

Site Q2, Aerodrome Business Park, Rathcoole, Co. Dublin

Softworks Landscape Specification

August 2019

www.jbaconsulting.ie

**IPUT plc,
47-49 St Stephen's Green,
DUBLIN 2,
Co. Dublin,
D02 W634**

The logo for IPUT, consisting of the letters 'IPUT' in a bold, black, sans-serif font, centered within a square that has a metallic, brushed metal texture.

IPUT

JBA Project Manager

Bernadette O'Connell
 Block 660 Unit 8
 The Plaza
 Greenogue Business Park
 Rathcoole, Dublin

Revision History

| Revision Ref/Date | Amendments | Issued to |
|-------------------|------------|-----------|
| A1-C03 12/08/2019 | Report | IPUT plc |
| | | |

Contract

This report describes work commissioned by IPUT plc, by a letter dated 11th June 2019. IPUT plc's representative for the contract was Paul Clearly of IPUT plc. William Mulville of JBA Consulting carried out this work.

Prepared by Elena Sorbo, Arch.MLA
 Assistant Landscape Architect

Reviewed by Bernadette O'Connell BA MSc CMLI
 Principal Landscape Architect

Purpose

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TENDER INFORMATION

Volume A Works Requirements

- (i) Specification
- (ii) Contract Drawings

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1 Site information

1.1 Site of the Works

The proposed development is an empty business park lot in Aerodrome Business Park, Rathcoole, Co. Dublin. The site is located in the south eastern section of the business park, along Jordanstown Road, which is approximately 1.0 km north of Rathcoole town and 1.5 km east of Newcastle town.

1.2 Employer's Drawings

Employer's Drawings are listed in Appendix 30/4 of the Specification for Road Works and provided in Volume A(ii) of the Works Requirements.

2 Works information

2.1 Statutory Orders and Availability of Site

All relevant open space is the property of INPUT.

All sites within the contract boundaries, as shown on the drawings, will be available to the Contractor on the Commencement Date under the terms stated in the Conditions of Contract

2.2 Scope of the Works

The scope of the works involves everything that is contained within the Contract Documents and the Drawings listed in Appendix 0/4 of the Specification.

As a guide, the project comprises:

- General and ornamental planting including standard and feathered trees, shrub and hedgerow planting.
- Softworks maintenance

2.3 Employer's Drawings

Employer's Drawings are listed in Appendix 0/4 of the Specification for Road Works and provided in Volume A(ii) of the Works Requirements.

3 Specification

3.1 General

The Specification referred to in the Contract shall be the 'Specification for Road Works', published by the National Roads Authority as Volume 1 of the Manual of Contract Documents for Road Works in March 2000 and including all amendments to the Standards including the amendments up to the date of the invitation to tender, supplemented by 'Series 3000: Landscape and Ecology' of the 'Specification for Highway Works', published by the UK Highways Agency as Volume 1 of the Manual of Contract Documents for Highway Works in May 2001 and including all amendments to the Standards including all amendments issued in May 2006, and as extended by the following:

Appendix 0/1: Contract-specific Additional, Substitute, and Cancelled Clauses, Tables and Figures;

Appendix 0/2: Contract-specific minor alterations to existing Clauses, Tables and Figures;

The Numbered Appendices listed in Appendix 0/3;

Appendix 0/4 containing a list of the drawings referred to in the Specification Appendix 0/4

An Additional Clause as indicated by a suffix 'AR' in Appendix 0/1 is a Contract-specific alteration.

A Substitute Clause as indicated by a suffix 'SR' in Appendix 0/1 is a Contract-specific alteration.

A Cancelled Clause indicated by a suffix 'CR' in Appendix 0/1 is a Contract-specific alteration.

Insofar as any of the Numbered Appendices may conflict or be inconsistent with any provision of the Specification for Road Works the Numbered Appendices shall always prevail.

Any reference in the Contract to a Clause number or Appendix shall be deemed to refer to the corresponding Substitute Clause number or Appendix listed in Appendix 0/1 or 0/2.

