



CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN

Phase 1 Development- Former Magee Barracks

July 2019

GARLAND
Concepts Realised

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Description of change	Originator	Rev	Approval	Date
Initial Release	CR	1st	CR	31/05/2019

1. INTRODUCTION

It is proposed to construct 375 residential units and a neighbourhood centre and ancillary works at the former Magee Barracks, Kildare Town. In order to facilitate the development, 16 buildings and various hardstanding will need to be demolished. This plan discusses demolition aspects of the site and the generated waste quantities.

This plan includes a description of the proposed works and how it is envisaged these works will be managed for the duration of the works on site. This plan will be managed and updated in advance of and throughout the construction phase as required by the appointed Main Contractor. It is intended that the revisions to this document will be circulated and agreed with Kildare County Council and An Bord Pleanála as additional details are incorporated.

This document is prepared solely for the purpose of the Contractor maintaining an approved environmental and management plan for the construction works.

2. PROJECT DESCRIPTION

The proposed development comprises the demolition of 16 no. existing buildings (including the Officer's Mess and Water Tower) with a GFA of 16,115 sq.m, on an application site of c. 11.24 ha.

Architectural drawings prepared by RKD accompany this application. The building numbers are referenced against this report.

The construction of a development comprising of 375 no. residential units, a neighbourhood centre comprising of 3 no. retail units with a GFA of 115 sq.m, 105 sq.m and 100 sq.m, a café / gallery unit with a GFA of 300 sq.m, a childcare facility with a GFA of 680 sq.m and associated play area, all internal roads, car parking, pedestrian and cycle paths, public open space, and all associated site and infrastructural works.

The 375 no. residential units with a mix of one, two, three and four bed units.

The housing units are 2 to 3 storeys in height and the duplex/apartment units are 3 storeys in height. There are four apartment blocks included in the development which range between 3 and 4 stories in height and provide 122 units. 1 no. electricity substation with a GFA of 15 sq.m and a bin store with a

GFA of 18 sq.m are located at the proposed neighbourhood centre. The associated site and infrastructural works include foul and surface water drainage, attenuation tanks, ancillary car parking spaces, comprising 438 no. residential spaces, 17 no. guest spaces, 28 no. spaces associated with the Crèche & Neighbourhood Centre, 156 no. spaces at the apartment complex of which 34 spaces are assigned guest spaces, bin and bike stores, landscaping, boundary walls and fences.

The proposed development comprises the first phase of the overall development of the applicant's c. 20.78 ha landholding at this location. This application is accompanied by an overall site masterplan drawing, indicating future phases on the remainder of the lands (please see drawings attached to the application), which include a supermarket, a cancer treatment clinic (proton therapy), and a Phase 2 residential development of c. 250 units, which will be subject to separate applications. The masterplan provides the Planning Authority and the Board with the required level of detail to assess the subject application in the context of the overall masterplan proposals, to be progressed as separate applications, in respect to the likely future context on adjacent lands.

3. PROJECT PARTICIPANTS

Participant	Company	Contact	Details
Client	Ballymount Properties Ltd.	C/O Sean O'Brien	sean@formationgroupplc.com
Architect	RKD	Paul Davey	pdavey@rkd.ie
Civil & Structural Engineers	GARLAND	Cathal Rigney	cathal.rigney@garlandconsultancy.com
Mechanical & Electrical Engineers	Metec	Gary Quinn	gary.quinn@metec.ie
PSDP	GARLAND	Michael Fleming	michael.fleming@garlandconsultancy.com
Landscape Architect	Brady Shipman Martin	Aine Patton	ainepatton@bradyshipmanmartin.com
Traffic Engineer	Roadplan	Richard Frisby	rfrisby@roadplan.ie
Contractor	T.B.C.		

4. CONSTRUCTION PLANNING AND PHASING

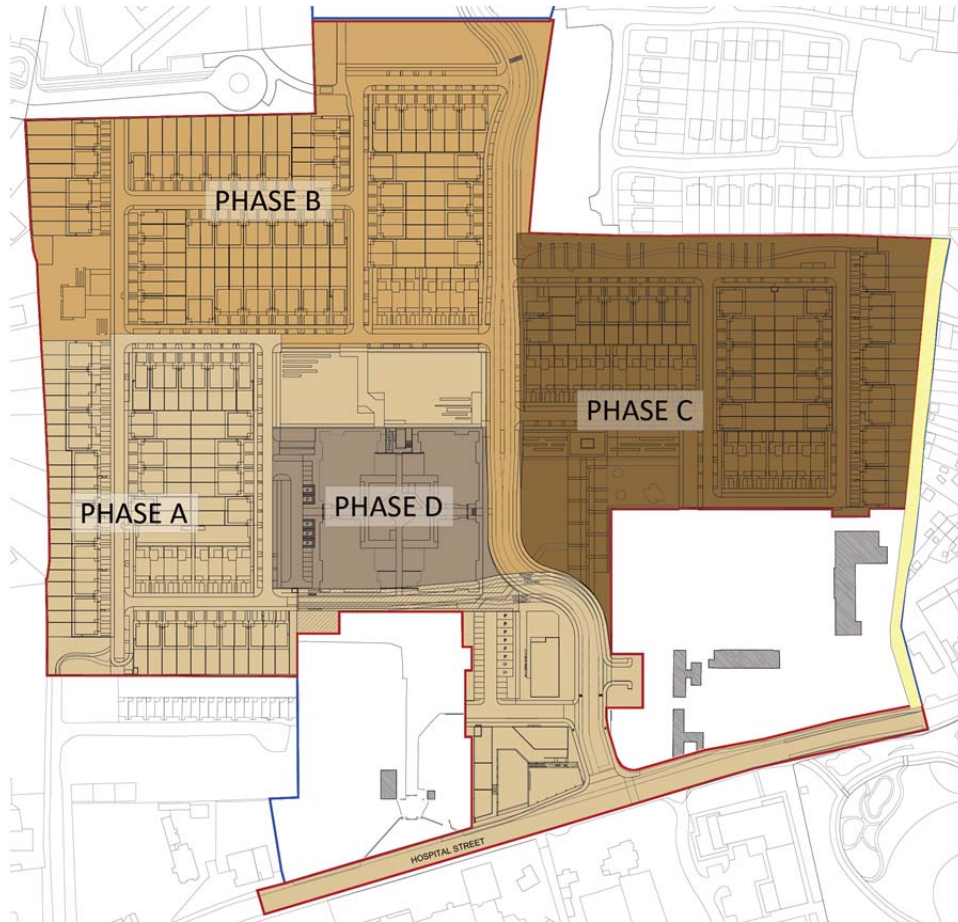
Subject to a successful grant of planning permission, it is intended the works will commence within 24 months of same.

The development is likely to proceed as follows:

Demolition:

- Works to form construction entrance (see note 2 below);
- Demolition of buildings contained within red-line boundary; crushing to commence and spoil to begin to be removed from site; material to be recycled to be stockpiled on site and covered.
- Demolition of existing hard-standings; crushing to commence and spoil to begin to be removed from site

Construction:



- **PHASE A (3.91 Ha):**

- Site Entrance (Hospital Street)
- Neighbourhood centre and crèche first with ancillary drainage connections
- Spine Road as far as future Parade Park
- Temporary roadway to access housing within Phase A
- Housing & duplex residential mix (73 units)
- Magee Gardens
- Pedestrian connection to Magee Terrace (up to site boundary only)

- **Phase B (3.59 Ha):**
 - Continuation of Spine Road (up to boundary with Phase 2)
 - Housing & duplex residential mix (92 units)
 - Coolmoney Gardens
 - Henry Howard Gardens
 - Connection to School
 - Pedestrian connection to Runbeg (up to site boundary only)
 - Decommissioning and removal of Temporary Phase A roadway

- **Phase C (2.94 Ha):**
 - Housing & duplex residential mix (88 units)
 - Linear Park
 - Parade Park

- **Phase D (1.66 Ha):**
 - 4 No. apartment blocks, including undercroft car parking space (122 units)
 - Camera Gardens
 - Landscaping of area previously used for Phase A temporary roadway

Note 1: Excavation and disposal of same will form initial phase of the construction works.

