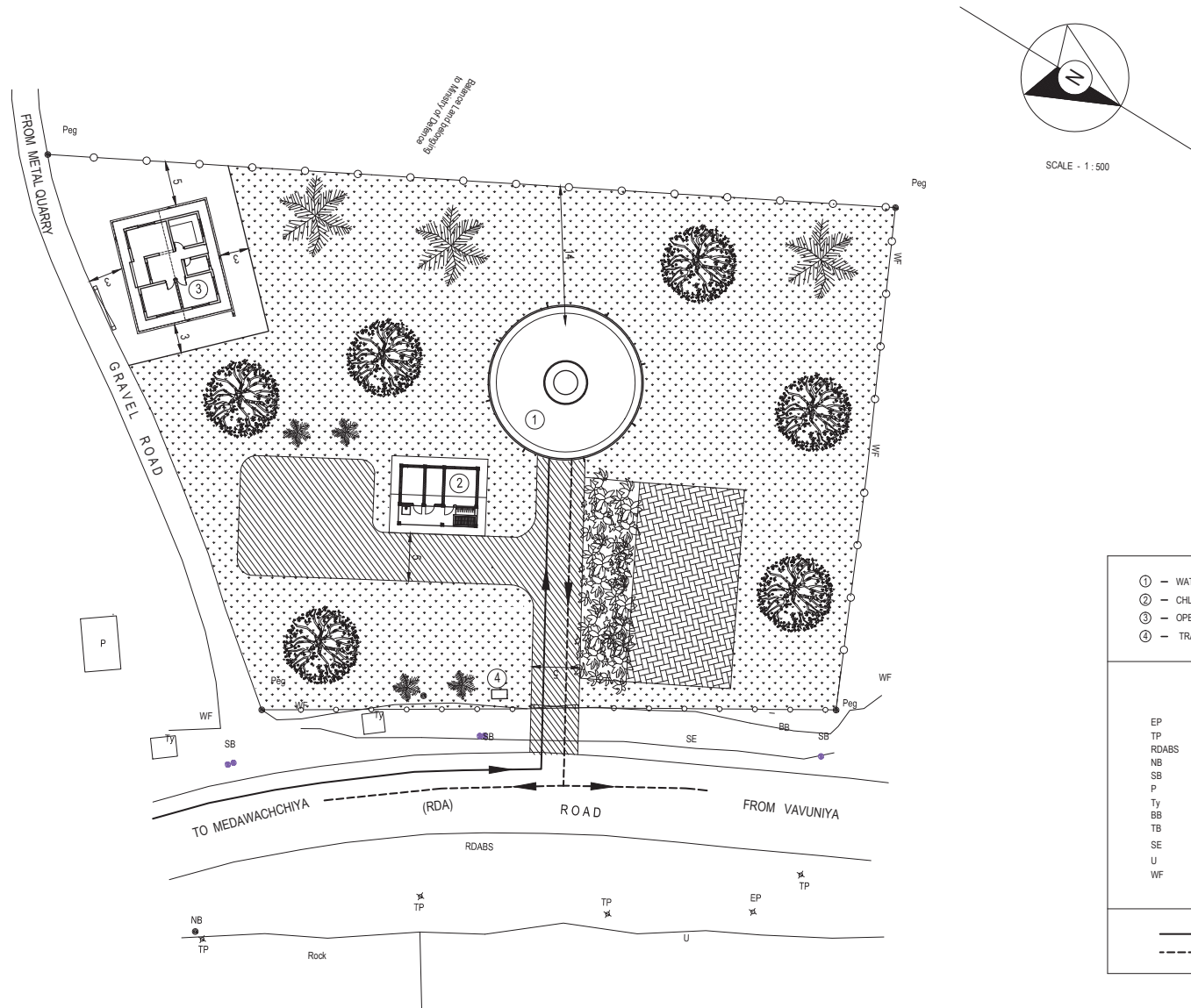


| | | |
|---|---|--------------------------------|
| ① | — | GUARD HOUSE |
| ② | — | OIC OFFICE |
| ③ | — | WORKSHOP |
| ④ | — | GROUND RESERVOIR |
| ⑤ | — | PUMP HOUSE |
| ⑥ | — | GENERATOR ROOM |
| ⑦ | — | OPERATOR / CARE TAKER QUARTERS |
| ⑧ | — | STAFF'S QUARTERS |
| ⑨ | — | CHLORINATION HOUSE |
| ⑩ | — | TRANSFORMER ROOM |
| ⑪ | — | BOWSER POINT |

| REFERENCE | | |
|-----------|-------|--------------------|
| TP | ..... | Telephone Post |
| RDABS | ..... | RDA Boundary Stone |
| G | ..... | Gate |
| LF | ..... | Live Fence |
| U | ..... | Undefined |
| SE | ..... | Shoulder Edge |
| WF | ..... | Wire Fence |

| | |
|---------|------------------|
| — | INLET PIPE LINE |
| - - - - | OUTLET PIPE LINE |

| | | | | | | | | | | | | |
|---|--|--|--|---------------------------------------|-------------|------|-------|-----------|------------|------------------|------------------------------|-----------------|
| PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project | | JAPAN INTERNATIONAL COOPERATION AGENCY | | TITLE: MEDAWACHCHIYA SUMP SITE LAYOUT | | | | | | | | |
| CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD | | CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN | | REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: MT&D/GL/G/1.2PS | |
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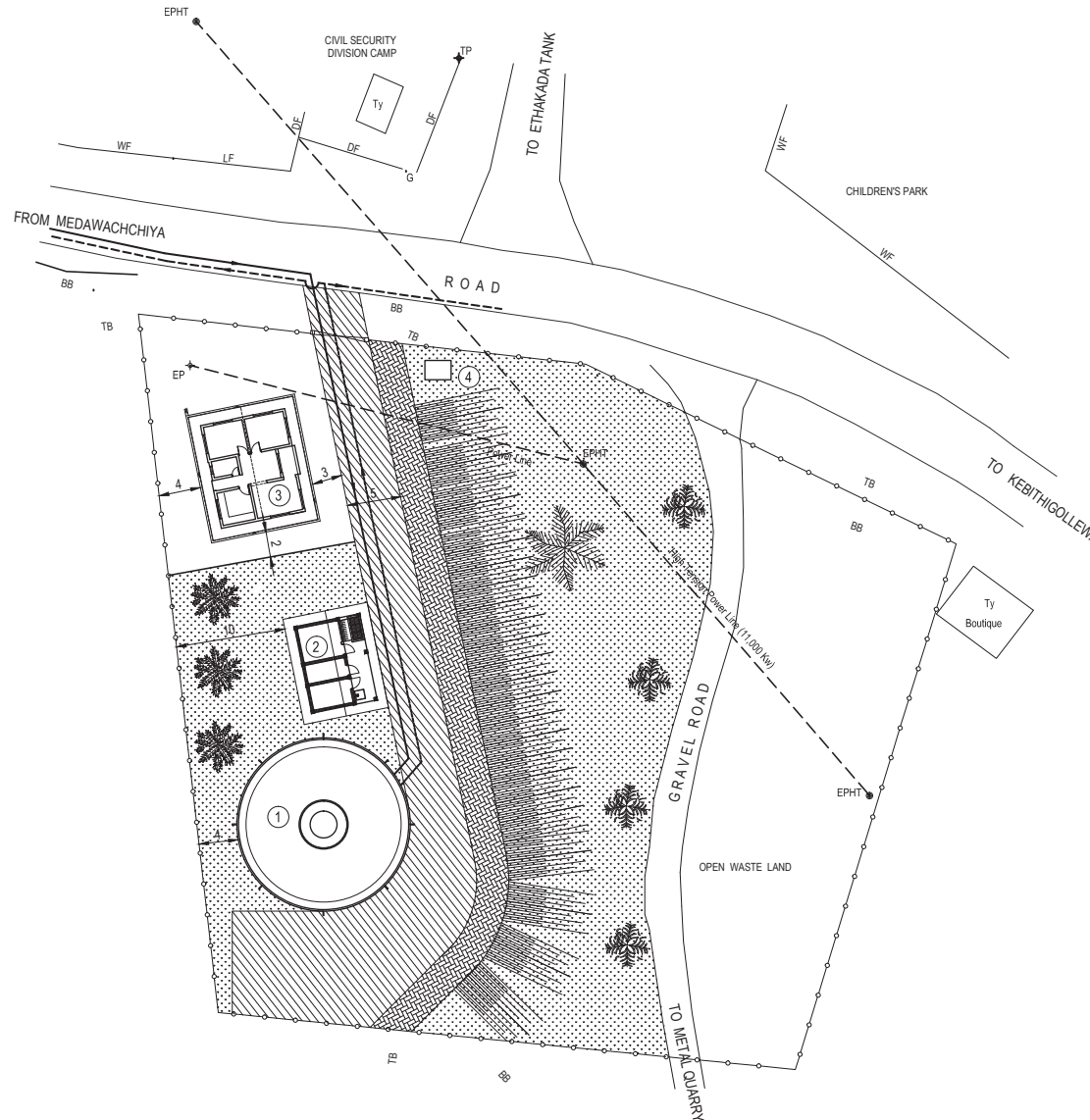


