

Quick Guide to Development Control (DC)

Punggol Reservoir

Centralised Services Department (Building Plan Unit)



Quick Guide to Sewerage Development Control (DC)

Punggol Reservoir

Centralised Services Department (Building Plan Unit)





FILL UP PUB-DCCLR.XFD form

Fill in the Particulars of QP and Owner

Select the appropriate project, development and submission details



Page 2 of 4

PUB-DCCLR

Particulars of Qualified Person	
Name	Select
Role In Project	
Registration No	
Firm Name	
Firm Address	
Telephone No.	
Extension No	
Fax No.	
Email Address	
Particulars of Owner(s)	
Name	Select
Address	
Contact No	
Email	

Page 2 of 4

Development Details				
Type of Project	Select			
Type of Development	Select			
Type of Submission	Landed Housing Bus Stop Linkway Strata Development/Public Housing Industrial Dormitories Schools Infrastructures Commercial Complex Farm Others			
1. Selections here will determine com 2. Choose SEW for Sanitary and Sew 3. Choose DRA for Drainage matters 4. For simplified submission, refer to 5. If making resubmission or amendm columns				
		New Submission	Resubmission	Amendment
Development Control	SEW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DRA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Simplified Submission	SEW	<input type="checkbox"/>		
	DRA	<input type="checkbox"/>		
Works Affecting Sanitary/Sewerage				
Check where applicable:				

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Declare additional used water discharge rate in L/s



<ul style="list-style-type: none"> - Sewerage (e.g. diversion of public sewer, proposed new sewer, proposed new manhole) - RC Trench - Sewerage pump system - Works affecting public sewer (e.g. building over sewer, footing within sewer setback, etc.) 		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Is there sewer connection to neighbour house?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Is there public sewer in the development lot?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
No. of storeys in development	<input type="text"/>	Storeys
Total used water discharge	<input type="text"/>	L/s
<ul style="list-style-type: none"> - Please refer to Used Water Discharge Calculation here - To include discharge by gravity and maximum pumped discharge rate (if any) - Please seek advise of Licensed Plumber or PE (Mech) 		

Submit QP's flow rate calculation based on the table shown in Annex 1 of circular issued on 30 Jun 2017 (Ref: WRN/17.2). **Note:** DU for floor trap (2 l/s) is only included in the calculation if it takes in used water produced from non-sanitary appliances, e.g. wash area.

Sample table format and values to be used to declare used water flowrate in submission

Building/Block No: XXXX

Appliances	DU* (l/s)	QTY	DU x QTY (l/s)
Wash basin	0.5	20	10
Bidet	0.5	0	0
shower w/o plug	0.6	20	12
Urinal with flush valve	0.5	4	2
Bath	0.8	2	1.6
Kitchen sink	0.8	10	8
Dishwasher	0.8	10	8
Washing machine (up to 6Kg)	0.8	10	8
Washing machine (up to 12Kg)	1.5	0	0
WC	1.8	20	36
Floor Trap (DN100)	2	20	40
Σ DU			125.6
Frequency Factor (K)*			0.5
Q _{ww1} = KvΣ DU (see below)			5.60
Other source of Q			0.00
Q total to sewer(Q_{ww1} + Other source of Q)			5.60

$Q_{ww1} = Kv \sum DU = 0.5 (\text{sq root } (125.6)) = 5.60$

* All DUs and Frequency Factor based on BS EN12056-2

Development Type	K, Frequency Factor
Office, dwelling, guest house	0.5
Hospital, School, Restaurant	0.7
Toilet open to public	1
Special use eg. Lab	1.2

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Fill up the rest of the fields under Works Affecting Sanitary/Sewerage



Works Affecting Sanitary/Sewerage	
Check where applicable: <ul style="list-style-type: none"> - Sanitary (e.g. internal sanitary reticulation up to last IC, new connection to sewer) <input type="checkbox"/> - Sewerage (e.g. diversion of public sewer, proposed new sewer, proposed new manhole) <input type="checkbox"/> - RC Trench <input type="checkbox"/> - Sewerage pump system <input type="checkbox"/> - Works affecting public sewer (e.g. building over sewer, footing within sewer setback, etc.) <input type="checkbox"/> 	
Is there sewer connection to neighbour house?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Is there public sewer in the development lot?	<input checked="" type="radio"/> Yes <input type="radio"/> No
No. of storeys in development	<input type="text"/> Storeys
Total used water discharge - Please refer to Used Water Discharge Calculation here - To include discharge by gravity and maximum pumped discharge rate (if any) - Please seek advise of Licensed Plumber or PE (Mech)	<input type="text"/> L/s
Used Water Catchment No.	<input type="text" value="Select"/> ▼
Please refer to catchment maps here	

Compulsory fields

FILL UP PUB-DCCLR.XFD form – Simplified Submission

Choose either option A, B or C. If your project doesn't match any of the options, please submit as a normal Development Control submission.

