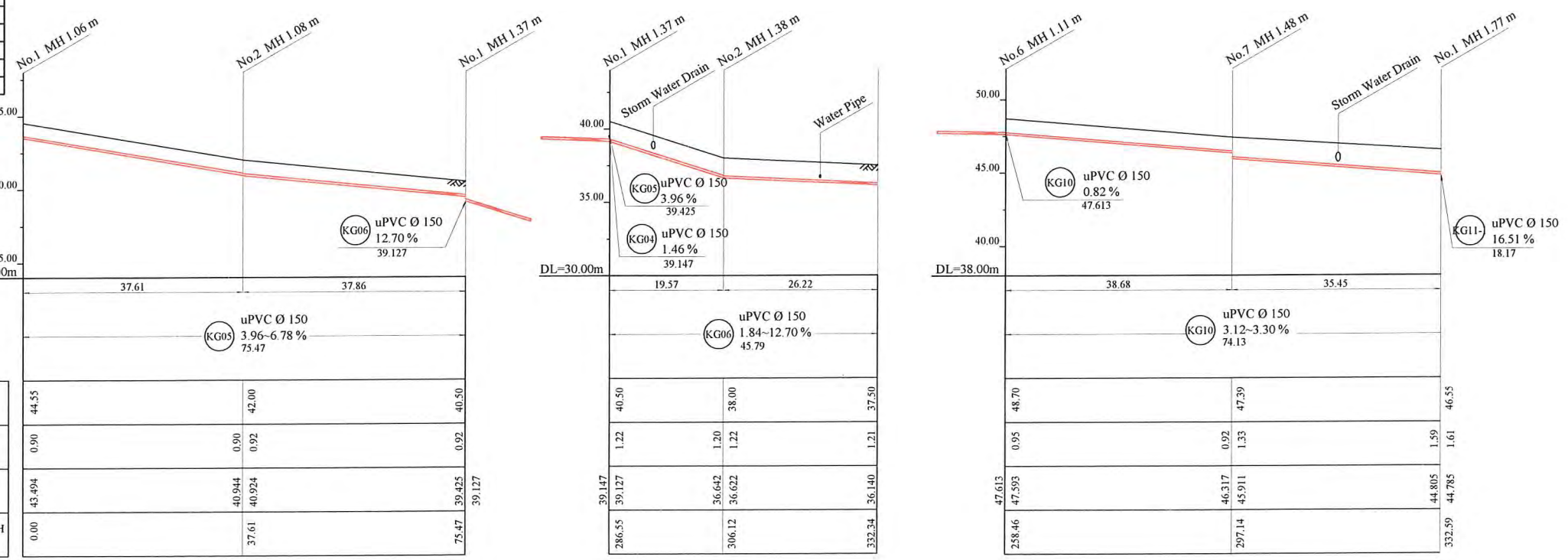


HDPE PIPE BENDING POINT CORDINATES

Corner Pt. No.	EASTING	NORTHING
BP37-Pt.01	108614.61	104340.20
BP37-Pt.02	108592.87	104370.89
BP37-Pt.03	108572.26	104402.64
BP37-Pt.04	108560.86	104386.73
BP37-Pt.05	108737.31	104201.35
BP37-Pt.06	108710.90	104224.31
BP37-Pt.07	108679.24	104251.84
BP37-Pt.08	108655.48	104282.36



NOTE: CADASTRAL BOUNDARIES TAKEN FROM DCDB

- LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING UTILITIES IN OPERATION.
- UNDERGROUND UTILITY SERVICES TO RESIDENTIAL, PUBLIC AND COMMERCIAL BUILDINGS OR OTHER FACILITIES HAVE NOT BEEN SHOWN BUT SHALL BE LOCATED AND PROTECTED IN A SIMILAR MANNER AS DESCRIBED ABOVE BY THE CONTRACTOR
- INVERT MODIFICATION IS INCLUDED IN THE CONTRACT  
 INVERT LEVEL OF NEW PIPE ≥ EXISTING PIPE BOTTOM LEVEL +20mm  
 INVERT LEVEL OF NEW PIPE - EXISTING PIPE BOTTOM LEVEL ≥ +600mm  
 DROP PIPE IS REQUIRED
- MINIMUM COVER IS 60cm FOR UNPAVED ROAD  
 90cm FOR ASPHALT/CONCRETE PAVED ROAD IF NOT DESCRIBED ON THE DRAWING  
 Type A - Soil/others  
 Type B - Asphalt(Road)  
 Type C - Walkway (Concrete)

PROJECT: PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT (POMSSUP)

CLIENT: INDEPENDENT PUBLIC BUSINESS CORPORATION  
 PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT  
 PROJECT MANAGEMENT UNIT (PMU)

CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN

CLIENT LOGOS: IPBC, JICA

TITLE: Branch Sewer Pipe Plan and Profile (Kaugere\_ KG5,KG6,KG10-2/2)

NOTES:

REVISIONS		
REV.	DATE	DESCRIPTION

APPROVED by PMU:  
 Project Director  
 Lot G. Zauya

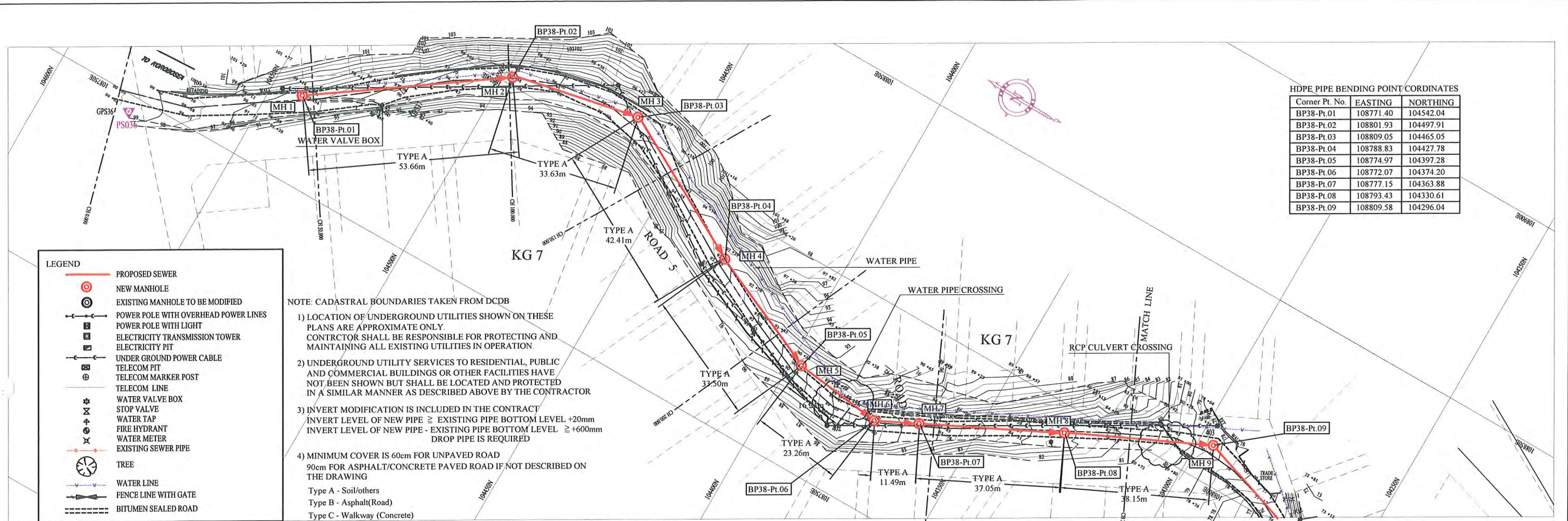
CHECKED by CONSULTANT  
 Project Manager  
 T. Fuji