Where a Clause is altered, any original Table/Figure referred to in the Clause shall apply unless the Table/Figure is also altered. Where a Table/Figure is altered, any reference in a Clause to the original Table/Figure shall apply to the altered Table/Figure.

Where a Clause in the Specification relates to work goods or materials that are not required for the Works it shall be deemed not to apply.

Any Appendix referred to in the Specification that is not used shall be deemed not to apply.

References in the Specification to "NRA Road Construction Details" shall be taken to refer to "Road Construction Details" as published by the National Roads Authority in March 2000 and including all amendments to the

Standards including the amendments up to the date of the invitation to tender.

APPENDIX 0/1:

Contract-Specific Additional, Substitute and Cancelled Clauses, Tables and Figures Included in the Contract

List of Additional Clauses, Tables and Figures

| Clause / Table / Figure No. | Title |
|-----------------------------|--|
| 170.1AR | Protection of Watercourses from Pollution |
| 170.2AR | Protection of Existing Works and Amenities |
| 171AR | Protection of Watercourses from Pollution |
| 171.1AR | Protection of Watercourses from Pollution |
| 171.2AR | Protection of Watercourses from Pollution |
| 172AR | Protection of Existing Works and Amenities |
| 172.1AR | Protection of Existing Works and Amenities |
| 173AR | Cleanliness on Completion |
| 173.1AR | Cleanliness on Completion |
| 173.2AR | Cleanliness on Completion |
| 202.3AR | Existing Trees, Stumps and Roots |
| 202.4AR | Existing Trees, Stumps and Roots |
| 202.5AR | Existing Trees, Stumps and Roots |
| 202.6AR | Existing Trees, Stumps and Roots |
| 202.7AR | Existing Trees, Stumps and Roots |

Additional Clauses, Tables and Figures

| Clause No. | |
|------------|---|
| 171AR | Protection of Watercourses from Pollution |
| 171.1AR | Protection of Watercourses from Pollution The Contractor shall ensure that waste products of whatever description associated with the execution and completion of the Works shall not enter watercourses, whether dry or not, which are adjacent to the execution and completion of the Works. |
| 171.2AR | Protection of Watercourses from Pollution The Contractor shall consult and comply with the requirements of relevant authorities in relation to measures to be implemented for the protection of watercourses from pollution in the execution and completion of the Works. |
| 172AR | Protection of Existing Works and Amenities |
| 172.1AR | Protection of Existing Works and Amenities Prior to the commencement of the execution of the Works, the Contractor shall provide to the Employer's Representative complete records (photographic or otherwise) of existing structures and other properties that shall or may be affected by the execution and completion of the Works. |
| 173AR | Cleanliness on Completion |
| 173.1AR | Cleanliness on Completion On completion of the Works, the Contractor shall leave the Site and any adjoining property affected by his activities, in a neat and tidy condition to the satisfaction of the Employer's Representative. Carriageway and footway surfaces shall be thoroughly swept and freed from mud and loose chippings. Boundary walls, fences and adjacent properties shall be cleaned of any splashing or dirt which may be attributed to the execution and completion of the Works, and paintwork shall be |

| | |
|---------|---|
| | <p>repaired to the satisfaction of the Employer's Representative where it has been damaged due to the Contractor's activities.</p> |
| 173.2AR | <p>Cleanliness on Completion Notwithstanding any other provisions of the Contract, any of the Contractor's rubbish, debris, litter, equipment, tools and implements and the like deposited on adjoining property during this Contract shall be removed and the property reinstated as necessary.</p> |
| 202.4AR | <p>Existing Trees, Stumps and Roots The Contractor shall ensure that all trees and shrubs not affected by the execution and completion of the Works shall not be harmed in any way. Temporary fencing shall be erected around those existing individual trees, groups of trees and areas of shrubs as identified on Site by the Employer's Representative [Specialist responsible for the design of landscape Works] or the Designer during the execution and completion of the Works. This protective fencing shall be continuously maintained in good condition at the expense of the Contractor and shall not be removed until Substantial Completion of the Works unless otherwise permitted by the Employer's Representative.</p> |
| 202.5AR | <p>Existing Trees, Stumps and Roots Within the areas protected by temporary fencing, no materials shall be stored and no machinery shall be used, all necessary operations being carried out by hand. The existing soil levels shall be maintained within the fenced areas and around all existing trees.</p> |