| | |
|---|----------------------------------|
| ① | — WATER TOWER |
| ② | — CHLORINATION HOUSE |
| ③ | — OPERATOR / CARE TAKER QUARTERS |
| ④ | — TRANSFORMER ROOM |

| REFERENCE | |
|-----------|--------------------------|
| EP | Electric Post |
| TP | Telephone Post |
| RDABS | RDA Boundary Stone |
| NB | Name Board |
| SB | Sign Board |
| P | Permanent Building |
| Ty | Temporary Building |
| BB | Bank Bottom |
| TB | Bank Top |
| SE | Shoulder Edge |
| U | Undefined |
| WF | Wire Fence |

| | |
|-----------|------------------|
| — — — — — | INLET PIPE LINE |
| - - - - - | OUTLET PIPE LINE |

| | | | | | | | | | | | | |
|---|--|---|--|---|-------------|------|-------|-----------|------------|------------------|------------------------------|-----------------|
| PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project | | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | | TITLE: ISSINBESSAGALA TOWER SITE LAYOUT | | | | | | | | |
| CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD | | CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN | | REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: WT&D/GL/G/1.2ET | |
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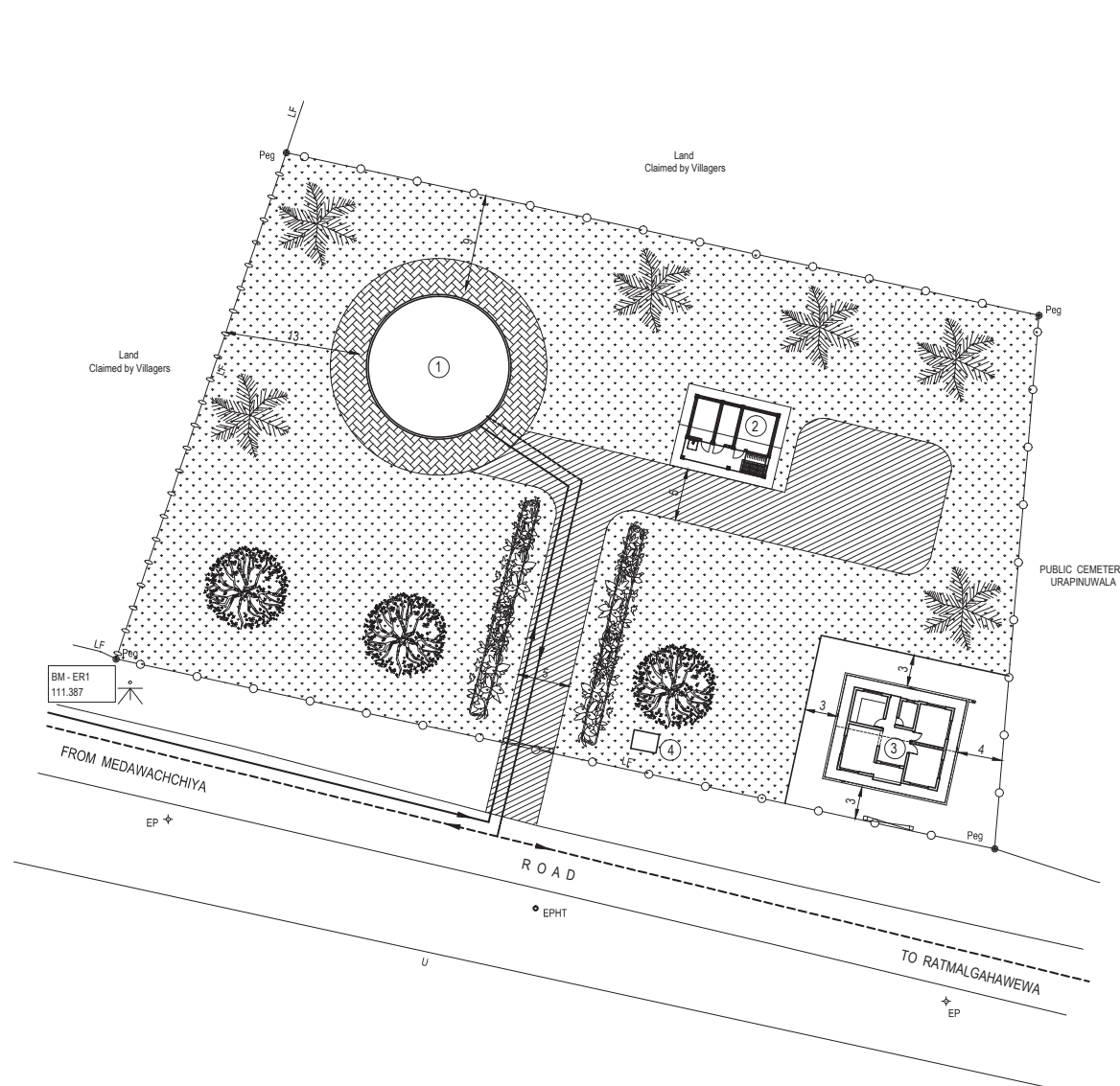
SCALE - 1 : 500
 CONTOUR INTERVAL 0.25m.

| | |
|---|----------------------------------|
| ① | — WATER TOWER |
| ② | — CHLORINATION HOUSE |
| ③ | — OPERATOR / CARE TAKER QUARTERS |
| ④ | — TRANSFORMER ROOM |

| REFERENCE | |
|-----------|-------------------------------|
| EP | Electric Post |
| EPHT | High Tension Power Pole |
| G | Gate |
| Ty | Temporary Building |
| BB | Bank Bottom |
| DF | Dry Fence |
| LF | Live Fence |
| TB | Bank Top |
| U | Undefined |
| WF | Wire Fence |