DATE: 1. Dec 2011

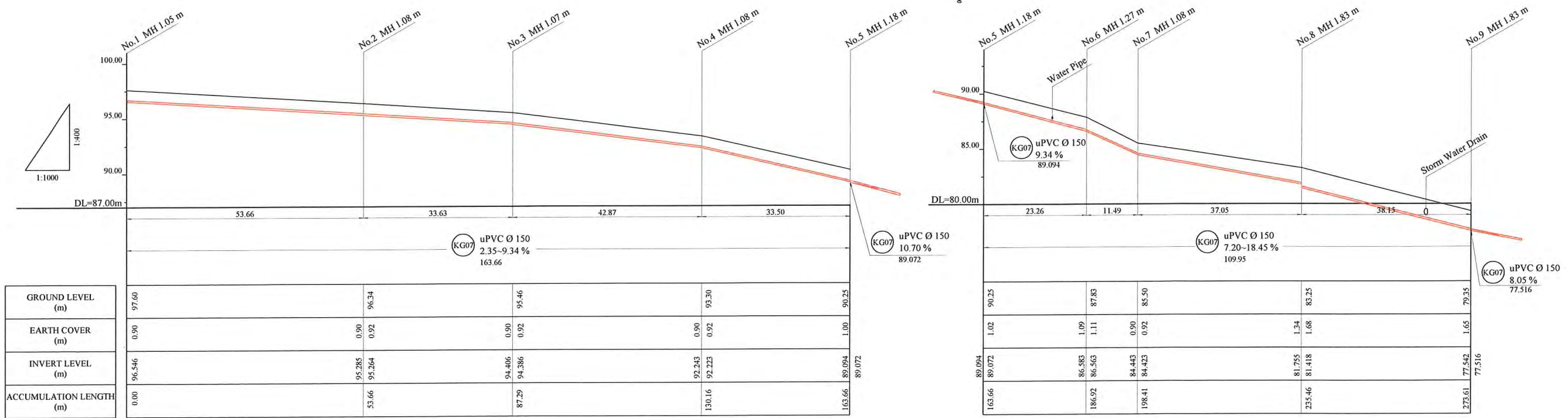
SCALE: 1/1000

DATE: 1. Dec 2011

DRAWING NO.: BP-37



PLAN VIEW  
Scale : 1:1000



**PROJECT:** PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT (POMSSUP)

**TITLE:** Branch Sewer Pipe Plan and Profile (Kaugere\_KG 7-1/2)

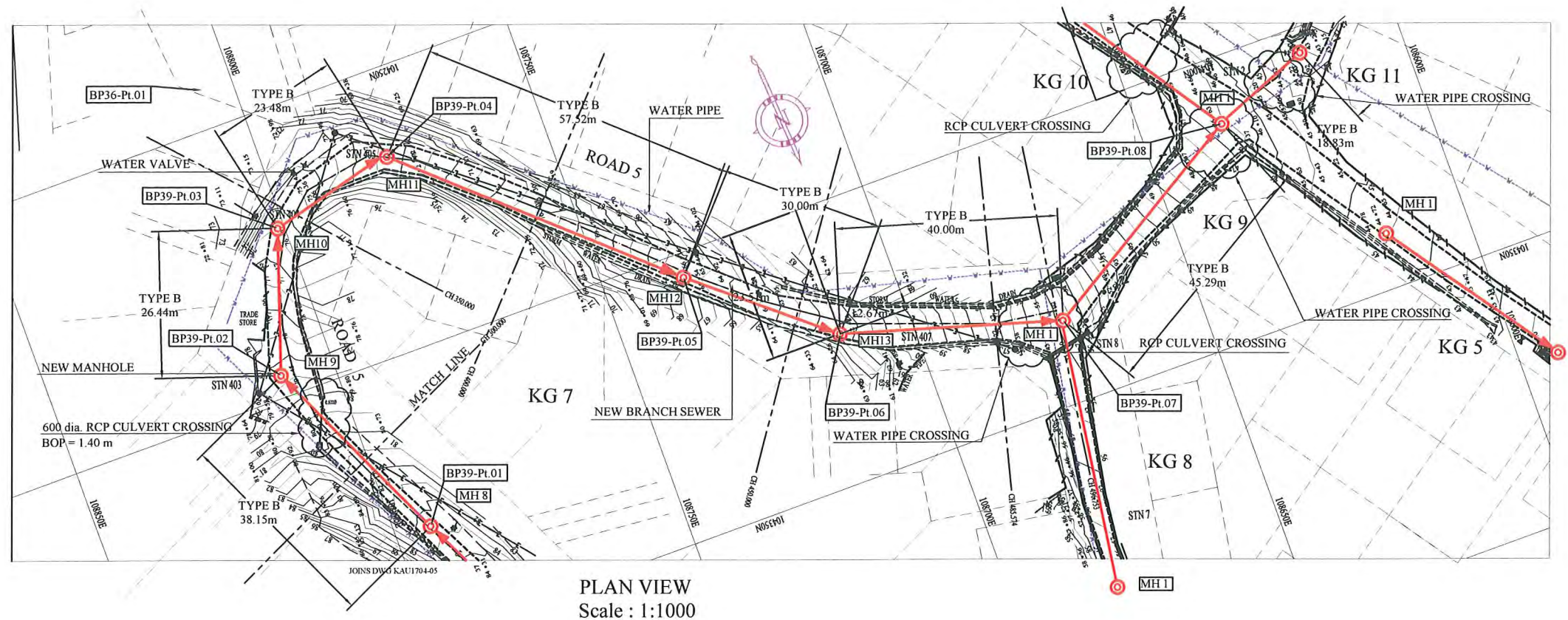
**CLIENT:** INDEPENDENT PUBLIC BUSINESS CORPORATION  
 PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT  
 PROJECT MANAGEMENT UNIT (PMU)

**CONSULTANTS:** NJS CONSULTANTS CO., LTD. - JAPAN

**NOTES:**

REVISIONS			APPROVED by PMU: Project Director Lot G.Zauya	DATE: 1. Dec 2011	SCALE: 1/1000
REV.	DATE	DESCRIPTION			
			CHECKED by CONSULTANT Project Manager T.Fuji	DATE: 1. Dec 2011	DRAWING NO.: BP-38