| Clause No. | |
|------------|--|
| 202.6AR | <p>Existing Trees, Stumps and Roots</p> <p>The Contractor shall not cut, fell, trim or lop any tree or branch unless specified otherwise or instructed by the Employer’s Representative [Specialist responsible for the design of landscape Works], whose prior written approval shall be sought before the commencement of any such work. Final cuts shall be clean and into living wood and located to avoid the formation of moisture holding pockets.</p> |
| 202.7AR | <p>Existing Trees, Stumps and Roots</p> <p>The Employer’s Representative [Specialist responsible for the design of landscape Works] shall be informed before any Works are carried out adjacent to roots of trees and shrubs to be retained and no root greater than 25 millimetre diameter shall be severed without prior written approval of the Employer’s Representative [Specialist responsible for the design of landscape Works].</p> |

APPENDIX 30/1: General

1. General

The Contractor shall submit to the Employer's Representative a list of the suppliers from whom he proposes to purchase the goods and materials, including plants, necessary for the execution of the Landscape Works. Where a choice of goods or materials is listed in the Contract, the Contractor shall inform the Employer's Representative of the goods or materials he proposes to use. No subsequent change in the Contractor's proposals shall be made without the prior approval of the Employer's Representative.

2. Notice and Liaison

The Contractor shall give notice to the Employer's Representative of the activities set out in Clause 3001.1 of the Specification.

3. Pesticide Application

The Contractor is to submit record forms to the Employer's Representative after each pesticide application. A pro-forma to be used for such records is given in Sheet 2 of this Appendix.

4. Bird Nesting Season

The nesting season is from the end of March to the end of July.

5. Inspection Reports

The Contractor shall submit inspection reports to the Employer's Representative within 48 hours of each maintenance visit. A pro-forma to be used is given in Sheet 3 of this Appendix.

SHEET 2: LANDSCAPE WORKS PESTICIDE RECORD

Information to be completed by the Contract

LANDSCAPE WORKS - PESTICIDES RECORD

Contract Reference number:

Date of visit: .. / .. / ..
(minimum one record / day)

Contract Name:

Name of Contractor:

Contractor's telephone no:

| Operations carried out | Pesticide used | Locations of Operations |
|---|----------------|-------------------------|
| Total weed control | | |
| Weed control in any waterbody | | |
| Selective herbicide to areas of grass | | |
| Herbicide to cultivated plant beds | | |
| Total herbicide around individual plants in grass | | |
| Other (state purpose) | | |

Names of operatives on site:

Qualifications of operatives named:

Supervisor

.....

Storeman

.....

Application by

.....

Signed (for Contractor)

Contractor's observations on damage by others or any incidents:

.....
.....

SHEET 3: LANDSCAPE MAINTENANCE INSPECTION REPORT

Information to be completed by the Contractor during 18 months maintenance period after 18months defects liability period:

LANDSCAPE WORKS - INSPECTION REPORT

Contract Reference number:

Date of visit: ./. / .

Contract Name:

Name of Contractor:

Contractor's telephone no:

| Operations carried out | Locations of Operations |
|------------------------|-------------------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Names of operatives on site:

.....

.....

.....

Contractor's observations on damage by others, additional work required or general condition of the works:

.....

.....

Observations of Overseeing Organisation on standard of workmanship, additional work required or general condition of the works:

.....

.....

This maintenance visit has been satisfactorily completed.

SIGNED (for Contractor)

NAME: DATE: ./. / .

