

8. Ballina & Crossmolina, Co. Mayo.

8.1. Summary Details

Ballina is the second largest town in Co. Mayo located northeast of the county. The population of Ballina is currently 11,449 as per the preliminary results of the 2006 Census, this is projected to increase to 15,500 by 2016 (see Appendix A Table 1). Ballina has been designated a hub town by the national spatial strategy and is expected to undergo growth in both residential and industrial significance. Due to the imminent increase in population, it is estimated that 1,100 new residential connections will be made in Ballina over the next 10 years.

Ballina is home to a number of multinationals including Coca Cola, Hollister and Oasis. The IDA continues to promote Bunree Business and Technology park providing employment for the growing population and strengthening the industrial base.

Ballina is 18.5km from the Corrib Natural Gas transmission pipeline. The proposed connection point is block valve No. 8505 Srahyconigaun installation.

Crossmolina is on the route of the feeder main to Ballina and if connected would add value to the overall project. The population of Crossmolina is currently 1,769 as per the preliminary results of the 2006 Census, this is projected to increase to 2,070 by 2016 (see Appendix A Table 1). It is estimated that 100 new residential connections will be made in Crossmolina over the next 10 years.

There are a small number of commercial customers who in addition to the projected new housing would provide the basis for the anticipated gas load.

It should be noted that if Sligo proves viable for connection to the natural gas network this would affect the type and timing of the Ballina connection, as the most probable connection route would be via Ballina from a transmission line. The Department of Marine, Communications and Natural Resources are currently conducting a study into the viability of a supply to Sligo. Once the results are published the supply of gas to Ballina may be re-evaluated. In any case the supply of gas to Sligo will be dealt with in the Phase II report.

8.2. Summary Load Analysis:

Ballina & Crossmolina, Co. Mayo

Source: Networks cost estimates report May 2006.

I/C Load Summary Forecast:

Total EAC 2014	44,482 Mwh	1,518,129 Therms
Peak Day 2014	227,715 Kwh	7,772 Therms

Ballina & Crossmolina, Co. Mayo.

Source: Networks cost estimates report May 2006.

New Housing Summary Forecast:

New Housing Load (Therm)	624,000 (year 10)
New Housing Load (Mwh)	18,288 (year 10)

8.3. Solutions:

The proposed connection point for Ballina is block valve No. 8505 Srahyconigaun installation with an offtake supplying Crossmolina to further add value to the project. It would be necessary to install 85 to 4 Bar pressure reduction facilities at Srahyconigaun AGI on the existing Mayo – Galway pipeline. This AGI would feed the local network comprising of approximately 18.6km of 250mm PE (SDR 11) feeder main and 13.5km of 180 & 125 PE (SDR 11) distribution main for the Ballina system and a further 1.5km of 180 & 125 PE (SDR 11) distribution main for Crossmolina (the feeder main for Crossmolina is included in the Ballina estimation).

8.4. Cost Estimates:

Estimated Capital expenditure Costs for feeder and Distribution Mains:

Ballina & Crossmolina, Co. Mayo.

Source: Networks cost estimates report May 2006.

Item	Costs €
<i>Transmission AGI</i>	€734,000
<i>Mayo- Galway Incremental Cost*</i>	€287,400
<i>Feeder / Distribution Main Construction**</i>	€7,581,460
Total Estimated Costs	€8,602,860

These estimated costs include for the following:

Connection of both the Ballina and Crossmolina systems. District regulator installations, special engineering difficulties (crossings), archaeological survey, local authority charges, adverse ground conditions, pre-tender investigations, insurance, design, administration, material procurement and construction contracts.

* The *Mayo-Galway Incremental Cost* represents a portion of the additional expenditure on the Mayo-Galway Pipeline required to enable the installation of pressure reduction stations for gas supply to towns along the route.

** The estimates do not include for:

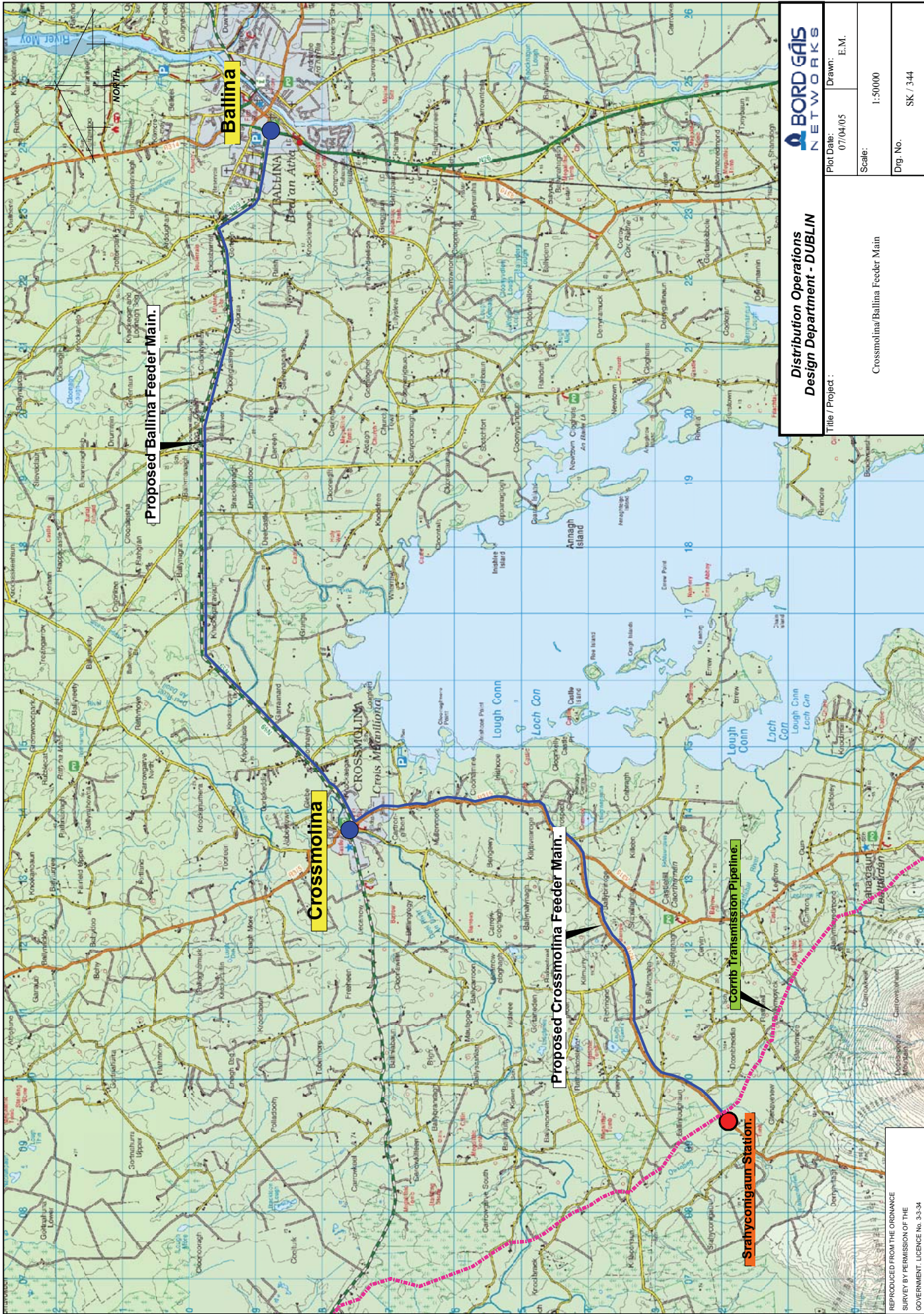
New housing estate mains, service or meter costs.