Page 3 of 7

Simplified Submission for Works Affecting Sanitary/Sewerage

I hereby declare that the project meets the following criteria:



☉ **A. A/A works to single landed residential house, factory** (excluding workers' dormitory) or shops (excluding food shops or food establishments).
The proposal involves only construction works/activities within the existing building, which comply with the following:

1. New or alteration to the sanitary facilities and sanitary pipes and fully comply with the Code of Practice on Sewerage and Sanitary.
2. Does not have any building/ structure/piling works outside the existing building that affecting the public sewer/combined sanitary drainline.
3. No change to drainline connection to public sewer.
4. No proposal of on-site facilities such as retention tank, holding tank and sewerage treatment plant (STP).
5. Total discharge of used water will not exceed 2 litres/second (including ejector system).

☉ **B. New erection or reconstruction of single landed residential house, such as single unit of terrace house, semi-detached house, bungalow.**
The proposal meets the following conditions:

1. Does not have public sewer or combined sanitary drainline within the lot
2. Reuse existing drainline connection which is connected to the public sewer located at public area. *For reuse of existing drainline connection which is made to the neighbour's inspection chamber, pre-consultation with PUB to obtain a written advice before lodgement is required.*
3. No new sewer.
4. No proposal of on-site facilities such as retention tank, holding tank and sewerage treatment plan (STP).
5. Total discharge of used water will not exceed 2 litres/second (including ejector system).

Page 3 of 7

4. No proposal of on-site facilities such as retention tank, holding tank and sewerage treatment plant (STP).
5. Total discharge of used water will not exceed 2 litres/second (including ejector system).

☉ **B. New erection or reconstruction of single landed residential house, such as single unit of terrace house, semi-detached house, bungalow.**
The proposal meets the following conditions:

1. Does not have public sewer or combined sanitary drainline within the lot
2. Reuse existing drainline connection which is connected to the public sewer located at public area. *For reuse of existing drainline connection which is made to the neighbour's inspection chamber, pre-consultation with PUB to obtain a written advice before lodgement is required.*
3. No new sewer.
4. No proposal of on-site facilities such as retention tank, holding tank and sewerage treatment plan (STP).
5. Total discharge of used water will not exceed 2 litres/second (including ejector system).

☉ **C. Erection of external structures such as covered linkway, bus shelter, pedestrian overhead bridge (POB)**

1. No works proposed within the sewer setback.

Simplified Submission is a lodgement process based on the QP's declaration. QP is reminded to check thoroughly before making submission for the project.

For proposals that does not meet any of the criteria or has obtained written direction from an earlier Development Control submission, QP is required to follow up with a Development Control submission. Simplified submission is not allowed for such cases.

Upon completion of work, QP is required to submit for PUB TOP/CSC clearance.

Ascertain Location of Sewer / Pumping Main

- Obtain SIP before proceeding with design of a development
- Ascertain exact position, alignment and levels of sewer/pumping main on site
- Indicate clearly on plans