Note 2: The works to Hospital Street may occur in a different sequence as the site entrance and connection to public services are shared with other proposed developments. These other developments will be subject to separate planning permissions.

5. SITE ESTABLISHMENT

The site is currently accessed via Hospital Street.

For the duration of the demolition of Phase 1 development, all construction traffic shall enter and leave the site using the Hospital Rd. entrance.

5.1. Invasive Species Management Plan

An Invasive Species Management Plan has been prepared for the site and accompanies this application. The initial stages of the plan have been begun to be implemented. Control measures to prevent the spread of non-native invasive species have been put in place and the initial herbicide treatment has been conducted. Depending on construction, start date, which can only be estimated at this moment in time; the plan allows for the conclusion of the plan in a time frame between March/Sept 2019; which would be in advance of a possible grant of planning permission.

5.2. Perimeter Hoarding

Perimeter hoarding will be provided around the perimeter of the site to provide a barrier against unauthorised access for the public. Controlled access points to the site, in the form of gates or doors, will be kept locked for any time that these areas are not monitored (e.g. outside working hours).

The hoarding will be well-maintained, and will be painted to select colours.

5.3. Integrated Pest Management (IPM)

An Integrated Pest Management (IPM) to be established in accordance with best practice within the guidelines for the campaign for responsible rodenticide use (CRRU Ireland – Wildlife Aware).

Rodent pest control technicians will have completed their training and have been included on the register of 'pest management trained professional users' (PMUs) maintained by the Department of Agriculture Food and the Marine are fully equipped to implement best practice in the delivery of rodent pest management services, based upon consideration of the risk hierarchy and implementation of an Integrated Pest Management (IPM) approach.

Records of the conclusions and decisions reached by PMUs and by professional users on site will be maintained for management purposes and to facilitate auditing and compliance inspections by regulatory authorities.

5.4. Tree Protection

Trees designated for protection shall be protected in advance of commencement of works on site. All works associated with the removal and protection of trees on site to be undertaken in accordance with the recommendations within the Tree Survey Report. Please refer to Brady Shipman Martin details for trees to be retained.

All measures incorporated within the detailed design to protect existing trees to be fully adhered to.

5.5. Dust Prevention

From the outset of the project, the dampening down measures will be enforced to reduce dust generated from the site.

6. DEMOLITION WASTE

The construction of the Cancer Care Clinic will involve the demolition of sixteen buildings and removal of hard surfacing. A plan of the hardsurfacing areas can be found in Appendix A.

The buildings numbers are referenced against the demolition drawings prepared by RKD Architects which accompany this application. The hard surfacing calculation is taken as the existing hard surfacing inside the red line boundary.

The calculation of the material is based upon site investigation carried out on the site and building surveys. The project will endeavour to reuse / recycle as much demolition waste as possible during the demolition phase.

The buildings are predominately dense concrete block and concrete construction. There are some elements of pitched roof structure formed by steel truss. Steel shall be sent for recycling and forms the expected majority of the metal to be recovered. We note some cast-iron elements are also present on the site. The buildings could not be surveyed in their entirety as it was unsafe to do so. The dilapidated nature of the structures meant that it was unsafe to access the first floor / roof level

of all the buildings. Concrete, metal and asphalt / macadam surfaces (mixed with sub-base material) are expected to form the majority of the demolition waste streams.

The following table is a preliminary estimate of the demolition waste generated by the development:

Table 1: Demolition waste quantity estimate:

Summary Table Reference	Concrete/ Concrete Blocks / Plastics Tonnes	Metal Tonnes	Asphalt/ Macadam Tonnes
Building 1	2089	4.05	0
Building 2	677	0.81	0
Building 3	865	0.81	0
Building 4	106	4.05	0
Building 8	107	0.81	0
Building 9	3089	0.81	0
Building 14	1533	4.05	0
Building 15	1268	0.81	0
Building 16	1275	0.81	0
Building 17	2176	0.81	0
Building 18	2174	0.81	0
Building 19	47	0.81	0
Building 20	186	4.05	0
Building 21	2309	0.81	0
Building 22	586	0.81	0
Building 23	2191	0.81	0
External Hardsurface	0	0	17392.98
Totals	20677	26	17393

Table 2 give predictions of the recycle / reuse targets for the development. Concrete may be crushed on site using a mobile crusher, the re-use of this material is limited.

Table 2: Predicted Demolition waste targets for the proposed development:

Predicted Demolition Waste Targets for Proposed Development					
Waste Type	Totals	Recycle		Disposal	
		%	Tonnes	%	Tonnes
Concrete/ Concrete Blocks / Plastics	20677	20	4135	80	16542
Metal	26	80	21	20	5
Asphalt/ Macadam	17393	10	1739	90	15654
Totals	38096		5895		32201

Demolition waste will be removed by licenced contractors under Waste Management Act 1996, the Waste Management Regulations of 1998 and the Waste Collection Permit Regulations of 2001. All construction waste shall be disposed of appropriately to a fully licenced waste facility.

7. CONSTRUCTION WASTE

During the construction phase of the project waste will be generally generated from the surplus construction material. It is envisaged that the construction waste will be modest when measured against the value of the project. The concrete construction requires to be very precise and will not lend itself to having surplus material. The exact constructions of the dwelling houses are not yet decided. The main types of the dwelling construction considered are traditional block build or prefabricated timber frame.

The steelwork will be factory manufactured and transported to site.

The approach as outlined in Figure 1 will be taken to managing the waste generated on site.

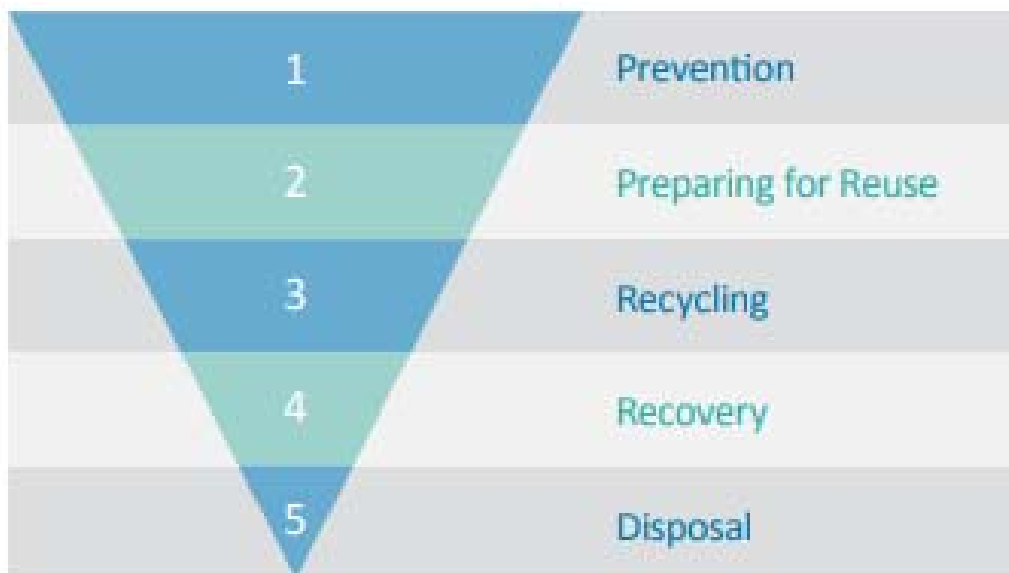


Figure 1 Waste Management Hierarchy as outlined in the Directive 2008/98/EC on Waste (EC, 2008)

The figures in Table 3 below are predicted construction waste targets for the development. We have calculated the soil excavations required based upon the site investigation report data available. The predicted typical pre-design waste quantities are obtained from EPA guidance on demolition waste.

