
Sent: 2/09/2014 10:42:57 PM
Subject: Re Mod2014/0079 – (DA2008/1741)
Attachments: DA2008-1742WarrMall.doc; DA2008-1742WarrMall.doc;

77 Brighton Street, Curl Curl NSW 2096

Phone: 9938 3459

2nd September 2014

Modification No: Mod2014/0079 – (DA2008/1741)

Warringah Mall, No. 145 Old Pittwater Road Brookvale NSW 2100

Dear Sir / Madam

I would like to make the following brief comments on the Section 96(1A) modification:

Re: ' Alterations to the design of the Palm Tree car park':

1. In Cross Street, the alterations are non-compliant with Warringah DCP 2011 building setback & street frontages.
2. Circulation ramps within the setback area would have an adverse impact on pedestrian amenity along Cross Street, in spite of visual softening with screening and green facade.
3. The modification / use does not take advantage of solar access on the northern side of the building / site.

Yours sincerely

Ann Sharp

Excerpts from Application

- *WDCP 2011 Building Setback & Street Frontages: Non-compliance for Cross Street*
- *Setback of the Palm Tree car park to Cross Street is varied and generally consistent with the original consent, with the exception of circulation ramps which are proposed to be screened through a contemporary facade treatment.*
- *To the western end of Cross Street a Green Facade is proposed from ground level staggered up to approximately 7 metres along the facade of the proposed Carpark.*

P.S. ATTACHED is earlier submission re stormwater.

77 Brighton Street
Curl Curl NSW 2096
Phone: 9938 3459
email: aesharp@bigpond.net.au

28th June 2011

To: Warringah Council
725 Pittwater Road
Civic Centre DEE WHY NSW 2099

Ref Number: DA2008/1742

Construction of stormwater upgrade works for Warringah Mall and watercourse bank stabilisation works

Estimated Cost of Work: \$ 18,296,300

Dear Sir / Madam

I object to the proposed stormwater augmentation / upgrade works for Warringah Mall due to concerns about the impacts downstream, within the Warringah Mall site / surrounds and upstream.

DOWNSTREAM of WARRINGAH MALL

“Creation of additional drainage (Figure 3) will increase the amount of water flowing under Warringah Mall and decrease the amount of overland flow in the area during high rainfall events. This will result in the increase in the volume and velocity of water in downstream areas (Warringah Golf Course) where the existing and proposed drainage system discharges.”

“Hydrological modelling by Cardno of the potential impacts of the proposed augmented drainage system shows that during 1 in 5 year, and 1 in 20 year flood events, sections of Brookvale Creek directly adjacent to and up to approximately 420 m downstream from the discharge area are likely to increase in depth by up to 12 cm. Increases in stream depth during 1 in 5 year and 1 in 20 year flood events become less pronounced with increasing distance from the discharge area.”
(Ecological Assessment - Proposed Drain Augmentation, Ecological, December 2008)

‘No increase in flooding upstream or downstream’ is a desirable prerequisite for proposed stormwater upgrade / augmentation works within Warringah Mall.

An additional stormwater pipe under Condamine Street could be avoided by providing adequate stormwater mitigation measures within the Warringah Mall site.

The current proposal would result in adverse environmental impacts on Brookvale Creek downstream of Warringah Mall, including the removal of 170m² of planted vegetation.

Some years ago, a project called ‘Put the ‘brook’ back in Brookvale’ sought to improve the condition of Brookvale Creek in District Park downstream of Warringah Mall. Funding was provided for a Gross Pollution Trap and landscaping works took place in the riparian corridor.

WARRINGAH MALL SITE

Relocation of culvert

“The proposed construction of additional drainage to augment the capacity of the existing drainage system will require the removal of up to 5 mature trees on the northern boundary of Warringah Mall (on Cross Street...trees along Condamine Street...and approximately 170m² of planted vegetation in the northern tip of Warringah Golf Course...” (*Ecological Assessment - Proposed Drain Augmentation, Ecological, December 2008*)

The proposed drainage works within Warringah Mall would relocate the main stormwater culvert to the edge of roadways around the perimeter of the Mall – including Cross Street and Pittwater Road.

The proposed relocation of the drainage culvert would require tree removal and limit the scope for tree planting in proximity to the culvert.