| | |
|---------|------------------|
| —— | INLET PIPE LINE |
| - - - - | OUTLET PIPE LINE |

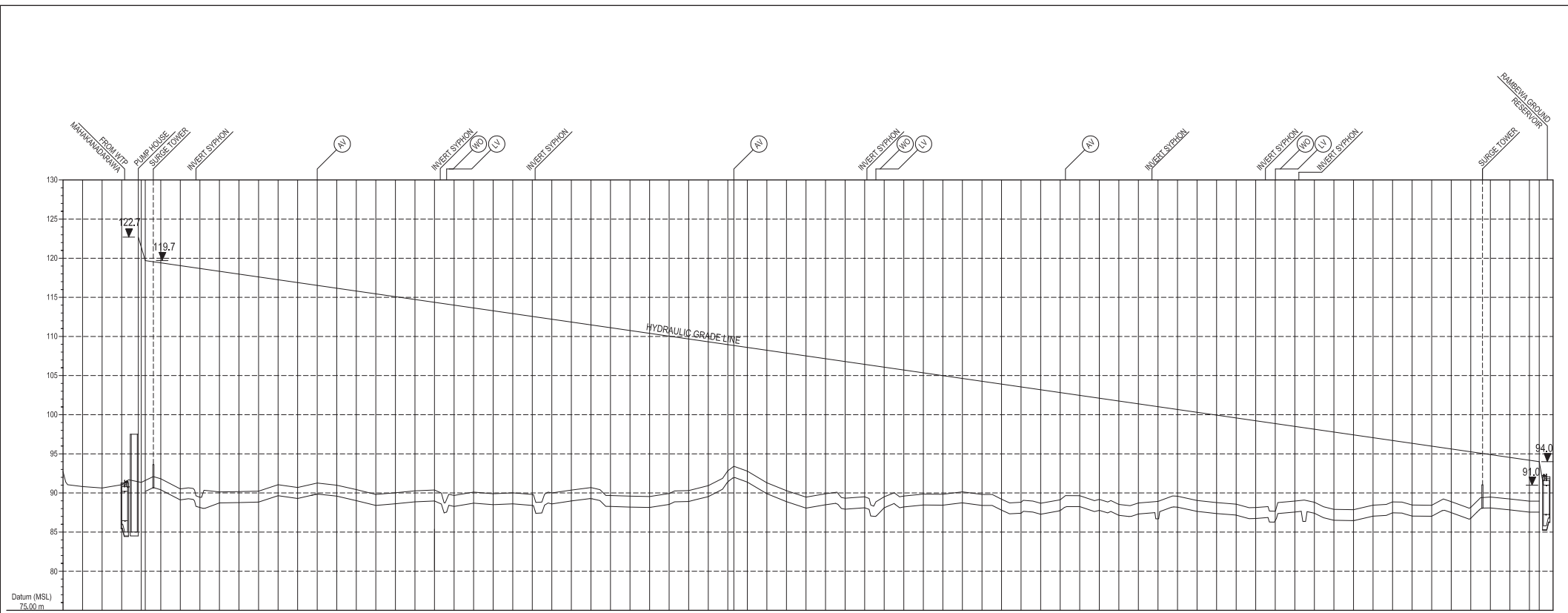
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|---|--|---|--|-----------------------------------|-------------|------|-------|-----------|------------|------------------|------------------------------|-----------------|
| PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project | | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | | TITLE: ETHAKADA TOWER SITE LAYOUT | | | | | | | | |
| CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD | | CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN | | REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: WT&D/GL/G/1.3ET | |
| | | | | | | | | CHECKED: | AGM: (P&D) | DGM: (P&D) | DATE: 26-09-2012 | SCALE: AS SHOWN |



SCALE - 1 : 500

| | | |
|-------------------------------------|------|--------------------------------|
| ① | — | WATER TOWER |
| ② | — | CHLORINATION HOUSE |
| ③ | — | OPERATOR / CARE TAKER QUARTERS |
| ④ | — | TRANSFORMER ROOM |
| REFERENCE | | |
| AB | .... | Abandoned |
| EP | .... | Electric Post |
| BS | .... | Boundary Stone |
| LF | .... | Live Fence |
| W | .... | Wall |
| WLF | .... | Wire Live Fence |
| WF | .... | Wire Fence |
| 木 | .... | Benchmark |
| INLET PIPE LINE OUTLET PIPE LINE | | |

| | | | | | | | | | | | | |
|---|--|---|--|---------------------------------------|-------------|------|-------|-----------|------------|------------------|------------------------------|-----------------|
| PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project | | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | | TITLE: EAST RAMBEWA TOWER SITE LAYOUT | | | | | | | | |
| CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD | | CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN | | REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: WT&D/GL/G/1.4ET | |
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Datum (MSL)
75.00 m

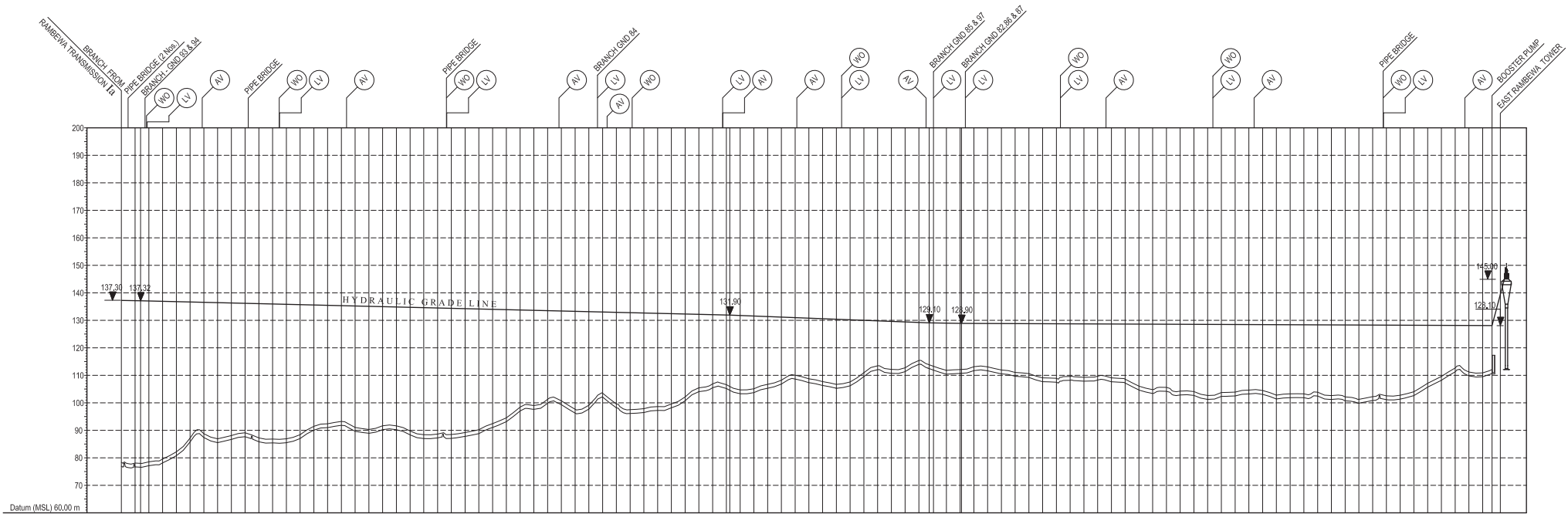
| Ground Level (m) | Pipe Center Level (m) | Cumulative Distance (m) |
|------------------|-----------------------|-------------------------|
| 92.72 | | 00 |
| 90.92 | | 100 |
| 90.63 | | 200 |
| 91.05 | | 300 |
| 91.35 | 88.95 | 420 |
| 91.61 | 90.41 | 500 |
| 90.52 | 88.12 | 600 |
| 88.45 | | 700 |
| 90.13 | 88.73 | 800 |
| 90.17 | 88.77 | 900 |
| 90.23 | 88.83 | 1000 |
| 91.05 | 89.65 | 1100 |
| 90.70 | 89.30 | 1200 |
| 91.26 | 89.86 | 1300 |
| 91.00 | 88.60 | 1400 |
| 90.42 | 88.02 | 1500 |
| 88.81 | 88.41 | 1600 |
| 90.02 | 88.62 | 1700 |
| 90.27 | 88.87 | 1800 |
| 89.68 | 88.28 | 1900 |
| 90.37 | 88.97 | 2000 |
| 90.10 | 88.70 | 2100 |
| 89.90 | 88.50 | 2200 |
| 90.01 | 88.61 | 2300 |
| 88.81 | 88.41 | 2400 |
| 90.00 | 88.60 | 2500 |
| 90.00 | 88.60 | 2600 |
| 90.37 | 88.97 | 2600 |
| 90.69 | 89.29 | 2700 |
| 89.67 | 88.27 | 2800 |
| 88.59 | 88.19 | 2900 |
| 88.54 | 88.14 | 3000 |
| 88.93 | 88.53 | 3100 |
| 90.31 | 88.91 | 3200 |
| 90.93 | 89.53 | 3300 |
| 90.93 | 89.53 | 3400 |
| 92.78 | 91.28 | 3500 |
| 91.20 | 89.90 | 3600 |
| 90.29 | 88.89 | 3700 |
| 89.46 | 88.06 | 3800 |
| 88.89 | 88.49 | 3900 |
| 88.32 | 87.92 | 4000 |
| 88.51 | 88.11 | 4100 |
| 88.51 | 88.11 | 4200 |
| 88.61 | 88.21 | 4300 |
| 88.86 | 88.46 | 4400 |
| 88.84 | 88.44 | 4500 |
| 90.14 | 88.74 | 4600 |
| 88.61 | 88.41 | 4700 |
| 88.20 | 87.80 | 4800 |
| 88.81 | 87.41 | 4900 |
| 88.88 | 87.28 | 5000 |
| 88.13 | 87.73 | 5100 |
| 88.65 | 88.25 | 5200 |
| 88.17 | 87.77 | 5300 |
| 88.54 | 87.14 | 5400 |
| 88.71 | 87.21 | 5500 |
| 88.92 | | 5600 |
| 88.98 | 88.18 | 5700 |
| 88.04 | 87.64 | 5800 |
| 88.77 | 87.27 | 5900 |
| 88.57 | 87.17 | 6000 |
| 88.14 | 86.74 | 6100 |
| 87.67 | 86.27 | 6200 |
| 88.96 | 87.56 | 6300 |
| 88.81 | 87.41 | 6400 |
| 87.96 | 86.51 | 6500 |
| 87.86 | 86.46 | 6600 |
| 88.44 | 87.04 | 6700 |
| 88.06 | 87.46 | 6800 |
| 88.45 | 87.05 | 6900 |
| 88.43 | 87.03 | 7000 |
| 88.23 | 86.83 | 7100 |
| 88.09 | 86.69 | 7200 |
| 88.16 | 86.76 | 7300 |
| 88.48 | 86.08 | 7400 |
| 88.23 | 87.63 | 7500 |
| 88.95 | 87.55 | 7500 |

