UNIVERSITI TEKNOLOGI MARA

FACULTY OF CIVIL ENGINEERING

INDUSTRIAL TRAINING REPORT

MUHAMMAD AFIF BIN ABU TALIB

(2016616536)

DEWAN BANDARAYA KUALA LUMPUR

JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TINGKAT 8, MENARA DBKL 2, JALAN RAJA LAUT, 50350,

KUALA LUMPUR

JULAI – SEPTEMBER 2019

ABSTRACT

The purposes of written this report is to explain about the Industrial Training. The scope of study is engineering and the various environments at Jabatan Kejuruteraan Awam Dan Pengangkutan Bandar.

The importance of internship is to give exposure to the students the real situation in engineering professions. Besides, it also can build and increase positive and critical thinking when overcoming engineering problems with the suitable and rational solution.

Jabatan Kejuruteraan Awam Dan Pengangkutan Bandar responsible for the road in Kuala Lumpur and the DBKL project. Every road closure, maintenance of the road and transportation including construction project will be handle by JKAPB.

At JKAPB, the entire applicants for road closure need to submit their form to this department for the approval. If the applicants close the road without getting the approval, Jabatan Penguatkuasa will fine them. This seems small issue, but it is important to ensure everybody comforts and to avoid any complain from the road users. Furthermore, JKAPB also does open tender for road marking after prepared the Bill of Quantities. After that, all of the tender will be process and the contractor will be picked based on their experience with the infrastructure works.

Last but not least, during the Industrial Training, students are well exposed to the real working environment and challenges in many natures of works such as in JKAPB. Through many situations and problems encountered, the students can obtained a lot of new inputs and skills which is useful under the guidance of experienced people.

ACKNOWLEDGEMENT

First and foremost, I like to express my gratitude to Allah for giving me the health and time to complete my Industrial Training in this department. I also would like to thanks Institut Latihan Dewan Bandaraya (IDB) for accepting me as their practical students and placed me at JKAPB during my 8 weeks of training from 5 July 2019 until 1 September 2019. I also like to express my thanks to Encik Amirul Ain Bin Amran because the willingness to accept me under his guidance and supervise. I also like to express my gratitude to Encik Sulaiman Bin Ramli as my guidance when Encik Amirul Ain absence. Also, all the employee at Jabatan Kejuruteraan Awam Dan Pengakutan Bandar for helping me during my Industrial Training. Furthermore, my thanks to other practical students at the department that willingly helps me during my journey at JKAPB. Lastly, all the people that have help me unconsciously during my Industrial Training.

CHAPTER 1: INTRODUCTION

1.1 Introduction

The Industrial Training (IT) begin on 5 July 2019 until 1 September 2019. There were a few days of delay on reporting day as on 5 July 2019, the final examination still does not finish as UiTM Pasir Gudang experienced gas attack and need to be close for their student safety. Therefore, the delay letter was sent to the Institut Latihan Dewan Bandaraya (IDB) to inform the delay. The reporting day was change to 18 July 2019 and I was placed at Menara DBKL 2, Jalan Raja Laut. The person that was in charged in supervising me was Encik Amirul Ain Bin Amran, one of the Senior Engineer at the office.

1.2 Background Company

The department that I was placed is Jabatan Kejuruteraan Awam Dan Pengangkutan Bandar (JKAPB). This department mostly in charged in road marking, road closure for event or contruction and transportation. A few members of Agensi Pengangkutan Awam Darat (APAD) also was placed there to assist on the transportation part. Every issue regarding road closure need to be approve by this department and the organizer need to get permit on road closure from this department if the work or event inside of Kuala Lumpur.

1.3 Organizational Structure

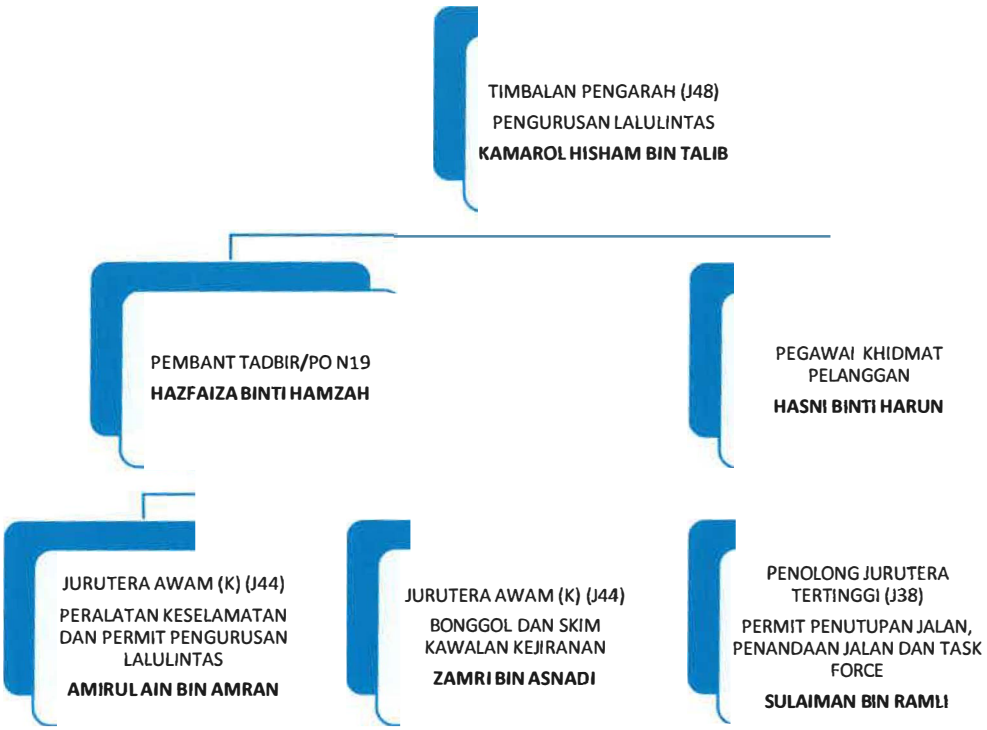

FIGURE: ORGANIZATION CHART OF JKAPB

1.4 Nature of Business

As I have explained in the introduction, JKAPB mostly will handled all the road closure, road marking, road furniture and transportation. Other than that, JKAPB also will handled all the DBKL project in Kuala Lumpur. Every contractor or event organizer that want to close the road in Kuala Lumpur for their project, required the permit of approval from this department. Therefore, this department is quite important in Dewan Bandaraya Kuala Lumpur to ensure all the road in Kuala Lumpur does not troubled the user.

1.5 Conclusion

As a conclusion, this department will take care of every road in Kuala Lumpur in terms of road improvement and closure. Without this department, Kuala Lumpur will be hustle and bustle than it already be.

CHAPTER 2: TRAINING ATTENDED

2.1 Introduction

The operation hours were divided into three timing which is the first one from 7.30 am until 4.30 pm, the second one from 8.00 am until 5.00pm and the last one from 8.30 am until 5.30 pm. The time that I have chosen was from 8.00 am until 5.00 pm. All the practical student has been assigned a punch card to ensure that the attendance will always be recorded.

2.2 Exposure Level

During the duration of Industrial Training, I have experienced every aspect that I has learned in class but mostly I have improved on managing skills. All the time that I have spent on the Industrial Training at Jabatan Kejuruteaan Awam Dan Pengangkutan Bandar (JKAPB) mostly was doing management task. I mostly handling the Task Force meeting. The Task Force meeting actually was more complicated to handle than it seems as it needed communication skills, scheduling and accuracy. This is because every organizer and the contractor need to be contacted to inform them regarding the time, date and matter that will be discuss. Other than that, the Task Force panel need to be informed also. The panel consist of Timbalan Pengarah Encik Jeyapalan A/L K.Selvadurai, Encik Amirul Ain, Encik Sulaiman, representative from Malaysian Institute of Road Safety Research (MiROS), representative from PDRM and representative from Jabatan Penguatkuasa. All the panel will be receiving letter via fax. This will become the problem where the fax machine on the receiving end was under maintenance, it will result in the absence of the panel in the meeting. The way to overcome the problem by calling each of the panel to inform them to ensure they get the message because every panel has their respective roles and very important. The absence of the panel will result in delay of the approval. For event organizer, it may seems not much, but for contractor, it actually matter because the delay of the approval will result in the delay of the completion time of the project. Therefore, handling Task Force meeting teach me the accuracy of every work and how to manage and handle every problem persist as quickly as possible.

FIGURE: TASK FORCE MEETING

Other than that, I also have completed a few Bill of Quantities for road marking. During this task, I was required to capture a few pictures of the condition of road marking at the site. Therefore, I need to go to the site myself. The Bill of Quantities for road marking must be precise as the allocations for road marking only a few millions per year. Therefore, the allocation needs to be used up because it will be easier for the release of the tender. From this Bill of Quantities, I also learned that precision is important because during my Industrial Training, there a few problems persist for road furniture unit where the expense was more than the allocations. This proves that even smallest number can become great problem later on.

FIGURE: CONDITION OF ROAD FOR BILL OF QUANTITIES

Lastly, for the weeks that I was assigned at the construction site at Jalan Jelatek, I have been exposed on design and their flaws. This is because; the bridge project was delayed because of the overlapped with DUKE FASA 3 Project. This project limit of work has consumed the limit of work for the bridge project. The surveyor for DUKE project has miscalculated the distance for their pilling. The bridge project cannot be continued until the middle of September to wait the DUKE project to overcome their problem. From these problems, I have understood that real work of civil engineer was not an easy task that everybody can carry out. One problem can make others people life miserable.

FIGURE: VISIT TO CONSTRUCTION SITE

2.3 Conclusion

As a conclusion, every engineer required the accuracy, precision, managing skills and communication skills mastered in themselves as these is compulsory skill to go through life as an engineer. From this Industrial Training that I understand this field was crucial in the world and not an easy field to dive yourself in. Engineers basically bear countless responsibilities during the project.

3.4 Conclusion

As a conclusion, Jabatan Kejuruteraan Awam dan Pengangkutan Bandar plays a huge role in managing Kuala Lumpur in DBKL behalf. Without JKAPB, no department will handle the road closure, the maintenance of the road and all the DBKL project. So, by attending Industrial Training at JKAPB really teaches me that the real world was not easy as it seems.

REFERENCES

1. Industrial Training Handbook
2. Minute Meeting of RB6305 – CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIA ADA KEPADA JAMABTAN KONKRIT MERENTANGI SUNGAI KELANG DI JALAN JELATEK, KUALA LUMPUR.
3. Perkara Yang Anda Tidak Perlu Tahu Untuk Pengurusan Jalan Jilid 3 (Jabatan Kerja Raya)
4. Bahagian 10 – Section 9A – Concrete (UHPC)
5. Bahagian 10 – Section 10 – Piling Works

APPENDICES

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1. Industrial Training Placement Information Form (UiTM.FKA.LI-01)
2. Industrial Training Application Letter (UiTM.FKA.LI-02)
3. Example Of Resume (CV) (UiTM.FKA.LI-03
4. Industrial Training Placement Confirmation Form (UiTM.FKA.LI-04)
5. IT Report Duty Form (UiTM.FKA.LI-05)
6. Current Location Information Form (UiTM.FKA.LI-06)

Appendix B: Assessment

1. IT Report Evaluation Form (UiTM.FKA.LI-07)
2. IT Log Book Evaluation Form (UITM.FKA.LI-08)
3. Industrial Supervisor Evaluation Form (UiTM.FKA.LI-09)
4. Faculty Supervisor Evaluation Form (UiTM.FKA.LI-10)

Appendix C: Course Outcomes

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Fax: 607-3818141

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Kampus Pasir Gudang, 81750 Masai, Johor.
Te: 607– 3818000 Fax: 607- 3818141

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INDUSTRIAL TRAINING PLACEMENT INFORMATION FORM

(Borang Matlumat Penempatan Latihan Industri)

A) STUDENT INFORMATION *(Matlumat Pelajar)*

Name *(Nama)* : .....

UiTM No. *(No. UiTM)* : .....

Programme *(program)* : .....

ID No. *(No. k/p)* : .....

Session *(sesi)* : .....

Semester *(Semester)* : .....

Address *(alamat)* : .....

.....

Phone *(Telefon)* : .....

Mobile No. *(No. h/p)* : .....

Email *(emel)* : .....

B) HEIRS *(Waris)*

Name *(Nama)* : .....

Address *(alamat)* : .....

.....

Phone *(Telefon)* : .....

Mobile No. *(No. h/p)* : .....

C) PLACEMENT OPTIONS *(Pilihan penempatan)*

No. (Bil.)	State *(Negeri)*	City *(Bandar)*
1.	.....	.....
2.	.....	.....

C) ORGANIZATION INFORMATION *(Matlumat organisasi)*

Name *(Nama)* : .....

Address *(alamat)* : .....

.....

Contact Person *(Pegawai yang boleh dihubungi)* : .....

Designation (Jawatan) : .....

Phone *(Telefon)* : .....

Mobile No. *(No. h/p)* : .....

Fax No. *(No. Fax)* : .....

Email *(emel)* : .....

.....
Signature *(Tandatangan)*

.....
Date *(tarikh)*

Office use:	Checked by:		Approved by:	

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Fax: 607-3818141

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UiTM.FKA.LI-02

Surat Kami : 100-UiTMKPG(FKA14/3/4)
Tarikh :

.....
.....
.....
.....
.....
.....

Tuan,

PERMOHONAN PENEMPATAN LATIHAN INDUSTRI BAGI PROGRAM DIPLOMA KEJURUTERAAN AWAM (EC110)

Nama: :
No. Kad Pengenalan: :
No. Pelajar UiTM :
Program :
Semester :

2. Saya dengan ini mengesahkan bahawa butir-butir peribadi dan akademik di atas adalah seorang pelajar di Fakulti Kejuruteraan Awam, UiTM , Pasir Gudang.

3. Sukacitanya jika pihak Tuan dapat menerima pelajar tersebut untuk menjalani Latihan Industri untuk tempoh **LAPAN (8)** minggu bermula pada ..... sehingga ..... sebagai pra-syarat untuk lulus. Sebagai makluman, pelajar dilindungi oleh insurans sepanjang tempoh latihan.

4. Jika Tuan bersetuju untuk penempatan pelajar ini, saya memohon jasa baik pihak Tuan untuk memaklumkan kepada pihak saya dengan melengkapkan "Borang Pengesahan Penerimaan" (lampiran UiTM.FKA.LI-04) dalam tempoh **DUA (2)** minggu daripada tarikh surat ini. Jika tidak ada sebarang maklum balas daripada pihak Tuan, permohonan ini dianggap **TIDAK BERJAYA.**

5. Latihan industri yang akan dijalankan selama 8 minggu adalah sangat pendek, tetapi ia sangat bermakna untuk membantu Universiti dalam menghasilkan bakal jurutera yang berdedikasi, cekap dan berdaya saing selepas tamat pengajian.

6. Fakulti Kejuruteraan Awam UiTM Kampus Pasir Gudang amat menghargai kerjasama pihak Tuan dalam semua hal yang berkaitan dengan latihan industri pelajar Fakulti Kejuruteraan Awam UiTM Kampus Pasir Gudang.
Terima kasih.

Yang benar,

Koordinator Latihan Industri
Fakulti Kejuruteraan Awam
UiTM Cawangan Johor
Kampus Pasir Gudang.

s.k 1) Ketua Pusat Pengajian Kejuruteraan Awam, UiTM Pasir Gudang

Example of Resume (CV) (UiTM.FKA.LI-03)

RESUME

Photo

PERSONAL DETAILS

Name :
Identification No. :
Date of Birth :
Place of Birth :
Age :
Sex :
Marital Status :
Race :
Religion :
Citizenship :
Postal Address :
Mobile Phone No. :
E-mail :

EDUCATIONAL BACKGROUND

Year / Period	Institution	Level	Achievement / Award

EXTRA-CURRICULAR ACTIVITIES

Year / Period	Programme / Activity	Location	Participation

WORKING EXPERIENCE

Year / Period	Organisation	Designation	Responsibilities

SKILLS

Language skills :

Language	Written	Speaking

Computer Literacy:

Other skills :

HOBBIES

No.	Description

ACADEMIC REFEREES

1. Name :
   Designation :
   Organisation :

   Tel. No. :
   Email :

2. Name :
   Designation :
   Organisation :

   Tel. No. :
   Email :

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UiTM.FKA.LI-04

Rujukan Kami : 100-UiTMKPG(FKA14/3/4)
Tarikh :

Koordinator Latihan Industri
Fakulti Kejuruteraan Awam
UiTM Johor Kampus Pasir Gudang,
Jalan Purnama 81750 Masai Johor.
(u/p: **Mohamed Khatif Tawaf**, mohdkhatif@johor.uitm.edu.my)
Fax: 07-3818141

PENGESAHAN PENERIMAAN PELAJAR EC110 UNTUK LATIHAN INDUSTRI TAHUN .....

Merujuk kepada surat/faks Tuan yang bertarikh ..... adalah disahkan pihak kami ***menerima / tidak menerima** pelajar Tuan ' bernama ..... dan nombor pelajar ..... untuk menjalani latihan industri mulai ..... hingga ..... **(8 minggu)** di organisasi /syarikat kami.

Butiran Latihan:

Tarikh melaporkan :
Masa melaporkan :
Alamat melaporkan / ditempatkan :

Kami juga bersedia untuk menyediakan kemudahan berikut**:

	Ada	Tiada
1. Penginapan		
2. Pengangkutan		
3. Makanan dan minuman		
4. Elaun bulanan		
5. Kemudahan lain (sila nyatakan jika ada):		

Sekian, terima kasih.

Yang benar,

.....
(NAMA DAN COP ORGANISASI/SYARIKAT)
Sila faks / emailkan kembali surat ini kepada Fakulti Kejuruteraan Awam, UiTM Pasir Gudang selewat-lewatnya 2 minggu dari tarikh surat permohonan ini.
* Potong mana tidak berkenaan.
**sila tandakan (√) bagi yang berkaitan

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Fax: 607-3818141

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Te: 607– 3818000 Fax: 607- 3818141

UiTM.FKA.LI-05

Our Reference: 100-UiTMKPG(FKA14/3/4)
Date:

To:
Industry Training Coordinator,
Faculty of Civil Engineering
Universiti Teknologi MARA
Cawangan Johor Kampus Pasir Gudang
Jalan Purnama 81750 Masai Johor

Dear Sir / Madam

INDUSTRIAL TRAINING REPORT DUTY VERIFICATION
SESSION .....

The above matter is referred.

Please be informed that the following students has reported for Industrial Training to our company / organization on _____ (completed by the company/ organization) as stated.

STUDENT NAME	:
STUDENT NO.	:
ID NO.	:
PROGRAMME	:
SEMESTER	:
REPORT DATE	:
INDUSTRIAL TRAINING ADDRESS	:
DURATION / PERIOD	:

Thank you.

Yours sincerely,

.....
(Signature and Company /Organization Stamp)

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Faculty of Civil Engineering
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UiTM.FKA.LI-06

CURRENT LOCATION INFORMATION FORM
(Borang Matlumat Penempatan Semasa)

A) STUDENT INFORMATION *(Matlumat Pelajar)*

Name *(Nama)* : .....
UiTM No. *(No. UiTM)* : .....
Programme *(program)* : .....
ID No. *(No. k/p)* : .....
Session *(sesi)* : .....
Semester *(Semester)* : .....
Address *(alamat)* : .....

Phone *(Telefon)* : .....
Mobile No. *(No. h/p)* : .....
Email *(emel)* : .....

B) ORGANIZATION INFORMATION *(Matlumat organisasi)*

Name *(Nama)* : .....
Address *(alamat)* : .....

Contact Person *(Pegawai yang boleh dihubungi)* : .....
Designation (Jawatan) : .....
Phone *(Telefon)* : .....
Mobile No. *(No. h/p)* : .....
Fax No. *(No. Fax)* : .....
Email *(emel)* : .....

.....
Signature *(Tandatangan)*

.....
Date *(tarikh)*

* Kindly mail this form to the Faculty of Civil Engineering, UiTM Pasir Gudang via fax/post/email within a week to:

Industry Training Coordinator,
Faculty of Civil Engineering
Universiti Teknologi MARA
Cawangan Johor Kampus Pasir Gudang
Jalan Purnama 81750 Masai Johor

Office use:	**Checked by:**		**Approved by:**	

(u / p: Mohamed Khatif Tawaf, fax to: 607-3818141 or email: mohdkhatif@johor.uitm.edu.my)

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INDUSTRIAL TRAINING STUDENT PLACEMENT REPORT
(Report Evaluation Form)

A) Student Information

Name : .....
Programme : .....
Session : .....
Date of Commencement : .....

UiTM No. : .....
ID No. : .....
Semester : .....
Date of Completion : .....

B) Organization Information

Organization : .....
Name of Supervisor: .....
Designation : .....

C) Faculty Supervisor Information

Name : .....

D) Marks

No.	Criteria	CO1-PO5	TOTAL MARKS
1.	Abstract	/5	
2.	Introduction	/5	
3.	Report content	/5	
4.	Conclusion and Recommendation for Industrial Training	/5	
5.	Writing Quality	/5	
	CO-PO MARKS	/25	/25

.....
Signature & Official Stamp
(Faculty Supervisor)

.....
Date

20%

No.	Criteria	5 (Excellent)	4 (Good)	3 (Satisfactory)	2 (Average)	1 (Weak)
4.	**Conclusion and Recommendation for Industrial Training** • Conclude the findings of Industrial Training • Evaluations on outcomes of training & suitability of the placement. (CO1-PO5)	☐ Able to conclude &evaluate the training outcomes & placement clearly	☐ Able to conclude & evaluate the training outcomes & placement with substantial clarity	☐ Able to conclude and evaluate the training outcomes & placement with moderate clarity	☐ Able to conclude &evaluate the training outcomes & placement with minimal clarity	☐ No conclusion on the achievement of training & provide no evaluations on both training outcomes & placement
5.	**Writing Quality** • Writing Style • Plagiarism as stated in UiTM Policy (CO1-PO5)	☐ The report is well organized and supported with sufficient and relevant information	☐ The organization of the report is good and supported with substantial evidence	☐ The organization of the report is good and supported with satisfactory evidence	☐ The organization of the report is satisfactory with minimal support	☐ The report is poorly organized and lacked of supporting evidence

**Please tick (√) at appropriate scale*

Percentage earned from Report = Total Marks Earned from Report X 20%
25

= ..... %

For Faculty Supervisor Response

i. Would you **recommended** this workplace for future Industrial Training Student ☐ **Yes** ☐ **No**

ii. If **NO**, please specify the reason

.....

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INDUSTRIAL TRAINING LOGBOOK
(Logbook Evaluation Form)

A) Student Information

Name : .....
Programme : .....
Session : .....
Date of Commencement : .....

UiTM No. : .....
ID No. : .....
Semester : .....
Date of Completion : .....

B) Organization Information

Organization : .....
Name of Supervisor: .....
Designation : .....

C) Faculty Supervisor Information

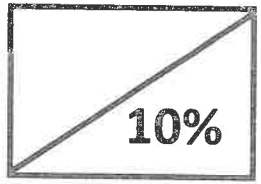
Name : .....

D) Marks

No.	Criteria	CO1-PO5	TOTAL MARKS
1.	Verification from supervisor	/5	
2.	Attendance	/5	
3.	Technical content	/5	
4.	Allocate problems & analysis	/5	
	CO-PO MARKS	/20	/20

.....
Signature & Official Stamp

.....
Date



Logbook Evaluation Form

UiTM.FKA.LI-08

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No.	Criteria	5 (Excellent)	4 (Good)	3 (Satisfactory)	2 (Average)	1 (Weak)
1.	Verification from supervisor. (CO1 – PO5)	☐ More than 9 signatures	☐ At least 9 signatures	☐ At least 8 signatures	☐ At least 7 signatures	☐ Less than 7 signatures
2.	Attendance. (CO1-PO5)	☐ 100%	☐ At least 90 %	☐ At least 80 %	☐ At least 50 %	☐ Less than 50 %
	Attendance must be at least 40 days including public holidays (if attendance is less than 40 days, the student will fail unless the Industrial Training with a legitimate reason)					
3.	Content at least 80% egineering technical with additional technical specification (drawing, design calculation, picture and safety awareness). (CO1-PO5)	☐ All elements are clearly stated with evidence.	☐ Engineering and technical specification are described but some details are missing	☐ Engineering and technical specification are described but major details are missing	☐ Engineering content is described but technical specification is not clearly described	☐ Engineering content is not clearly described
4.	Allocate problems & analysis to formulatio & solution to real-life. (CO1-PO5)	☐ Able to allocate problems & analysis related to real-life and clearly described	☐ Able to allocate problems & analysis related to real-life but minor description are missing	☐ Able to allocate problems & analysis related to real-life but major description are missing	☐ Able to allocate problems & analysis related to real-life but not clearly described	☐ Unable to allocate problems & analysis related to real-life.