Industrial / Commercial mains, service or meter costs.

8.5. Business Modelling:

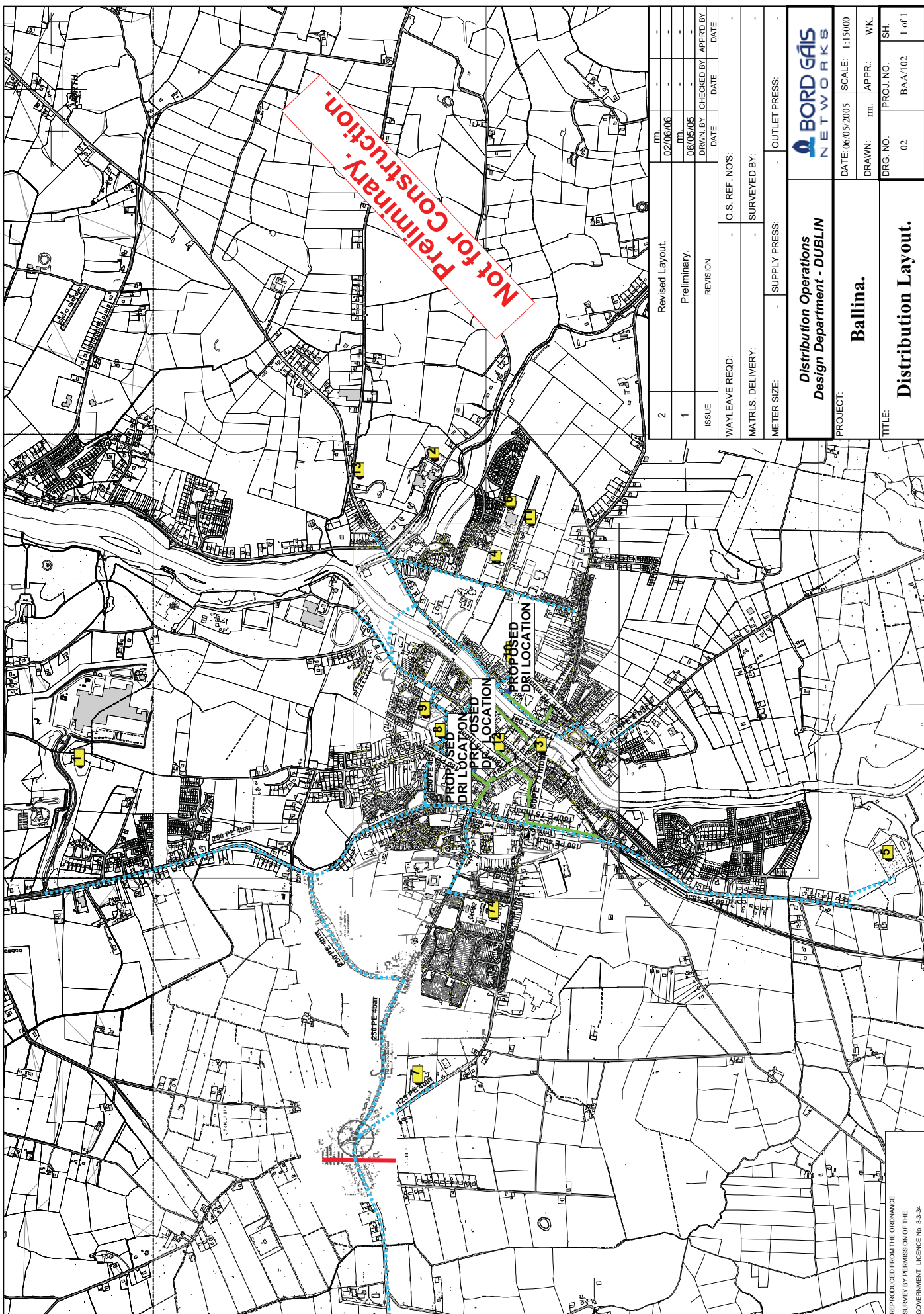
€m	NPV @ 5.74%
Distribution	
Revenue	5.6
Capex	-8.7
Contributions	0.3
Opex	-2.1
Distribution NPV	-4.9
Transmission	
Onshore Revenue	2.0
Entry Revenue	1.1
Capex - AGI	-0.7
Initial Capex - Land & Tee	-0.3
Opex	-0.3
Transmission NPV	1.8
Total NPV	-3.1

Connection of Ballina and Crossmolina to the network would result in a negative net present value (NPV) of €3.1m and therefore connection of these towns is uneconomic on a stand-alone basis.



