

## Procedure for Sewerage Submission

MS 1228 Cl.4.1: Sanitary sewers shall be designed and installed to collect and convey all waster flows - both domestic wastes and industrial wastes (approved by the authority) as well as an unavoidable amount of the ground water infiltration to a point of acceptable treatment and ultimate discharge. Rain water from roofs, streets, and other areas and ground water from foundation drains shall be excluded.

**Division of Work between M&E and C&S - M&E's scope of work ends at last manhole (inspection chamber) outside the building. M&E needs to define the last manhole depth, position etc. M&E may need C&S' info on the final discharge point in order to provide an optimum direction of flow.**

### Reference

- 1) Guidelines For Developers On The Design And Installation Of Sewerage Systems - Section 1 by JPP
- 2) MS 1228 : 1991 Code of Practice For Design and Installation of Sewerage Systems by SIRIM

No.	Task	Action			Remarks
		Y es	N o	N. A.	
<b>A</b>	<b>Particulars of Authority</b>				<a href="#">..\Authority Telephone Directory 2227x7\Authority - Telephone Directory.xls</a>
-	Address : Jabatan Perkhidmatan Pembetulan, Kementerian Perumahan Dan Kerajaan Tempatan, Tingkat Bawah , Wisma Damansara, Jalan Semantan, 50490 Kuala Lumpur				
	Contact No.: 03-2562605/ 2562612 & Fax 03-2562609				
	En. Ahmad Rozian Bin Othman = Ketua Pengarah				
-	Address : Indah Water Konsortium Sdn Bhd, KL North Certification Unit, Damansara Regional Sewage Treatment, Works, off Jalan Damansara, Bukit Kiara, 60000 KL				
	Contact No.: 03-718 3453, 718 3462 & Fax 03-718				
	Mr.Tiah Oon Han = Manager for KL North Division				
	Mr. Raju = T.A.				
<b>B</b>	<b>Planning Approval Stage - Technical Requirements by Authority</b>				<b>Stage 1 Approval of Sewerage Planning : Outline Design Stage</b>
1	To check with JPP/IWK on their requirements for the development.				
	The information on the technical requirements by the Authority may be obtained by the Architect or the Engineer - to be incorporated into the proposed planning layout.				<i>For project with big land area, we may have to help to sort out the Drain Reserve if exist (in many case, redesign to reduce the width provision), road reserve provision, water supply provision from JBA, and sewer requirement from JPP (whether treatment plant at site or central sewer).</i>
2	To check with JPP/IWK on the existing or proposed central sewerage system near to the development.				<i>To calculate the TOTAL EQUIVALENT POPULATION (EP) per day</i>
3	To discuss on the possibility of using the central sewerage system for the discharge, instead of planning for a new treatment plant within the development..				

<b>4</b>	<b>Upgrading of Existing Sewerage Treatment Plant (STP)</b>			
	In project 175 -The project is divided into 2 phases. Phase 1 was completed 10 years ago. We are involving in the phase 2 works, consist of 137units of residential houses. There is an existing IWK treatment that occupied part of IWK land reserve (existing STP occupy 536m <sup>2</sup> , empty land=447m <sup>2</sup> ). The plant was built 10 years ago to cater for the discharge from phase 1, and the capacity is not sufficient for the additional discharge from phase 2 which is going to be built later. Therefore, extension work is required for the existing plant. IWK/JPP Melaka requested us to submit a preliminary conceptual design report on how to upgrading the STP.			In this case, we have to advise the Client to engage a specialist to liaise with IWK/JPP
<b>5</b>	To submit the following, if necessary:			
<b>a</b>	For big project (say >2000PE), to submit a proper report by showing the calculation of PE and land area for STP. Prepare a cover for the above (RD plan) submission. Submit together the planning layout plan (from planner or Architect) and survey plan.			<a href="#">1=Preliminary &amp; Planning Stage Sample Letter\1_2=Standard Letter Sewerage Planning Submission.doc</a>
<b>b</b>	If the project is small (say <2000PE), the report can be in a letter format.			<a href="#">1=Preliminary &amp; Planning Stage Sample Letter\1_1=IWK-JPP Melaka Sewerage Planning Submission for SMALL PROJECT.doc</a>
<b>C</b>	<b>Architect to Obtain the Development Order (Surat Perintah Pembangunan) and the Approved / Endorsed Planning Layout from Planning Department</b>			<i>To obtain 1 copy each from the Architect for submission to Authority</i>
<b>1</b>	The <b>Development Order</b> / Perintah Pembangunan - Engineer to study all the requirements on the civil works.			
<b>2</b>	The <b>Approved &amp; Endorsed Planning Layout</b> / Pelan Tapak - Engineer to study and identify the road reserve / area to be surrendered to Authority.			
<b>D</b>	<b>Detailed Submission Stage - Important Items to Incorporate into Sewerage Plans (to be continually updated)</b>			<b>Stage 2 - Approval of Sewerage Works : Detail Design Stage</b>
<b>1</b>	To obtain the approved DO from the Planner / Architect. <b>Without DO, the submission will not be processed</b>			Normally, in the layout plan, Architect has stated the type of development, area/units
<b>2</b>	To obtain the relevant BASIS OF EQUIVALENT POPULATION for the type of houses/buildings. Discharge = 50 gpd per E.P.			Table 1 - Basis of Equivalent Population : tabulated list as per (1) JPP Guidelines for Developers, (2) Miscellaneous past individual projects