**Please tick (√) at appropriate scal*

Percentage earned from Logbook = Total Marks Earned from Logbook X 10%
20

= ..... %

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UNIVERSITI TEKNOLOGI MARA

PROGRESS REPORT FOR INDUSTRIAL TRAINING
(Industrial Supervisors Evaluation Form)

A) Student Information

Name : .....

Programme : .....

Session : .....

Date of Commencement : .....

UiTM No. : .....

ID No. : .....

Semester : .....

Date of Completion : .....

B) Organization Information

Organization : .....

Name of Supervisor: .....

Designation : .....

C) Faculty Supervisor Information

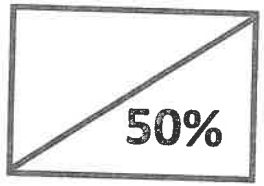
Name : .....

D) Marks

No.	Criteria	CO1-PO5	CO2-PO8	CO3-PO4	CO4-PO2	TOTAL MARKS
1.	Attendance verification	/5				
2.	Punctuality and Attitude	/5				
3.	Quality of work	/5				
4.	Learning capability		/5			
5.	Application of knowledge		/5			
6.	Co-operation			/5		
7.	Discussion with supervisor/co-workers				/5	
8.	Communication Ability				/5	
9.	Oral and written presentation skills			/5		
10.	Organization skills				/5	
11.	Scope of work and relate to theoretical knowledge	/5				
12.	Safety	/5				
	CO-PO MARKS	/25	/10	/10	/15	/60

.....
Signature & Official Stamp

.....
Date



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Kampus Pasir Gudang, 81750 Masai, Johor

UNIVERSITI TEKNOLOGI MARA

No.	Criteria	5 (Excellent)	4 (Good)	3 (Satisfactory)	2 (Average)	1 (Weak)
1.	Attendance verification (CO1 – PO5)	☐ Constantly verified by supervisor.	☐ Satisfactory verified by supervisor.	☐ Moderately verified by supervisor.	☐ Fairly verified by supervisor.	☐ No verifcation by supervisor.
2.	Punctuality and Attitude. (CO1-PO5)	☐ Punctual with outstanding adherence to rules and regulations	☐ Punctual with good adherence to rules and regulations	☐ Punctual with satisfactory adherence to rules and regulations	☐ Moderate punctuality with minimal adherence to rules and regulations	☐ Poor punctuality and unable to adhere to rules and regulations
3.	Quality of work (task assigned). (CO1-PO5)	☐ Accomplish the tasks before the deadline with no correction	☐ Accomplish the tasks on time with no correction	☐ Accomplish the task on time with minimum correction	☐ Able to accomplish part of the tasks with delay	☐ Fail to accomplish tasks assigned
4.	Learning capability. (CO2-PO8)	☐ Demonstrate outstanding measures and proactive learning capability	☐ Able to act and learn with minimum supervisions	☐ Able to learn with supervisions	☐ Able to learn with substantial supervision	☐ Unable to learn despite with supervision
5.	Application of knowledge. (CO2-PO8)	☐ Excellent demonstration of theoretical knowledge application at work place	☐ Able to apply substantial amount of theoretical knowledge at work place	☐ Able to apply acceptable amount of theoretical knowledge at work place	☐ Able to apply minimal theoretical knowledge at work place	☐ Unable to apply theoretical knowledge at work place
6.	Co-operation . (CO3-PO4)	☐ Very proactive in giving co-operation	☐ Always give full co-operation when required	☐ Always give satisfied co-operation	☐ Give less co-operation	☐ Fail to show any cooperation at all
7.	Frequency of discussion with supervisor/co-workers. (CO4-PO2)	☐ At least 8 times	☐ At least 6 times	☐ At least 4 times	☐ At least twice	☐ Never have any discussion
8.	Communication Ability. (CO4-PO2)	☐ Able to communicate effectively with co-workers	☐ Able to communicate with co-workers	☐ Able to communicate satisfactorily with co-workers	☐ Poor communication with co-workers	☐ Unable to communicate with co-workers

No.	Criteria	5 (Excellent)	4 (Good)	3 (Satisfactory)	2 (Average)	1 (Weak)
9.	Oral and written presentation skills. (CO3 – PO4)	☐ Able to express and present very fluently and very convincing.	☐ Able to express and present fluently and convincing.	☐ Able to express and present quite fluently and quite convincing.	☐ Able to express and present clearly but with minimum fluently.	☐ Unable to express and present clearly and lack of fluency.
10.	Organization skills in invdividual and group effextiveness and its activity. (CO4-PO2)	☐ Well-explained on background and workplace activity	☐ Substantial explanation on background and workplace activity	☐ Acceptable explanation on background and workplace activity	☐ Able to explain background and workplace activity with minimal clarity	☐ Unable to explain background and workplace activity
11.	Ability to explain scope of work and relate to theoretical knowledge. (CO1-PO5)	☐ Well-explained the scope of work and able to relate to theoretical knowledge	☐ Substantial explanation on the scope of work and able to relate to theoretical knowledge	☐ Acceptable explanation on the scope of work with minimal relationship to theoretical knowledge	☐ Minimal explanation on the scope of work with minimal relationship to theoretical knowledge	☐ Unable to explain the scope of work and fail to relate to theoretical knowledge
12.	Safety. (CO1-PO5)	☐ Always adhere to safety requirements	☐ Adhere to safety requirements most of the time	☐ Adhere to safety requirements satisfactorily	☐ Minimal adherence to safety requirements	☐ Unable to adhere To safety requirements

**Please tick (V) at appropriate scale*

Percentage from Progress Report = Total Marks Earned From Progress Report X 50%
60
= ..... %

UNIVERSITI TEKNOLOGI MARA
CAWANGAN JOHOR
Kampus Pasir Gudang, 81750 Masai, Johor

UNIVERSITI TEKNOLOGI MARA

PROGRESS REPORT FOR INDUSTRIAL TRAINING
(Faculty Supervisors Evaluation Form)

A) Student Information

Name : ..... **UiTM No.** : .....

Programme : ..... **ID No.** : .....

Session : ..... **Semester** : .....

Date of Commencement : ..... **Date of Completion** : .....

B) Organization Information

Organization : .....

Name of Supervisor: .....

Designation : .....

C) Faculty Supervisor Information

Name : .....

D) Marks

No.	Criteria	CO1-PO5	CO2-PO8	CO3-PO4	CO4-PO2	TOTAL MARKS
1.	Attendance verification	/5				
2.	Punctuality and Attitude	/5				
3.	Quality of work	/5				
4.	Learning capability		/5			
5.	Application of knowledge		/5			
6.	Co-operation			/5		
7.	Discussion with supervisor/co-workers				/5	
8.	Communication Ability				/5	
9.	Oral and written presentation skills			/5		
10.	Organization skills				/5	
11.	Scope of work and relate to theoretical knowledge	/5				
12.	Safety	/5				
CO-PO MARKS		/25	/10	/10	/15	/60

.....
Signature & Official Stamp
(Faculty Supervisors)

.....
Date

20%

UiTM.FKA.LI-10

UNIVERSITI TEKNOLOGI MARA
CAWANGAN JOHOR
Kampus Pasir Gudang, 81750 Masai, Johor

UNIVERSITI TEKNOLOGI MARA

No.	Criteria	5 (Excellent)	4 (Good)	3 (Satisfactory)	2 (Average)	1 (Weak)
1.	Attendance verification (CO1 – PO5)	☐ Constantly verified by supervisor.	☐ Satisfactory verified by supervisor.	☐ Moderately verified by supervisor.	☐ Fairly verified by supervisor.	☐ No verifcation by supervisor.
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3.	Quality of work (task assigned). (CO1-PO5)	☐ Accomplish the tasks before the deadline with no correction	☐ Accomplish the tasks on time with no correction	☐ Accomplish the task on time with minimum correction	☐ Able to accomplish part of the tasks with delay	☐ Fail to accomplish tasks assigned
4.	Learning capability. (CO2-PO8)	☐ Demonstrate outstanding measures and proactive learning capability	☐ Able to act and learn with minimum supervisions	☐ Able to learn with supervisions	☐ Able to learn with substantial supervision	☐ Unable to learn despite with supervision
5.	Application of knowledge. (CO2-PO8)	☐ Excellent demonstration of theoretical knowledge application at work place	☐ Able to apply substantial amount of theoretical knowledge at work place	☐ Able to apply acceptable amount of theoretical knowledge at work place	☐ Able to apply minimal theoretical knowledge at work place	☐ Unable to apply theoretical knowledge at work place
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8.	Communication Ability. (CO4-PO2)	☐ Able to communicate effectively with co-workers	☐ Able to communicate with co-workers	☐ Able to communicate satisfactorily with co-workers	☐ Poor communication with co-workers	☐ Unable to communicate with co-workers

No.	Criteria	5 (Excellent)	4 (Good)	3 (Satisfactory)	2 (Average)	1 (Weak)
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10.	Organization skills in invdividual and group effextiveness and its activity. (CO4-PO2)	☐ Well-explained on background and workplace activity	☐ Substantial explanation on background and workplace activity	☐ Acceptable explanation on background and workplace activity	☐ Able to explain background and workplace activity with minimal clarity	☐ Unable to explain background and workplace activity
11.	Ability to explain scope of work and relate to theoretical knowledge. (CO1-PO5)	☐ Well-explained the scope of work and able to relate to theoretical knowledge	☐ Substantial explanation on the scope of work and able to relate to theoretical knowledge	☐ Acceptable explanation on the scope of work with minimal relationship to theoretical knowledge	☐ Minimal explanation on the scope of work with minimal relationship to theoretical knowledge	☐ Unable to explain the scope of work and fail to relate to theoretical knowledge
12.	Safety. (CO1-PO5)	☐ Always adhere to safety requirements	☐ Adhere to safety requirements most of the time	☐ Adhere to safety requirements satisfactorily	☐ Minimal adherence to safety requirements	☐ Unable to adhere To safety requirements

**Please tick (√) at appropriate scale*

Percentage from Progress Report = Total Marks Earned From Progress Report X 20%
60

= ..... %

COURSE OUTCOMES – PROGRAMME OUTCOMES MATRIX

COURSE CODE	ECM376	**CENTRE OF STUDY**	CEPM
COURSE NAME	INDUSTRIAL TRAINING	**PREPARED BY**	HAMIDAH
CREDIT HOURS	4.0	**DATE**	MAR-13

COURSE OUTCOMES (use verbs according to taxonomy)	TAXONOMY LEVELS			PROGRAM OUTCOMES									ASSESSMENT
	COGNITIVE	PSYCHOMOTOR	AFFECTIVE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	
1. Practice good working ethics and quality delivery of project undertaken.			I					√					Academic Advisor (Placement Report and Logbook Evaluation Form) Industrial and Faculty Supervisors. (Industrial and Faculty Supervisors Evaluation Forms)
2. Exhibit pleasant interpersonal skills as an individual in working independently, collaborative and in multi-disciplinary team.			III								√		Industrial and Faculty Supervisors. (Industrial and Faculty Supervisors Evaluation Forms)
3. Practice good organizational skills in enhancing individual and group effectiveness and productivity.			IV				√						Industrial and Faculty Supervisors. (Industrial and Faculty Supervisors Evaluation Forms)
4. Exhibit good communication with fellow workers and supervisors in issues related to projects undertaken.			II		√								Industrial and Faculty Supervisors. (Industrial and Faculty Supervisors Evaluation Forms)

Program outcome for EC110

PO2 – Ability to communicate effectively, not only with engineers but also with the public (A)
PO4 – Ability to act effectively as an individual and as group with leadership capabilities (A)
PO5 – Understanding of the social, cultural, global, environmental responbilities, ethics and the needs for sustainable development (A)
PO8 – Ability to function in multidisciplinary teams (A)

CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG,
DI JALAN JELATEK, KUALA LUMPUR

No.	DRAWING DESCRIPTION	REF.NO	CONSTRUCTION DRAWING REV / DATE RECEIVED					
			0	1	2	3	4	5
1	LIST OF DRAWINGS	RB 6305/BR3/LOD/01	31/5/2018					
2	LOCATION PLAN	RB 831/BR3/LOC/01	31/5/2018					
3	ROAD LAYOUT PLAN	RB 831/BR3/RD/01	31/5/2018					
4	DRAINAGE LAYOUT PLAN	RB 831/BR3/RD/02	31/5/2018		29/5/2019			
5	ROAD FURNITURE LAYOUT PLAN	RB 831/BR3/RD/03	31/5/2018					
6	PROFILE CH. 940M TO CH. 1220M	RB 831/BR3/RD/04	31/5/2018					
7	TYPICAL DETAIL OF WASH TROUGH	RB 831/BR3/RD/05	31/5/2018					
8	ELEMENTS OF CURVES	RB 831/BR3/RD/06	31/5/2018					
9	CROSS SECTION AND PAVEMENT DETAIL	RB 831/BR3/RD/07	31/5/2018					
10	REGULATION AND TREATMENT OF EXISTING PAVEMENT	RB 831/BR3/RD/08	31/5/2018					
11	TYPICAL DETAILS OF HRGW DRAINS AND SUMP	RB 831/BR3/RD/09	31/5/2018		29/5/2019			
	DETAIL OF SUMP NO.101	RB 6305/BR3/RD/09B	16/3/2019					
12	DETAILS OF CONCRETE KERB AND WALKWAY	RB 831/BR3/RD/10	31/5/2018					
13	PIPE CULVERT HEADWALL	RB 831/BR3/RD/11	31/5/2018					
14	REGULATORY AND WARNING SIGNS	RB 831/BR3/RD/12	31/5/2018					
15	STANDARD ROAD MARKING	RB 831/BR3/RD/13	31/5/2018					
16	STANDARD NORMAL LETTERING AND NUMERALS	RB 831/BR3/RD/14	31/5/2018					
17	DETAILS OF SIGNAGES	RB 831/BR3/RD/15	31/5/2018					
18	TYPICAL GENERAL ARRANGEMENT OF TRAFFIC SIGNS	RB 831/BR3/RD/16	31/5/2018					
19	TYPICAL SIGN STRUCTURAL DETAILS	RB 831/BR3/RD/17	31/5/2018					
20	TYPICAL STRUCTURAL DETAILS FOR GUIDE SIGNS	RB 831/BR3/RD/18	31/5/2018					
21	TYPICAL FOOTING DETAILS FOR GUIDE SIGNS	RB 831/BR3/RD/19	31/5/2018					
22	GENERAL NOTES	RB 831/BR3/ST/01	31/5/2018					
23	GENERAL LAYOUT PLAN, ELEVATION AND SECTIONS	RB 831/BR3/ST/02	31/5/2018					
24	PILING LAYOUT PLAN	RB 831/BR3/ST/03	31/5/2018	16/3/2019				
	PILE SCHEDULE FOR NEW BRIDGE (ABUTMENT B)	RB 6305/BR3/ST/03B	16/3/2019					
25	DETAILS OF ABUTMENT - CONCRETE	RB 831/BR3/ST/04	31/5/2018					
26	DETAILS OF ABUTMENT - REINFIRCEMENT OF PILE CAP	RB 831/BR3/ST/05	31/5/2018					
27	DETAILS OF ABUTMENT - REINFIRCEMENT OF ELEVATION & SECTION	RB 831/BR3/ST/06	31/5/2018					

CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR

No.	DRAWING DESCRIPTION	REF.NO	CONSTRUCTION DRAWING REV / DATE RECEIVED					
			0	1	2	3	4	5
28	DETAILS OF ABUTMENT - REINFIRCEMENT OF WINGWALL & APPROCH SLAB	RB 831/BR3/ST/07	31/5/2018					
29	DIAPHRAGM BEAM & BEARING PAD DETAILS	RB 831/BR3/ST/08	31/5/2018					
30	PRECAST GIRDER ARRANGEMENT LAYOUT & GIRDER SEATING DETAILS	RB 831/BR3/ST/09	31/5/2018					
31	R.C DECK SLAB REINFORCEMENT & PARAPET WALL DETAILS	RB 831/BR3/ST/10	31/5/2018					
32	SEQUENCE OF CONSTRUCTION (1 OF 2)	RB 831/BR3/ST/11	31/5/2018					
33	SEQUENCE OF CONSTRUCTION (2 OF 2)	RB 831/BR3/ST/12	31/5/2018					
34	NEW JERSEY PARAPET DETAILS	RB 831/BR3/ST/13	31/5/2018					
35	HANDRAIL AND WALKWAY SHELTER DETAILS	RB 831/BR3/ST/14	31/5/2018					
36	600mm. DIA. BORED PILE DETAILS	RB 831/BR3/ST/15	31/5/2018	16/3/2019				
37	STEEL TRUSSS - GENERAL LAYOUT PLAN & ELEVATION	RB 831/BR3/ST/16	31/5/2018		27/12/2018	20/4/2019		
38	STEEL TRUSS - SECTION	RB 831/BR3/ST/17	31/5/2018		3/11/2018	5/12/2018 27/12/2018	16/3/2019	
39	STEEL TRUSS - PILING LAYOUT PLAN	RB 831/BR3/ST/18	31/5/2018		27/12/2018	16/3/2019		
40	STEEL TRUSS - DIMENSION & REINFORCEMENT DETAIL (PIER 1 & 3)	RB 831/BR3/ST/19	31/5/2018					
	STEEL TRUSS - DIMENSION & REINFORCEMENT DETAIL (PIER 3)	RB 6305/BR3/ST/19A	31/5/2018		3/11/2018	27/12/2018		
41	STEEL TRUSS - DIMENSION & REINFORCEMENT DETAIL (PIER 2)	RB 831/BR3/ST/20	31/5/2018		5/12/2018	16/3/2019		
42	STEEL TRUSS - DIMENSION & REINFORCEMENT DETAIL (PIER 4 & 5)	RB 831/BR3/ST/21	31/5/2018		27/12/2018			
43	STEEL TRUSS ELEVATION 12.45m - (NO.1)	RB 831/BR3/ST/22	31/5/2018		19/10/2018	20/4/2019		
	STEEL TRUSS ELEVATION 26.80m - (NO.3)	RB 6305/BR3/ST/22A		19/10/2018	20/4/2019			
44	STEEL TRUSS ELEVATION 50m - (NO.2)	RB 831/BR3/ST/23	31/5/2018		19/10/2018			
45	STEEL TRUSS ELEVATION 50m - (NO.3)	RB 831/BR3/ST/24	31/5/2018					
46	STEEL TRUSS ELEVATION 50m - (NO.4)	RB 831/BR3/ST/25	31/5/2018		19/10/2018			
47	STEEL TRUSS ELEVATION 46m - (NO.5)	RB 831/BR3/ST/26	31/5/2018		19/10/2018	27/12/2018	15/2/2019	
48	STEEL TRUSS DETAILS 50m - SHEET 1 OF 3	RB 831/BR3/ST/27	31/5/2018					
49	STEEL TRUSS DETAILS 50m - SHEET 2 OF 3	RB 831/BR3/ST/28	31/5/2018					
50	STEEL TRUSS DETAILS 50m - SHEET 3 OF 3	RB 831/BR3/ST/29	31/5/2018					
51	STEEL TRUS DETAILS 12.45m - SHEET 1 OF 2	RB 831/BR3/ST/30	31/5/2018					
52	STEEL TRUS DETAILS 12.45m - SHEET 2 OF 2	RB 831/BR3/ST/31	31/5/2018					
53	250mm DIA. MICROPILE DETAILS	RB 831/BR3/ST/32	31/5/2018					

JABATAN KEJURUTERAAN AWAM & PENGANGKUTAN BANDAR
DEWAN BANDARAYA KUALA LUMPUR

CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR

CONSTRUCTION DRAWINGS

MAY 2018

MASTER COPY

CONTROLLED COPY

13 MAY 2018

PEGAWAI PENGUASA

PENGARAH
JABATAN KEJURUTERAAN AWAM & PENGANGKUTAN BANDAR
DEWAN BANDARAYA KUALA LUMPUR
TINGKAT 17-19, BANGUNAN DEWAN BANDARAYA
JALAN RAJA LAUT
50350 KUALA LUMPUR

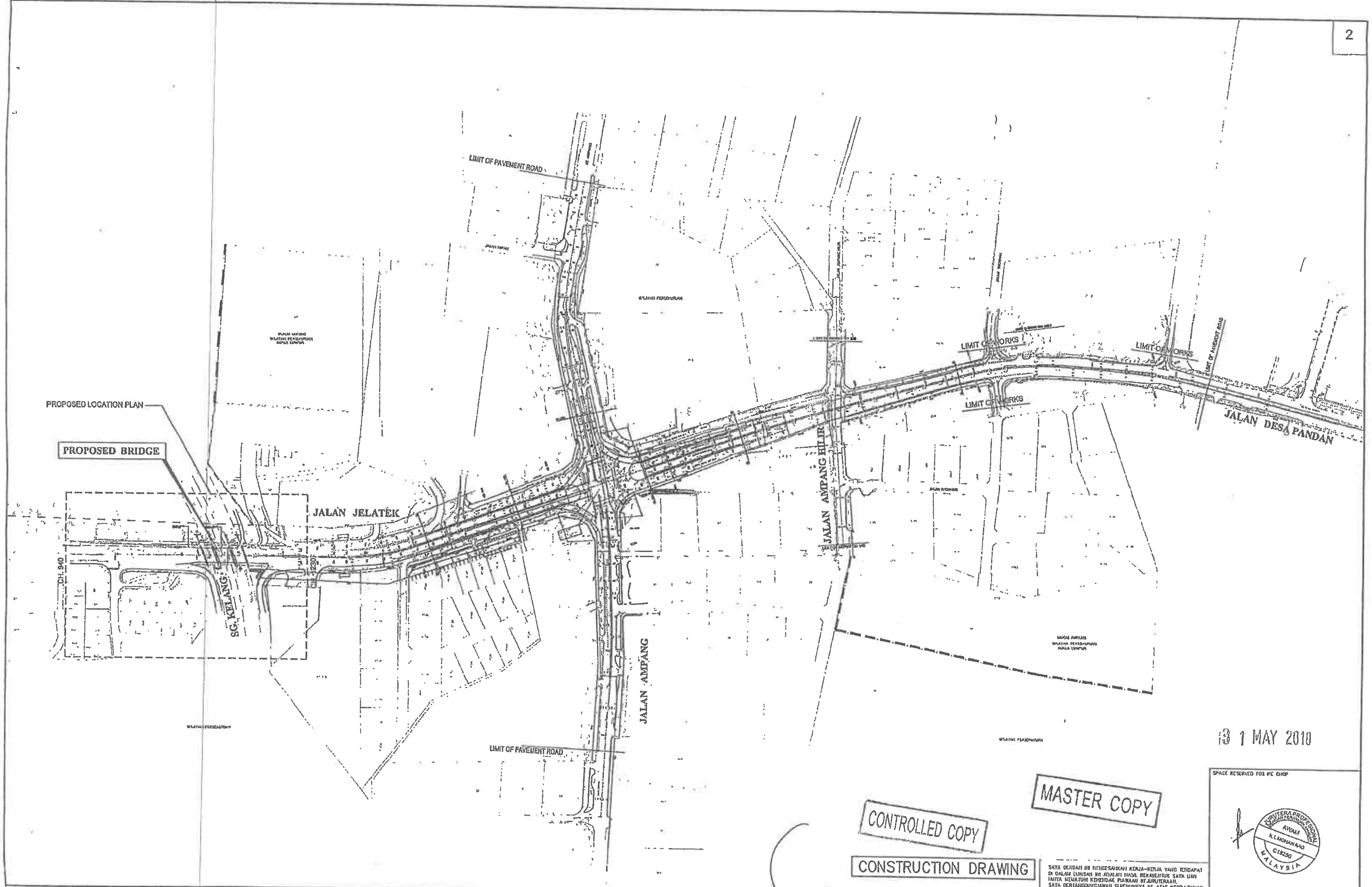
JURUTERA PERUNDING:

Ranhill

ranhill consulting sdn. bhd.
(394869-A)

SUITE 2302, LEVEL 23 PLAZA PERMATA,
NO. 6 JALAN KAMPAR
OFF JALAN TUN RAZAK
50400 KUALA LUMPUR
TEL. 03-27168888 FAX. 03-27168889

2



13 1 MAY 2010

MASTER COPY

CONTROLLED COPY

CONSTRUCTION DRAWING

SAYA OKUDAH BE MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN TELAH MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI

SPACE RESERVED FOR PE CHOP

JURUTERA PROFESIONAL AWAM K. LMOHANRAO C18250 MALAYSIA

TARIKH	BUTIRAN		RUJUKAN	SKALA: 1:2000
		PADANAN		

ranhill consulting sdn. bhd. [394669-A]

DIREKA OLEH: WAH/NH

DILUKIS OLEH: AMRAN/AZ

DISEMAK OLEH: JR

DILULUSKAN OLEH: IMR

IR. SABUDIN ... SALLEH
JURUTERA ... JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

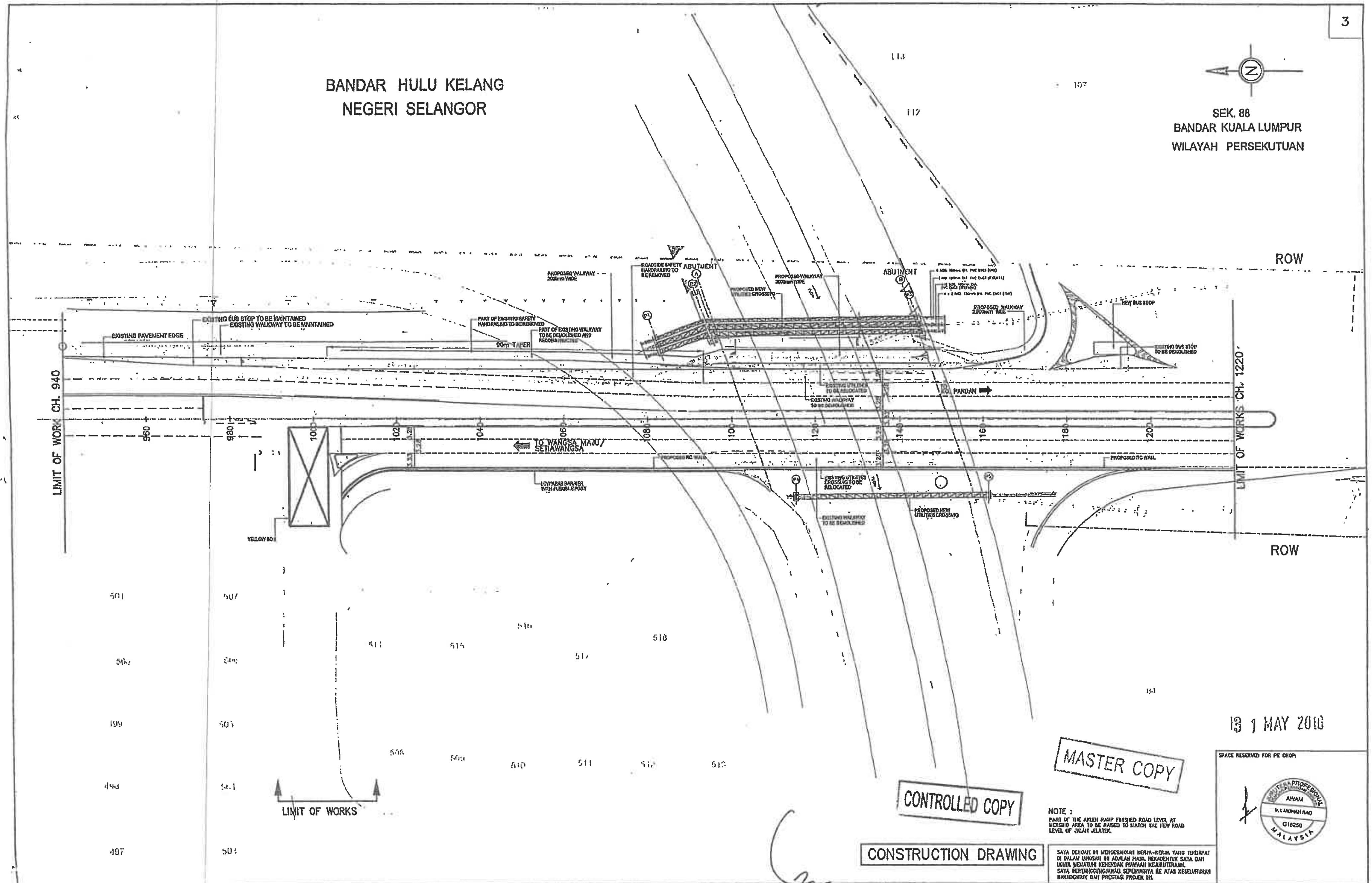
TUAN HAJI ... HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
LOCATION PLAN

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/LOC/01 | REV. –



3
BANDAR HULU KELANG
NEGERI SELANGOR
SEK. 88
BANDAR KUALA LUMPUR
WILAYAH PERSEKUTUAN
ROW
ROW
LIMIT OF WORK CH. 940
LIMIT OF WORKS CH. 1220
EXISTING PAVEMENT EDGE
EXISTING BUS STOP TO BE MAINTAINED
EXISTING WALKWAY TO BE MAINTAINED
PROPOSED WALKWAY 2000mm WIDE
ROADSIDE SAFETY HANDRAILING TO BE REMOVED
ABUTMENT
ABUTMENT
PROPOSED WALKWAY 2000mm WIDE
NEW BUS STOP
EXISTING BUS STOP TO BE DEMOLISHED
90m TAPER
PANDAN
TO WANGSA MAJU/ SETIAWANGSA
PROPOSED RC WALL
LOW KERB BARRIER WITH FLEXIBLE POST
EXISTING WALKWAY TO BE DEMOLISHED
PROPOSED NEW UTILITIES CROSSING
YELLOW BOX
LIMIT OF WORKS
13 1 MAY 2010
MASTER COPY
CONTROLLED COPY
CONSTRUCTION DRAWING

NOTE :
PART OF THE AKLEH RAMP FINISHED ROAD LEVEL AT MERGING AREA TO BE RAISED TO MATCH THE NEW ROAD LEVEL OF JALAN JELATEK.

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN IANYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESEMPURNAAN REKABENTUK DAN PRESTASI PROJEK INI.

SPACE RESERVED FOR PE CHOP:

TARIKH	BUTIRAN	RUJUKAN
	PINDAAN	

SKALA: 1 : 400

ranhill consulting sdn. bhd. (394859-A)

DIREKA OLEH: WAN/AH
DILUKIS OLEH: AMRAN/AZ
DISEMAK OLEH: JR
DILULUSKAN OLEH: IWR

IR. SABUDIN BIN MOHD SALLEH
TIMBALAN PENGARAH KANAN, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PENGANGKUTAN BANDAR, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

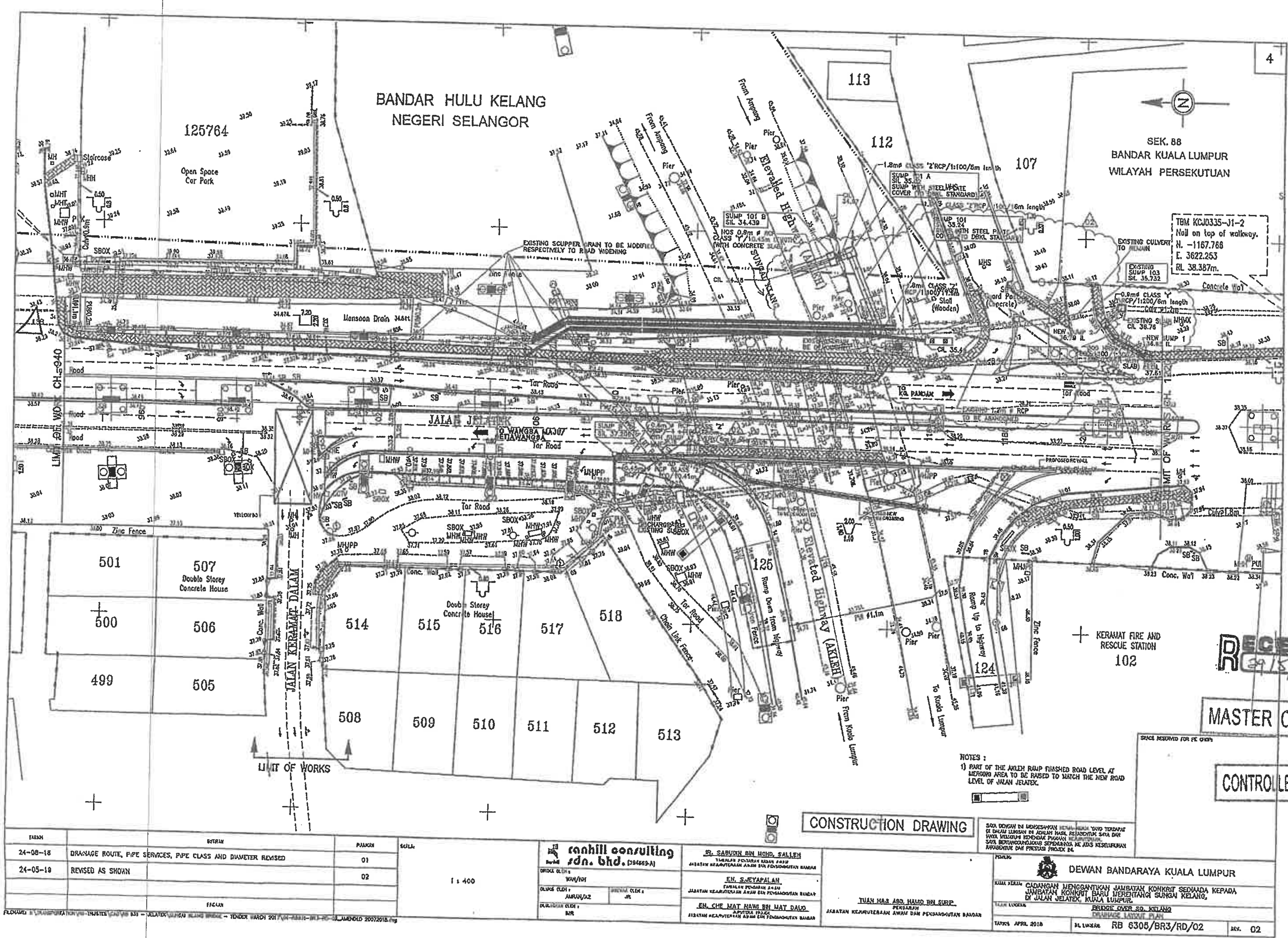
HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

DEWAN BANDARAYA KUALA LUMPUR

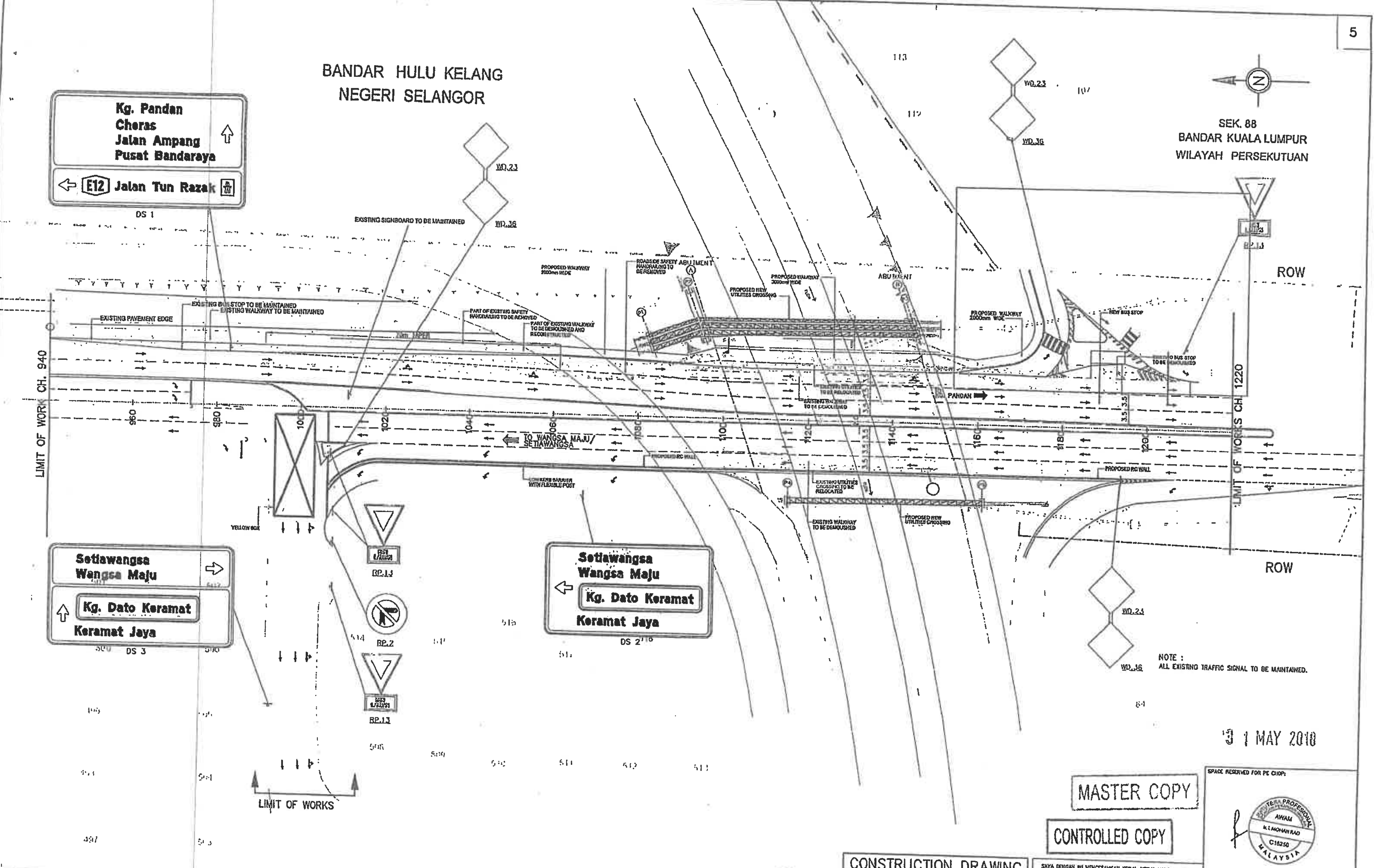
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
ROAD LAYOUT PLAN

TARIKH: APRIL 2010 | BIL. LUKISAN: RB 6305/BR3/RD/01 | REV. –



4
BANDAR HULU KELANG
NEGERI SELANGOR
125764
Open Space
Car Park
SEK. 88
BANDAR KUALA LUMPUR
WILAYAH PERSEKUTUAN
TBM KCJ0335-J1-2
Nail on top of walkway.
N. -1167.766
E. 3622.253
RL 38.387m.
113
112
107
From Ampang
Elevated Highway (AKLEH)
SUNGAI KLANG
From Kuala Lumpur
To Kuala Lumpur
Ramp Up to Highway
Ramp Down from Highway
KERAMAT FIRE AND
RESCUE STATION
102
124
125
Monsoon Drain
JALAN JELATEK
JALAN KERAMAT DALAM
Tar Road
Zinc Fence
Chain Link Fence
Double Storey
Concrete House
501
507
500
506
499
505
514
515
516
517
518
508
509
510
511
512
513
LIMIT OF WORKS
NOTES :
1) PART OF THE AKLEH RAMP FINISHED ROAD LEVEL AT MERGING AREA TO BE RAISED TO MATCH THE NEW ROAD LEVEL OF JALAN JELATEK.
CONSTRUCTION DRAWING
RECEIVED
MASTER COPY
CONTROLLED COPY
24-08-18
DRAINAGE ROUTE, PIPE SERVICES, PIPE CLASS AND DIAMETER REVISED
01
24-05-19
REVISED AS SHOWN
02
1 : 400
ranhill consulting sdn. bhd.
DEWAN BANDARAYA KUALA LUMPUR
CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.
BRIDGE OVER SG. KELANG
DRAINAGE LAYOUT PLAN
APRIL 2018
RB 6305/BR3/RD/02
02


BANDAR HULU KELANG
NEGERI SELANGOR
SEK. 88
BANDAR KUALA LUMPUR
WILAYAH PERSEKUTUAN
Kg. Pandan
Cheras
Jalan Ampang
Pusat Bandaraya
E12 Jalan Tun Razak
DS 1
Setiawangsa
Wangsa Maju
Kg. Dato Keramat
Keramat Jaya
DS 3
DS 2
WD.23
WD.36
RP.13
RP.2
EXISTING SIGNBOARD TO BE MAINTAINED
EXISTING BUS STOP TO BE MAINTAINED
EXISTING WALKWAY TO BE MAINTAINED
EXISTING PAVEMENT EDGE
PART OF EXISTING SAFETY HANDRAILING TO BE REMOVED
PART OF EXISTING WALKWAY TO BE DEMOLISHED AND RECONSTRUCTED
PROPOSED WALKWAY 2000mm WIDE
ROADSIDE SAFETY HANDRAILING TO BE REMOVED
ABUTMENT
PROPOSED NEW UTILITIES CROSSING
EXISTING UTILITIES CROSSING TO BE RELOCATED
EXISTING WALKWAY TO BE DEMOLISHED
PROPOSED RC WALL
CONCRETE BARRIER WITH FLEXIBLE POST
TO WANGSA MAJU/ SETIAWANGSA
PANDAN
NEW BUS STOP
EXISTING BUS STOP TO BE DEMOLISHED
YELLOW BOX
LIMIT OF WORK CH. 940
LIMIT OF WORKS CH. 1220
LIMIT OF WORKS
ROW
960
980
1000
1020
1040
1060
1080
1100
1120
1140
1160
1180
1200

NOTE :
ALL EXISTING TRAFFIC SIGNAL TO BE MAINTAINED.

31 MAY 2018

MASTER COPY

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CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP:

PROFESSIONAL AWAM Ir. I. MOHAN RAO C15250 MALAYSIA

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN IANYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	PINDAAN	MAKLUMAT	SKALA
			1 : 400

ranhill consulting sdn. bhd. [394869-A]

DIREKA OLEH : CKP/WAN
DILUKIS OLEH : AMRAN
DISEMAK OLEH : CKP/AR
DILULUSKAN OLEH : CKH

IR. SABUDIN BIN MOHD SALLEH
IR. AZLI SHAH BIN ALI BASHAH
CHE MAT NAIM BIN MAT DAUD

TUAN HAJI ABD. HAMID BIN SURIP
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

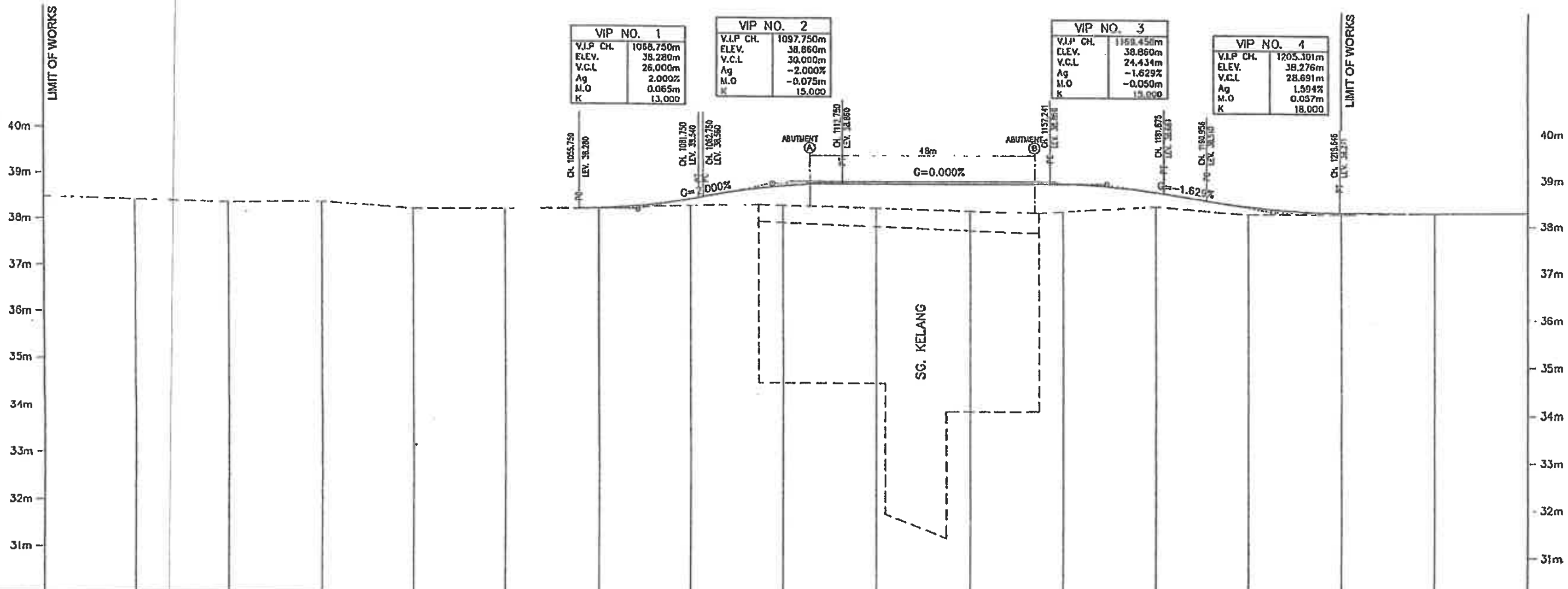
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG ROAD FURNITURE LAYOUT PLAN

TARIKH: APRIL 2018

NO. LUKISAN: RB 6305/BR3/RD/03

REV. –



DATUM=30.000 (m)

PROPOSED LEVEL (m)	38.475	38.412	38.350	38.380	38.240	38.260	38.287	38.506		38.806	38.860		38.980	38.857	38.687	38.385	38.271	38.269	38.302
EXISTING LEVEL (m)	38.475	38.412	38.350	38.380	33.420	38.260	38.280	38.360		38.445	38.286 31.830	31.330 34.010	38.253	38.220	38.375	38.220	38.230	38.269	38.302
CHAINAGE (m)	940.000	960.000	980.000	1000.000	1020.000	1040.000	1060.000	1080.000	1095.000	1100.000	1120.000 1122.000	1135.000	1140.000	1160.000	1180.000	1200.000	1220.000	1240.000	1260.000
HORIZONTAL	0- 300m																		

CH.940m TO CH.1260m

13 1 MAY 2019

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CONTROLLED COPY

CONSTRUCTION DRAWING

NOTE :
THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ROAD LAYOUT PLAN AND DRAINAGE PLAN.