OD 500mm Ø HDPE PIPE - PN10 - SDR 17

- LEGEND:
- AV - Air valve
 - LV - Line valve
 - WO - Wash-out

NOTE 01: PIPE DATA IS SHOWN IN OUTER DIAMETER.
 NOTE 02: HYDRAULIC GRADE LINE IS BASED ON THE HYDRAULIC ESTIMATE IN 2034.

| | | | | | | | | | | | | |
|---|--|---|--|---|-------------|------|-------|-----------|------------|------------------|----------------------------|------------|
| PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project | | JAPAN INTERNATIONAL COOPERATION AGENCY | | TITLE: TRANSMISSION PROFILE SECTION MAH - 1 (I - I.P.S) | | | | | | | | |
| CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD | | CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN | | REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: MT&D/PIP/C/01 | |
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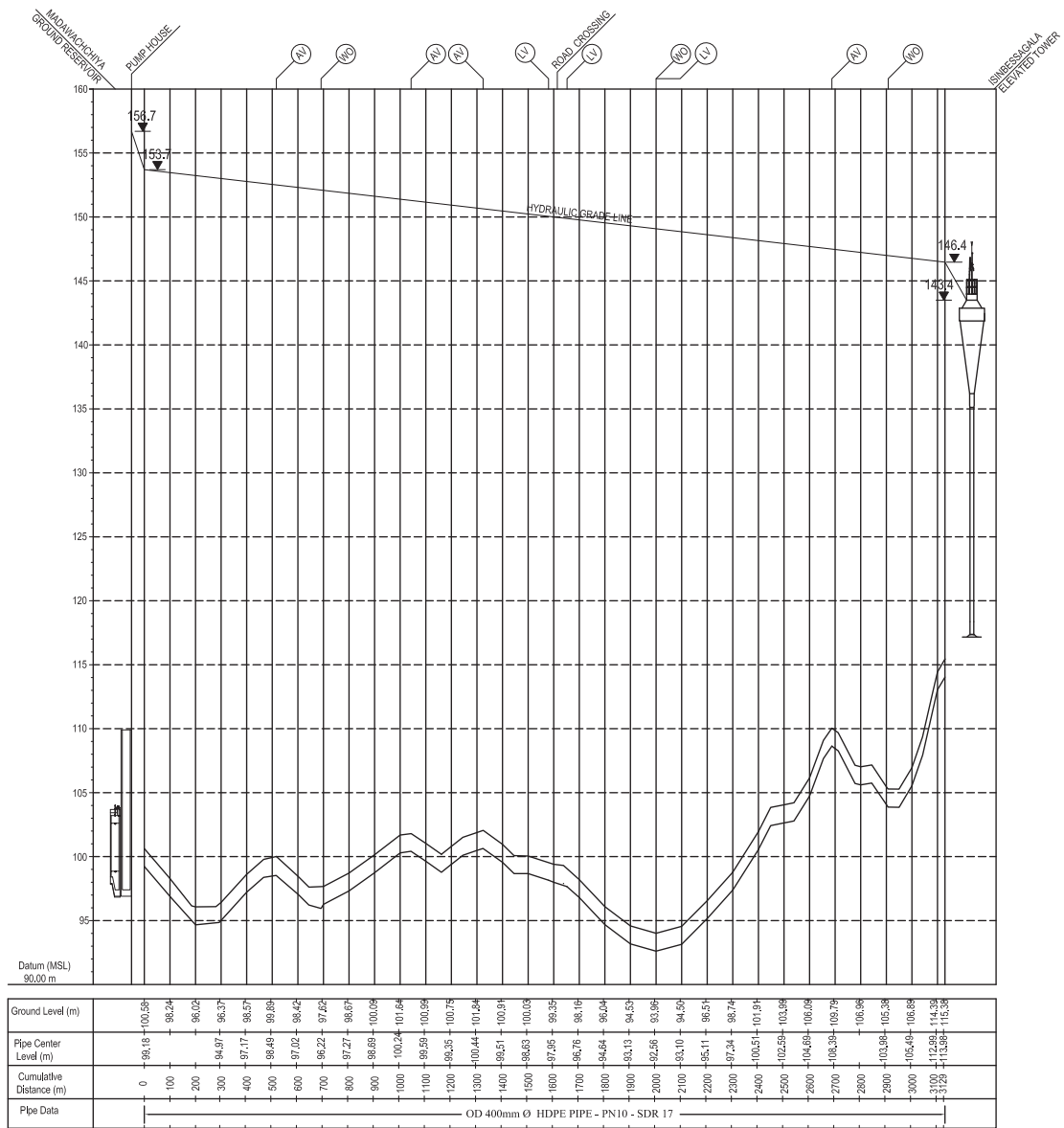