Sewer Connection

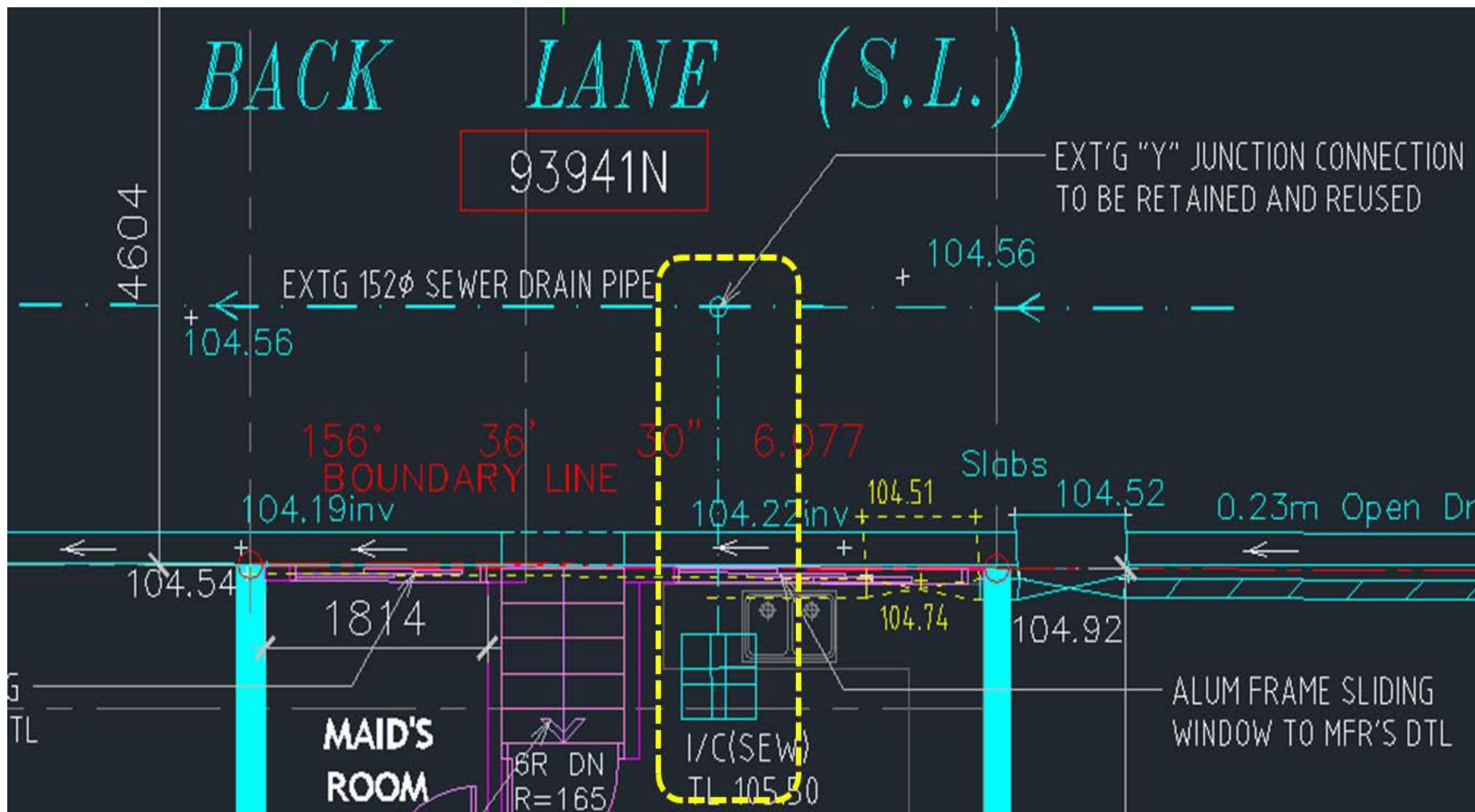
Indicate the following clearly in the site/1st storey plans:

- Existing/proposed point of sewer connection serving the proposed development site
- Existing public sewer/manhole within the lot(s)
- Type/material/diameter of the proposed sewer connection

Take note of the following:

- The drain-line from the premises to the public sewer, including the section beyond the development lot boundary, belongs to the user it serves
 - For development with multiple lots, e.g. detached or terrace houses on individual lots, every lot shall be provided with an individual drain-line connection to the public sewer
 - For condominiums, apartments, mixed residential/commercial developments, worker dormitories, commercial buildings and major industrial developments, the drain-line connection to the public sewer shall be made via a manhole. All existing raised or 'Y'-junction connections to the public sewer shall be upgraded to manhole connections
 - For redevelopment, existing drain-line connection going into neighbouring premises shall be discontinued where direct connection to public sewer in the public area is feasible
 - For 'Y'-junction connection, diameter and material of drain-line shall follow that of the sewer it is connecting to
 - For manhole connection, diameter of drain-line shall be minimum 200mm and no uPVC is allowed
 - Saddle connection to CIPP lined sewer pipe is not allowed
-

Sewer Connection



The point of sewer connection that serve the development must be shown clearly.