Table 3: Predicted construction waste targets for the proposed development:

Construction Phase of Waste Quantities:				
Waste Types	Typical % (est. pre- detailed design)	Recycle	Reuse /Recover	Disposal
		%	%	%
Soil & Stones	N/A		90	10
Concrete ,Bricks, Plastics etc.	13%	70		30
Asphalt, Macadam	2%	25		75
Metals	1%	90		10
Other	2%	50		50

8. HOURS OF WORKING

Construction operations on site will generally be between the hours of 7am and 6pm, Monday to Friday, and 8am to 2pm on Saturdays, subject to planning authority limitations. However, it may be necessary for some construction operations to be undertaken outside these times, for example; connections to public service systems or utilities. Such works will be agreed in advance with Kildare County Council.

Similarly, deliveries of materials to site will be generated between the hours of 7am and 6pm, Monday to Friday, and 8am to 2pm on Saturdays, subject to planning authority limitations.

The construction times will ensure construction traffic will have limited impact on the traditional peak periods of 08:00-09:00 in the morning and 17:00-18:00 in the evening.

9. CONSTRUCTION TRAFFIC

9.1. Site Access

As outlined previously, the construction site will be accessed via Hospital Rd. The temporary parking of delivery vehicles will not be permitted on the public road network. We believe the site to be large enough to accommodate all construction staff traffic and necessary machinery.

9.2. Construction Parking

Limited construction parking will be available on the construction site for the demolition phase to cater for key staff and visitors. These will be provided on a temporary surface within the site hoarding.

In general, construction personnel will not be provided with parking on the site and a strict no parking regime on adjacent roadways shall be enforced by the Main Contractor. The site is well serviced by public bus routes.

9.3. On-site Construction Vehicle Staging Area

Construction traffic will be managed and scheduled in such a way that construction vehicles do not queue on Hospital Rd. An on-site vehicle staging area will be provided to facilitate awaiting vehicles.

9.4. Estimation of Vehicle Movements during Demolition

Approximately 48,714 tonnes of demolition material will be removed off-site for reuse and/or recovery at an authorized facility in accordance with the waste hierarchy and relevant waste legislation. Transportation of the material will be by licensed haulers over an approximate 12 week period.

Following the completion of the excavation works the level of HGV traffic will significantly reduce. There will be a concentration of truck movements when large concrete pours are scheduled.

9.5. On-Site Accommodation

On-site accommodation will consist of:

- Adequate materials drop-off and storage areas
- Internal turning areas of trucks
- Limited dedicated staff and visitor parking within the confines of the site hoarding
- Staff welfare facilities, toilets, etc.

10. MITIGATION MEASURES

10.1. Soils

1. During the excavation of the site to the required formation levels, a significant proportion of material excavated will be reused onsite for landscaping works. This will reduce the amount of material for removal off-site. There is adequate storage on-site to stockpile and test the soil. Every attempt to reuse surplus site-generated subsoils will be made. Any topsoil that is removed shall be used for regrading at a later stage.
2. A waste soil sampling exercise shall be undertaken in relation to areas where soils are to be excavated for off-site disposal. The soils shall be appropriately tested and classified in accordance with best practice and waste management legislation. Excavated material shall be visually assessed as it is being excavated for signs of contamination. Should material appear to be contaminated or potentially contaminated, soil samples shall be analysed by an appropriate testing laboratory.
3. Top-soiling and landscaping of the works shall be undertaken as soon as finished levels are achieved, in order to reduce weathering and erosion and to retain soil properties. Existing topsoil shall be retained on site to be used for the proposed development.
4. Topsoil shall be stored in an appropriate manner on site for the duration of the construction works and protected for re-use on completion of the main site works.

10.2. Sediment and Water Pollution Control

All works carried out as part of these infrastructure works will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990 and the contractor will co-operate in full with the Environmental Section of Kildare County Council.

All works are to be conducted with recognition of the Hydrogeology Report prepared by Bluerock/ Garland Environmental and Environmental Impact Assessment Report.

Site investigations were conducted in 2016, 2017 and 2018 are available with this application. They have informed into this report and overall design and will be made available at tender stage to all competing contractors.

Site investigations Reports that were conducted:

- | | |
|--|----------------|
| 1. Contractor: Ground Investigations Ireland | Date: Aug 2016 |
| 2. Contractor: Site Investigations Ltd. | Date: May 2017 |
| 3. Contractor: Site Investigations Ltd. | Date: Feb 2018 |

As part of the overall construction methodology, the following issues will be addressed and have been identified as being of particular risk and/or concern to pollution:

1. Monitoring prior to, during and post construction works of groundwater quality shall be undertaken to ensure minimum disturbance of water quality in the general vicinity of the site. During the construction phase, the monitoring programme shall include daily checks, weekly inspections and monthly audits.
2. Sediment & Erosion – groundwater needs to be protected from sedimentation and erosion during the demolition / construction phases. To prevent this from occurring, surface water discharge from the site will be managed and controlled for the duration of the construction works, until the permanently attenuated surface water drainage system of the proposed site is complete. A temporary positive drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction.

3. Discharge Licences – It will not be permitted to discharge into any newly constructed storm water systems or watercourse without the grant of a discharge licence from Kildare county Council and adherence to the conditions of this licence and agreeing same with the Site Manager and Local Authority Area Engineer.
4. All waste material (both soils and other) generated will be temporarily stored in secure bunded areas thereby preventing the migration of leachate or contaminating substances from impacting on the surrounding environment.
5. Over Ground Oil / Diesel Storage – Only approved storage system for oil / diesel within the site will be permitted, (i.e. all oil / diesel storage to be located within a designated area placed furthest away from contained within constructed bunded areas e.g. placed on 150mm concrete slab with the perimeter constructed with 225mm solid blockwork rendered internally). The bunded area will accommodate the relevant oil / diesel storage capacity in case of accidental spillage. Any accidental spillages will be dealt with immediately on site, however minor by containment/removal from site.
6. Concrete Washout – The washing out of concrete trucks on site will not be permitted, as they are a potential source of high alkalinity in watercourses. Consequently it is a requirement that all concrete truck washout takes place back in the ready-mix depot. On review, there are six ready mix concrete plants within 25min drive of the subject site.
7. Former uses -‘Lock Hospital’ 1869-1887 *There is no associated burial ground documented for the Lock Hospital, however, there is precedent for the use of unofficial burial sites at 19th century institutions.’ – Extract from Chapter 4. Archaeological monitoring will be undertaken at the site as described in Chapter 4 of the EIAR.*
8. Former Uses - Magee Military Barracks was in use during 1900 - 1998; the barracks was occupied by military personal and artillery; the following applies:
 - a) **Buried ammunitions-** A geophysical survey of individual areas of the site where buried ordnances may have been deposited shall be undertaken in an attempt to identify this material, if present. This survey will be undertaken prior to the site development works and any possible detections identified will be followed by an environmental site investigation, risk assessment and the implementation of a remedial program. The works will be undertaken with approval from Kildare County

Council and validation of any remedial works provided to the Council prior to the commencement of the redevelopment of the site. Should suspicious devices be identified, the Department of Defence shall be notified.