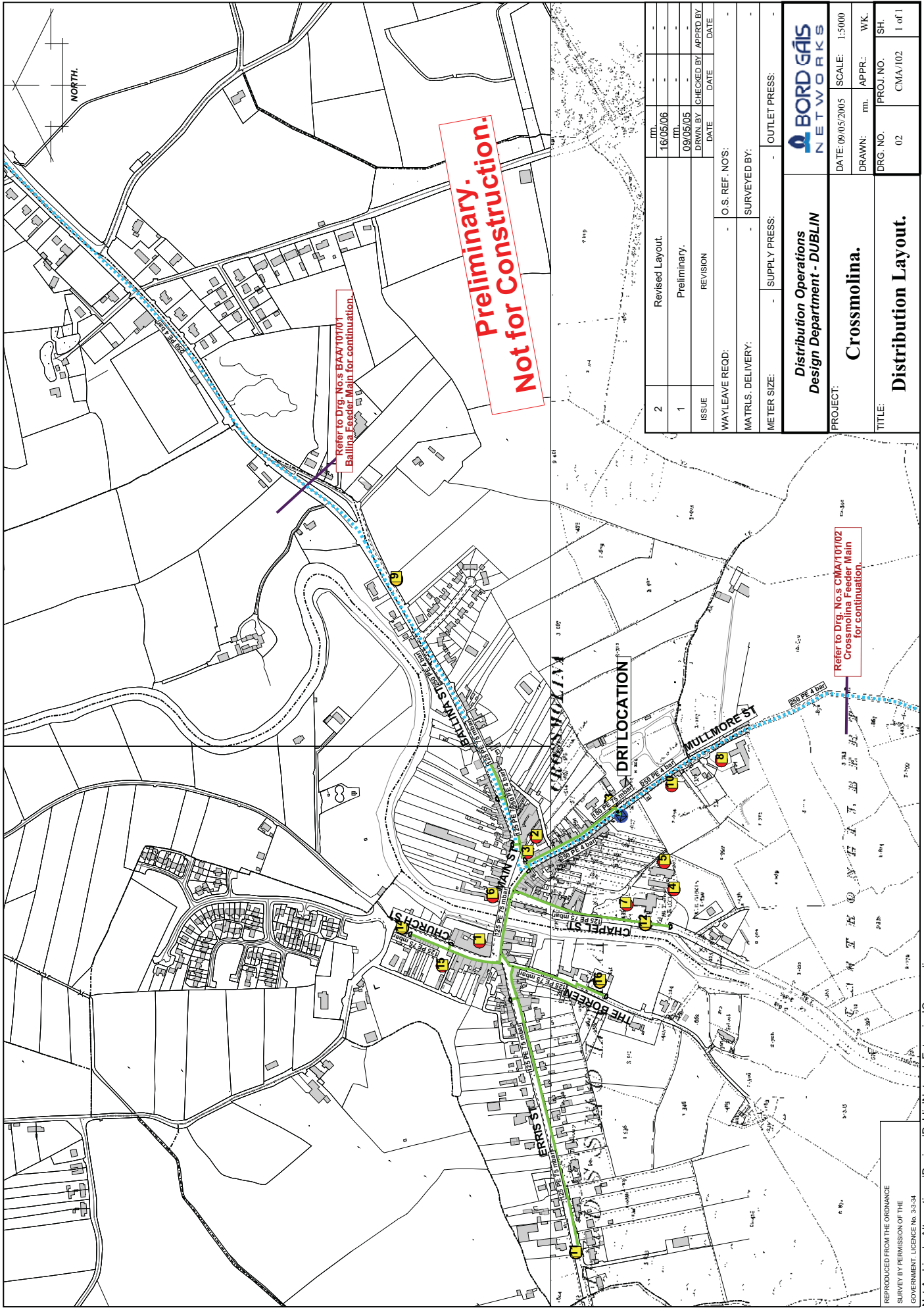
Plot Date:	07/04/05	Drawn:	E.M.
Scale:	1:50000		
Dwg. No.	SK / 344		
Title / Project :			
Crossmolina/Balina Feeder Main			

Not for Construction.



2	Revised Layout.	mm.	02/06/06	-	-
1	Preliminary.	mm.	06/05/05	-	-
ISSUE		REVISION	DATE	CHECKED BY	APPROD BY
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MATERIALS DELIVERY:		SURVEYED BY:		DATE	
METER SIZE:		SUPPLY PRESS:		OUTLET PRESS:	
Distribution Operations Design Department - DUBLIN					
PROJECT:			DATE: 06/05/2005	SCALE: 1:15000	WK.
DRAWN: mm.			APPR.:	WK.	SH.
TITLE:			DRG. NO. 02	PROJ. NO. BAA/102	1 of 1
Ballina. Distribution Layout.					

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2	Revised Layout.	mm.	16/05/06		
1	Preliminary.	mm.	09/05/05		
ISSUE		REVISION	DATE	CHECKED BY	APPROVED BY
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MATERIALS DELIVERY:		SURVEYED BY:		DATE	
METER SIZE:		SUPPLY PRESS:		OUTLET PRESS:	

BORD GÁIS NETWORKS

PROJECT: **Distribution Operations Design Department - DUBLIN**

DATE: 09/05/2005 SCALE: 1:5000

DRAWN: mm. APPR.: WK.

DRG. NO. 02 PROJ. NO. CMA/102

TITLE: **Distribution Layout.** SH. 1 of 1

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9. Belmullet, Co. Mayo.

9.1. Summary Details

Belmullet is situated 54km from Castlebar and 39km from Ballina. The population of Belmullet is currently 2,009 as per the preliminary results of the 2006 Census, this is projected to increase to 2,230 by 2016 (see Appendix A Table 1). It is forecast approximately 200 units will be constructed in Belmullet over the next ten years, however some of these will include holiday homes.

In terms of I/C load, there are two small industrial estates (Uadaras Na Gaeltacht) having a number of small units in each. The largest I/C load is the Community Hospital, with the Broadhaven Bay hotel also representing a large I/C load.

Belmullet is located 17km from the Corrib Natural Gas Transmission Pipeline.

9.2. Summary Load Analysis:

Belmullet, Co. Mayo.

Source: Networks cost estimates report May 2006.

I/C Load Summary Forecast:

Total EAC 2014	6,221 Mwh	212,313 Therms
Peak Day 2014	35,752 Kwh	1,220 Therms

New Housing Summary Forecast:

New Housing Load (Therm)	104,000 (year 10)
New Housing Load (Mwh)	3,048 (year 10)

9.3. Solutions:

The proposed connection point for Belmullet would be Bellanaboy Terminal. This terminal would feed the local network comprising of approximately 16.6km of 125mm PE (SDR 11) feeder main and 3.9km of 180 & 125 PE (SDR 11) distribution main.

9.4. Cost Estimates:

Belmullet, Co. Mayo.

Source: Networks cost estimates report May 2006.

Estimated Capital expenditure Costs for feeder and Distribution Mains:

Item	Costs €
<i>Transmission AGI</i>	€734,000
<i>Mayo – Galway Incremental Cost*</i>	€287,400
<i>Feeder / Distribution Main Construction**</i>	€3,303,671
Total Estimated Costs	€4,325,071

These estimated costs include for the following:

District regulator installations, special engineering difficulties (crossings), archaeological survey, local authority charges, adverse ground conditions, pre-tender investigations, insurance, design, administration, material procurement and construction contracts.

* The *Mayo-Galway Incremental Cost* represents a portion of the additional expenditure on the Mayo-Galway Pipeline required to enable the installation of pressure reduction stations for gas supply to towns along the route.