SIGNED (for Overseeing Organisation)

NAME: DATE: ./. / .

APPENDIX 30/2: Weed Control

1. Total Weed Control

The Contractor shall keep all areas of proposed soft landscape weed free during the Contract Period by use of a non-residual herbicide, to be agreed with the Employer's Representative in advance. Non-residual herbicide to be applied before final cultivation.

2. Weed Control by Pulling / Hand Weeding

All areas of new and existing planting; perennials, shrubs, trees and matrix planting shall be kept 95% weed free during the Contract period by hand weeding.

3. Arisings from Weed Control Operations

All arisings from weed control operations shall be removed from site immediately after hand weeding and 7 days after herbicide application.

APPENDIX 30/4: Ground Preparation

1. General

Ground preparation works to all areas shall be carried in accordance with CI 3004.8 to 3004.11 inclusive. Vegetation clearance and subsoil treatment works will not be required under this contract.

Final cultivation of soils shall be as per requirements set out in Appendix 30/5.

Weed control shall be provided as per requirements of Appendix 30/2.

APPENDIX 30/6: Planting

Plant Schedules see drawing BIH-JBAI-XX-XX-DR-L-0002-PP

| Supplementary small amenity screen tree planting along northern and southern boundary | Girth / Form / Height | % in mix | Planting density (no./m) | Length (m) | Total No. |
|--|---|-----------------|---------------------------------|-------------------|------------------|
| | | | | 227 | 57 |
| <i>Pinus nigra</i> | Feathered 3.0-3.5m tall | 20 | 0.25 | | 11 |
| <i>Prunus padus</i> | 16-18cm (Advanced Heavy Standard), min 4m in height | 20 | 0.25 | | 11 |
| <i>Quercus robur</i> 'Koster' | 16-18cm (Advanced Heavy Standard), min 4m in height | 30 | 0.25 | | 17 |
| <i>Tilia cordata</i> | 16-18cm (Advanced Heavy Standard), min 4m in height | 30 | 0.25 | | 17 |
| | | | | | |
| Supplementary small amenity tree planting along western boundary | Girth / Form / Height | % in mix | Planting density (no./m) | Length (m) | Total No. |
| | | | | 54 | 14 |
| <i>Sorbus aucuparia</i> | 16-18cm (Advanced Heavy Standard), min 4m in height | 40 | 0.25 | | 5 |
| <i>Crataegus monogyna</i> 'Stricta' | 16-18cm (Advanced Heavy Standard), min 4m in height | 40 | 0.25 | | 5 |
| <i>Pinus nigra</i> | Feathered 2-2.5m tall | 20 | 0.25 | | 3 |
| | | | | | |

| Formal planting within car parks along northern side of site | Girth | % in mix | Planting Density | | Total No. |
|---|--|-----------------|-------------------------|--|------------------|
| <i>Acer platanoides</i> | 12-14cm (Heavy Standard), min 4m in height | N/A | As shown on plan | | |
| | | | | | 39 |
| | | | | | |

1. Certificate of Provenance for Planting

State provenance requirements. The Contractor shall provide written evidence on Sheet 1 overleaf, that trees and shrubs comply with provenance requirements.

2. Plants

The Contractor shall inform the Landscape Architect when all plants are ready for inspection within nursery in Ireland prior to timetabled delivery to site, no plants will be accepted on site without prior Inspection and Approval by the landscape architect.

3. Time of Planting

Bare rooted, root balled and cell grown trees, shrubs, non-aquatic perennials and wildflowers shall take place during favorable weather and soil conditions, during the season November to March. Bare rooted or root balled conifers or evergreens shall be planted in November or March.

4. Pit Planting of Whips, Shrubs and Hedges

Whips, shrubs and hedge species shall be planted in pits of sufficient size for the roots of bare root plants to be fully spread out. Soil improvers or the planting compost shall be incorporated into the backfill or cultivated material at the rate of 1 part soil improver or planting compost to 3 parts soil shall be incorporated within each pit and as backfilling takes place. Soil improvers and planting compost shall have an analysis as set out in the Table below and readily available trace elements shall be included in such analysis. Arisings other than suitable topsoil shall be removed from site.

