |
| Temperature before charge air cooler, max.   | °C           |    | 38                   |    |    |
| Temperature before charge air cooler, min.   | °C           |    | 25                   |    |    |
| Pump capacity, nom.                          | m³/h         | 54 | 43      45           | 50 | 54 |
| Pressure drop over charge air cooler         | kPa (bar)    |    | 30 (0,3)             |    |    |
| Pressure drop over oil cooler                | kPa (bar)    |    | 30 (0,3)             |    |    |



|  |                       |  |                      |  |  |
|--|-----------------------|--|----------------------|--|--|
| Pressure drop over central cooler, max.  | kPa (bar)             |  | 60 (0,6)             |  |  |
| Pressure from expansion tank             | kPa                   |  | 70...150 (0,7...1,5) |  |  |
| Delivery head of stand-by pump           | (bar)<br>kPa<br>(bar) |  | 200 (2)              |  |  |
|  |                       |  |                      |  |  |
| Air supply pressure before engine (max.) | Mpa (bar)             |  | 3 (30)               |  |  |
| Air supply pressure, alarm               | Mpa (bar)             |  | 1,8 (18)             |  |  |
| Air consumption per start (20°C)         | 6) Nm³                |  | 0,4                  |  |  |

- 1) At an ambient temperature of 25°C.
- 2) The figures are at 100% load and include the 5% tolerance on sfoc and engine driven pumps.
- 3) According to ISO 3046/1, lower calorific value 42 700 kJ/kg, with engine driven pumps. Tolerance 5%.
- 4) Constant speed applications are Auxiliary and DE. Mechanical propulsion variable speed applications according to propeller law.
- 5) Capacities at 50 and 60 Hz respectively.
- 6) Tolerance + 0.3 g/kWh
- 7) At remote and automatic starting, the consumption is 1.2 Nm³ Subject to revision without notice.

### ATMOSPHERIC EMISSIONS:

Dust and particulate matter may be generated during the construction activities. Sprinkling of water will be done on dust tracks and stock piles. Ambient air monitoring at the proposed site was conducted by EPA certified laboratory. Reports are attached as **Annexure-D**.

During the operation phase of the project, PEQS compliance of the generators will be ensured and reports will be submitted to EPA as per requirement.

### FUEL:

Fuel for the generators will be continuously supplied by the PSO. Agreement for the supply will be made after construction/Installation of generators.

### **UNDERGROUND DIESEL STORAGE TANK**

Storage will be provided for the diesel. It is a power generation facility and they are not taking any supply from LESCO. Therefore it is important to keep the diesel in reserved in case of any emergency

The details of storage are given below:

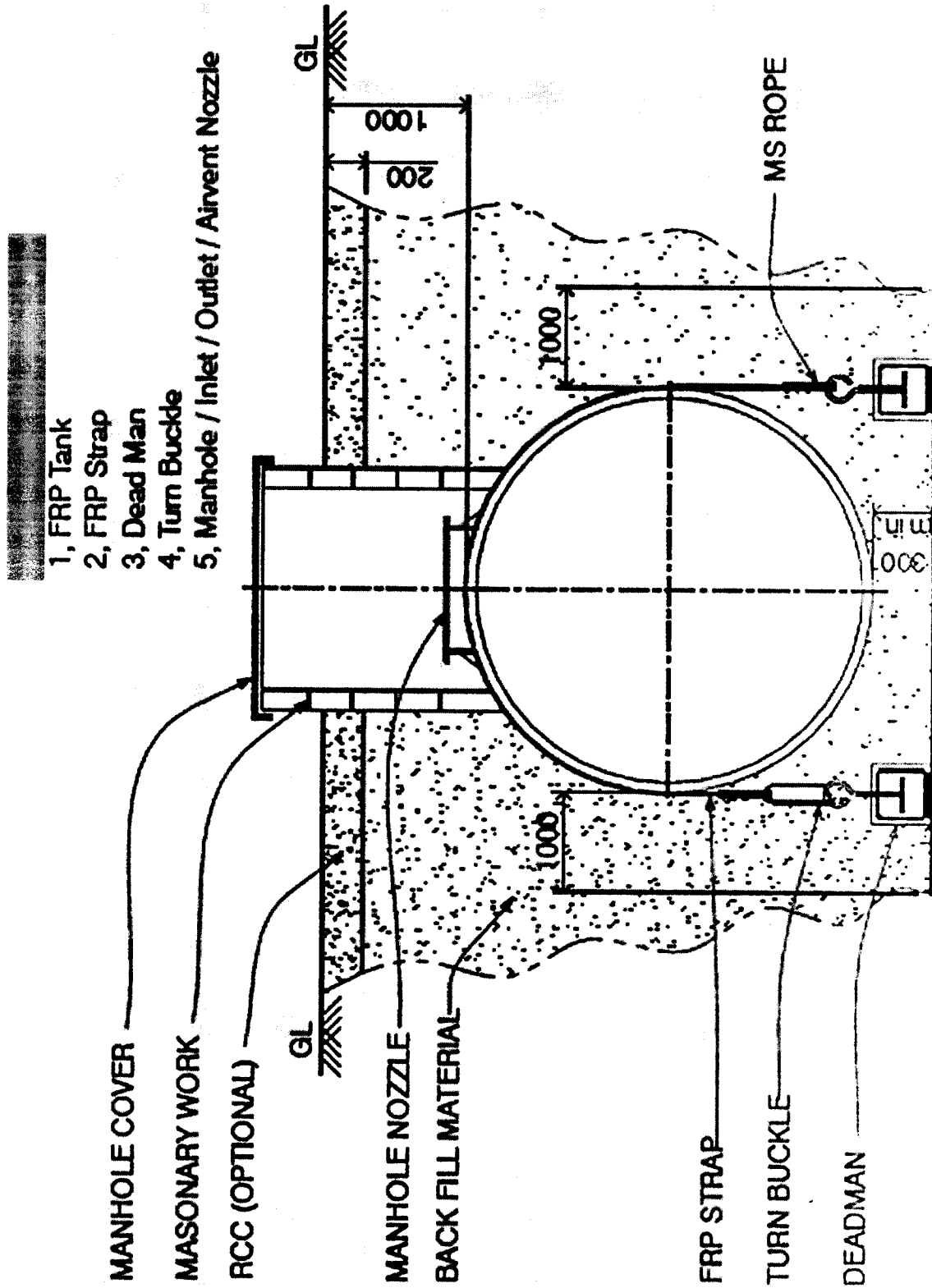


Figure 12: Underground Storage Tank

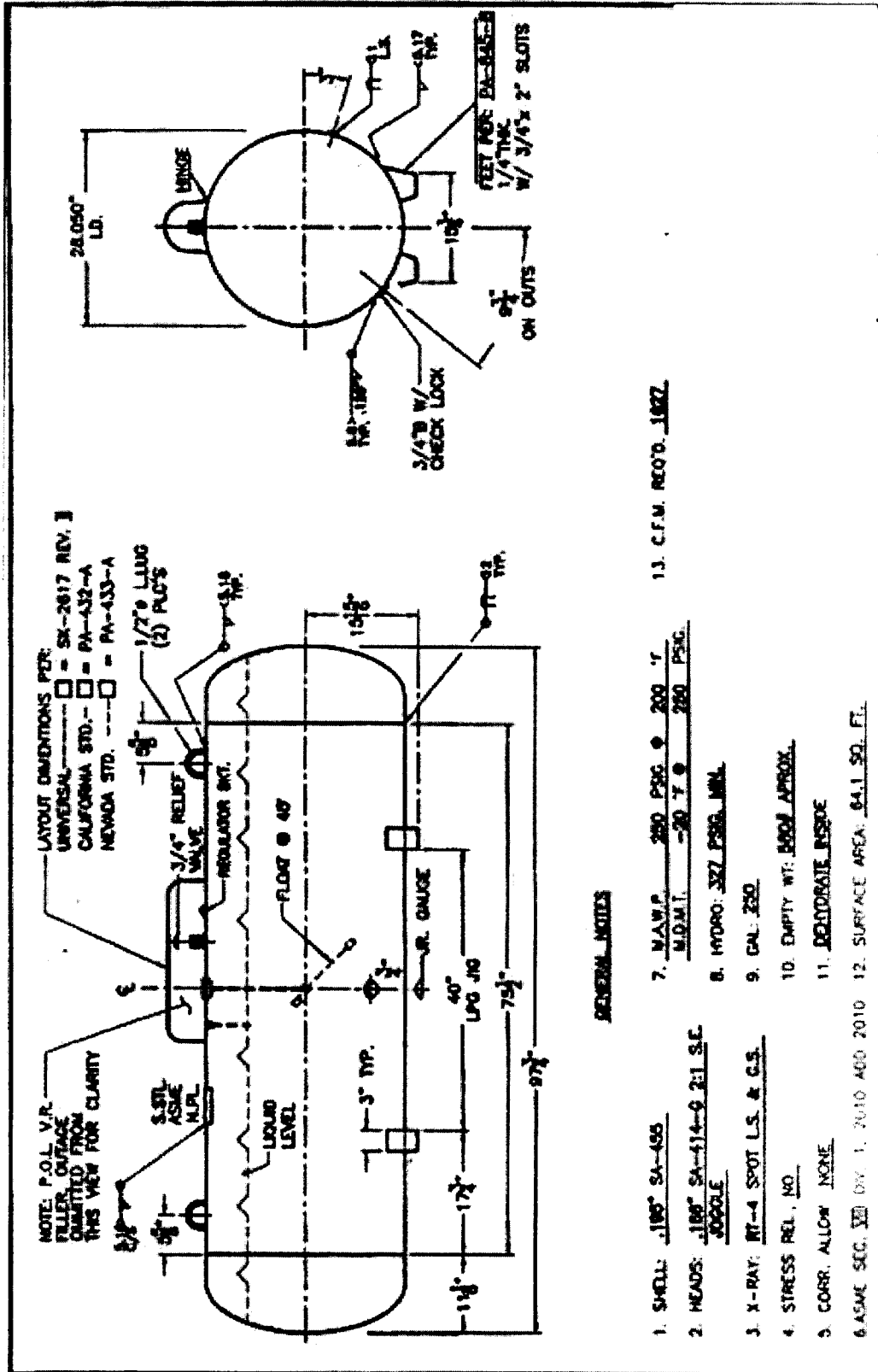


Figure 13: Detail of underground Tank



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Following safety measures will be adopted during this process.

### **DELIVERING FUEL TO THE SITE**

- Delivery of fuel to the site will be by approved highway tanks or mobile refueling tanks.
- Delivery may be into on-site refueling tanks
- Refueling tanks will meet the requirements of B620 standard and the refilling will be done in accordance with section 5.6.2 of the Liquid Fuels Handling Code, 2007, which governs the loading and unloading of highway tanks.
- Highway tanks shall be operated by a competent person.

### **DISPENSING FUEL**

- All dispensing or transferring of fuel will be attended for the duration of the operation. The attendant must be aware of proper fuel handling procedures to minimize the risk of a spill and shall continuously scan the area adjacent to the fuelling operation for possible leaks or spills.
- The transferring and dispensing of fuel will be done with pumping equipment, an approved hose, and top-fill nozzle.
- When fuelling under the conditions of Section 6.1.7.1 (a), (b), (c), (d), or (e) of the Liquid Fuels Handling Code, 2007, absorbent pads are to be placed around the fuel inlet prior to dispensing.
- Ensure that a site-appropriate spill containment kit is readily available.
- When unreeling the fuel transfer hose and nozzle, the nozzle must be in the upright position. The nozzle shall be kept clear of the ground when returned to the reel or storage position.
- Verify that there is a proper connection between the fuel fill hose and the equipment being filled. Verify that the fill valve is open.

### **HEALTH, SAFETY & ENVIRONMENT:**

#### **STORAGE SAFETY**

Storage bays should be banded to provide for a minimum retention capacity of not less than 150 per cent of the largest tank's capacity. The bund wall should be impervious to distillate and designed to withstand the hydrostatic head when full. Masonry blocks will require sealing.

Drainage valves should be constructed at the base of the wall and be secured in a closed position. Tanks for the storage of diesel fuel should comply with AS 1692 (Tanks for Flammable and Combustible Liquids) or an equivalent standard, and comply with any relevant hazardous substances regulations. The tanks should be inspected periodically and



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where a tank is found to be leaking it should cease to be used for storage of dangerous goods until that leak has been repaired.

