128 Herring Road

Proposed Residential Development

April 2010

CONSTRUCTION MANAGEMENT PLAN
PART 3A APPLICATION

LIPMAN

the obvious choice in construction

Construction Management Plan

Introduction

Lipman Properties Pty Limited has prepared this Construction Management Plan (CMP in response to the Director General Requirements (DGR's) issued on February 2010. The CMP summarises the policies and procedures that will be put in place by Lipman Constructions Pty Limited throughout the duration of the project to ensure the construction processes do not create unacceptable levels of disturbance to the community created over the life of the project and the surrounding community.

The CMP's principals discussed in this document will be implemented across each stage of the proposed development. Further the principals outlined in this document will be further refined and detailed in a site specific construction methodology for each stage of the development prior to works commencing. This is an established practice within the Lipman Management system and key to the company achieving registration with the internationally recognised systems Quality - ISO 9001, Environment - ISO 14001 and, Occupational Health and Safety - AS 4801. All proposed methodologies and systems will be implemented in accordance with the Director General's determination for the site and the appropriate authorities.

This methodology is to be read in conjunction with the following reports:

- Construction Traffic Management Plan – Prepared by Colston Budd Hunt & Kafes dated May 2010

- Acoustic Report – Prepard by Renzo Tonin & Associates dated May 2010

Site Management / Staging Areas

(Section to be read in conjunction with:

- *Architectural drawings prepared by Turner and Associates,*
  ***Volume of Plans Part 2**_drawings A171 to A177 and Staged Subdivision PA A321 to A327*
- *Soil Erosion and Sediment Control plans prepared by TTW*
  ***Volume of Plans Part 4** _drawings C101-P4, C105-P2, C602-P5))*

***Stage 1** – Establishing Sales and Display Centre and 3 Lot Subdivision creating Lot 1 as one of the 3 Lots*.

Works – Establish Sales and Display Centre with associated carparking
Construction of Temporary Cross-Over off Herring Road.
Installation of sewer main.

Works associated with the creation of Lot 1 subdivision will require limited resourcing on site. All necessary Sediment and Erosion Control measures will be implemented on the site in order to undertake the proposed works in accordance with the Sediment and Erosion Control plans prepared by TTW.

***Stages 2 – 5** Subdivision Works / Construction of Buildings A,B,C,D & E + New Road & Infrastructure*.

Works - Construction of Temporary Cross- Over off Herring Road
Construction of Building A, B C D & E
Construction of New Road / Boulevard in separate stages

Access

(Refer to Construction Traffic Management Plan prepared by Colston Budd Hunt & Kafes dated May 2010 (Appendix K))

The construction access plans (refer to Architectural Drawings Concept Plan A171 to A177 and Staged Subdivision PA A321 to A327) highlight the staging of construction access proposed for the development.

In summary the Sales and Display Centre will be the first structure on site, which will be accessed through a cross over off Herring Road where there is currently an existing concrete driveway. This will also be the future cross-over point for the proposed road reserve (boulevard) to access the site off Herring Road.

For the duration of constructing building B to D, a temporary construction access road will be located parallel to the proposed boulevard (as per the plans in Volume of Plans Part 2 A171-A177). Building E's construction access will be via the proposed road (boulevard).

In all cases safe access for pedestrians and vehicles onto each of the development stages will be provided. The separate construction road will be fenced off on both sides to prevent people from transiting across the land and to ensure the safety of those in surrounding properties.

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Appropriate traffic management plans shall be developed for each site to manage the pedestrian and traffic flows onto and off the site in a safe manner.

Privacy & Surrounding Amenity

The site will be fenced off with a standard temporary fence 1.8meters high. The fence will have shade cloth placed on it to minimise the amount of air borne material leaving the site thoughout the excavation and construction stages of the development. Further the building will be fully scaffolded and enclosed with chain mesh to prevent any materials being blown off the building site. All works on the site will be carried out in accordance with the approved hours of work (to be stipulated in the conditions of approval by the Director General.

At no time will site personnel be permitted to access the site via neighbouring properties. Vehicle deliveries will be via designated access point at all times.

Environment

Soil erosion and sediment controls will be implemented in accordance with the TTW's "Soil Erosion and Sediment Control Plans" issued as part of this application. These measures will be implemented prior to commencement of work on the site. They shall be inspected on a regular basis in accordance with Lipman Construction's site management policies. In addition to this the sediment control measures will be inspected following extended periods of inclement weather to ensure they remain in fully functioning condition. The aim of the controls is to ensure any water leaving the site is maintained at the desired levels of quality to reduce the impacts on the surrounding watercourses.