Setback

- All developments should comply with the minimum setback distance between any buildings / structure and the sewer, as specified in clause 1.2.5 of Code of Practice on Sewerage and Sanitary Works (2nd Edition – Jan 2019).

Sewer/Pumping Main Nominal Diameter(mm) D	Sewer Depth (m)	Minimum Distance (m)*
≤ 600	≤3	1.0
	>3 and ≤5	1.5
	>5	2.0
> 600 to 1500	All	0.5D + 2.5
>1500 to 2500		0.5D + 3
>2500		0.5D + 4
Deep Tunnel Sewerage System (DTSS)		0.5D + 6
* measured from the outer most edge of the structure, including footings and overhangs, to the centreline of the sewer pipe or DTSS.		

Setback

- Exemption to this requirement shall only be applicable to structures that do not form an integral part of the building and which are light and easily removable, such as awnings, planting troughs, covered linkway, compound drains etc.
- QP should shall clarify if proposed structure/covered linkway/timber deck/ etc. is to be made demountable. Please indicate clearly in the plan.
- QP's and Owner's endorsements in the DC / DP / As-built plans are required:

Setback

QP's endorsement:

I, Name (QP for the development) hereby confirm that the clearance between existing sewer and removable/demountable structure is unable to meet the minimum required sewer setback which is absolutely unavoidable. It will be designed and constructed such that it is easily removable to facilitate the maintenance, repair or other works on the sewer. To achieve this purpose, the removable/demountable structure is expected to have the following features:

- It shall not form an integral part of the building;
- It shall not have ground beams or structural floor slabs or deep footings etc. encroaching on the sewer setback;
- It shall be light; and
- The removal of the structure shall not involve extensive demolition works (e.g. breaking/cutting of any concrete or steel members/parts)

Setback

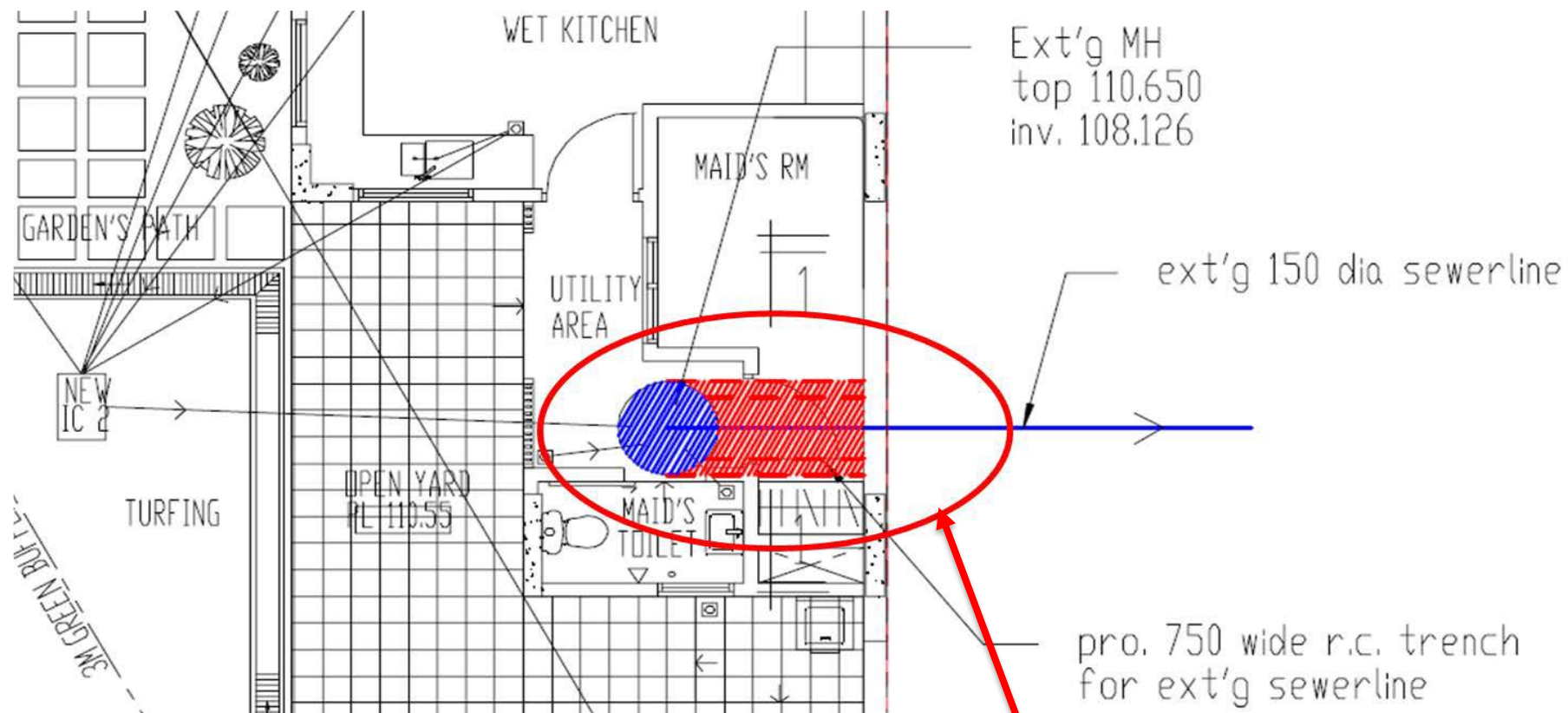
Owner's endorsement:

I, Name (the owner of the development) hereby undertake to remove/reinstate the removable/demountable structure at my own cost should PUB finds this necessary to facilitate the maintenance, repair or other works on the sewer. I shall undertake to inform the new owner of this requirement and the responsibility should there be a change of the ownership of the property.

Structure on top of RC Trench

- It is essential that the sewers shall remain readily accessible at all times so that any maintenance works to the sewers can be carried out expeditiously. For this, no building or structure shall be allowed to be erected over and across any sewers.
- QP shall ensure no permanent structure (e.g. kitchen cabinet) is to be erected / installed over the RC trench to ensure readily access when maintenance is needed.

Structure on top of RC Trench

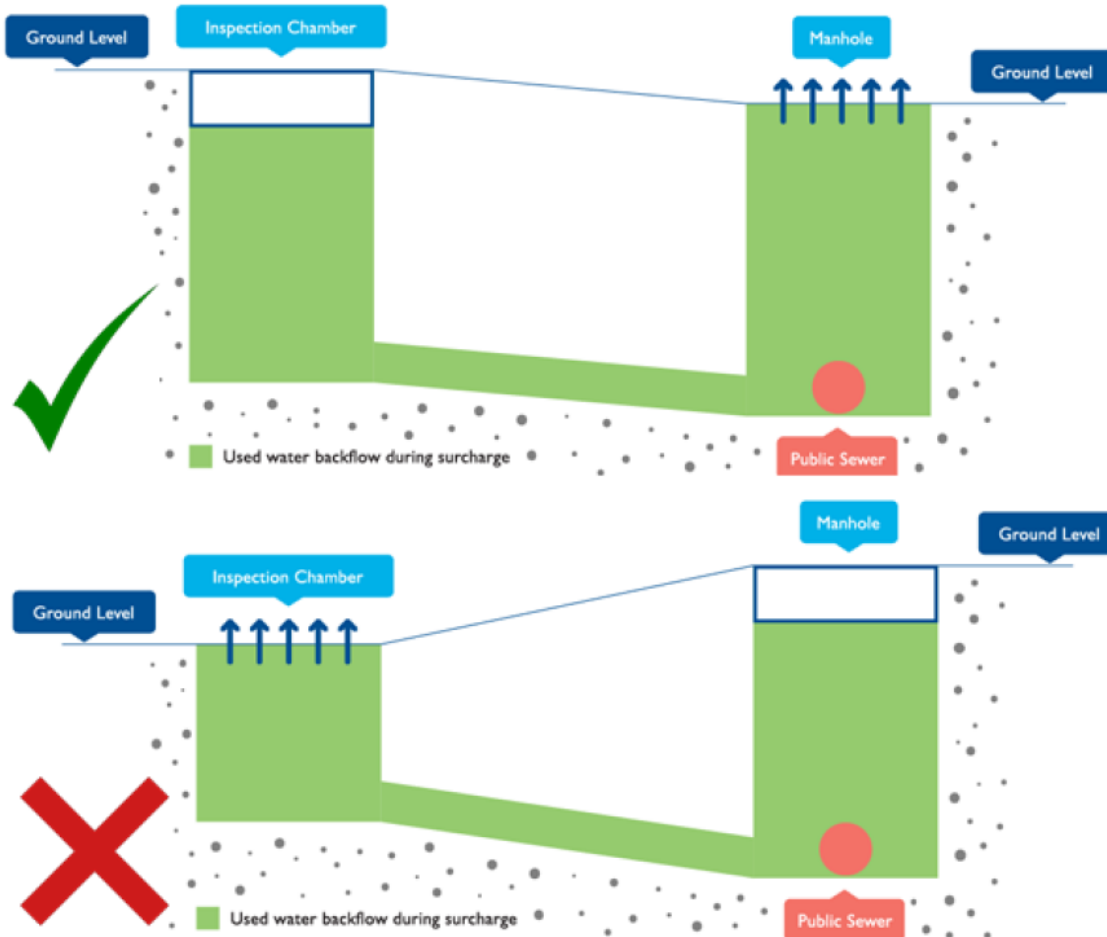


No building or structure shall be allowed to be erected over and across any sewers

Prevention of Used Water Backflow

- Indicate the top and invert levels of manhole(s) and inspection chamber(s) clearly in the drawings.
- The finish floor level of the development and the levels of the sanitary appliances, floor traps and inspection chambers (usually on the compound) shall be constructed suitably higher than the top level of the manhole to which the sanitary drain line is connected. This is done to avoid used water overflow from the inspection chamber, floor traps and other sanitary appliances into the development lot.

Prevention of Used Water Backflow



The floor level of the development and the levels of the sanitary appliances, floor traps and inspection chambers should be constructed at levels higher than the manhole to which it is connect to.

Position of Sanitary Pipes

- Sanitary pipes shall not be placed above potable water storage tank, electrical transformer/switchgear or above swimming pools and their balancing tanks.

- In all multi-storey residential buildings (e.g. condominium, apartment, HDB block) excluding single landed houses, the sanitary pipes shall be located such that:
 - no pipes from adjacent dwelling units shall be located within the dry areas (such as bedroom, living room, dining room, study room, etc.) of a dwelling unit
 - no pipes serving WC shall be located within the kitchen area of any dwelling unit
 - no pipes from kitchen sink, floor traps and discharge pipes shall be sited directly above the stove in the kitchen

- In all non-residential buildings (e.g. commercial buildings, shopping malls, hotel, hospital, etc.), the sanitary pipes shall be located such that:
 - no pipes from WC shall be located at the ceiling of a commercial unit
 - no discharge stack or overhead pipe shall be sited within areas of the food establishment/F&B unit where food is cooked, prepared, stored or served

USEFUL REFERENCES

- Take guidance from the DC Checklist of the CORENET Form (PUB-DD-Checklist) in your preparation of DC Drainage submission.
- Developers/owners are advised to purchase the DIP within 6 months prior to DC Submission so that the latest information is available for planning of the development proposals.

Quick Guide to Drainage Development Control Submission



Punggol Reservoir

FILL UP PUB-DCCLR.XFD form – Development Control

Tick all relevant works affecting drainage

Page 2 of 4



Works Affecting Drainage

Check where applicable:

Works Affecting Minor Drainage

- Internal drains



Works Affecting Other Drainage

- Structural detention and retention features

- a) Gravity discharge



- b) Pumped discharge



- ABC Waters design features



- Flood protection measures (e.g. flood barriers/flood gates)



- Pumped drainage system for development with

- a) Linkages to underground special facilities



- b) No linkages to underground special facilities



- Common drain



- Roadside drains



- Entrance culverts



- Drainage reserve



FILL UP PUB-DCCLR.XFD form – Simplified Submission

Choose either option A or B. If your project doesn't match any of the options, please submit as a normal Development Control submission.