Each tank should be labelled appropriately and identified with a reference number. The floor of the storage area should be constructed of concrete and sloped so that any spillage will flow to a sump contained within the bund.

### **REFUELLING SAFETY**

Unless vehicles are captive underground or slow moving, it is preferable that they be refuelled at a surface installation to avoid the risks associated with refuelling underground. Vehicles should be refuelled underground with their engines stopped, and only while they are within the designed refuelling bay where the ventilation is adequate and spillage can be controlled. The dispensing hose length should be restricted accordingly.

The "Fast Fill" system of refuelling is preferred but where another system is used the delivery nozzle for the fuel dispenser shall be a type which cannot be latched open during delivery, and will shut off the fuel flow automatically when the level of liquid in the receiving vessel reaches the end of the nozzle; (AS 1940 6.4.2)

The floor of a refuelling bay should be constructed of concrete and sloped so that any spillage will flow into a concrete drain then into a sump within the refuelling bay. Diesel fuel should be pumped from the storage tank to the service bay, not gravity fed, and any pump supplying diesel to a second storage tank or a vehicle shall be provided with a shut off device which is readily accessible, clearly identified and capable of shutting off power to the pump in an emergency (AS 1940 6.2.4).

### **TRANSPORT SAFETY**

#### **TRANSPORT OF DIESEL FUEL BY PIPELINE**

Where tanks on surface are used to supply diesel fuel to the tanks underground via a pipeline:

- The combined capacity of the surface batch tank and pipeline feeding the underground tank should not exceed 50 percent of the largest underground tank capacity
- Protection should be provided on surface against the hazards arising from lightning strikes

- The surface tank should be fully bunded to comply with AS1940 and should be securely fenced
- Filling of the surface batch tank should not take place while diesel is being transferred to the underground storage tank.
- The pipeline between the surface batch tank and the underground storage tank should contain no other valves or devices that may create a blockage or restriction. This will ensure that there is no risk of the formation and auto-ignition of air fuel vapour and that the pipeline contains diesel fuel only while the underground tank is being filled
- The filling pipeline should discharge onto a splash plate located in the lower portion of the underground tank; and
- A communication system should be provided between the surface batch tank and the underground storage area, outside the bunded areas. Pipes carrying diesel fuel underground should be either screwed or welded steel and restricted to a maximum diameter of 25 mm to reduce spillage in the case of failure. Pipework should be firmly supported and positioned so as not to be exposed to mechanical damage, or routed through a borehole where practicable. Precautions should be taken to guard against corrosion. The installation should be tested to ensure that siphoning is not possible.

#### **TRANSPORT OF DIESEL FUEL BY VEHICLE**

Where vehicles are used to transport diesel fuel to the underground storage tanks:

- The vehicles should be well maintained and kept clean of diesel fuel spillage and other flammable material;
- The diesel fuel being transported should be contained in sturdy, purpose built, leak proof containers;
- The transfer of diesel fuel to the storage tank should be done by a pump and hose incorporating a nozzle with an automatic cut-off facility unless a manual pump is used; and
- Signs and flashing lights should be placed in the vicinity of the vehicle to warn others that diesel fuel is being transferred to the storage tank.

Vehicles transporting diesel fuel for underground refuelling should transfer the fuel only into a storage tank and not into another vehicle's fuel tank unless the refuelling bay and the transporting vehicle and associated equipment comply with the Dangerous Goods Regulations 1992.

#### **FIRE PROTECTION**

The diesel fuel storage area and refuelling bay should be so located that in the event of a fire or explosion in either of them, there will be a minimal effect on working areas and on underground installations including any shaft, magazine, refuge station, or transformer installation. It should be noted that in the event of a fire smoke and fumes will travel up



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declines due to the convective effect, regardless of the direction and quantity of air in the decline.

The diesel storage area should be walled completely on the fresh air side with an access hatch or door that is sealable in case of fire. Both the wall and door, or access hatch, should be constructed of fireproof materials and the door or access hatch should open only outwards.

The storage area and refuelling bay should be kept clean. Waste oil, grease or spillage should not be washed into the mine drainage system but should be collected and sent to the surface in secure containers daily. Pumps for spillage removal may be either electric or air powered, and in the case of the storage area located outside the bund. The pump and valve should be manually operated, not automatic.

Suitable equipment should be installed for the control and extinction of fire, and tested and maintained in accordance with the appropriate Australian Standards. The fuel storage area and the refuelling bay should have fire extinguishers with a combined minimum rating of 200B(E) located upwind and within easy access of the entrances. The pump installation for handling diesel shall be provided with a 2A 60B(E) powder extinguisher (AS 1940 10.5.1). A hydrant and hose should be provided at a location where the water it supplies can reach every part of any tank, pump, valve or other component of the installation.

A foam fire suppression system should be installed in each diesel storage bay and refuelling bay, together with a system incorporating fusible links which when activated will allow baffles to close preventing any movement of air into or out of the storage bay.

### **WORK PERMITS**

Except for routine work of a non-hazardous nature any work required in a diesel storage or refuelling bay should be authorised by means of a Work Permit (AS 1940 9.8.2.1). The person designated should issue the Work Permit and be responsible for safety at that site until the work is completed and the site restored to a safe condition (AS 1940 9.8.2.1, 9.8.2.4 and 9.8.2.5).

### **EMERGENCY RESPONSE**

An emergency response plan should be prepared for any emergency involving the storage use or transport of diesel, and the plan should be maintained and periodically tested by conducting regular fire drills. Persons employed underground should understand their responsibilities with regard to the emergency plan and be competent to operate all the safety



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equipment they may be required to use in dealing with an emergency. Emergency response equipment provided should be of an adequate design and manufacture, conform to an Standard and be maintained in an operable condition. Appropriate warning signs and emergency instructions detailing the action to be taken in the event of a fire, explosion or major leak should be posted in conspicuous places.

**PERSONAL PROTECTIVE EQUIPMENT:**

- During the constructional phase of the project Helmets, Gloves, Masks and ear plugs will be provided to the workers.
- During the operational phase of the project special dress of workers will be ensured during the decanting and re-filling of fuel to avoid any hazard.
- It will be ensured that workers do not have any flammable material or flammable materials should be kept away from the working site.

**MEASURES FOR SAFETY OF WORKERS:**

**SAFETY INFORMATION**

This information will be kept at the workplace:

- Site operating procedures — including procedures for product tank filling and dipping; for tanker discharge; and for equipment inspection and maintenance.
- Reconciled inventory records of fuel received and dispensed.
- The emergency plan that deals with the range of emergency situations that may arise at the workplace, including fuel leaks and spills, and fires.
- Other relevant documents that demonstrate workplace safety systems; for example, maintenance records, work permit systems, incident investigation procedures, and staff training records.

**STAFF TRAINING**

Training of workers should be conducted on the following issues:

- Tank dipping procedure
- Tanker bulk transfer procedure.
- They should also know the procedures for dealing with incidents, such as managing a fuel spill or responding to an emergency.
- Make sure your workers clearly understand their responsibilities and authority to manage safety in a public place. This includes knowing when fuel should not be dispensed,
  - such as when a vehicle engine is running



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- someone is smoking in the forecourt
- someone under 16 years is attempting to operate a dispenser (this includes your own workers) ,,
- someone is attempting to fill fuel into a non-compliant container (such as a food container) ,,
- Someone has wedged the fuel delivery nozzle open with a fuel cap or similar device

### **ESTIMATED FUEL CONSUMPTION AND GHG EMISSIONS FORM GENERATOR**

According to the specification of generators, diesel consumption for one generator will be approx. 2477 Kilo liters per anum. Generators will work contineously for electicity production. The estimated CO<sub>2</sub> emissions from this activity will be 6639 Tons per anum. GHG Emission factor for the Diesel has been taken from the IPCC report.

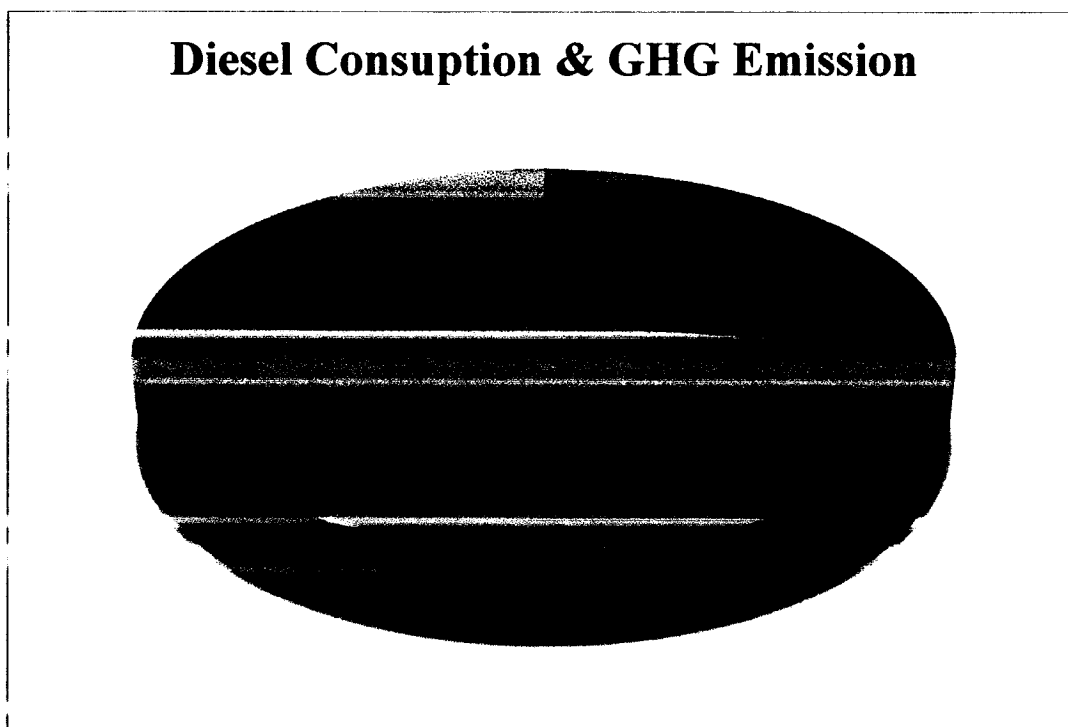


Figure 14: Diesel consumption & GHG Emission

### **NOISE:**

Generators will be installed in specially constructed facility. PEQS compliance of generators will be ensured during the construction and operation phase of the project and reports will be submitted to EPA. Noise level monitoring at the project site before the installation of subject facility, reports are attached as **Annexure-D**.

**WATER REQUIREMENTS:**

During the construction phase of the project approx. 1200 liter/day water will be required for construction, labor domestic use and for sprinkling on dusty tracks.

Water will not be required during the operational phase of the project because there is no use of water in the working of generators. Only operators and office staff will use about 200 liter/day Design of septic tank is given below;

The waste water from domestic use including from the toilet will be channeled into the existing sewer line.

