



PROJECT DESCRIPTION STATEMENT

Site at Triq tal-Pantar, Mosta

TRK: 219414

Construction of class 4B retail outlet,
formation of underground parking and stores.

MED DESIGN ASSOCIATES

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1 Introduction

1.1 Background to the scheme

1.1.1 The Project Description Statement (PDS) was prepared to justify the proposed course of action for the area of land understated by this report. This fill area is part of a larger site of the Pama Shopping Village proposed for construction by Pama Shopping Village Ltd., located at Triq tal-Pantar, Mosta. The proposed development outlined by this report consists of the construction of a supermarket, class 4B retail outlet, with underground stores and parking facilities as well as landscaping works at ground floor level, above the proposed retail floor level. The associated construction works will be managed by the contractor appointed to carry out the works under the strict supervision of the architect or project manager appointed to oversee the works. The proposed development will be commissioned by Mr. Paul Gauci of PG Holdings plc, and who is the applicant with I.D. 174454M. The report was prepared with the guidance of Regulation 5(1) of the Environmental Impact Assessment Regulations, 2007 (L.N. 114/2007).

1.1.2 The proposed development is shown on the drawings prepared, which indicate proposed plan layouts, access routes for pedestrians and vehicles on site, parking arrangements for vehicles and a proposed landscaping plan at ground floor level roofing over the entire retail outlet. A description of the proposed design and construction works are provided below. The retail store would offer a self-service shopping point for a variety of products and services in large volumes.

1.1.3 The report acknowledges the impacts that are likely to arise from the implementation of the project and the mitigation measures that are required to minimize the extent of these impacts together with other requirements applicable to implement an effective course of action of the development and operation of

the retail shopping complex. The report will also provide an overview of works undertaken to demonstrate how they are in-line with established practices to achieve the desired end result, together with a detailed description of the resources required to complete the development.

1.1.4 The report outlines:

- An account of who will carry out the development and maintenance of the development;
- A description of the different stages of the project and its objectives;
- A description of the existing and surrounding land uses;
- Description of access to site and parking provision;
- Description of services, water, foul water sewers, runoff water drainage, and energy sources required and available on site;
- A description of dust, noise, and waste mitigation measures during operation to mitigate the major environmental impact identified;
- Estimates of the number of people employed and outlines machinery to be used for operations.

1.1.5 The report seeks to provide a basis onto which a clear course of action can be established to reuse the site whilst mitigating negative environmental impacts in anticipation, which can require further detailed studies should it be necessary.

2 Surrounding Environment

2.1 Project Location

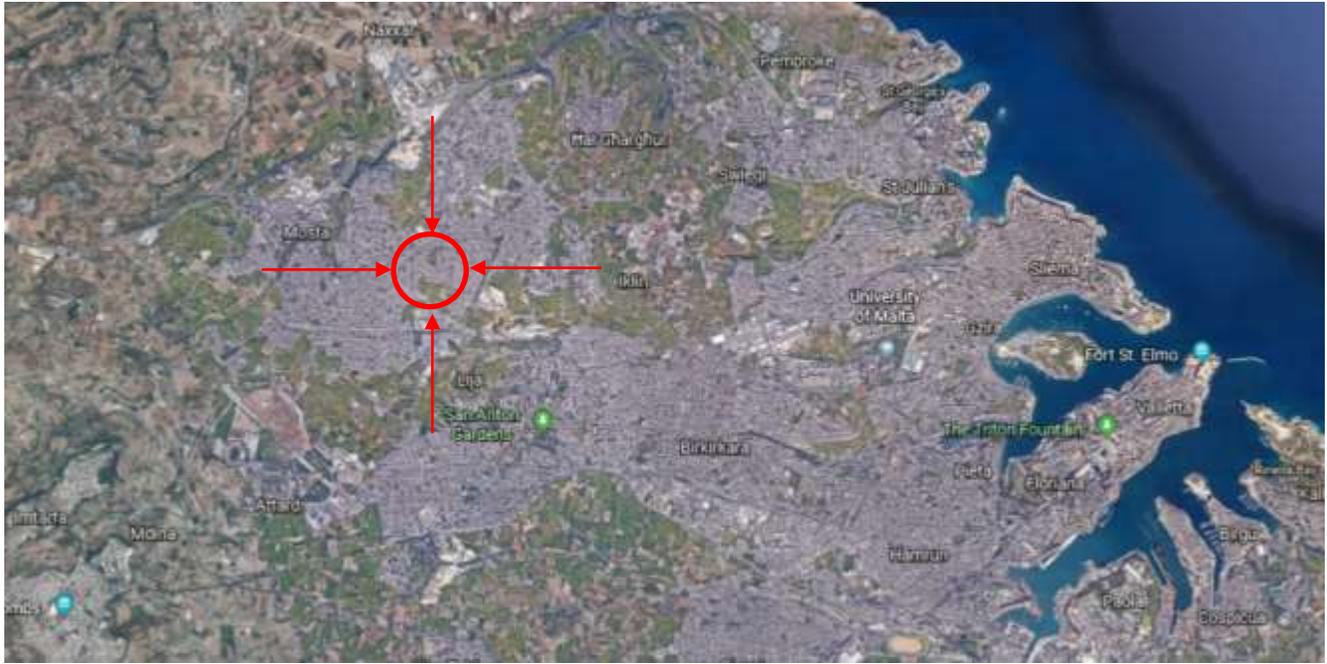


Figure 1: Site at Triq tal-Pantar, Mosta, Malta.



Figure 2: Site at Triq tal-Pantar, Mosta, Malta.

2.2.2 The site occupies an area of about 13,000 m² and is located in the Mosta Area Local Plan of the Central Malta Local Plan, 2006. The site is located in a Strategic Open Gap in an area outside the development zone (ODZ) and bounded by an area of containment and agricultural land. The indicative site boundaries of the proposed development are highlighted in figure 1 & 2 above as well as in the drawings prepared for the scope of the development.

2.2.3 The proposed site area has already been subject to other Planning Applications namely; PA/02057/00, to sanction minor alterations to the building and boundary walls, that has been approved, and PA/00530/94, to erect site boundary walls, that has also been approved. PA/00437/03, that covers parts of the site, has also been approved that sought to create stores for factory related materials and proposed changes to facades.

2.2.4 The existing topographical levels of the site vary from 48.090m above mean sea level to the east of the site along Triq tal-Pantar to a height of 50.695m above mean sea level to the western parts of the site along the same road. The site is accessed from Triq tal-Pantar, Mosta, leading from Mosta to Lija and H'Attard. The existing shopping village is also accessed from Triq tal-Pantar and Triq il-Mosta, however, the former access lane will be redesigned to be integrated with the new development and linked to the existing shopping village.



Figure 3: Existing situation on site.



Figure 4: Existing situation on site.

2.3 Geology

2.3.1 The geological layers pertain to the Lower Globigerina Limestone Member (Miocene, Aquitanian, Mlg). Pale cream to yellow planktonic foraminiferal packstones rapidly becoming wackestones above the base. Pectinid bivalves and Shizaster echinoids are frequent. The top of the member is marked by a ubiquitous hardground. This is phosphatized in western areas in Malta and carries a conglomerate of up to 1m of rounded, phosphatized clasts in Gozo (Lower Phosphorite Conglomerate Bed). Common fossils include fish teeth, molluscs, solitary corals and echinoids. In Malta, glauconite is common in western outcrops south of Fomm ir-Rih. Thickness 0-80m (Malta) and 5-40m (Gozo).