SPACE RESERVED FOR PE CHOP:

JURUTERA PROFESIONAL AWAM R. L MOHAN RAO C18250 MALAYSIA

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN IANYA MEMATUHI KEHENDAK PIAWAI KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH | BUTIRAN | RUJUKAN

SKALA: HORIZ 1:500 VERT 1:50

ranhill consulting sdn. bhd. (394869-A)
DIREKA OLEH : HM/WAN
DILUKIS OLEH : AMRAN/IR
DISEMAK OLEH : JR
DILULUSKAN OLEH : NR

IR. SAHUDIN BIN MOHD. SALLEH — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
IR. AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ABD HAMID BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

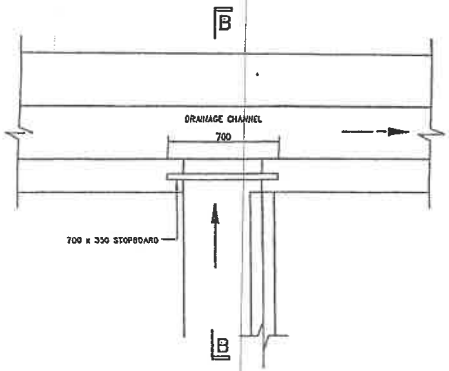
PELULUS: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

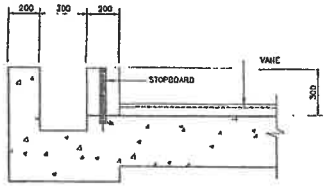
TAJUK LUKISAN: BRIDGE OVER SG. KELANG PROFILE CH.940m TO CH.1220m

TARIKH: APRIL 2010 | NO LUKISAN: RB 6305/BR3/RD/04 | REV: -

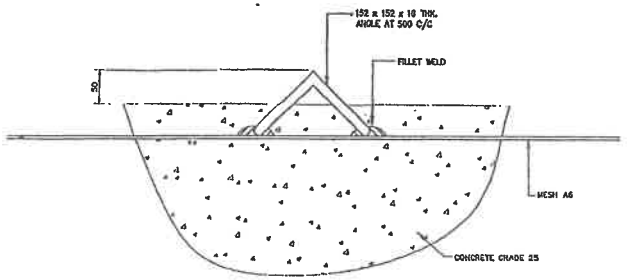
E:\TRANSPORTATION\D-TRUSTEE\RAD\RB 831 - JELATEK SUNGAI KLANG BRIDGE - TENDER MARCH 2017\06-RB831-BR3-RD-04.dwg



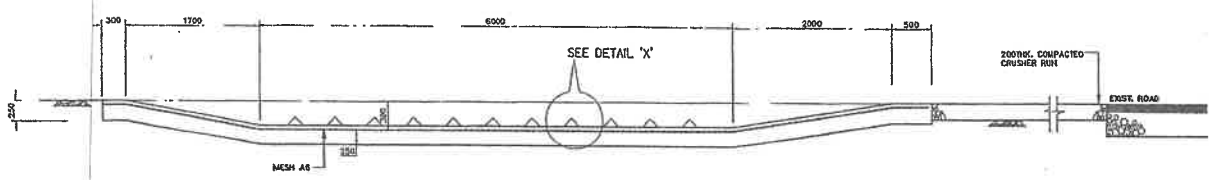
DETAIL 'Y'
SCALE 1:10



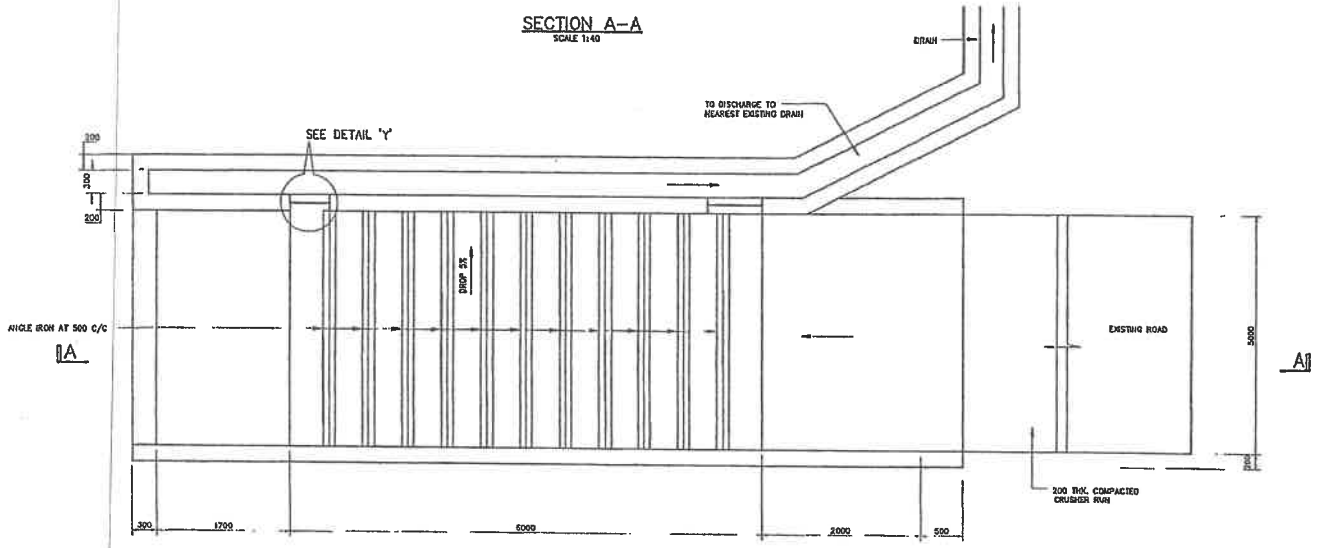
SECTION B–B
SCALE 1:20



DETAIL 'X'
SCALE 1:5



SECTION A–A
SCALE 1:40



PLAN OF WASH TROUGH
SCALE 1:40

NOTES:

1. ALL DIMENSIONS SHOWN SHALL BE IN MILLIMETRE.
2. CONCRETE TO BE OF GRADE 25.
3. THE EXACT LOCATION AND ORIENTATION OF WASH TROUGH AND DRAINAGES ARE SUBJECT TO SITE CONDITIONS.

31 MAY 2018

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CONTROLLED COPY

CONSTRUCTION DRAWING

SAYA-DENGAN-INI-MENGESAHKAN-KERJA-KERJA-MAKID TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL RENCANTIKAN SAYA DAN HANYA MEMATUHI KEHENDAK PIHAK KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN RANCANGAN DAN PRESTASI PROJEK INI.

SPACE RESERVED FOR PE CHOP:

TARIKH	BUTIRAN	BUKAAN
	PINDAAN	

SKALA: AS SHOWN

ranhill consulting sdn. bhd. (394569-A)

DIREKA OLEH : RDL/AWAM

DISEMAK OLEH : AZ/AWAM

DILUKIS OLEH : CHH

IR. SABUDIN BIN MOHD SALLEH
PENGARAH PENGURUSAN AWAM DAN PENCANCKUTAN BANDAR
JABATAN KEJURUTERAAN AWAM DAN PENCANCKUTAN BANDAR

IR. AZLI SIAH BIN ALI BASHAH
PENGARAH PENGURUSAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENCANCKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
PENGARAH PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENCANCKUTAN BANDAR

TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENCANCKUTAN BANDAR

PT(S) CC: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
TYPICAL DETAILS OF WASH TROUGH

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/RD/05 | KLV. —

FORMULAE: (FOR TRANSITION CURVE)

$\theta s = \frac{Ls \times Dc}{200}$ (IN DEGREES)

$\theta = (\frac{\ell}{Ls})^2 \times \theta s$

$Qc = \frac{\theta s}{3} - C$, Where $C = 0.0031 \times \theta s^2$ (Where C is in seconds, θs is in degrees)) (Correction Factor for Spiral Deflection Angle)

$Q = (\frac{\ell}{Ls})^2 Qc$

$\Delta c = \Delta - 2\theta s$

$x = \ell(1 - \frac{\theta^2}{10} + \frac{\theta^4}{216} - \frac{\theta^6}{9360} - \frac{\theta^8}{685440})$ Where is θ in Radians

$y = \ell(\frac{\theta}{3} - \frac{\theta^3}{42} + \frac{\theta^5}{1320} - \frac{\theta^7}{75600} + \frac{\theta^9}{6804720})$ Where θ is θ in Radians

$ST = \frac{ys}{\sin \theta s}$

$LT = Xs - ys \cot \theta s$

$LC = \frac{Xs}{\cos \theta s}$

$p = ys - Rc(1 - \cos \theta s)$

$Es = (Rc + p)(\frac{1}{\cos \Delta/2} - 1) + p$

$Ts = (Rc + p) \tan \frac{\Delta}{2} + k$

$k = Xs - Rc \sin \theta s$

$Lc = \frac{10 \Delta c}{Dc}$

$Dc = \frac{5729.578}{Rc}$

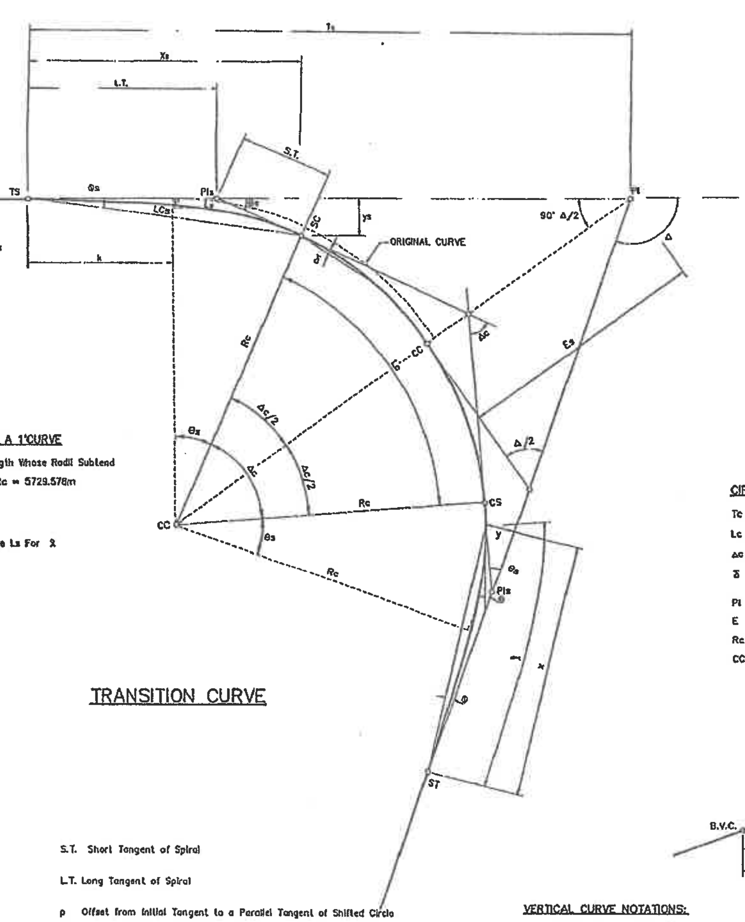
$\delta = 1718.873 \times \frac{\Delta L}{Rc}$ (δ in minutes)

Radius on any Point on Spiral $R = \frac{RcLc}{\ell}$

DEFINITION OF A 1°CURVE

A 100m Arc Length Whose Radii Subtend An Angle Of 1° Rc = 5729.578m

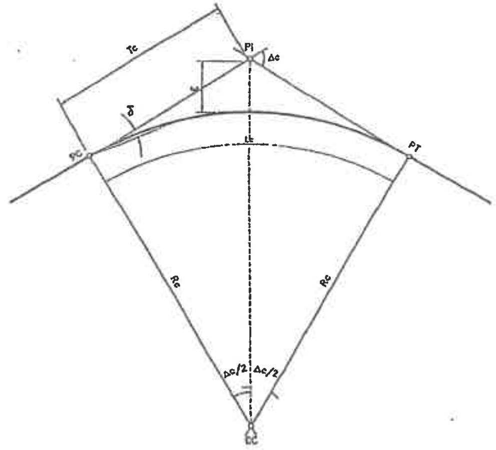
NOTE:
For Xs Or Ys Use Ls For ℓ



TRANSITION CURVE

TRANSITION CURVE NOTATIONS:

- TS Point of changes from Tangent to Spiral
- SC Point of change from Spiral to Circular Curve
- CC Centre of Circular Curve
- CS Point of change from Circular Curve to Spiral
- ST Point of change from Spiral to tangent
- ℓ Spiral Arc from TS or ST to any Point to Spiral
- Ls Spiral Length from TS to SC or from CS to ST
- θ Central Angle of Spiral of Arc ℓ
- θs Central Angle of Spiral Arc of Length Ls
- Q Spiral Deflection angle at TS or ST from Initial Tangent to any Point on Spiral
- Qs Deflection Angle at TS or ST from Initial Tangent to SC or CS
- Dc Degree of Circular Curve
- Rc Radius of Circular Curve
- Lc Length of Circular Curve
- Δ Total Deflection Angle for Curve
- Δc Central Angle for Circular Curve
- x Tangent Distance along Initial Tangent of any Point on Spiral with reference to TS or ST (Xs for SC of CS) (ys at SC or CS)
- y Tangent Offset from Initial Tangent of any Point on Spiral
- S.T. Short Tangent of Spiral
- L.T. Long Tangent of Spiral
- p Offset from Initial Tangent to a Parallel Tangent of Shifted Circle
- k Tangent Distance from TS or ST to Offset p of Shifted Circle
- LC Long Chord (TS to SC or CS to ST) of Spiral
- Es External Distance
- Ts Total Tangent Distance (PI to TS or ST)
- Pls Intersection of Long Tangent and Short Tangent of Spiral
- δ Deflection Angle from SC or CS to any Point on Simple Curve from the Local Tangent
- PI Intersection Point of the Total Tangent of the curve



CIRCULAR CURVE

CIRCULAR CURVE NOTATIONS:

- Tc = Length of Tangent
- Lc = Length of Circular Curve from PC to PT
- Δc = Deflection Angle of the Circular Curve
- δ = Deflection Angle from PC or PT to any Point on Simple Curve from the Local Tangent
- PI = Intersection Point of Tangent
- E = External Distance
- Rc = Radius of Circular Curve
- CC = Centre of Circular Curve

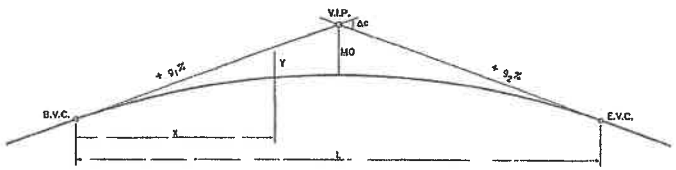
FORMULAE: (FOR CIRCULAR CURVE)

$Tc = Rc \tan \frac{\Delta c}{2}$

$Lc = \frac{Rc \Delta c \pi}{180}$ (Where Δc is in degrees)

$\delta = 1718.873 \times \frac{\Delta L}{Rc}$ (δ in minutes)

$E = \sqrt{Tc^2 + Rc^2} - Rc$



TYPICAL VERTICAL CURVE
(PARABOLIC CURVE)

$\Delta g = g_2\% - g_1\%$

$Y = \frac{\Delta g}{200L} \times x^2$

$MO = \frac{\Delta gL}{800}$

VERTICAL CURVE NOTATIONS:

- x = Tangent distance along Initial Tangent of any point on spiral with reference TS or ST (xs for SC or CS)
- y = Tangent offset from Initial Tangent of any point (ys at SC or CS)
- Δg = Algebraic difference in grades (Percent) of the Grades Tangents
- V.I.P. = Vertical Intersection Point
- B.V.C. = Beginning of Vertical Curve (Point of Tangent to Curve)
- E.V.C. = End of Vertical Curve (Point of curve to Tangent)
- g = Gradient (Percent)
- M.O. = Mid-Ordinate (Vertical offset from VIP to the middle of curve)
- L = Vertical Curve Length measured horizontally
- ELEV. = Elevation of VIP

13 1 MAY 2010

SPACE RESERVED FOR P.E. CHOP

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CONTROLLED COPY

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN IANYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN	SKALA:
			NOT TO SCALE
	PINDAAN		

ranhill consulting sdn. bhd. (394869-A)

DILUKIS OLEH: NH/WAH
DIREKA OLEH: AZ/AMRAN
DISEMAK OLEH: JR
DILULUSKAN OLEH: CKH

IR. SABUDIN BIN MOHD. SALLEH — JABATAN KEJURUTERAAN ... BANDAR

IR. AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

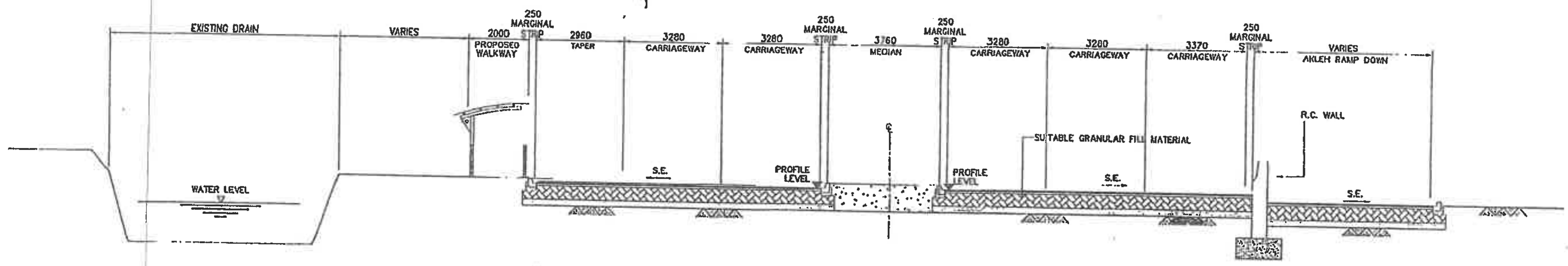
TUAN HAJI MOHD. ... BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

DEWAN BANDARAYA KUALA LUMPUR

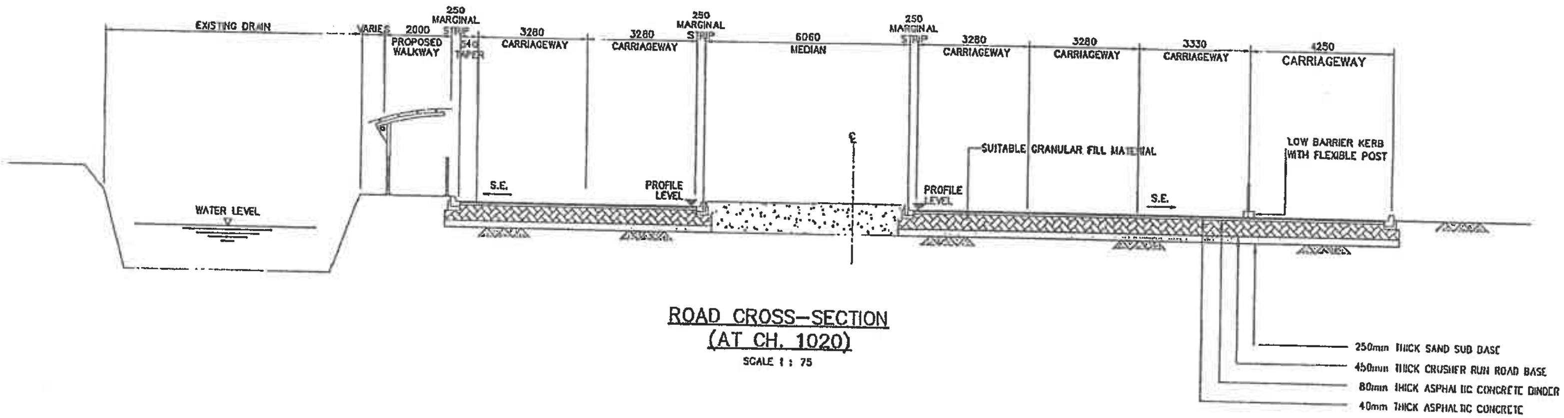
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG — ELEMENTS OF CURVES

TARIKH: APRIL 2010 | NO. LUKISAN: RB 6305/BR3/RD/06 | REV: -


EXISTING DRAIN
VARIES
2000
PROPOSED WALKWAY
250 MARGINAL STRIP
2960 TAPER
3280 CARRIAGEWAY
3280 CARRIAGEWAY
250 MARGINAL STRIP
3760 MEDIAN
250 MARGINAL STRIP
3280 CARRIAGEWAY
3280 CARRIAGEWAY
3370 CARRIAGEWAY
250 MARGINAL STRIP
VARIES
AKLEH RAMP DOWN
R.C. WALL
SUITABLE GRANULAR FILL MATERIAL
PROFILE LEVEL
S.E.
WATER LEVEL

ROAD CROSS–SECTION
(AT CH. 1080)
SCALE 1 : 75


EXISTING DRAIN
VARIES
2000
PROPOSED WALKWAY
250 MARGINAL STRIP
TAPER
3280 CARRIAGEWAY
3280 CARRIAGEWAY
250 MARGINAL STRIP
6060 MEDIAN
250 MARGINAL STRIP
3280 CARRIAGEWAY
3280 CARRIAGEWAY
3330 CARRIAGEWAY
4250 CARRIAGEWAY
LOW BARRIER KERB WITH FLEXIBLE POST
SUITABLE GRANULAR FILL MATERIAL
PROFILE LEVEL
S.E.
WATER LEVEL
250mm THICK SAND SUB BASE
450mm THICK CRUSHER RUN ROAD BASE
80mm THICK ASPHALTIC CONCRETE BINDER
40mm THICK ASPHALTIC CONCRETE

ROAD CROSS–SECTION
(AT CH. 1020)
SCALE 1 : 75

MASTER COPY

31 MAY 2018

NOTE:

1. ALL DIMENSIONS ARE IN MILIMETRES UNLESS OTHERWISE STATED.
2. THE SUBGRADE AT FORMATION LEVEL SHALL HAVE A MINIMUM SOAKED C.B.R. OF 5%.

CONTROLLED COPY

CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP:

JURUTERA PROFESIONAL AWAM R. I. MOHAN RAO C18250 MALAYSIA

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN UNTYA KEHENDAK PIAWAI KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN		BUATKAN
	PINDAAN		

SKALA: AS SHOWN

sanhill consulting sdn. bhd. (394869-A)

DAREA OLEH: NH/WAN

DILUKIS OLEH: AZ/AMRAN

DISEMAK OLEH: JR

DILULUSKAN OLEH: CKH

IR. SABUDIN BIN MOHD SALLEH
TIMBALAN PENGARAH ... JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG CROSS SECTION AND PAVEMENT DETAILS

TARIKH: APRIL 2018

BIL LUKISAN: RB 6305/BR3/RD/07

REV. –

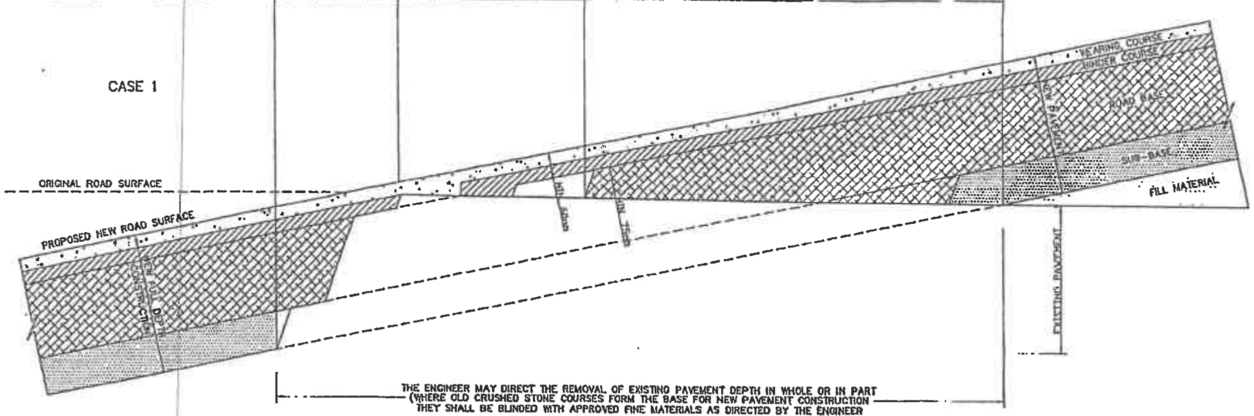
FILENAME: ...TRANSPORTATION\B-TRUTIE...\RB 631 - JELATEK SUNGAI KLANG BRIDGE - TENDER MARCH 2017\09-RB631-BR3-RD-01.dwg

10

TREATMENT OF EXISTING PAVEMENT

EXISTING PAVEMENT TO BE BROKEN UP AND REMOVED AS DIRECTED BY THE ENGINEER	EXISTING PAVEMENT TO BE BROKEN UP, EITHER PARTLY, OR ENTIRELY, AND REMOVED AS DIRECTED BY ENGINEER (SEE NOTE 4 & 5)	EXISTING PAVEMENT SURFACE TO RECEIVE TACK COAT PRIOR TO RECEIVING FURTHER BITUMINOUS SURFACING OR OVERLAY (SEE NOTE 2)	EXISTING PAVEMENT SURFACE TO BE BROKEN UP AND COMPACTED WITH A ROLLER WEIGHING NOT LESS THAN 8 TONNES, ALL TO THE SATISFACTION OF THE ENGINEER (SEE NOTE 1 & 3)