3	To calculate the TOTAL EQUIVALENT POPULATION (EP) per day			Table 2 - Total Equivalent Population : tabulated sample of EP calculations.
4	To write to M&E Consultant for the positions of internal last manhole			<a href="#">1=Preliminary &amp; Planning Stage Sample Letter\1 3=Standard Letter To M&amp;E Last Manhole Position.doc</a>
<b>SEWERAGE DESIGN - DISCHARGE BY GRAVITY</b>				
1	To prepare the sewerage layout plan -based on the earthwork plan. The existing ground level and proposed level are clearly defined.			
-	To include the sewerage drawing standard notes. To refer to the standard drawing for the latest set of notes.			<a href="#">Dwg Std. Notes!A1</a>
-	To indicate the acreage of development (acres) & (hectares)			<i>Optional. For reference only.</i>
-	To indicate the total Equivalent Population (E.P.) for the development.			
2	To determine the location of the point of ultimate sewer discharge for treatment.			
	It is already determined at planning stage - either into the existing central sewer, into the proposed central sewer (timing of completion of project is critical) or into a proposed treatment plant within the development.			
3	To determine the proposed layout of sewer pipes and manholes			For residence development, the line is at the backline. For office, apartment, hotel etc, we need to obtain the last internal manhole (=inspection chamber) position from M/E.
4	To determine the manhole references			
5	To determine the sewer pipe length between manholes			
6	To determine the type of pipe materials to be used.			MS 1228 Cl.4.2.2: To use VCP for pipe $\phi \leq 450\text{mm}$ & RCP for pipe $\phi > 450\text{mm}$ . VCP or RCP with 12mm thk high alumina lining, connected by flexible joints laid on either granular or concrete bedding.
7	To calculate the breakdown of EP from buildings into each sewer line			MS 1228 Cl.3.4: Estimation of sewage flows and organic loading from various premises. The average design daily flow may be estimated from a given premises by multiplying the estimated EP by the average daily flow per capita

8	To carry out the sewerage design using standard Sewer Line Design spreadsheet				<a href="#">\\NT98\ STD Dsg 222\Design Spread Sheet 2229xx\Civil\Sewerage\Sewer Line Design=990115.xls</a>
*	To use Colebrook and White Uniform equation in the hydraulic design of sewers, providing information on velocity and discharge for a specific hydraulic gradient and pipe size.				
*	Average Daily Design Flow = 50 gallons per day per EP = 225 litres per day per EP				MS 1228 Cl.3.2: Average Design Flow
*	Peak Flow Factor = $4.7 \times p^{-0.11}$ where p is the estimated EP, in thousands.				MS 1228 Cl.3.6: Peak Flows. To cater for peak hourly flow, as required in the design of sewers, pumping stations and components of the treatment plant.
*	Cumulative Design Flow (l/s) = Equivalent Population (persons) * Peak Flow Factor * Average Daily Flow (gal/person) / (24*60*60)				
*	Fall (m) = Pipe Length (m) * Gradient				
*	IL at Downstream (m) = GL (m) - IL (m)				
9	SEWERS - to ensure the following criteria are complied :-				MS 1228 and JPP Guideline Section 1 : Appendix 6
*	minimum size of sewer pipes under gravity flow is 225mm dia.				MS 1228 Cl.4.3.4.2: Size of sewers. The minimum size of a gravity sewer conveying raw sewage shall be 200mm in diameter.
*	only VCP pipe or HDPE pipe is allowed to be used. UPVC pipe is not allowed. For pipe diameter > 450mm, use RCP				Info from En. Sulaiman Hamid of IWK Melaka (001013)
*	minimum size of domestic connections to public sewer is 150mm dia.				
*	minimum depth of sewers line invert level is 1.2 m (This imply that the minimum depth for sewer manhole to be 1.2m also)				MS 1228 Cl.4.3.3: Hydraulic Design
*	maximum full flow velocity is 4.0 m/sec to prevent scouring of sewer by erosive action of suspended matter				
*	minimum full flow velocity is 0.8 m/sec to allow self cleansing				
*	where sewers are laid at considerable depths or under highways having expensive foundations and surfaces, it may be cheaper or more convenient to lay shallow rider sewers to receive the local house connections, and to connect the riders at convenient points into the main sewers.				
*	all sewers shall be laid away from all services eg. at centre of road, within street or alleys right-of-way. Preferbably, all sewer line for terrace houses/shop to be laid at the backlane. However, IWK/JPP have no objection for the pipe to laid along the front lane (which mean the house manhole has to be located in front) if there is no back lane or if there is obstruction at backlane.				

	* all sewers shall <u>not</u> be laid running parallel and above water pipe				MS 1228 Cl.4.3.2 (d): In relation to water mains, a minimum at 3m horizontal and 1m vertical separation respectively to be provided. No sewer line should be above water main unless the pipe is adequately protected.
	* all sewers shall <u>not</u> be laid running against existing ground gradient				
	* all sewers running beneath drain/culvert - the minimum clearance is 1'-6" (450mm) and sewer pipe is to be concrete surround				
	* all sewer pipe with less than 3'-0" cover (1.0m) must have a minimum of 6" (150mm) concrete surround				
	* all exposed sewer shall be cast and at least 12" (300mm) above the top water level of the drain				
	* all exposed sewer at the vehicular area, such as road crossing and parking area to be mild steel				
10	MANHOLES - to ensure the following criteria are complied :-				
	* at upstream end of all sewers				
	* at every change in direction or alignment				
	* at every change in gradient				
	* at every change in size of sewer				
	* at every intersection and junction				
	* at maximum spacing of 100m for sewers of >=200mm dia., and 150m for sewers of >=450mm dia.				Greater distances may be permitted in cases where adequate modern cleaning equipments for such spacing is provided, and also in cases where sewers convey pretreated sewage.
	* the last manhole shall be higher than the discharge point - either into the internal sewage treatment plant or external public sewer				
	* all sewers and manholes shall be sited in highways and public land where access can be gained for maintenance purposes.				
11	DROP MANHOLES - drop manholes to be provided if the difference between the incoming sewer and manhole invert is more than 600mm. However, in normal practice, drop manhole to be provided if the difference is 900mm or more.				MS1228:1991 Cl. 4.5.7: Drop Manholes. If an incoming sewer is higher than the outgoing sewer by 600mm or more, a drop manhole shall be used. Where the difference in elevation between the incoming sewer and manhole invert is less than 600mm, the invert shall be filleted at the corners to prevent solids deposition.
12	INFILTRATION - The sewerage system shall be designed to cater for unavoidable amount of infiltration, which arises from faulty joints, cracked sewer pipes and manholes. However, in normal practice, this is not included in the design.				MS 1228 Cl.3.7: Infiltration. Maximum infiltration rate of 50 litre per mm. diameter per km of sewer per day.