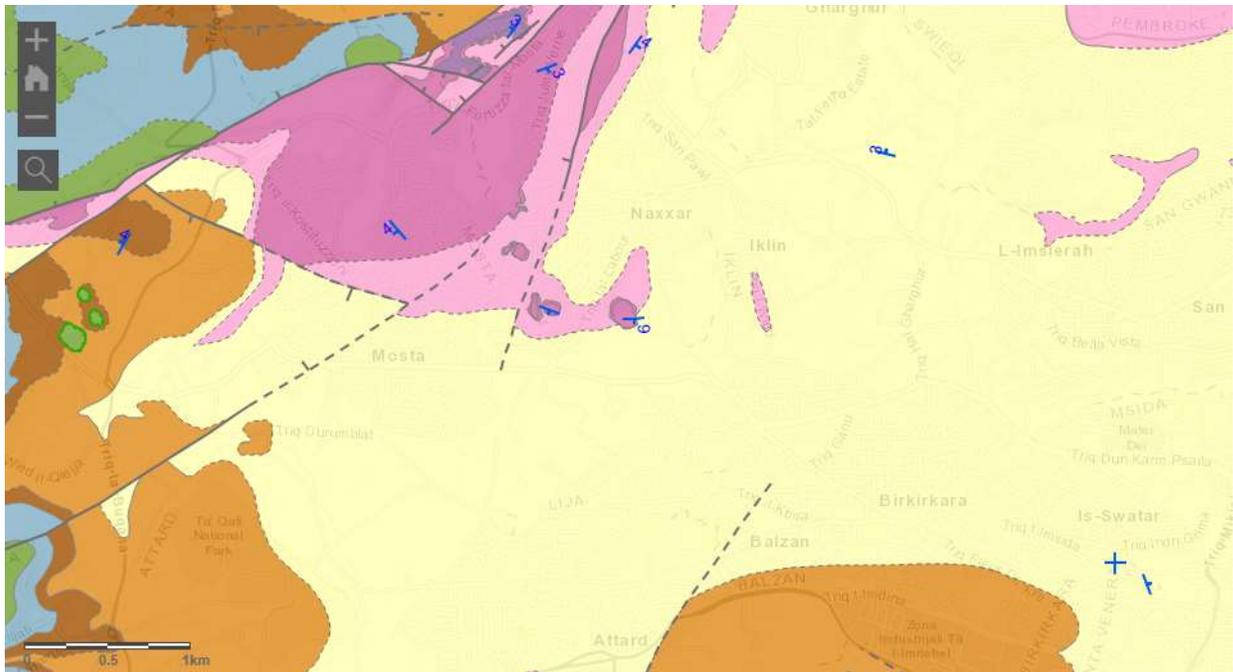


Figure 5: Geological map of the site area in Mosta. Source: *Geological Map of the Maltese Islands* (1993).

2.4 Hydrology



Figure 6: The Malta Mean Sea Level Groundwater body. Source: Malta Resources Authority (2004).

2.4.1 The Water Framework Directive (2000/60/EC), transposed into Maltese legislation as Legal Notice 194 of 2004 (Water Policy Framework Regulations, 2004) provides for the long-term sustainable management of water resources on the basis of a high level of protection of the aquatic environment. Authorized construction activities and CO₂ emissions resulting from the point and diffuse sources must adhere to established

construction regulations such as the Construction Site and Environment Regulations (L.N. 295 of 2007), as amended by L.N. 358 of 2007 and L.N. 371 of 2007, to reduce anthropogenic pressure onto the existing water bodies. Any surface water that will be allowed to percolate naturally into the geological features must conform to S.L.549.21 as amended by L.N. 426 of 2007.

2.4.2 The Malta Main Mean Sea Level Groundwater body is sustained in the Lower Coralline Limestone aquifer and is in free contact with sea-water. This groundwater body extends over the whole southern and central parts of the Island, under the Rabat Dingli Plateau. The Mgarr Plateau, the Wardija Ridge up to the Pwales Valley as its northern boundary. The groundwater body can be compared to a lens-shaped body of fresh water with a thickness below sea level approximately thirty-six times its piezometric height above sea level.

2.4.3 This groundwater body is used water abstraction purposes for potable supply, irrigation, secondary domestic and industrial uses. Mean groundwater body thickness is 67.5mm whilst the mean annual precipitation is 543mm. It is of

paramount importance that the hydrological cycles and biological quality of the water courses are in a high or good state, consistent with typical conditions imposed by the Water Policy Framework Regulations, 2004.

2.5 Land Use and Policy

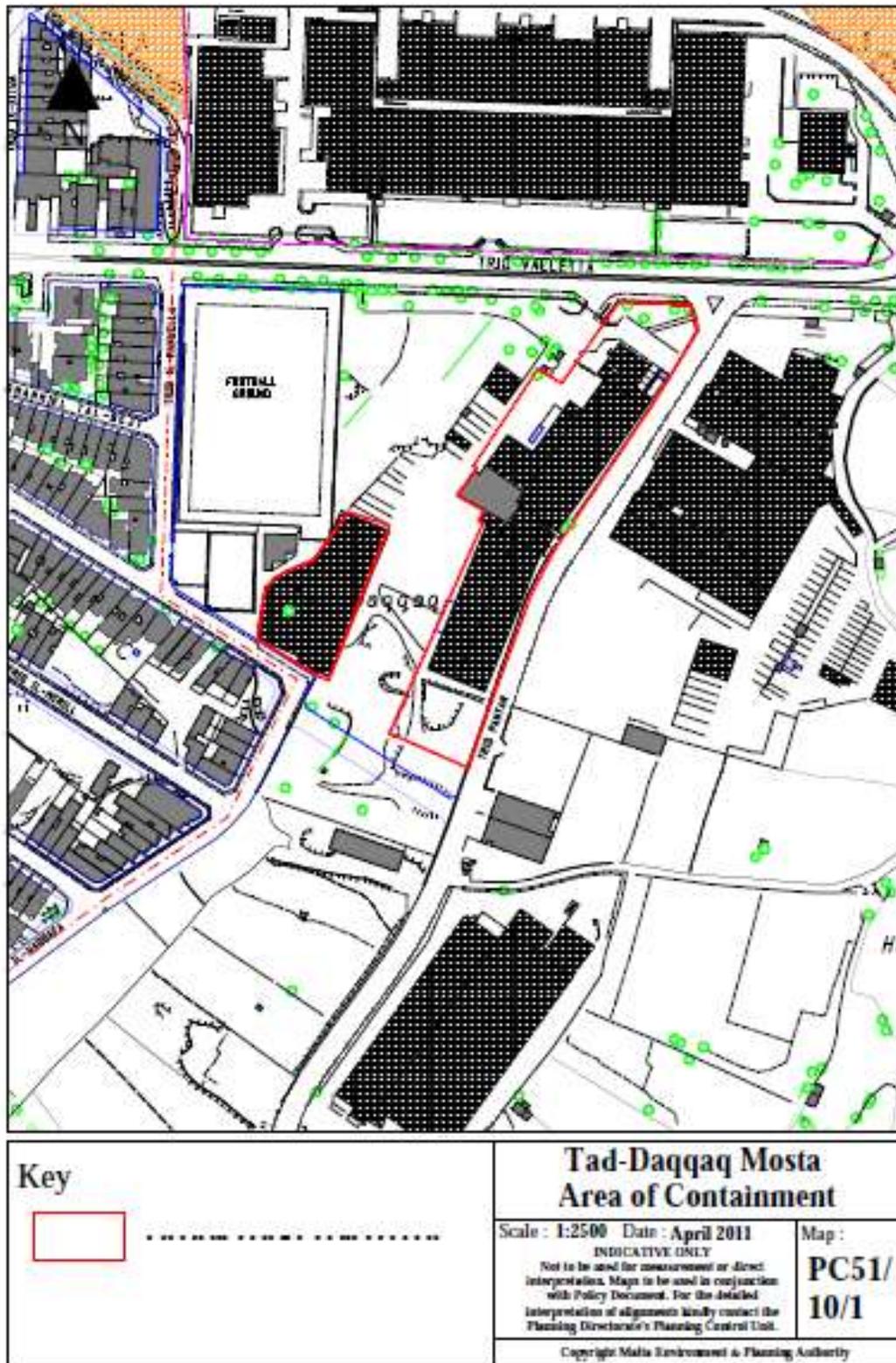


Figure 7: Tad-Daqqaq Mosta, Area of Containment, PC51/10/1. Source: Planning Authority (2018,) Mosta PC & LP Minor Review.

