CLIENT: NIUA, DLB and Nagar Palika Bagru

PROJECT NAME: BAGRU - Faecal Sludge Treatment Plant

LOCATION: BAGRU, RAJASTHAN

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VICINITY MAP

LOCATION MAP

LEGENDS/SYMBOLS

- GATE VALVE
- SUPPORT WALL
- MAN HOLE
- SECTION OF A-A
- PIPE
- V-NOTCH
- WATER LEVEL
- RCC WALL
- EXISTING GROUND LEVEL
- BRICK WALL
- GAS VENT PIPE WITH VENT COWL
- CINDERS
- OPENING IN WALL
- SOLING
- CEMENT CONCRETE FILLING
- LANDSCAPE
CLIENT: NIUA, DLB and Nagar Palika Bagru

PROJECT NAME: BAGRU - Faecal Sludge Treatment Plant

LOCATION: BAGRU, RAJASTHAN

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LEGENDS/SYMBOLS

- GATE VALVE
- SUPPORT WALL
- MAN HOLE
- SECTION OF A-A
- PIPE
- V-NOTCH
- GAS VENT OPENING
- WATER LEVEL
- RCC WALL
- EXISTING GROUND LEVEL
- BRICK WALL
- GAS VENT PIPE WITH VENT COWL
- CINDERS
- S.S OPEN CHANNEL GATE
- SOLING
- OPENING IN WALL
- CEMENT CONCRETE FILLING
- LANDSCAPE
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3. This is the property of BORDA/CDD & is not to be copied or produced anywhere without their permission.
4. EGL = Existing Ground Level +96.5
5. Grade of concrete proposed (M15, M20 M25). It is recommended to use Sulphate Resistance Cement (SRC).
6. 'R' indicates Register; 'SC' indicates Screen Chamber; 'SR' indicates Stabilization Reactor; 'SDB' indicates Sludge drying Bed; 'PDB' indicates Planted Drying Bed; 'ST' indicates Settler; 'AF' indicates Anaerobic Filter; 'PGF' indicates Planted Gravel Filter; 'PP' indicates Polishing Pond; 'OR' indicates Operator Room; 'GR' indicates Guard Room; 'SSY' Sludge Storage House
7. Use UPVC pipes (25.4mm, 55mm, 110mm & 150 mm dia (1", 2", 4" & 6")) which can withstand pressure of 6kg/cm².
8. Bench Mark = As per the layout plan provided
9. For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.
MANHOLE LAYOUT PLAN

Manhole Covers Details

Type A - 40 nos. (600 mm x 600 mm size)
Type C - 17 nos. (600 mm dia CI covers)

Precast removable cover slab

RCC Beam lvl + 95.20
200 mm thk RCC wall
100x 300 mm RCC Beam
to support 100 mm RCC Wall

150 mm thk Stone Soling
150 mm thk CC on RCC base at CH2 & CH3 Inlet

6" Dia UPVC Vertical pipe with Tee

6" Dia UPVC pipe CH1 OL & CH2 IL + 97.20
4" Dia UPVC pipe SR Inlet + 97.351

3 openings underneath RCC beam (2 nos. - 400mm x 400mm & 1 no. - 425mm x 400mm)

RCC Top slab 150mm thk M25

600 mm dia Ductile manhole

EGL  + 96.50 m
ROAD LVL:+97.351

4" Dia to flow liquid to DEWATS at lvl + 96.226
4" Dia Overflow pipe at lvl + 97.4 m

100 mm thk PCC bed

B-2(100X300)
B-1(200X400)

Use  UPVC pipes (25.4mm, 55mm, 110mm & 150 mm dia  (1", 2", 4" & 6")) which can withstand pressure of 6kg/cm².

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5. Road lvl = +97.351
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   'PP' indicates Polishing Pond
   'OR' indicates Operator Room
   'GR' indicates Guard Room
   'SSY' Sludge Storage House
8. Bench Mark = As per the layout plan provided
10. For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.
Cross Section @ A-A, Cross Section @ B-B, Cross Section @ C-C, Cross Section @ D-D
Plan of Sludge Drying Bed

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5. Road lvl = +96.5
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10. For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.