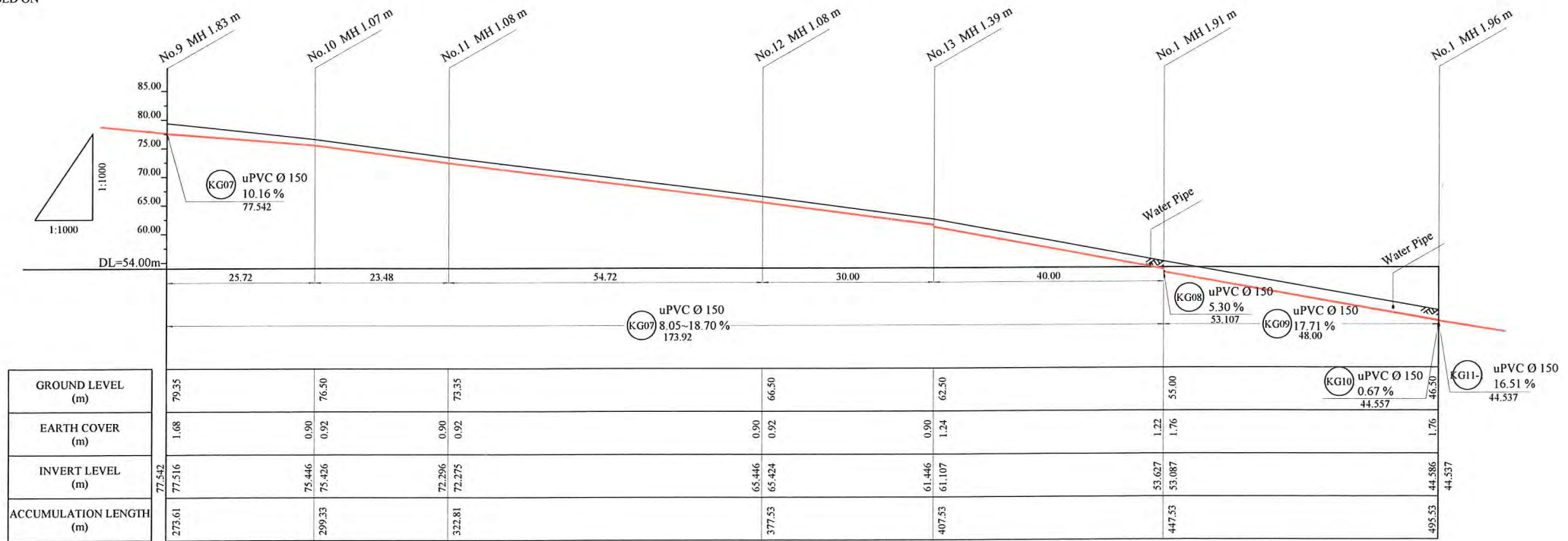
LEGEND	
	PROPOSED SEWER
	NEW MANHOLE
	EXISTING MANHOLE TO BE MODIFIED
	POWER POLE WITH OVERHEAD POWER LINES
	POWER POLE WITH LIGHT
	ELECTRICITY TRANSMISSION TOWER
	ELECTRICITY PIT
	UNDER GROUND POWER CABLE
	TELECOM PIT
	TELECOM MARKER POST
	TELECOM LINE
	WATER VALVE BOX
	STOP VALVE
	WATER TAP
	FIRE HYDRANT
	WATER METER
	EXISTING SEWER PIPE
	TREE
	WATER LINE
	FENCE LINE WITH GATE
	BITUMEN SEALED ROAD



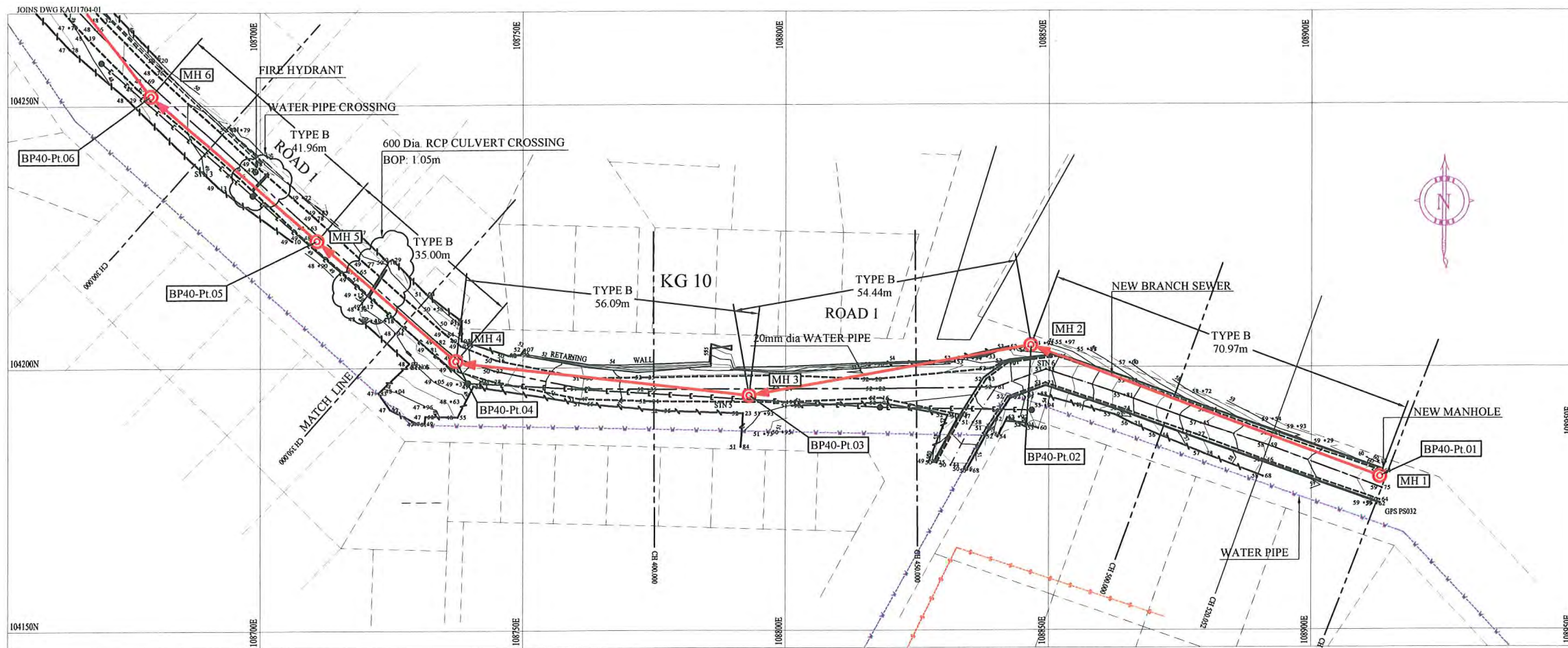
- NOTE: CADASTRAL BOUNDARIES TAKEN FROM DCDB
- 1) LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING UTILITIES IN OPERATION.
  - 2) UNDERGROUND UTILITY SERVICES TO RESIDENTIAL, PUBLIC AND COMMERCIAL BUILDINGS OR OTHER FACILITIES HAVE NOT BEEN SHOWN BUT SHALL BE LOCATED AND PROTECTED IN A SIMILAR MANNER AS DESCRIBED ABOVE BY THE CONTRACTOR
  - 3) INVERT MODIFICATION IS INCLUDED IN THE CONTRACT  
 INVERT LEVEL OF NEW PIPE  $\geq$  EXISTING PIPE BOTTOM LEVEL +20mm  
 INVERT LEVEL OF NEW PIPE - EXISTING PIPE BOTTOM LEVEL  $\geq$  +600mm  
 DROP PIPE IS REQUIRED
  - 4) MINIMUM COVER IS 60cm FOR UNPAVED ROAD  
 90cm FOR ASPHALT/CONCRETE PAVED ROAD IF NOT DESCRIBED ON THE DRAWING  
 Type A - Soil/others  
 Type B - Asphalt(Road)  
 Type C - Walkway (Concrete)