CASE 1

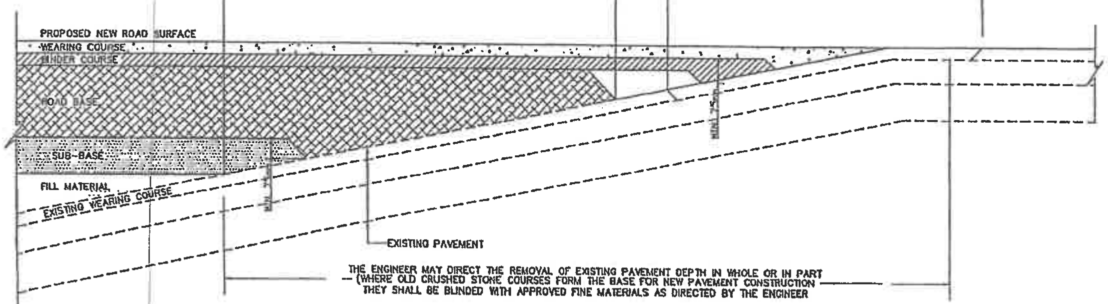


THE ENGINEER MAY DIRECT THE REMOVAL OF EXISTING PAVEMENT DEPTH IN WHOLE OR IN PART (WHERE OLD CRUSHED STONE COURSES FORM THE BASE FOR NEW PAVEMENT CONSTRUCTION THEY SHALL BE BLINDED WITH APPROVED FINE MATERIALS AS DIRECTED BY THE ENGINEER

TREATMENT OF EXISTING PAVEMENT

EXISTING PAVEMENT SURFACE TO BE BROKEN UP AND COMPACTED WITH ROLLER WEIGHING NOT LESS THAN 8 TONNES, ALL TO THE SATISFACTION OF THE ENGINEER (SEE NOTE 1 & 3)	EXISTING PAVEMENT SURFACE TO RECEIVE TACK COAT PRIOR TO RECEIVING FURTHER BITUMINOUS SURFACING OR OVERLAY (SEE NOTE 2)	EXISTING PAVEMENT SURFACE TO BE BROKEN UP AND REMOVED AS DIRECTED BY THE ENGINEER PROPOSED WEARING COURSE SHALL BE KEYED TO THE EXISTING WEARING COURSE. (SEE NOTE 4 & 5)

CASE 2



THE ENGINEER MAY DIRECT THE REMOVAL OF EXISTING PAVEMENT DEPTH IN WHOLE OR IN PART (WHERE OLD CRUSHED STONE COURSES FORM THE BASE FOR NEW PAVEMENT CONSTRUCTION THEY SHALL BE BLINDED WITH APPROVED FINE MATERIALS AS DIRECTED BY THE ENGINEER

NOTES :

1. WHERE EXISTING PAVEMENT SURFACE IS TO BE BROKEN UP, THIS SHALL RESULT IN THE SURFACE BEING EXCAVATED TO A DEPTH NOT EXCEEDING 50mm.
2. TACK COAT TO BE APPLIED TO EXISTING PAVEMENT SURFACE PRIOR TO RECEIVING FURTHER BITUMINOUS SURFACING OR OVERLAY SHALL CONFORM TO CLAUSE 904 OF THE SPECIFICATION
3. MATERIAL EXCAVATED AS A RESULT OF BREAKING UP OF THE EXISTING PAVEMENT SURFACE WHICH IS TO BE USED IN THE CONSTRUCTION OF NEW PAVEMENT SHALL BE BROKEN INTO PIECES SUCH THAT THE DIMENSION OF THE LARGEST SIDE OF EACH PIECE SHALL NOT EXCEED 50mm.
4. EXCAVATED MATERIAL WHICH IS NOT TO BE USED IN THE CONSTRUCTION OF NEW PAVEMENT SHALL BE DISPOSED OF TO THE SATISFACTION OF THE ENGINEER
5. ALL EXISTING PAVEMENT SURFACES EXPOSED IN THE COURSE OF CUTTING AND/OR FORMING KEYS SHALL RECEIVE TACK COAT IN ACCORDANCE WITH CLAUSE 904 OF THE SPECIFICATION PRIOR TO RECEIVING FURTHER BITUMINOUS SURFACING

31 MAY 2018

SPACE RESERVED FOR PE CHOP:

LEMBAGA JURUTERA MALAYSIA — AWAM — R.L MOHAN RAO — C10250

CONTROLLED COPY

MASTER COPY

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN	SKALA
			1 : 20
	PINDAAN		

ranhill consulting sdn. bhd. (304609-A)

DIREKA OLEH : NH/WAN

DILUKIS OLEH : AZ/ANRAN — DISEMAK OLEH : JR

DISAHKAN OLEH : OHS

IR. SABUDIN BIN MOHD. ISA — TIMBALAN PENGARAH — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZU SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ABD HAMID BIN SURIP — PENGARAH — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

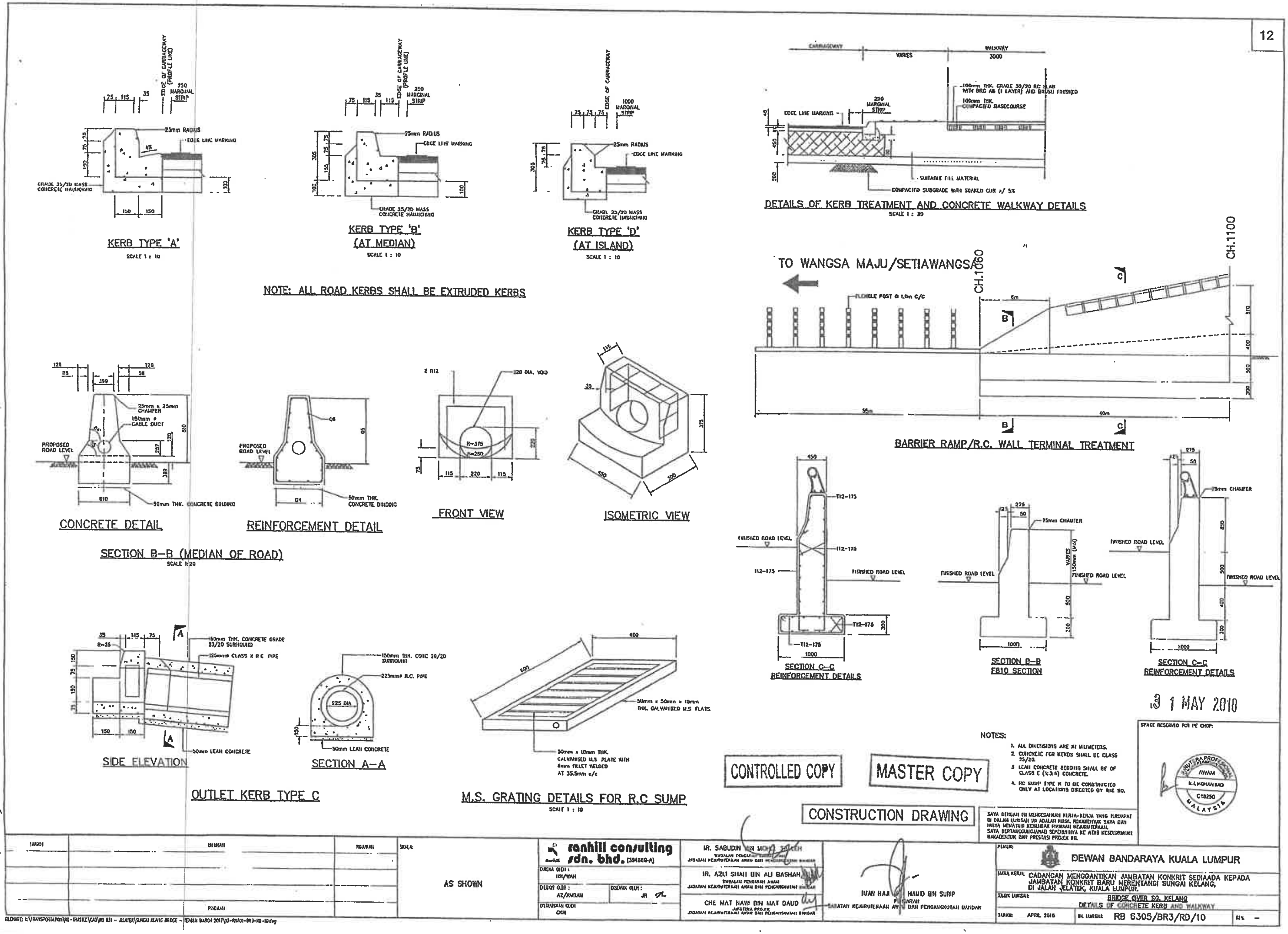
PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG — REGULATION AND TREATMENT OF EXISTING PAVEMENT

TARIKH: APRIL 2018 — BIL LUKISAN: RB 6305/BR3/RD/08 — REV. —

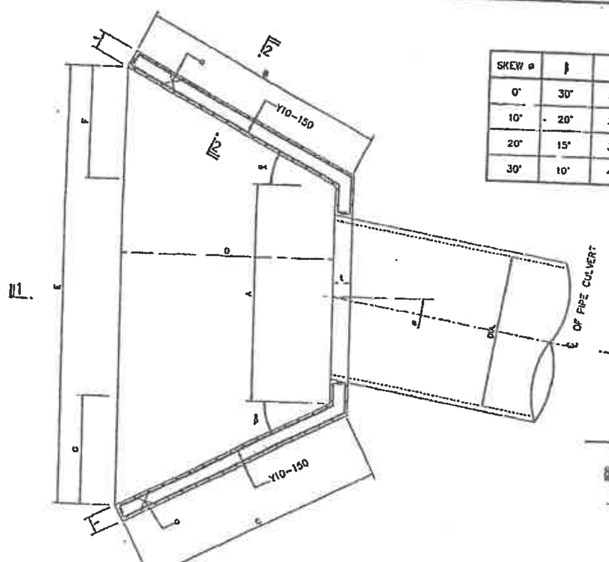
FILENAME: E:\TRANSPORTATION\...\RB-6305-BR3-RD-08.dwg



12
KERB TYPE 'A'
SCALE 1 : 10
KERB TYPE 'B' (AT MEDIAN)
SCALE 1 : 10
KERB TYPE 'D' (AT ISLAND)
SCALE 1 : 10
NOTE: ALL ROAD KERBS SHALL BE EXTRUDED KERBS
DETAILS OF KERB TREATMENT AND CONCRETE WALKWAY DETAILS
SCALE 1 : 30
TO WANGSA MAJU/SETIAWANGSA
CH.1060
CH.1100
BARRIER RAMP/R.C. WALL TERMINAL TREATMENT
CONCRETE DETAIL
REINFORCEMENT DETAIL
FRONT VIEW
ISOMETRIC VIEW
SECTION B–B (MEDIAN OF ROAD)
SCALE 1:20
SECTION C–C REINFORCEMENT DETAILS
SECTION B–B F810 SECTION
SECTION C–C REINFORCEMENT DETAILS
31 MAY 2010
SIDE ELEVATION
SECTION A–A
OUTLET KERB TYPE C
M.S. GRATING DETAILS FOR R.C SUMP
SCALE 1 : 10
CONTROLLED COPY
MASTER COPY
CONSTRUCTION DRAWING
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. CONCRETE FOR KERBS SHALL BE CLASS 25/20.
3. LEAN CONCRETE BEDDING SHALL BE OF CLASS E (1:3:6) CONCRETE.
4. RC SUMP TYPE K TO BE CONSTRUCTED ONLY AT LOCATIONS DIRECTED BY THE SO.
SPACE RESERVED FOR PE CHOP:
AWAM
C10250
MALAYSIA
AS SHOWN
ranhill consulting sdn. bhd. (394869-A)
IR. SABUDIN BIN MOHD SALLEH
IR. AZLI SHAH BIN ALI BASHAH
CHE MAT NAWI BIN MAT DAUD
TUAN HAJI ... HAMID BIN SURIP
DEWAN BANDARAYA KUALA LUMPUR
CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.
BRIDGE OVER SG. KELANG
DETAILS OF CONCRETE KERB AND WALKWAY
APRIL 2010
RB 6305/BR3/RD/10

NOMINAL PIPE DIA.	SKEW 0°	DIMENSIONS A	B	C	D	E	F	G	H/t	REINFORCEMENT a	b	c	
600	0	1200	1240	1240	1200	1800	300	300	1050/150	Y12-150	Y12-150	4Y12	0°<0°<5°
900	0	1500	1570	1570	1500	2400	450	450	1350/150	Y12-150	Y12-150	4Y12	
1200	0	1800	1900	1900	1800	3000	600	600	1650/150	Y12-150	Y12-150	4Y12	
1500	0	2110	2425	2425	2100	4210	1050	1050	1950/150	Y12-150	Y12 150	4Y12	
1650	0	2280	2600	2600	2250	4530	1125	1125	2100/150	Y12-150	Y12-150	4Y12	
1800	0	2450	2770	2770	2400	4850	1200	1200	2250/150	Y12-150	Y12-150	4Y12	
2100	0	2700	2980	2980	2700	5220	1260	1260	2550/175	Y12-150	Y12-150	4Y12	
2400	0	3000	3310	3310	3000	5800	1400	1400	2850/175	Y12-125	Y12-125	4Y16	
2700	0	3300	3641	3641	3300	6380	1540	1540	3150/200	Y12-100	Y12-100	4Y16	
3000	0	3600	3972	3972	3600	6960	1680	1680	3450/250	Y12-100	Y12-100	4Y16	
600	10	1220	1240	1135	1130	1830	505	105	1050/150	Y12-150	Y12-150	4Y12	5°<0°<15°
900	10	1525	1565	1415	1265	2440	705	210	1350/150	Y12-150	Y12-150	4Y12	
1200	10	1830	1900	1700	1670	3050	905	315	1650/150	Y12-150	Y12-150	4Y12	
1500	10	2140	2425	2235	2100	3910	1050	720	1950/150	Y12-150	Y12-150	4Y12	
1650	10	2315	2600	2395	2250	4210	1125	770	2100/150	Y12-150	Y12-150	4Y12	
1800	10	2490	2770	2555	2400	4510	1200	820	2250/150	Y12-150	Y12-150	4Y12	
2100	10	2740	2980	2839	2700	4880	1260	880	2550/175	Y12-150	Y12-150	4Y12	
2400	10	3046	3310	3168	3000	5466	1400	1020	2850/175	Y12-125	Y12-125	4Y16	
2700	10	3350	3641	3511	3300	6090	1540	1200	3150/200	Y12-100	Y12-100	4Y16	
3000	10	3655	3972	3827	3600	6635	1680	1300	3450/250	Y12-100	Y12-100	4Y16	
600	20	1280	1240	1025	1025	1920	695	-55	1050/150	Y12-150	Y12-150	4Y12	15°<0°<25°
900	20	1595	1555	1255	1255	2565	935	25	1350/150	Y12-150	Y12-150	4Y12	
1200	20	1915	1900	1490	1490	3195	1180	100	1650/150	Y12-150	Y12-150	4Y12	
1500	20	2245	2425	2175	2100	3840	1050	545	1950/150	Y12-150	Y12-150	4Y12	
1650	20	2425	2600	2330	2250	4130	1125	580	2100/150	Y12-150	Y12-150	4Y12	
1800	20	2005	2770	2485	2400	4425	1200	620	2250/150	Y12-150	Y12-150	4Y12	
2100	20	2875	3118	2795	2700	5158	1560	723	2550/175	Y12-150	Y12-150	4Y12	
2400	20	3192	3464	3105	3000	5727	1732	803	2850/175	Y12-100	Y12-100	4Y16	
2700	20	3511	3810	3416	3300	6300	1905	884	3150/200	Y12-100	Y12-100	4Y16	
3000	20	3831	4156	3726	3600	6873	2078	964	3450/250	Y12-100	Y12-100	4Y16	
600	30	1385	1240	905	890	2080	860	-105	1050/150	Y12-150	Y12-150	4Y12	25°<0°<35°
900	30	1730	1555	1080	1075	2770	1140	-100	1350/150	Y12-150	Y12-150	4Y12	
1200	30	2080	1900	1260	1260	3465	1420	-35	1650/150	Y12-150	Y12-150	4Y12	
1500	30	2425	2230	1445	1445	4160	1700	35	1950/150	Y12-150	Y12-150	4Y12	
600	40	1570	1240	760	730	2355	1005	-220	1050/150	Y12-150	Y12-150	4Y12	35°<0°<45°
900	40	1960	1570	870	860	3135	1310	-135	1350/150	Y12-150	Y12-150	4Y12	
1200	40	2350	1900	995	995	3920	1620	-50	1650/150	Y12-150	Y12-150	4Y12	
1500	40	2745	2230	1130	1130	4705	1925	35	1950/150	Y12-150	Y12-150	4Y12	
600	50	1870	1240	575	545	2805	1115	-180	1050/150	Y12-150	Y12-150	4Y12	45°<0°<55°
900	50	2335	1560	620	620	3735	1440	-40	1350/150	Y12-150	Y12-150	4Y12	
1200	50	2800	1900	705	700	4670	1765	105	1650/150	Y12-150	Y12-150	4Y12	
1500	50	3270	2230	815	775	5610	2095	245	1950/150	Y12-150	Y12-150	4Y12	

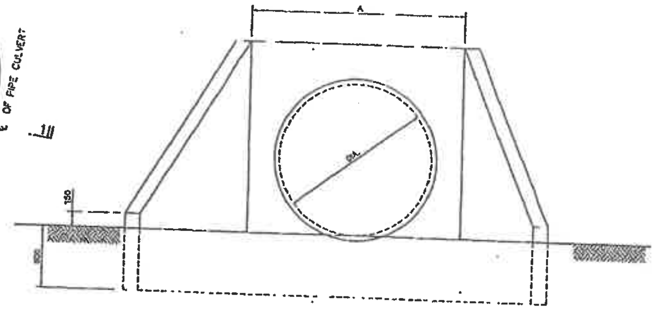
DETAILS OF CULVERT HEADWALL FOR SINGLE PIPE AT ANGLE OF SKEW



PLAN OF CULVERT HEADWALL

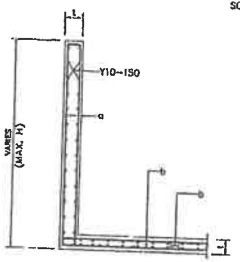
0 0.5 1.0m SCALE 1:25

SKEW ø	β	α
0°	30°	30°
10°	20°	30°
20°	15°	30°
30°	10°	40°



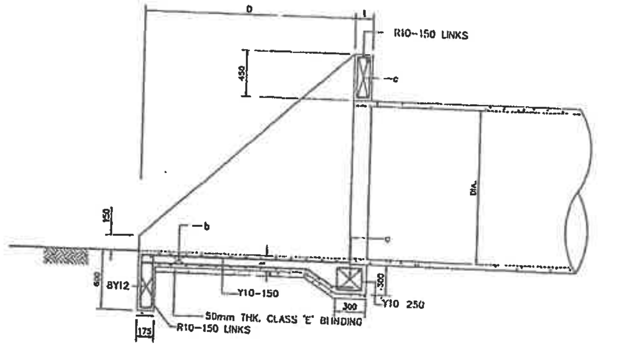
END ELEVATION

0 0.5 1.0m SCALE 1:25



SECTION 2 – 2

0 0.5 1.0m SCALE 1:25



SECTION 1 – 1

0 0.5 1.0m SCALE 1:25

13 1 MAY 2018

NOTES:

1. DIMENSIONS ARE FOR ONE END OF PIPE ONLY.
2. LAPS IN STRUCTURAL GRADE BARS AND MESH SHALL BE 25 x DIAMETER PLUS 150mm MINIMUM.
3. THERE SHALL BE AT LEAST TWO HORIZONTAL BARS WHETHER MESH OR M.S. OVER THE PIPE IN THE END WALL AND ALONG SLOPING TOP OF WINGWALL.
4. CLEAR COVER TO ALL REINFORCEMENT SHALL BE 40mm UNLESS OTHERWISE STATED.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
6. CONCRETE GRADE SHALL BE 25/20.
7. THE EXACT LOCATION, SKEW, INVERT LEVELS, LENGTH, AND SLOPE OF CULVERT SHALL BE CONFIRMED BY THE ENGINEER.

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MASTER COPY

CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP:

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN IANYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN	SKALA
			1:15
	PINDAAN		

ranhill consulting sdn. bhd. (394069-A)

DILUKIS OLEH: HH/WAN

DIUKUR OLEH: FIK/AHRAN — DISEMAK OLEH:

DILULUSKAN OLEH: IMR

IR. SABUDIN BIN MOHD SALLEH — TIMBALAN PENGARAH ... JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI DASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

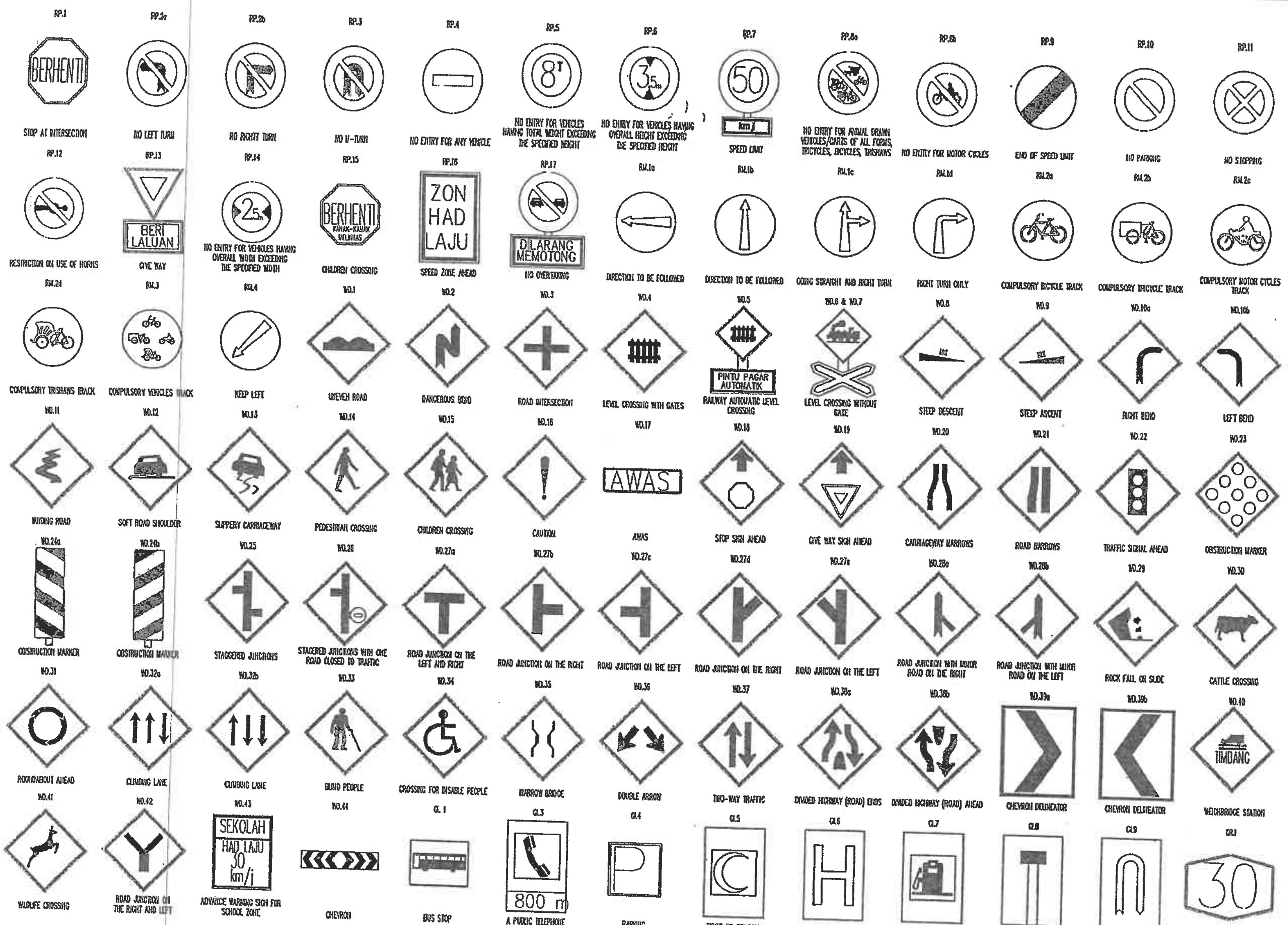
TUAN HAJ ABD HAMID BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PELAN: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG PIPE CULVERT HEADWALL

