

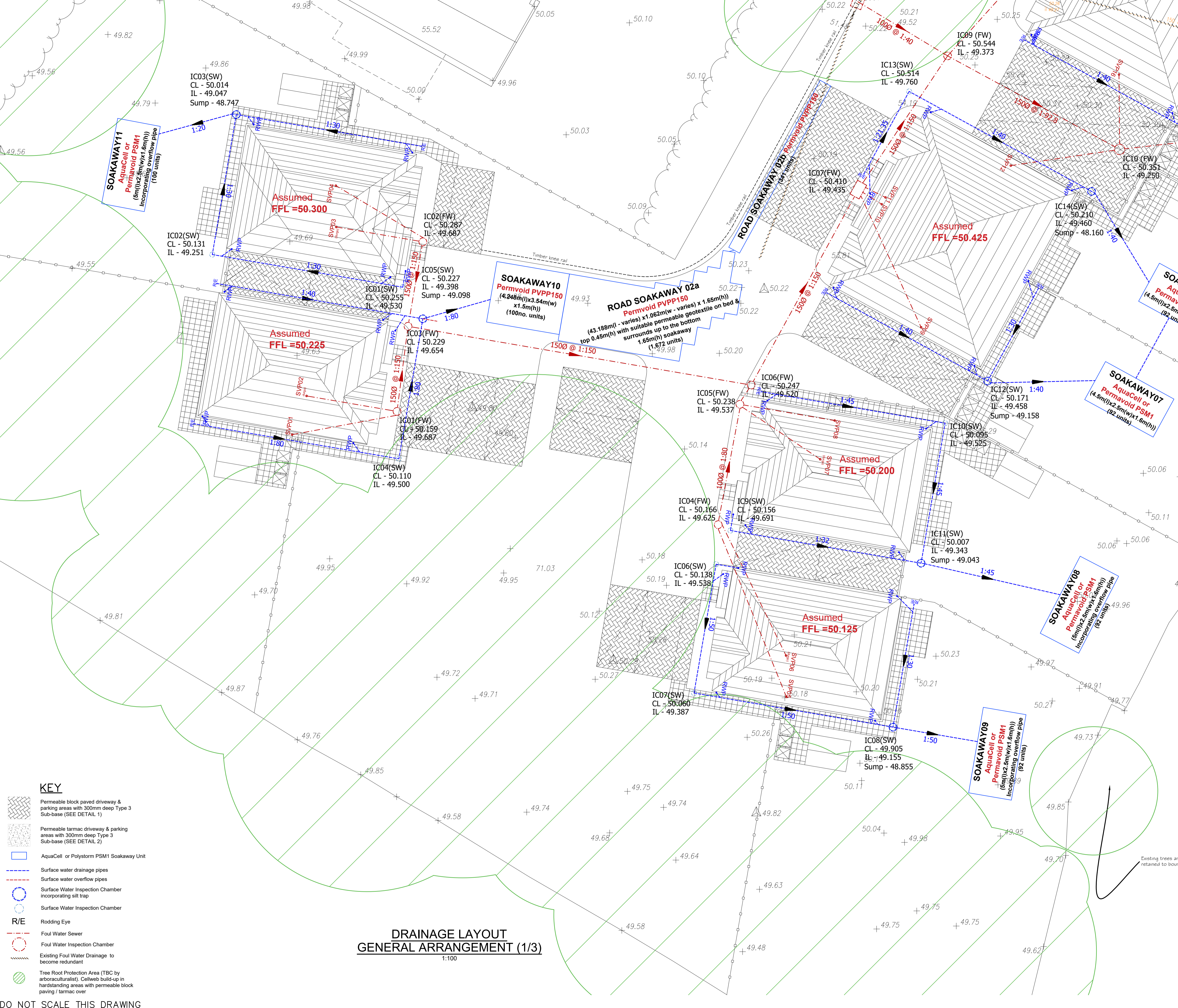
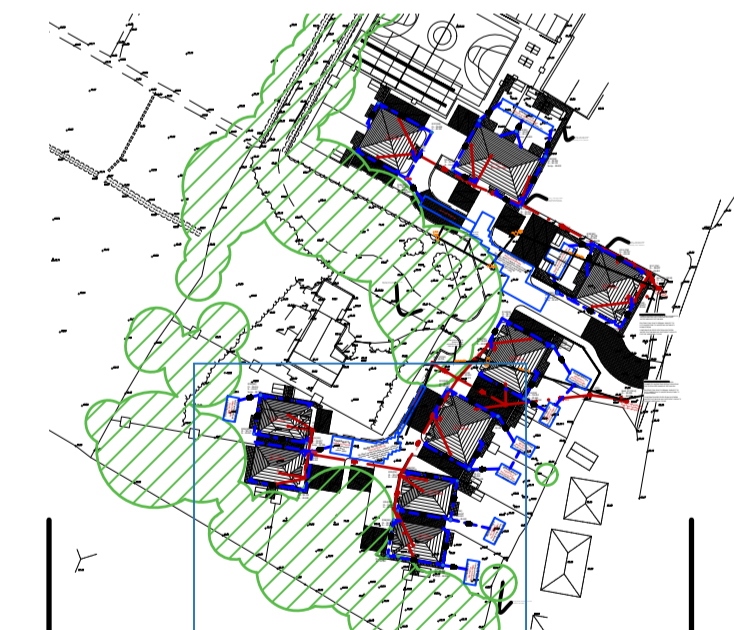
In preparing the designs illustrated by this drawing we have fulfilled our duties in the role of Designer as defined in the Construction Design and Management Regulations 2015. We have undertaken a full Hazard Identification and Risk Analysis and have designed out any special risks associated with the work, so that as far as possible there are no residual risks.