| Cumulative Distance (m) | Ground Level (m) | Pipe Centre Level (m) | Pipe Data |
|-------------------------|------------------|-----------------------|---|
| 0 | 76.96 | 76.38 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 200 | 76.88 | 76.08 | |
| 400 | 77.13 | 76.55 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 600 | 78.15 | 76.95 | |
| 800 | 80.78 | 82.18 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 1000 | 85.78 | 87.18 | |
| 1200 | 87.97 | 88.77 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 1400 | 85.52 | 86.52 | |
| 1600 | 86.08 | 86.08 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 1800 | 87.69 | 86.08 | |
| 2000 | 85.82 | 87.22 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 2200 | 85.42 | 86.82 | |
| 2400 | 85.50 | 86.90 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 2600 | 87.01 | 88.41 | |
| 2800 | 90.06 | 91.48 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 3000 | 92.37 | 92.37 | |
| 3200 | 91.84 | 93.24 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 3400 | 89.63 | 91.03 | |
| 3600 | 88.92 | 90.38 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 3800 | 90.24 | 91.64 | |
| 4000 | 90.20 | 91.60 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 4200 | 88.35 | 89.75 | |
| 4400 | 87.00 | 88.40 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 4600 | 87.22 | 88.62 | |
| 4800 | 87.06 | 88.48 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 5000 | 87.79 | 88.18 | |
| 5200 | 88.80 | 90.20 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 5400 | 91.03 | 92.43 | |
| 5600 | 93.14 | 94.54 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 5800 | 97.05 | 98.45 | |
| 6000 | 97.62 | 99.02 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 6200 | 99.85 | 101.25 | |
| 6400 | 99.32 | 100.72 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 6600 | 98.55 | 97.65 | |
| 6800 | 97.71 | 96.11 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 7000 | 102.08 | 103.48 | |
| 7200 | 98.18 | 99.98 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 7400 | 96.13 | 97.53 | |
| 7600 | 96.47 | 97.87 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 7800 | 97.23 | 98.63 | |
| 8000 | 98.18 | 99.98 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 8200 | 100.76 | 102.16 | |
| 8400 | 104.07 | 105.47 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 8600 | 105.49 | 106.89 | |
| 8800 | 105.21 | 106.61 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 9000 | 103.29 | 104.69 | |
| 9200 | 103.71 | 105.11 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 9400 | 105.31 | 106.71 | |
| 9600 | 106.83 | 108.23 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 9800 | 108.64 | 110.04 | |
| 10000 | 107.33 | 108.73 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 10200 | 108.32 | 107.72 | |
| 10400 | 105.28 | 106.68 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 10600 | 106.17 | 107.57 | |
| 10800 | 108.54 | 110.84 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 11000 | 112.07 | 113.47 | |
| 11200 | 110.74 | 112.14 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 11400 | 111.34 | 112.74 | |
| 11600 | 113.98 | 115.38 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 11800 | 111.98 | 113.38 | |
| 12000 | 110.40 | 111.80 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 12200 | 110.69 | 112.09 | |
| 12400 | 111.72 | 113.12 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 12600 | 111.69 | 113.06 | |
| 12800 | 110.53 | 111.93 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 13000 | 106.64 | 111.04 | |
| 13200 | 109.23 | 110.63 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 13400 | 107.69 | 109.09 | |
| 13600 | 107.50 | 108.90 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 13800 | 108.20 | 109.60 | |
| 14000 | 107.67 | 108.27 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 14200 | 108.29 | 109.69 | |
| 14400 | 107.69 | 109.06 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 14600 | 107.19 | 108.59 | |
| 14800 | 104.65 | 106.05 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 15000 | 103.38 | 104.78 | |
| 15200 | 104.20 | 105.60 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 15400 | 102.86 | 104.26 | |
| 15600 | 102.70 | 104.10 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 15800 | 101.25 | 102.65 | |
| 16000 | 102.94 | 103.74 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 16200 | 102.51 | 103.91 | |
| 16400 | 103.23 | 104.63 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 16600 | 103.07 | 104.47 | |
| 16800 | 101.38 | 102.78 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 17000 | 101.86 | 103.26 | |
| 17200 | 101.86 | 103.26 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 17400 | 102.46 | 103.86 | |
| 17600 | 101.22 | 103.22 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 17800 | 100.74 | 102.74 | |
| 18000 | 99.88 | 101.28 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 18200 | 100.85 | 102.25 | |
| 18400 | 101.14 | 102.54 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 18600 | 101.36 | 102.76 | |
| 18800 | 102.64 | 104.04 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 19000 | 105.71 | 107.11 | |
| 19200 | 108.18 | 109.58 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |
| 19400 | 111.37 | 112.87 | |
| 19600 | 108.79 | 111.49 | OD 225mm Ø HDPE PIPE - PN10 - SDR 17 |
| 19800 | 105.69 | 111.69 | |
| 19800 | 110.73 | 112.13 | OD 180mm Ø HDPE PIPE - PN10 - SDR 17 |

- LEGEND :
- AV - Air valve
 - LV - Line valve
 - WO - Wash-out

NOTE 01. PIPE DATA IS SHOWN IN OUTER DIAMETER.
 02. HYDRAULIC GRADE LINE IS BASED ON THE HYDRAULIC ESTIMATE IN 2034.

| | | | | | | | | | |
|---|---|--|-------------|------------|-------|------------|--------|------------------|----------------------------|
| PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project | JAPAN INTERNATIONAL COOPERATION AGENCY | TITLE: TRANSMISSION PROFILE SECTION MAH - 3 (1a - 1.4ET) | | | | | | | |
| CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD | CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN | REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: MT&D/PIP/C/03 |
| | | CHECKED: | | AGM: (P&D) | | DGM: (P&D) | | DATE: 26-09-2012 | SCALE: NTS |



- LEGEND :
- AV - Air valve
 - LV - Line valve
 - WO - Wash-out

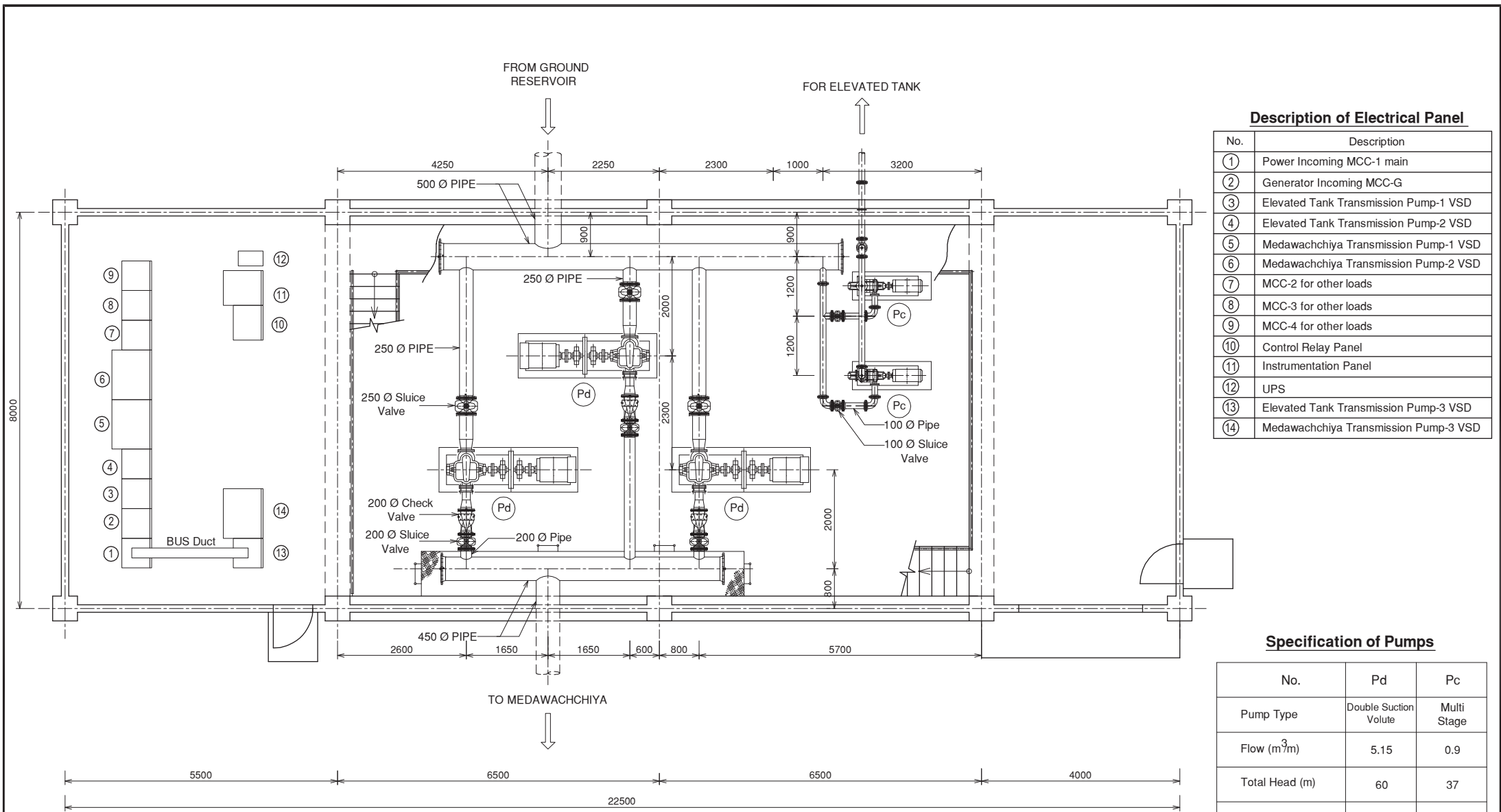
NOTE > 01.PPIPE DATA IS SHOWN IN OUTER DIAMETER.
02.HYDRAULIC GRADE LINE IS BASED ON THE HYDRAULIC ESTIMATE IN 2034.

PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project

CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD

CONSULTANTS :
 NJS CONSULTANTS CO., LTD. - JAPAN
 NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN

| TITLE: TRANSMISSION PROFILE SECTION MAH - 4 (I.2PS - I.2ET) | | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: MT&D/PIP/C/04 |
|---|-------------|-----------|--------|------------------|----------------------------|
| REV. | DESCRIPTION | DATE | SIGN. | CHECKED: | AGM: (P&D) |
| | | | | | DGM: (P&D) |
| | | | | | DATE: 26-09-2012 |
| | | | | | SCALE: AS SHOWN |



Description of Electrical Panel

| No. | Description |
|-----|---------------------------------------|
| ① | Power Incoming MCC-1 main |
| ② | Generator Incoming MCC-G |
| ③ | Elevated Tank Transmission Pump-1 VSD |
| ④ | Elevated Tank Transmission Pump-2 VSD |
| ⑤ | Medawachchiya Transmission Pump-1 VSD |
| ⑥ | Medawachchiya Transmission Pump-2 VSD |
| ⑦ | MCC-2 for other loads |
| ⑧ | MCC-3 for other loads |
| ⑨ | MCC-4 for other loads |
| ⑩ | Control Relay Panel |
| ⑪ | Instrumentation Panel |
| ⑫ | UPS |
| ⑬ | Elevated Tank Transmission Pump-3 VSD |
| ⑭ | Medawachchiya Transmission Pump-3 VSD |

Specification of Pumps

| No. | Pd | Pc |
|--------------------------|-----------------------|-------------|
| Pump Type | Double Suction Volute | Multi Stage |
| Flow (m ³ /m) | 5.15 | 0.9 |
| Total Head (m) | 60 | 37 |
| Motor kW (kW) | 90 | 11 |

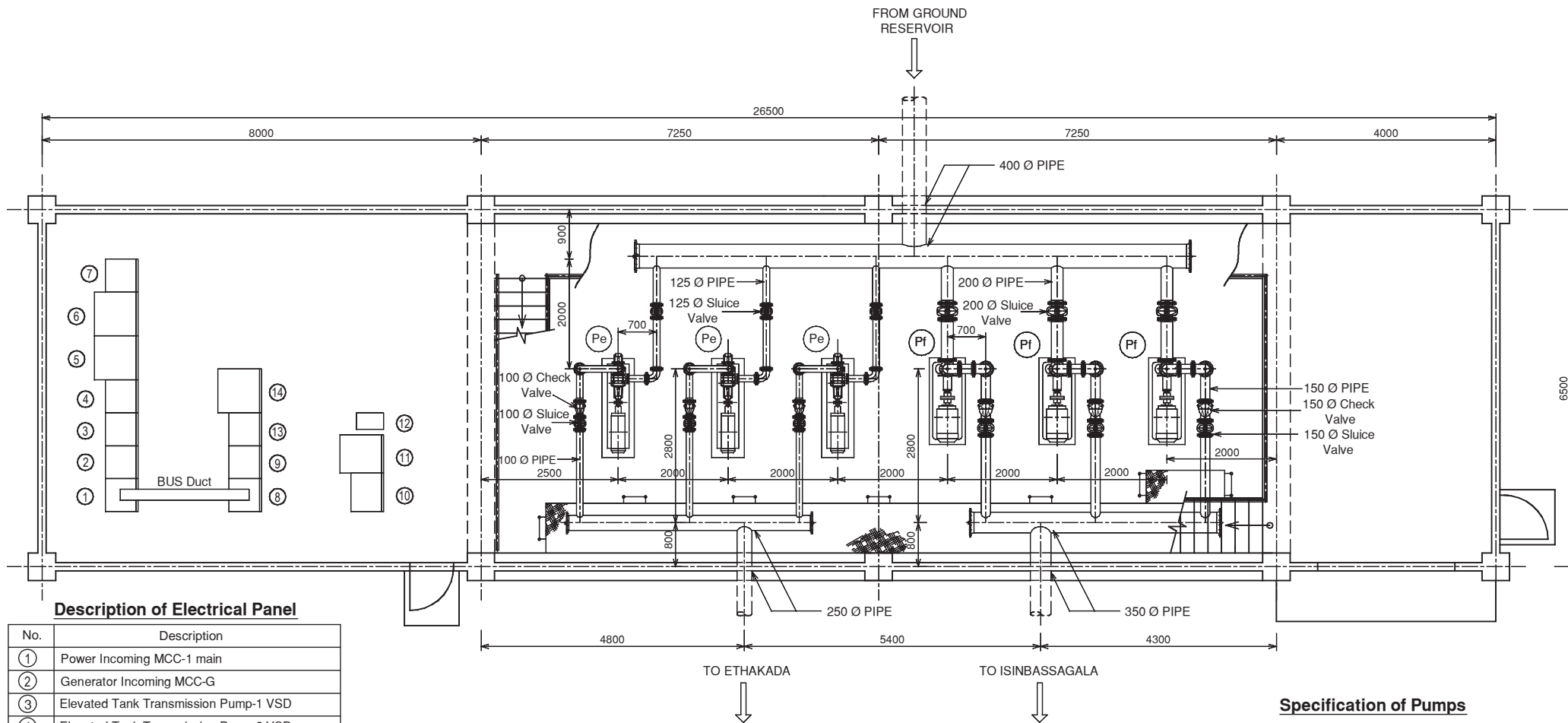
NOTE:-

All Dimensions Are in Millimeters

PLAN

Scale:- 1:75

| | | | | | | | | | | | |
|---|--|---|--|-----------------------------|-------------|------------|------------|------------------|-----------------|------------------|--------------------------|
| PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project | | CONSULTANTS: JICA JAPAN INTERNATIONAL COOPERATION AGENCY | | TITLE: RAMBEWA PUMP STATION | | | | | | | |
| CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD | | CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN | | REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: THARAKA | PM: (CONSULTANT) | DRAWING NO.: MT&D/PHM/01 |
| | | | | CHECKED: | | AGM: (P&D) | DGM: (P&D) | DATE: 03/09/2012 | SCALE: As Given | | |