TARIKH: APRIL 2018 — NO. LUKISAN: RB 6305/BR3/RD/11 — REV. –


RP.1 BERHENTI STOP AT INTERSECTION
RP.2a NO LEFT TURN
RP.2b NO RIGHT TURN
RP.3 NO U-TURN
RP.4 NO ENTRY FOR ANY VEHICLE
RP.5 8T NO ENTRY FOR VEHICLES HAVING TOTAL WEIGHT EXCEEDING THE SPECIFIED WEIGHT
RP.6 3.5m NO ENTRY FOR VEHICLES HAVING OVERALL HEIGHT EXCEEDING THE SPECIFIED HEIGHT
RP.7 50 km/j SPEED LIMIT
RP.8a NO ENTRY FOR ANIMAL DRAWN VEHICLES/CARTS OF ALL FORMS, TRICYCLES, BICYCLES, TRISHAWS
RP.8b NO ENTRY FOR MOTOR CYCLES
RP.9 END OF SPEED LIMIT
RP.10 NO PARKING
RP.11 NO STOPPING
RP.12 RESTRICTION ON USE OF HORNS
RP.13 BERI LALUAN GIVE WAY
RP.14 2.5m NO ENTRY FOR VEHICLES HAVING OVERALL WIDTH EXCEEDING THE SPECIFIED WIDTH
RP.15 BERHENTI CHILDREN CROSSING
RP.16 ZON HAD LAJU SPEED ZONE AHEAD
RP.17 DILARANG MEMOTONG NO OVERTAKING
RU.1a DIRECTION TO BE FOLLOWED
RU.1b DIRECTION TO BE FOLLOWED
RU.1c GOING STRAIGHT AND RIGHT TURN
RU.1d RIGHT TURN ONLY
RU.2a COMPULSORY BICYCLE TRACK
RU.2b COMPULSORY TRICYCLE TRACK
RU.2c COMPULSORY MOTOR CYCLES TRACK
RU.2d COMPULSORY TRISHAWS TRACK
RU.3 COMPULSORY VEHICLES TRACK
RU.4 KEEP LEFT
WD.1 UNEVEN ROAD
WD.2 DANGEROUS BEND
WD.3 ROAD INTERSECTION
WD.4 LEVEL CROSSING WITH GATES
WD.5 PINTU PAGAR AUTOMATIK RAILWAY AUTOMATIC LEVEL CROSSING
WD.6 & WD.7 LEVEL CROSSING WITHOUT GATE
WD.8 STEEP DESCENT
WD.9 STEEP ASCENT
WD.10a RIGHT BEND
WD.10b LEFT BEND
WD.11 WINDING ROAD
WD.12 SOFT ROAD SHOULDER
WD.13 SLIPPERY CARRIAGEWAY
WD.14 PEDESTRIAN CROSSING
WD.15 CHILDREN CROSSING
WD.16 CAUTION
WD.17 AWAS
WD.18 STOP SIGN AHEAD
WD.19 GIVE WAY SIGN AHEAD
WD.20 CARRIAGEWAY NARROWS
WD.21 ROAD NARROWS
WD.22 TRAFFIC SIGNAL AHEAD
WD.23 OBSTRUCTION MARKER
WD.24a CONSTRUCTION MARKER
WD.24b CONSTRUCTION MARKER
WD.25 STAGGERED JUNCTIONS
WD.26 STAGGERED JUNCTIONS WITH ONE ROAD CLOSED TO TRAFFIC
WD.27a ROAD JUNCTION ON THE LEFT AND RIGHT
WD.27b ROAD JUNCTION ON THE RIGHT
WD.27c ROAD JUNCTION ON THE LEFT
WD.27d ROAD JUNCTION ON THE RIGHT
WD.27e ROAD JUNCTION ON THE LEFT
WD.28a ROAD JUNCTION WITH MINOR ROAD ON THE RIGHT
WD.28b ROAD JUNCTION WITH MINOR ROAD ON THE LEFT
WD.29 ROCK FALL OR SLIDE
WD.30 CATTLE CROSSING
WD.31 ROUNDABOUT AHEAD
WD.32a CLIMBING LANE
WD.32b CLIMBING LANE
WD.33 BLIND PEOPLE
WD.34 CROSSING FOR DISABLE PEOPLE
WD.35 NARROW BRIDGE
WD.36 DOUBLE ARROW
WD.37 TWO-WAY TRAFFIC
WD.38a DIVIDED HIGHWAY (ROAD) ENDS
WD.38b DIVIDED HIGHWAY (ROAD) AHEAD
WD.39a CHEVRON DELINEATOR
WD.39b CHEVRON DELINEATOR
WD.40 TIMBANG WEIGHBRIDGE STATION
WD.41 WILDLIFE CROSSING
WD.42 ROAD JUNCTION ON THE RIGHT AND LEFT
WD.43 SEKOLAH HAD LAJU 30 km/j ADVANCE WARNING SIGN FOR SCHOOL ZONE
WD.44 CHEVRON
GL.1 BUS STOP
GL.3 800 m A PUBLIC TELEPHONE
GL.4 PARKING
GL.5 FIRST AID STATION
GL.6 HOSPITAL
GL.7 FILLING STATION
GL.8 NO THROUGH ROAD
GL.9 U-TURN
GR.1 30 ROUTE MARKER

NOTES :

1. LETTERS, SYMBOLS, PLATE SIZES AND COLOUR CODES FOR TRAFFIC SIGNS ARE DEFINED IN J.K.R. ARAHAN TEKNIK (JALAN) 2A/85 – STANDARD TRAFFIC SIGN.
2. MINIMUM REQUIREMENT FOR ALL SIGN FACES SHALL BE RETROREFLECTIVE HIGH INTENSITY PLASTIC SHEETING/ENGINEERING GRADE RETRO – REFLECTIVE SHEETING.

CONTROLLED COPY

19 1 MAY 2016

SPACE RESERVED FOR PE CHOP.

MASTER COPY

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN IANYA MEMATUHI KEHENDAK PIAWAI KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PELAKSANAAN PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN

PINDAAN

SKALA: NOT TO SCALE

ranhill consulting sdn. bhd. (394869-A)

DIREKA OLEH: BN/WAN
DILUKIS OLEH: FIK/ANIRAN
DISEMAK OLEH: JR
DILULUSKAN OLEH: HAR

IR. SABUDIN BIN ... ALLEN — TIMBALAN PENGARAH ... JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HJ. ... HAMID BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

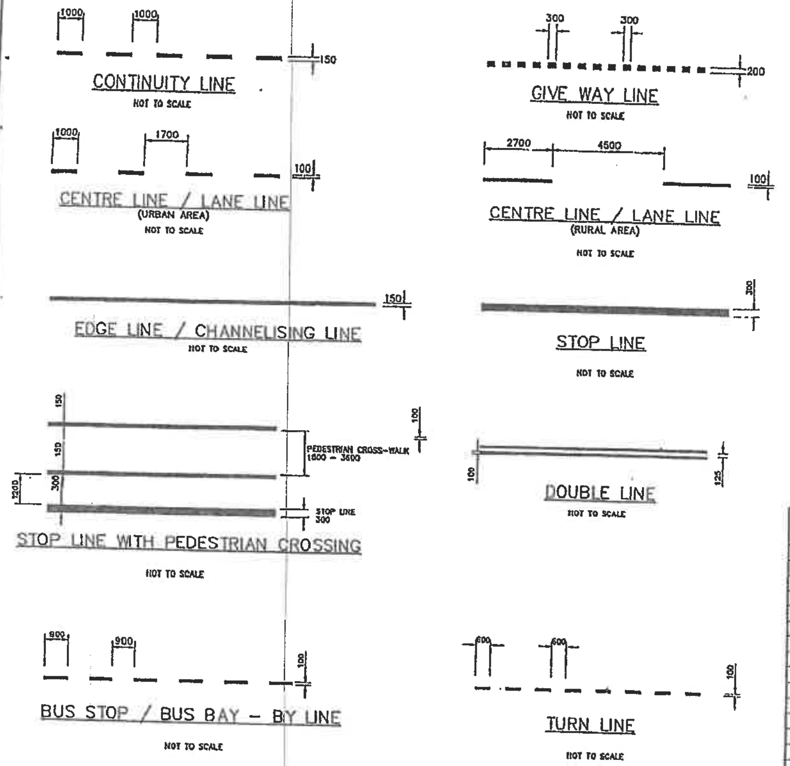
PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

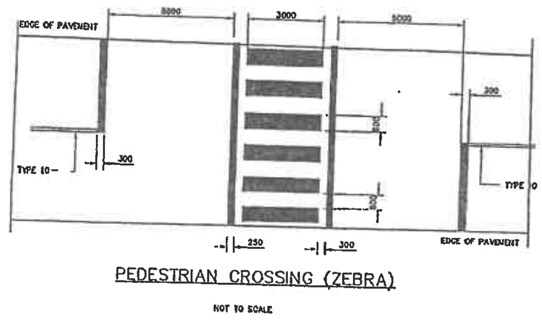
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

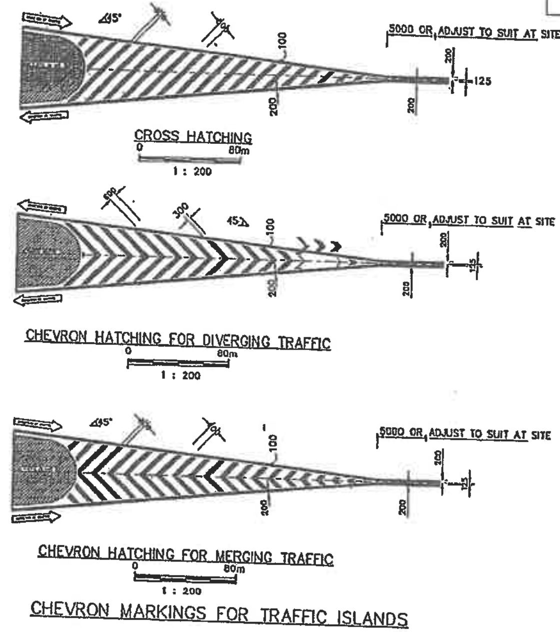
TAJUK LUKISAN: BRIDGE OVER SG. KELANG REGULATORY AND WARNING SIGNS

TARIKH: APRIL 2016 | NO. LUKISAN: RB 6305/BR3/RD/12 | REV. –

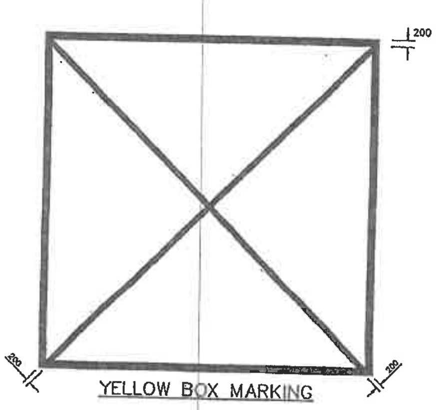
FILENAME: E:\TRANSPORTATION\RB-BRIDGE\CAD\RB 6305 – JELATEK\SUNGAI KLANG BRIDGE – TENDER MARCH 2017\14-RB6305-BR3-RD-12.dwg

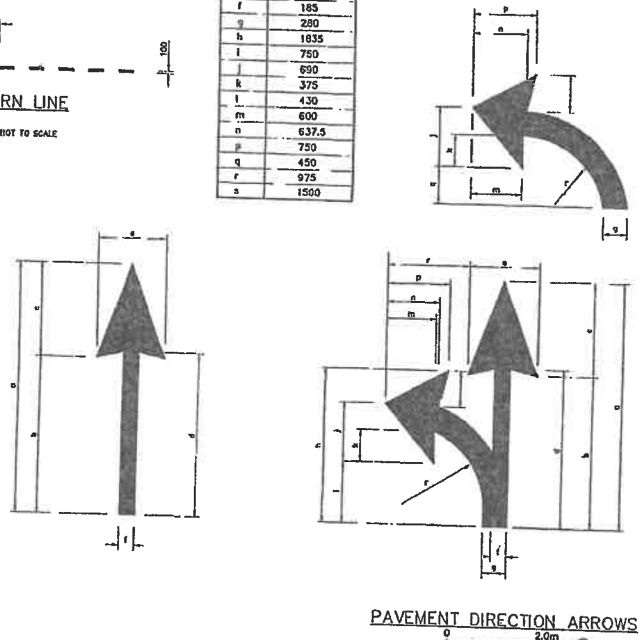






	URBAN ROAD
a	3000
b	1875
c	1125
d	1950
e	825
f	185
g	280
h	1835
i	750
j	690
k	375
l	430
m	600
n	637.5
p	750
q	450
r	975
s	1500





NOTES :

CONTINUITY LINE :

a) – (S=1000 G=1000 W=150) AT INTERSECTION.
b) – (S=1000 G=1000 W=200) AT RAMP EXITS AND ENTRANCES.

GIVE-WAY LINE : (S=300 G=300 W=200) AT THE MOUTH OF AN INTERSECTION.

CENTRE LINE / LANE LINE : S=1000 G=1700 W=100) IN URBAN AREA

CENTRE LINE / LANE LINE : S=2700 G=4500 W=100) OF MOUNTAINOUS OR SHORT RADIUS CURVES IN RURAL AREA

EDGE LINE / CHANNELISING LINE :

a) – EDGE LINE – (CONTINUOUS 150mm WIDTH) AT TRAFFIC ISLAND OR PAVEMENT EDGE, FOR PROHIBITION OF PARKING.

b) – CHANNELISING LINE – (CONTINUOUS 150mm WIDTH) AT THE JUNCTION OR GHOST – ISLAND.

STOP LINE : (CONTINUOUS 300mm WIDTH)

STOP LINE WITH PEDESTRIAN CROSSING AT INTERSECTION.

PEDESTRIAN CROSSING (ZEBRA) : – ON STRAIGHT ROAD.

DOUBLE LINE : (W=100) NO PASSING ZONES OR CENTRE LINE OF MULTILANE ROAD IN URBAN AREA

BUS STOP / BUS LAY-BY LINE : (S=900 W=100)

TURN LINE : (S=600 G=600 W=100) TO INDICATE THE PROPER COURSE TO BE FOLLOWED BY TURNING VEHICLES

YELLOW BOX LINE : PAINTED AT INTERSECTION FOR PROHIBITION OF PARKING OR WAITING

ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE STATED.
S=STROKE G=GAP W=WIDTH.

APPLICATION PRINCIPLES OF ROAD MARKINGS ARE DEFINED IN JKR. ARAHAN TEKNIK (JALAN) 20/85.

CONTROLLED COPY

MASTER COPY

13 1 MAY 2010

CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP.

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN (ATAU MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	URAIAN	RUJUKAN
	PINDAAN	

SKALA: AS SHOWN

ranhill consulting sdn. bhd. (394889-A)

DIREKA OLEH : UH/WAN
DILUKIS OLEH : AMRAN/FIK
DISEMAK OLEH : JR
DILULUSKAN OLEH : SAR

IR. SABU[illegible] GALLEH
JURUTERA PENGARAH [illegible]
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI [illegible]D. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PELANGGAN: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
STANDARD ROAD MARKING

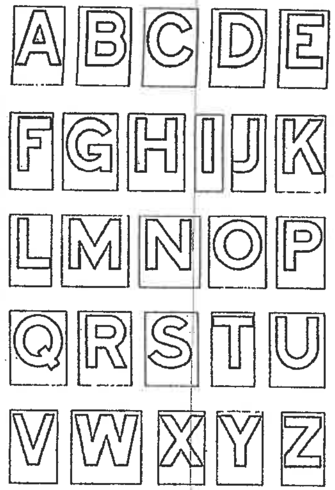
TARIKH: APRIL 2010

NO. LUKISAN: RB 6305/BR3/RD/13

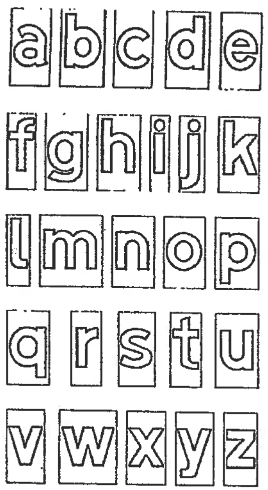
REV: –

FILENAME: E:\TRANSPORTATION\RD-DUSUN\CAD\RB 631 – JELATEK\SUNGAI KLANG BRIDGE – TENDER MARCH 2011\15-RB631-BR3-RD-13.dwg

NORMAL ALPHABET (UPPER CASE)



NORMAL ALPHABET (LOWER CASE)



UNIT LETTER HEIGHT / LETTER WIDTH, SPACING CONSTANTS, MOSAIC SIZE (NORMAL LETTERS)

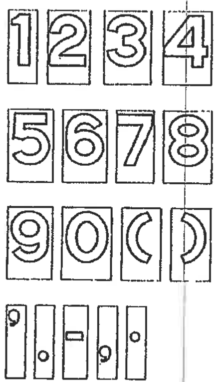
ALPHABET	k1	k2	w1	W
A	0.048	0.048	0.921	1.018
B	0.164	0.097	0.782	1.042
C	0.091	0.073	0.909	1.073
D	0.164	0.079	0.824	1.067
E	0.164	0.115	0.691	0.970
F	0.170	0.036	0.655	0.861
G	0.085	0.133	0.885	1.103
H	0.164	0.164	0.800	1.127
I	0.164	0.164	0.200	0.527
J	0.060	0.152	0.515	0.673
K	0.164	0.018	0.806	0.988
L	0.170	0.030	0.648	0.848
M	0.164	0.164	1.006	1.333
N	0.164	0.164	0.879	1.208
O	0.091	0.091	0.939	1.121
P	0.164	0.061	0.733	0.958
Q	0.091	0.091	0.964	1.145
R	0.158	0.097	0.788	1.042
S	0.073	0.115	0.855	1.042
T	0.027	0.027	0.782	0.836
U	0.139	0.139	0.824	1.103
V	0.058	0.058	0.836	0.952
W	0.079	0.079	1.236	1.394
X	0.030	0.030	0.861	0.921
Y	0.027	0.027	0.848	0.903
Z	0.061	0.079	0.709	0.848

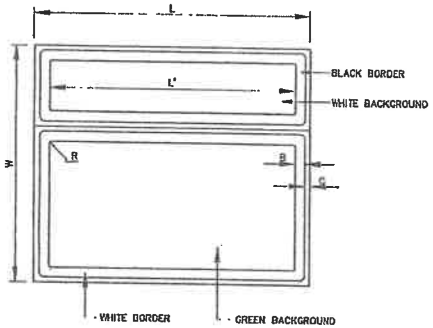
ALPHABET	k1	k2	w1	W
a	0.061	0.061	0.673	0.794
b	0.097	0.073	0.685	0.861
c	0.055	0.061	0.655	0.770
d	0.048	0.121	0.685	0.855
e	0.061	0.085	0.655	0.800
f	0.036	0.036	0.485	0.558
g	0.048	0.115	0.667	0.830
h	0.091	0.121	0.636	0.848
i	0.082	0.106	0.200	0.388
j	0.030	0.115	0.358	0.503
k	0.097	0.042	0.667	0.806
l	0.079	0.036	0.339	0.455
m	0.091	0.115	1.024	1.230
n	0.091	0.121	0.630	0.842
o	0.048	0.079	0.691	0.818
p	0.097	0.073	0.691	0.861
q	0.055	0.115	0.679	0.848
r	0.109	0.055	0.418	0.582
s	0.036	0.087	0.618	0.721
t	0.055	0.055	0.497	0.606
u	0.091	0.121	0.636	0.848
v	0.036	0.042	0.679	0.758
w	0.055	0.055	1.030	1.139
x	0.036	0.036	0.709	0.782
y	0.030	0.055	0.667	0.752
z	0.055	0.061	0.562	0.667

UNIT NUMERAL WIDTH, SPACING CONSTANTS, MOSAIC WIDTH (NORMAL NUMBERS)

NUMBER	k1	k2	w1	W
1	0.061	0.158	0.364	0.582
2	0.036	0.091	0.721	0.848
3	0.061	0.121	0.752	0.933
4	0.012	0.085	0.861	0.958
5	0.103	0.073	0.733	0.909
6	0.073	0.073	0.739	0.885
7	0.012	0.036	0.691	0.739
8	0.109	0.109	0.739	0.958
9	0.073	0.085	0.752	0.909
0	0.085	0.085	0.824	0.994
(	0.103	0.206	0.479	0.788
)	0.206	0.103	0.479	0.788
( )	0.048	0.012	0.218	0.279
(–)	0.061	0.109	0.315	0.485
,	0.036	0.133	0.218	0.388
.	0.073	0.121	0.182	0.376

NORMAL NUMBERS

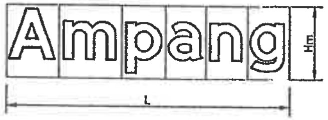




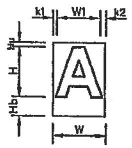
	DIMENSIONS
L	Varies
W	Varies
R	2 % x L'
B	1.5 % x L' or 20 mm whichever is greater
G	0.5 x B
L'	Calculated from letters and spacings

TYPICAL GENERAL LAYOUT DESIGN OF SIGNBOARD

DESIGN EXAMPLE



LETTER TYPE – NORMAL



Height of upper case letter : – H = 330 mm

to calculate width of ' Ampang ' :–

From formula :–

$(\Sigma W - (k1 + k2)) H$

Where Σ W = WA + Wm + ...Wg

k1 = Constant for first letter ' A '
k2 = Constant for last letter ' g '

= ((1.018 + 1.230 + 0.861 + 0.794 + 0.842 + 0.830)–(0.048+ 0.115)) x 330

= (5.575 – 0.163) x 330

= (5.412) x 330

= 1785.96mm say 1786mm

To calculate height of mosaic (Hm.)

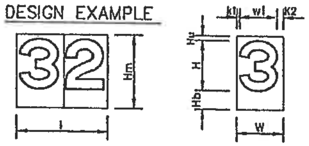
Hu = 0.085 H
HB = 0.364 H

Hm. = Hu + h + Hb

= 0.085 (330) + 330 + 0.364 (330)

= 478.17mm say 478mm

DESIGN EXAMPLE



NUMBER TYPE – NORMAL

Height of upper case letter : – H = 330 mm

to calculate width of ' 32 ' :–

From formula :–

$(\Sigma W - (k1 + k2)) H$

Where Σ W = W3 + W2

k1 = Constant for first number ' 3 '
k2 = Constant for last number ' 2 '

= ((0.933 + 0.848) – (0.061 + 0.091)) x 330

= (1.781 – 0.152) X 330

= (1.629)X 330

= 537.57mm say 538 mm

To calculate height of mosaic (Hm.)

Hu = 0.085 H
HB = 0.364 H

Hm. = Hu + h + Hb

= 0.085 (330) + 330 + 0.364 (330)

= 478.17mm say 478mm

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13 1 MAY 2010

SPACE RESERVED FOR PE CHOP.