NOTE: Residual risks are defined as those risks arising from identified hazards which cannot be designed-out, and which a competent and experienced building contractor is unlikely to encounter during normal construction activities. Ordinary risks arising from normal construction operations have not been included.

Where hazards have been identified, the risks from which it has not been possible to eliminate during the design process, these are indicated on the drawing. It will be the responsibility of the Principal Contractor to develop Safe Systems of Work and/or Method Statements to minimise any risks associated with such hazards.

NOTES

- This drawing has been prepared using a Topographical Survey Drawing supplied by the client in AutoCAD format.
- This drawing is to be read in conjunction with all relevant Engineers' and Architects' drawings and specifications.
- All dimensions are in millimetres unless noted otherwise. All levels are in metres.
- The contractor is responsible for setting out and for checking dimensions.
- In accordance with The Construction (Design and Management) Regulations 2015 (CDM 2015) the Principle Designer and Contractor are to:
 - Notify HSE of works.
 - Comply with the requirements of Health and Safety Plan (if applicable)
 - Provide risk assessments and method statements for all potential hazards relevant to this project.
- The main contractor shall be responsible for the setting out and accuracy of all dimensions. The contractor shall be satisfied that the information given is correct and any discrepancies should be noted to the Engineer immediately.
- Contractor to ensure that the existing sewers remain in service until the diversion works are completed.
- The Contractor is responsible for specifying product and codes and ordering of drainage materials.
- Contractor to ensure that new sewers are laid and installed in like for like basis.
- New adoptable pipework to be vitrified clay type and to be constructed to the following specifications. Systems that are resistant to a jetting pressure of 4000psi. Systems that minimise the number of joints in the system, by using 3metre pipe length. Systems that do not have lip seal joints, hence preventing root ingress.
- All non-uPVC (adoptable) pipe connection to manholes shall be provided with a 'rocker pipe' of 600mm effective length in accordance with Cl E6.6 of 'Sewers for Adoption'.
- Pre-cast concrete manhole units shall comply with the relevant provisions of BS EN 1917 and BS 5911-3.
- The diameter of the pipes to be diverted are 300mm for storm and 150mm for foul. The new pipes are to of 300mm and 150mm for foul diameter respectively. Any abandoned pipes or manholes are to be grubbed out or sealed up.
- Cover grades are in accordance with BS497 Pt 1
Cover Grades : D400 - carriageways.
B125 - carriageways for slow traffic.
A15 - inaccessible to vehicles
- All drainage pipes within development site to be 100mm dia unless shown otherwise.
- All uPVC drainage to be installed to BS5955 Pt6 and in strict accordance with the manufacturers instructions.
- All uPVC drainage products to conform to BS EN1401 & Kite mark certified in accordance with specification.
- All adoptable drainage and associated works to comply with the latest Part E - Civil Engineering Specification of 'Sewer for Adoption'.
- DO NOT SCALE. If discrepancy or query arises on dimensions consult Engineer.