13	<b>Details as per JPP's requirements/comments:-</b>				<a href="#">SW=Standard Guidelines\JPP_Guidelines for Submission=19990811.xls</a>
*	Tabulated data of Manhole Ref / Ground Level / Manhole Invert Level / Manhole Depth				
*	Details of (1) manhole cover with JPP logo, (2) locking device to prevent unauthorised lifting or removal, (3) trenching and bedding details, (4) stainless steel steps in manhole, (5) Hinge Device				
*	Manhole to be precast instead of brickwall				
*	Backdrop pipe for backdrop manhole to be indicated in the longitudinal section				
*	Connection details of the proposed sewer into the existing manhole to be indicated				
*	aluminium or ductile iron steps				
*	For sewer pipe requirement, vitrified clay pipe (VCP) shall be used for pipes of up to 450mm dia. and anything more can use RCP. In Project 163, the required 750mm dia. VCP is not available in the local market, therefore RCP shall be used.				For Project 163. Confirmed by En. Rajoo of IWK, Taman Tun Dr Ismail.
*	All connection from the building internal manhole to the proposed external manhole to be vitrified clay half round channel.				Comment in 126 (ii). To add to Standard Notes
14	To colour the Sewerage drawings.				Sewer lines shall be duly coloured with different sizes and materials indicated
(a)	location plan = red and shaded				
(b)	boundary line = green				
(c)	proposed sewer lines and manholes = red				Semua cadangan sistem retikulasi paip pembetulan hendaklah
(d)	existing sewer lines and manholes = blue				
<b>E Preparation of Drawings, Forms &amp; Reports</b>					
1	To prepare 4 sets of <b>Sewerage Drawings</b> - layout plan, details & longitudinal sections.				<a href="#">\\NT98\ PRJ DWG 117\152 Jln Sherry\CVL=Civil\SW=Sewerage</a>
(a)	<i>No. xxx-CVL-SW-040 : Proposed Sewerage Reticulation Plan</i>				The A1 size plans shall be folded such that their title can be read without opening out the plans.
(b)	<i>No. xxx-CVL-SW-041 : Typical Details Of Manhole Cover, Service Connection, Trenching Details And Stainless Steel Step</i>				
(c)	<i>No. xxx-CVL-SW-042 : Precast Manhole Details</i>				
(d)	<i>No. xxx-CVL-SW-043 : Longitudinal Section Of Sewer Lines</i>				to indicate the dro manhole in the longitudinal section
2	To note that all tracings to be signed by the Engineer-in-charge and to be counter-signed by Mr.Neo before any paper printing is allowed. This also applies to all revised drawings/tracings. Old tracings to be marked "SUPERSEDED" with the date and reason for revision.				

3	To stamp on all plans and reports (1) PE - <b>Jurutera Profesional (Awam)</b> seal and (2) JKA's piawai jabatan "I hereby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same".				
4	To prepare 2 copies of <b>Form SSA/PDC/1</b> : Application for Sewerage Planning Approval (if not submitted at the planning approval stage).				<a href="#">..\Standard Form 2227x7\Borang SEWERAGE Submission4427x7\Sample of Standard Forms\SAMPLE\SSA_PDC_1=application_sewerage_planning_approval.xls</a>
-	Project Title / Location				
-	Type of Works Submitted				
-	Plan Reference Nummbers				
-	Lot No. and acreage (in hectares)				
-	Owner - Name, Address, Contact Nos., Signature, Name & IC No. of Signatory				
-	Engineer - Name, Address, Contact Nos., PE Endorsement, Signature, Name & IC No. of Signatory				
5	To prepare 2 copies of <b>Form SSA/PDC/3</b> : Application for Approval of Sewerage Works				<a href="#">..\Standard Form 2227x7\Borang SEWERAGE Submission4427x7\Sample of Standard Forms\SAMPLE\SSA_PDC_3=application_approval_sewerage_works.xls</a>
-	Project Title / Location				
-	Type of Works Submitted				
-	Plan Reference Nummbers				
-	Owner - Name, Address, Contact Nos., Signature, Name & IC No. of Signatory				
-	Engineer - Name, Address, Contact Nos., PE Endorsement, Signature, Name & IC No. of Signatory				
6	To prepare 2 copies of <b>Asset Management Form</b>				<a href="#">..\Standard Form 2227x7\Borang SEWERAGE Submission4427x7\Sample of Standard Forms\SAMPLE\WK Asset Management Form.xls</a>
-	Project Title / Location				
-	Development Population Equivalent				
-	Sewerage Pipe - Diameter/Material/Length				
-	Treatment Works - Type/Status/Capacity/Reserved Area				
-	Intermediate Pump Station - No. of Pumps/Reserved Area/Design P.E. (where applicable)				
7	To write to the Architect for a copy of the <b>Development Order</b> (Surat Perintah Pembangunan) and the approved & endorsed <b>Planning Layout</b> (Pelan Tatatur/Tapak) as approved by Jabatan Perancang & Kawalan Bangunan.				<i>This is obtained from the Architect upon the planning approval. The Authority requires this to confirm that the planning of project is approved.</i>

8	To prepare 4 sets of the PE endorsed <b>Sewerage Report</b>				<a href="#">..\Project Report 222487\152 Jalan Shelley\152 Sewerage Report.doc</a>
9	<b>Engineer's P.E. Endorsement</b> - To arrange for Mr.Neo to P.E. endorse on the followings: - - Sewerage Drawings - Form SSA/PDC/1 & Form SSA/PDC/3 - Asset Management Form (for Mr. Neo's checking) - Sewerage Reports				
10	<b>Owner/Developer's Endorsement</b> - To write to Client for the Owner/Developer's endorsement on the followings: - - Sewerage Drawings - Form SSA/PDC/1 & Form SSA/PDC/3				<a href="#">2=Design &amp; Submission Stage Sample Letter\2 1=Standard Letter To Client=SW Endorsement.doc</a>
11	No Processing Fee is required by JPP & IWK at submission stage.			X	
<b>F</b>	<b>Checklist of Items - Submission to Jabatan Perkhidmatan Pembetungan &amp; cc to Indah Water Konsortium</b>				Pages 7 and 19 of JPP Guideline Section 1
1	Sewerage <b>Submission Cover Letter</b> . To specify "APPLICATION FOR SEWERAGE WORKS APPROVAL (Kelulusan Rekabentuk Sistem Pembetungan)"				<a href="#">2=Design &amp; Submission Stage Sample Letter\2 2=Standard Letter To Authority=SW Submission for Approval.doc</a>
2	2 copies of <b>Form SSA/PDC/1</b> : Application for Sewerage Planning Approval				
3	2 copies of <b>Form SSA/PDC/3</b> : Application for Approval of Sewerage Works				
4	2 copies of <b>Asset Management Form</b>				
5	JPP's signed <b>Form SSA/PDC/2 : Sewerage Planning Approval</b>				When Form SSA/PDC/1 is submitted at the planning stage, JPP will approve via Form SSA/PDC/2 : Sewerage Planning Approval (duly endorsed by JPP).
6	1 copy of the <b>Development Order</b> (Surat Perintah Pembangunan yang berkaitan untuk keseluruhan pembangunan) as approved by Jabatan Perancang & Kawalan Bangunan. Authority will only process the submission when the planning layout has been approved.				Planning Approval Letter
7	1 copy of the approved & endorsed <b>Planning Layout</b> (Pelan Tatatur/Tapak) as approved by Jabatan Perancang & Kawalan Bangunan. Authority will only process the submission when the planning layout has been approved.				Planning Approval Layout