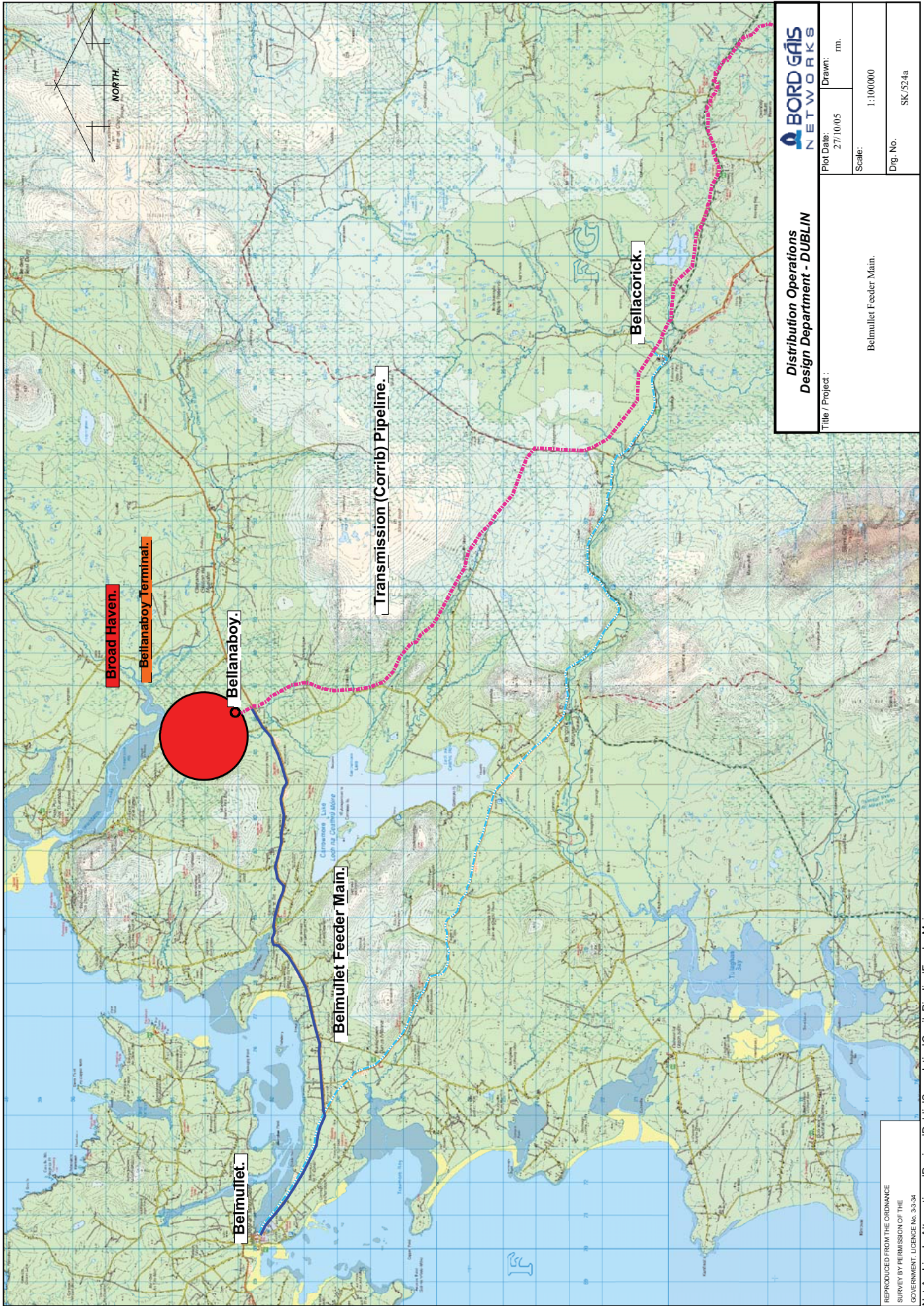
** The estimates do not include for:

New housing estate mains, service or meter costs.
Industrial / Commercial mains, service or meter costs.

9.5. Business Modelling:

€m	NPV @ 5.74%
Distribution	
Revenue	1.0
Capex	-3.5
Contributions	0.1
Opex	-3.8
Distribution NPV	-6.2
Transmission	
Onshore Revenue	0.3
Entry Revenue	0.2
Capex - AGI	-0.7
Initial Capex - Land & Tee	-0.3
Opex	0.0
Transmission NPV	-0.5
Total NPV	-6.70

Connection of Belmullet to the network would result in a negative net present value (NPV) of €6.7m and therefore connection of this town is uneconomic on a stand-alone basis.



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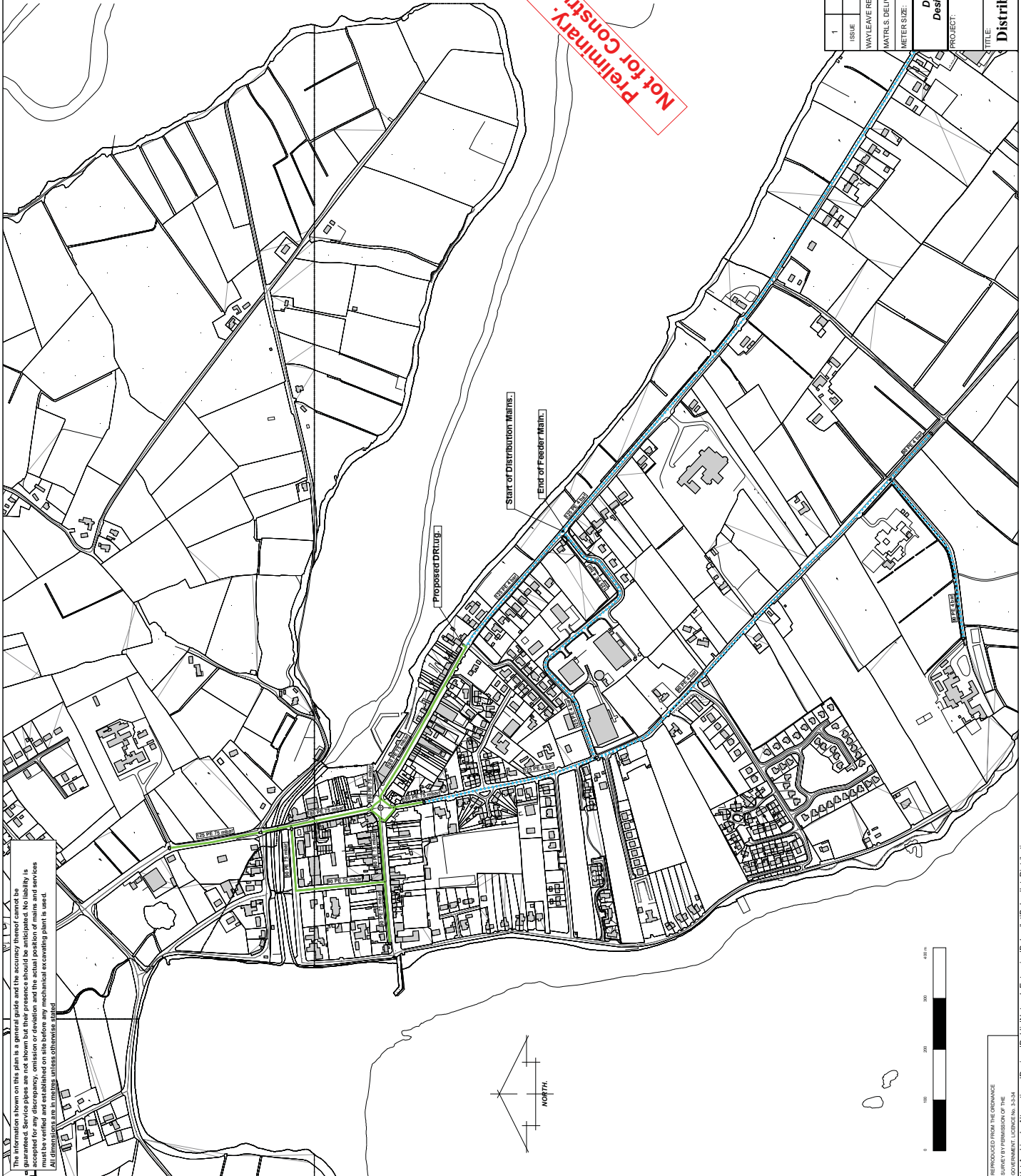
Distribution Operations
Design Department - DUBLIN