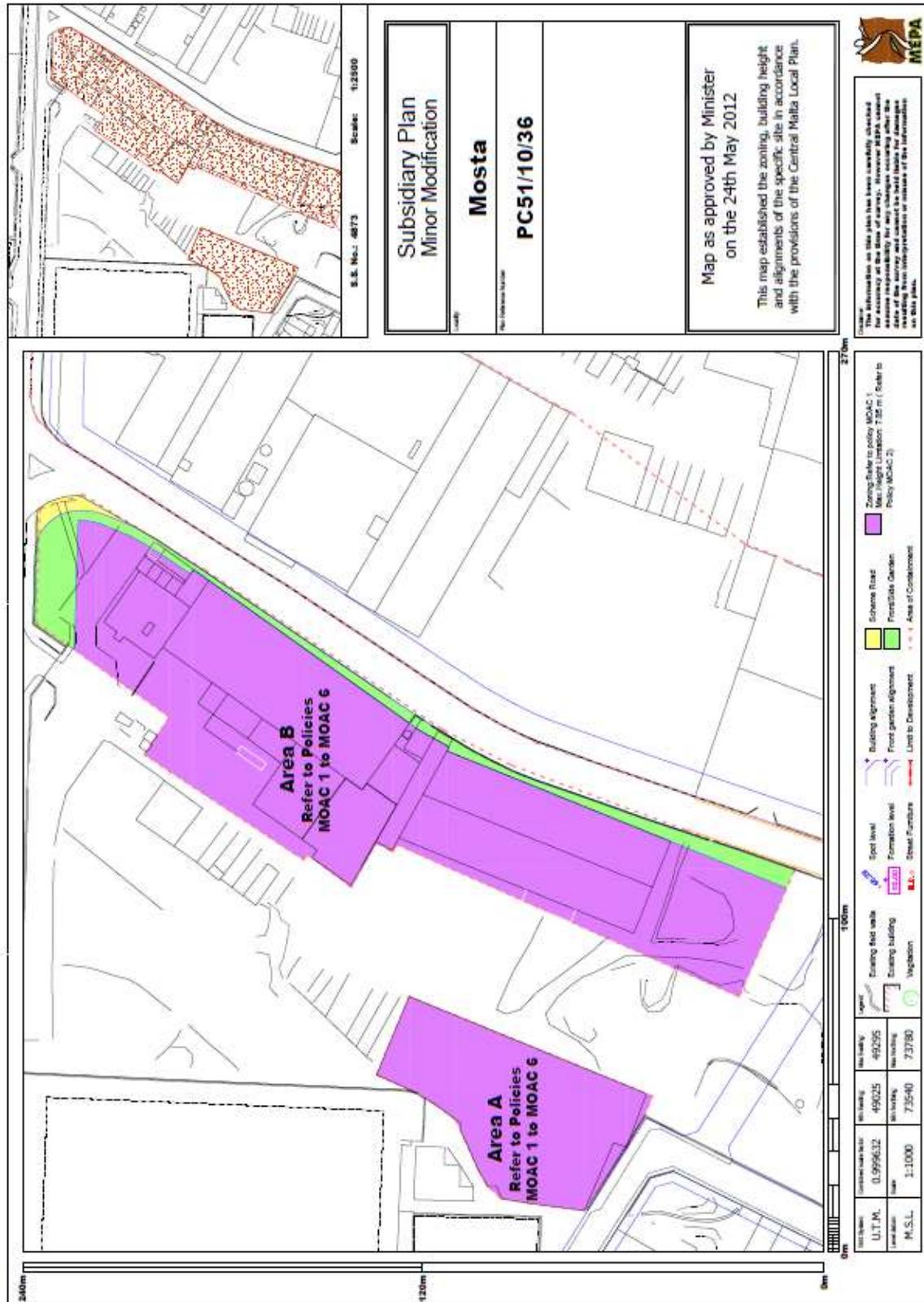


Figure 8: Subsidiary Plan, Mosta (2012), PC51/10/36. Source: Planning Authority (2018,) Mosta PC & LP Minor Review.



Figure 9: Changes to Scheme 30, Mosta MOB5, (2006). Source: Planning Authority (2018) Mosta Local Plan.

2.5.1 The planning control application for the area of containment at Tad-Daqqaaq, Mosta was submitted by the Malta Environment and Planning Authority (MEPA), which was approved in 2012 to permit minor amendments to the Mosta Local Plan (2006). The approved plan was subject to a number of policies that the proposed development within this subsidiary plan must adhere to namely;

- MOAC1: permitted land uses on site for the designated containment area which also includes supermarkets, storage, and distribution classes. These must also comply with CMLP Policy CG17.
- MOAC2: development height shall not exceed the allowable height of 7.85m or two floors above street level and must be in accordance with the Development Control Design Policy, Guidance, and Standards, (2015).
- MOAC3: coverage of the site area must include space for vehicular movements, loading/unloading areas, peripheral landscaping, and parking and servicing areas.
- MOAC4: states that boundary walls shall not exceed 1.2m in height and shall be constructed in random dry stone rubble, whilst the development must attain satisfactory appearance and sensitively integrated into the surrounding environment.
- MOAC5: landscaping shall be introduced along the periphery of the whole site and can only be interrupted by an existing building or vehicular access ways. This has to have a minimum width of 3m and planted with trees and must be in accordance with the Guidelines for Planting & Landscaping in the Maltese Islands (2002).
- MOAC6: development in containment areas requires the introduction of parking on site that has to be shown on the proposed plans.

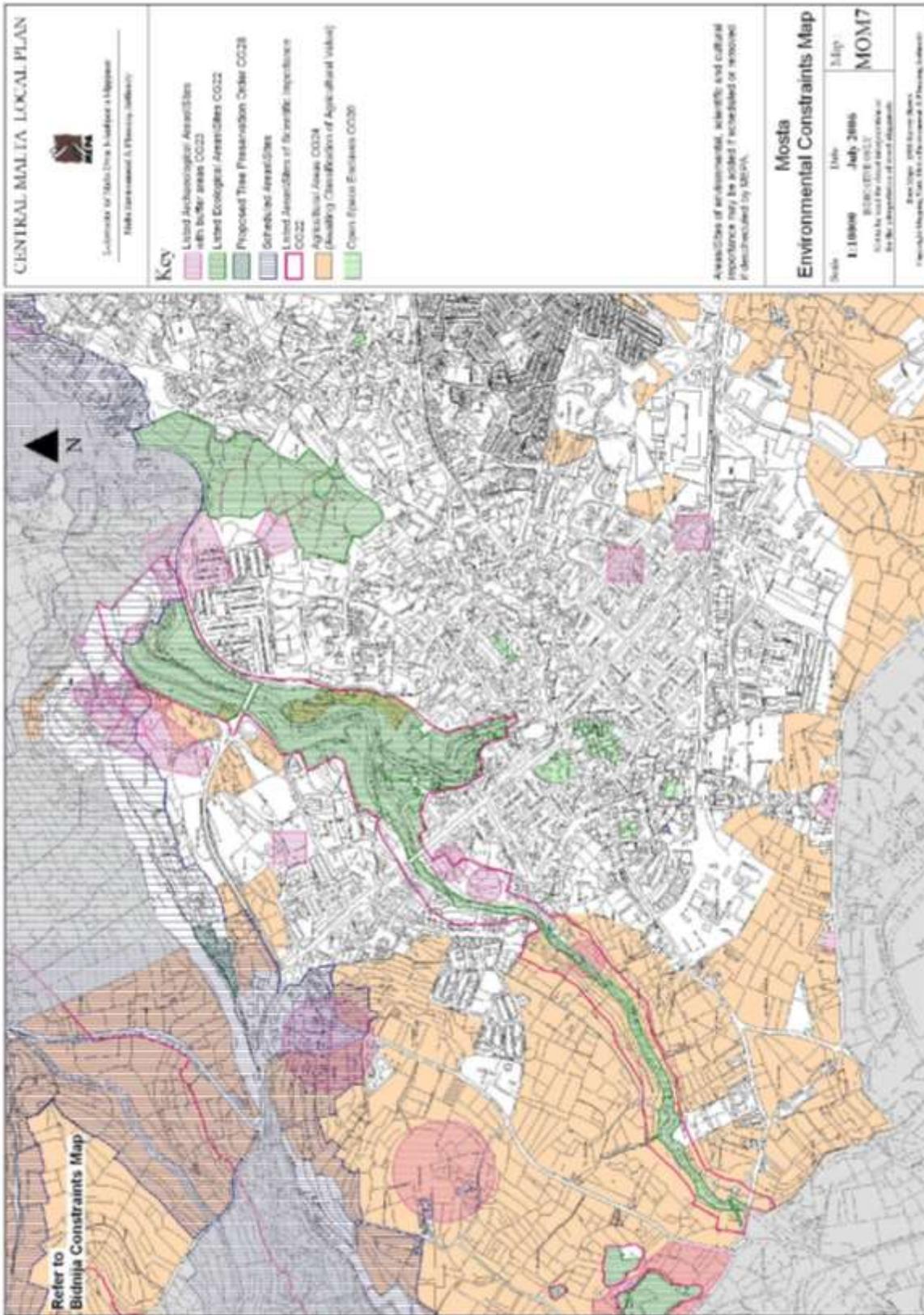


Figure 10: Mosta Environment Constraints Map. Source: Planning Authority (2018) Mosta Local Plan.