The existing stormwater route is in alignment with the Brookvale Creek corridor and follows the approximate course of the former open waterway.

The proposed relocation of the drainage would be a significant diversion from the existing stormwater route via the underground culvert traversing Warringah mall.

The diagonal route across the Warringah Mall site is shorter and allows water to drain via gravity across the site.

The augmentation of the drainage and increase of the culvert downstream would increase the volume and rate of runoff into the downstream area of Brookvale Creek. This outcome is not desirable and should be sufficient to warrant refusal of the proposal.

Substitute waterway

DA Determination 1997/84

The proposal for the re-alignment of Brookvale Creek (Part 3A – Protection of Rivers and Lakes of the Rivers and Foreshores Improvement Act, 1948): Department of Land and Water Conservation requirements for a creek diversion:

- “a diversion length at least equal to any creek section lost;
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A condition of consent relating to a previous development approval / expansion of Warringah Mall has not been properly enforced / implemented. A commitment was made to replace the 100m section of Brookvale Creek, destroyed by the development, with an equivalent length of waterway and riparian area.

Inspection of the substitute waterway reveals a neglected area with a stagnant pool of water, muddy soil, little vegetation and a considerable amount of accumulated litter.

The pseudo waterway bears no resemblance to the rainforest that was to provide diverse habitat for aquatic fauna including frogs, in lieu of riparian vegetation removed with 100m of creek.

The public and government authorities trusted that the commitment would be fulfilled, but instead the outcome has been disappointing, and the sorry state of the pseudo waterway is a disgrace.

Given this poor outcome for the environment, future steps to degrade, build over or divert the waterway should be avoided, and instead steps taken that will progress towards the long term goal of improving the creek.

The former 100 m section of Creek provided habitat for some native species, such as water dragons. However, the relocated creek section is barren without any sign of life.

UPSTREAM of WARRINGAH MALL

General Comments

Public access to Council land alongside Brookvale Creek has been blocked off by a wire fence, where access was previously available to view the Creek corridor.

The sections of creek that are visible reveals that Brookvale Creek is in a neglected state, and that inadequate measures have been taken to protect, maintain or restore the waterway.

New or re-development provides an opportunity to improve the function of the creek and riparian area. A site specific DCP could be introduced to achieve this outcome.

Measures should be taken to ensure an adequate riparian zone and setback from the top of the bank. A legacy of past years, is that buildings, car parking areas and other uses have been permitted to encroach too near to the bank.

A long term environmental goal should be to improve the creek rather than perpetuate past practices that have resulted in its demise.

Formal pedestrian access along the eastern side of the creek is not necessary but adequate space for informal access along the top of the bank should be provided for maintenance and planting of native trees and shrubs within Council and private land.

Restoration of a vegetation corridor alongside the creek is important for fauna.

Environmental Issues

The current proposal is focused primarily on the stability of the creek banks, which is a legitimate concern, given the loose nature of the soil, and the somewhat haphazard placement of

rocks and other measures to reinforce the creek banks.

However, environmental factors relating to the creek, and measures that would improve its environmental function should also be considered.

“Assets within the riparian corridor include...numerous stormwater pipelines up to 375mm diameter discharging in an uncontrolled manner to the creek.” (*Page 9, Waterway Impact Statement*)

Stormwater pipes enter the waterway from surrounding properties, but the proposal does not provide mitigation measures to improve water quality at source or reduce direct discharge of polluted runoff into the creek.

Council has a policy for Water Sensitive Urban Design that could be applied to the immediate / surrounding area to reduce the risk of flooding and to improve water quality entering in the creek.

The reports acknowledge that the steep banks contain soil but also dumped material including building waste. The removal of dumped material and waste from the banks should be considered as an option for improving the creek corridor.

The depth of the creek increases to about 4m as it approaches Warringah Mall. An understanding of the factors contributing to this increased depth are relevant to options to address bank stability and alleviate risk.

A lined part height channel (*Page 11, Brookvale Creek Design Options*)

“Upturned pre-cast box culvert sections could be laid to form a continuous lined part height channel. The sections could be 4.5 m wide and 2 m high to protect the creek bed and toes of the creek banks against scour. The invert of the channel could be lined with rock spalls to create pool and riffle sequences to support aquatic habitat. Above the culvert a soil mattress could be laid and filled with topsoil to support vegetation.”