Page 4 of 4



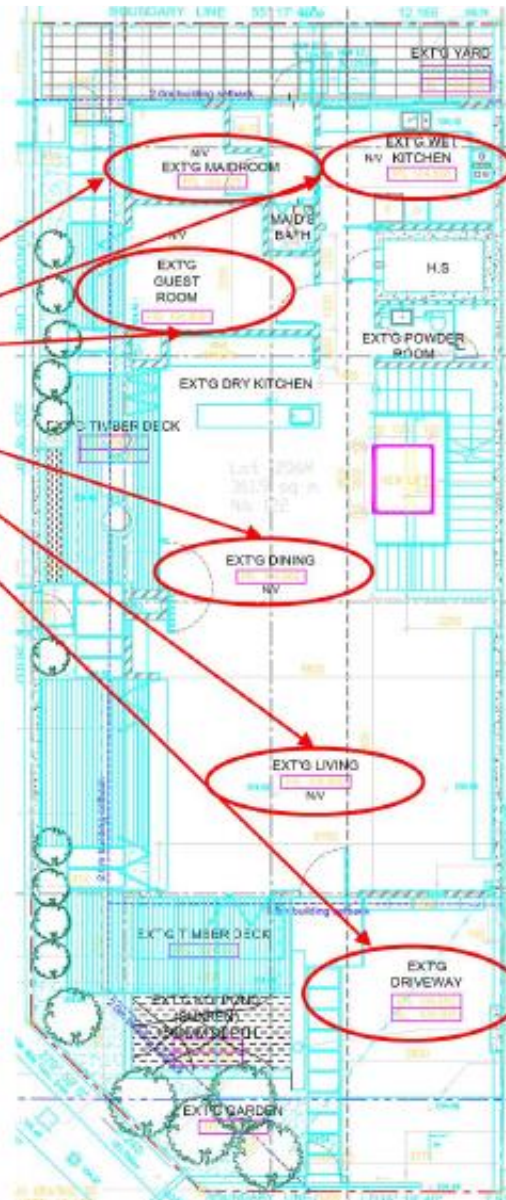
COP	
Simplified Submission for Works Affecting Drainage	
I hereby declare that the project meets the following criteria:	
<input checked="" type="checkbox"/>	A. A&A works to an existing building involving only the construction of additional floors without reconstructing the first storey (no increase of site area of building) and where there are no linkages to special underground facilities
<input checked="" type="checkbox"/>	B. External structures that are: <ol style="list-style-type: none"> 1. Not affecting public drain (i.e. at least 300mm away from drain wall) or; 2. Not within Drainage Reserve or; 3. Not affected by common drain
<p>Simplified Submission is a lodgement process based on the QP's declaration. QP is reminded to check thoroughly before making submission for the project.</p> <p>For proposals that does not meet any of the criteria or has obtained written direction from an earlier Development Control submission, QP is required to follow up with a Development Control submission. Simplified submission is not allowed for such cases.</p> <p>Upon completion of work, QP is required to submit for PUB TOP/CSC clearance.</p>	

PLATFORM LEVEL OF DEVELOPMENT

- Please ensure that the minimum platform level shall not be lower than:
 - 4.0m above SHD for developments along the southern coast, and 4.5m above SHD for developments along the northern coast; or
 - 300 mm above the adjacent road/ground level; or
 - any other level specified by the Board whichever is the highest.
- You should indicate the minimum platform levels on the 1st Storey Floor Plan.
- The ground and road levels adjacent to the drain outlet discharge points shall also be shown on Site & 1st Storey plans to determine the minimum platform level for the proposed development.