4	To file a copy of the approval letter each in the Correspondence File and in the Authority File.			
5	The original approval letter and endorsed plans and reports to be kept in the cabinet in Mr Neo's room.			
6	Admin will scan the contents of the approval letter and email to the engineer-in-charge.			
7	The engineer will incorporate the SYARAT-SYARAT KELULUSAN into a new drawing entitled "SEWERAGE APPROVAL NOTES" with the last drawing number in the list. The date and reference of the approval letter to be stated. Engineer may take the previous approval notes from the standard drawing, check the differences and amend accordingly. If there are any new requirement added or old requirement omitted in the new approval condition, engineer shall study whether that requirement is general or specific. If that requirement is general, engineer shall propose to incorporate that requirement either added or <del>deleted from the standard drawing</del>			A1 Plan, Scale 1:100
8	Check whether the standard drawing is in new system. If not, engineer shall check whether the approved drawing is in new system. If the new approved drawing is in new system, engineer shall check whether the new drawing is the same as the standard drawing. If there are the same, engineer shall propose to replace the standard drawing with the new one.			
9	Check in the newly approved drawing whether there is any new details has been added comparing to the standard drawing. If there is, engineer may propose to add this new detail into the standard drawing.			
10	To check all the endorsed plans. To take note and incorporate all markings, if any, made by the Authority on the plans. To update the drawing files accordingly.			
11	All drawings in the Transition folder to be saved as =99 and =Approved so that they can be transferred to Project Drawing folder.			Drawing No.xxx-CVL-SW-040A=Proposed Sewerage Reticulation Plan as Revision A (JPP approval on ?date) to supersede earlier tracing.
12	Approved layout plan to be issued to Client, Architect, QS and M&E consultants for Construction. Full set of approved plans to be issued to Contractor for Construction.			
<b>I</b>	<b>To Monitor the Sewerage Construction at Site</b>			<b>Stage 3 - Approval of Sewerage Construction Works : Construction and Commissioning Stage</b>
1	<u>Borang SSA/PDC/6 - Notice of Commencement or Resumption of Sewerage Works</u> . The developer shall notify JPP/IWK not less than 4 working days before commencement of the proposed sewerage works, or the resumption of the work (if the construction ceases for more than a period of 3 months)			To be submitted by Engineer. Contractor to provide information on the required date for commencement.

2	<u>Borang SSA/PDC/7 - Notice of Inspection and Testing</u> . The developer shall notify JPP / IWK not less that 4 working days when any works are ready for inspection at appropriate stages of construction.				To be submitted by Engineer. Contractor to provide information on the required date for inspection / testing of works and the description of work and tests to be carried out at the appropriate stages of construction.
3	<u>Borang SSA/PDC/8 - Notice of Final Inspection</u> . The developer shall notify JPP/IWK requesting final inspection prior to the required date. Notification to be submitted together with the final as-built drawings.				To be submitted by Engineer together with as-built plan. Contractor to inform in writing if there is any deviation of works from that indicated in the approved layout plan. Otherwise, to provide final as-built plan to Engineer.
	For sewer line that connect to PUBLIC SEWER, contribution need to be paid to IWK/JPP during the submission of Borang SSA/PDC/8. Contribution = 1% of selling price of properties that connect to PUBLIC SEWR				<u>Contribution!A!</u>
4	<u>Borang SSA/PDC/10 - Certificate of Final Inspection</u> . The developer shall notify JPP/IWK requesting final inspection prior to the required date. Notification to be submitted together with the final as-built drawings.				JPP to issue Certificate Of Final Inspection to developer and where applicable will recommend that the sewerage system should be gazzeted and vested in the Federal Government.
	For sewer line to be handed over to JPP, they require a letter from the Developer together with bank guarantee for performance bond.				
5	JPP Clearance is required for CF application				Formal process: Architect written to Majlis/Local Authority for CF. The relevent authority will write to individual department include JPP. We help to follow up. In practice, the client want the process to be expediate and may want to deal with JPP immediately after work completed.

**JPP/IWK New Requirement - which not yet confirm**

Sometimes, we may informed by certain personnel in IWK that a new requirement is implemented and we need to touch up our submission drawing according to the new requirement.

However, IWK/JPP latest guideline for this new requirement is not officially published out yet.

As such, although we amend our drawing to suit the submission to some of the IWK (not all), we cannot treat The new requirement which not yet confirm officially will be recorded below:

The requirement will be tranferred to sheet "Checklist-Design" once confirm.

Discrepancies in old Requirement/Design concept that yet to get IWK confirmation or clarification also can be

**1) Standard Manhole Cover And Framed With Hinge and Locking Device**

**DATE : 001103**

Checked with En. Rosli regarding the above matters. Informed that the book Guidelines For Developers 2.45 pm Called Mr. Tiong (contractor) to inform on the above matter. He informed that we submit the Form He informed that the site will be ready for an inspections next week. He has done all the cleaning. He informed

IWK Selangor does not use this new detail yet.

However, IWK Melaka insists on this (for project 175).

For the time being, we will incorporate the above details in project 175-submission drawing.