An open concrete culvert would have only limited function for aquatic habitat.

The concrete channel could not be converted back to a creek, and would have very limited scope for creek improvement in the long term.

“The integration of a number of measures such as fully structured vegetated banks and the use of rock bouldering on the channel floor to provide future habitat will ensure that the proposal represents the most sensitive environmental design that the site conditions will allow.” (*Page 9, Statement of Environmental Effects*)

These environmental design measures provide some scope for improvement of the concrete channel, but do not replace the natural creek.

Upturned Box Culvert

The concrete channel would have sides up to 2.1 metres, extending up most (2/3) of the bank height. From an environmental perspective, it is not an ideal solution.

Sections 4.5 m wide and 2 m high could mean the waterway is nearly always confined within the concrete culvert. Ideally, the option selected to address the stability of the bank should also allow for improvement of the ecology of the creek.

An upturned box culvert if laid in a continuous line up to 2m high would not provide sufficient scope for the establishment of aquatic fauna habitat with connective riparian zone.

Any replacement of the base or lower banks with reinforced / concrete sections should be variegated to simulate the natural creek environs.

Although stability for the creek sides is essential, the natural functions of the creek and riparian zone should also be improved.

The normal height of the creek would be well below 2m. In effect the creek would be replaced by a culvert, and the water level would rarely reach the upper one third of the bank.

The proposal for an open concrete channel / culvert is not in accordance with Warringah Council's Waterways Policy.

Warringah Council Policy No. PL 740

Protection of Waterways and Riparian Land Policy

Principles include:

Natural ecological process of waterways and riparian land shall be maintained and enhanced to the greatest extent possible by:

- *minimising bank erosion and promoting naturalistic bank protection works when stabilisation is necessary*
- *Preventing alteration of watercourses (includes channelling)*

Waterway Impact Statement

“The proposed works do not represent the normally preferred form of treatment to enhance ecological values within riparian corridors.” (Page 2)

“The proposed works...will eliminate any potential for restoring the creek to a natural environment.” (Page 11)

Other measures to improve Brookvale Creek

Land use planning issues relating to the creek should be given greater consideration. Hard surfaces such as access roads preferably removed from the riparian zone or buffer area.

The section of creek is not isolated, but an important remnant of Brookvale Creek that is not far from bushland in Allenby Park. The open waterway is an important segment of the Creek

between Allenby Park and District Park, which is downstream of Warringah Mall.

The cost of reclaiming or rehabilitation of parts of the riparian area is worth considering. Existing development could be subject to revised controls that protect the riparian area in the future.

There is a lack of information about the stormwater pipes that discharge into the creek and what impact these have on water quality, flow and the stability of the banks.

This includes whether the stormwater pipes could be relocated and what measures could be taken to improve their environmental impact.

Trees have an important role in the vegetation corridor and their roots reinforce the banks.

Bank stability and creek improvement

“It was noted that there are likely to be a range of factors that are contributing to the bank instability including:

- The underlying geomorphological factors such as soil structure and the nature of land fill;
- the installation of inappropriate stormwater outlets;
- Previous development upstream and works in and around the creek;

The frequency of the saturation of the creek banks.” (*Page 6, Statement of Environmental Effects*)

Factors relating to the height and frequency of the water level in the creek should be further examined. How often does the flow reach the top of the bank? What are the major inflow sources for increased flow and potential flooding?

Upstream areas and inflow pipes that affect the creek should be considered in conjunction with potential improvements to the creek and bank stability.

Water sensitive urban design measures could be introduced in some locations to reduce peak flow after storm events.

The upper 120 m of open waterway downstream of Old Pittwater Road could also be improved. This could have benefits for the downstream section as well.

A Vegetation Management Plan would provide a planting regime for native plants. However, weeds upstream and poor water quality would encourage weed growth.

The cost of the project is estimated to be over \$18m. Adequate funding should be allocated to improving the environment and ecological function of the creek corridor.

Engineering issues need to be addressed in conjunction with ecological issues to avoid the scenario of continued degradation within Brookvale Creek.

A conscious and conscientious effort is required to improve the waterway. So far no authority appears to have assumed care, control or management of this natural asset.