- b) **Existing well-** According to Crawford (2005), *‘the water supply system consisted of a well sunk sixty-two feet to the ground water level, the shaft of which was supported by a brick lined wall.* The well located on-site shall be capped and sealed prior to any demolition activity.
- c) **Existing drainage system-**The existing site is a disused army barracks in Kildare town centre consisting of a number of hard-standing parade grounds surrounded by numerous buildings and open space. A CCTV investigation of the existing surface water drains on site was undertaken by McBreen Environmental. The investigation showed that the existing drains on site are combined drains (combining foul water and surface water) and discharge southwards into the existing public combined sewer. This combined sewer takes flow from the upstream catchment (refer to existing services drawings attached to this application) and is being diverted through the development as part of the development proposals. Any hardstanding areas on the Magee Barracks site that are not draining to the combined system simply infiltrate storm water to ground, with no watercourses draining the site. A further CCTV camera survey is to be conducted prior to construction to assess if any deterioration has recently occurred. It is proposed that existing underground services be isolated from main run lines, in a phased basis to match the demolition/construction programme. All pipes are to be flushed and cleaned prior to being excavated. The former pump / sewage tank associated with the hospital is to be de-sludged by a licenced contractor.
- d) **The Gravel Pit-** During excavation, archaeological monitoring will also be undertaken at the site of the former gravel pit associated with the hospital.

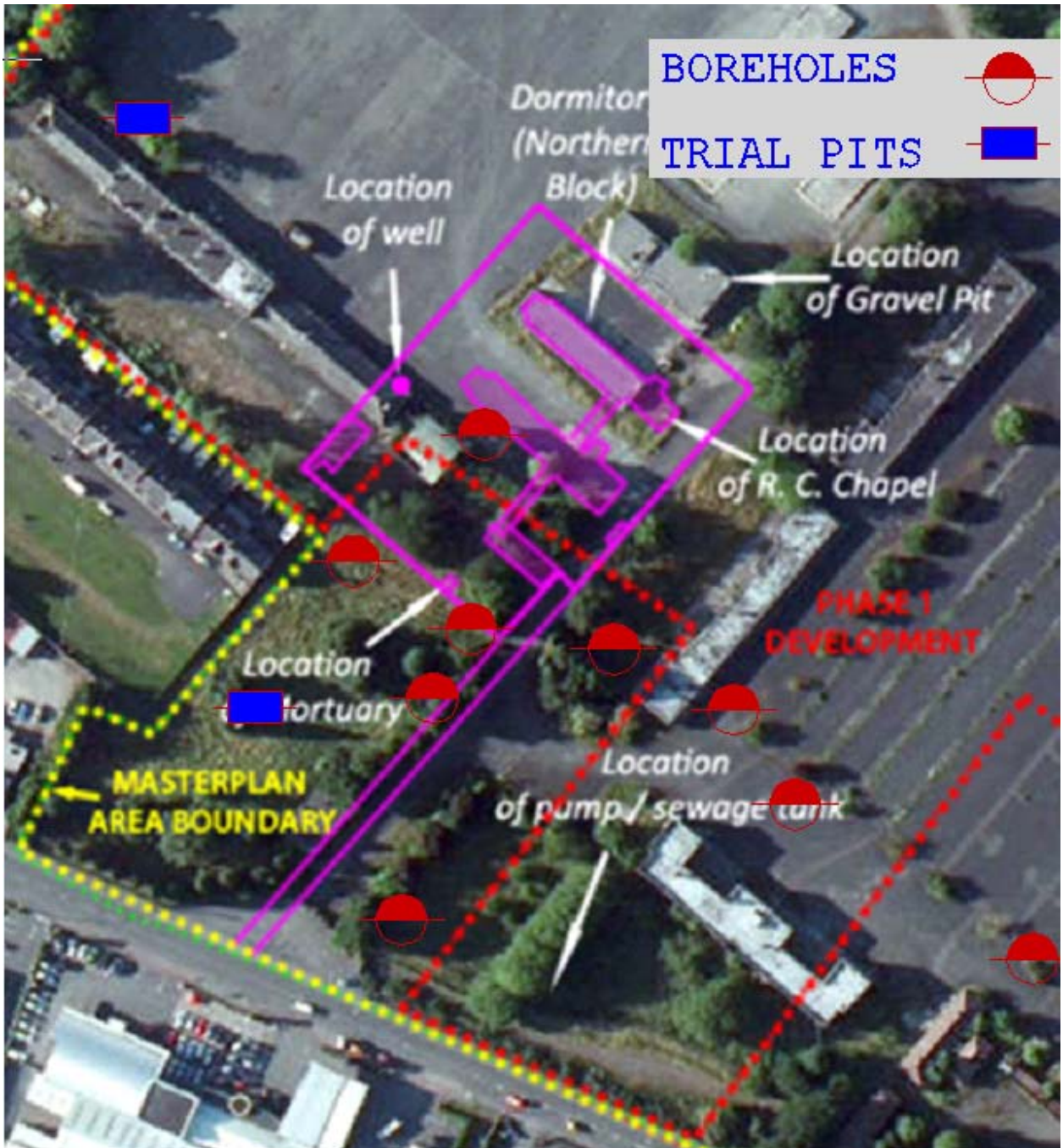


Plate 1: The above extract is taken from Chapter 4 Cultural Heritage and Archaeology; approximate previous site investigation locations are now imposed for reference

10.3. Dust

It is probable that the demolition and construction activities on site will generate some dust emissions which would be in addition to any dust generated naturally by the urban activity in the vicinity, including traffic flows. The extent of dust generation under construction activities been carried out is dependent on environmental factors such as rainfall, wind speed and wind direction.

The most likely sources of dust generation include demolition, soil stripping and excavation of foundations. It is anticipated that the dust that will be generated during the construction phase will be at its peak during periods of dry weather.

10.4. Dust Control Measures

1. Perimeter hoarding will be provided around the perimeter of the site. This acts as a dust barrier to a height of approximately 2.4m.
2. Soil is not to be uncovered until such time that a replacing capping layer is almost ready to be placed. This is to ensure that soil is left exposed for the minimum amount of time possible.
3. The contractor will spray water on the surface of all roads in the vicinity of the development in order to minimise dust generation from the construction activities. Water spray will increase in frequency during dry weather in order to maximise dust suppression.
4. The wheels of all vehicles leaving the construction site will be washed to ensure that dirt and dust is not transferred unto the public roadway.
5. Restrict vehicle speeds to 20kph as high vehicle speeds rise dust.
6. Tarpaulin covers are to be provided over stockpiles when high wind and dry weather are encountered.
7. Locate stockpiles away from site perimeters, in areas which are sheltered from the winds.

8. Tree and hedgerow protection measures will be provided for all trees and hedgerows to be retained in accordance with BS: 5837:2012: Trees in relation to design, demolition and construction. A specific Arboricultural Method Statement shall be prepared for any works required within the root protection area of any tree or hedgerow to be retained. All such measures shall be drafted, erected and maintained in consultation with a qualified Arborist, who shall also supervise any works for which an Arboricultural Method Statement is required

10.5. Noise & Vibration

The demolition and the construction of the project will involve the use of noise generating construction plant and will also result in vibrations. There will also be an increase in noise relating to delivery of materials to site. It is intended that noise from the construction phase of the development will be kept to a minimum in accordance with "5228: Code of Practice for Noise and Vibration Control On Construction and Open Sites". Construction work will not be performed at night and will usually be limited to the hours indicated on the planning permission.

It is also proposed that communications be maintained between the Developer, the Local Authority and Local Residents throughout the construction phase of the works to ensure that noise emission are maintained at a low level and that any possible complaints can be rectified speedily.

10.6. Noise Control Measures:

It is proposed that the following noise control measures be put in place:

1. The selection of construction plant with low potential for generating noise.
2. The siting of noisy construction plant as far from residential properties as possible.
3. The erection of temporary barriers around items such as generators or compressors if required.