JURUTERA PROFESIONAL AWAM Ir. L.MOHAN RAO C18250 MALAYSIA

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN IANYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAD SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN	SKALA
	PINDAAN		

ranhill consulting sdn. bhd. [394069-A]

DIREKA OLEH : KH
DILUKIS OLEH : AZ
DISEMAK OLEH : JR
DILULUSKAN OLEH : LMR

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
JURUTERA PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAYI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

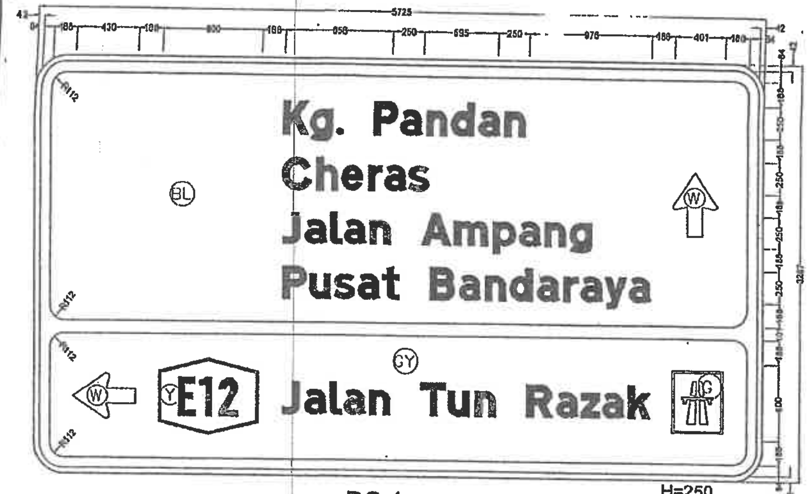
TUAN HJ. ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PELANGGAN: DEWAN BANDARAYA KUALA LUMPUR

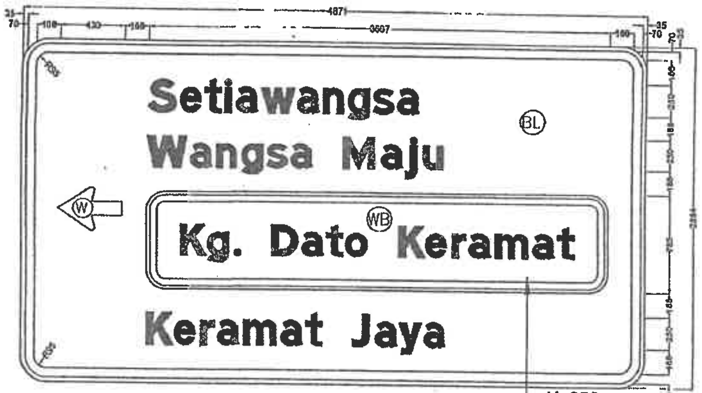
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
STANDARD NORMAL LETTERING AND NUMERALS

TARIKH: APRIL 2010 | NO LUKISAN: RB 6305/BR3/RD/14 | REV. –

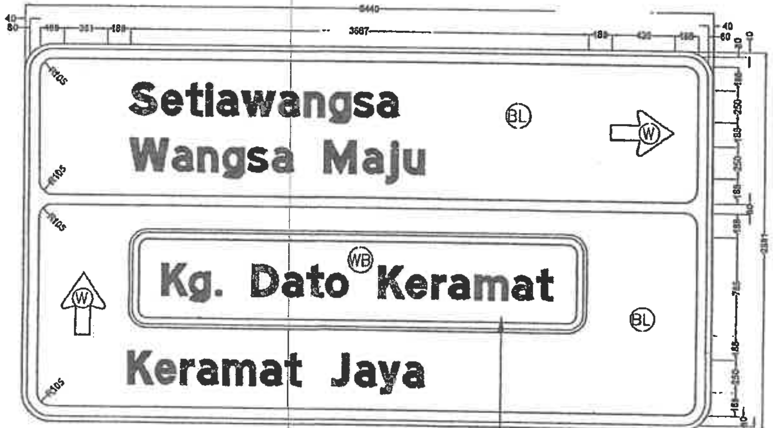


DS 1 H=250



DS 2 H=250 DETAIL "A"

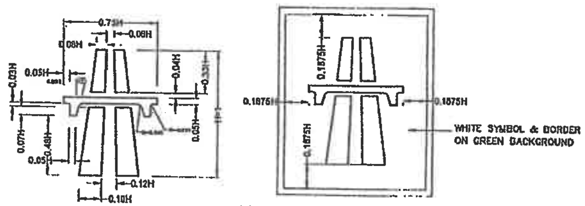
DETAIL "A" H=250



DS 3 H=250 DETAIL "A"

LEGEND:-

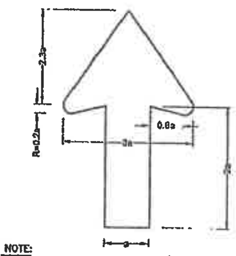
- (BL) BLUE BACKGROUND WHITE LETTERING AND BORDER
- (W) WHITE BACKGROUND
- (Y) YELLOW BACKGROUND BLACK LETTERING AND BORDER
- (G) GREEN BACKGROUND WHITE SYMBOL AND BORDER
- (WB) WHITE BACKGROUND BLUE LETTERING AND BORDER
- (GY) GREEN BACKGROUND YELLOW LETTERING AND WHITE BORDER



NOTE: BORDER SHALL BE 10mm ALL ROUND IRRESPECTIVE OF LETTER HEIGHT.

EXPRESSWAY LOGO

NOTES :
ACTUAL SIZE OF LOGO DEPENDS ON VALUE OF H
2H - FOR 2 TEXT LINES
2.5H - FOR 3 OR MORE TEXT LINES
H - HEIGHT OF UPPERCASE LETTER USED



NOTE:
a = 0.4 Height of capital letter used.

DIRECTIONAL SIGN ARROW
NOT TO SCALE

Letter Height	H = 200 Width	H = 200 Height	H = 250 Width	H = 250 Height
(up arrow)	240	344	300	430
(side arrow)	344	240	430	300

NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
2. a = 4/5 HEIGHT OF CAPITAL LETTER USED

CONSTRUCTION DRAWING

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3 1 MAY 2018

SPACE RESERVED FOR PE CHOP:

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

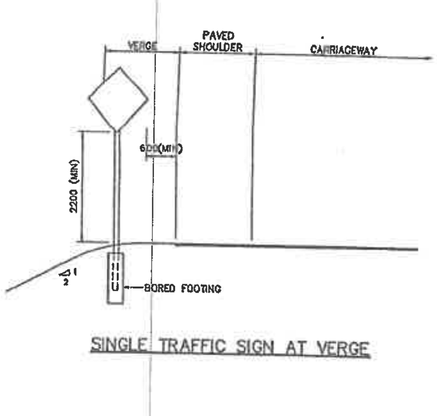
TARIKH	BUTIRAN	RUJUKAN	SKALA:
	PINDAAN		

ranhill consulting sdn. bhd. (304859-A)
DIREKA OLEH : NH
DILUKIS OLEH : AZ
DISEMAK OLEH : JR
DILULUSKAN OLEH : SMR

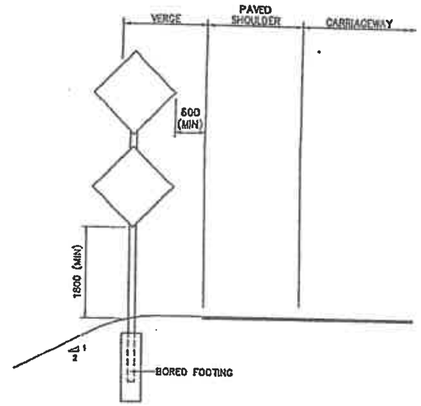
IR. SABUDIN BIN MOHD SALLEH — TIMBALAN PENGARAH ... JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
IR AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
TUAN HAJI MD. HAMID BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.
TAJUK LUKISAN: BRIDGE OVER SG. KELANG DETAILS OF SIGNAGES
TARIKH: APRIL 2018
BIL LUKISAN: RB 6305/BR3/RD/15
REV. -

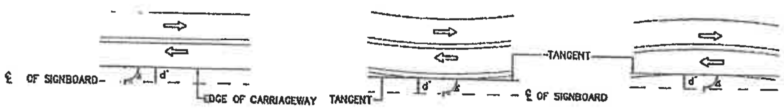
FILENAME: E:\TRANSPORTATION\RB-MUSTEE\CAD\RB 831 - JELATEK\ROAD FURNITURE\15-RB 831-BR3-RD-15.dwg. DATE: 03/30/17. TIME: 00:00.



SINGLE TRAFFIC SIGN AT VERGE



DOUBLE TRAFFIC SIGNS MOUNTED ON SAME POST AT VERGE

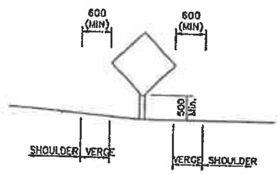


STRAIGHT ROAD

RIGHT BEND

LEFT BEND

NOTE : WHEN d IS LESS THAN 5m Δ = 93°
WHEN d IS GREATER THAN 5m Δ = 87°



CLEARANCE FOR SIGNS AT TRAFFIC ISLAND

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
2. FOR DETAILS TRAFFIC SIGN APPLICATION REQUIREMENT, REFER TO JKR ARAHAN TEKNIK (JALAN) 2B/85.
3. FOR DETAILS OF BORED FOOTING, REFER TO DRAWING NO. RB 831/BR3/RD/17

13 1 MAY 2018

SPACE RESERVED FOR PE CHOP

AWAM — K. L.MOHAN RAO — C18250 — MALAYSIA

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CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN	SKALA
	PINDAAN		N.T.S

ranhill consulting sdn. bhd. (394569-A)

DILUKIS OLEH : HUH
DIREKA OLEH : FIX
DISEMAK OLEH : JR
DILULUSKAN OLEH : SMR

IR. SABUDIN BIN MOHD SALLEH — TIMBALAN PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ABD. HAMID BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

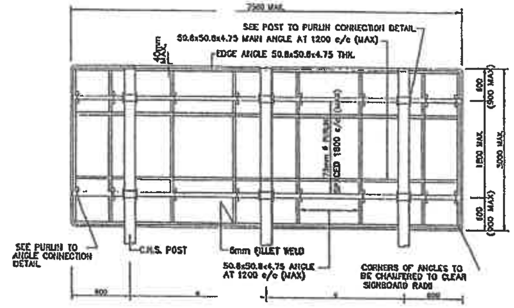
PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

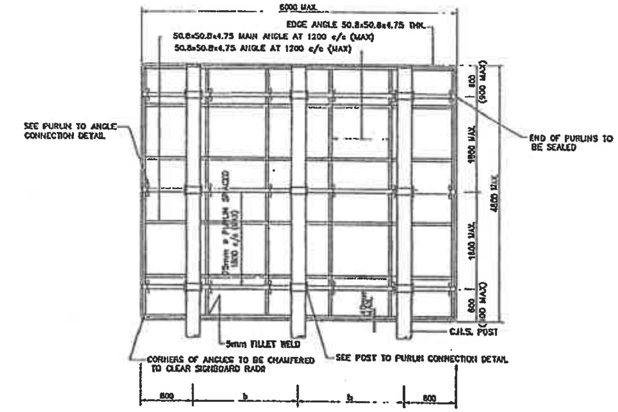
TAJUK LUKISAN: BRIDGE OVER SG. KELANG — TYPICAL GENERAL ARRANGEMENT OF TRAFFIC SIGNS

TARIKH: APRIL 2018 | BIL LUKISAN: RB 6305/BR3/RD/16 | REV. –

FILENAME: E:\TRANSPORTATION\RB-TRUSTEE\CAD\RB 831 - JELATEK\SUNGAI KLANG BRIDGE - TENDER MARCH 2017\18-RB831-BR3-RD-16.dwg



TYPE I (DS 2 & DS 3)



TYPE II (DS1)

NOTE:
a & b DENOTE POST LOCATION TO BE SYMMETRICAL

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH TYPICAL GENERAL ARRANGEMENT OF GUIDE SIGNS.
2. SIGNBOARD ARE TO BE FABRICATED FROM 10 SWG ALUMINIUM SHEETS (3mm THICK) AND LEDGE ANGLES OF ALLOY AS PER SPECIFICATION. FOR ALUMINIUM COMPOSITE, THE OVERALL THICKNESS SHALL BE 4mm, WHERE THE THICKNESS OF EACH LAYER OF ALUMINIUM SHALL BE 0.5mm.
3. JOINTS BETWEEN ANGLES OF BACKING FRAMES ARE TO BE TO THE APPROVAL OF THE ENGINEER. IF WELDED, THE WELDS ARE TO BE FILLET WELDS OF THE FOLLOWING SIZE AND LENGTHS. 50.8m x 50.8m x 4.75m WITH 5mm FILLET WELD TOTAL LENGTH 100mm
4. ALUMINIUM SHEETS ARE TO BE RIVETED TO THE BACKING FRAMES WITH 4.8mm ø TUCKER ALUMINIUM POP RIVETS (OR SIMILAR APPROVED). THE PITCH OF THE RIVETS IS TO BE 150mm AROUND THE EDGES OF ALL SHEETS AND 205mm ELSEWHERE.
5. NUTS, BOLTS, U-BOLTS AND WASHERS 8 OR 10mm ø AND OF STAINLESS STEEL CLIPS FOR 76.2mm ø POST OF PURLINS ARE TO BE OF STAINLESS STEEL. ANCHOR PLATES, LEDGE ANGLES ETC. ARE TO BE MILD STEEL. PREFERABLE PLASTIC COATED. IF PAINTED "TUFNOL" GASKETS ARE TO BE PROVIDED BETWEEN FITTINGS AND SIGNBOARDS.
6. EXCEPT WHERE OTHERWISE SHOWN, BOLT HOLES IN STEEL OR ALUMINIUM ARE TO BE 2mm OR 1mm GREATER IN DIA. THAN THE BOLTS RESPECTIVELY. SLOTTED HOLES WILL NOT BE PERMITTED IN BACKING FRAME ANGLES. HOLES FOR POP RIVETS ARE TO BE IN ACCORDANCE WITH THE RIVET MANUFACTURERS RECOMMENDATIONS.
7. WASHERS ARE TO BE PROVIDED UNDER ALL NUTS AND BOLTS HEADS.
8. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
9. 75mm DIA. PURLIN SHALL BE 76.1mm DIA. x 3.2mm THICK CHS
10. ALL DESTINATION SIGNAGES SHALL BE RETRO-REFLECTIVE HIGH INTENSITY SHEETING AS SPECIFIED IN ARAHAN TEKNIK (JALAN) 2E/87 (PINDAAN 2011).

3 1 MAY 2018

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CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	SUSUNAN	RUJUKAN	SKALA
			N.T.S
	PINDAAN		

ranhill consulting sdn. bhd. (394869-A)

DIREKA OLEH: IHJH
DILUKIS OLEH: FIK
DISEMAK OLEH: JR
DILULUSKAN OLEH: IHR

IR. SABUDIN BIN MOHD SALLEH — TIMBALAN PENGARAH KANAN AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAM BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJ ABD HAMID BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

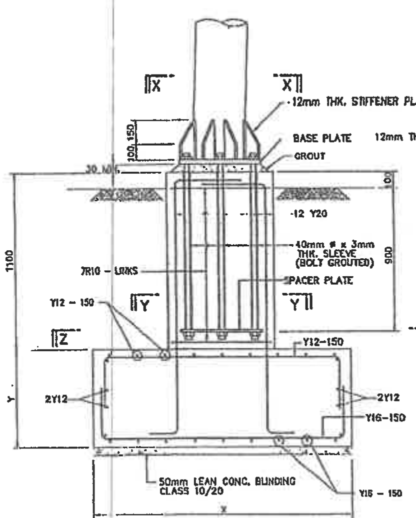
PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG — TYPICAL STRUCTURAL DETAILS FOR GUIDE SIGNS

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/RD/18 | REV: –

FILENAME: E:\TRANSPORTATION\RB-TRUSTEE\CAD\RB 631 - JELATEK\SUNGAI KLANG BRIDGE - TENDER MARCH 2017\70-RB631-BR3-RD-18.dwg. DATE: 03/29/17, TIME: 19:50.



ELEVATION

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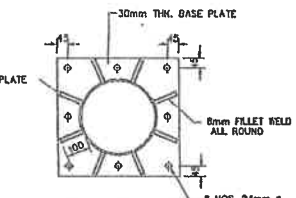
1 : 15



SECTION X–X

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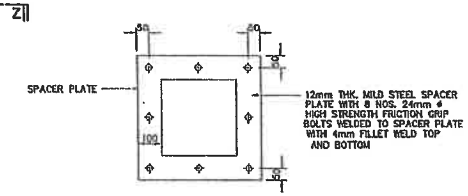
1 : 10



SECTION Y–Y

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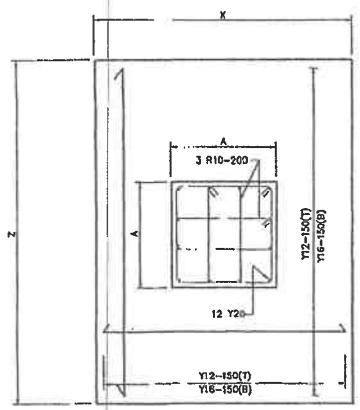
1 : 10



SECTION Z–Z

0 0.5m

1 : 15

FOOTING TYPE	MAX. AREA OF SIGN BOARD	BORED FOOTING		R.C. FOOTING ON EMBANKMENT				BASE PLATE	NO. OF POSTS	POST SIZE (C.H.S.)
		L	D	X	Y	Z	A			
I	24	–	–	1400	700	2800	630	500 x 500 x 30	3	216.3 x 5.8 (ON EMBANKMENT) 190.2 x 5.3 (ON CUT)
II	29	–	–	1400	700	3000	650	500 x 500 x 30	3	267.4 x 6.6

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. EARTH FILL AROUND FOOTING IS TO BE WELL COMPACTED, AS DIRECTED BY THE ENGINEER.
3. ALL STIFFENER, BASE GUSSET AND SPACER PLATES ARE TO BE MILD STEEL OF GRADE 43A AND IN ACCORDANCE WITH B.S.4360.
4. ALL FILLET WELDS ARE TO BE 6mm CONTINUOUS UNLESS OTHERWISE STATED.
5. ALL HIGH STRENGTH FRICTION GRIP BOLTS ARE TO BE IN ACCORDANCE WITH B.S.4395, PART 1:1969 FOR GENERAL GRADE BOLTS.
6. CONCRETE COVER TO REINFORCEMENT BARS IS TO BE 50mm MINIMUM.
7. CONCRETE SHALL BE GRADE 20/40 EXCEPT FOR CONC. BLINDING WHICH SHALL BE 10/20 AND GROUT BELOW BASE PLATES SHALL BE GRADE 25
8. THE SAFE ALLOWABLE BEARING CAPACITY FOR FOOTING IS 100 kN/m
9. 5 NOS. OF MAKINTOSH PROBE SHALL BE CARRIED OUT AT FOOTING LOCATION WITH MINIMUM STARTING DEPTH OF 0.5m ABOVE THE FOUNDING LEVEL.
10. DURING FOOTING EXCAVATION ENGINEER'S REPRESENTIVE MUST BE INFORM IF SOFT LAYER IS ENCOUNTERED.
11. THE FOOTING DIMENSION SHALL BE REVIEWED IF THE ACTUAL BEARING PRESSURE AT FOUNDING LEVEL IS LESS THAN THE DESIGN SAFE BEARING PRESSURE OF 100 kN/m
12. MINIMUM LAP LENGTH SHALL BE 40 TIMES THE DIAMETER OF BAR.
13. ALL STEEL REINFORCEMENT CONFORM TO B.S. 4449.

3 1 MAY 2018

SPACE RESERVED FOR PE CHOP.

JURUTERA PROFESIONAL AWAM M.K MOHAN RAO C14750 MALAYSIA

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CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN IANYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	PINDAAN	BULAN	SKALA: AS SHOWN

ranhill consulting sdn. bhd. (394569-A)

DIREKA OLEH : NMH

DILUKIS OLEH : FIK

DISEMAK OLEH : JR

DILULUSKAN OLEH : MJR

IR. SABUDIN ... SALLEH
KETUA ... JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA MEKANIK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
TYPICAL FOOTING DETAILS FOR GUIDE SIGNS

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/RD/19 | REV. —

GENERAL

1 ALL DIMENSIONS ARE GIVEN IN MILLIMETRES UNLESS OTHERWISE STATED.
2 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE WORK STARTS.
3. THE BRIDGE IS DESIGNED TO CARRY THE FOLLOWING LIVE LOAD :-
(i) TYPE HA LOADING OR TYPE HA IN COMBINATION WITH 30 UNITS TYPE HB LOADING IN ACCORDANCE WITH BD 37/01 ISSUED BY DEPARTMENT OF TRANSPORT, U.K. AND CHECKED FOR SERVICEABILITY LIMIT STATE.
(ii) TYPE HA LOADING OR TYPE HA IN COMBINATION WITH 45 UNITS TYPE HB LOADING AND CHECKED FOR ULTIMATE LIMIT STATE.
4 THE NOTES IN THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS FOR A PARTICULAR BRIDGE OR BOX CULVERT.

CONCRETE

1 CONCRETE GRADES SHALL BE AS FOLLOW : -
(i) PRESTRESSED PRECAST BEAMS CONCRETE GRADE REFER TO RELEVANT DRAWINGS.
(ii) DECK SLAB : 50/20.
(iii) R.C DIAPHRAGM, PARAPET WALLS, FASCIA, MEDIAN, INSITU KERBS : 40/20.
(iv) ABUTMENT, R.C RETAINING WALLS, R.C WINGWALLS, APPROACH SLABS : 40/20.
(v) PILECAPS : 40/20.
(vi) CONCRETE INFILL TO BRIDGE WALKWAYS : 20/20.
(vii) LEAN CONCRETE : 15/20.
2 THE CONCRETE GRADE OF SPACER BLOCK SHALL BE SIMILAR TO THE STRUCTURAL GRADES.
3 THE POSITION AND TYPE OF EACH CONSTRUCTION JOINT ARE TO BE SUBJECTED TO THE APPROVAL OF THE ENGINEER (SEE SPECIFICATION).
4 CONCRETE PROPERTIES USED IN DESIGN ASSUMPTIONS : -
(i) MODULUS OF ELASTICITY OF CONCRETE = 50.00 KN/mm^2 FOR GRADE 150 CONCRETE (UHPC)
(ii) CREEP STRAIN IN CONCRETE = 36 X 10^{-6} PER N/mm^2 OF CONCRETE STRESS (POST-TENSIONING).
(iii) SHRINKAGE STRAIN = 200 X 10^{-6} (POST-TENSIONING).

SURFACE FINISH

1 UNLESS OTHERWISE SHOWN ON DRAWINGS, SURFACE FINISH TO BE 'AS CAST' THAT IS
(i) AGAINST CLASS F3 FORMWORK FOR PERMANENTLY VISIBLE SURFACES (EXPOSED).
(ii) AGAINST CLASS F1 FORMWORK FOR PERMANENTLY CONCEALED SURFACES (BURIED).
2 ALL UNFORMED SURFACES WHICH ARE NOT EXPOSED TO VIEW SHALL HAVE A CLASS U2 SURFACE FINISH IN ACCORDANCE WITH THE SPECIFICATION.
3 ALL UNFORMED EXPOSED SURFACES SHALL HAVE A CLASS U3 SURFACE FINISH IN ACCORDANCE WITH THE SPECIFICATION.
4 ALL RIBBED FINISH SHALL BE BUSH HAMMER FINISH IN ACCORDANCE WITH THE SPECIFICATION.

REINFORCEMENT

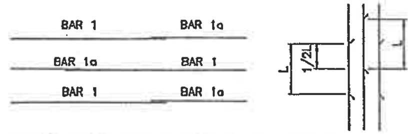
1 UNLESS OTHERWISE SHOWN ON DRAWINGS, ALL REINFORCING BARS SHALL COMPLY WITH BS 4449.
2 BENDING OF REINFORCEMENT TO BE IN ACCORDANCE WITH BS 4466.
3 SPLICES, OTHER THAN THOSE SHOWN ON THE DRAWING, MAY BE MADE ONLY WITH THE APPROVAL OF THE ENGINEER.
4 UNLESS OTHERWISE SHOWN ON DRAWING, SPLICES IN ADJACENT BARS TO BE STAGGERED.
5 SPACER BARS, NOT LESS THAN SIZE 25mm DIAMETER TO BE PROVIDED BETWEEN ADJACENT LAYERS OF PARALLEL REINFORCEMENT AND SPACED AT NOT MORE THAN 60 X DIAMETER OF SMALLER BAR.
6 UNLESS OTHERWISE SHOWN ON DRAWING, COVER TO REINFORCEMENT SHALL BE : -
(i) PRESTRESSED PRECAST BEAMS : 30mm
(ii) DIAPHRAGMS : 30mm
(iii) R.C DECK SLAB, PARAPET WALLS, FASCIA, MEDIANS AND INSITU KERBS : 30mm
(iv) ABUTMENTS, RETAINING WALLS, WINGWALLS, APPROACH SLABS : 50mm
(v) PIERS, PILE CAPS, COLUMN, CROSS-BEAMS : 50mm
(vi) UNDERSIDES OF PILE CAPS : 75mm
(vii) BOX CULVERTS AND WINGWALLS : 50mm

7 FULL COVER SHALL BE MAINTAINED AT GROOVES AND OTHER ARCHITECTURAL FINISHES TO THE CONCRETE SURFACE.
8 TYPE OF REINFORCEMENT IS DENOTED BY THE FOLLOWING SYMBOLS IN THE DRAWINGS : -
(i) R - PLAIN ROUND STEEL BAR.
(ii) T - DEFORMED HIGH YIELD STEEL BAR.
9 UNLESS OTHERWISE SHOWN ON DRAWINGS, THE SYSTEM OF BAR MARKING IS AS BELOW : -

MILD STEEL
2 R16 - 101 - 150

No. OF BARS
HIGH TENSILE BAR
BAR MARK
2 T16 - 101 - 150
BAR SPACING c/c (mm)
BAR DIAMETER (mm)

10 SPACINGS GIVEN FOR ALL REINFORCEMENT ARE PERPENDICULAR TO BAR UNLESS OTHERWISE SHOWN ON DRAWINGS.



KEY PLAN FOR ALTERNATELY PLACING REINFORCEMENT

11 LAP AND ANCHORAGE LENGTH FOR BAR (CONCRETE GRADE 40 N/mm^2 AND ABOVE) SHALL COMPLY WITH BS 5400 PART 4.

REBAR	LAP LENGTH (mm)	* 1.4 x LAP LENGTH (mm)
T10	400	560
T12	450	630
T16	550	770
T20	650	910
T25	775	1085
T32	950	1330

* INCREASE IN LENGTH BY 1.4 WHERE THE CLEAR DISTANCE BETWEEN THE LAPPED BARS IS LESS THAN 150mm.