Table 9: Water Details

|  |   |
|--|---|
| <b>Water consumption for the project</b> | 1200 liter / day in Constructional Phase<br>400 l/d in Operational Phase for office use         |
| <b>Source of water drinking water</b>    | Underground water   |
| <b>Ways of extraction</b>                | Motor pump  |
| <b>Depth of ground water table</b>       | 100 feet approx.  |
| <b>Boring Depth</b>                      | Approx. 200-250ft   |
| <b>Source of Water consumption</b>       | Domestic  |
| <b>Amount of waste water</b>             | About 80% of daily consumption in operational phase   |
| <b>Source of waste water</b>             | Construction Activities & Domestic Waste  |
| <b>Mode of Disposal</b>                  | Septic tank will be provided then the final disposal will be attached to nearby housing scheme. |

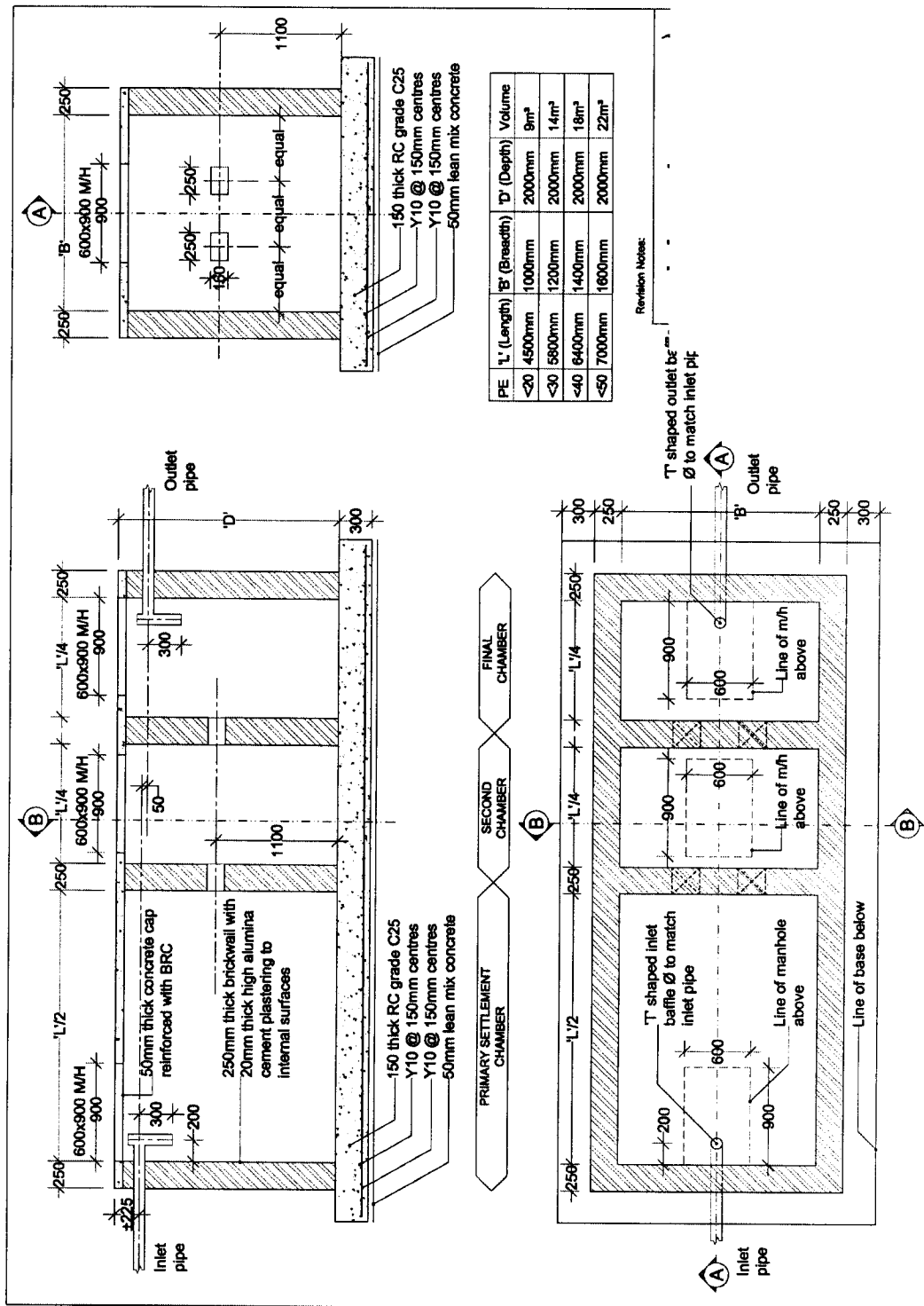


Figure 15: Design Details of Septic Tank

**SOLID WASTE**

There will not be any solid waste from the subject activity. That's why solid waste management plan has not been devised for the subject project. Constructional waste will be handled by constructional contractor and domestic waste will be hand over to local contractor. Very low amount of solid waste produced because only office staff and operators will be there.

|   |   |
|---|---|
| <b>Source of solid waste generation</b> | Constructional waste in case of construction<br>Domestic waste in operational phase   |
| <b>Mode of disposal</b>                 | Constructional waste is responsibility of constructional contractor<br>Domestic waste will be collected by local waste collectors |

**LIFE CYCLE ASSESSMENT OF THE GENERATORS:**

Generators will work perfectly for minimum 10 years (ensured by the vendor), after that period, if efficiency will be reduced or if required, some parts will be changed and PEQS compliance of generators will be ensured. Defected parts will be handed over to the vendor/ manufacturer for further use.

|  |                 |
|--|-----------------|
| Total Life of Each Power Generator         | 200000 hours    |
| Major Over Hauling                         | 24000 hours     |
| Top End on                                 | 6000 hours      |
| Routine Shut down time                     | 720 hours       |
| Maintenance time required like oil change, | 12 hours        |
| Filter change etc.                         |                 |
| Restart time for sudden shut down          | 30 – 60 minutes |

**GUIDELINES FOR MAINTENANCE OF GENERATORS:**

Firstly, the generator made up of latest and environmental friendly technology will be used. Standard fuel will be used in the generator. Proper and regular tuning of the generator will be ensured.

All these measures will ensure the PEQS compliance of generators and emissions will not exceed the limits.



Preventive maintenance and service are typically done on a schedule based upon engine hours and/or time periods. The maintenance cycle can—and should—be adapted to meet specific application needs. The more hours per year a unit operates, the more frequently it will require service. Environment also plays a role: The more severe the environment (dusty, extremely hot or cold, highly humid, etc.), the more frequent the need for service may be.

Most maintenance schedules for generators—whether a unit is powered by diesel or gaseous fuels—are roughly the same.

The typical maintenance cycle includes a general inspection followed by scheduled inspection and service of the following critical systems:

- Fuel system (diesel fuel requires more maintenance)
- Lubrication system
- Air system (combustion and cooling air)
- Starting system (batteries and charger)
- Alternator (a frequently overlooked item)
- Transfer switch (another often-overlooked item)

At a minimum, a good visual inspection should be done on a monthly basis, as well as after any extended generator run times. Here are some basic tips:

- Maintain general cleanliness of the generator and its surroundings. In an enclosed unit, make sure there are no rodents trying to take up residence.
- Check the oil level when the unit isn't running. If the generator has been running, wait for 10 minutes after it shuts down to check the oil level (this allows all of the oil in the engine to drain back into the sump). Maintain the oil level as close to the full mark as possible without overfilling.
- Make sure there is adequate coolant by checking the level in the catch tank (overflow tank).
- For diesel units, check the fuel level and the fuel/water separators. Add fuel and drain water from the separators as necessary. For gaseous units, inspect the fuel-supply piping for leaks or obvious damage.
- Confirm that there are no loose clamps or wire connections, and no corrosion or damage to terminals or wiring. Inspect batteries for cleanliness and signs of corrosion. Check the operation of the battery charger.

#### **OTHER STANDBY GENERATOR PREVENTIVE MAINTENANCE ASPECTS**

The above items are by no means a complete list. Other PM aspects worth considering include the conducting of weekly exercise periods under load to test the entire system for



proper operation and make the generator work at operating temperature. A monthly load test of at least 30% of rated load is required in some applications, using the building load, a load bank or a combination of the two.

Detailed standby generator maintenance guidelines that should be followed are provided for longest most reliable service life possible for their respective equipment. General guidelines for specific applications also can be found in several recognized standards. It is an excellent resource on general-maintenance requirements and detailed information on some specific maintenance items. This standard also contains a suggested maintenance schedule which, if followed, will meet minimum maintenance requirements for Level 1 and Level 2 emergency standby power systems.

Establishing and following a thorough maintenance and service plan will provide you with a reliable power supply for many years.

### **GUIDLINES**

Following is the checklist to help guide to maintain standby generator(s).

#### **Weekly Maintenance**

- Run the generator (typically no-load, automatic transfer switches exercise cycle).
- Verify that the unit ran and has no alarms or warnings.
- Ensure adequate fuel levels.
- Ensure that the generator is in "Auto" mode, for automatic startup.
- Check that the circuit breaker is closed.
- Make sure there are no fluid leaks.

#### **Monthly Maintenance**

- Check engine coolant level.
- Check engine oil level.
- Check the battery charger.

#### **Bi-Annual Maintenance (*Schedule maintenance with a certified technician.*)**

- Inspect the enclosure.
- Check the battery electrolyte level and specific gravity.
- Check battery cables and connections.
- Inspect drive belts.
- Inspect the coolant heater.
- Check coolant lines and connections.
- Check for oil leaks and inspect lubrication system hoses and connectors.



- Check for fuel leaks and inspect fuel system hoses and connectors.
- Inspect the exhaust system, muffler and exhaust pipe.
- Check and clean air cleaner units.
- Inspect air induction piping and connections.
- Inspect the DC electrical system, control panel and accessories.
- Inspect the AC wiring and accessories.

### **Semi-annual inspections**

In addition to monthly inspections; check the coolant thermal-protection level every six months. Use the appropriate tester for the type of coolant being used. At the same time, inspect the accessory drive belts for correct tension and condition.

Annual maintenance of your standby generator begins with changing the engine oil and filter. If you want to extend oil-change intervals, consider an oil-analysis program. This will give you recommendations based on the actual condition of the lubricating oil.

Replace the air filter and fuel filters, as well. If it is a diesel unit that does not use a lot of the fuel in its storage tank, consider having the fuel in the tank filtered and checked for additive content.

Two often-overlooked items that require annual inspection—and *possible maintenance*—are the alternator itself and the transfer switch:

- Alternators that are producing good power usually only require a visual inspection. Dirt, heat and moisture are their biggest enemies. Dirt can block the heat transfer necessary to keep the windings cool. Heat can damage the insulation on the windings. Moisture can cause windings to short to each other or to ground. Any of these situations will reduce the power that a winding can produce. Most alternator manufacturers provide recommendations for testing winding resistance and cleaning windings, if necessary.
- Transfer switches can be a little more challenging to inspect and maintain. To do a thorough annual inspection requires turning off all power to the switch. This may involve coordinating a planned outage for a specific time period on a weekend or during the night.

### **Annual Maintenance (*Schedule maintenance with a certified technician*)**

- Change oil and filter.
- Change the fuel filter.
- Change the air filter.



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- Clean the crankcase breather.
- Change spark plugs.
- Check coolant concentration.
- Flush the cooling system (as needed).
- Perform load bank testing.
- Fuel testing & reconditioning (diesel-fueled units only).
- Remove water from fuel tank (diesel-fueled units only).

### **PLANTATION:**

Extensive plantation will be done in all near the sounding areas. To cater the noise and all Emission generations, maximum plantation plan will be arrange and tresses will be in large numbers. The detailed plantation plan is annexed in **ANNEXURE – E**.

### **RESTORATION / REHABILITATION PLAN**

The project construction activities will be confined within the project site. Boundary walls will be constructed first. However, on completion of the construction and commissioning phase, the construction contractor will demobilize from site and construction camp will be removed. Temporary infrastructure will be decommissioned and site will be restored. This will involve:

- Removing the temporary construction camp
- Closing all the temporary waste pits`
- Removing all waste and leftover construction materials from site
- Leveling and restoration of areas

### **GOVERNMENT APPROVALS REQUIRED BY THE PROJECT:**

Proponent will get approvals (if Necessary) for installation of Generators, after installation, or after getting legal approvals for its installation. All governmental Approvals uptill now are annexed in **ANNEXURE – F**.

## **CHAPTER # 3**

### **DESCRIPTION OF ENVIRONMENT**

#### **PHYSICAL ENVIRONMENT:**

##### **TOPOGRAPHY & GEOGRAPHY**

The proposed site is situated near River Edge Housing Scheme / Park View Villas 17 km Multan Road, Dist. Lahore. Site area is generally flat and slopes towards south and south-west at an average gradient of 1:3000. The project area is surrounded by commercial and residential units / town within the radius of 5 Km, there is Izmir Town, Chung, Nawab Town, Shahpur kanjra and small villages / towns etc.

##### **SOIL**

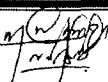
The selected project land is w.r.t fertility is poor fertile land. Some patches are fertile and some are barren. In the vicinity, the fertile agricultural land can be seen. The soil of surrounded area is loamy in nature. Site selected for the construction of Power Generation Facility is dominated in sand (sandy loam).

##### **CLIMATE**

##### **TEMPERATURE & PRECIPITATION**

Temperature & precipitation pattern can be estimated from the below figure simulated on the base of 30 year of hourly weather data collected from Pakistan Metrological Department (PMD). The simulated weather data have a spatial resolution of approximately 30 km and may not reproduce all local weather effects, such as thunderstorms, local winds, or tornadoes. Climatic changes are being significant factor to change the expected temperature & precipitation pattern in the proposed project area of Dist. Lahore.