This detail will only be saved as Standard Drawing once the guideline is published or we got the confirmation (Because I think we should follow the standard in Selangor, as they are the central the Authority)

**Date:**

## **Contribution for Sewer Work connect to IWK public sewer line**

Information obtained from 1) Pn Siti of IWK Taman Tun, Kuala Lumpur on 010214  
2) Pn Azura of IWK Seremban, Negeri Sembilan on 010214

- If the project is connected to PUBLIC SEWER, the developer has to pay contribution to
- If the project has their own STP, contribution is not required.
- Contribution has to be paid to JPP/IWK **before** application of CF (during submission of borang

The amount of contribution is as stated below:

### **Before 26 June 1999**

- Total contribution = 100 RM per EP

### **After 26 June 1999 until todate (010214)**

- **Total contribution = 1 % of total selling price for all the properties which, discharge into the PUBLIC SEWER**

- Selling prices of the all the properties need to be verified by a Solicitor/Accountant.

a)

If the properties are on unit basis, such as terrace houses, apartment, shop houses and etc, the selling price can be verified by submitting the copy of Sales & Purchase agreement to JPP/IWK.

- b) If the properties are a whole development, such as shopping complex, exhibition center, hotel and etc, the selling price has to be verified by a Solicitor/Accountant

### **Note:**

**According to Pn. Siti, there is a form need to be filled up for the Contribution. The next person who go to JPP/IWK, please help to obtain the form**

**STANDARD NOTE TO BE INCORPORATED INTO SEWERAGE LAYOUT PLAN****Notes for General Sewerage Works**

- 1) All levels are in metres unless otherwise stated.
- 2) The exact manhole locations to be confirmed on sites.
- 3) The Contractor to ensure that all the local authorities' requirements related to the sewerage works are complied.
- 4) The Contractor to ensure that all the Jabatan Perkhidmatan Pembentungan's requirements are complied.
- 5) The Contractor to note that the following forms are to be submitted to Ketua Pengarah Perkhidmatan Pembentungan prior to the commencement or inspection of works. The Contractor to provide the necessary information on the required dates for commencement or inspection / testing of works, the description of work / tests to be carried out at the appropriate stages of construction and the final as-built plan for submission to JPP.
  - a) Form SSA/PDC/6 - NOTICE OF COMMENCEMENT OR RESUMPTION OF SEWERAGE WORKS. The developer shall notify JPP/IWK not less than 4 working days before commencement of the proposed sewerage works, or the resumption of the work (if the construction ceases for more than a period of 3 months).
  - b) Form SSA/PDC/7 - NOTICE OF INSPECTION AND TESTING. The developer shall notify JPP/IWK not less than 4 working days when any works are ready for inspection at the appropriate stages of construction.
  - c) Form SSA/PDC/8 - NOTICE OF FINAL INSPECTION. The developer shall notify JPP/IWK requesting final inspection prior to the required date. Notification to be submitted together with the final as-built drawings.
- 8) The ..... E.P sewage discharge from the proposed development is to be discharged into the public manhole at Jalan ..... ref. .... as approved by JPP/IWK via letter ref..... dated ..... (if applicable)
- 9) The ..... E.P sewage discharge from the proposed development is to be discharged into the external manhole of the overall external sewerage works by the main infrastructure consultant. The discharge is to be treated at the proposed sewerage treatment plant. (if applicable)
- 10) The treatment plant is to be proposed, designed and submitted separately to JPP for approval by the STP specialist.
- 1) The Contractor is to ensure that there is no disruption to any sewage flow in the external sewer reticulation during the pipe connection works to the existing external manhole ref ..... (if applicable)
- 2) All connection from the building internal manhole to the proposed external manhole to be vitrified clay half round channel.
- 3) The information on the location and number of building internal manhole is to be confirmed by M&E engineers.

**Additional Notes for Diversion Works** (adopted from 152)

- 1) The Contractor to submit their method of construction to the Engineer before the commencement of work.
- 2) The Contractor to ensure that there is no disruption to any sewage flow during the pipe diversion works.
- 3) The Contractor to obtain the relevant permission / approval from the local authority for any disruption to traffic flow during the pipe diversion works.
- 4) The Contractor to confirm on site any direct discharge into the sewer pipeline between existing MH No.5-1-56 and MH No.5-1-57 and to report to the Engineer before the commencement of work.(adopt if only applicable)

**Table 1 - Basis of Equivalent Population**

Note : Equivalent Population (EP) Discharge = 50 gal/EP/day = 225 litre/EP/day

There is a tendency for authority to approve overdesign, which imply the client to pay more contribution. It is important to do a very accurate design.

The sewerage demand generally take waste house waster water and is linked to water usage.

The units, area etc for total demand should be obtained from the DO or other summary in drawings by others, not by our direct drawings area calculation.

Generally, a lot of area like office in hospital are deemed included in the basis.

**JPP GUIDELINE FOR DEVELOPERS - SECTION 1 (Page A10.3)**

Type of Premise / Establishment	Recommended Equivalent Population		Remark
<b>Residential</b>	5	per unit	
<b>Commercial (includes offices, shopping complex, entertainment / recreational centres, restaurants, cafeterias, theatres)</b>	3	per 100m2 gross area	the water demand calculation is based on Gross Floor area which includes M/E services., Carpark are excluded unless there is an intention to convert to commercial uses. The toilet, provided the area of canteen, kitchen, Administration etc need not be taken into separate account
<b>Schools / Education Institutions :-</b>			
- Day schools / institutions	0.2	per student	
- Fully residential	1	per student	
- Partial residential	0.2	per student for non-residential student	
	1	per student for residential student	
<b>Hospitals</b>	4	per bed	the area of canteen, kitchen, Administration etc need not be taken into separate account
<b>Hotels (with dining and laundry facilities)</b>	4	per room	The area of canteen, kitchen, Administration etc need not be taken into separate account
<b>Factories (excluding process wastes)</b>	0.3	per staff	
<b>Market (wet type)</b>	3	per stall	
<b>Market (dry type)</b>	1	per stall	
<b>Petrol Kioks / Service Stations</b>	18	per service bay	
<b>Bus terminal</b>	4	per bus bay	
<b>Taxi terminal</b>	4	per taxi bay	
<b>Mosque</b>	0.5	per person	
<b>Church / Temple</b>	0.2	per person	
<b>Stadium</b>	0.2	per person	
<b>Swimming Pool / Sports Complex</b>	0.5	per person	
<b>Public Toilet</b>	16	per wc	
<b>Airport</b>	0.2	per passenger day	
	0.3	per employee	
<b>Laundry</b>	10	per machine	
<b>Prison</b>	1	per person	
<b>Golf course</b>	20	per hole	