10.7. Minimise Demolition/ Construction Vehicle Movements

Construction vehicle movements shall be minimised through:

1. On-site employees will generally arrive before 08:00, thus avoiding the morning peak hour traffic. These employees will generally depart after 18:00. It should be noted that a large proportion of construction workers would arrive in shared transport. Deliveries would arrive at a steady rate during the course of the day. It is estimated that peak delivery rates would be in the region of 3-4 per hour throughout the day.
2. Consolidation of delivery loads to/from the site and the restriction of large deliveries on site to off-peak times.
3. Use of precast/prefabricated materials where possible
4. 'Cut' materials generated by the construction works shall be reused on-site where possible

10.8. Compound Facilities / Parking

On-site facilities will consist of:

- Adequate materials drop-off and storage areas
- Internal turning areas for trucks
- Limited dedicated staff and visitor parking within the confines of the site hoarding
- Site offices, Staff welfare facilities, toilets, etc.
- It is not foreseen that cooking facilities will be available on site. The subject site is in close proximity to the town center, which contains delicatessens, super-markets, cafes and restaurants.
- Wheel wash facilities shall be provided
- All potentially hazardous materials shall be securely stored on site.
- Spill kits shall be kept in these areas in the event of spillages.

- All waste containers (including all ancillary equipment such as vent pipes and refuelling hoses) shall be stored within a secondary containment system (e.g. a bund for static tanks or a drip tray for mobile stores and drums). The bunds shall be capable of storing 110% of the tank capacity. Where more than one tank is stored, the bund shall be capable of holding 110% of the largest tank of 25% of the aggregate capacity (whichever is greater). Drip trays used for drum storage shall be capable of holding at least 25% of the drum capacity. Where more than one drum is stored, the drip tray shall be capable of holding 25% of the aggregate capacity of the drums stored.
- Waste fuels and materials shall be stored in designated areas that are isolated from surface water drains or open waters (e.g. excavations). Skips shall be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage. Hazardous wastes such as waste oil, chemicals and preservatives, shall be stored in sealed containers and kept separate from other waste materials while awaiting collection by a registered waste carrier. Fuelling, lubrication and storage areas and site offices shall not be located within 25m of drainage ditches, surface waters or open excavations. Fuel interceptor tanks shall be installed on the site to treat any runoff.
- The site shall be secured with adequate level of security fencing.

10.9. Construction Materials

All imported soils and unbound granular fills shall be sourced from a licenced/permitted facility with suitable documentation to confirm the material is inert and fit for purpose. The contractor shall satisfy themselves that the material is fit for use before importing to the site.

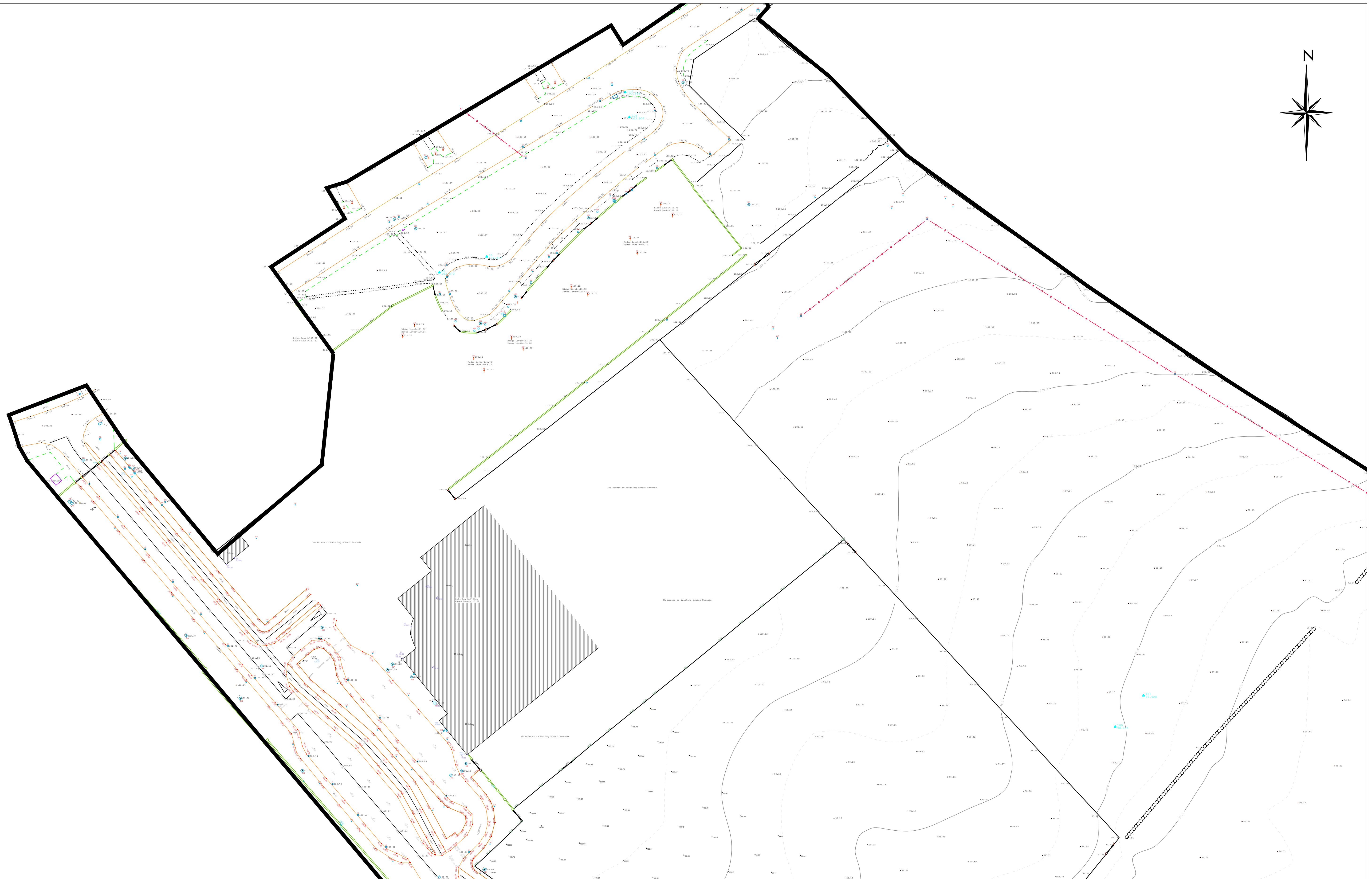
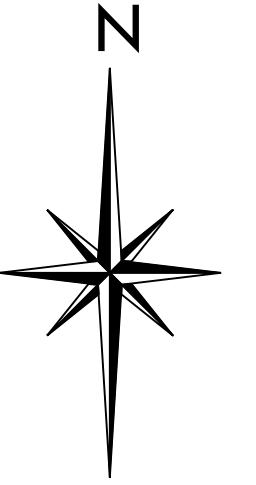
11. ROAD MAINTENANCE & REINSTATEMENT

The following measures will be undertaken to ensure that the site and the surrounding areas are kept clean and tidy:

- A regular program of site tidying will be established to ensure a safe and orderly site.
- Food waste will be strictly controlled on all parts of the site.
- Mud spillages on roads and footpaths outside the site will be cleaned regularly and will not be allowed to accumulate.
- Wheel-wash facilities will be provided for vehicles exiting the site.
- In the event of any fugitive solid waste escaping the site, it will be collected immediately and removed to storage on-site, and subsequently disposed of in the appropriate manner.
- All on-site waste storage areas shall be covered.