Title / Project :		Beimullet Feeder Main.	
Plot Date:	27/10/05	Drawn:	mm.
Scale:	1:100000	Dwg. No.:	SK/524a

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GOVERNMENT LICENCE No. 3.3.34

Not Archived - Alternative : [Designs\Dublin\Speculative\Corrib Pipeline\Feeder Mains

The information shown on this plan is a general guide and the accuracy thereof cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability is accepted for any discrepancy, omission or deviation and the actual position of mains and services are to be ascertained on site before any mechanical excavation plan is used. All dimensions are stated unless otherwise stated.



Preliminary - Not for Construction

1	Preliminary	DATE: 15/01/05	BY: [Signature]	CHECKED BY: [Signature]	APPROVED BY: [Signature]
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WAYLEAVE REQD:		O.S. REF. NO'S:			
METERS DELIVERY:		SURVEYED BY:			
METER SIZE:		OUTLET PRESS:			
BORD GÁS NETWORKS Distribution Operations Design Department - DUBLIN					
PROJECT:		DATE: 15/11/2005	SCALE: 1:5000		
TITLE:		DRAWN: [Signature]	APPR: [Signature]		
BELMULLET		ORG. NO: 02	PROJ. NO:	SH:	1 of 1
Distribution Mains Layout.					

10. Headford, Co. Galway.

10.1. Summary Details

Headford is located 28 km north of Galway City. The population of Headford is currently 1,350 as per the preliminary results of the 2006 Census, this is projected to increase to 4,150 by 2016 (see Appendix A Table 1). It is forecast approximately 1000 residential units will be constructed in Headford over the next ten years.

In terms of I/C load, there are no large industrial/commercial customers in Headford. There are three potential medium I/C customers and 43 small commercial customers in the area.

The proposed connection point would be a tie in to the Tuam feeder main, approximately 2km from the Beagh More BV Station No.8511.

10.2. Summary Load Analysis:

Headford, Co. Galway.

Source: Networks cost estimates report August 2006.

I/C Load Summary Forecast:

Total EAC 2014	1,196 Mwh	40,824 Therms
Peak Day 2014	7,989 Kwh	273 Therms

New Housing Summary Forecast:

New Housing Load (Therm)	520,000 (year 10)
New Housing Load (Mwh)	15,240 (year 10)

10.3. Solutions:

The most economic option for supplying Headford is by installing approximately 9.6 km of 180 & 125mm PE (SDR 11) feeder main and 2.7km of 180, 125 & 90mm PE (SDR 11) distribution main.

10.4. Cost Estimates:

Headford, Co. Galway.

Source: Networks cost estimates report June 2006.

Estimated Capital expenditure Costs for feeder and Distribution Mains:

Item	Costs €
<i>Feeder / Distribution Main Construction*</i>	€2,217,156
Total Estimated Costs	€2,217,156

These estimated costs include for the following:

District regulator installations, special engineering difficulties (crossings), archaeological survey, local authority charges, adverse ground conditions, pre-tender investigations, insurance, design, administration, material procurement and construction contracts.