**MISCELLANEOUS - FOR INDIVIDUAL PROJECT**

Type of Premise / Establishment	Recommended Equivalent Population	


**Checklist for Sewerage Planning Submission**

**Abbreviations:**

IWK - Indah Water Konsortium  
JPP - Jabatan Perkhidmatan Pembentungan

<b>Project :</b>	<b>Date: 15-May-01</b>
<b>Location:</b>	<b>Updated by : LCTan</b>

**Reference**

- 1) Guidelines For Developers On The Design And Installation Of Sewerage Systems - Section 1 by JPP
- 2) MS 1228 : 1991 Code of Practice For Design and Installation of Sewerage Systems by SIRIM

**Stages of Approval**

1. Approval of Sewerage Planning (outline design stage) - details are discussed here
2. Approval of Sewerage Works (detail design stage)
3. Approval of Sewerage Construction Works (construction and commissioning)

No.	Items	Sample Document	Notes	Background / Reference
	<b>APPLICATION for SEWERAGE PLANNING APPROVAL - Outline Design Stage</b>			
1	To obtain the TYPE OF PROPOSED DEVELOPMENT from the Planner / Architect			
2	To obtain the relevant BASIS OF EQUIVALENT POPULATION for the type of houses/buildings	<a href="#">To link to Basis of EP</a>		Table 1 - Basis of Equivalent Population : tabulated list as per (1) JPP Guidelines for Developers, (2) Miscellaneous past individual projects
3	To calculate the TOTAL EQUIVALENT POPULATION (EP) per day	<a href="#">To link to Total EP</a>		Table 2 - Total Equivalent Population : tabulated sample of EP calculations.
4	To consult IWK to determine whether the site can be connected to an existing public sewer or whether a treatment plant has to be proposed and constructed within the site compound. Before seeing the IWK, get prepare to explain what type of development and on some general information on the project. Bring along site and location plans.			All developments of < 150 EP - served by individual septic tanks Section 2 of Guidelines. All developments of >150 EP - served by either (a) connection to a public sewerage system, or (b) on-site communal treatment plant
5	Where public sewer is available, to obtain the information as follows :-		We may need to obtain this Master infra consultant	Guidelines Section 1 - Part B : Guidelines for Systems Which Connect To A Public Sewer, Pages 4-15
	a. the invert level and size of the nearest public sewer (if known).			To obtain the layout plan indicating the relevant sewer pipe location, pipe size, pipe invert, manhole invert level, ground level and the contribution cost per EP. If possible, to borrow the intermediate drawing for printing. Engineer print one working copy, original to be given to Admin.
	b. whether it is known that the sewer in (a) has sufficient capacity to receive the flow			
	c. at what point a connection would be acceptable			
	d. whether a manhole is necessary and its construction specification			
	e. reinstatement requirements of the relevant highway authority			
	f. any other conditions regarding safe working			
6	Where public sewer is not available, to obtain the information as follows :-			Once this information is obtained, we need to inform the M/E so that they need optimised the design to direct the flow to this discharge point Guidelines Section 1 - Part C : Guidelines for Construction of Sewerage Systemss Which Include A Treatment Plant, Page 16-27
	a. the form of sewage treatment currently recommended and approved by IWK/JPP - eg. Extended Aerated System			
	b. whether there are any immediate or future proposals to undertake sewerage works into which the proposed development can be linked			
	c. the current safety requirement/guidelines or any special requirements of IWK/JPP with respect to the sewerage proposals			
7	To estimate the required land area for the proposed sewage treatment plant, taking into consideration the required setback and buffer zone as per JPP's requirement.	<a href="#">To link to Standard Table for Recommended Land Area</a>		JPP Guidelines Section 1 - Fig A1.11 : Recommended Guidelines for Buffer Zones
8	To consult a sewage treatment plant specialist to propose the treatment plant system and to confirm the required land area. To feedback to the Planner on the required land area.	<a href="#">To link to List of Treatment Plant Specialists</a>		

9	To obtain 4 sets of the proposed layout plan from the Planner, indicating the layout of the proposed development and the land area for the proposed treatment plant.			To submit 3 sets to JPP and 1 set to IWK. The A1 size plans shall be folded such that their title can be read without opening out the plans.
10	To fill in <u>Form SSA/PDC/1 : Application for Sewerage Planning Approval</u> – for Mr. Neo's and the Owner's signatures	<a href="#">To link to Standard Forms.</a>		
11	To prepare letter to Client/Owner for endorsement on the Form SSA/PDC/1			To save under \NT98\_Corspnd_222\ <Individual Project Folder> according to the sequence of numbering.
12	For project of >30 units development, to prepare 2 sets of preliminary sewerage report : <u>PRELIMINARY SEWERAGE REPORT</u> on (1) concept of the proposed sewage treatment plant system and (2) concept of the proposed sewerage system	<a href="#">To link to Standard Preliminary Sewerage Report</a>		To save under \\NT98\_Pj\_Gen_222\Authority_222447\Report4424xx\ <Individual Project Folder> <i>Preliminary Sewerage Report</i> . The report, calculations and plans shall be properly bound to A4 size. To submit 1 set to JPP and 1 set to IWK.
13	To prepare submission cover letter to JPP/IWK for sewerage planning approval. To specify - <u>APPLICATION FOR SEWERAGE PLANNING APPROVAL</u> ( <i>Kelulusan Pelan Tataatur</i> )	<a href="#">To link to Standard Preliminary Submission Letter</a>		To save under \NT98\_Corspnd_222\ <Individual Project Folder> according to the sequence of numbering. Cover letter attention to JPP, cc to IWK.
	<b>Note : Submission Requirements - to JPP, cc to IWK</b>	Pages 4 and 16 of JPP Guideline Section 1		
	a) Form SSA/PDC/1 : Application for Sewerage Planning Approval			
	b) A layout plan of the whole development			
	c) For developments > 30 units, an engineering report			
	d) For developments < 30 units, a plan showing how each house is to be connected with any existing / proposed sewer, the position and course of all surface water channels or drains, the names of streets adjoining the premises and the scale of the plan			
	e) A location plan			
	f) Details of land title, Lot No. and area of land			
	g) A consent letter from owners of other land affected by the proposed sewerage works or approval from the relevant authority as the case may be			
	h) In the case of reserved land, a letter of consent from the relevant authority in charge of the land			
	i) The relevant fee			
13	JPP will inform in writing on <u>Form SSA/PDC/2 : Sewerage Planning Approval</u> – as to whether the proposals are approved or any amendment is necessary.			