APPENDIX A

Plan of Hard Surfacing Areas



LENMAR

Collinstown Business Park
 Cloughran, Co. Dublin.
 Tel: (086) 812 1988
 (086) 820 9828
 Fax: (01) 842 8401
 E-mail: donal@lenmargroup.com

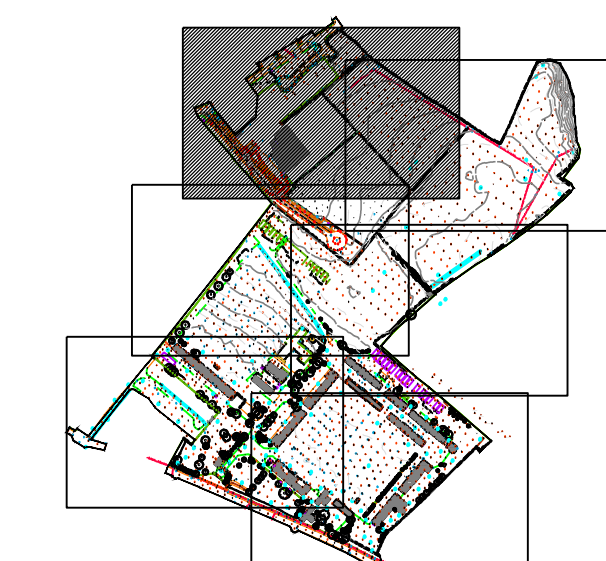
LEGEND:

REVISIONS:

No.	ISSUE	DATE

NOTES:

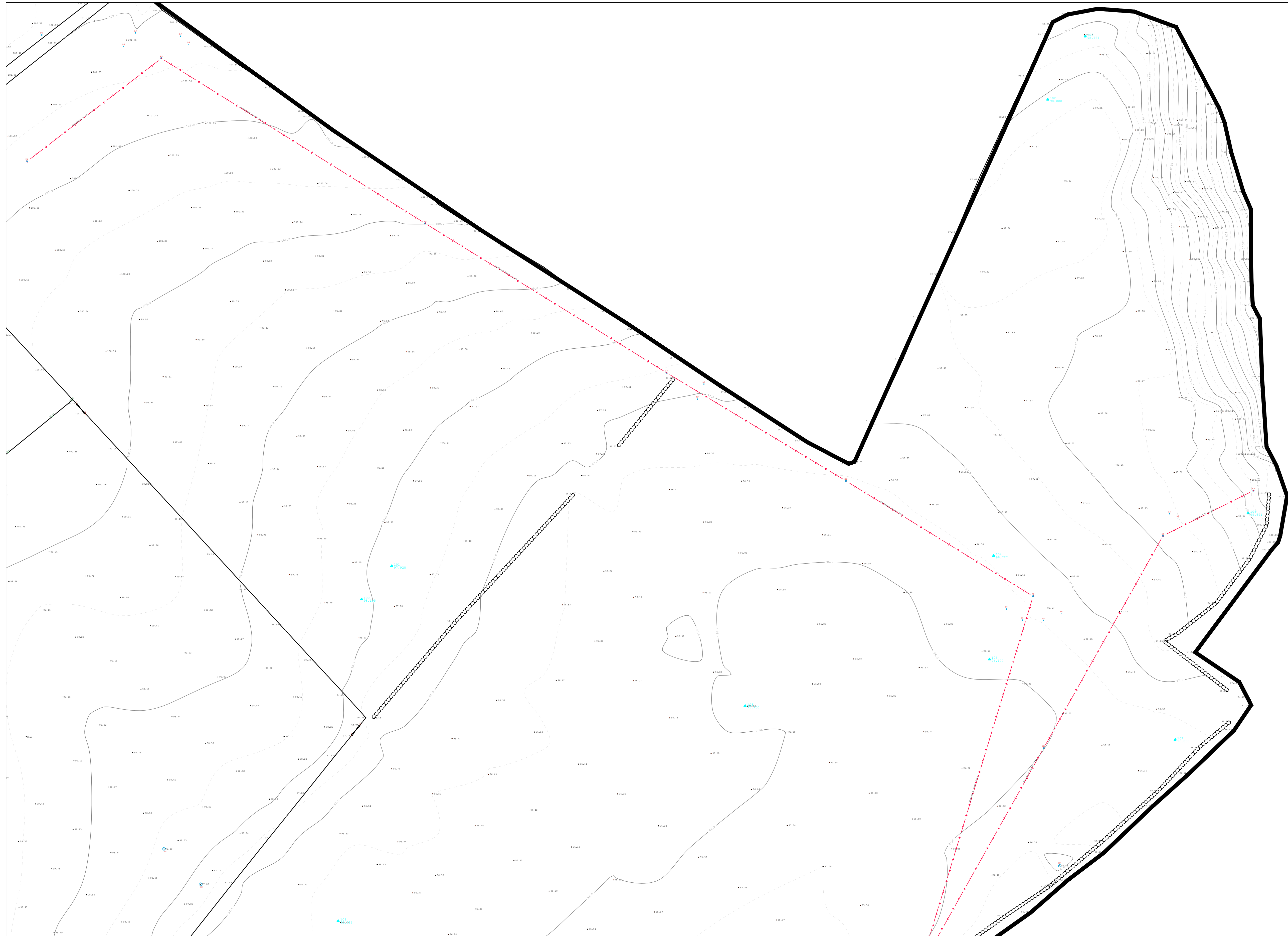
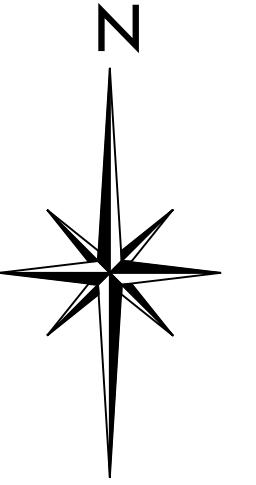
1. ALL LEVELS ARE RELATED TO MAIN HEAD DATUM
2. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
3. ANY DISCREPANCIES IN THE SURVEY SHOULD BE REPORTED TO LENMAR IMMEDIATELY.
4. DO NOT SCALE. THIS SHALL ONLY BE PERMITTED IN DIGITAL FORM.
5. GRID IS 20m X 20m



CLIENT:
 COLUMBIA ESTATES MANAGEMENT
 C/O GARLAND
 SITE:
 WAGES BARRACKS - KILDARE

SCALE: 1/500 A1

DRG No. L_0715_01 TP	DATE: MAY 2016
SHEET 1 OF 6	SURVEYED BY: A.K. PROCESSED BY: A.K.



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 Fax: (01) 842 8401
 E-mail: donal@lenmargroup.com

LEGEND:

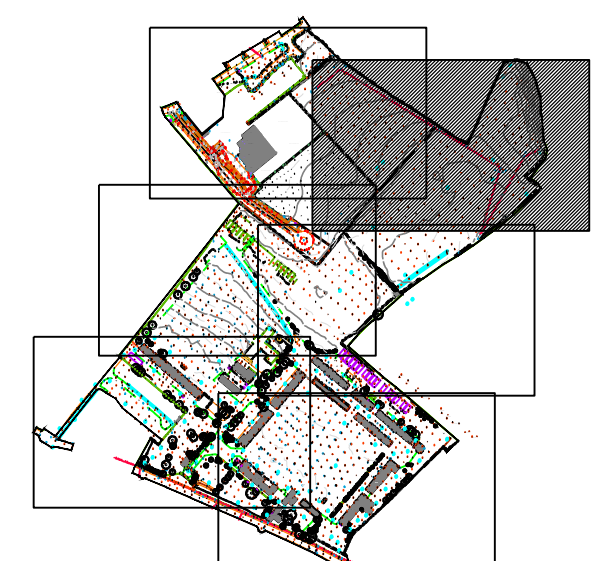
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ROAD SIGN	CONTROL SURVEY STATION	STRUCTURAL SLAB LEVEL	AIR VALVE	EARTH ROD CHAMBER	HEDGE HATCH
GATE	FINISH FLOOR LEVEL	TREE ACTUAL SPREAD	BOLLARD	REFUSE BIN	BUILDING HATCH
SPOT HEIGHT	RIDGE ELEVATION	TREE TAG NUMBER	UTILITY INSPECTION CHAMBER	MANHOLE SQUARE	FENCELINE
MAN PILLAR	SOFFIT ELEVATION	WATER METER	FIRE HYDRANT	MANHOLE COVER	FILL GROUND
GULLY	LAMP POST	SLUCE VALVE	INVERT LEVEL	CCTV MAST	TEL INSP CHAMBER