**DRAINAGE LAYOUT
GENERAL ARRANGEMENT (1/3)**
1:100

KEY

- Permeable block paved driveway & parking areas with 300mm deep Type 3 Sub-base (SEE DETAIL 1)
- Permeable tarmac driveway & parking areas with 300mm deep Type 3 Sub-base (SEE DETAIL 2)
- AquaCell or Polystorm PSM1 Soakaway Unit
- Surface water drainage pipes
- Surface water overflow pipes
- Surface Water Inspection Chamber incorporating silt trap
- Surface Water Inspection Chamber
- R/E Rodding Eye
- Foul Water Sewer
- Foul Water Inspection Chamber
- Existing Foul Water Drainage to become redundant
- Tree Root Protection Area (TBC by arboriculturalist). Cellweb build-up in hardstanding areas with permeable block paving / tarmac over

DO NOT SCALE THIS DRAWING

Date	By	Revision	QA'D	Chk'd	Ref
PRELIMINARY					
<p>Cowan Consultancy STRUCTURAL, CIVIL AND BUILDING CONSULTANTS</p>			Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk		
Client: IMPERIAL HOMES SOUTH LTD.					
Project: DEVELOPMENT AT BITTERNE PARISH CHURCH WHITES LANE, BITTERNE, SOUTHAMPTON					
Title: INFRASTRUCTURE DRAINAGE LAYOUT GENERAL ARRANGEMENT (1/3)					
Date	MAY 2023	Scale	AS SHOWN @ A1	Drg. No.	
Drawn	HS	Chk'd	TB	QA'D	TB
					456146/201P1

! CDM 2015 - RESIDUAL RISKS !

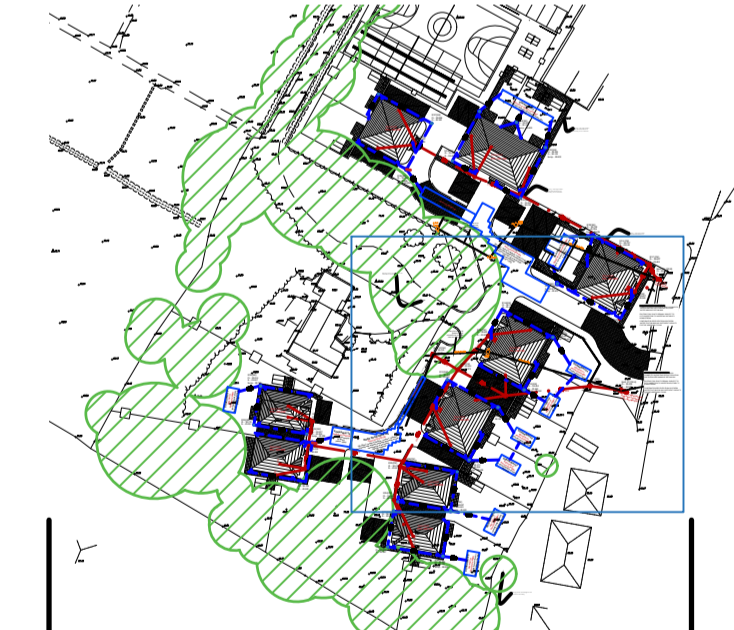
In preparing the designs illustrated by this drawing we have fulfilled our duties in the role of Designer as defined in the Construction Design and Management Regulations 2015. We have undertaken a full Hazard Identification and Risk Analysis and have designed out any special risks associated with the work, so that as far as possible there are no residual risks.

NOTE: Residual risks are defined as those risks arising from identified hazards which cannot be designed-out, and which a competent and experienced building contractor is unlikely to encounter during normal construction activities. Ordinary risks arising from normal construction operations have not been included.