NOTES:

BAGRU FSTP

CLIENT:

NIUA, DLB and Nagar Palika Bagru

CHECKED BY:

APPROVED BY:

DRAWN BY:

Scale:

BAGRU FSTP

CLIENT:

NIUA, DLB and Nagar Palika Bagru

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Scale:

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CLIENT:

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CHECKED BY:

APPROVED BY:

DRAWN BY:

Scale:
Plan of Integrated Settler and Anaerobic Filters

Cross section @ A-A

- 4" Ø PVC vertical baffle pipe
- 500mm wide outlet distribution channel
- 200mm thk RCC wall
- 4" dia gas vent pipe
- Settler 2nd chamber
  - Inlet lvl  95.98 m
  - AF Inlet lvl 94.866 m
  - AF Inlet lvl 95.276 m

- 300mm 500mm PVC pipe with horizontal Tee
- Settler Inlet lvl +95.426 m
- 200 mm thck RCC base slab
- 100mm thck 1:4:8 PCC bed
- 4" Ø PVC vertical baffle pipe
- 100mm f hole in 160mm f PVC desludging pipe
- 75 mm thk precast perforated slab
- Filter materials (Cinder)
- AF outlet lvl + 95.176 m
- Distribution chamber outlet lvl + 95.156 m

- 4" dia gas vent pipe
- ABR Inlet lvl 94.866 m
- AF Inlet lvl 95.276 m
- AF Inlet lvl 95.966 m
- 150 mm thck RCC top slab
- 4" dia PVC pipe with vertical Tee
- 500mm wide outlet distribution channel
- 200mm thk RCC wall

- Distribution chamber outlet lvl + 95.156 m
- 100 mm thk BBM support wall for Perforation Slab
- 6" dia vent pipe
- 150 mm thk Stone soling 20mm thk plastering; CM 1:5 20mm thk plastering; CM 1:5
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8. Bench Mark = As per the layout plan provided
9. For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.

**Plan of Manhole**

**Cross section @ B-B**
Plan of Polishing Pond

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8. Bench Mark = As per the layout plan provided
9. For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.
200
300
150mm Thk Stone-Soling
100mm Thk P.C.C in M10(1:3:6)
75 mm Thk R.C.C
200 mmThk R.C.C wall
Cross Section of A-A
Cross Section of B-B
FLOOR LVL:+92.065
EGL +96.50 m
PP Inlet
lvl + 94.322 m
750
150
825
300
1275
325
375
1040
150
150
300
1275
325
800 x 325mm R.C.C Footing
800 x 325mm R.C.C Footing
150
325
1275
300
325
1275
300
500
1475
562
100
800
100
325
875
4305
100mm Thk P.C.C in M5(1:4:8)
150mm Thk R.C.C Bed(Typ)
Steps in Brick in CM(1:6)Typ
100mm Thk P.C.C in M10(1:3:6)
150mm Thk Stone-Soling
100mm Thk P.C.C in M10(1:3:6)
Natural Soil Strata Well Compacted
Natural Soil Strata Well Compacted
1275x 325mm R.C.C Footing
100mm Thk P.C.C in M5(1:4:8)
100mm Thk P.C.C in M10(1:3:6)
150mm Thk Stone-Soling
100mm Thk P.C.C in M10(1:3:6)
500
1475
548
1285
825
300
1275
325
800
100
325
875
4305
100
800
100
325
875
4305
100
800
100
**Plan of Planted Drying Bed**

- **PDB Inlet** level +97.163 m
- **4" dia Vent Pipe**
- **6" dia UPVC perforated outlet** level +95.526 m

**Details:**
- **20mm thick plastering** with **CM 1:5**
- **300mm thick RCC wall**
- **230mm thick BBM wall**

**Notes:**
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7. Use UPVC pipes (25.4mm, 55mm, 110mm & 150 mm dia (1", 2", 4" & 6")) which can withstand pressure of 6kg/cm².
8. Bench Mark = As per the layout plan provided
9. For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.

**Title:** Plan of Planted Drying Bed

**BAGRU FSTP**

**Client:**

**Checked by:**

**Signed:**

**Date:** 22/02/2018

**Scale:** 1:400

**Dimensions:**
- 7000 mm x 8000 mm

**Location:**
- BANGALORE - 560 060
- Opp. Beedi Workers Colony, Survey No.205, KARNATAKA.
- Kommaghatta Road, Bandemath

**Sheet:** 14 of 27
Cross Section of A-A

Cross Section of B-B

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Foundation details

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8. Bench Mark = As per the layout plan provided
9. For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.
W - Window - 900 x 1200
D - Door - 1200 x 2100
D1 - Bathroom door - 800 x 1900

W- Window - 900 X 1200
D- Door - 1200 X 2100
D1- Bathroom door - 800 X 1900

BBM wall 230mm thk
with 12mm plastering
on both sides of wall

CC finish 62mm thk
PCC 100mm thk
1:3:6

MS frame and window
0.9m x 1.2m, Grill, Glass
and Latch

BBM wall 230mm thk
with 12mm plastering

125 mm thk RCC Slab

Plinth beam
230mm x 150mm

BBM wall 230mm thk
with 12mm plastering

In brackets, any discrepancies or omissions shall be brought to the notice.