HDPE PIPE BENDING POINT COORDINATES

Corner Pt. No.	EASTING	NORTHING
BP39-Pt.01	108793.43	104330.61
BP39-Pt.02	108809.58	104296.04
BP39-Pt.03	108801.16	104270.97
BP39-Pt.04	108778.30	104265.64
BP39-Pt.05	108735.70	104304.29
BP39-Pt.06	108712.67	104323.51
BP39-Pt.07	108674.38	104335.07
BP39-Pt.08	108635.59	104311.70



PROJECT: PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT (POMSSUP)		TITLE: Branch Sewer Pipe Plan and Profile (Kaugere_KG 7-2/2,KG9)	
CLIENT:  INDEPENDENT PUBLIC BUSINESS CORPORATION PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT PROJECT MANAGEMENT UNIT (PMU) JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANTS:  NJS CONSULTANTS CO., LTD. - JAPAN	NOTES:	APPROVED by PMU: Project Director Lot G.Zauya
		REVISIONS:	CHECKED by CONSULTANT Project Manager T.Fuji
		DATE: 1. Dec 2011	SCALE: 1/1000
		DATE: 1. Dec 2011	DRAWING NO.: BP-39

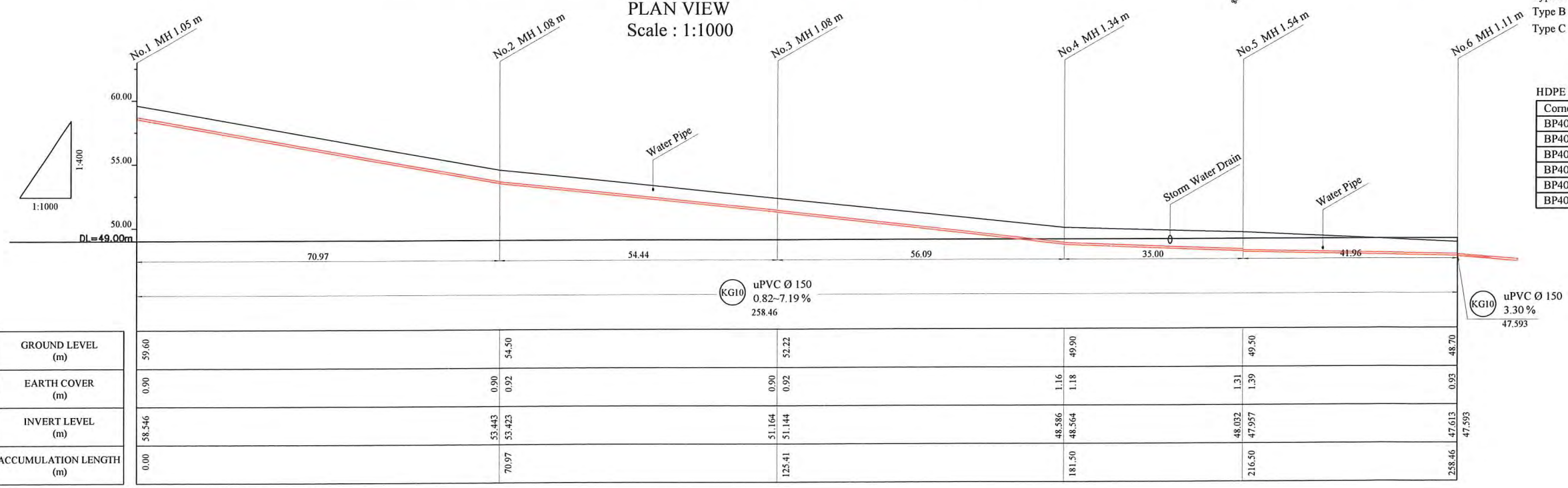


**LEGEND**

- PROPOSED SEWER
- NEW MANHOLE
- EXISTING MANHOLE TO BE MODIFIED
- POWER POLE WITH OVERHEAD POWER LINES
- POWER POLE WITH LIGHT
- ELECTRICITY TRANSMISSION TOWER
- ELECTRICITY PIT
- UNDER GROUND POWER CABLE
- TELECOM PIT
- TELECOM MARKER POST
- TELECOM LINE
- WATER VALVE BOX
- STOP VALVE
- WATER TAP
- FIRE HYDRANT
- WATER METER
- EXISTING SEWER PIPE
- TREE
- WATER LINE
- FENCE LINE WITH GATE
- BITUMEN SEALED ROAD

- NOTE: CADASTRAL BOUNDARIES TAKEN FROM DCDB
- 1) LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING UTILITIES IN OPERATION.
  - 2) UNDERGROUND UTILITY SERVICES TO RESIDENTIAL, PUBLIC AND COMMERCIAL BUILDINGS OR OTHER FACILITIES HAVE NOT BEEN SHOWN BUT SHALL BE LOCATED AND PROTECTED IN A SIMILAR MANNER AS DESCRIBED ABOVE BY THE CONTRACTOR
  - 3) INVERT MODIFICATION IS INCLUDED IN THE CONTRACT  
 INVERT LEVEL OF NEW PIPE  $\geq$  EXISTING PIPE BOTTOM LEVEL +20mm  
 INVERT LEVEL OF NEW PIPE - EXISTING PIPE BOTTOM LEVEL  $\geq$  +600mm  
 DROP PIPE IS REQUIRED
  - 4) MINIMUM COVER IS 60cm FOR UNPAVED ROAD  
 90cm FOR ASPHALT/CONCRETE PAVED ROAD IF NOT DESCRIBED ON THE DRAWING  
 Type A - Soil/others  
 Type B - Asphalt(Road)  
 Type C - Walkway (Concrete)