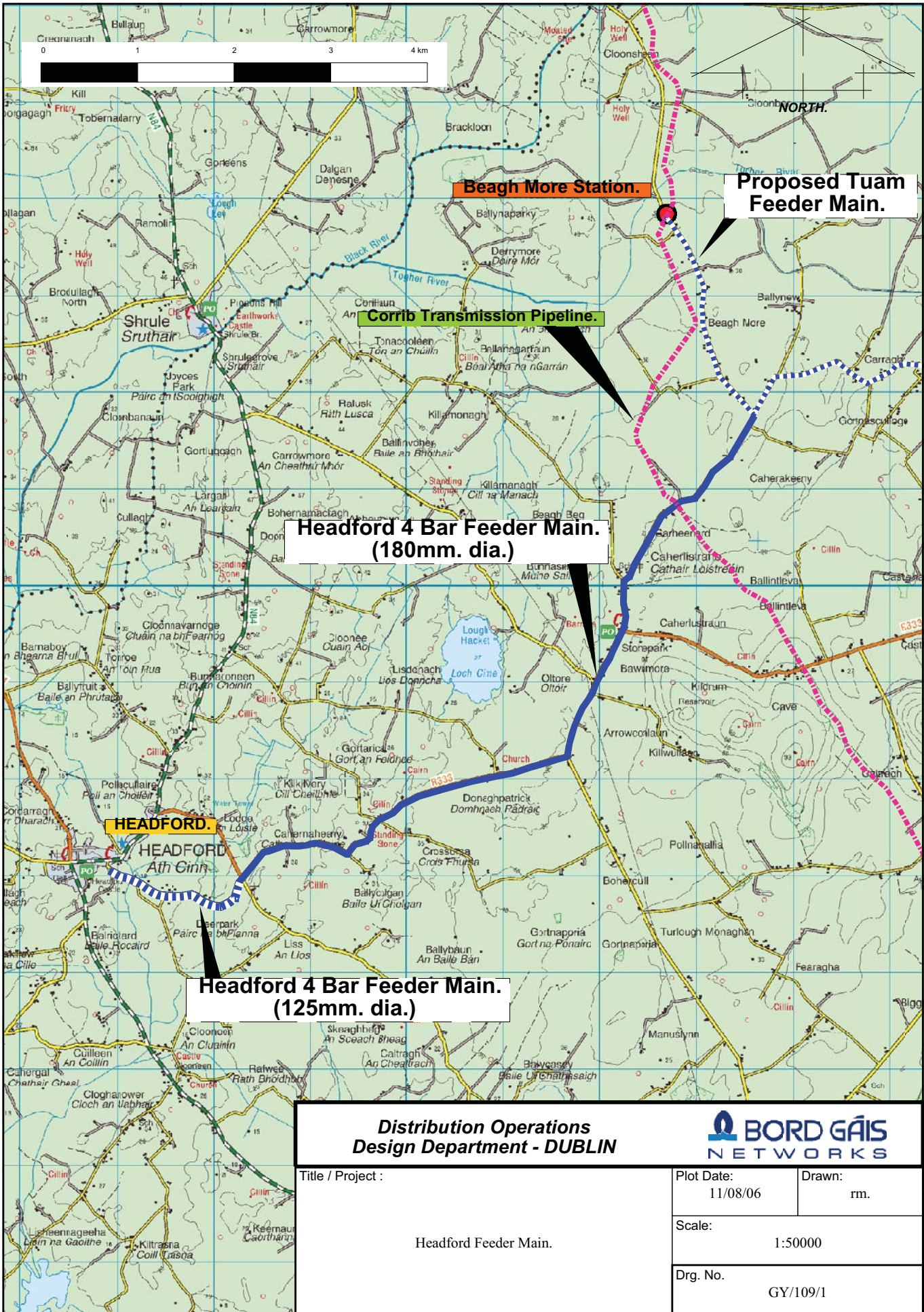
*** The estimates do not include for:**

First response costs and AGI costs.
 New housing estate mains, service or meter costs.
 Industrial / Commercial mains, service or meter costs.

10.5. Business Modelling:

€m	NPV @ 5.74%
Distribution	
Revenue	2.07
Capex	-2.93
Contributions	0.18
Opex	-0.18
Distribution NPV	-0.86
Transmission	
Onshore Revenue	0.60
Entry Revenue	0.35
Capex - AGI	0.00
Initial Capex - Land & Tee	0.00
Opex	-0.17
Transmission NPV	0.78
Total NPV	-0.09

Connection of Headford to the network would result in a negative net present value (NPV) of €0.09m and therefore, appears to be uneconomic on a stand-alone basis.

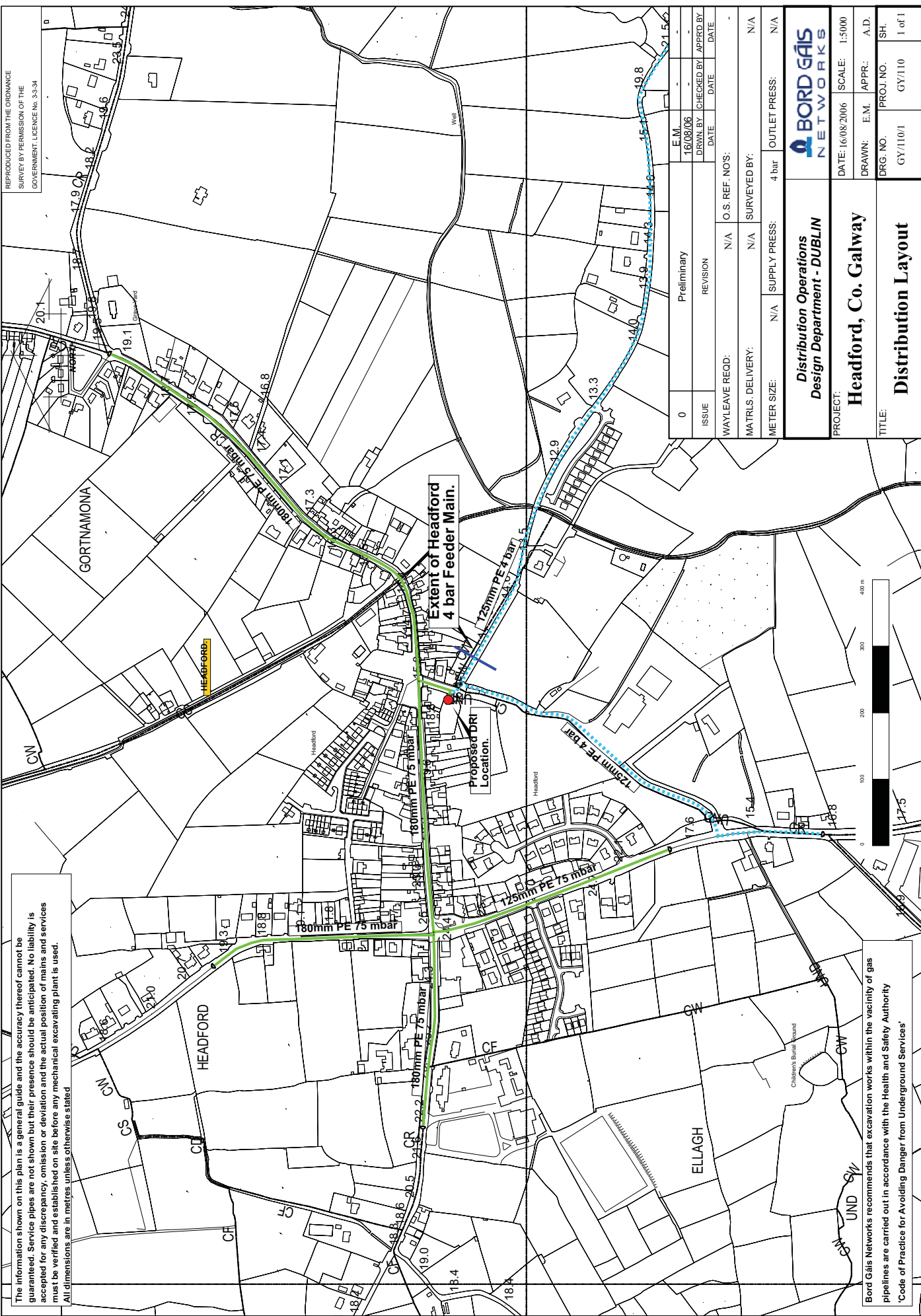


**Distribution Operations
Design Department - DUBLIN**



Title / Project : Headford Feeder Main.	Plot Date: 11/08/06	Drawn: rm.
	Scale: 1:50000	
	Drg. No. GY/109/1	

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**Extent of Headford
 4 bar Feeder Main.**

Proposed DRI
 Location.