5. Soil Improver/Compost Analysis

| | |
|------------------------------|----------------|
| pH | 6 - 7.5 |
| Conductivity | 600-3000 ws/cm |
| Available Nitrogen as NO | 35-300 mg/l |
| Available Phosphorus as P205 | 75-250 mg/l |
| Available Potassium as K2010 | 1500 mg/l |
| Available Magnesium as Mg | 75-400 mg/l |

All plants are to be watered in with a sufficient quantity of water appropriate to the type/size of plant with regard to good horticultural practice.

6. Stakes and Ties

Stakes and ties shall be as detailed on drawing BIH-JBAI-XX-XX-DR-L-0002-PP.

7. Planting of Trees

Tree species shall be planted in pits of sufficient size for the roots to be fully spread out. Soil improvers or the planting compost shall be incorporated into the backfill or cultivated material at the rate of 1 part soil improver or planting compost to 3 parts soil shall be incorporated within each pit and as backfilling takes place. Soil improvers and planting compost shall have an analysis as set out in the Table above and readily available trace elements shall be included in such analysis. Arisings other than suitable topsoil shall be removed from site. Carry out planting of trees as specified except staking and tying to be as item 7 above. Watering to be carried out using sufficient water to ensure the good health of trees with regard to good horticultural practice.

8. Mulches: Ground Preparation

Before application of any mulch, the planting areas and tree positions shall be free of grass and weed growth. Watering shall be carried out to ensure that the top 300mm of the planting area soil is sufficiently moist to ensure good plant growth and that tree locations are sufficiently moist throughout the extent of the tree pit to ensure good growth.

9. Organic Mulches

Timber mulch is to be used as surface dressing, specification as follows

| | |
|-----------------------------|-----------------------------|
| Main Constituent | Conifer Bark |
| Nominal particle size range | 25 - 75 mm |
| Wood content | < 15 % |
| Dust Constituent & fines | < 5 % |
| pH | 4.5 - 5.5 |
| Typical Bulk Density Range | 280 - 320 kg/m ³ |
| Minimum effective depth | 75 mm |
| Settlement factor | 10 - 15% |
| Durability | 2 years + |
| FSC Certified | Yes |
| BS 4790 Fire Tested | Yes |

The product shall be pest, disease and weed free and not have been treated with Methyl Bromide or any additives.

The product shall be Forest Stewardship Council (FSC) certified. The product shall have been tested in accordance with the requirements of BS 4790:1987, for fire resistance.

The natural heat treatment maturing process shall have been sufficient to ensure that excess volatile substances are driven from the product.

During the process, temperatures within the product heaps must exceed 50°C for a minimum 14 day period, followed by a further period of stabilization.

Mulch shall be spread evenly over the planting beds to a depth of 100mm.

Plant quantities and locations are set out in the plant schedule.

Reeds/rushes to be planted within 6-8 weeks of commencement.

10. Post-Planting Maintenance

For the duration of 18 months after Practical Completion, the Contractor shall carry out maintenance of new planting in accordance with Clauses 3007, 3008, 3009, 3010 & 3011 and Appendix 6/1

SHEET 1: PLANTING (GRASS SEED, BULBS, TREES, SHRUBS And HEDGING)

PROVENANCE CERTIFICATE

Information to be completed by the Contractor:

PROVENANCE CERTIFICATE

Certificate Number:

1. We hereby certify that the origins of the plant stock incorporated in the Works are as identified in the Plant Schedule contained in Annex 1 of this Certificate.
2. The words and phrases herein, unless otherwise stated, have the same meaning as attributed to them in the Forestry Commission Practice Note 8: 'Using Local Stock for Planting Native Trees and Shrubs'.