Description of Electrical Panel

| No. | Description |
|-----|---------------------------------------|
| ① | Power Incoming MCC-1 main |
| ② | Generator Incoming MCC-G |
| ③ | Elevated Tank Transmission Pump-1 VSD |
| ④ | Elevated Tank Transmission Pump-2 VSD |
| ⑤ | Etakada Transmission Pump-1 VSD |
| ⑥ | Etakada Transmission Pump-2 VSD |
| ⑦ | MCC-2 for other loads |
| ⑧ | MCC-3 for other loads |
| ⑨ | MCC-4 for other loads |
| ⑩ | Control Relay Panel |
| ⑪ | Instrumentation Panel |
| ⑫ | UPS |
| ⑬ | Elevated Tank Transmission Pump-3 VSD |
| ⑭ | Etakada Transmission Pump-3 VSD |

PLAN

Scale:- 1:75

Specification of Pumps

| No. | Pe | Pf |
|--------------------------|-------------|-------------|
| Pump Type | Multi Stage | End Suction |
| Flow (m ³ /m) | 1.11 | 2.64 |
| Total Head (m) | 91 | 48 |
| Motor kW (kW) | 30 | 37 |

NOTE:-

All Dimensions Are in Millimeters

PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project



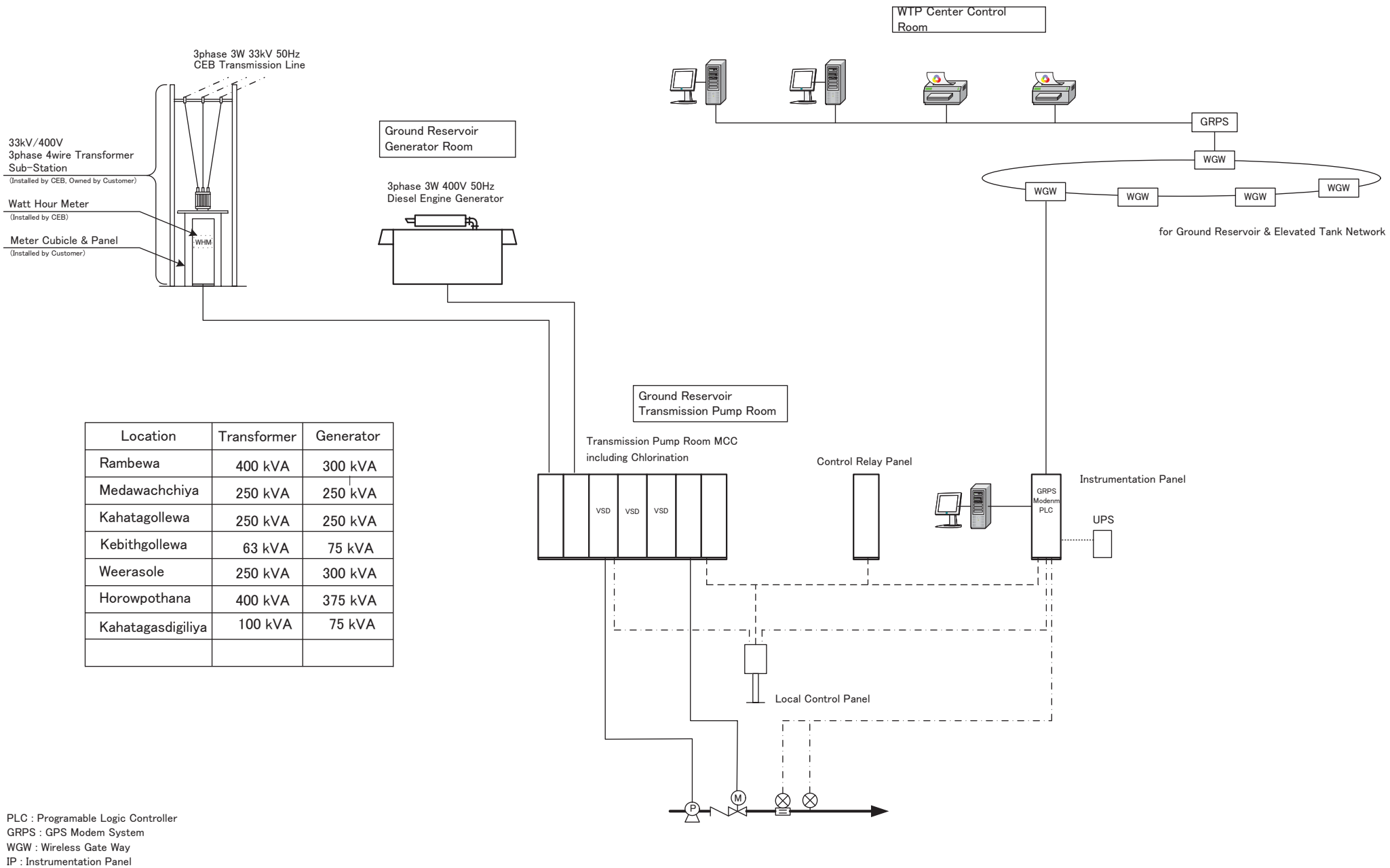
JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE: MEDAWACHCHIYA PUMP STATION

CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD

CONSULTANTS:
 NJS CONSULTANTS CO., LTD. - JAPAN
 NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN

| REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: |
|------|-------------|------|-------|-----------|------------|------------------|------------------|
| | | | | | THARAKA | | MT&D/PH/M/02 |
| | | | | CHECKED: | AGM: (P&D) | DGM: (P&D) | DATE: 03/09/2012 |
| | | | | | | | SCALE: As Given |

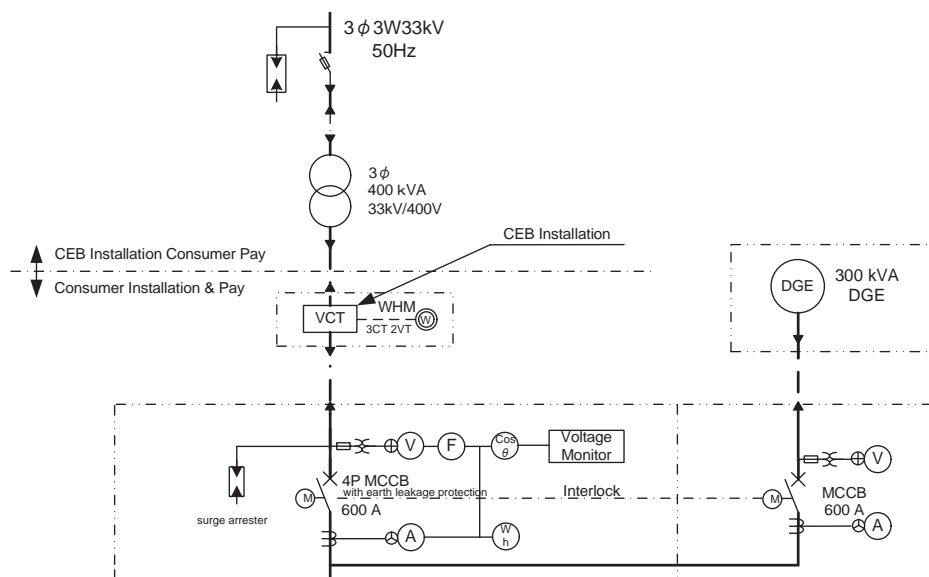


| Location | Transformer | Generator |
|-----------------|-------------|-----------|
| Rambewa | 400 kVA | 300 kVA |
| Medawachchiya | 250 kVA | 250 kVA |
| Kahatagollewa | 250 kVA | 250 kVA |
| Kebithgollewa | 63 kVA | 75 kVA |
| Weerasole | 250 kVA | 300 kVA |
| Horowpothana | 400 kVA | 375 kVA |
| Kahatagasdigiya | 100 kVA | 75 kVA |
| | | |