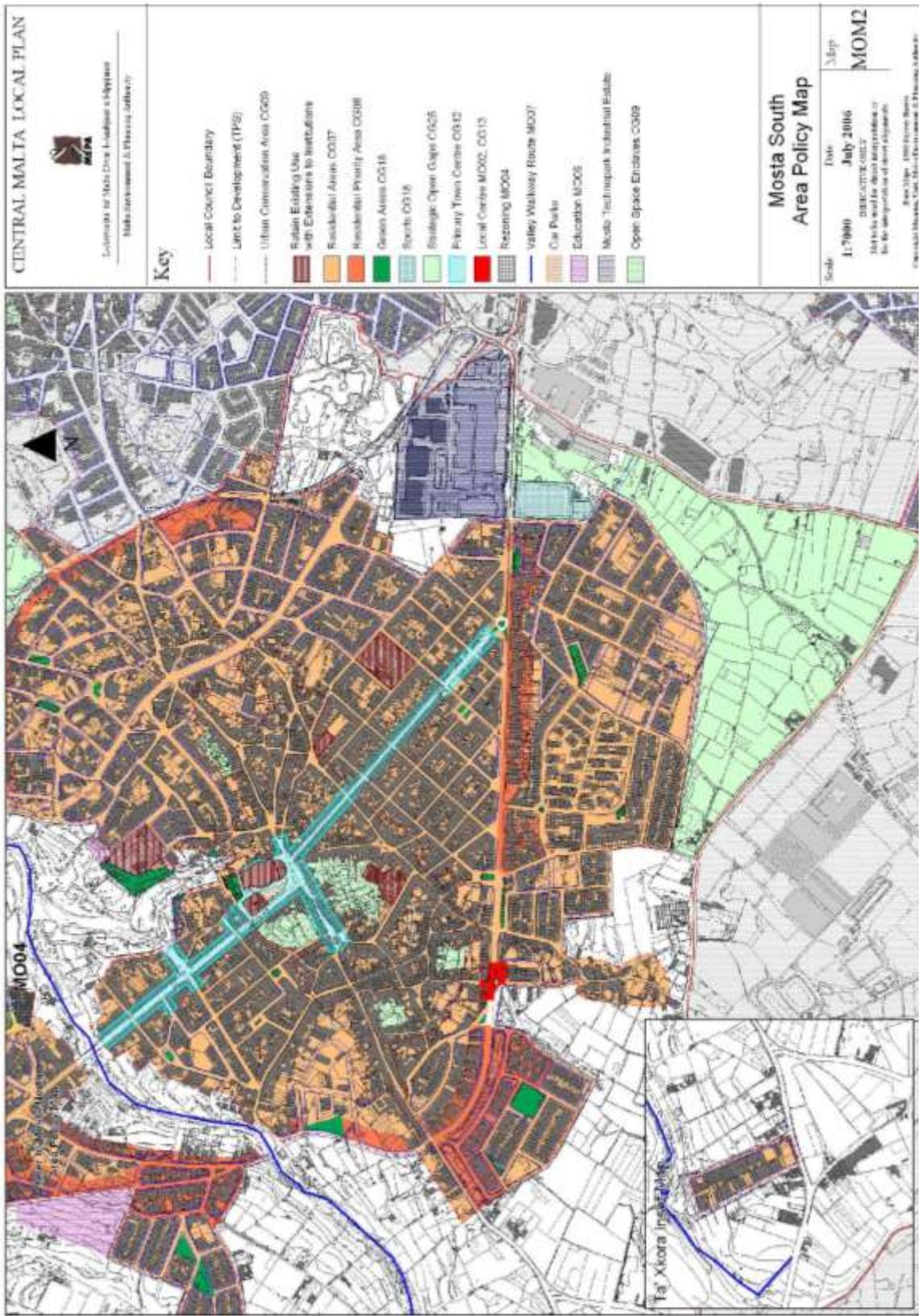


Figure 11.: Mosta South Area Policy Map. Source: Planning Authority (2018) Mosta Local Plan.

2.5.2 Both the Strategic Plan for the Environment and Development (SPED, 2015) and the Central Malta Local Plan (CMLP, 2006) policy CG17 mandates the use of the sequential approach in determining planning applications and designating locations for such modern large scale development. Edge of town locations for supermarkets are the preferred option to accommodate such land demanding type of development with their associated environmental and traffic impacts. In addition to this, the CMLP classifies the site area as a Strategic Open Gap, policy CG25 states that development should be sensitive to the surrounding natural and built environment, embellished with attractive landscaping schemes. Furthermore, mitigation measures must be implemented, as stated by policy CG05 for areas of containment to reduce negative environmental impacts.

2.5.3 SPED policies such as Rural Objective 3, Thematic Objective 7 and Thematic Objective 8 are also related to the proposed development that seeks to control development into rural areas which is justified to be located into these areas and which enhances the biodiversity, natural and cultural heritage, geomorphology and geology. In addition to these policies, Thematic Objective 10 stipulates the need for good rainwater management and suitable parking provisions on site in line with established standards and practices to facilitate traffic management and access.

2.5.4 The Planning Authority has also published a set of guidelines guiding the development of retail outlets across Malta, as set out in the Structure Plan for the Maltese Islands (1990), known as Interim Retail Planning Guideline (2004). It established a spatial hierarchy of primary, secondary, and local commercial centers, guiding the location of retail development into these localities. In fact, Mosta is regarded as a Primary location for such development, whereas supermarkets can be permitted in any one of these hierarchies, preferably town centers or edge of towns.



Figure 12: Existing development at Triq tal-Pantar, Lija.



Figure 13: Existing development at Triq tal-Pantar, Lija.



Figure 14: Existing development within the site boundaries at Triq tal-Pantar, Mosta.



Figure 15: Existing shopping village at Triq tal-Pantar, Mosta.



Figure 16: Existing development at Triq tal-Pantar, Lija.



Figure 17: Existing development at Triq tal-Pantar, Lija.

3 Project Objectives

3.1 Economic

- Proximity and closeness to residential areas, and urban towns and villages.
- Provide quality and holistic service for the consumer and workers.
- To offer a variety, sustainability, quality and food security with competitive prices.
- Achieve high levels of efficiency throughout the whole proposed development.

3.2 Environmental

- Protection and enhancing the biodiversity ecology and landscape of the site and immediate surrounding environment protecting sensitive receptors.
- The environmental dimension must be part of the business operations and development scheme.
- Enhanced user experience with climatologically control environments and offer a good level of comfort.

3.3 Social

- There are many social benefits in increasing employment and achieving full-employment.
- Waste control and prevention strategies to reuse or recycle waste were possible.
- Provision of open spaces for recreation and leisure.

4 Project Description

4.1 Proposed development project

- 4.1.1 The class 4B retail space at level -1 will have an area of about 11,709 m² and will be situated below the roof garden at ground floor level. The total space allocated for the sale of goods amounts to about 7,623m². This large retail outlet is a supermarket retail shop offering a wide variety of products and services organized into sections, shelves, and aisles. The remaining space will be used for lifts, light wells, escalators, staircases, storage rooms, access ramps, and landscaping.
- 4.1.2 Access to the proposed supermarket will be via stairs and lifts from ground floor level and the parking area at level -3. The stores at level -2 will be located beneath the retail level whilst at level -3 parking space will be used to access the shopping complex for vehicles. The store and parking levels will cover the same building area of the retail floor level.
- 4.1.3 The green infrastructure will help controlling flooding and the need for unnecessary water storage on site from surface water and groundwater runoff from rainfall. The ground floor landscaping scheme will serve to protect and conserve the quality of water on site and waterbodies coming in contact with pollutants and hazardous substances released from vehicles and other activities taking place on site. This will ensure the highest ecological and chemical status possible for the quality of the water. The provision of open space can have wider and greater benefits if the scheme is designed to allow the free flow of pedestrian through the site of adjoining residential neighborhoods and adjacent commercial development.

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- 4.1.4 The development of the retail complex can be divided into three major phases. The first phase entails the clearance of the site from cement and marble tile leftovers and the demolition of existing buildings on site. The demolition shall be carried out using hand-held tools and equipment such as picks, hand-held mechanical hammers etc. The resulting debris must be collected and segregated into separate skips. This waste must be disposed of at certified facilities for such disposal by authorized contractors or used for backfilling operations as may be required. Backfilling operations would serve to create the required levels on site and form suitable strata for construction works to ensure the safe erection of the structure on site. Backfilling would consist of graded sand and aggregates and should form adequate landforms surrounding underground structures.
- 4.1.5 These works must be carried out within agreed working hours as stipulated in the Environmental Management Construction Site Regulations, 2007 (L.N. 295 of 2007), as amended by L.N. 358 of 2007 and L.N. 371 of 2007. Vehicles access will be restricted to areas where they are needed and avoidance of leakages or spillage of fuels and oils to minimize site contamination and leaching and should prompt immediate remedial action.
- 4.1.6 The felling of the trees and shrubs will be carried out on site to clear the surface for excavation. The agricultural soil will also be removed and stored/recycled at certified facilities to be reused for the landscaping of the ground floor level. A landscaping plan should be in place to compensate and augmenting the felling of the existing trees and enhance the biodiversity, ecology, and landscape of the site and immediate natural environment. The proposed vegetational species and related landscaping works must conform to the Guideline for Planting & Landscaping in the Maltese Islands (2002). Only endemic and indigenous non-invasive species will be permitted to ensure the success of the plantation of the

ground level that is compatible with the existing ecosystem and truly a characteristic of the natural habitat.