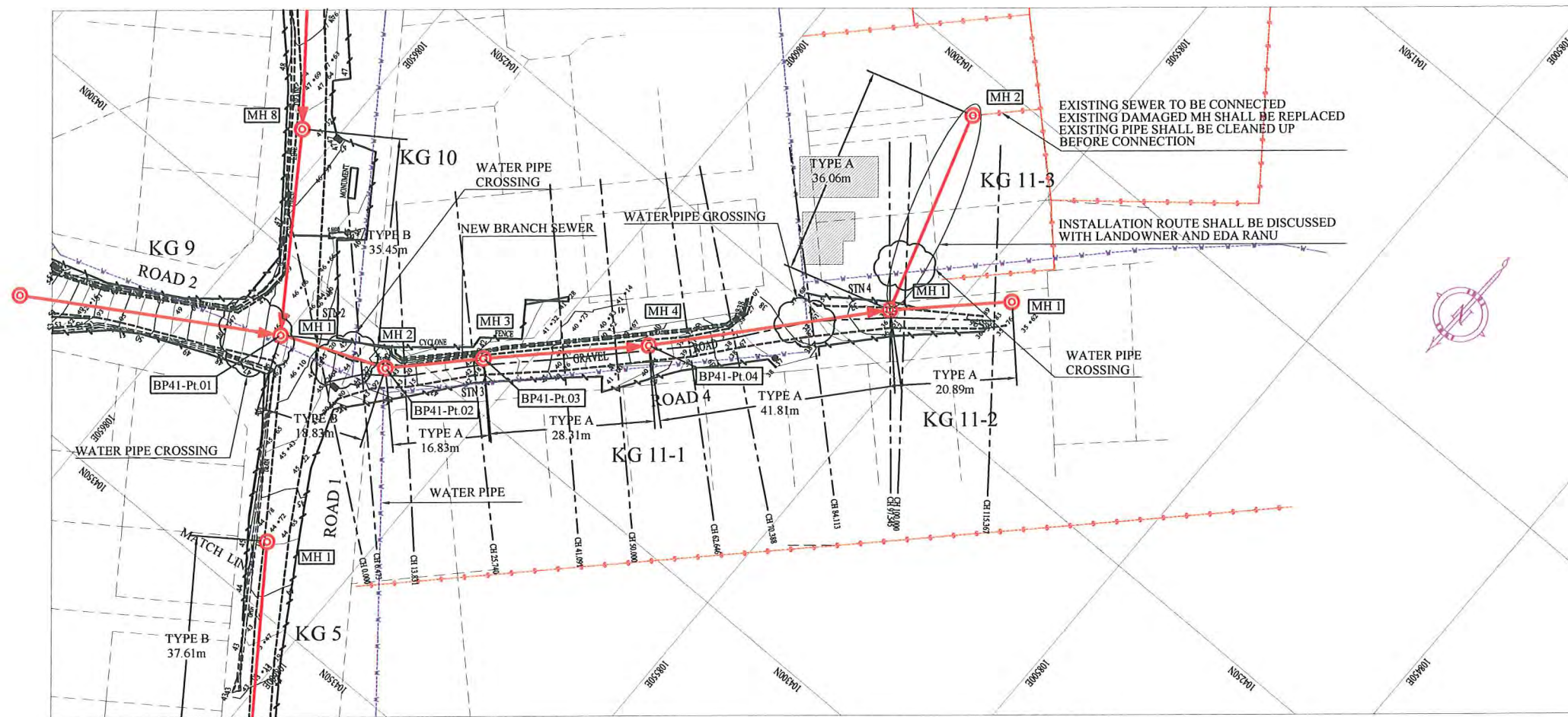
PLAN VIEW  
Scale : 1:1000



**HDPE PIPE BENDING POINT CORDINATES**

Corner Pt. No.	EASTING	NORTHING
BP40-Pt.01	108913.01	104179.16
BP40-Pt.02	108846.61	104204.22
BP40-Pt.03	108793.01	104194.71
BP40-Pt.04	108737.31	104201.35
BP40-Pt.05	108710.90	104224.31
BP40-Pt.06	108679.24	104251.84

<b>PROJECT:</b> PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT (POMSSUP)		<b>TITLE:</b> Branch Sewer Pipe Plan and Profile (Kaugere_KG10-1/2)		
<b>CLIENT:</b> INDEPENDENT PUBLIC BUSINESS CORPORATION PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT PROJECT MANAGEMENT UNIT (PMU) JAPAN INTERNATIONAL COOPERATION AGENCY	<b>CONSULTANTS:</b> NJS CONSULTANTS CO., LTD. - JAPAN	<b>NOTES:</b>	<b>APPROVED by PMU:</b> Project Director Lot G.Zauya	<b>DATE:</b> 1. Dec 2011
			<b>CHECKED by CONSULTANT:</b> Project Manager T. Fuji	<b>DATE:</b> 1. Dec 2011
			<b>SCALE:</b> 1/1000	<b>DRAWING NO.:</b> BP-40



PLAN VIEW  
Scale : 1:1000

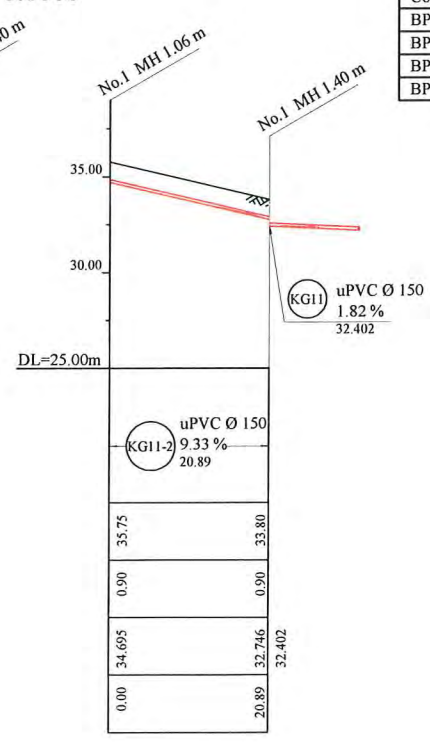
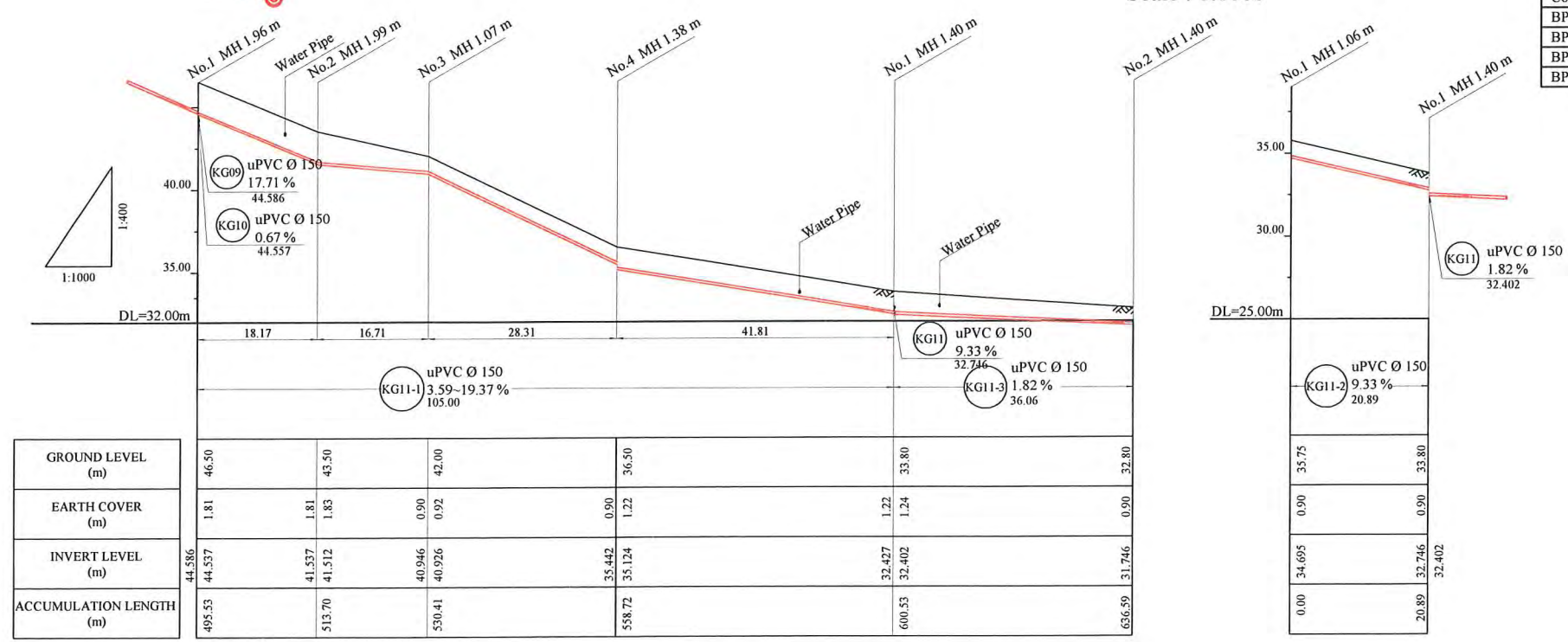
**LEGEND**