| |
|---|
| <p>CONTRACTOR</p> <p>Firm:</p> <p>Name:</p> <p>Position:</p> <p>Signed:.....</p> <p>Date: .. / .. / ..</p> |
|---|

3. Receipt of this certificate is acknowledged by the Overseeing Organisation.

| |
|--|
| <p>OVERSEEING ORGANISATION</p> <p>Name:</p> <p>Position:</p> <p>Signed:</p> <p>Date: .. / .. / ..</p> |
|--|

SHEET 1 (continued): PLANTING (GRASS SEED, TREES, SHRUBS AND HEDGING)

PLANTING PROVENANCE CERTIFICATE
 Information to be completed by the Contractor

Certificate Number:

| BOTANICAL NAME | QUANTITY | FORM/AGE | HEIGHT (cm) | ZONE OF PROVENANCE AND LOCATION | Forestry Commission LOCAL PROVENANCE CERTIFICATE NO. (if available) | APPROX. DATE PROPAGATION MATERIAL COLLECTED | NURSERY(S) WHERE THE PLANTS HAVE BEEN GROWN |
|----------------|----------|----------|-------------|---------------------------------|---|---|---|
| | | | | | | | |
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PROVENANCE CERTIFICATE
 ANNEX 1: Plant Schedule

APPENDIX 30/8: Watering

1. Establishment Period

1. The Contractor shall be responsible for all watering operations required to ensure the establishment and survival of plants provided under this contract and for the 18 month Establishment Period following Practical Completion. All watering operations shall be in accordance with Clause 3008 of the Specification.

APPENDIX 30/9: Establishment Maintenance for Planting

1.General

Plants and planting areas shall be maintained in accordance with this Clause during the construction period and for the 18 month maintenance period (and after an 18-month defects liability period). The following sub-Clauses form part of the maintenance works 3009.2, 3009.3, 3009.4, 3009.5, 3009.6, 3009.7, 3009.8, 3009.15, 3009.16, 3009.17 and 3009.18.

2. Stakes, Tubes, Guards and Their Ties

Stakes and ties shall be removed from plants where they are no longer required and disposed of off-site.

3. Weed Control: Young Trees and Shrubs in Cultivated Beds

Planting areas shall be visited monthly to carry out weed control operations. Any grass and weed growth shall be removed by hand. Herbicides shall not be used.

Organic mulch shall be maintained at a depth of 100mm by the addition of fresh mulch, once during the maintenance period.

4. Establishment Watering

During the construction period, 18 month defects liability period and the maintenance period of 18 months the Contractor shall water all planting undertaken under the Contract, in accordance with this Clause, at a frequency to ensure establishment and survival.

APPENDIX 30/10: Maintenance of Established trees and Shrubs

1. General

All areas of existing vegetation, trees shrubs and grassland shall be maintained during the Construction Contract Period and for 18 months from the date of Practical Completion (note defects liability period to be 18 months). The following sub-Clauses shall form part of the maintenance works; 3010.3, 3010.4, 3010.5, 3010.6, 3010.7, 3010.8, 3010.9.

2. Arisings from Pruning, Cutting or Felling of Woody Plants

All arisings are to be removed from site.

3. Shrub and Hedge Pruning

Shrubs within 2m metres of paths shall be coppiced to within 300mm of the base in late winter.

All growth which extends over a footway or carriageway which is dead dying or hazardous shall be removed. All shrubs that are encroaching upon, or obscuring visibility of adjacent signs, structures, electrical equipment, gates or visibility splays shall be pruned. All suckers shall be removed from rootstocks.

Hedges be pruned twice /year, all arisings are to be removed from site.

JBA
consulting

Offices at
Dublin
Limerick

Registered Office
24 Grove Island
Corbally
Limerick
Ireland

+353(0)61 345463
info@jbaconsulting.ie
www.jbaconsulting.ie
Follow us:  

JBA Consulting Engineers and
Scientists Limited

Registration number 444752

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