Any material stockpiled for an extended duration on site shall be covered to prevent the material becoming air-borne in adverse weather conditions. Work on site will also be monitored in conditions of high wind to ensure unacceptably high levels of dust are not being created. In such circumstances the works creating the dust shall cease until more suitable conditions prevail. Areas subject to dust creation will be 'watered down' on a regular basis, where continued periods of high wind exist.

The access points would also be constructed with 'shaker grids' to assist in preventing dirt and debris from being transported onto the surrounding road network. In addition to this in times of inclement weather site personnel will wash down vehicles leaving the site to further prevent dirt contaminating the surrounding street network. Throughout the excavation phase of the construction sequence the adjacent and surrounding streets will be cleaned by a street sweeper as required to further assist in keeping the surrounding road network clean. All transports leaving the site will be monitored by site personnel to ensure loads are covered before exiting onto the surrounding street network.

In addition to these measures it will be the intent of Lipman to minimise the impact on the surrounding environment by restricting the amount of the surrounding land utilised throughout

the construction process and thereby reducing the amount of land disturbed by the construction process that could be subject to erosion.

As part of the site establishment all trees nominated to be retained on site will be protected to the relevant local council standard. All works around these protected trees will be closely monitored to ensure the works do not adversely affect the health and integrity of the protected trees. Excavation works adjacent to protected tree species will be overseen by an arborist to ensure tree roots protruding beyond the zone of protection are treated in the appropriate manner.

Site Accommodation

Lipman currently proposes two accommodation set-up locations for each stage of the development.

1. Accommodation will be established on land adjacent to each subject site whilst the site is excavated and the first levels of structure built. Accommodation will be provided in accordance with industry practice for amenities, change facilities and lunch rooms. In addition to this Lipman will establish a site office in a prominent location to ensure all visitors and workers new onto the site are able to locate the site office to attend the site induction prior to commencing on site.
2. When the structure of each building has reached a point that the basement levels are able to be striped of formwork and cleared, the accommodation for the site will be transferred into the basement levels. The accommodation will remain in the basement levels until the completion of the project. Indicative location of site accommodation is shown on the construction staging plans (A171 - A177) prepared by Turner and Associates submitted as part of this report.

It is anticipated that site personnel will travel to the site by one of the following means:

i. Public transport – Rail and bus network hubs sit in close proximity to the site (Macquarie Park station & Macquarie University / Macquarie Shopping centre bus exchanges).
ii. Pedestrian access – for workers living in close proximity to the site.
iii. Cycling – small numbers of workers may cycle to the site.
iv. Personal vehicles – parking to be located off site on the surrounding council road network.

Waste

Lipman's commitment to the environment extends to its treatment of waste materials on the site. Lipman will seek to reduce the volume of waste transferred to land-fill through the implementation of a management process on site. This process will seek to achieve the following:

i. Give preference to materials / suppliers that minimise packaging on their products that meet the desired specifications.
ii. Ensure estimated quantities for orders are accurate to prevent excessive / over-ordering occurring.
iii. Re-use materials – Use re-cycled materials where practicable on the site.

iv. Engage qualified waste contractors – to ensure waste is recycled appropriately.

Lipman will work in close conjunction with the architect to ensure products selected for the site are not only suitable for use, but also supplied with a view to reducing the volume and type of packaging the goods selected are supplied in. This process extends to ensuring quantities ordered do not generate excessive waste, nor have a negative impact through in-efficient multiple deliveries.

Lipman will engage a waste contractor that is capable of ensuring all waste removed from the site is sorted at the waste depot for recycling / re-use. Reports will be requested on a monthly basis from the waste contractor to ensure the re-cycling and re-use targets are being achieved.

Waste materials on site will be restricted to the bins provided at all times. At no point on the project will stockpiles of waste materials be permitted. In general bins 9m3 – 15m3 will be used at the ground level to collect the waste. These larger bins will be fed by smaller bins lifted from the working floors and emptied by crane or forklift on a regular basis. Larger waste bins will be exchanged once full. Full bins are to be covered at all times when they are being transported on the public road network.

Materials Handling

Movement of materials around the site will be conducted utilising the following means:

Cranes – mobile cranes will used in the initial stages of the construction of the structure where sufficient staging areas are available adjacent to the site. When practicable a tower crane will be erected to service the project. The tower crane will be positioned on each project to ensure site coverage is maximised to reduce the need to establish secondary mobile cranes on the site. Retracting landing platforms will be installed to aid the movement of heavy materials on and off the leading levels of structure.

Each building will also be serviced by a ‘man and materials’ type hoist to transport workers vertically up the building. These hoists will also be used to transport smaller materials onto the working floors. The location of the hoists will be so designed to travel the full height of the building including the ability to service the basement levels.

Materials delivered to the site on pallets will be lifted onto the floors by either the crane or hoist. They will be moved around each floor to the work face by either electric or manual pallet trolleys.