The given below Figure shows the precipitation diagram for Dist. Lahore on how many days per month, certain precipitation amount is reached. The proposed project area has maximum rainfall in July & August and dry season from October to December. In tropical and monsoon climate, the amounts may be underestimated.



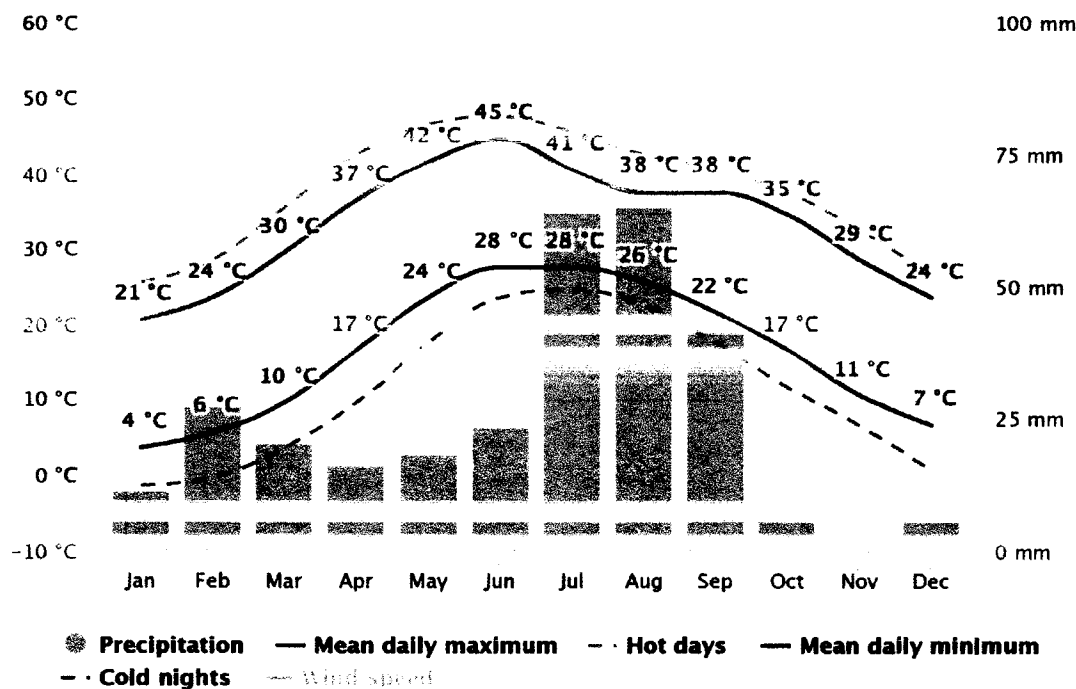


Figure 16: Average Temperature & Precipitation of Proposed Project Site

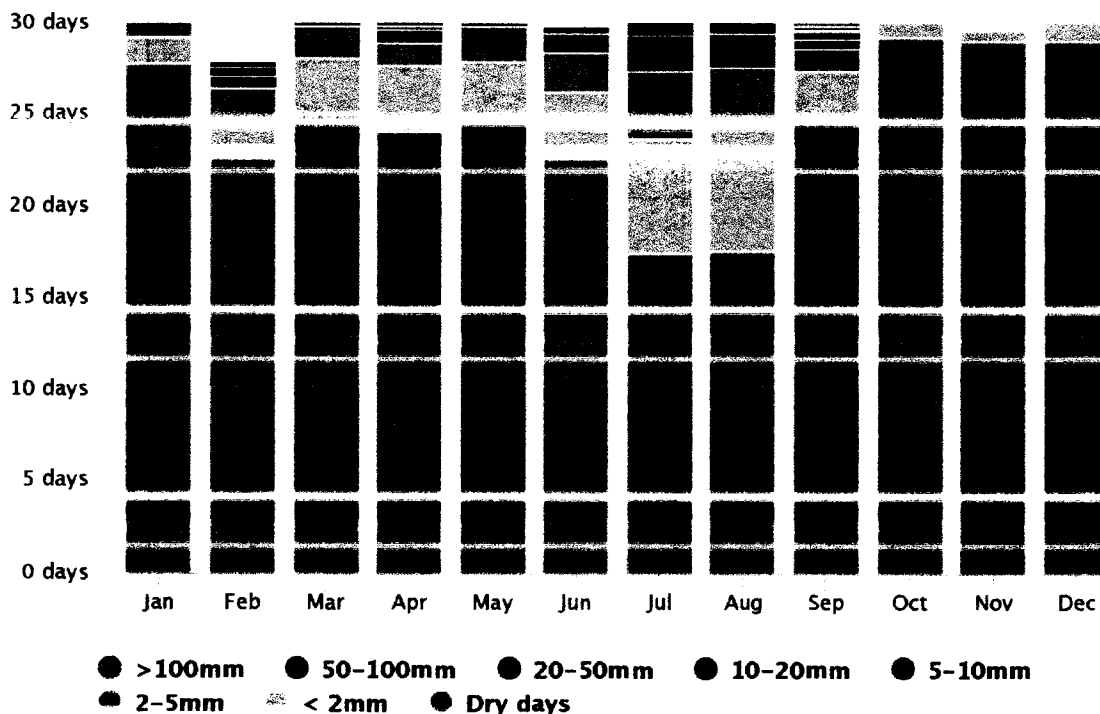


Figure 17 Amount of Precipitation for proposed study area in Dist. Lahore.

## WIND SPEED & DIRECTION

Wind speed and its direction can be estimated from the figure given below. The data is simulated on base of 30 years' hourly weather condition data collected by Pakistan Metrological Department (PMD). Mostly, greater than 5 Km/h winds blow in area of proposed project site and its direction toward East – North East side. Greater than 12 Km/h wind blow mostly towards East – South East direction.

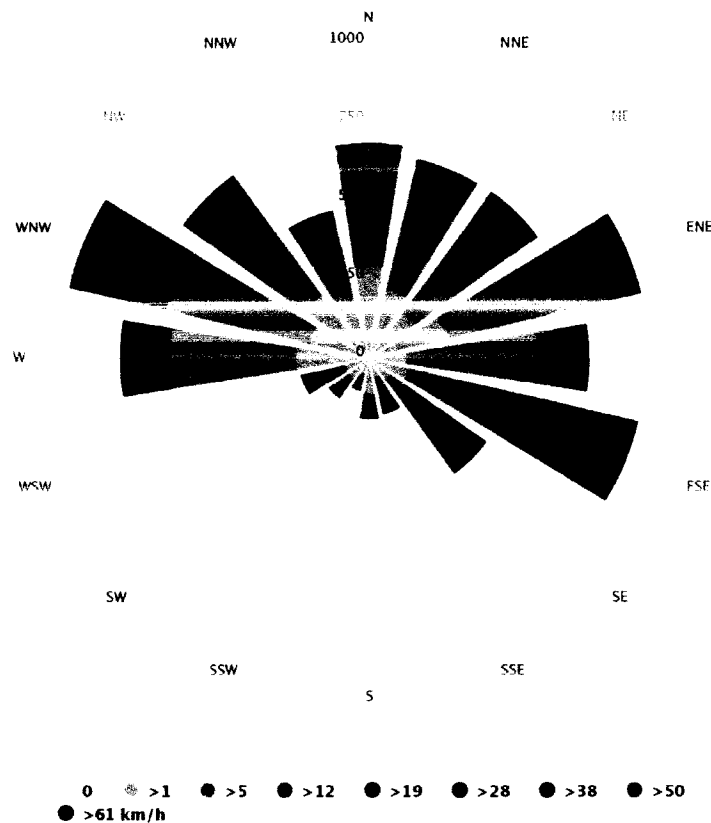


Figure 18 Wind Roses of proposed project site in Dist. Lahore

## Hydrology

### Surface Water

River Ravi is present at the distance of approx. 5 km from the proposed site. Aquatic life in the river Ravi is disturbed due to the runoff untreated wastewater of Lahore city & industrial units. At the project site there is no surface water body & domestic waste water generated

from the project site will be drain out into the sewer line of park view villa which is LDA housing scheme.

### Underground Water

Sample were collected from the area & Lab results are satisfactory Water Quality test report is given in Annexure D.

### AMBIENT AIR

The major sources of air pollution in the area are surrounding industries, transportation or vehicular traffic and house hold gas burning activities.

To record the baseline ambient air quality of the project area, monitoring was conducted at advised locations to assess the concentration of priority pollutants (Carbon monoxide, Nitrogen dioxide, Sulphur dioxide and PM10) in the air. Ambient Air Quality test report is given in Annexure-D.

### METHODS USED FOR MONITORING AMBIENT AIR QUALITY:

Ambient air monitoring was conducted by using ambient air quality analyzer. Details of methodology are given below.

Table 10: Methodology of Ambient Air Quality Monitoring

| Air Pollutant                          | Monitoring Technique                      | Instrument Used  | Reference Method                     | Measurement Range          | Lowest Detection Limit |
|--|---|--|--------------------------------------|----------------------------|------------------------|
| Carbon monoxide (CO)                   | Non Dispersive Infrared Absorption (NDIR) | HORIBA APNA 360 CO Analyzer                                    | 40 CFR Part 50, App. C (US-EPA)      | 0 – 100 ppm                | 0.02 ppm               |
| Nitrogen Dioxide (NO <sub>x</sub> )    | Reduced Pressure Chemiluminescence (CLD)  | HORIBA APNA 360 NO <sub>x</sub> Analyzer                       | 40 CFR Part 50, App F (US-EPA)       | 0-0.5 ppm                  | 0.5 ppb                |
| Sulfur Dioxide (SO <sub>2</sub> )      | UV fluorescence (UVF)                     | HORIBA APNA 360 SO <sub>2</sub> Analyzer                       | EQSA-0197-114 (US-EPA)               | 0-0.5 ppm                  | 0.5 ppb                |
| Hydrogen Sulphide (H <sub>2</sub> S)   | UV fluorescence (UVF)                     | APNA-SO <sub>2</sub> & H <sub>2</sub> S Monitor (Combined Use) | EQSA-0197-114 (US-EPA)               | 0-1 ppm                    | 0 ppm                  |
| Particulate Matter (PM <sub>10</sub> ) | Integrated Sampling Technique             | mini Volume Air Sampler  | USEPA- EQPM-0798-122<br>USEPA-CFR-40 | 0 – 1000 µg/m <sup>3</sup> | 2 µg/m <sup>3</sup>    |

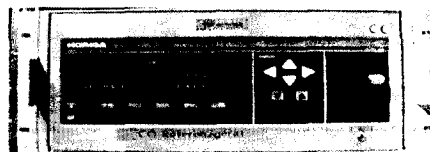


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|             |                           |                |                           |              |       |
|-------------|---------------------------|----------------|---------------------------|--------------|-------|
|             |                           |                | Appen J                   |              |       |
| Noise level | Digital processing method | TENMARS TM-102 | IEC 61672-1: 2002 Class 1 | 25 dB-138 dB | 25 dB |

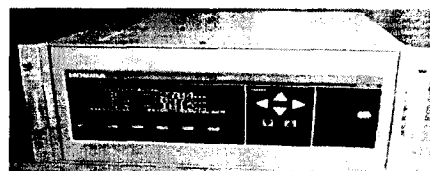
### **CARBON MONOXIDE (CO)**

Carbon monoxide (CO) was monitored using Analyzer. The APNA-360 CO analyzer measures CO concentration using a non-dispersive infrared absorption method that is based on the nature of CO in that it absorbs special infrared light. Measurement range of the analyzer is 0-100 ppm. Continuous data was recorded.



### **OXIDES OF NITROGEN (NOx)**

Oxides of Nitrogen (NOx) was monitored using NOx Analyzer. The APNA-360 NOx analyzer measures NO, NO2 and NOx using chemiluminescence (CLD) method with the help of chemical reaction between NO2 and O3. Measurement range of the analyzer is 0-0.5 ppm. Continuous data was recorded.