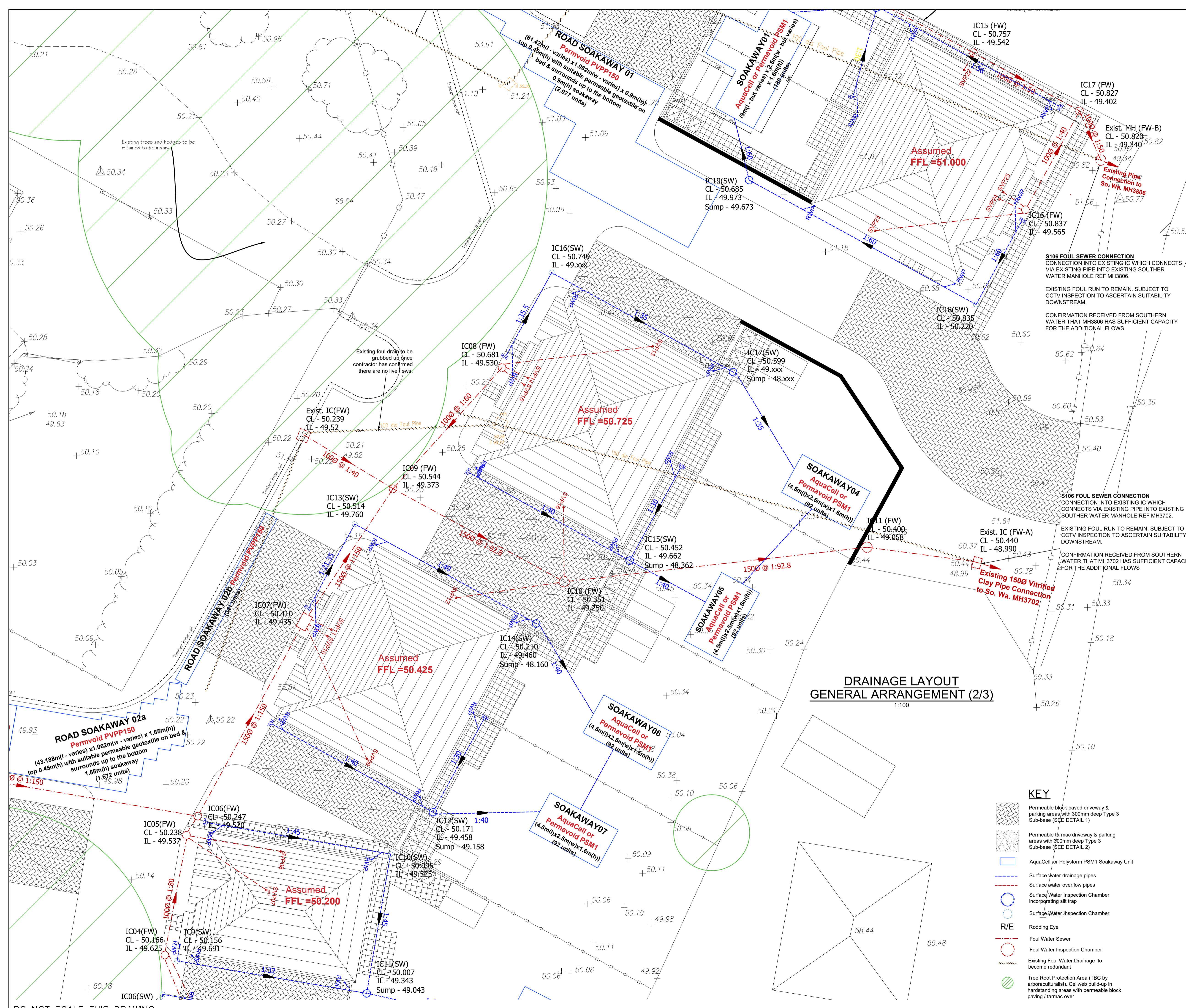
Where hazards have been identified, the risks from which it has not been possible to eliminate during the design process, these are indicated on the drawing. It will be the responsibility of the Principal Contractor to develop Safe Systems of Work and/or Method Statements to minimise any risks associated with such hazards.