4.1.7 The site is not classified as an area of ecological and scientific value or as an area of high landscape value which would mean protecting the existing flora and fauna on site. Typical species present on site are prickly pears (*Opuntia ficus-indica*), cypress trees (*Cupressus sempervirens*), olive tree (*Olea europaea*), fennel (*Foeniculum vulgare*), perennial wall rocket (*Diplotaxis tenuifolia*), wild carrot (*Daucus carota*), crocosmia bulbs (*Crocosmia aurea*), boar thistle (*Galactites tomentosa*), smooth sow-thistle (*Sonchus oleraceus*), animated oat (*Avena sterilis*), crown daisy (*Chrysanthemum coronarium*), castor oil tree (*Ricinus communis*), hare's tail barley (*Hordeum leporium*), common awn-grass (*Stipa capensis*), pellitory of the wall (*Parietaria judaica*), cape sorrel (*Oxalis pes-caprae*). Conspicuous faunal species typically found in such areas are Moorish geckos (*Tarentola mauritanica*), and the Maltese wall lizard (*Podarcis maltensis*). The applicant must also ensure that the type and amount of lighting will not give rise to excessive light pollution and the minimum security lighting will be lit during the night.

4.1.8 Any proposed boundary walls on site must be constructed with random rubble to encourage biodiversity to improve the rural landscape and cultural heritage of the site. These must conform to S.L. 552.01 Rubble Walls and Rural Structures (Conservation and Management) Regulations (L.N. 160 of 2007) as amended by L.N. 169 of 2004 and L.N. 426 of 2007 and in accordance with the Rural Policy & Design Guidelines, 2014.

4.1.9 The second phase of the proposed development would consist of the construction of the parking level, stores, retail outlet supermarket, and ground floor structures. The construction system would consist of steel reinforced concrete

frame structure, with pad foundations below basement floor level. The floors will be finished with a cement power float. The perimeter wall will be built in reinforced concrete blockwork and finished with rendered cement plaster, 25mm thick. Access roads will be made from asphaltic layers laid over a subgrade of cement 300mm thick to prevent hazardous leaching to the underlying geological layers and water table.

4.1.10 Finally, the third phase will consist of the installation of mechanical and electrical services, and soft and hard landscaping. This describes the nature and quality of the mechanical and electrical services to be deployed on site for the safe operation of the premises. The installation of services would consist in the fixing of ducting for mechanical ventilation and related equipment to ensure a good level of air change into the premises and remove air pollutants from vehicles accessing the site to keep a clean and hygienic environment. Electrical wiring and cables will also be fixed to the structures and luminaires provided for both indoor and outdoor spaces.

4.1.11 Hard landscaping consists from cement block tiles will be laid over a subgrade of fine grain aggregates and a layer of sand. Other finishing works will be applied to the structure, such as floor markings of parking bays and roads, tiling, plastering, paint finishing, cleaning works etc.

4.1.12 Additional fire and safety signage and fire-fighting systems shall be put in place to guarantee the safe use of the premises in cases of emergency and fire. These are described in further detail below.

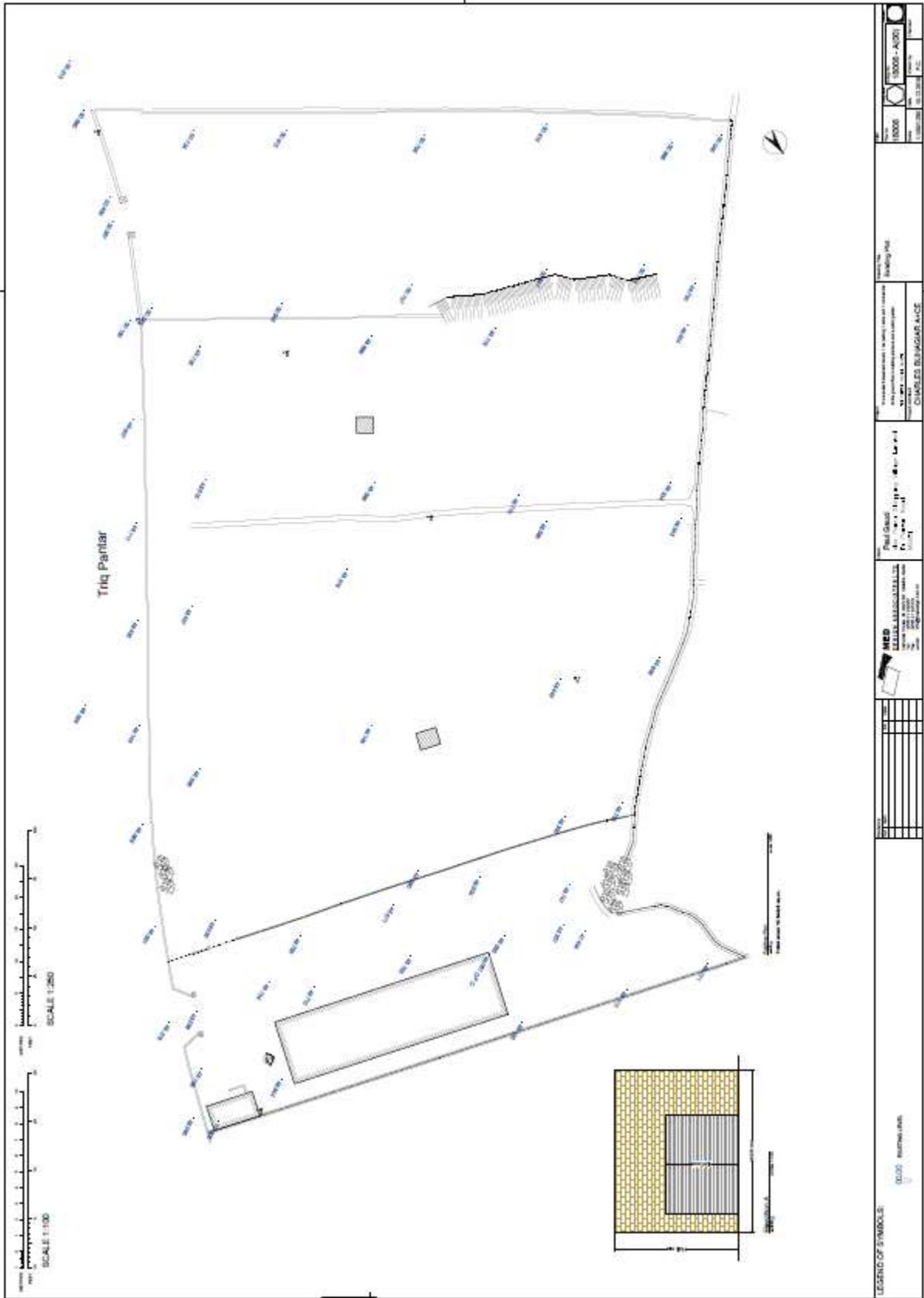


Figure 17: Existing Site (not to scale).