Bord Gáis Networks recommends that excavation works within the vicinity of gas pipelines are carried out in accordance with the Health and Safety Authority 'Code of Practice for Avoiding Danger from Underground Services'

ISSUE	0	REVISION	Preliminary	E.M.	16/08/2006	CHECKED BY	DATE
DATE	16/08/2006	DATE	16/08/2006	DATE	16/08/2006	DATE	16/08/2006
WAYLEAVE READ:	N/A	O.S. REF. NO'S:	N/A	SURVEYED BY:	N/A	OUTLET PRESS:	N/A
MATRS. DELIVERY:	N/A	SUPPLY PRESS:	4 bar	METER SIZE:	N/A	SCALE:	1:5000
Distribution Operations Design Department - DUBLIN				BORD GÁIS NETWORKS			
Headford, Co. Galway				DATE: 16/08/2006 SCALE: 1:5000 DRAWN: E.M. APPR.: A.D.			
Distribution Layout				DRG. NO. PROJ. NO. SH. GY/110/1 GY/110 1 of 1			

11. Craughwell, Co. Galway.

11.1. Summary Details

Craughwell is situated approximately 16 miles from Galway City and is fast becoming a popular satellite town. The population of Craughwell is currently 1,351 as per the preliminary results of the 2006 Census, this is projected to increase to 2,700 by 2016 (see Appendix A Table 1). It is forecast approximately 1000 new housing connections will be made in Craughwell over the next ten years.

There are no potential Large or Medium I/C customers in Craughwell. There are approximately 20 Small Commercial entities with potential.

Craughwell is located 2.6km from the Corrib Natural Gas Transmission Pipeline. However, there is currently no pressure reduction station to facilitate the connection of Craughwell. This will need to be put in place by BGE Transmission in order for the project to proceed as per the proposed route.

11.2. Summary Load Analysis:

Craughwell, Co. Galway.

Source: Networks cost estimates report July 2006.

I/C Load Summary Forecast:

Total EAC 2014	187 (Mwh)	6,388 (Therms)
Peak Day 2014	1,281 (Kwh)	44 (Therms)

New Housing Summary Forecast:

New Housing Load (Therm)	520,000 (year 10)
New Housing Load (Mwh)	15,240 (year 10)

11.3. Solutions:

It would be necessary to install new 85 to 4 Bar pressure reduction facility at Cappagh South AGI. This AGI would feed the local network comprising of approximately 2.6km of 180mm PE (SDR 11) feeder main and 1.5km of 125 PE (SDR 11) distribution main.

11.4. Cost Estimates:

Craughwell, Co. Galway.

Source: Networks cost estimates report July 2006.

Estimated Capital expenditure Costs for feeder and Distribution Mains:

Item	Costs €
<i>Transmission AGI</i>	€734,000
<i>Feeder / Distribution Main Construction*</i>	€732,687
Total Estimated Costs	€1,466,687

These estimated costs include for the following:

District regulator installations, special engineering difficulties (crossings), archaeological survey, local authority charges, adverse ground conditions, pre-tender investigations, insurance, design, administration, material procurement and construction contracts.

* The estimates do not include for:

New housing estate mains, service or meter costs.

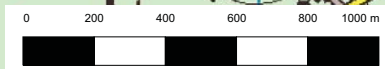
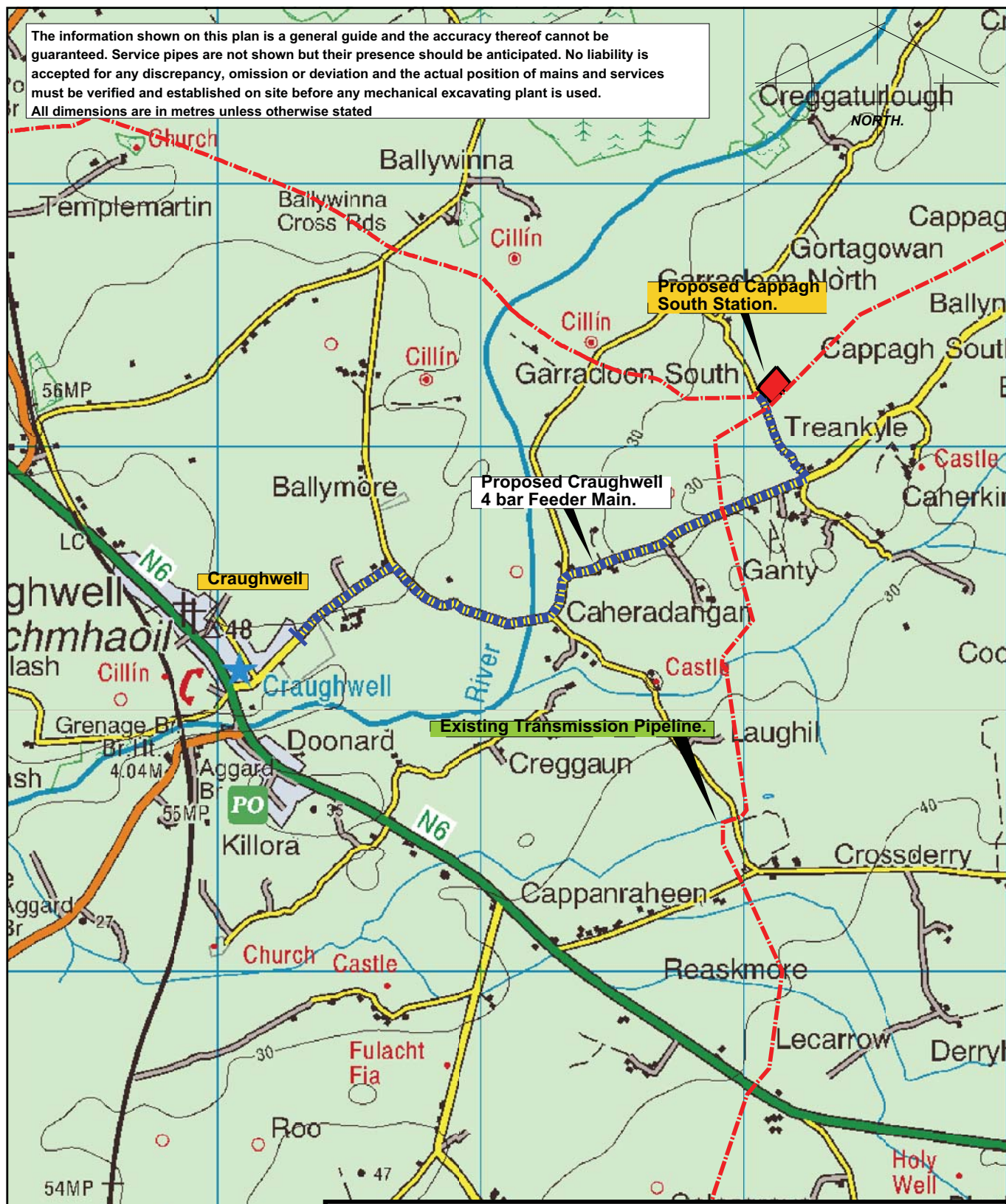
Industrial / Commercial mains, service or meter costs.