PLATFORM LEVEL OF DEVELOPMENT

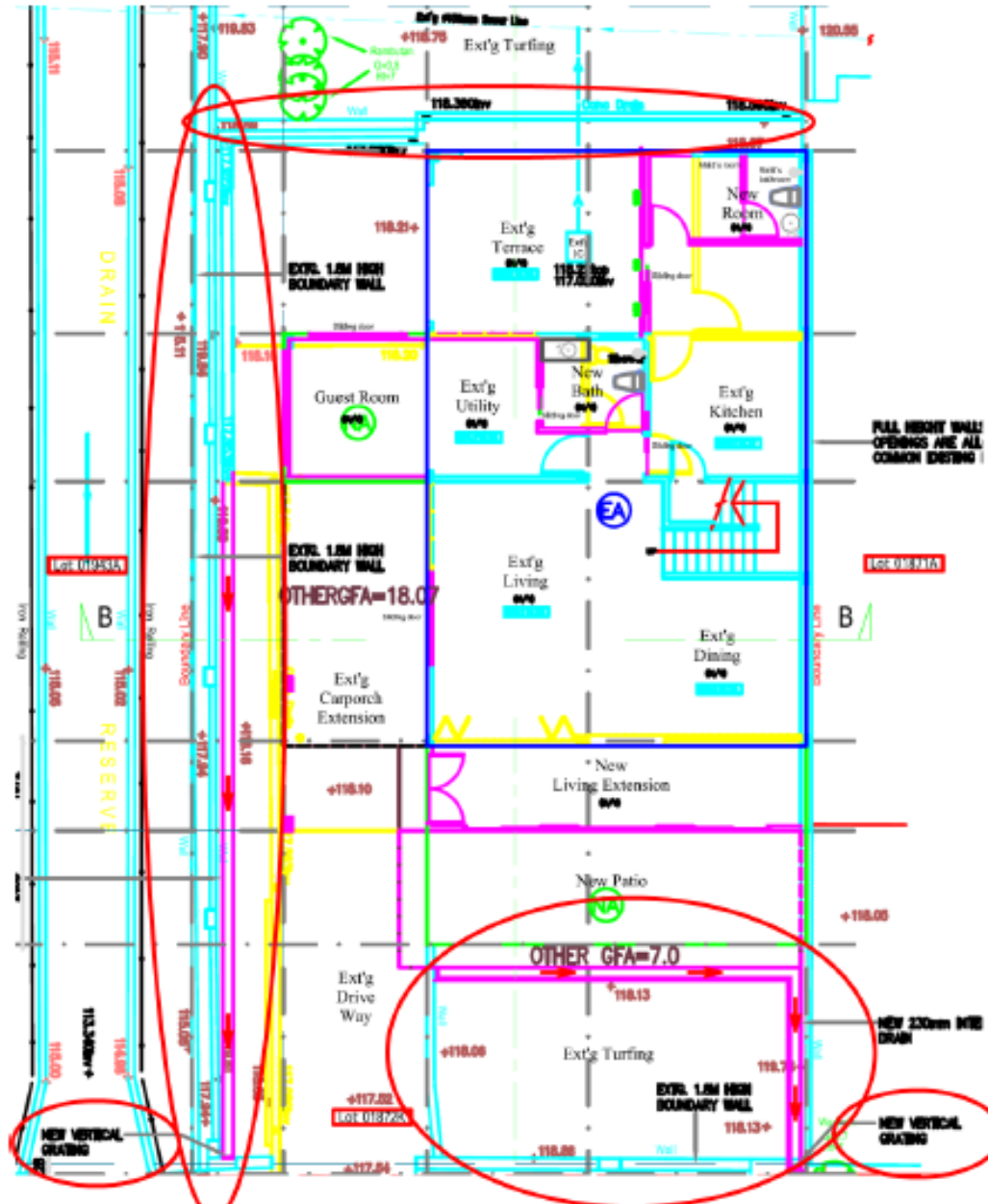
Platform level should be clearly indicated on your drawings



INTERNAL DRAINAGE SYSTEM

- The alignment, type, size, flow direction, summit point and outlet discharge point of the existing/proposed internal drains shall be clearly indicated on the 1st Storey plan.
- A vertical grating shall be installed at the outlet discharge point(s) of the internal drain located within the development site. This must be indicated on the 1st Storey plan. This grating is to be maintained by the Owner to be clear of debris so that drainage is not obstructed.

INTERNAL DRAINAGE SYSTEM



DEVELOPMENT WITH ROOF TOP TERRACE/ VOIDS

- All voids which are open to sky shall be clearly edged/outlined in thick line with the annotation 'open to sky' on both the Site and 1st Storey plans.
- Ensure that rainwater are properly drained off from these voids to the 1st storey drainage system, and not to the basement.
- Runoff from roof top terrace shall be effectively conveyed to the 1st storey drainage system, and not to the basement.

COMMONLY MADE MISTAKES

- No cover letter and wrong CORENET form
 - Remember to attach a cover letter with the correct CORENET form for your submission
 - Seek approval for waivers and deviations from the COP by highlighting clearly in cover letter and Deviation Form (PUB-DEV-DRA).
- Wrong classification of drainage works
 - Tick the correct drainage works according to classification under “minor” and “other drainage”.
- Incomplete submission
 - Missing endorsements as required by PUB.

Thank You

Punggol Reservoir