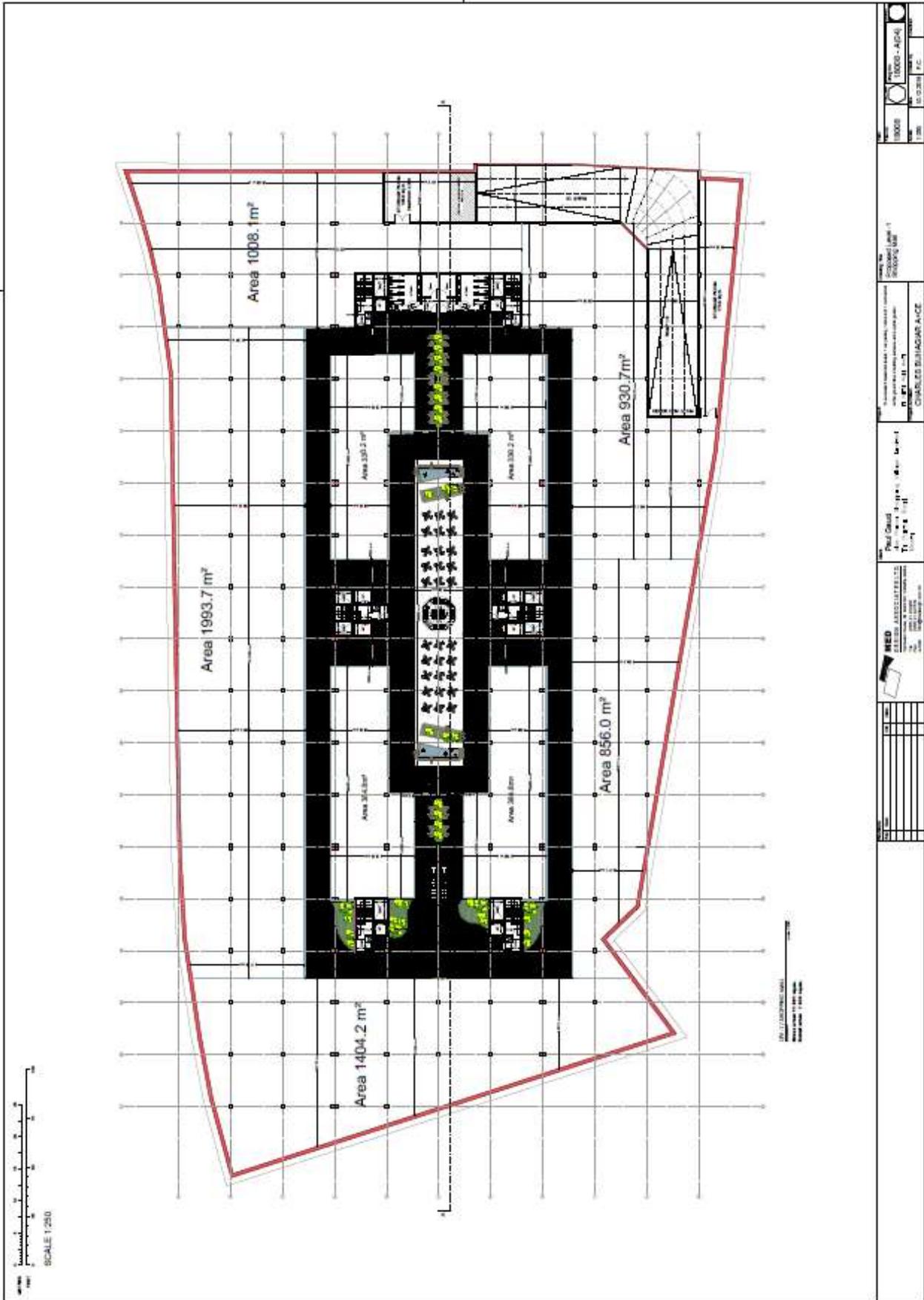


Figure 21: Level -1 Retail Floor Plan.(not to scale).

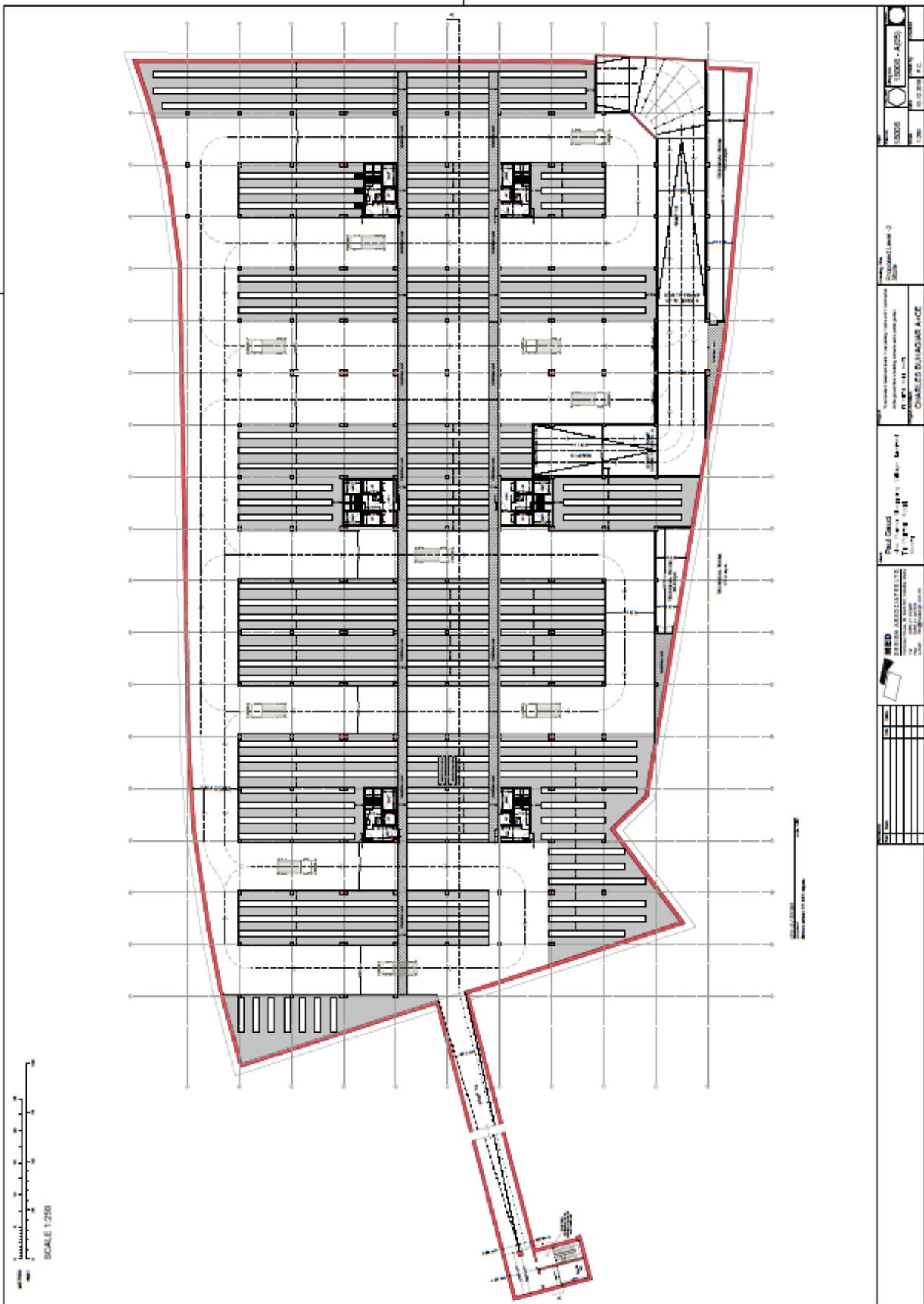


Figure 22: Level -2 Warehouse Floor Plan. (not to scale).



Figure 23: Level -3 Parking Floor Plan. (not to scale).

4.2 Energy, water, and waste resources

4.2.1 Total electrical loads envisaged for the proposed development:

	LOADS (KW)
RETAIL/AMENITIES	2108
PARKING AND STORES	878
PARK AND OPEN SPACES	195
UTILITY SERVICES (IRRIGATION PUMPS)	75
TOTAL	3256 kW (3.26 MVA)

4.2.2 The site will be serviced by the existing electrical network and will be connecting to the existing 33KV distribution network tunneled with the rest of the road infrastructure. Telecom infrastructure networks will also be provided and the routing will be the responsibility of the service providers.

4.2.3 Total water demand envisaged for the proposed development:

WATER DEMAND PER DAY	WATER DEMAND (M ³ / DAY)
RETAIL	4.20
VISITORS	45.80
TOTAL	50.00

4.2.4 Water to the site will be provided through a meter connected to the municipal pipe. Water servicing will be provided with a water pipe having a diameter of 150mm, connected to the existing water pipes. Potable water demand is estimated to be equivalent to 50.00 cubic meters of potable water per day for the whole site, which not in excess of current flow capacity supplied by Water Services Corporation (WSC).

4.2.5 Water on site would be used for customer and staff sanitary facilities, landscaping irrigation, general internal and external cleaning purposes, and for the butcher, fishmonger and greengrocer preparation areas.

4.2.6 Wastewater generation on site:

WASTEWATER SEWAGE GENERATION	SEWAGE GENERATION (M ³ / DAY)
RETAIL	3.36
VISITORS	36.64
TOTAL SEWAGE GENERATION:	40.00

4.2.7 An internal sewer network will collect grey and dark water and discharge it through a single point into the municipal network pipe. The pipe would be in the range of 100mm-192mm in diameter. The requirement for provision of water and wastewater discharge are laid in Sewage Discharge Control Regulations L.N. 139 of 2002 as amended by L.N. 378 of 2005.

4.2.8 Estimated waste generation during the operations of the proposed activities are:

WASTE CATEGORY	WASTE GENERATION (KG/M ² / DAY)
RECYCLABLES	0.23-0.90
FOOD RESIDUES	2.52-4.33
GENERAL WASTE	5.17-7.87
TOTAL	7.92-13.1

4.2.9 Waste collection and separation will take place on-site and placed into an appropriate container and bundled in place. Waste for disposal or recycling will be collected by a certified contractor to be disposed of at appropriate locations. The management of waste must adhere to the Waste Management Regulations as published by L.N. 22 of 2009 and L.N. 184 of 2011. Adequate waste management strategies and environmental impact mitigation measures must be

in accordance with S.L. 549.63 on Waste Regulations 2011 that regulates Waste Management Plans, Permits, and Controls in Malta, and L.N. 337 of 2001 and the Environment Protection Act 2011. These must be in accordance with the European Waste Catalogue, which prescribes the types of wastes and suitable destinations for the waste.

4.2.10 Fire safety equipment includes fire detection and alarm systems, emergency lighting, fire hoses, automatic sprinkler systems, portable fire extinguishers, wet and dry standpipe systems, fire cabinets, kill switches, and fire pumps, doors must be fire rated and open outwards and sliding and revolving doors are not used as emergency exits. Fire extinguishers shall be dry powder type and shall be placed on site according to MSA EN 3-7:2004. Fire detection and fire alarm systems must be in accordance with BS 5839-1:2002. Additional electrical isolation switches can be installed on site to disconnect electrical supply into the building excluding critical fire and emergency services.