11.5. Business Modelling:

€m	NPV @ 5.74%
Distribution	
Revenue	1.93
Capex	-1.49
Contributions	0.17
Opex	-0.09
Distribution NPV	0.53
Transmission	
Onshore Revenue	0.56
Entry Revenue	0.32
Capex - AGI	-0.69
Initial Capex - Land & Tee	0.00
Opex	-0.17
Transmission NPV	0.02
Total NPV	0.55

Connection of Craughwell to the network would result in a positive net present value (NPV) of €0.55m and therefore, appears to be economic on a stand-alone basis.

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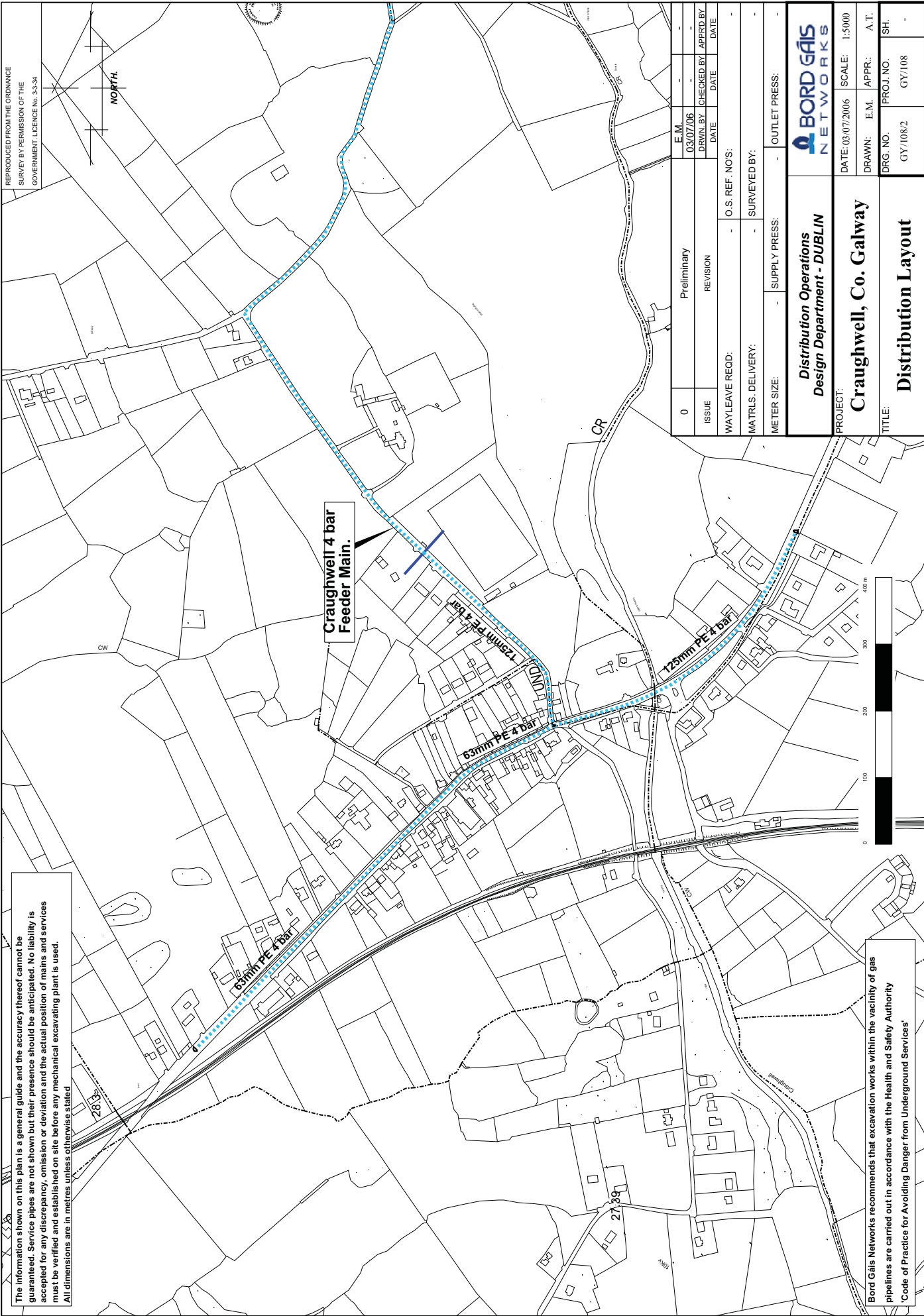
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**Distribution Operations
Design Department - DUBLIN**



Title / Project : Craughwell Feeder Main	Plot Date: 03/07/06	Drawn: E.M.
	Scale: 1:20000	
	Drg. No. GY/108/1	

The information shown on this plan is a general guide and the accuracy thereof cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability is accepted for any discrepancy, omission or deviation and the actual position of mains and services must be verified and established on site before any mechanical excavating plant is used. All dimensions are in metres unless otherwise stated.



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NORTH

0	Preliminary	E.M.	03/07/06
ISSUE	REVISION	DRAWN BY	CHECKED BY
		DATE	DATE
WAYLEAVE READ:		O.S. REF. NO'S:	
MATRLS. DELIVERY:		SURVEYED BY:	
METER SIZE:		SUPPLY PRESS:	
		OUTLET PRESS:	
BORD GÁIS NETWORKS Distribution Operations Design Department - DUBLIN			
PROJECT:		DATE: 03/07/2006	SCALE: 1:5000
Craughwell, Co. Galway		DRAWN: E.M.	APPR.: A.T.
TITLE:		DRG. NO. GY/108/2	PROJ. NO. GY/108
Distribution Layout		SH.	

Bord Gáis Networks recommends that excavation works within the vicinity of gas pipelines are carried out in accordance with the Health and Safety Authority 'Code of Practice for Avoiding Danger from Underground Services'