PLC : Programmable Logic Controller
 GRPS : GPS Modem System
 WGW : Wireless Gate Way
 IP : Instrumentation Panel

| PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project | JAPAN INTERNATIONAL COOPERATION AGENCY | TITLE: TYPICAL GROUND RESERVOIR SYSTEM CONFIGURATION DIAGRAM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|-------|-------------|------------|------------------|------------------|--------|------------------|--------------|--|--|--|--|---------|---------|------|----------------|--|--|--|--|----------|------------|------------|------------------|--|--|--|--|--|--|--|------------|
| CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD | CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN | <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>REV.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>SIGN.</th> <th>DESIGNED:</th> <th>DRAWN:</th> <th>PM: (CONSULTANT)</th> <th>DRAWING NO.:</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>Akiyama</td> <td>Akiyama</td> <td>Miwa</td> <td>MWT&D/STD/E/01</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td>CHECKED:</td> <td>AGM: (P&D)</td> <td>DGM: (P&D)</td> <td>DATE: 15/09/2012</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td>SCALE: NON</td> </tr> </tbody> </table> | REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: | | | | | Akiyama | Akiyama | Miwa | MWT&D/STD/E/01 | | | | | CHECKED: | AGM: (P&D) | DGM: (P&D) | DATE: 15/09/2012 | | | | | | | | SCALE: NON |
| REV. | DESCRIPTION | DATE | SIGN. | DESIGNED: | DRAWN: | PM: (CONSULTANT) | DRAWING NO.: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Akiyama | Akiyama | Miwa | MWT&D/STD/E/01 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | SCALE: NON | | | | | | | | | | | | | | | | | | | | | | | | | | | |

From CEB Transmission Line



| Load | Rambewa ET Transmission Pump | Discharge Valve for Rambewa | Medawachchiya ET Transmission Pump | Discharge Valve for Medawachchiya | Chlorination Booster Pump | Exhaust Fan | Ventilation | Lighting | For GGE | | | | For Control |
|------------------------|------------------------------|-----------------------------|------------------------------------|-----------------------------------|---------------------------|-------------|-------------|----------|---------|---|--|--|-------------|
| Output (kW) | 22 | 0.4 | 90 | 0.4 | 5.5 | 0.25 | 0.2 | 2 | 1 | | | | 3 |
| Starting Method | SS | R | VSD | R | NR | NR | NR | F | F | | | | F |
| MCCB (AF) | 50 | 50 | 225 | 50 | 50 | 50 | 50 | 50 | 50 | | | | 50 |
| Earth Fault Protection | Install | Install | Install | Install | Install | Install | Install | | | | | | |
| Ammeter | Install | | Install | | Install | | Install | | | | | | |
| Run Hour Meter | Install | | Install | | Install | | Install | | | | | | |
| Capacitor (kVar) | | | | | | | | | | | | | |
| Qty | 1st Stage | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | | | | 1 |
| | Final | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | | | 1 |

Legend

| | |
|-----|--------------------------------------|
| NR | Direct On Line Starter |
| R | Reversible Starter |
| VSD | Variable Speed Driver |
| SS | Soft Starter |
| RSD | Closed Transition Star Delta Starter |
| F | MCCB Feeder |

Voltage monitor shall be provided with the following features and interlocked with all motor starters.

1. Phase failure protection
2. Supply voltage imbalance (adjustable)
3. Under and over voltage (adjustable)
4. Phase revers

PROJECT: Preparatory Study for Anuradhapura North Integrated Water Supply Project



JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE:

RAMBEWA GROUND RESERVOIR SINGLE LINE DIAGRAM

CLIENT:



NATIONAL WATER SUPPLY & DRAINAGE BOARD

CONSULTANTS:



NJS CONSULTANTS CO., LTD. - JAPAN
NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN

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DESIGNED:

AKIYAMA

DRAWN:

AKIYAMA

PM: (CONSULTANT)

MWA

DRAWING NO.:

MT&D/GR/E/01

CHECKED:

AGM: (P&D)

DGM: (P&D)

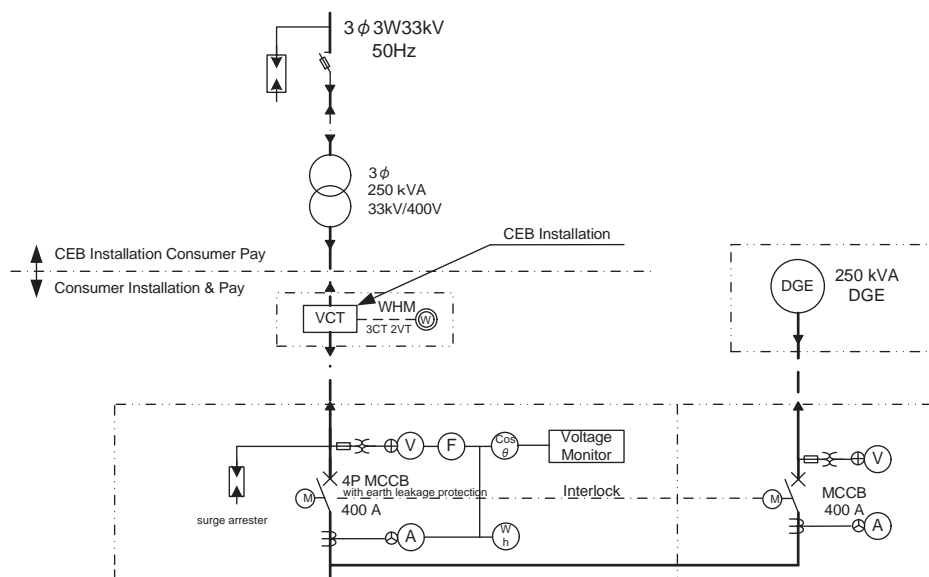
DATE:

15/09/2012

SCALE:

NON

From CEB Transmission Line



| Load | Ishinbassagala ET Transmission Pump | Discharge Valve for Ishinbassagala | Etakada ET Transmission Pump | Discharge Valve for Etakada | Chlorination Booster Pump | Exhaust Fan | Ventilation | Lighting | For GGE | | | | For Control |
|------------------------|-------------------------------------|------------------------------------|------------------------------|-----------------------------|---------------------------|-------------|-------------|----------|---------|--|--|--|-------------|
| Output (kW) | 37 | 0.4 | 30 | 0.4 | 5.5 | 0.25 | 0.2 | 2 | 1 | | | | 3 |
| Starting Method | VSD | R | VSD | R | NR | NR | NR | F | F | | | | F |
| MCCB (AF) | 100 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | | | | 50 |
| Earth Fault Protection | Install | Install | Install | Install | Install | Install | Install | | | | | | |
| Ammeter | Install | | Install | | Install | | Install | | | | | | |
| Run Hour Meter | Install | | Install | | Install | | Install | | | | | | |
| Capacitor (kVar) | | | | | | | | | | | | | |
| Qty | 1st Stage | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | | | | 1 |
| | Final | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | | | | 1 |

Legend

| | |
|-----|--------------------------------------|
| NR | Direct On Line Starter |
| R | Reversible Starter |
| VSD | Variable Speed Driver |
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JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE:

MEDAWACHCHIYA GROUND RESERVOIR SINGLE LINE DIAGRAM

CLIENT: NATIONAL WATER SUPPLY & DRAINAGE BOARD



CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN
NIHON SUIDO CONSULTANTS CO., LTD. - JAPAN



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|-------------------|----------------|-----------------------|---------------------------|
| DESIGNED: AKIYAMA | DRAWN: AKIYAMA | PM: (CONSULTANT) MIWA | DRAWING NO.: MT&D/GR/E/02 |
| CHECKED: | AGM: (P&D) | DGM: (P&D) | DATE: 15/09/2012 |
| | | | SCALE: NON |