### **PARTICULATE MATTER (PM10)**

For PM10 mini volume air sampler was used. In PM10 Sampler air is drawn into the omnidirectional inlet head at a flow rate of 16.67 LPM. The air is then accelerated toward the first impaction stage where particulate with aerodynamic diameters greater than 10mm are collected (filtered out). The air stream, carrying particulate 10 microns and smaller, continues down the inlet toward the second impaction stage where particles larger than 2.5 microns are collected. Finally, particulate 2.5mm and smaller continue down the inlet where they are collected on a 46.2 mm diameter, ring supported filter media disc.

### **Noise**

#### **BASIC ENVIRONMENTAL CONDITIONS:**

During the measurement following conditions were prevailed in the area

#### **METROLOGICAL CONDITIONS:**

During the noise level monitoring weather was dry and sky was clear. Air was blowing at normal speed

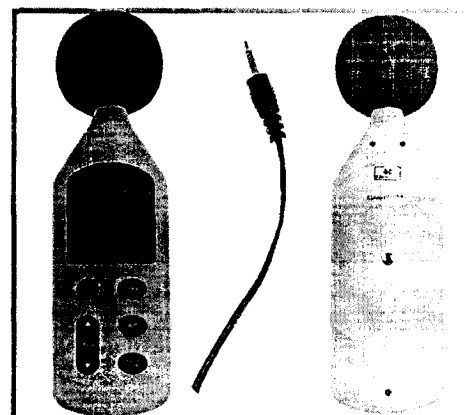


Figure 19 Noise meter

**Monitoring Instrument:**

The description of the instrument used for the noise level monitoring is given below:

- Name: Digital sound level meter
- Model: AR824
- Company: Intel Instruments plus
- Calibration: Self-calibration time: 10 sec (every turn on)
- Specification:
  - i. Resolution: 0.1 dB
  - ii. Overall Range: 30 to 130 dB "A", 35 to 130 dB "C"
  - iii. Sound Level Ranges: 30-80 dB, 50-100 dB, 60-110 dB, 80-130 dB
  - iv. Basic Accuracy: +/-1.5 dB
  - v. Sampling Frequency: 2/sec

**ECOLOGICAL ENVIRONMENT:****FISHERIES**

The project site is free from any fisheries activity and other aquatic life.

**FLORA**

There is no any tree present at the proposed area for the installation of power generators. However in the surrounding area following plant spices were observed and identified by the ecologist

| Sr. No | Local Name  | Botanic name                    |
|--------|-------------|---------------------------------|
| 1)     | Keekar      | <i>Acasia arabiana</i>          |
| 2)     | Sheesham    | <i>Dilbarjia sisso</i>          |
| 3)     | Shehtot     | <i>Morus alba</i>               |
| 4)     | Sufaidah    | <i>Eucalyptus obliqua</i>       |
| 5)     | Carrot weed | <i>Parthenium hysterothorus</i> |

**FAUNA:**

There are number of locally available birds, reptiles and mammals are present in the project area but there is no protected species present at the project site.

Table 11 List of Fauna of proposed project site

| Sr. No.  | Name of Specie         | Local Name    |
|----------|------------------------|---------------|
| <u>1</u> | Bubalus bubalis        | Buffalos      |
| <u>2</u> | Bos taurus             | Cows          |
| <u>3</u> | <u>Canis lupus</u>     | Dog           |
| <u>4</u> | Passer domesticus      | House Sparrow |
| <u>5</u> | Corvus                 | Crow          |
| <u>6</u> | Columbidae             | Pigeon        |
| <u>7</u> | Thanasimus formicarius | Beetle ant    |
| <u>8</u> | Sympetrum flaveolum    | Dragon fly    |

**SOCIOECONOMIC ENVIRONMENT:****EDUCATION:**

The proposed project site is situated near the urban and rural area. The site is adjacent to River Edge Housing Scheme / park View Villas and near to Shah kanjra village. The quality of education is below the line. The educational institutes are:

- Raphia College of Veterinary Sciences
- Al-ghosia Public High School

**CULTURE:**

Variety of culture exist in nearby area's people. Village atmosphere, where people are congested and modern life style is also observed.

Project proponent is committed to preserve the culture and norms of the area and will provide employment to local people for the preservation of the culture.

**RECREATIONAL RESOURCES AND DEVELOPMENT:**

The project Site has not any private recreational facilities. There is some parks and recreational point in River Edge Housing Scheme / park View Villas.



### **QUALITY OF LIFE VALUES:**

People lead simple life and activities of women are mostly restricted to home. Beside this people have access of all basic life necessities like clean drinking water, electricity, health facilities and educational institutes.

Like the general trend among the citizens of area, most of the people have low awareness about environment. Even then, some people take cleanliness and neatness of the environment lightly. Some people throw municipal solid wastes (MSWs) on the streets. Sense of personal responsibility to keep the environment clean as good citizens is even now lacking among a few people.

### **ARCHAEOLOGICAL AND HISTORICAL TREASURES:**

No historical building present at the proposed project site. A mosque is present in Park View Villas.



Figure 20: Mosque Near to Site

## **CHAPTER # 4**

### **SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & THEIR MITIGATION MEASURES**

The following chapter describes the overall possible impacts of said project on the physical, biological and socioeconomic environment due to the location, Design, during construction phase, during operation phase of the project and mitigation measures to minimize the significance of the possible impacts.

#### **IMPACT ANALYSIS AND PREDICTION:**

In order to give correct categorization to the present project Rapid Environmental Assessment Procedure was followed. These impacts are mainly attributed to the release of dust and gases to the atmosphere during the construction activity but most of the impacts are projected as minor impacts although project has many positive impacts on local public and economy. Vision Developer (Pvt.) Ltd. will adopt proper procedures to carry out the operation in environmental friendly way.

#### **MEETINGS:**

For the impact analysis and predictions detailed meetings were held with the proponent, management of Vision Developer (Pvt.) Ltd and with other stakeholders. Issues were discussed that may affect the environment and also the implementation of proposed project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

#### **CONSULTATIONS:**

Scoping sessions, focused group discussion and way side consultations were held with the relevant stakeholders, inhabitants of the villages, shopkeepers and workers in the area.

The environmental issues have been identified during literature review, consultation with stakeholders, relevant reports and visits to project site. Various types of environmental issues likely to crop up during the life cycle of project are grouped in the following stages:

- Project location
- Project design

- Construction stage
- Operation stage

### **ENVIRONMENTAL IMPACTS REGARDING PROJECT LOCATION:**

Proposed generators will be installed adjacent to Housing Scheme. Overall impacts of this development due to the location will be positive, to supply power to the Housing Scheme.

**Impact significance:** very Low or may be positive

**Nature of impact:** direct

**Duration:** Long-term

**Timing:** Construction and Operation phase

**Reversibility:** NA

**Likelihood:** Low (unlikely),

**Consequences:** very low or may be positive

### **Mitigation Measures and Recommendations:**

- Proponent/Developers should place all the safety and location signs and maps at the specific indemnified place.
- Proper parking arrangements should be maintained during the construction and operational phase of the development.
- Location can be considered as positive impact on the working unit due to the facilities provided to the existing unit.

### **ENVIRONMENTAL IMPACTS REGARDING PROJECT DESIGN**

Subject project is proposed construction of 8 MW Power Generation Facility under the name of vision Developers (Pvt.) Ltd. The current project is land development to establish power production unit for nearby Housing Design.

Area for parking, waste water treatment facility and solid waste management will be reserved within individual industry of the proposed Industrial estate. Firefighting plan, health & safety plan, tree plantation plan, emergency response plan will be incorporated during the design phase of the project.

Following are the major Environmental impacts due to the development related to the design:

- Low utilization of available space
- Soil structure and soil bearing capacity
- Improper road infrastructure design
- Emergency exit in the proposed project
- Firefighting system
- Rain water harvesting capacity of the drainage system
- Electricity hazards
- Low social acceptability & functionality of design

**Impact significance:** minimum to moderate

**Nature of impact:** direct

**Duration:** Short term

**Timing:** Constructional phase & Operation phase

**Reversibility:** NA

**Likelihood:** Minimum to moderate

**Consequences:** Minimum to moderate

#### **Mitigation measures and recommendations**

Following are the mitigation measures and recommendations to minimize the anticipated impacts:

- Structure stability of the building should be ensured.
- Emergency exist points should be marked within the project building
- Firefighting system should be designed for the emergency situations.
- Electricity system should be design safe and sound.
- Electricity wires should be covered by thick plastic/electricity resistant covers.
- Design should be professional which accommodate the maximum space and has high social acceptability & functionality

#### **ENVIRONMENTAL IMPACT REGARDING CONSTRUCTION PHASE**

Project is the installation of generators to provide nonstop electricity for nearby Housing Scheme.

Construction stage may involve the following Impacts

- Generation of dust during loading and unloading of construction materials.
- Generation of noise on account of vehicular use and construction activities. It will be noted that background noise level will be less than NEQS limits.
- Local flooding due to over-use of water and leakage of pipes.
- Safety of construction workers, people in the surroundings and passersby. Occupational Health & Safety means to provide and maintain a working environment in which employees are not exposed to hazards.
- There must be no release of noxious or offensive odors or contaminants beyond the project site to cause any harm at any odor sensitive place.
- Any outbreak of fire due to electrical and other failures.
- **Impact significance:** moderate to high or may be negative
- **Nature of impact:** direct
- **Duration:** Long-term
- **Timing:** Constructional phase & Operation phase
- **Reversibility:** NA
- **Likelihood:** moderate to high
- **Consequences:** moderate to high or may be negative

### ENVIRONMENTAL IMPACT REGARDING OPERATIONAL PHASE

Main environmental issues associated with Project operation are as follow.

- Waste water due domestic activities.
- Fire due to short circuits and other activities.
- Solid waste generation due to domestic activities.
- Noise pollution from generator and other machinery.
- Health hazards including the electricity hazardous
- Vehicle access is required especially for transportation. The site is well served with the road network. Heavy traffic will be allowed only during tight time during operational phase. The traffic issues at any stage of project life cycle will not arise.

- **Impact significance:** moderate to high or may be negative
- **Nature of impact:** direct
- **Duration:** Long-term
- **Timing:** operational phase
- **Reversibility:** NA
- **Likelihood:** moderate to high
- **Consequences:** moderate to high or may be negative

### **Recommendations**

- A well design firefighting system will be constructed to cope with fire situations in the Generator area
- Solid waste bins should regularly clean and solid waste must be handed over to the contractor.
- A watchman will control the traffic (if any) during the operational phase
- Project proponent should submit all the monitoring report in the EPA Punjab Office for the compliance of the NEQS

### **General Measures**

- Thick vegetation clearing will be minimized and felling of trees will be avoided.
- Unnecessary clearing of vegetation will be strictly prohibited.
- Dozers will not be used to minimize drop damage.
- Unit will be established in clearings that already exist.
- If clearing for establishing a campsite is unavoidable, rootstock will be preserved to minimize damage to topsoil.
- Trees cutting will be avoided.
- The movement of machinery will be restricted to the work corridor.
- Existing routes will be used to access the survey lines as far as possible.
- All necessary measures will be taken to avoid pollution during operation phase of the subject project.

### **Residual Impact:**

If the mitigation measures are effectively implemented, the residual impact of the proposed activities on the area's geophysical environment is expected to be insignificant.

**Consequences:** Mild to moderate; the scarring of a small area of land will not have a severe impact.

### **Contamination of Soil and Water**

#### **Potential Impact:**

Effluents released as a result of project activities, if not contained properly, may contaminate the soil. Water quality may deteriorate if pollutants are mixed with surface runoff during rain and carried to water resources in the vicinity, or if pollutants leach into the ground. Potential sources of pollution in such cases may include:

- Domestic waste (sanitary and kitchen discharge)
- Oil and grease from vehicles and machinery
- Stored fuel (coal)
- Pollutants can also be transferred through the food chain, thereby affecting community health and well-being.

#### **Assessment of Potential Issues:**

All wastewater from the kitchens, showers, and laundry will be directed into a septic tank. Gray water from the tank will be pumped out periodically and sprayed along the access road, to reduce dust generation. Gray water from the pit will only pollute the area's surface water resources if the tank is allowed to fill up, and rain causes it to overflow into the surrounding areas. Periodic emptying of the tank will ensure that this does not happen.

Also, the septic tank will be designed so that water from surrounding areas does not flow into them.

### **Potential Enhancement Mitigation Measures:**

Mitigation measures to reduce the impact of waste effluents produced from domestic activities are listed below.