Environmental factors have been assigned a relatively low priority. The proposed option to address bank stability should be considered in conjunction with modifications and measures to improve aquatic habitat and ecology of the creek.

Concrete channels in other locations are being removed and the natural creek environs restored. Planning policies encourage this trend to enhance and improve waterways and restore their natural function wherever possible.

The proposed upturned box culvert along a continuous 90m stretch of Brookvale Creek is unfortunately the reverse of this policy. The culvert would be in place for decades to come and inhibit the scope for the future restoration of the creek.

To compensate, the design should be modified to incorporate natural features and functions of the creek where possible. In addition, other measures to reinforce the banks while also improving the creek could also be adopted.

ADDITIONAL COMMENTS on DA2008/1742

The Warringah Mall site is situated on low-lying land that was formerly a swamp. The increased channelling of stormwater runoff through culverts has the potential to raise flood levels downstream.

Any proposal that will impact on the downstream environment requires an overall assessment, which takes into account the external costs and cumulative impacts.

Re Brookvale Creek downstream: A feasible and reasonable objective / criterion for the DCP would be to avoid additional culverts discharging into the downstream waterway.

Increased volume and flow rate during heavy rainfall events degrade the waterway downstream and would interfere with efforts to restore aquatic ecology.

The relatively poor condition of Brookvale Creek should not justify further degradation, with the installation of additional culverts. Development in the upper catchment, which includes Warringah Mall, has contributed to degradation of the waterway.

The condition of aquatic habitat in Brookvale Creek is low to moderate. Increasing the size of the culverts will not improve the ecology of the creek.

The previous extension of Warringah Mall built over 100m of creek-line immediately north of the existing boundary. The open sections, required as partial compensation for the loss of the creek corridor, are not well maintained and could be better integrated as landscaped features.

Key Design Principles: “retain / improve the landscape character and presentation in and around the site” could be combined with “accommodate existing overland flow paths that run through the site”.

The DCP acknowledges the limited landscaped open space within Warringah Mall.

Water Sensitive Urban Design measures could be implemented to capture runoff through the site. This would be preferable to culverts, which do little to improve water quality or reduce the flow rate.

A design option would be to extend the creek corridor in sections, or to establish a landscaped corridor.

The existing trees around the perimeter of Warringah Mall and parallel with Cross Street soften the impact of the car park and structures, and provide shade and should be retained if possible.

ISSUES of CONCERN include:

- Landscape open space
- Stormwater Channel
- Creek corridor
- Pedestrian linkages

LANDSCAPE OPEN SPACE (LOS) AND SITE FEATURES

The DCP acknowledges the limited landscaped open space within Warringah Mall and states: “*The design of these spaces should also contribute to the public amenity within and around the centre.*”

The Objectives include: “*Ensure landscaping is integrated into the design of development.*”
Inadequate provision is made for LOS within the site.

The proposed footprint of development covers most of the central portion of the site with buildings and rooftops, with only residual areas of LOS at the perimeter.

The landscaped zones are only along boundaries of the site. No landscaping is proposed within the central area of the Mall, even though there are opportunities to do so.

“Boundary based landscaped strips” are important, but are a token contribution relative to the overall site. There is also little regard for the aspect and view towards the escarpment from open areas around the Mall.

A design option would be to extend the creek corridor in sections, or to establish a landscaped corridor.

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the site”.

STORMWATER CHANNEL

A feasible objective / criterion for the DCP would be to avoid additional culverts discharging into the downstream waterway. Increasing the size of the culverts will not improve the ecology of the creek.

I do not support the removal of mature trees adjacent to the bus stop in Pittwater Road. These trees are significant and contribute to the amenity of the area. The stormwater channel should be relocated and redesigned to facilitate the retention of these trees.

The proposed location of the stormwater channel around the perimeter is not consistent with the requirement to plant trees to reduce the impact of the built structures. The dry ‘creek’ bed above the proposed underground culvert would support only low vegetation, as the soil depth would be too shallow to support trees.

“Need to implement stormwater design works so as to eliminate or reduce the incidence of overland flows within the ‘Starfish Car Park’ and future extended retail mall.”

“A landscaped form derived from a dry creek bed is proposed above the underground concrete stormwater culvert which is proposed to be constructed along the Cross and Green Street frontages. Native grasses will be planted in amongst rocks and large gravel within this area.”