- PROPOSED SEWER
- NEW MANHOLE
- EXISTING MANHOLE TO BE MODIFIED
- POWER POLE WITH OVERHEAD POWER LINES
- POWER POLE WITH LIGHT
- ELECTRICITY TRANSMISSION TOWER
- ELECTRICITY PIT
- UNDER GROUND POWER CABLE
- TELECOM PIT
- TELECOM MARKER POST
- TELECOM LINE
- WATER VALVE BOX
- STOP VALVE
- WATER TAP
- FIRE HYDRANT
- WATER METER
- EXISTING SEWER PIPE
- TREE
- WATER LINE
- FENCE LINE WITH GATE
- BITUMEN SEALED ROAD

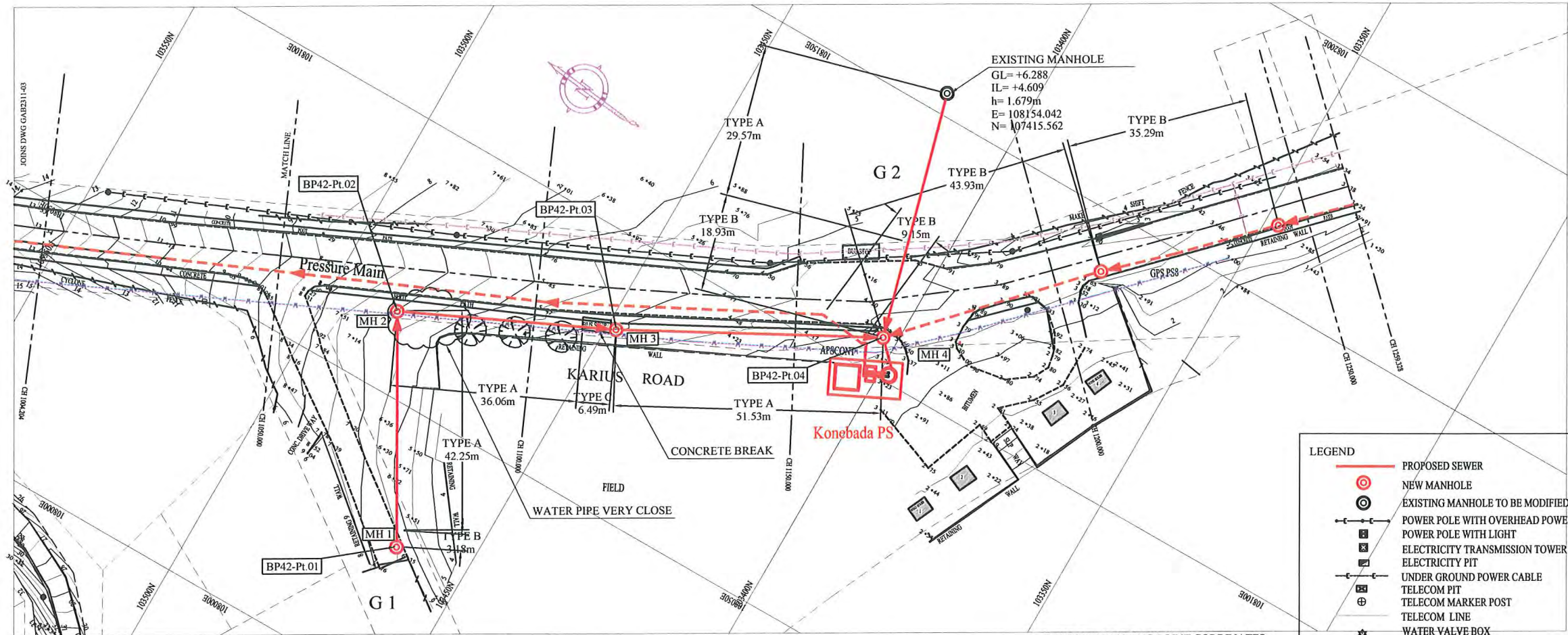
**HDPE PIPE BENDING POINT CORDINATES**

Corner Pt. No.	EASTING	NORTHING
BP41-Pt.01	108635.59	104311.70
BP41-Pt.02	108618.18	104304.50
BP41-Pt.03	108606.35	104292.53
BP41-Pt.04	108586.04	104272.81

- NOTE: CADASTRAL BOUNDARIES TAKEN FROM DCDB
- LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING UTILITIES IN OPERATION.
  - UNDERGROUND UTILITY SERVICES TO RESIDENTIAL, PUBLIC AND COMMERCIAL BUILDINGS OR OTHER FACILITIES HAVE NOT BEEN SHOWN BUT SHALL BE LOCATED AND PROTECTED IN A SIMILAR MANNER AS DESCRIBED ABOVE BY THE CONTRACTOR
  - INVERT MODIFICATION IS INCLUDED IN THE CONTRACT  
 INVERT LEVEL OF NEW PIPE  $\geq$  EXISTING PIPE BOTTOM LEVEL +20mm  
 INVERT LEVEL OF NEW PIPE - EXISTING PIPE BOTTOM LEVEL  $\geq$  +600mm  
 DROP PIPE IS REQUIRED
  - MINIMUM COVER IS 60cm FOR UNPAVED ROAD  
 90cm FOR ASPHALT/CONCRETE PAVED ROAD IF NOT DESCRIBED ON THE DRAWING  
 Type A - Soil/others  
 Type B - Asphalt(Road)  
 Type C - Walkway (Concrete)



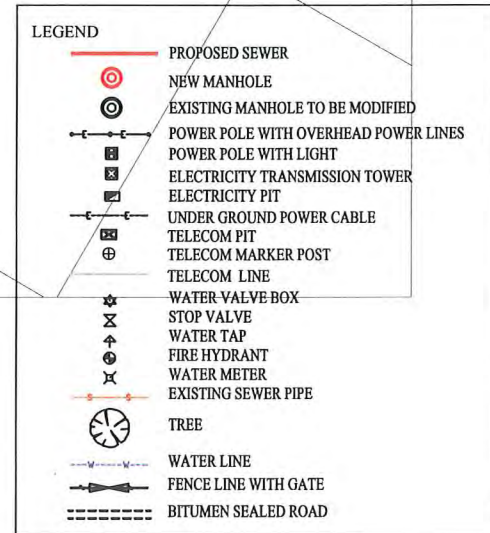
<b>PROJECT:</b> PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT (POMSSUP)		<b>TITLE:</b> Branch Sewer Pipe Plan and Profile (Kaugere_KG-11)													
<b>CLIENT:</b> INDEPENDENT PUBLIC BUSINESS CORPORATION PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT PROJECT MANAGEMENT UNIT (PMU) JAPAN INTERNATIONAL COOPERATION AGENCY	<b>CONSULTANTS:</b> NJS CONSULTANTS CO., LTD. - JAPAN	<b>NOTES:</b>	<b>REVISIONS</b>												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		REV.	DATE	DESCRIPTION									
REV.	DATE	DESCRIPTION													
		<b>APPROVED by PMU:</b> Project Director Lot G.Zauya	<b>DATE:</b> 1. Dec 2011												
		<b>CHECKED by CONSULTANT</b> Project Manager T.Fuji	<b>DATE:</b> 1. Dec 2011												
			<b>SCALE:</b> 1/1000												
			<b>DRAWING NO.:</b> BP-41												