REVISIONS :

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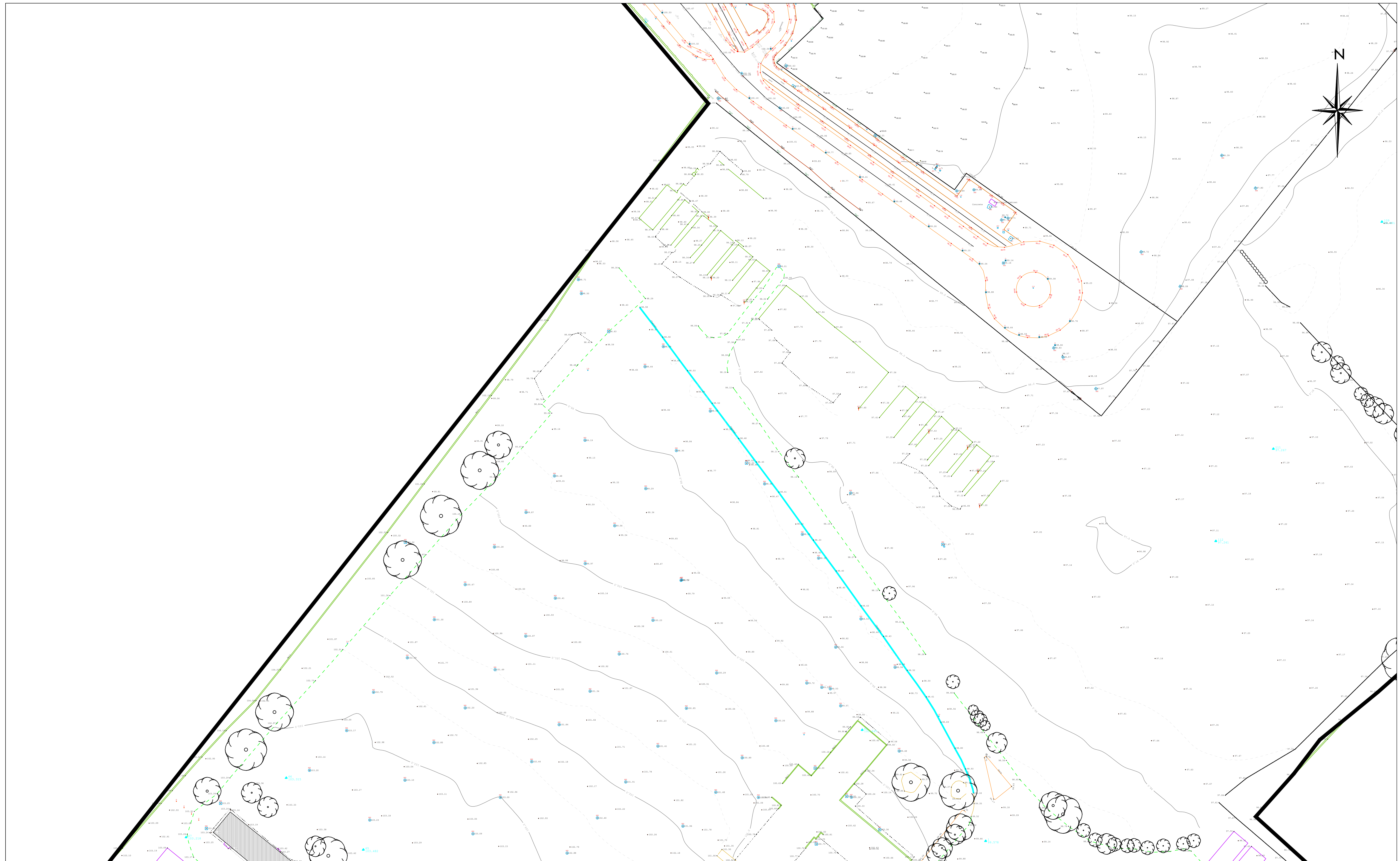
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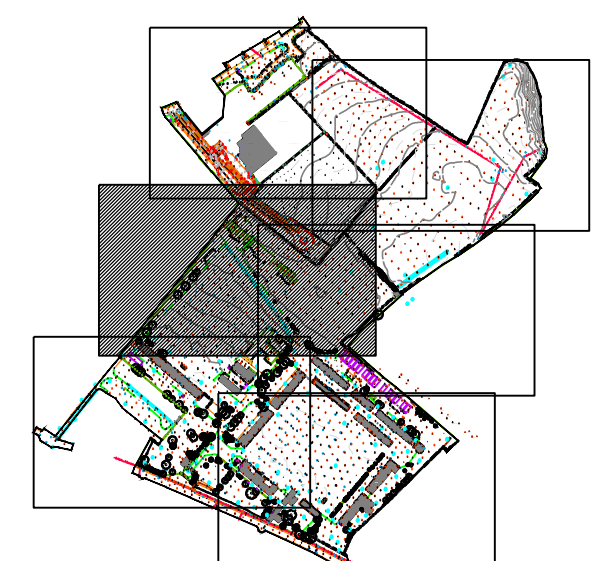
AJ ARMSTRONG JUNCTION	PEG REF. No	ESB POLE	TELECOM POLE	STOP COCK	WALL HATCH
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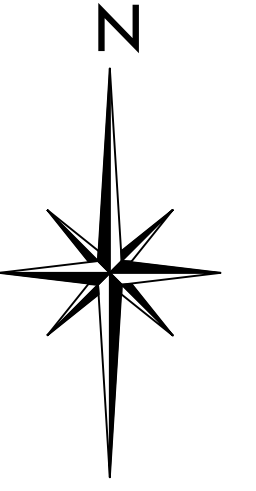