Deep holes will not be located in the vicinity (i.e., within 100 m) of dug wells.

Vehicles and other equipment will not be serviced outside of the designated areas.

No contaminated effluents will be released into the environment without having been treated.

Sewage and other waste effluents will be handled to avoid contaminating surface and groundwater.

Water from domestic/project activity sources will be released into septic tanks.

An appropriately designed septic tank will be used to treat sewage and outlets will release treated effluent into drain. The integrity of the entire system will be maintained and monitored.

Septic tanks will be built at a safe distance from any water hole, stream, or dry streambed, to prevent the entry of surface water.

Solid waste will be segregated and disposed of as follows:

- a. Materials suitable for recycling will be stored separately and sold to approved recycling contractors
- b. Combustible waste will be disposed of properly (if Any)
- c. Non-combustible, non-recyclable rubbish will be disposed of properly (if any)
- d. Solid residue from the septic tanks will be transported to municipal sewage treatment facilities in any nearby city.

14. Vehicle and equipment maintenance, including washing, will be allowed only in designated areas underlain with concrete slabs and a system to catch runoff.

15. Fuels, oils, and other hazardous substances will be handled and stored according to standard safety practices

## **PURPOSE OF MITIGATION MEASURES**

Purpose of mitigation measures should include:

- **What is the problem i.e. in terms of “major environmental impacts” which may arise by the subject project activity?**
- **When the problem will occur and when it should be addressed?**
- **Where the problem should be addressed?**
- **And how the problem should be addressed?**

The major impacts may arise by the subject project, particulate matter, dust and noise. Other impacts are of minor importance. These impacts will arise during construction and operation



but precautionary measures will be adopted prior to start the activity, during the activity and post activity.

Any impact that would arise due to the subject project activity will be addressed on site. Trainings will be conducted on site prior to start work while other precautionary measures will also be adopted to make the project safe and environmental friendly.

HSE manager/environmental manager along with site manager will be appointed to assess any impact that could be arisen during both phases. He would be responsible to address the problem and to mitigate it.

### **WAYS OF ACHIEVING MITIGATION MEASURES**

By adopting proper mitigation measures, any anticipated major or minor environmental impacts could be controlled or mitigated. The details of impacts and mitigation measures have been discussed in previous chapters.

Management of Vision Developers shall take appropriate measures to provide pollution free and safe environment during the proposed project activity by implementing improved management practices and monitoring techniques suggested in EMP.

Vision Developers will adopt such plan that will assure the minimum impact on the environment and health by implementing proper mitigation measures. Design of the project will assure the structure stability and project life in a long run.

Vision Developers will develop Restoration/ reclamation or tree plantation plan to restore the project area. Maximum Plantation will be done with native species within the unit, along the boundary wall and along the road side if directed by EPA. Also, in-front of main area, horticulture plan will be formulated and area for this will be kept reserved.

## **CHAPTER # 5**

# **ENVIRONMENTAL MANAGEMENT PLAN & MONITORING PROGRAM**

### **PURPOSE AND OBJECTIVES OF THE EMP:**

The primary objectives of the EMP are to:

- Facilitate the implementation of the mitigation measures identified in the IEE.
- Define the responsibilities of the project proponent.
- Define a monitoring mechanism and identify monitoring parameters in order to:
  1. Ensure the complete implementation of all mitigation measures
  2. Ensure the effectiveness of the mitigation measures
  3. Provide a mechanism for taking timely action in the face of unanticipated environmental situations
  4. Identify training requirements at various levels.

### **MANAGEMENT APPROACH:**

The overall responsibility for compliance with the environmental management plan rests with the project proponent.

A certain degree of redundancy is inevitable across all management levels, but this is in order to ensure that compliance with the environmental management plan is crosschecked.

### **INSTITUTIONAL CAPACITY**

Following functionaries will be involved in the implementation of EMP:

- Project Proponent
- HSE/Project Manager
- Supervisor of project
- Environmental Engineer

## **TRAINING SCHEDULES**

Training for the management/contractors/engineers and workers on environmental aspects of the project will be arranged. It will be imparted by a team of experienced trainers.

## **TRAINING OF BUILDING CONTRACTOR**

Training of building contractor & workers will be the part of the TORs regarding the construction of the scheme. The provisions given in IEE Report *Chapter 4 Screening of Potential Environmental Impacts & Their Mitigation Measures* will be followed.

TORs will be including the training and submission of reports in the following area:

1. Handling of Machineries in a safe way
2. Use of PPEs
3. Maintenance of vehicles and submission of Environmental Monitoring Reports
4. Maintenance of Water Consumption records
5. Testing of water and waste water and submission of Environmental Monitoring Reports
6. Placement of safety signs/boards during construction
7. Sprinkling of water on the roads and dusty tracks
8. Monitoring of generator emissions

Training regarding all other aspects of HSE will be ensured by the contractor during the construction phase.

## **RESPONSIBILITY OF EMP**

Overall responsibility for implementation of EMP will be that of project proponent. He will appoint a HSE/Project Manager of relevant qualification. HSE/Project Manager will act as Environmental Manager and will manage the all HSE condition at the PEQS.

**SUMMARY OF IMPACTS AND THEIR MITIGATION MEASURES**

Table 12: Summary impacts and their mitigations

| Serial   | Environmental Issues/ Impacts                      | Mitigation Measures  |
|--|--|--|
| <b>PLANNING, SITE SELECTION AND DESIGN STAGE</b> |  |  |
| 1  | Observance of administrative and legal formalities | Proponent will obtained the NOC's from other departments (if any)  |
| 2  | Acquisition of land                                | The proposed land is the property of Vision Developers Pvt. Ltd  |
| 3  | Loss of environmentally sensitive areas            | There is not any sensitive area near the project site however the project proponent will achieve the PEQS at the boundary wall of the subject project to avoid the environmental impacts on the surrounding area |
| <b>SITE DEVELOPMENT STAGE</b>                    |  |  |
| 1  | Erosion due to stripping and site clearance        | Sprinkling of water on road side   |
| 2  | Generation of dust                                 | Careful loading and unloading of construction materials is recommended.<br>Sprinkling of water on construction site and surrounding areas is recommended.  |
| 3  | Generation of noise                                | Avoid suing forbidden horns at the site.<br>Do not throw heavy equipment and construction materials in haphazard manner.   |
| 4  | Local flooding/ponding                             | Immediate repair and maintenance of water supply pipes and sewers in case of any defect will be undertaken.  |
| 5  | Outbreak of fire                                   | Firefighting equipment must be maintained at the site in good working condition.   |
| 6  | Safety   | Safety of the workers and others must be ensured.<br>Privacy of the neighbors must not be disturbed.   |
| 7  | Labor issues                                       | Employ the local labor as far as possible  |

| CONSTRUCTION STAGE |   |   |
|--------------------|---|---|
| 1                  | Minor erosion of land                         | Add more vegetation, restore the land by more plantation<br>Sprinkling of water on dusty tracks is recommended  |
| 2                  | Contamination of land and water               | Essential services like water supply, sewerage disposal and solid waste management must be in working condition.  |
| 3                  | Impacts of dust, noise and smoke on neighbors | Schedule construction timings to cause minimum disturbance to neighbors.  |
| OPERATION STAGE    |   |   |
| 1                  | Fire breakouts                                | Firefighting equipment must be kept in working condition at specific area   |
| 2                  | Safety/security concerns                      | Safety of the workers and others must be ensured.   |
| 3                  | Malfunction of utilities                      | It is proposed to appoint maintenance engineer with technicians like plumber and electrician for smooth operation of utility services.  |
| 4                  | Contamination of land and water sources       | Continuous vigilance on maintenance of services is recommended.<br>Tarpaulin sheets must be placed to avoid leaching of oil into ground.  |
| 5                  | Occupational Health, Safety and Environment   | Regular medical check-ups are recommended to improve the working condition and efficiency of workers.<br>Safety of management, workers and visitors must be ensured.<br>Observance construction and safety codes must be ensured. |
| 6                  | Gaseous Emissions                             | PEQS compliance of generators should be ensured.<br>Mitigation measures should be adopted to prevent the air pollution due to the subject project.  |

### **EQUIPMENT MAINTENANCE DETAILS**

Subject project is the installation of 8 MW Power generations Facility. Company will maintain the records for Health Safety & Environment and will hire HSE manager to check and deal with the HSE issues. The company shall maintain PPEs, medical facilities, firefighting Equipment's as fire buckets, fire hydrants and fire extinguishers and records for their periodic fillings or replacement.

### **ENVIRONMENTAL BUDGET**

The cost which is required to effectively implement the mitigation measures is important for the sustainability of the Project in operational stage of the Project. Company has allocated the Environmental Budget of 2,000,000/- annually for the Training, maintenance and management of Environment that will include filling and maintenance of equipment's, restoration, plantation, and availability of PPEs, strategic planning to cope with any emergency situation and formulate the disaster management plan to cope with natural disaster. Any equipment or devices failure or replacement will not be included in this budget.

**ENVIRONMENTAL MANAGEMENT PLAN FOR M/S VISION DEVELOPERS PVT. LIMITED**

| Serial No.           | Environmental Parameter/<br>Element                     | Mitigation measure to be taken during:  |   | Responsibility                            |
|----------------------|---|---|---|---|
|                      |   | Construction  | Regular operations  |   |
| Physical Environment |   |   |   |   |
| 1.                   | Noise   | <p>The project construction activities don't involve any activity which may create high noise levels.</p> <p>Ear plugs will be provided &amp; implemented.</p> <p>Noise level monitoring has been conducted by EPA certified lab &amp; results are attached as <b>Annexure-D</b>.</p> | <p>No activity producing extra ordinary levels of noise will be allowed as a policy matter.</p> <p>Generators will be installed in a specially constructed room where its noise will be curtailed within the limiting values of the Punjab Environmental Quality Standards.</p> <p>Monitoring will be conducted by EPA Certified lab as per PEQS.</p> | <b>Environmental/<br/>Project Manager</b> |
| 2.                   | Gaseous emissions and particulate matter/dust emissions | <p>Dust may generate during unloading of raw materials.</p> <p>All equipment, generators, and vehicles used during the project will be properly tuned and maintained in good working condition in order to minimize exhaust</p>   | <p>Monitoring will be conducted as per PEQS and reports will be submitted to EPA.</p>   | <b>Environmental/<br/>Project Manager</b> |

|    |                 |   |  |   |
|----|-----------------|---|--|---|
|    |                 | emissions.  |  |   |
| 3. | Soil erosion    | <p>The clearing of vegetation along proposed site will be minimized as far as possible.</p> <p>Open fires will not be allowed anywhere outside the proposed site.</p> <p>Fuel-wood and shrubs will not be used as fuel during project activities.</p> | <p>Maximum plantation is recommended around the project site and for this area is reserved.</p> <p>Tarpaulin sheets will be placed under generator (s), and other leaching substances.</p> <p>Land will be restored by planting indigenous plants.</p> | <b>Environmental/<br/>Project Manager</b> |
| 4. | Dust            | <p>The open place in front of the building will be duly cleaned after sprinkling of water to avoid any dust to spread around.</p>   | <p>Plantation will be ensured in open space to avoid dust.</p>   | <b>Environmental/<br/>Project Manager</b> |
| 5. | Health & safety | <p>Local people will be informed in advance when work is about to start in an area.</p> <p>Safe driving practices will be adopted, particularly while passing through settlements</p>   | <p>Fire Fighting Equipment's &amp; system will be installed.</p> <p>Basic health facilities will be provided to employees</p> <p>Job opportunity will be provided to local</p>   | <b>Environmental/<br/>Project Manager</b> |