NOTES

- This drawing has been prepared using a Topographical Survey Drawing supplied by the client in AutoCAD format.
- This drawing is to be read in conjunction with all relevant Engineers' and Architects' drawings and specifications.
- All dimensions are in millimetres unless noted otherwise. All levels are in metres.
- The contractor is responsible for setting out and for checking dimensions.
- In accordance with The Construction (Design and Management) Regulations 2015 (CDM 2015) the Principle Designer and Contractor are to:
 - Notify HSE of works.
 - Comply with the requirements of Health and Safety Plan (if applicable)
 - Provide risk assessments and method statements for all potential hazards relevant to this project.
- The main contractor shall be responsible for the setting out and accuracy of all dimensions. The contractor shall be satisfied that the information given is correct and any discrepancies should be noted to the Engineer immediately.
- Contractor to ensure that the existing sewers remain in service until the diversion works are completed.
- The Contractor is responsible for specifying product and codes and ordering of drainage materials.
- Contractor to ensure that new sewers are laid and installed in like for like basis.
- New adoptable pipework to be vitrified clay type and to be constructed to the following specifications. Systems that are resistant to a jetting pressure of 4000psi. Systems that minimise the number of joints in the system, by using 3metre pipe length. Systems that do not have lip seal joints, hence preventing root ingress.
- All non-uPVC (adoptable) pipe connection to manholes shall be provided with a 'rocker pipe' of 600mm effective length in accordance with CI E6.6 of 'Sewers for Adoption'.
- Precast concrete manhole units shall comply with the relevant provisions of BS EN 1917 and BS 5911-3.
- The diameter of the pipes to be diverted are 300mm for storm and 150mm for foul. The new pipes are to be of 300mm and 150mm for foul diameter respectively. Any abandoned pipes or manholes are to be grubbed out or sealed up.
- Cover grades are in accordance with BS497 Pt 1
 - 0400 - carriageways.
 - B125 - carriageways for slow traffic.
 - A15 - inaccessible to vehicles
- All drainage pipes within development site to be 100mm dia unless shown otherwise.
- All uPVC drainage to be installed to BS5955 Pt6 and in strict accordance with the manufacturers instructions.
- All uPVC drainage products to conform to BS EN1401 & Kite mark certified in accordance with specification.
- All adoptable drainage and associated works to comply with the latest Part E - Civil Engineering Specification of 'Sewer for Adoption'.
- DO NOT SCALE. If discrepancy or query arises on dimensions consult Engineer.



DRAINAGE LAYOUT GENERAL ARRANGEMENT (2/3)
1:100



KEY

- Permeable block paved driveway & parking areas with 300mm deep Type 3 Sub-base (SEE DETAIL 1)
- Permeable tarmac driveway & parking areas with 300mm deep Type 3 Sub-base (SEE DETAIL 2)
- AquaCell or Polystorm PSM1 Soakaway Unit
- Surface water drainage pipes
- Surface water overflow pipes
- Surface Water Inspection Chamber incorporating silt trap
- Surface Water Inspection Chamber
- Rodding Eye
- Foul Water Sewer
- Foul Water Inspection Chamber
- Existing Foul Water Drainage to become redundant
- Tree Root Protection Area (TBC by arboriculturalist). Cellweb build-up in handstanding areas with permeable block paving / tarmac over

DO NOT SCALE THIS DRAWING

Date	By	Revision	QA'D	Chk'd	Ref
PRELIMINARY					
Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk					
Client: IMPERIAL HOMES SOUTH LTD.					
Project: DEVELOPMENT AT BITTERNE PARISH CHURCH WHITES LANE, BITTERNE, SOUTHAMPTON					
Title: INFRASTRUCTURE DRAINAGE LAYOUT GENERAL ARRANGEMENT (2/3)					
Date	MAY 2023	Scale	AS SHOWN @ A1	Dwg. No.	
Drawn	HS	Chk'd	TB	QA'D	TB
					456146/202P1

! CDM 2015 - RESIDUAL RISKS !