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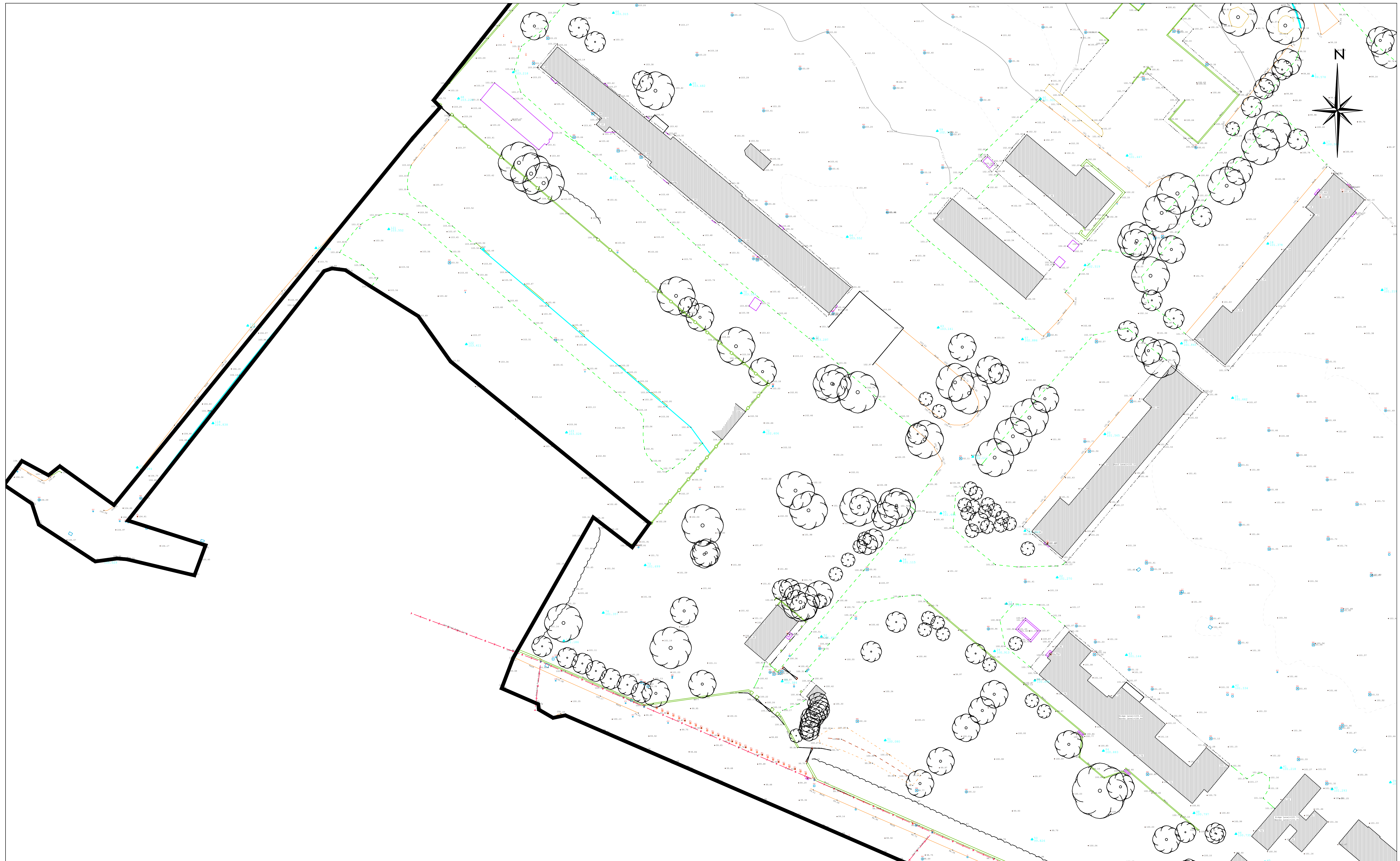
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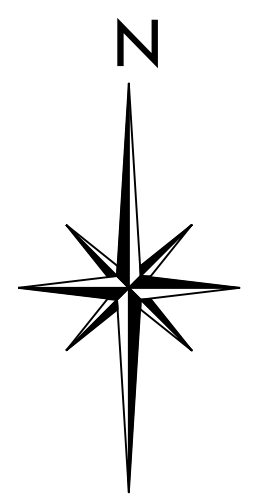
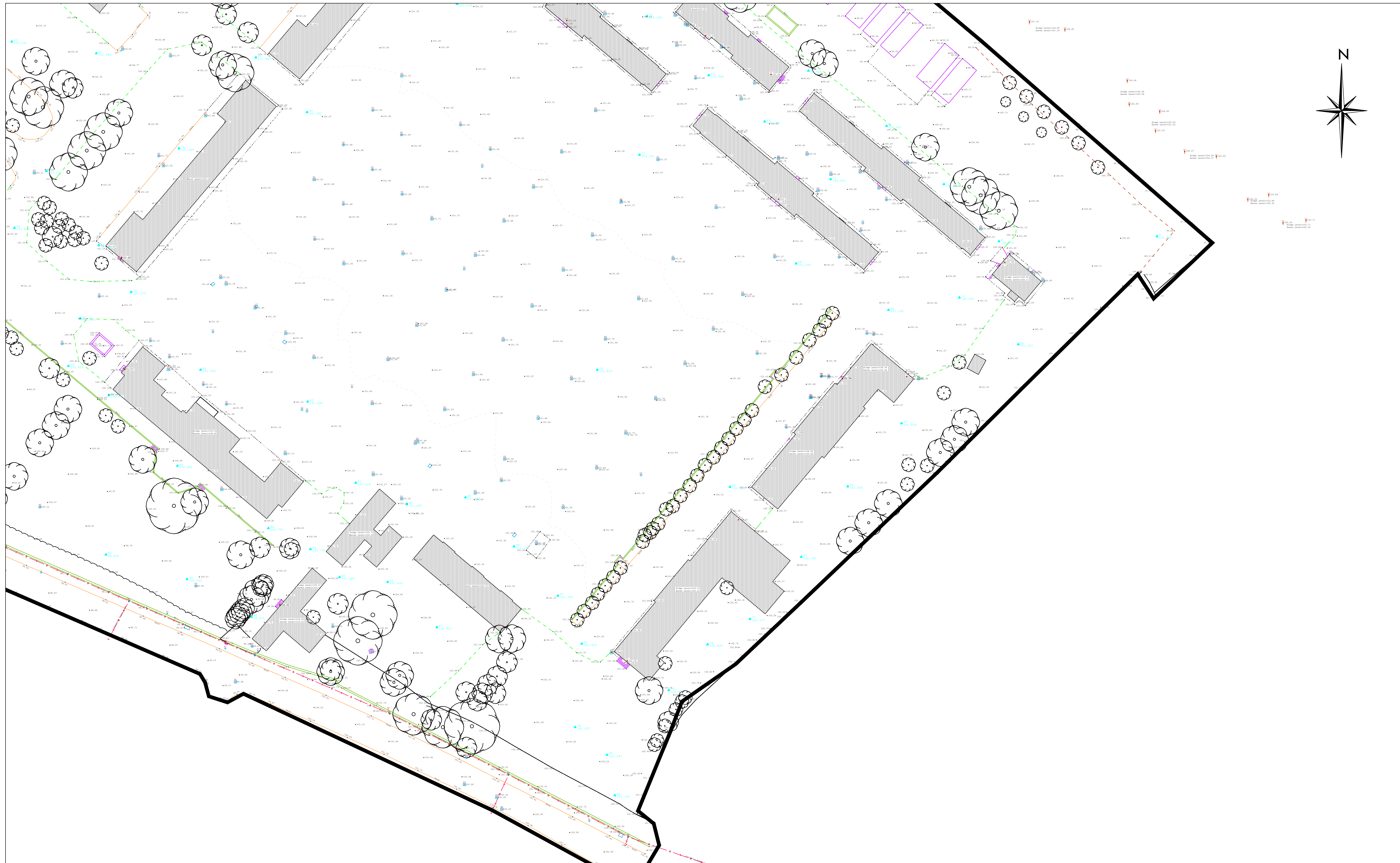
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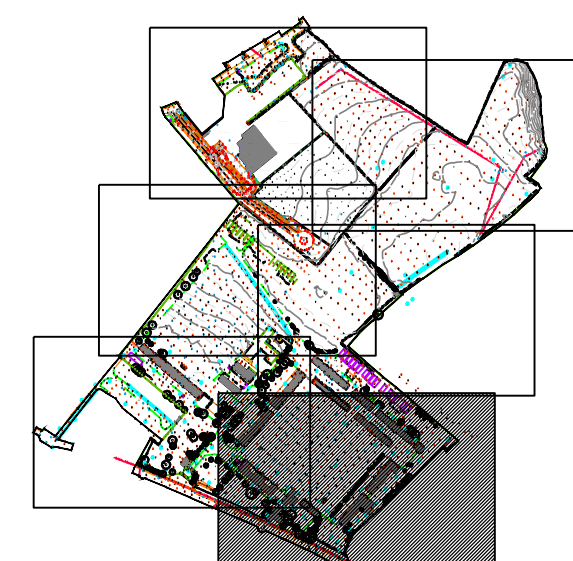
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