**STANDARD FORMS AND AGREEMENTS**

**APPENDIX 5 of GUIDELINES FOR DEVELOPERS ON THE DESIGN AND INSTALLATION OF SEWERAGE SYSTEMS, SECTION 1 : MULTI-UNIT HOUSING AND MIXED DEVELOPMENTS - Appendix 5**

The following is a list of forms included in the Appendix which are to be used in the relevant approval processes for sewerage proposals.

NOTE : All required forms shall be fully completed and endorsed by relevant parties during the various stages of application/submission.

Form	Purpose	From	To	Remarks	Regulations 1994
<b>Sewerage Planning Approval</b>					
SSA/PDC	Application for Sewerage Planning Approval	Owner & Engineer	JPP	Developer to submit to JPP the outline sewerage proposals	3
SSA/PDC	Sewerage Planning Approval	JPP	Engineer	JPP to inform in writing as to whether the proposals are approved.	2
<b>Sewerage Works Approval</b>					
SSA/PDC	Application for Approval of Sewerage Works	Owner & Engineer	JPP	Developer to submit before commencement of any construction works on sewerage system on site	8
SSA/PDC	Sewerage Works Approval	JPP	Engineer	JPP to inform in writing as to whether the proposals are approved.	10
SSA/PDC	Certification of Structural Plans	Engineer	JPP	Sewage Treatment Plant. Developer to lodge 2 sets of relevant structural plans, details and calculations that relate to any permanent plant, tanks or structures which form part of the sewerage system.	14
<b>Construction and Inspection</b>					
SSA/PDC	Notice of Commencement or Resumption of Sewerage Works	Engineer	JPP	Developer shall notify JPP/IWK not less than 4 working days before commencement of the proposed sewerage works, or the resumption of the work (if the construction ceases for more than a period of 3 months)	15
SSA/PDC	Notice of Inspection and Testing	Engineer	JPP	Developer shall notify JPP / IWK not less than 4 working days when any works are ready for inspection at appropriate stages of construction.	17
SSA/PDC	Notice of Final Inspection	Engineer	JPP	Developer shall notify JPP/IWK requesting final inspection prior to the required date. Notification to be submitted together with the final as-built drawings.	18
SSA/PDC	Notice to Lay Open Works	JPP	Developer	JPP to instruct the developer to lay open and make available for full inspection of the sewerage works for which the required notice via Forms SSA/PDC/7 & SSA/PDC/8 are not served.	19
SSA/PDC	Certificate of Final Inspection	JPP	Developer	JPP to issue Certificate Of Final Inspection to developer and where applicable will recommend that the sewerage system should be gazetted and vested in the Federal Government.	21
<b>Commissioning and Adoption</b>					
PDG/A	Recommendation to Local Authority to Issue Certificate of Fitness	JPP	Local Authority	JPP to make recommendations to the Local Authority and no objection to granting a Certificate of Fitness for Occupation.	

PDG/B	Model Bank Guarantee Form for Performance Bond (Operation and Maintenance of Sewerage Systems including Plants)	Developer	JPP	<i>Developer to provide a maintenance bond on 5% of the estimated cost of the sewerage system, to cover any maintenance defects which occur during the maintenance period or any default of the contractor over land transfer or any other matter.</i>
PDG/C	Letter of Discharge Against Performance Bond	JPP	Developer	<i>JPP to notify the developer for being released from the bond, at the end of Maintenance Period and after any remedial works have been satisfactorily completed.</i>
PDG/D	Confirmation of Planning Approval by the Local Authority	Local Authority	JPP	<i>Local authority to inform JPP that the development has been granted planning permission.</i>
PDG/E	Notification of Fees for Certification of Design, Construction and Commissioning	JPP	Developer	<i>JPP to notify the fees calculated in accordance with Third Schedule of Regulations 1994.</i>
PDG/F	Model Conditions on Planning Approval	Info		
PDG/G	Model Approval Conditions for Local Sewerage Reticulation / Network System	Info		
PDG/H	Model Approval Conditions for Local Sewerage Treatment Works / Pump Station	Info		
PDG/I	Notice of Declaration as Public Sewerage System	JPP	Public	<i>JPP to inform that on the expiry of one (1) month from the date of notice, the entire sewerage system will gazzeted as a Public Sewerage System and will become the property and responsibility of JPP</i>
PDG/J	Application for a Connection To Public Sewer	Owner & Engineer & Contractor	JPP	<i>The developer to apply for a new connection to a public sewer not otherwise covered by the submission of plans under planning and detailed submission.</i>

**Problem Encounter During Submission Time (regarding the Standard Form)**

**1) Submission of form PDG/J (001101)**

For 123p2, when application for CF inspection, Contractor ask us to fill us form PDG/J.

The reason is they think that for the completed phase 1 sewer line is considered public sewer, for phase 2 sewer pipe to connect, we have to apply through form PDG/J

Due to this, LokWL has check with IWK TTDI, and the outcome as stated below:

Informed by En. Rosli that we are not required to submit the form. He explained that the form is required for a project in which a connection is to be made to any existing public sewer system. Together with the form 4 sets of design calculations/plans are required.

For our project (phase 2), he informed that we only need to submit the Form SSA/PDC/8 together with the as-built drawing.

Comment by okk

As per our checklist, PDG/J is not required for 123p2 (Connection of sewer line from phase 2 to phase 1) as all the sewer line are covered in our detail submission.

The contractor not very sure with the proper procedure and simply ask us to submit the above form.

LokWL,

It is good that you have check with IWK, so that we can confidently tell the contractor that the above is not required.