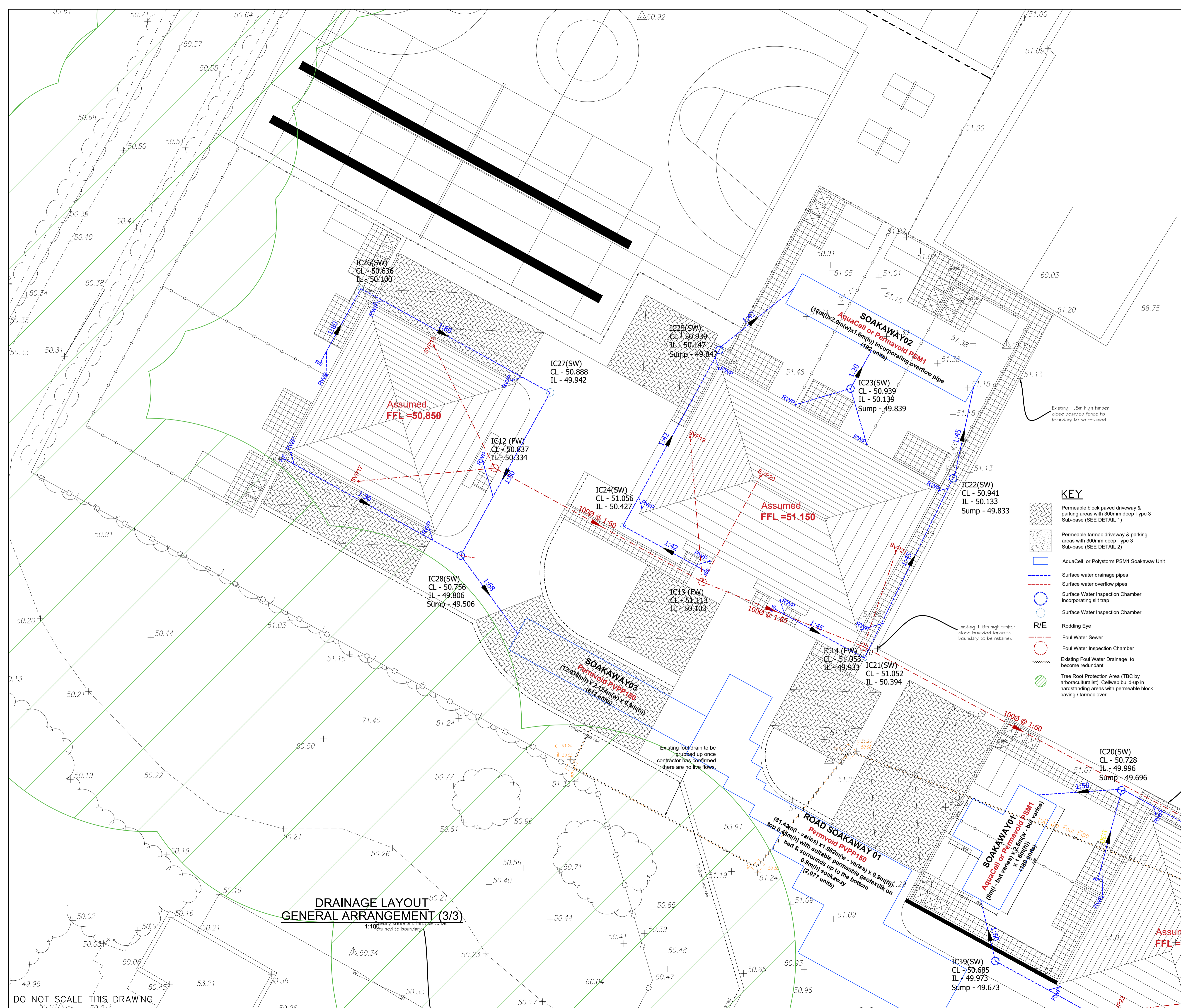
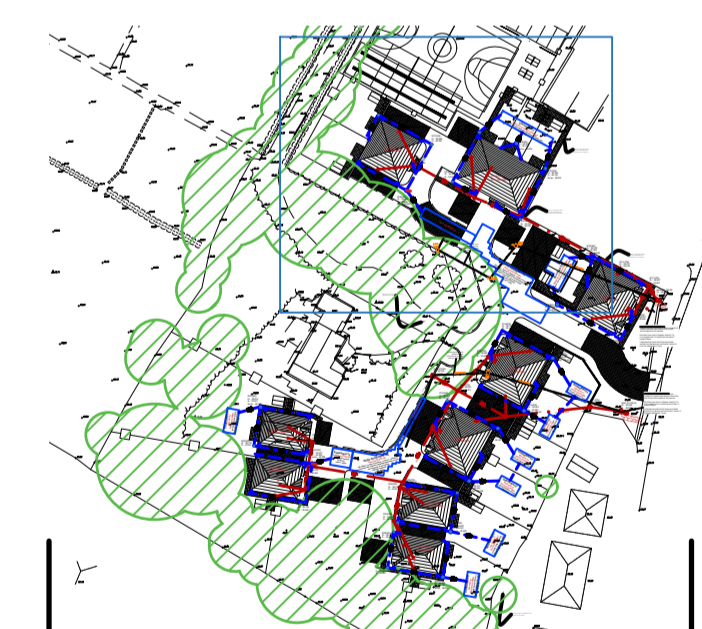
In preparing the designs illustrated by this drawing we have fulfilled our duties in the role of Designer as defined in the Construction Design and Management Regulations 2015. We have undertaken a full Hazard Identification and Risk Analysis and have designed out any special risks associated with the work, so that as far as possible there are no residual risks.