“Brookvale Creek runs through the site within an underground culverted system.”

Landscaping allows for the infiltration of runoff etc. Water Sensitive Urban Design measures could be implemented to capture runoff through the site. [See LOS functions.] The surface car parks currently provide overland flow paths.

CREEK CORRIDOR

The previous extension of Warringah Mall (in 1999) built over a 100 metres stretch of open creek-line immediately north of the existing boundary. Open sections, required as partial compensation for the loss of the creek corridor, are not well maintained and could be better integrated as landscaped features.

It is not too late to incorporate a (Brookvale Creek) corridor into the design as a landscaped link between Allenby Park and Warringah Golf Course. This would also provide continuation with the existing open section of waterway immediately north and south of Warringah Mall.

The missed opportunity to incorporate a landscaped (creek) corridor into design of the previous extension (1999) could still be achieved.

PEDESTRIAN LINKAGES

Improve pedestrian linkages across the site e.g. diagonally between the internal bus stop and the northern entry to the Mall, and Pittwater Road bus stop. An open space corridor could complement this route and also be used as a cycle-way.

WLEP 2000 GENERAL PRINCIPLES

General Principles relevant to the proposal include:

Clause 60: **Watercourses and aquatic habitat**

Development is to be sited and designed to maintain and enhance natural watercourses and aquatic habitat.

Clause 63: **Landscaped Open Space** is to be of such dimensions and slope and of such characteristics that it will:

- Enable the establishment of appropriate plantings that are of a scale and density commensurate with the building height, bulk and scale, and
- Facilitate water management including on-site detention and the infiltration of stormwater, and
- Conserve significant features of the site.

Clause 76: **Management of Stormwater**

Stormwater runoff is to have minimal impact on any receiving waterway.

Stormwater detention systems are to be visually unobtrusive and integrated with site landscaping.

Development is to have regard to the Council's natural drainage systems, drainage easements and public drainage systems

I hope the above comments will be taken into account.

Yours sincerely

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A conscious and conscientious effort is required to improve the waterway. So far no authority appears to have assumed care, control or management of this natural asset.

Environmental factors have been assigned a relatively low priority. The proposed option to address bank stability should be considered in conjunction with modifications and measures to improve aquatic habitat and ecology of the creek.

Concrete channels in other locations are being removed and the natural creek environs restored. Planning policies encourage this trend to enhance and improve waterways and restore their natural function wherever possible.

The proposed upturned box culvert along a continuous 90m stretch of Brookvale Creek is unfortunately the reverse of this policy. The culvert would be in place for decades to come and inhibit the scope for the future restoration of the creek.

To compensate, the design should be modified to incorporate natural features and functions of the creek where possible. In addition, other measures to reinforce the banks while also improving the creek could also be adopted.

ADDITIONAL COMMENTS on DA2008/1742

The Warringah Mall site is situated on low-lying land that was formerly a swamp. The increased channelling of stormwater runoff through culverts has the potential to raise flood levels downstream.

Any proposal that will impact on the downstream environment requires an overall assessment, which takes into account the external costs and cumulative impacts.

Re Brookvale Creek downstream: A feasible and reasonable objective / criterion for the DCP would be to avoid additional culverts discharging into the downstream waterway.

Increased volume and flow rate during heavy rainfall events degrade the waterway downstream and would interfere with efforts to restore aquatic ecology.

The relatively poor condition of Brookvale Creek should not justify further degradation, with the installation of additional culverts. Development in the upper catchment, which includes Warringah Mall, has contributed to degradation of the waterway.

The condition of aquatic habitat in Brookvale Creek is low to moderate. Increasing the size of the culverts will not improve the ecology of the creek.

The previous extension of Warringah Mall built over 100m of creek-line immediately north of the existing boundary. The open sections, required as partial compensation for the loss of the creek corridor, are not well maintained and could be better integrated as landscaped features.

Key Design Principles: “retain / improve the landscape character and presentation in and around the site” could be combined with “accommodate existing overland flow paths that run through the site”.

The DCP acknowledges the limited landscaped open space within Warringah Mall.

Water Sensitive Urban Design measures could be implemented to capture runoff through the site. This would be preferable to culverts, which do little to improve water quality or reduce the flow rate.