Grade of concrete proposed (M15, M20, M25). It is recommended to use Sulphate Resistance Cement (SRC).

Use UPVC pipes (25.4mm, 55mm, 110mm & 150mm dia (1", 2", 4" & 6") which can withstand pressure of 6kg/cm².

Bench Mark = As per the layout plan provided

For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.

NOTES

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SIGNATURE

REMARKS

DATE

SCALE:

BAGRU FSTP

CHECKED BY

DATE

APPROVED BY

DATE

DRAWN BY

DATE

NTS

BANGALORE - 560 060

Opp. Beedi Workers Colony,
Survey No.205,
KARNATAKA.

Kommaghatta Road, Bandemath

GUARD ROOM:

TITLE

DRG. No.

PROJECT NAME

CLIENTS CONSULTANT:

SHEET

OF

27

SHEETS

Ritesh Kumar Suman

22/02/2018

Praveen. N

22/02/2018

Praveen. N

NIUA, DLB and Nagar Palika Bagru

22/02/2018

NIUA, DLB and Nagar Palika Bagru
**Typical Cross Section of Blacktop Road**

- **GSB**: Granular sub-base
- **WMM**: Wet Mix Macadam
- **BM**: Bituminous Macadam
- **SDBC**: Semi Dense Bituminous Concrete

**NOTES**

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**PROPOSED CARRIAGE WAY**

**Black Top**
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4. EGL = Existing Ground Level + 96.5
5. Grade of concrete proposed (M15, M20, M25). It is recommended to use Sulphate Resistance Cement (SRC).
6. 'R' indicates Register; 'SC' indicates Screen Chamber; 'SR' indicates Stabilization Reactor; 'SDB' indicates Sludge drying Bed; 'PDB' indicates Planted Drying Bed; 'ST' indicates Settler; 'AF' indicates Anaerobic Filter; 'PGF' indicates Planted Gravel Filter; 'PP' indicates Polishing Pond; 'OR' indicates Operator Room; 'GR' indicates Guard Room; 'SSY' indicates Sludge Storage House.
7. Use UPVC pipes (25.4mm, 55mm, 110mm & 150 mm dia (1", 2", 4" & 6")) which can withstand pressure of 6kg/cm².
8. Bench Mark = As per the layout plan provided.
9. For percolate treatment structures inner plastering (walls and base) of 20mm thick is considered.

**Plan of Compound Wall and Cross Section @ A-A**
Refilling of Excavated Earth

Excavation of Earth

4000 Road Sub Coarse

17000

10000

13000

275

525

525

525

525

SIGNATURE

REMARKS

DATE

NTS

CHECKED BY

DATE

APPROVED BY

DATE

BAGRU FSTP

Kommaghatta Road, Bandemath

RAMP:

PROJECT NAME

BAGRU/FSTP/CD/RAMP

CLIENTS CONSULTANT:

NIUA, DLB and Nagar Palika Bagru

DATE

22/02/2018

Ritesh Kumar Suman

DATE

22/02/2018

Praveen. N

DATE

Praveen. N

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Road LVL: +97.351
EGL = +96.50m

100mm thk PCC in (1:4:8) typ Random Rubble Masonary
with (1:4) mortar

Cross section @ A-A

Plan of Retaining Wall

100mm thk PCC in (1:4:8) typ

Random Rubble Masonary

Random Rubble Masonary
with (1:4) mortar

1000
500
1200
850
1000
100
500

BAGRU/FSTP

CLIENTS CONSULTANT:
NIDC, DIL and Nagar Palika Bagru

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To Support RCC ring, one layer of brick is provided.

500 x 95 mm RCC ring

95 mm RCC ring

100 mm thick RCC

600 mm dia Ductile manhole

1350

1540

Road Level + 97.351

Bottom Level + 95.652 m
Register lvl +96.026 m
230mm thick
BBM Wall

Precast manhole
cover slab

Register lvl +95.426 m
EGL +96.50 m

100 mm thk PCC base slab
1:3:6

EGL +96.50 m
100 mm thk Soling

20mm thk water
proofing plastering
CM 1:5

REGISTER
Cross section @ A-A
Plan of Register

SIGNATURE
REMARKS
DATE

NTS
CHECKED BY
APPROVED BY
DRAWN BY

BAGRU FSTP
Opp. Beedi Workers Colony,
Survey No.205,
KARNATAKA.
Kommaghatta Road, Bandemath

REGISTER:-
TITLE
DRG. No.
PROJECT NAME
BAGRU/FSTP/CD/REGISTER

CLIENTS CONSULTANT:

SHEET
27
OF
27
SHEETS

Ritesh Kumar Suman
22/02/2018

Praveen. N
22/02/2018

NIUA, DLB and Nagar Palika Bagru

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BANGALORE - 560 060