**2) Discrepancy on the Form SSA/PDC/8 (001101)**

As compared between the standard form saved the server and the one forwarded by the contractor today, there is an additional line which say...

" will be ready for final inspection, testing and commisioning on the      day of      19      " which is not indicated in our standard form.

Informed by En. Rosli that the above line is a part of the Form SSA/PDC/8 to provide an indication for JPP/IWK in order for them to plan for the inspection date.

I have checked the standard forms as enclosed together with the JPP approval letter dated 11th June 1996 for the project. The above additional line is indicated the the Form SSA/PDC/8.

I have incorporated the above line for phase 2.

The file is attached below:

<< File: ssa\_pdc\_8.xls >>

**This is the mistake in our standard form.**

**I have resaved the above (corrected form) as below hyperlink:**

\\NT98\DSG\_CVL\_222\Standard Form 2227x7\Borang SEWERAGE Submission4427x7\Sample of Standard Forms\SAMPLE\SSA\_PDC\_8=notice\_of\_final\_inspection=001101.xls

**MAILING ADDRESS****1) JPP Cawangan Selatan**

Address Jabatan Perkhidmatan Pembetulan, Kementerian Perumahan Dan Kerajaan Tempatan, Cawangan Selatan, Suite 4, Aras 5, Bangunan Yayasan Melaka, off Jalan Hang Tuah, 75300 Melaka.

Telephone No. 06-282 8739, 282 7160

Fax No. 06-282 7940

Mulai **1hb November 1998**, semua urusan-urusan permohonan sistem pembetulan di kawasan yang berkenaan perlu dikemukakan ke alamat seperti di bawah.

Surat-surat kelulusan sistem pembetulan (surat sokongan Sijil Layak Menduduki, surat kelulusan pelan-pelan perancangan dan kerja) hendaklah diperolehi daripada Pejabat Jabatan Perkhidmatan Pembetulan Cawangan

<b>Negeri Sembilan</b>	
Address	Jabatan Perkhidmatan Pembetulan (Cawangan Selatan), d/a Unit Perakuan, Indah Water Konsortium Sdn. Bhd., 2nd Floor, No. 161 & 162 Jalan Zaaba, 70100 Seremban, Negeri Sembilan
Telephone No.	06-764 2771
Fax No.	06-764 2776

<b>Negeri Melaka</b>	
Address	Jabatan Perkhidmatan Pembetulan (Cawangan Selatan), d/a Unit Perakuan, Indah Water Konsortium Sdn. Bhd., No. 84 & 86 Jalan Mutiara Melaka 2, Taman Mutiara Melaka, Batu Berendam, 75350 Melaka
Telephone No.	06-317 3561
Fax No.	06-317 5418

<b>Kawasan Johor Selatan (Mersing, Kota Tinggi, Johor Bahru, Kulai &amp; Pontian)</b>	
Address	Jabatan Perkhidmatan Pembetulan (Cawangan Selatan), d/a Unit Perakuan, Indah Water Konsortium Sdn. Bhd., No. 16 Jalan Nilam 19, Medan Tiram, 81800 Ulu Tiram, Johor Darul Takzim
Telephone No.	07-861 0691
Fax No.	07-861 6376

<b>Kawasan Johor Utara (Muar, Batu Pahat, Segamat &amp; Kluang)</b>	
Address	Jabatan Perkhidmatan Pembetulan (Cawangan Selatan), d/a Unit Perakuan, Indah Water Konsortium Sdn. Bhd., No. 84 & 86 Jalan Mutiara Melaka 2, Taman Mutiara Melaka, Batu Berendam, 75350 Melaka
Telephone No.	06-317 3561
Fax No.	06-317 5418

**2) JPP Cawangan Tengah**

Address Jabatan Perkhidmatan Pembetulan, Cawangan Tengah, Kementerian Perumahan dan Kerajaan Tempatan, Tingkat Bawah, Wisma Damansara, Jalan Semantan, 50490 Kuala Lumpur

Telephone No. 03-256 2605/2612

Fax No. 03-2562609

Mulai **1hb November 1998**, semua urusan-urusan permohonan sistem pembetulan di kawasan yang berkenaan perlu dikemukakan ke alamat seperti di bawah.

<b>Dewan Bandaraya Kuala Lumpur</b>
<b>Majlis Perbandaran Labuan</b>
<b>Majlis Perbandaran Selayang</b>
<b>Majlis Perbandaran Ampang Jaya</b>
<b>Majlis Perbandaran Kajang</b>

<b>Majlis Perbandaran Subang Jaya</b> <b>Majlis Daerah Hulu Selangor</b>	
Address	Unit Perakuan, IWK Off Jalan Damansara, Bukit Kiara, 60000 Kuala Lumpur
Telephone No.	03-7728 3453/3462
Fax No.	-

<b>Majlis Perbandaran Shah Alam</b> <b>Majlis Perbandaran Klang</b> <b>Majlis Daerah Kuala Selangor</b> <b>Majlis Daerah Kuala Langat</b> <b>Majlis Daerah Sepang</b> <b>Majlis Daerah Sabak Bernam</b>	
Address	Unit Perakuan, IWK, No. 90, Lorong Jelutong, Taman Selatan, 41200 Klang
Telephone No.	03-3373 3604
Fax No.	-

**Pipes Diameter =< 450mm - to use VCP**

**Pipes Diameter > 450mm - to use RCP**

Supplier:

Company	Contact Numbers	Remarks
1. Goh Ban Huat Clay Pipes Sdn Bhd	Tel: 03-6261055 (Mr Leong)	Supply vitrified clay pipes only – max. dia. available 600mm
2. Sunway Keramo Sdn Bhd	Tel: 03-3915288; Fax: 03-3915388 (Ms Irene)	Supply both VCP and RCP – for VCP up till 400mm (locally produced), for 400mm dia. and above (imported, more expensive)
3. ACP Marketing Sdn Bhd	Tel: 03-7565186 (Mr Alvin Cheong Ext. 2222)	Supply RCP up till a max. dia. of 3600mm

Note:

Only VCP pipe or HDPE pipe is allowed to be used. UPVC pipe is not allowed. (info from En. Sulaiman Hamid of IWK Melaka, 001013). Pipe > 450mm, use RCP