The unloading of trucks will be carried out by either a gas powered forklift or ‘Manitou’ type all-terrain forklifts. All unloading of materials will be done off the public road system to prevent congestion of the surrounding road network. Materials shall be stored in the areas nominated as materials handling zones and (once cleared of formwork) the basement levels. Any combustible liquids will be stored in the appropriate security cages with the appropriate safety measures in place.

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Noise Management

The management of noise on site must consider two different but equally important factors. These are the general public and the workers responsible for the construction on site.

Lipman shall implement the monitoring and control procedures noted in the Acoustic Report for the site prepared by Renzo Tonin & Associates (dated May 2010). In addition to this the approved hours of work will be adhered to at all times to reduce the impact of the construction process on the occupants of the surrounding properties.

The Lipman Construction Management System has an established noise management policy for each site under the control of the company. This system shall be implemented on the Herring Road development site for each stage to maintain high levels of safety for the workers on site at all times. The Noise Management policy is a vital element in the induction process of workers on the site to ensure individuals are aware of the dangers of long term expose to excessive levels of noise.

Sequencing / Programming the Project

The table below summarises the stages of the proposed development. Each stage will be subject to planning approval by the relevant authority. Commencement of each stage will also be subject to market demand for the proposed residential product. In each case the construction management principals outlined above will be implemented across each of the stages.

Lipman prides itself on its strong safety record and positive reputation in both the construction sector and the general public. It is the intent of Lipman to undertake the proposed works to the highest standards possible. This includes establishing and maintaining the highest standards of public and environmental protection throughout the duration of the development.

Stage		Stage Summary	Stage Details
Stage 1 Subdivision		**Establish Sales and Display Centre**	• Utilise existing sewer, water and power of current facilities on site. • Existing houses to be retained • Demolish Childcare Centre • Install temporary crossing off Herring Road • Establish Sales Centre and associated Display Centre with associated carparking amendments. • Relocate carparking for Moring College within Morling College site.
		3 Lot Subdivision **1. Create Lot 1** **2. Residual Development Site** **3. College Land Lot**	• New sewer extension to rear main sewer - inclusive easements (as required). • Utilise existing water and power of current facilities on site.
Stage 1A Subdivision and			• Demolish 3 houses on Lot 1 • Extend construction access road to south and

Construction of Building A		**Subdivision of Lot 1, Construction of Building A, Construction of Road on Lot 12**	rear part of Lot 1 • Create 3 Sub-Lots (10,11,12) and provide new services to 10 & 11 • Construct Building A on Lot 10 • Amplification of water main from Epping Road to Building A and along Road Lot 12
Stage		**Stage Summary**	**Stage Details**
Building B		**Construction of Building B**	• Construct Building B • Establish Materials handling/storage area adjacent to the rear of Lot 11
Stage 2 Subdivision + Building C		**Subdivision of Residential Development Lot into Lots 20, 21, 22 & Road Lot 23 Construction of Building C**	• Demolish "Single Mens" building & carport/ car-parking area • Extend construction road to service Lot 20 and 21 • Setup site accommodation and materials handling area • Create Lots 20-23 • Construct Building C • Road Lot 23 completed except for temporary construction road using part of the cul de sac
Building D		**Construction of Building D**	• Construct Building D • At conclusion of building D remove temporary access road at cul de sac and site accommodation area. Make good cul de sac
Building E		**Construction of Building E**	Demolish chapel building Dismantle Display Centre, retain Sales Centre Set-up site accommodation and Materials handling/storage area for Building E Construct Building E

Project Completion

Lipman will ensure that each of the stages is developed to the highest standard and quality. Lipman construction is proud to be assiciated with the staged development on Herring Road and will seek to ensue the construction process has a minimal impact on the adjoining properties and the surrounding environment.

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Critical project issues such as tree protection, environmental and noise control requirements are to be identified prior to commencement and highlighted with all sub-contractors throughout the construction period. Lipman will ensure that the management o f the construction process on site is managed to the highest standard right through to the point of occupation of each of the buildings.

Lipman will compile a detailed Construction Management Plan for each separate stage to deal with site specific issues prior to the commencement of work on those stages. This plan will incorporate the details of the Lipman Management System and how they will be applied to the site.

Lipman fully acknowledge that the long term success of the development is very much reliant upon creating a completed built environment that is attractive to future residents and sympathetic to the surrounding natural environment. It must also be sympathetic to the site surrounds through out the development process.

Successful project completion relies heavily on a carefully planned project commencement

Appendices

- **Construction Staging Plans prepared by Turner and Associates –** Refer TO Architectural drawings “Volume of Plans - Part 2” issued as part of the EA submission.

- **Soil Erosion and Sediment Control Plans prepared by TTW –** Refer to Civil drawings, Road Works and Storm-water Report in “Volume of Plans - Part 4” forming part of the EA submission.