|                               |                 |  |  |                                       |
|-------------------------------|-----------------|--|--|---------------------------------------|
|                               |                 | <p>Job opportunity will be provided to local people of the area</p> <p>Basic health facilities will be provided to employees</p>                     | people of the area   |                                       |
| <b>BIOLOGICAL ENVIRONMENT</b> |                 |  |  |                                       |
| 6.                            | Fauna and Flora | Proposed site is devoid off any protected species of both fauna & flora  | <p>Awareness programs will be planned regarding the protection of fauna &amp; flora.</p> <p>Species of Indigenous plants will be planted at site.</p>  | <b>Environmental/<br/>HSE Manager</b> |
| <b>SOCIOECONOMIC IMPACTS</b>  |                 |  |  |                                       |
| 7.                            | Education       | <p>School and colleges exist in the area.</p> <p>The project proponent will initiate an educational awareness program.</p>                           | <p>School and colleges exist in the area.</p> <p>The project proponent is committed to initiate an educational awareness program</p>                   | <b>Proponent</b>                      |
| 8.                            | Health          | <p>Heath facility already exists near the project site.</p> <p>The project proponent should provide first aid facilities at site and also social</p> | <p>Heath facility already exists near the project site.</p> <p>The project proponent is committed to provide first aid facilities at site and also</p> | <b>Proponent</b>                      |

|               |   |  |  |   |
|---------------|---|--|--|---|
|               |   | security and medical checkups of the workers.                                  | social security and medical checkups of the workers.   |   |
| 9.            | Culture, Norms of the area  | Maximum local employment should be ensured to preserve the culture of the area | Maximum local employment should be ensured to preserve the culture of the area   | <b>Proponent</b>                          |
| 10.           | Gender inequality   | Women involvement in decision making process should be ensured.                | Women involvement in decision making process should be ensured   | <b>Proponent</b>                          |
| <b>Others</b> |   |  |  |   |
| 11.           | Environment quality enhancement measures: flowers and plants and decoration lights. | ---  | Flower pots containing flowers and plants will be planted in front of the buildings to add to the improvement of the environment around.<br><br>Street lights will be provided on the front side of the building to add beauty to the front site and the environment around. | <b>Environmental/<br/>Project Manager</b> |
| 12.           | Staff for catering the Environmental  |  | Special staff will be recruited to implement this Environmental Management Plan on   | <b>Environmental/</b>                     |

|     |   |     |   |                                   |
|-----|---|-----|---|-----------------------------------|
|     | Management Plan   | --- | regular basis.  | Project Manager                   |
| 13. | Enhancement of aesthetic beauty of the building and the area. | --- | All other necessary measures shall also be taken to maintain standards of cleanliness so that the building may add to the scenic/aesthetic beauty of the area around. | Environmental/<br>Project Manager |

## **CHAPTER # 6**

### **STAKEHOLDERS PARTICIPATION**

Team of M/s Pak Green Enviro-Engineering (Pvt.) Ltd. visited the project site, had discussions with stakeholders and consult with the local people to evaluate the project socio-economic impacts. People provide the massive information about the project and have positive remarks regarding the project development.

#### **METHODOLOGY OF CONSULTATION:**

The IEE team carried out public consultations at various locations around the Project Site. The stakeholder's consultation during this phase of the work targeted the project area, administrative and private offices, Govt. offices, shops, etc. near the Project area:

- Selection of the stakeholders for consultation, reconnaissance of the project site and initial discussions with the neighboring factory workers, residents, shopkeepers, drivers etc.
- Environmental consultants and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

Consultations were held with the followings;

#### **PROPONENT**

Possible impacts and mitigation measures related to the subject project were discussed with the project proponent and management. They assured to take all suggested mitigation measures to control any discrepancy arose by the project and to make the project environmental friendly.

#### **THE RESPONSIBLE AUTHORITY**

Management of the subject project is the responsible authority to take all measures prior to the activity.

#### **OTHER DEPARTMENTS AND AGENCIES**

For the impact analysis detailed meetings were held with the management of the subject project, local community, education institutes, health institutes, hospital and NGOs. Issues were discussed that may affect the environment and also the implementation of proposed

project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

Scoping sessions, focused group discussion and way side consultations were held with the relevant stakeholders in the area. The purpose of such consultations is to obtain the feedback from the relevant persons.

### **ENVIRONMENTAL PRACTITIONERS AND EXPERTS**

Team of M/s Pak Green visited the project site, had discussions with stakeholders and consulted with the workers of the existing unit and nearby people to evaluate the project socio-economic impacts. People provide the massive information about the project and have positive remarks regarding the project development.

### **AFFECTED & WIDER COMMUNITY**

There is no affected community present in the Proposed project Site. PGEE team has consulted with the inhabitants of the nearby area. They provided positive remarks regarding the proposed project. Stakeholders participation Performa's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socio-economic impacts. List of the respondents/participants can be seen in bellow table.

Table 13: List of respondents

| S. No | Name            | Status/ Education | Age | Residency  |
|-------|-----------------|-------------------|-----|------------|
| 1     | Hamid Ali       | Student (B.A)     | 23  | Izmir Town |
| 2     | Ameen ullah     | Nil               | 44  |            |
| 3     | Muhammad ashfaq | Nil               | 30  |            |
| 4     | M. inayat       | Middle            | 18  |            |
| 5     | M. Nafees       | Nil (shopkeeper)  | 42  |            |
| 6     | Arshad ali      | M.A               | 45  |            |
| 7     | Akhtar Zaman    | Primary           | 32  |            |
| 8     | Choudry umair   | Middle            | 24  |            |
| 9     | Hassan Zahid    | Matric (Jod)      | 40  |            |
| 10    | Sohail Yousaf   | Primary           | 35  |            |
| 11    | Javed sial      | Nil (Care taker)  | 61  |            |

|    |                  |                   |    |                |
|----|------------------|-------------------|----|----------------|
| 12 | Imran Sial       | primary           | 35 |                |
| 12 | Raza Ali         | Nil               | 36 |                |
| 14 | Noor ul amin     | Graduation        | 42 |                |
| 15 | Rehman habib     | Student (M.Phill) | 25 |                |
| 16 | Umer Doger       | Student           | 23 | Chung          |
| 17 | Nouman Ashraf    | Student           | 23 |                |
| 18 | Fayaz Shareef    | Matric            | 25 |                |
| 19 | Khadija be       | Nil               | 40 |                |
| 20 | Shareef bin zaid | Intermediate      | 24 |                |
| 21 | Khalid choudry   | Driver            | 31 |                |
| 22 | Abdullah chisti  | Employee          | 32 |                |
| 23 | Saleem Rhandhawa | Farmer            | 35 |                |
| 24 | Akram juniyo     | Employee          | 32 |                |
| 25 | Saif Ali         | Farmer            | 31 | Nawab Town     |
| 26 | Imran Nadeem     | Employee          | 30 |                |
| 27 | Zahoor Jutt      | Driver            | 25 |                |
| 28 | Tashfeen Abbas   | Student           | 23 |                |
| 29 | Amir Ali         | Resident          | 33 |                |
| 30 | Rizwan Haider    | Employee          | 31 |                |
| 31 | Saleem Chandiyo  | Shopkeeper        | 29 |                |
| 32 | Tariq Hameed     | Shopkeeper        | 27 |                |
| 33 | Naseer Akbar     | Student           | 24 |                |
| 34 | Zoya Haider      | Nil               | 36 |                |
| 35 | Imran Yaseen     | Employee          | 34 |                |
| 36 | Mushtaq Khalid   | Matric            | 31 |                |
| 37 | Sameen khookar   | Driver            | 39 |                |
| 38 | Rehan Khalid     | Resident          | 41 |                |
| 39 | Faisal Idrees    | Employee          | 35 | Shahpur Kanjra |
| 40 | Hamad Abid       | Matric            | 42 |                |
| 41 | Zayan Ali        | Student           | 22 |                |
| 42 | Bilal Shakoor    | Nil               | 34 |                |
| 43 | Itrat bano       | Employee          | 33 |                |

|    |                  |            |    |  |
|----|------------------|------------|----|--|
| 44 | Shoukat Mayo     | Employee   | 43 |  |
| 45 | Usman Akram khan | Driver     | 42 |  |
| 46 | Ali ahmed jan    | Shopkeeper | 46 |  |
| 47 | Abdullah Yasir   | Matric     | 32 |  |
| 48 | Shamshaad Akhter | Employee   | 37 |  |
| 49 | Kulsoom Bibi     | Employee   | 31 |  |
| 50 | Maryam bibi      | Employee   | 30 |  |

*Questionnaire filled during the public consultation/interview are attached. (Annexure-G)*

### **SAMPLE SIZE**

50 sample size was selected by the Team of consultants for conducting the socioeconomic survey. Women were also consulted for the said survey; some of their names are mentioned in the above list of respondents while most of them were not willing to give personal information.

### **STATISTICAL ANALYSIS**

SPSS 19.0 has been used for the statistical analysis of the data collected during the visit of study site villages through questionnaires

### **STATISTICAL ANALYSIS**

SPSS 19.0 has been used for the statistical analysis of the data collected during the visit of study site villages through questionnaires

### **RESULT AND DISCUSSION**

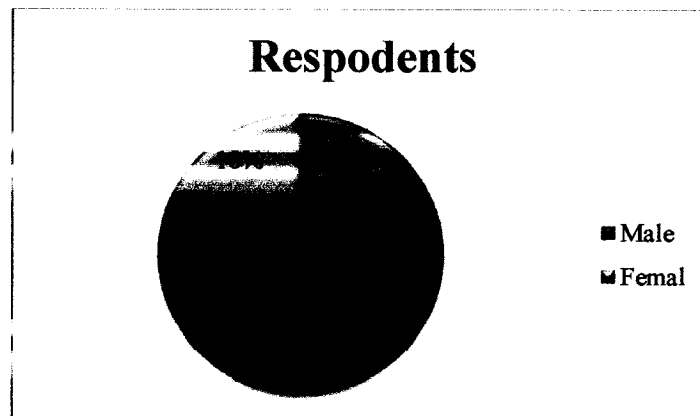


Figure 21 : Respondents

### **Discussion**

According to graphical representation, 82 respondents were male while 18 % respondents were female. The number of female respondents is less as compared to male respondents because according to the social binding female hesitates to respond or communicate comfortably.



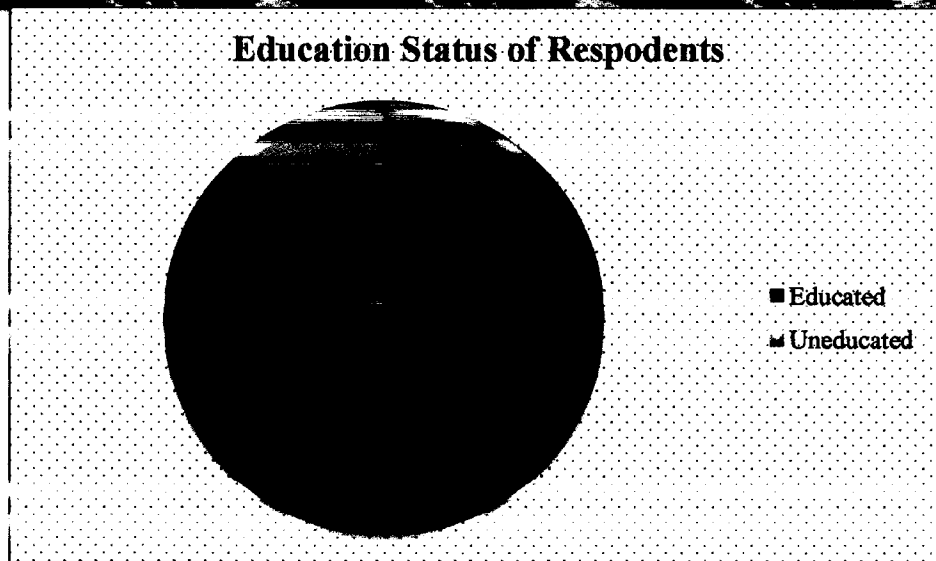


Figure 22: Education status of respondents

**Discussion:**

According to above graphical representation, 88 % respondents were educated while 12% were uneducated. So, according to the survey overall education status of the area is good.