4.2.11 Site safety signs that shall be present on site are fire extinguisher and fire hose signs, directional way signs, emergency exits/escape routes, first-aid posts, smoking, and naked flames prohibited, no smoking signs, apply handbrake, switch off engine, and CCTV in operation, amongst other signs that can be used. Fire safety and emergency procedures and escape routes shall also be established and put in place. These must be in accordance with L.N. 44 of 2002 Work Place (Provision of Health and,or Safety Signs) Regulations, and according to BS 5378-2:1908.

4.2.12 Spent oils and fuels will be collected into containers placed on pallets which can hold 110% of the said capacity. The concrete mix of the floor will be added with a waterproofing additive to make the surface impermeable to spills and leaches. Spent lead- acid batteries will be stored in an acid- resistant container and collected by an authorized waste broker/carrier for disposal at an approved site.

4.3 Employment and Traffic Patterns

4.3.1 During the operational phase of the shopping complex, two working shifts are being proposed. One full shift working between 8:00 a.m. to 17:00 p.m. and a second, half shift working between 17:00 p.m. to 22:00 p.m.

4.3.2 Employment rates estimated during the operational phase for the proposed development are 42 full-time employees and a further 42 part-time employees. These include employees working in the retail and warehousing sector of the proposed development, and assume a conservative figure in the rates of employees working on site.

4.3.3 Estimated potential trip generation for the proposed shopping center, including trips for, retail market and warehousing:

Total Generated Trips		
Daily	AM Hour	PM Hour
3,666	108	329
1,966	81	225

4.3.4 Total distribution of generated trips for the retail floor level:

Total Distribution of Generated Trips					
AM in	AM out	Pass-by	PM in	PM out	Pass-by
32	20	27	96	104	103

4.3.5 Total inbound and outbound trips generated for the retail floor level proposed:

Total Generated Trips		
Daily	AM Hour	PM Hour
3,501	79	304

4.3.6 Total distribution of generated trips for the warehouse floor level:

Total Distribution of Generated Trips					
AM in	AM out	Pass-by	PM in	PM out	Pass-by
21	8	0	9	16	0

4.3.7 Total inbound and outbound trips generated for the warehouse floor level proposed:

Total Generated Trips		
Daily	AM Hour	PM Hour
165	29	25

4.3.8 The daily traffic volumes associated with the newly proposed activities are estimated to be about 3,666, whilst the total inbound and outbound trips excluding pass-by trips are 1,966. These include trips for employees, customers, and delivery vans.

4.3.9 The proposed development is envisaged to generate about 1,338,090 (AADT). This includes both inbound and outbound trips, and will not constitute a full net increase to the existing road traffic. In the worst case scenario, this includes weekends and weekdays. The Average Annual Daily Traffic excluding pass-by rates of already existing traffic flows are estimated to be about 717,590 (AADT), of increased traffic trips.

4.3.10 Traffic counts were carried out on Monday, 4th March 2019, at Triq tal-Pantar, Mosta. The results of the traffic survey are shown in the table below.

<i>Pedestrian Flow</i>	<i>08:05a.m. – 09:05a.m.</i>	<i>11:30p.m. – 12:30p.m.</i>	<i>16:30p.m. - 17:30p.m.</i>
<i>Site immediate boundaries</i>	22	28	40

<i>Traffic Flows</i>	<i>08:05a.m. – 09:05a.m.</i>	<i>11:30a.m. – 12:30p.m.</i>	<i>16:10p.m. - 17:10p.m.</i>
<i>Triq tal-Pantar (West in-bound)</i>	436	487	500
<i>Triq tal-Pantar (East in-bound)</i>	442	700	804

4.3.11 The site will be accessed from Triq tal-Pantar and Triq il-Mosta, Mosta. Vehicles will make use of proposed access lanes servicing the site to access the parking levels and move across the shopping complex. Construction works related to road works are to follow the requirement in L.N. 29 of 2010, in particular, Part 3 Clause 12, that stipulated surface levels should be established prior to any constructing any building beyond street level.

4.3.12 Parking spaces allocated on site will provide 380 parking spaces, of which 8 will be accessible for all designed in accordance with the Access for all Design Guidelines (2011). These will be used for vehicles making use of the retail space and shopping complex. An access ramp will connect the lower levels of the proposed development with the adjoining existing development, which presently can be accessed from Triq il-Mosta, Mosta.

4.4 Construction and site management

4.4.1 All works on site must be carried out in conformance with the Environmental Management Construction Site Regulations, 2007 (L.N. 295 of 2007), as amended by L.N. 358 of 2007 and L.N. 371 of 2007, with the scope of limiting environmental degradation as a result of pollution and mitigate dust particulates falling away from the site by airborne particles through appropriate construction management practices.

4.4.2 The construction of the retail complex will take place 42 months to complete. This would depend on the type of weather, the workforce employed, machinery used and the type of construction system deployed on site.

4.4.3 Approximate raw materials to be used on site for construction:

RAW MATERIAL	QUANTITIES (M ² /M ³)
CONCRETE (TOTAL):	26,132 m ³
SLABS	23,260 m ³
BEAMS	332 m ³
COLUMNS	379 m ³
FOUNDATIONS	2161m ³
SCREED CONCRETE	3,900 m ³
MORTAR CEMENT	12,300 m ³
HOLLOW CONCRETE BLOCK WALL	33,894 m ²
STEEL	1295 m ³
CONCRETE PAVERS	1875 m ²
GLAZED AREAS	2013 m ²
ASPHALTIC MATERIAL FOR ROAD SURFACING	263 m ³
AGRICULTURAL SOIL	5,012 m ³
BITUMINOUS MATERIALS	13,000 m ²
INSULATED ROOF SHEETING	975 m ³

4.4.4 The structure of the building would consist from cast in-situ concrete, such as slabs, beams, columns and footing, and pre-cast concrete elements, such as slabs, hollow concrete blocks, curbs and paving blocks. The retail roof would be rendered impermeable with waterproofing bituminous compounds and insulated with polystyrene sheeting material.

4.4.5 Stipulated time frames, parking requirements and persons employed on site:

	EMPLOYED	PARKING	DURATION
PHASE 1: SITE CLEARANCE & EXCAVATION	8-10	(on-site/off-site)	8
PHASE 2: CONSTRUCTION & INSTALLATION OF EQUIPMENT	30-35	(on-site/off-site)	28
PHASE 3: M&E SERVICES & LANDSCAPING	10-15	(on-site/off-site)	6
OPERATIONAL PHASE	84	380 (on-site)	-

4.4.6 Machinery used on site during construction:

	MACHINERY	NO.
PHASE 1	Excavators	4
	Low loader trailer trucks or similar	1
	Tipper trucks	4
	Wheel shovel	4
PHASE 2	Concrete mixers	4
	Excavators	1
	Mobile cranes/tower cranes	1/2
	Tipper trucks	4
	Low loader trailer trucks or similar	1
PHASE 3	Tipper Trucks or similar	2

	Mobile Crane	1
	Low loader trailer trucks or similar	1
	Delivery vans/trucks	4

4.4.7 Waste envisaged to be generated on site during construction and its respective European Waste Code (EWC):

TYPE OF WASTE	QUANTITY (TONNES)	QUANTITY (M ³)	EWC
CONCRETE	618.930	269.100	17 01 01
TILES	4.329	1.968	17 02 03
BRICKS	72.240	31.409	17 01 02
WOODFORM	149.799	261.429	17 02 01
MORTAR	5.597	3.887	17 09 04
PACKING	55.692	79.560	15 01 06
PLASTIC	113.256	116.759	17 02 03
IRON & STEEL	201.669	25.052	17 04 05
MISCELLANEOUS	371.358	178.538	17 09 04
TOTAL	1592.870	967.701	

4.4.8 Other materials not directly specified in the list that may be utilized during the construction phase of the development are insulation materials (EWC 17 06 04), gypsum (EWC 17 08 02), bituminous mixtures (EWC 17 03 01 & 17 03 02), cables (EWC 17 09 04), and glass (EWC 17 02 02). Waste management strategies and environmental impact mitigation measures must be in accordance with S.L. 549.63 on Waste Regulations 2011 that regulates Waste Management Plans, Permits, and Controls in Malta, and L.N. 337 of 2001 and the Environment Protection Act 2011.

4.4.9 Should it be necessary the contractor shall appoint a site supervisor to ensure the smooth flow of traffic in agreement with the concerning Local Councils. A Health and Safety representative shall also be appointed, according to Section 17 of the Occupational Health and Safety Act (Act 85 of 1993). The duty of the health and safety officer is to perform regular checks on site and ensuring health and safety standards and regulations are observed and adhered to.