NOTE: Residual risks are defined as those risks arising from identified hazards which cannot be designed-out, and which a competent and experienced building contractor is unlikely to encounter during normal construction activities. Ordinary risks arising from normal construction operations have not been included.

Where hazards have been identified, the risks from which it has not been possible to eliminate during the design process, these are indicated on the drawing. It will be the responsibility of the Principal Contractor to develop Safe Systems of Work and/or Method Statements to minimise any risks associated with such hazards.

NOTES

- This drawing has been prepared using a Topographical Survey Drawing supplied by the client in AutoCAD format.
- This drawing is to be read in conjunction with all relevant Engineers' and Architects' drawings and specifications.
- All dimensions are in millimetres unless noted otherwise. All levels are in metres.
- The contractor is responsible for setting out and for checking dimensions.
- In accordance with The Construction (Design and Management) Regulations 2015 (CDM 2015) the Principle Designer and Contractor are to:
 - Notify HSE of works.
 - Comply with the requirements of Health and Safety Plan (if applicable)
 - Provide risk assessments and method statements for all potential hazards relevant to this project.
- The main contractor shall be responsible for the setting out and accuracy of all dimensions. The contractor shall be satisfied that the information given is correct and any discrepancies should be noted to the Engineer immediately.
- Contractor to ensure that the existing sewers remain in service until the diversion works are completed.
- The Contractor is responsible for specifying product and codes and ordering of drainage materials.
- Contractor to ensure that new sewers are laid and installed in like for like basis.
- New adoptable pipework to be vitrified clay type and to be constructed to the following specifications. Systems that are resistant to a jetting pressure of 4000psi. Systems that minimise the number of joints in the system, by using 3metre pipe length. Systems that do not have lip seal joints, hence preventing root ingress.
- All non-uPVC (adoptable) pipe connection to manholes shall be provided with a 'rocker pipe' of 600mm effective length in accordance with CI E6.6 of 'Sewers for Adoption'.
- Precast concrete manhole units shall comply with the relevant provisions of BS EN 1917 and BS 5911-3.
- The diameter of the pipes to be diverted are 300mm for storm and 150mm for foul. The new pipes are to of 300mm and 150mm for foul diameter respectively. Any abandoned pipes or manholes are to be grubbed out or sealed up.
- Cover grades are in accordance with BS497 Pt 1
Cover Grades : D400 - carriageways.
B125 - carriageways for slow traffic.
A15 - inaccessible to vehicles
- All drainage pipes within development site to be 100mm dia unless shown otherwise.
- All uPVC drainage to be installed to BS5955 Pt6 and in strict accordance with the manufacturers instructions.
- All uPVC drainage products to conform to BS EN1401 & Kite mark certified in accordance with specification.
- All adoptable drainage and associated works to comply with the latest Part E - Civil Engineering Specification of 'Sewer for Adoption'.
- DO NOT SCALE. If discrepancy or query arises on dimensions consult Engineer.



DRAINAGE LAYOUT GENERAL ARRANGEMENT (3/3)

Date	By	Revision	QA'D	Chk'd	Ref
PRELIMINARY					
Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk					
Client: IMPERIAL HOMES SOUTH LTD.					
Project: DEVELOPMENT AT BITTERNE PARISH CHURCH WHITES LANE, BITTERNE, SOUTHAMPTON					
Title: INFRASTRUCTURE DRAINAGE LAYOUT GENERAL ARRANGEMENT (3/3)					
Date	MAY 2023	Scale	AS SHOWN @ A1	Dwg. No.	
Drawn	HS	Chk'd	TB	QA'D	TB
					456146/203P1

DO NOT SCALE THIS DRAWING