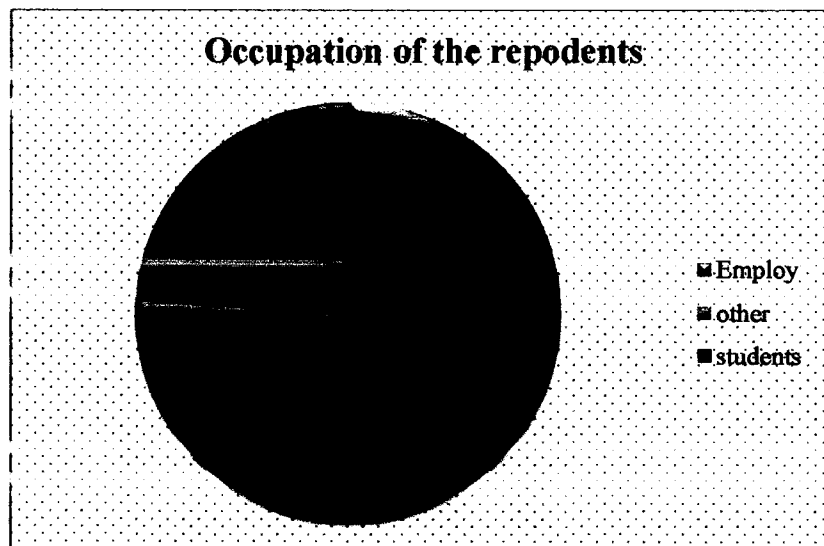
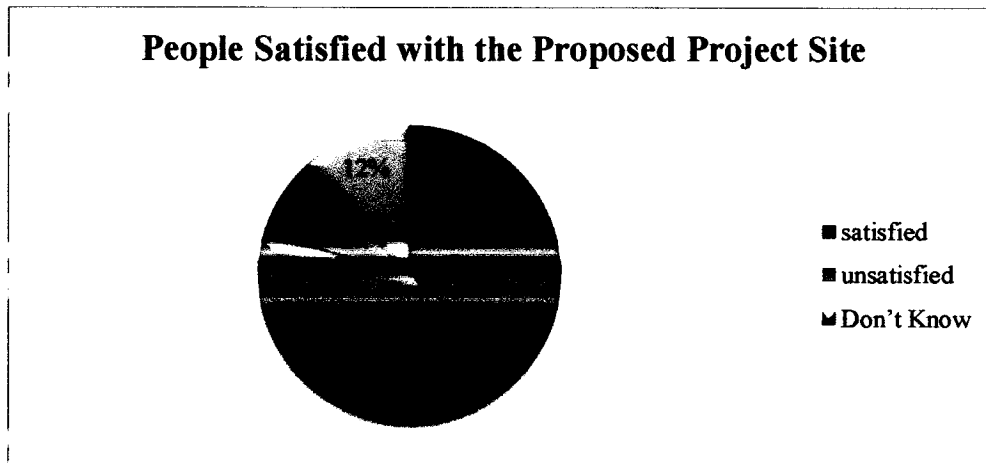


Figure 23: Occupation of respondents

**Discussion**

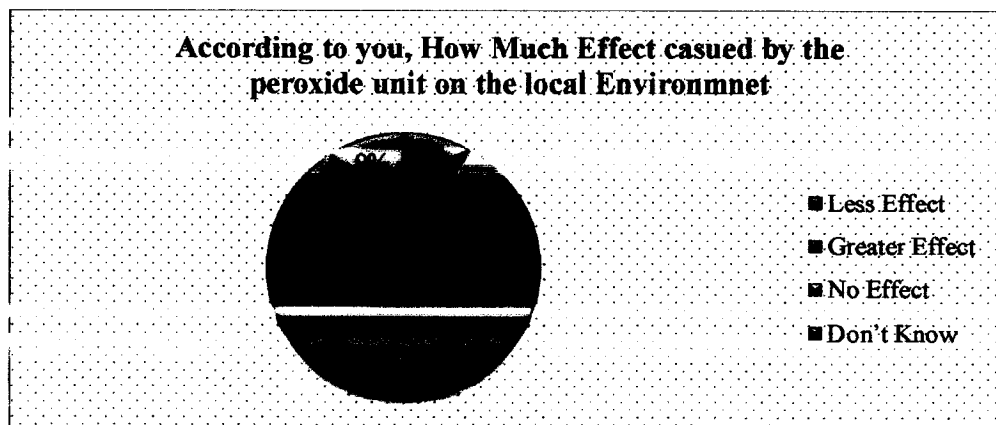
According to above graphical representation, source of income of majority of the respondents in the area was mainly employee in the private and government sectors. According to the survey 6% were students while all other respondents' source of income was business man, farmers, doctors and teachers.



**Figure 24:** Ratio of people satisfied with the proposed project

**Discussion:**

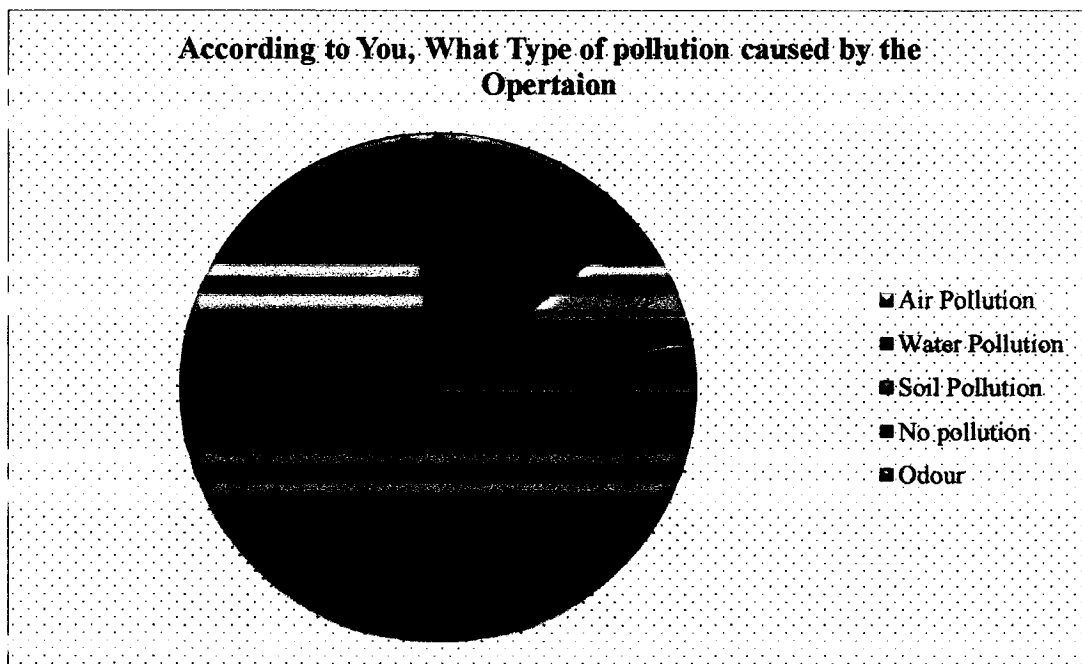
As per survey, 79% people were satisfied with the proposed project of M/s Vision Developers. and they gave positive remarks regarding the unit and proposed project as they got job over there, their living standard raise over working there. While 12% respondents were have no opinion regarding the project and 9% respondents were not satisfied with the production unit due to their concern regarding the aesthetic degradation and no preference to local people for jobs.



**Figure 25:** Ratio of respondent having different views regarding impact on environment

**Discussion:**

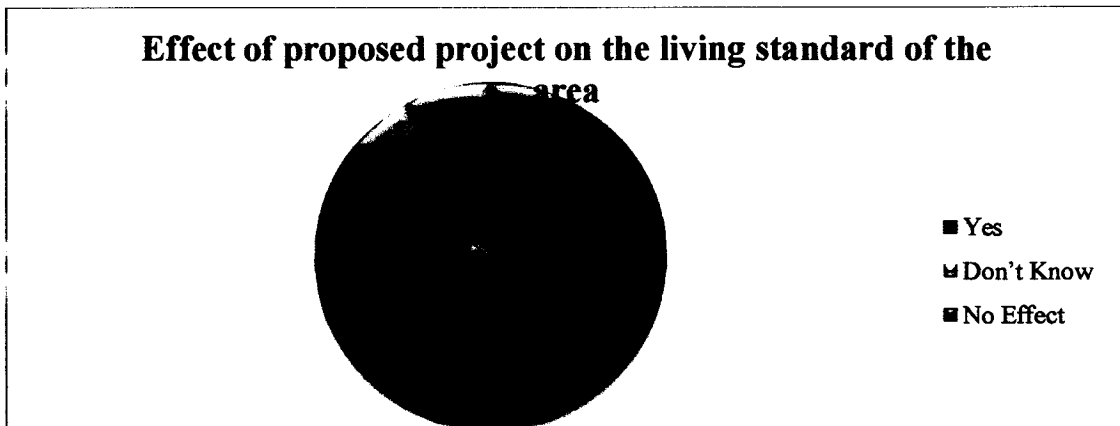
As per survey, 78 % respondents remarked that there is no effect caused by the proposed project on the area environment while 9% respondents had no point of view regarding the project activity, 8% respondents remarked that subject activity has less effect on the environment of area and only 5% remarked that construction activity has greater effect on the environment of the area.



**Figure 26:** Type of pollution cause by the proposed project

**Discussion:**

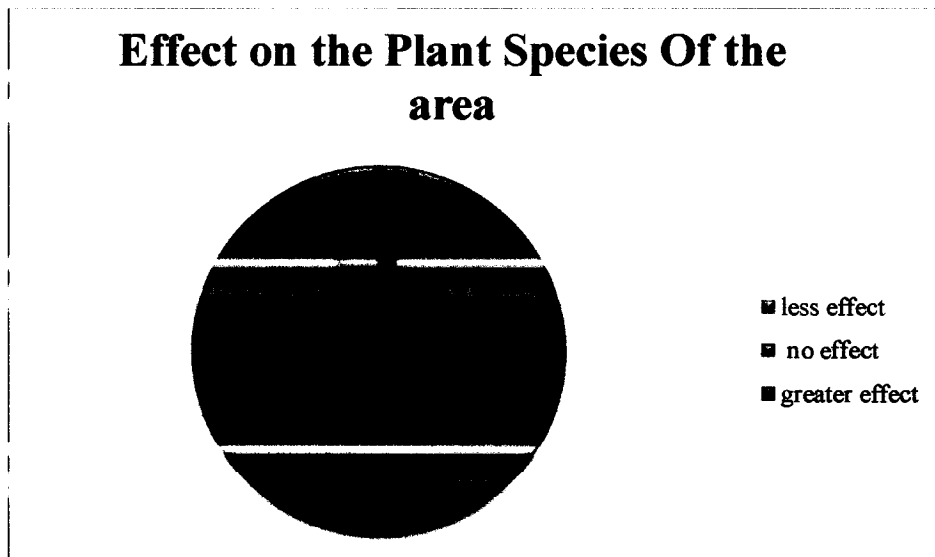
As per survey of the area and graph indicates, some people gave remarks that there are higher air pollution (i.e. 14%) by the subject project, some people said that there is soil pollution caused by the proposed project (i.e. 3%) by the subject activity. Maximum/ number of people said that there is no pollution caused by the subject project while some people said that water pollution (i.e.8%) and little bit odor (i.e.2%) caused by the subject activity.



**Figure 27:** Effect of project on the living standard of people

**Discussion:**

As per survey, 86% respondents said that subject project will enhance the living standard and income level of the area, 8% said that there is no effect on the living standard and income level while only 6% respondents had no remarks regarding the subject project.



**Figure 28:** Effect of proposed project on flora

**Discussion:**

As above graph indicates, 90% of the respondents remarked that there is no effect caused on the plants species by the construction and operation of the proposed project, 7% said that there is greater effect can cause on the plants species by the subject activity by clearing the plants at the time of construction and 3% said that less impact will be cause by the subject project on the plants species.

## **CHAPTER # 7**

### **CONCLUSION AND RECOMMENDATIONS**

#### **CONCLUSIONS**

- The IEE study reveals that the project is economically viable, socially acceptable and environment friendly.
- Project is environmental friendly and pollution free.
- The proponent has committed to implement the project in the environment friendly manner.
- Proponent has ensured to adopt all the necessary measures to control any impact if resulting from the project.
- Project proponent has prepared and implemented very comprehensive Emergency Preparedness and Response Standard Operating Procedures.
- Project proponent has prepared and implemented very comprehensive Security and Fire Fighting Standards Operating Procedures.

#### **RECOMMENDATIONS**

- In view of the comprehensive screening process and findings of the present study there is no need of conducting further investigations.
- Tree plantation in the building premises is recommended.
- A good firefighting system should be installed.
- Safety of the workers should be top priority for the management.
- Management of vision Developers Pvt Limited should continue to assist the local communities as a corporate social responsibility.

The present IEE report is enough to meet the administrative and legal framework. Therefore, the environmental approval may be accorded for the present project.