PLAN VIEW  
Scale : 1:1000

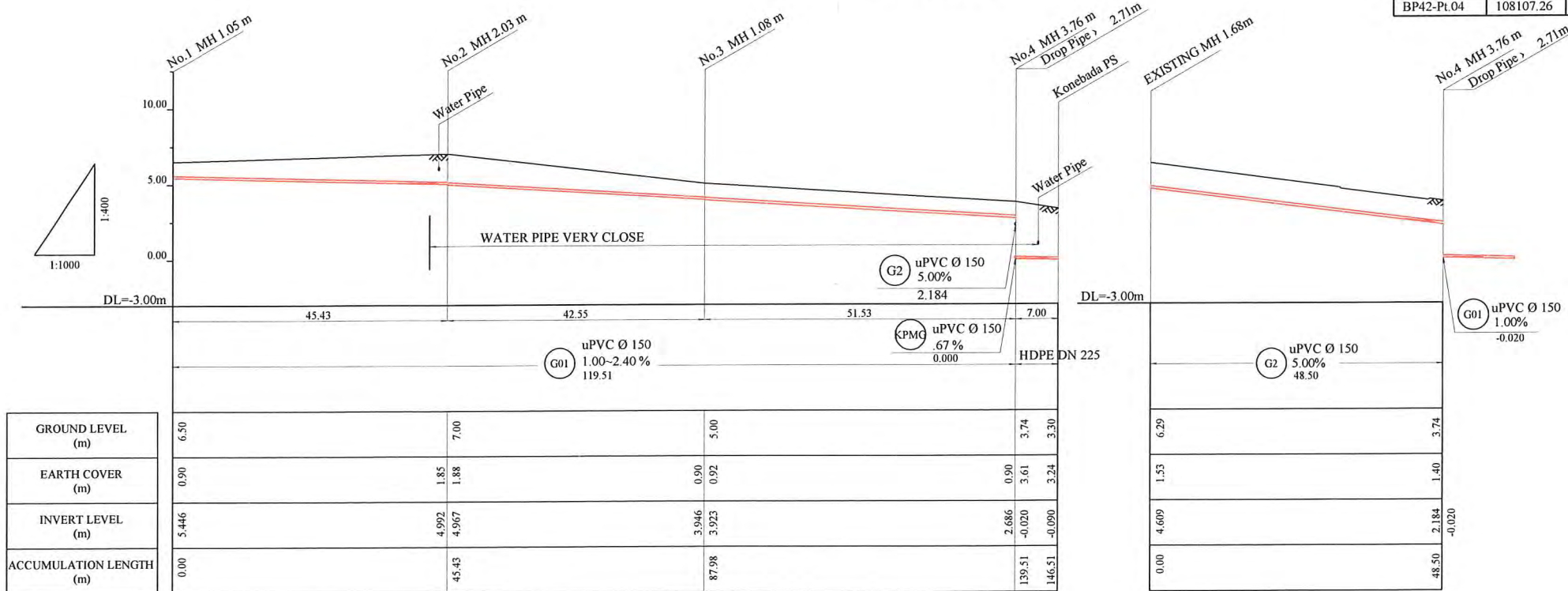
HDPE PIPE BENDING POINT COORDINATES

Corner Pt. No.	EASTING	NORTHING
BP42-Pt.01	108025.57	103464.13
BP42-Pt.02	108064.94	103486.77
BP42-Pt.03	108082.97	103448.24
BP42-Pt.04	108107.26	103402.79



NOTE: CADASTRAL BOUNDARIES TAKEN FROM DCDB

- LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING UTILITIES IN OPERATION.
- UNDERGROUND UTILITY SERVICES TO RESIDENTIAL, PUBLIC AND COMMERCIAL BUILDINGS OR OTHER FACILITIES HAVE NOT BEEN SHOWN BUT SHALL BE LOCATED AND PROTECTED IN A SIMILAR MANNER AS DESCRIBED ABOVE BY THE CONTRACTOR
- INVERT MODIFICATION IS INCLUDED IN THE CONTRACT  
 INVERT LEVEL OF NEW PIPE  $\geq$  EXISTING PIPE BOTTOM LEVEL +20mm  
 INVERT LEVEL OF NEW PIPE - EXISTING PIPE BOTTOM LEVEL  $\geq$  +600mm  
 DROP PIPE IS REQUIRED
- MINIMUM COVER IS 60cm FOR UNPAVED ROAD  
 90cm FOR ASPHALT/CONCRETE PAVED ROAD IF NOT DESCRIBED ON THE DRAWING  
 Type A - Soil/others  
 Type B - Asphalt(Road)  
 Type C - Walkway (Concrete)



PROJECT: PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT (POMSSUP)

TITLE: Branch Sewer Pipe Plan and Profile (Gabutu\_G1,G2)

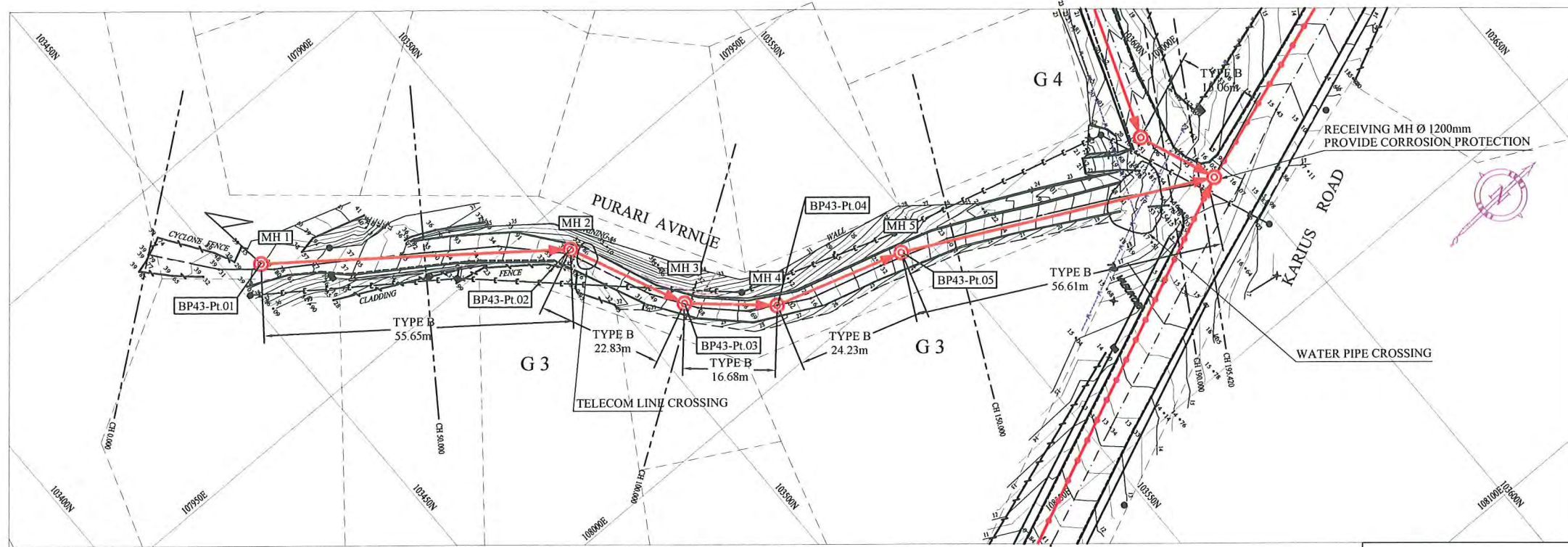
CLIENT: INDEPENDENT PUBLIC BUSINESS CORPORATION  
 PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT  
 PROJECT MANAGEMENT UNIT (PMU)  
 JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN

NOTES:

REVISIONS		
REV.	DATE	DESCRIPTION

APPROVED by PMU: Project Director Lot G.Zauya	DATE: 1. Dec 2011	SCALE: 1/1000
CHECKED by CONSULTANT Project Manager T.Fuji	DATE: 1. Dec 2011	DRAWING NO.: BP-42



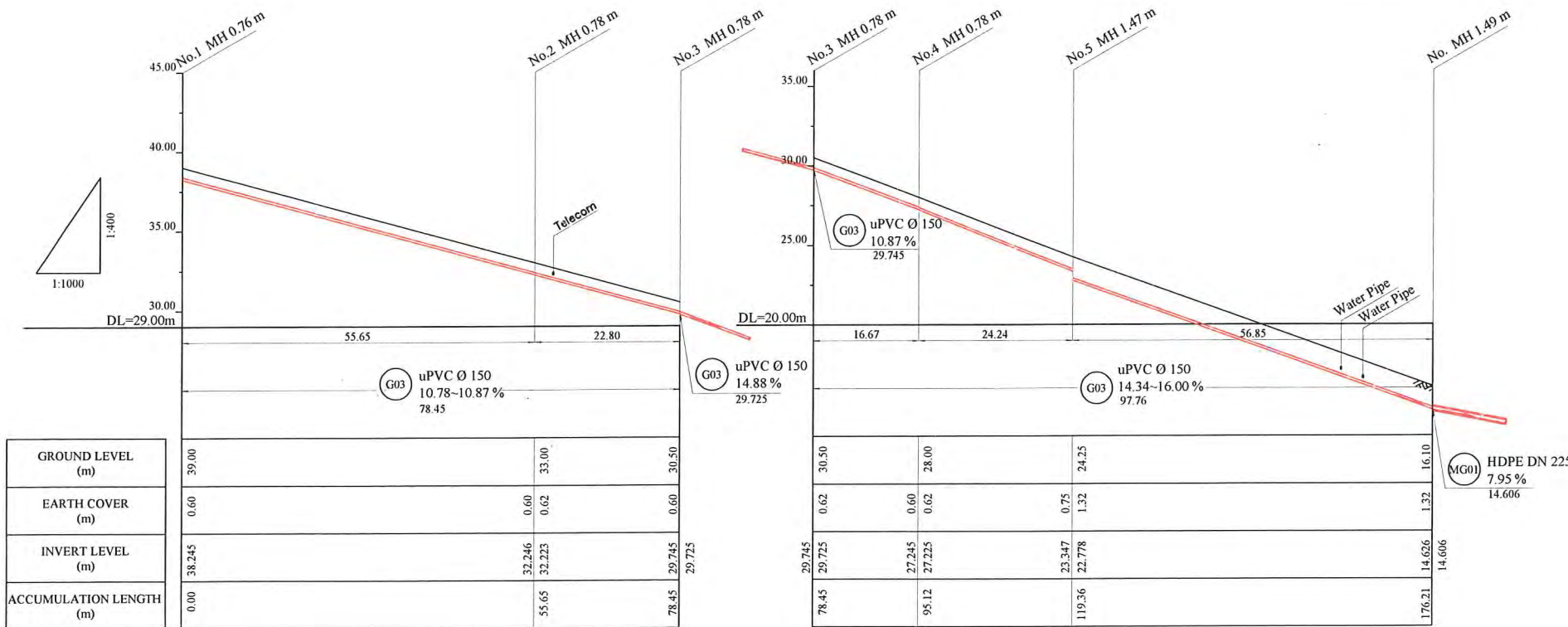
PLAN VIEW  
Scale : 1:1000

HDPE PIPE BENDING POINT COORDINATES

Corner Pt. No.	EASTING	NORTHING
BP43-Pt.01	107923.55	103455.72
BP43-Pt.02	107957.48	103499.83
BP43-Pt.03	107978.21	103509.39
BP43-Pt.04	107989.25	103521.88
BP43-Pt.05	107996.39	103545.04

LEGEND

- PROPOSED SEWER
- NEW MANHOLE
- EXISTING MANHOLE TO BE MODIFIED
- POWER POLE WITH OVERHEAD POWER LINES
- POWER POLE WITH LIGHT
- ELECTRICITY TRANSMISSION TOWER
- ELECTRICITY PIT
- UNDER GROUND POWER CABLE
- TELECOM PIT
- TELECOM MARKER POST
- TELECOM LINE
- WATER VALVE BOX
- STOP VALVE
- WATER TAP
- FIRE HYDRANT
- WATER METER
- EXISTING SEWER PIPE
- TREE
- WATER LINE
- FENCE LINE WITH GATE
- BITUMEN SEALED ROAD



NOTE: CADASTRAL BOUNDARIES TAKEN FROM DCDB

- LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING UTILITIES IN OPERATION.
- UNDERGROUND UTILITY SERVICES TO RESIDENTIAL, PUBLIC AND COMMERCIAL BUILDINGS OR OTHER FACILITIES HAVE NOT BEEN SHOWN BUT SHALL BE LOCATED AND PROTECTED IN A SIMILAR MANNER AS DESCRIBED ABOVE BY THE CONTRACTOR
- INVERT MODIFICATION IS INCLUDED IN THE CONTRACT  
INVERT LEVEL OF NEW PIPE ≥ EXISTING PIPE BOTTOM LEVEL +20mm  
INVERT LEVEL OF NEW PIPE - EXISTING PIPE BOTTOM LEVEL ≥ +600mm  
DROP PIPE IS REQUIRED
- MINIMUM COVER IS 60cm FOR UNPAVED ROAD  
90cm FOR ASPHALT/CONCRETE PAVED ROAD IF NOT DESCRIBED ON THE DRAWING  
Type A - Soil/others  
Type B - Asphalt(Road)  
Type C - Walkway (Concrete)

PROJECT: PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT (POMSSUP)

TITLE: Branch Sewer Pipe Plan and Profile (Gabutu\_G3)

CLIENT: INDEPENDENT PUBLIC BUSINESS CORPORATION  
PORT MORESBY SEWERAGE SYSTEM UPGRADING PROJECT  
PROJECT MANAGEMENT UNIT (PMU)

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS: NJS CONSULTANTS CO., LTD. - JAPAN

NOTES:

REVISIONS		
REV.	DATE	DESCRIPTION

APPROVED BY PMU:  
Project Director  
Lot G.Zauya

CHECKED BY CONSULTANT  
Project Manager  
T.Fuji

DATE: 1. Dec 2011

DATE: 1. Dec 2011

SCALE: 1/1000

DRAWING NO.: BP-43