4.4.10 Excavation waste envisaged during the duration of the project:

EXCAVATION WASTE	QUANTITY
EXCAVATION (M ³)	152,750
VOLUME PER TRUCK (M ³)	20
NO. OF TRUCK TRIPS	7638
AVERAGE TRIPS PER DAY	43

4.4.11 All of these wastes will be disposed of at certified facilities by approved contractors for disposal or recycling for reuse. Bins and skips for the collection of wastes will be within the sites precincts can be adequately bundled and covered to protect them from climatic elements.

4.4.12 Diligent monitoring on site and careful site operation would ensure there is no debris or other waster originating from the site affecting neighboring land. Nearby roads and surfaces must be kept clean and swept clean as required from time to time.

4.4.13 Spill kits shall be kept in easy reach to mitigate the negative consequences of accidental spillages from machinery and trucks on site with negligible effects.

These include fuel oil, petrol, diesel or other fuels, and mineral, non-mineral, biodegradable, synthetic, or other engine or gear lubricating oils.

4.4.14 All equipment and machinery will be provided with silencers and noise suppression devices as prescribed by law and in accordance with BS 5228: Part 1: 1984: Noise Control on Construction and Open Site – Code of Practice for Basic Information and Procedure for Noise Control.

4.4.15 Works will be carried out as per permit conditions and regulations on operating hours.

4.4.16 Safety signs must be in conformance to L.N. 44 of 2002 and according to BS 5378-2:1908. Site notices during construction are, use of ear protectors; highly visibility jackets must be worn; protective footwear must be worn; the hard hat must be worn; no admittance for unauthorized personnel; danger, work in progress; and warning, look out for overhead loads.



• Site notices during construction



• Site Notices during operations

5 Environmental Impacts

5.1 Mitigation Proposals and Qualitative Effects

5.1.1 The impacts listed in this report are of the potential impacts on the environment and of the proposed development. The mitigation measures proposed in this report provide a datum with respect to which the proposed development scheme could be developed and assessed.

5.1.2 The impacts associated with land-use are effectively the change of use of land from a field into a class 4B retail outlets. The existing boundary walls along the perimeter of the site will be consolidated in place, with rubble stones being replaced only to strengthen the bonds between the stones forming the wall to reduce the formation of voids within the wall. It is not envisaged that there should be any significant losses of washing away of agricultural soils on adjacent fields, however, should this occur the fields should be backfilled with agricultural soil. The proposed mitigation measures to mitigate negative impacts on neighboring land include the location of the proposed development away from neighborhoods and urban conservation areas. In fact, the development is situated adjacent to an existing distributor road network, this brings with it advantages and disadvantages. In addition to this, a system of water management has been devised to reuse rainwater on site for irrigation of the extensive soft landscaping proposed. Furthermore, the proposed development achieves important socio-economic objectives and reduces its impacts due to the diversification of land-use, enhanced accessibility and improving the quality of the environment surrounding the proposed site by reutilizing a disused site, parts of which were used for storage of factory related materials on site. Thus social, economic and environmental benefits are being shared and achieve a balanced output between economic prosperity and social and environmental well-being.

5.1.3 The impacts on geology and geomorphology arise from the excavation of rock from the site and the introduction of new site levels as shown on the drawings. Globigerina limestone is the rock formation for the site in question and its surroundings. The rock levels seem to have a horizontal plane with gentle slopes covered with a layer of topsoil not deeper than 1m, which is retained by a dry stone rubble wall along the boundaries of the site. The excavation is considered necessary to accommodate parking spaces required for the scheme and other infrastructural services needed to operate the development. The excavated material will be dumped or recycled at certified facilities for such disposal. Impacts arising from the construction process due to vibrations, dust, pollution and surface water management are envisaged to be temporary. These should not pollute the mean sea level aquifers and other water bodies, thus exposed geological layers must be protected from hazardous leaches contaminating water bodies both during construction and during the operational phase of the development. This report also notes that the site area is not an area protected for hydrological importance and therefore does not create significant impacts on the recharge aquifer levels, which is the Lower Globigerina Limestone. The site is neither classified as an area of scientific importance or of high landscape value and therefore should not create significant impacts on the flora and fauna of the site.

5.1.4 The siting and design of the development were also carefully considered to create the least nuisance to surrounding natural environment whilst respecting the site intrinsic natural and cultural characteristics situated in an area of containment with commercial and industrial warehouses and offices, and with agricultural land and residential development within the Mosta Local Plan. Height limitations have not been exceeded whilst the coverage of the site consists of extensive soft landscaping, sensitive to the existing situation on site, by concealing the development into an underground structure. The increase in traffic due to the

change of use of land is inevitable, nonetheless, it should result into a positive socio-economic impact by using the site for different future uses and ensuring no loss of land should occur. Careful consideration was also given to access arrangements for both vehicular and pedestrian access in the interest of visual amenity and safety.

5.1.5 Impacts on energy and water resources include the effect on the quality of water during construction activities, site clearing, and preparation, heaping of materials, wastewater, oils, lubricants, sewage and other materials that can move into the water bodies. Construction activities that may exacerbate the movement of these materials into the water environment must be examined and mitigation measures developed. The scheme was also designed taking into account sustainable urban water solutions for water conservation. Furthermore, waste generated during the construction and operational phase shall be disposed of or recycled at appropriate waste treatment facilities by certified contractors.

5.1.6 The quality of air may be affected by excavation, drilling, truck traffic, and screening. The amount of dust is also dependent on the size of operations, type of rock and prevailing wind. Impacts on air quality arising during construction are only temporary and not significant, given the stipulated timeframes and construction practices to be adopted. The nuisance of dust is greater in drier conditions and in wind conditions over 5.5 m/s. It is advisable to adopt mitigation measures to reduce dust during construction by good housekeeping, limiting the speed of vehicles, watering of the site, and the use of high boundary walls and/or temporary screening perimeter fencing. The use of respirators and mouth filter masks must be worn to protect personnel from dust particulates during works. Emissions from vehicles will result in CO₂, NO_x, and PM₁₀ being released into the atmosphere. During the construction phase, these emissions are not envisaged to

create adverse nuisance since the area is located outside the development zone and the duration of the works are temporary. During the operational phase of the retail outlet, the emissions from vehicles will be concealed as much as possible to prevent benzene and odor emissions diffuse into the atmosphere, whereas trees and other vegetation can be used to sequester parts of the CO₂ emissions released into the environment.

5.1.7 Noise emissions on site from operating equipment and trucks can be mitigated by means of sound deadening structures and noisy operations have to be restricted within areas shown on the layout plan. Noisy operations have to be restricted for timeframes stipulated in this report. Workers must be protected from noise by means of hearing protectors. The maximum noise levels are regulated by EU Directive 2004/14/EC transposed into Maltese Law by L.N. 64 of 2002. Under these regulations equipment, sound-power levels have to be declared, and quality control procedures determined to comply with regulations. These operations must conform to these and to the Environmental Management Construction Site Regulations, 2007 (L.N. 295 of 2007).

6 Summary

- 6.1.1 The Project Description Statement has established a course of action for the development of the shopping complex. Through the identification of possible environmental impacts, the likelihood of environmental nuisance will be mitigated as much as possible. This shows the need for the development of the shopping village and justification for the proposed course of action as highlighted by this report. This would contribute to the growth of the existing operations and activities undertaken to maintain essential services and operations.
- 6.1.2 The report clearly established the policy framework within which such development would occur. The report highlights that policies such as policy CG17 and the Interim Retail Planning Guidelines (2004), which mandate in favor of such developments. This has also to be in line with the Strategic Plan for the Environment and Development, (SPED, 2005), and the Central Malta Local Plan (2006) policies to protect the rural countryside from adverse development.
- 6.1.3 The shopping complex is shown in the drawings prepared for the purpose of the development. These show the plans, sections, and elevations that are proposed, which also include the proposed access routes and parking provision. Thus, the development of a modern facility, which is properly located would also be benefiting the economic, social and environmental dimensions of the proposed development.
- 6.1.4 Critical infrastructural services, green infrastructure, and amenities are pivotal towards the successful operation of the proposed scheme. They provide the required mechanisms by which the integration of the operation of the shopping complex and the management of the environment would be achieved.

6.1.5 This report also acknowledges the impacts that are likely to arise from the implementation of the project and the mechanisms that are required to minimize the extent of these impacts, by identifying the principles, responsibilities, and requirements applicable to implement an effective course of action for the development and operation of the shopping complex. In addition to this mitigation measures will be implemented to minimized environmental degradation.

6.1.6 To mitigate and eliminate negative environmental impacts a number of measures would be taken to attenuate noise, mitigate the negative visual impact, protect the quality of water and the quality of air on site and of the surrounding areas, as a result of the change of use of land, mitigating these impacts in anticipation by established and recommended means and practices.

6.1.7 Adequate working procedures must be employed during the constructional and operational phase to mitigate negative environmental impacts and ensure works are carried out to the highest standards as much as possible. This must be done by observing regulations and working standards by utilizing materials, equipment, and workmanship of the highest quality.