A design option would be to extend the creek corridor in sections, or to establish a landscaped corridor.

The existing trees around the perimeter of Warringah Mall and parallel with Cross Street soften the impact of the car park and structures, and provide shade and should be retained if possible.

ISSUES of CONCERN include:

- Landscape open space
- Stormwater Channel
- Creek corridor
- Pedestrian linkages

LANDSCAPE OPEN SPACE (LOS) AND SITE FEATURES

The DCP acknowledges the limited landscaped open space within Warringah Mall and states: “*The design of these spaces should also contribute to the public amenity within and around the centre.*”

The Objectives include: “*Ensure landscaping is integrated into the design of development.*”
Inadequate provision is made for LOS within the site.

The proposed footprint of development covers most of the central portion of the site with buildings and rooftops, with only residual areas of LOS at the perimeter.

The landscaped zones are only along boundaries of the site. No landscaping is proposed within the central area of the Mall, even though there are opportunities to do so.

“Boundary based landscaped strips” are important, but are a token contribution relative to the overall site. There is also little regard for the aspect and view towards the escarpment from open areas around the Mall.

A design option would be to extend the creek corridor in sections, or to establish a landscaped corridor.

Key Design Principles: “retain / improve the landscape character and presentation in and around the site” could be combined with “accommodate existing overland flow paths that run through

the site”.

STORMWATER CHANNEL

A feasible objective / criterion for the DCP would be to avoid additional culverts discharging into the downstream waterway. Increasing the size of the culverts will not improve the ecology of the creek.

I do not support the removal of mature trees adjacent to the bus stop in Pittwater Road. These trees are significant and contribute to the amenity of the area. The stormwater channel should be relocated and redesigned to facilitate the retention of these trees.

The proposed location of the stormwater channel around the perimeter is not consistent with the requirement to plant trees to reduce the impact of the built structures. The dry ‘creek’ bed above the proposed underground culvert would support only low vegetation, as the soil depth would be too shallow to support trees.

“Need to implement stormwater design works so as to eliminate or reduce the incidence of overland flows within the ‘Starfish Car Park’ and future extended retail mall.”

“A landscaped form derived from a dry creek bed is proposed above the underground concrete stormwater culvert which is proposed to be constructed along the Cross and Green Street frontages. Native grasses will be planted in amongst rocks and large gravel within this area.”

“Brookvale Creek runs through the site within an underground culverted system.”

Landscaping allows for the infiltration of runoff etc. Water Sensitive Urban Design measures could be implemented to capture runoff through the site. [See LOS functions.] The surface car parks currently provide overland flow paths.

CREEK CORRIDOR

The previous extension of Warringah Mall (in 1999) built over a 100 metres stretch of open creek-line immediately north of the existing boundary. Open sections, required as partial compensation for the loss of the creek corridor, are not well maintained and could be better integrated as landscaped features.

It is not too late to incorporate a (Brookvale Creek) corridor into the design as a landscaped link between Allenby Park and Warringah Golf Course. This would also provide continuation with the existing open section of waterway immediately north and south of Warringah Mall.

The missed opportunity to incorporate a landscaped (creek) corridor into design of the previous extension (1999) could still be achieved.

PEDESTRIAN LINKAGES

Improve pedestrian linkages across the site e.g. diagonally between the internal bus stop and the northern entry to the Mall, and Pittwater Road bus stop. An open space corridor could complement this route and also be used as a cycle-way.

WLEP 2000 GENERAL PRINCIPLES

General Principles relevant to the proposal include:

Clause 60: **Watercourses and aquatic habitat**

Development is to be sited and designed to maintain and enhance natural watercourses and aquatic habitat.

Clause 63: **Landscaped Open Space** is to be of such dimensions and slope and of such characteristics that it will:

- Enable the establishment of appropriate plantings that are of a scale and density commensurate with the building height, bulk and scale, and
- Facilitate water management including on-site detention and the infiltration of stormwater, and
- Conserve significant features of the site.

Clause 76: **Management of Stormwater**

Stormwater runoff is to have minimal impact on any receiving waterway.

Stormwater detention systems are to be visually unobtrusive and integrated with site landscaping.

Development is to have regard to the Council's natural drainage systems, drainage easements and public drainage systems

I hope the above comments will be taken into account.

Yours sincerely