ABBREVIATION

R.L.	—	REDUCED LEVEL
R.C.	—	REINFORCED CONCRETE
CH.	—	CHAINAGE
S.E.	—	SUPER-ELEVATION
B.P.	—	BEARING PAD
T	—	TOP
B	—	BOTTOM
B.F.	—	BOTH FACES
N.F.	—	NEAR FACE
F.F.	—	FAR FACE
E.G.L	—	EXISTING GROUND LEVEL
AZI.	—	AZIMUTH
V.L	—	VARIABLE LENGTH
L.S.D	—	LAND SURVEY DATUM
E.J	—	EXPANSION JOINT
AS	—	ALTERNATELY STAGGERED

PRESTRESSED SYSTEMS

1 ANY ALTERNATIVE PRESTRESSED SYSTEM SUBMITTED BY THE TENDERER SHOULD BE ACCOMPANIED BY SUPPORTING CALCULATION AND DETAIL DRAWINGS.
2 THE PRESTRESSING TENDONS USED FOR POST-TENSIONED BEAMS ARE TO BE 7-WIRE 15.2mm STRAND TO ASTM A416-80 FOR LOW RELAXATION GRADE 270 STEEL OR BS 5896:1980 SUPER-STRAND-1860-129-RELAX CLASS 2 HAVING THE FOLLOWING PROPERTIES : -
(i) NOMINAL SIZE = 15.20mm DIAMETER
(ii) NOMINAL CROSS SECTION AREA = 140mm^2
(iii) SPECIFIED CHARACTERISTIC STRENGTH = 260.70 KN
(iv) MODULUS OF ELASTICITY = 195.00 KN/mm^2
3 ESTIMATED LOSSES OF PRESTRESSING INCLUDES : -
(i) RELAXATION OF TENDONS = 2.5%
(ii) ELASTIC DEFORMATION OF CONCRETE AND SUBSEQUENT SHRINKAGE AND CREEP OF THE CONCRETE
(iii) FRICTION LOSSES
4 INITIAL JACKING FORCE = 75% OF SPECIFIED CHARACTERISTIC STRENGTH
5 COEFFICIENT FOR FRICTION LOSSES IN THE DUCTS ARE AS FOLLOWS : -
U = 0.2
K = 0.001

TENSIONING PARTICULARS FOR POST-TENSIONING GIRDERS

1 CABLES IN THE GIRDER ARE TO BE TENSIONED FROM ONE END ONLY EXCEPT OTHERWISE INDICATED.
2 ALL STRANDS IN A CABLE SHALL BE PULLED SIMULTANEOUSLY AND ANCHORED IN A COMPACT AND EFFICIENT ANCHORAGE.
3 STRONG RIGID SHEATHS OR DUCT FORMERS SHALL BE USED AND CLOSELY SUPPORTED SO THAT THEY ARE NOT DISPLACED DURING THE CONCRETING OPERATION.
4 ANCHORAGE PULL-IN VARIES WITH THE PRESTRESSING SYSTEM USED AND SHOULD BE PROVIDED FOR ON SITE BY OVER-STRESSING THE CABLE IN THE PRESTRESSED OPERATION. ANCHORAGE DETAILS SHALL BE IN ACCORDANCE WITH THE SYSTEM ADOPTED.
5 LOSSES IN THE JACKING SYSTEM HAVE BEEN IGNORED.

3 1 MAY 2018

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CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN	SKALA
	PINDAAN		

ranhill consulting sdn. bhd. (394869-A)
DIREKA OLEH: MMM
DILUKIS OLEH: DS
DISEMAK OLEH: ARS
DILULUSKAN OLEH: ANM

IR. SABUDIN BIN MOHD. SALLEH — TIMBALAN PENGARAH, JABATAN KEJURUTERAAN
IR. AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN SENGGARAAN
CHE MAT HAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
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TAJUK LUKISAN: BRIDGE OVER SG. KELANG GENERAL NOTES
TARIKH: APRIL 2018
NO. LUKISAN: RB 6305/BR3/ST/01
REV. -

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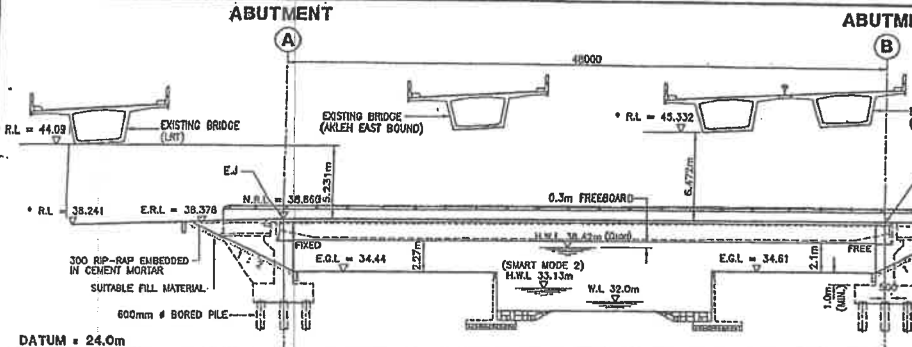
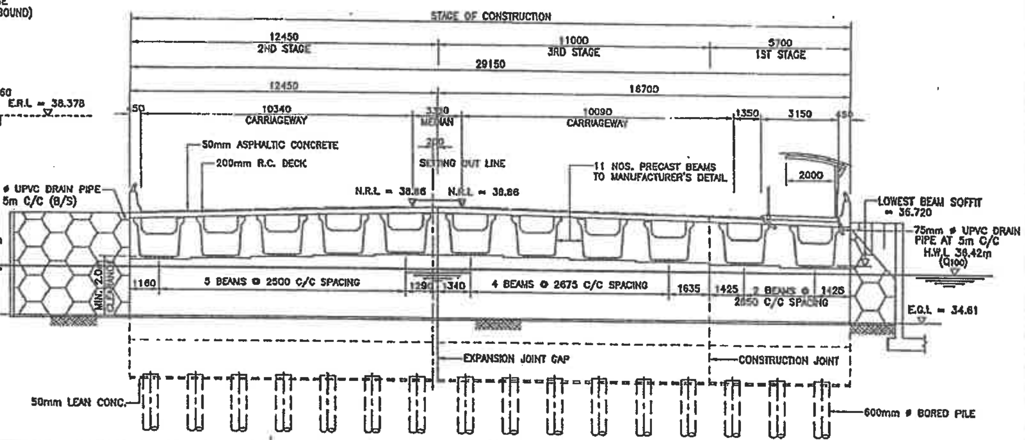


ABUTMENT A
ABUTMENT B
48000
R.L = 44.09
EXISTING BRIDGE (LRT)
EXISTING BRIDGE (AKLEH EAST BOUND)
• R.L = 45.332
EXISTING BRIDGE (AKLEH WEST BOUND)
EJ
• R.L = 38.241
E.R.L = 38.378
N.R.L = 38.860
5.231m
0.3m FREEBOARD
6.472m
N.R.L = 38.860
E.R.L = 38.378
FIXED
FREE
E.G.L = 34.44
2.27m
(SMART MODE 2) H.W.L 33.13m
W.L 32.0m
E.G.L = 34.61
2.1m
300 RIP-RAP EMBEDDED IN CEMENT MORTAR
SUITABLE FILL MATERIAL
600mm ø BORED PILE
DATUM = 24.0m

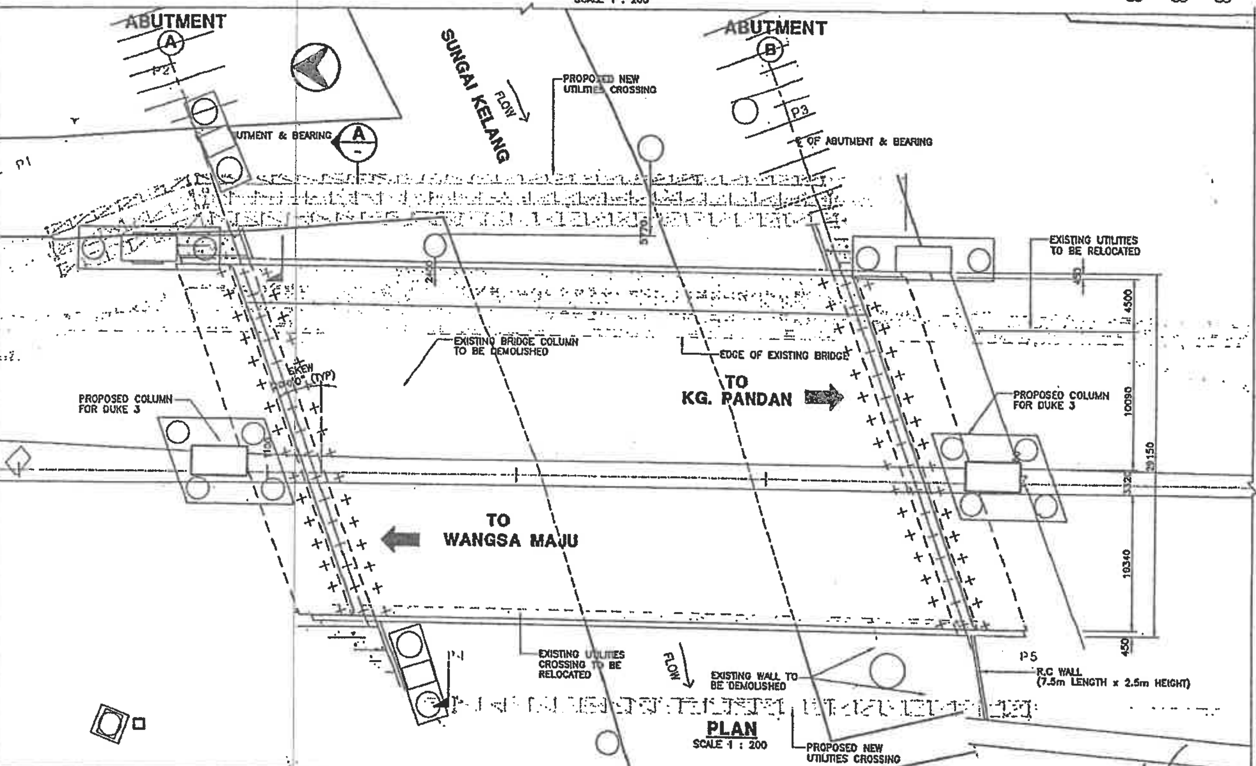
NEW ROAD LEVEL (m)	38.740		38.740
EXISTING ROAD LEVEL (m)	38.378		38.378
CHAINAGE (m)	1106.075	1130.075	1154.075

ELEVATION
SCALE 1 : 200



STAGE OF CONSTRUCTION
12450
2ND STAGE
11000
3RD STAGE
5700
1ST STAGE
29150
12450
16700
50
10340
CARRIAGEWAY
3330
MEDIAN
10090
CARRIAGEWAY
1350
3150
450
50mm ASPHALTIC CONCRETE
200mm R.C. DECK
SETTING OUT LINE
11 NOS. PRECAST BEAMS TO MANUFACTURER'S DETAIL
2000
N.R.L = 38.86
N.R.L = 38.86
100mm ø UPVC DRAIN PIPE AT 5m C/C (B/S)
LOWEST BEAM SOFFIT = 36.720
75mm ø UPVC DRAIN PIPE AT 5m C/C
H.W.L 38.42m (Q100)
MIN. 2.0 CLEARANCE
1160
5 BEAMS @ 2500 C/C SPACING
1290
1340
4 BEAMS @ 2675 C/C SPACING
1635
1425
2 BEAMS @ 2850 C/C SPACING
1425
E.G.L = 34.61
EXPANSION JOINT CAP
CONSTRUCTION JOINT
50mm LEAN CONC.
600mm ø BORED PILE

SECTION A
SCALE 1 : 100



ABUTMENT A
ABUTMENT B
SUNGAI KELANG
FLOW
PROPOSED NEW UTILITIES CROSSING
ABUTMENT & BEARING
℄ OF ABUTMENT & BEARING
P1
P2
P3
P4
P5
EXISTING UTILITIES TO BE RELOCATED
EXISTING BRIDGE COLUMN TO BE DEMOLISHED
EDGE OF EXISTING BRIDGE
SKEW 30°0' (TYP)
PROPOSED COLUMN FOR DUKE 3
TO KG. PANDAN
TO WANGSA MAJU
4500
10090
29150
10340
450
EXISTING UTILITIES CROSSING TO BE RELOCATED
EXISTING WALL TO BE DEMOLISHED
R.C WALL (7.5m LENGTH x 2.5m HEIGHT)
PROPOSED NEW UTILITIES CROSSING

PLAN
SCALE 1 : 200

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE STATED.
2. THE BRIDGE IS DESIGNED IN ACCORDANCE WITH JKR SPECIFICATION FOR BRIDGE LIVE LOAD TO CARRY THE MORE SEVERE EFFECTS OF:–
   (i) TYPE HA LOADING, OR
   (ii) TYPE HA IN COMBINATION WITH 30 HB IN ACCORDANCE WITH BD 37/01
3. REMOVAL OF MATERIALS AS INDICATED IN DRAWING IS TO BE CARRIED OUT UNDER THE SUPERVISION OF THE RESIDENT ENGINEER / SITE SUPERVISOR WITHOUT IMPAIRING EXISTING STRUCTURAL MEMBERS.
4. THE EXISTING STRUCTURAL MEMBERS AFFECTED BY REMOVAL OF MATERIALS SHOULD BE REPAIRED UNDER THE SUPERVISION OF RESIDENT ENGINEER / SITE SUPERVISOR.
5. REMOVAL AND RELOCATION OF UTILITIES AS INDICATED SHALL BE CARRIED OUT IN CONSULTATION WITH THE AUTHORITIES OF CONCERNED AGENCIES AFTER OBTAINING THE PERMIT.
6. THE CONTRACTOR SHOULD PROVIDE PROPER PROTECTION TO PREVENT DAMAGES TO THE EXISTING SERVICES.
7. ALL DIMENSIONS ARE BASED ON APPROXIMATE MEASUREMENT AT SITE.
8. F.R.L DENOTES FINISHED ROAD LEVEL. E.G.L DENOTES EXISTING GROUND LEVEL.
9. THE SPECIAL PRECAST UHPC POST-TENSIONED U-GIRDER WITH CONCRETE GRADE OF 150 N/mm^2 SHALL BE DESIGNED BY BEAM SUPPLIER.
10. THE CALCULATIONS OF DETAILED DESIGN AND DRAWINGS FOR PT AND REBAR SHALL BE SUBMITTED WITH PE ENDORSEMENT TO CONSULTANT FOR REVIEW AND APPROVAL.
11. THE SUPPLIER SHALL PURPOSE METHOD OF BEAM LAUNCHING AND SUBMIT TO CONSULTANT FOR REVIEW.
12. ANY TEMPORARY WORKS DURING CONSTRUCTION SUCH AS PUMPING, RIVER DIVERSION, DAMAGING OF EXISTING RETAINING WALL AND SLOPES SHALL BE REPAIRED AS PER ORIGINAL CONDITION.

LEGEND:

EXISTING BRIDGE COLUMN TO BE DEMOLISHED BEFORE CONSTRUCTION OF NEW BRIDGE.
E.R.L = EXISTING ROAD LEVEL
N.R.L = NEW ROAD LEVEL
H.W.L = HIGH WATER LEVEL
E.G.L = EXISTING GROUND LEVEL
R.L = REDUCED LEVEL
• R.L = TO BE CONFIRMED BY SURVEY DATA
■ = PROPOSED COLUMN FOR DUKE 3.
EJ = EXPANSION JOINT

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3 1 MAY 2018

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CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP:
JURUTERA PROFESIONAL AWAM Ir ZAFRUL MAHMOOD C18133

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA MEMATUHI KEHENDAK PIAWAI KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

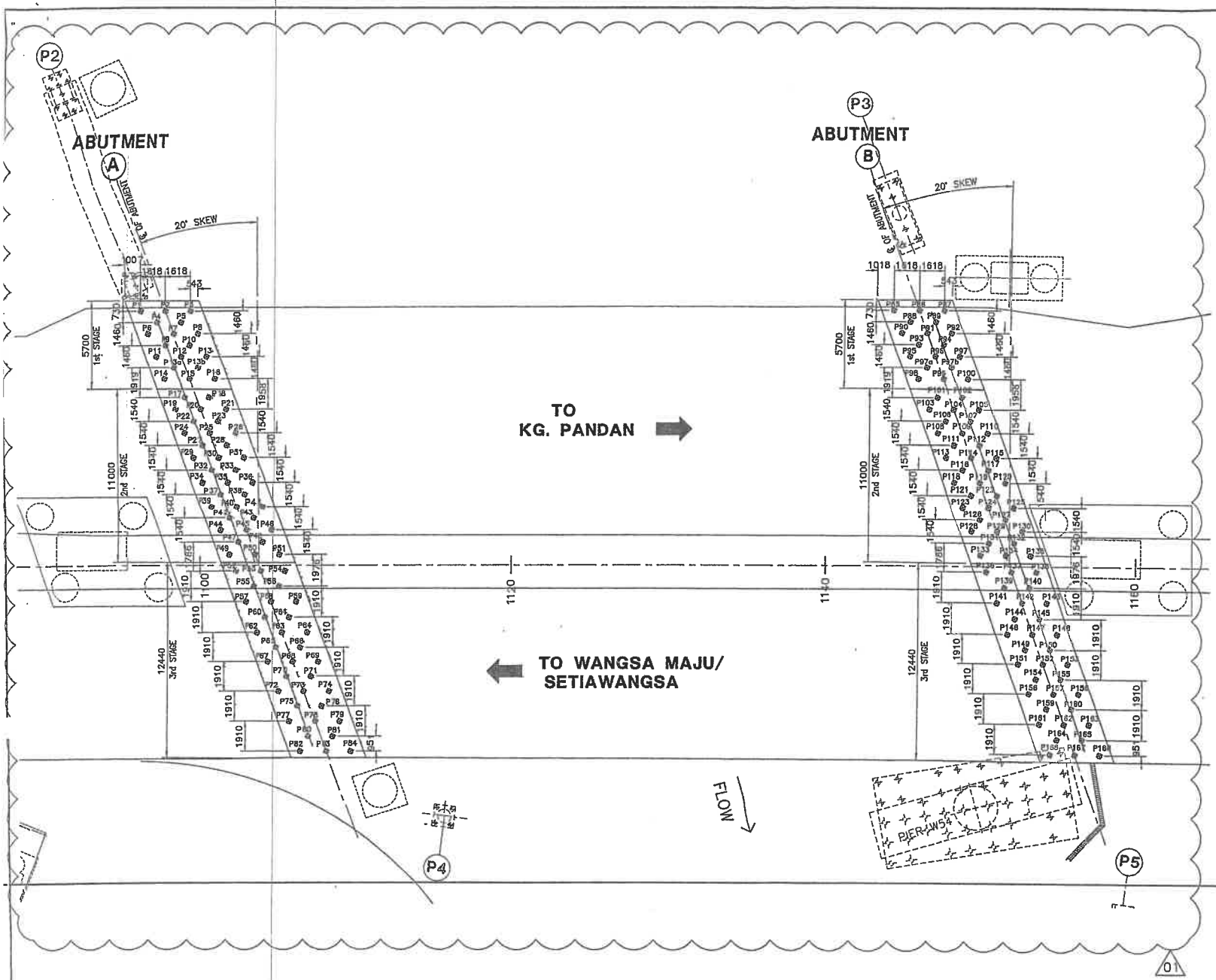
TARIKH	BUTIRAN	RUJUKAN	SKALA
			AS SHOWN
PEGAWAI			

ranhill consulting sdn. bhd. (394669-A)
DILUKIS OLEH: MMM
DILUKIS OLEH: DS
DISEMAK OLEH: ARS
DILULUSKAN OLEH: ANM

IR. SABUDIN BIN MOHD SALLEH — TIMBALAN PENGARAH KANAN, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
IR. AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR
TUAN HAJI ABD. HAMID BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.
TAJUK LUKISAN: BRIDGE OVER SG. KELANG GENERAL LAYOUT PLAN, ELEVATION AND SECTION
TARIKH: APRIL 2018
NO. LUKISAN: RB 6305/BR3/ST/02
REV. –

FILENAME: E:\TRANSPORTATION\RB-TRUSTEE\CAD\RB 831 – JELATEK\TENDER DRAWINGS-MARCH 2016 (BR3)\ TS-RB831-ST-BR3-02.dwg 03/16/16 10:46



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRE UNLESS OTHERWISE STATED.
2. ALL CHAINAGES, LEVELS AND BEAM LENGTH ARE IN METRE.
3. FOR ESTIMATED PILE LENGTH REFER TO PILE SCHEDULE.
4. ALL LEVELS AND POSITIONS FOR PILES AND GIRDERS TO BE JOINTLY VERIFIED AT SITE.
5. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
6. PILE TEST :-
   I) PRELIMINARY PILE TO BE TESTED TO 2.5 TIMES OF THE WORKING LOAD AS FOLLOWS :
   - 1 NO. UTILIZING MAINTAINED LOAD TEST.

   II) WORKING PILE TO BE TESTED TO 2 TIMES OF THE WORKING LOAD AS FOLLOWS :
   - 1 NO. UTILIZING MAINTAINED LOAD TEST.
   - 12 NOS. UTILIZING PDA WITH CAPWAP.
7. PILE ALLOWABLE BEARING CAPACITY IS TO BE REASSESSED AFTER TEST PILE RESULTS ARE STUDIED.TEST PILES DATA ARE TO BE SUBMITTED TO ENGINEER FOR FURTHER ACTION.
8. FINAL PILE LENGTH IS TO BE RECONFIRMED BASED ON THE TEST PILE RESULTS ASSESSMENT AND SPT 'N' VALUE ENCOUNTERED AT EACH PILE LOCATION.
9. AS BUILT PILE POSITIONS BY LICENSED SURVEYOR TO BE SUBMITTED BEFORE COMMENCING PILE CAP WORKS.
10. AS-BUILT PILE POSITIONS BY LICENCED SURVEYOR SHALL BE SUBMITTED BEFORE COMMENCING THE PILE CAP CONSTRUCTION.
11. IF ROCKS ENCOUNTERED AT SHALLOW DEPTH DURING CONSTRUCTION, THE CONTRACTOR NEED TO INFORMED THE S.O REPRESENTATIVE AT SITE TO CONFIRM THE ROCK SOCKETING LENGTH BASED ON ROCK QUALITY AND ROCK TEST RESULT.
12. IF LIMESTONE ROCK ENCOUNTERED PROBING OF MIN. 6m SHALL BE CARRIED OUT FROM THE INTENDED TOE LEVEL OF PILE.
13. PRE-BORING CAVITY TREATMENT TE BE CARRIED OUT AT LIMESTONE ROCK.
14. 12 NOS. PROOFDRILLING WITH STANDARD PENETRATION TEST (SPT) 'N' VALUE RECORDED AT EVERY 1.5m TO THE DEPTH 2 TIMES THE PILE DIAMETER FROM THE TOE OF THE PILE SHALL BE CARRIED PRIOR TO CONTRUCTING OF BORED PILE.
15. CORING INTO INCLINED ROCK SURFACE, LIMESTONE PINNACLES, CAVITIES, SOIL BELOW BOULDER FLOATER, AND ROCK THAT NOT SATISFYING THE ROCK SOCKETING CRITERIA MENTIONED IN NOTES FOR ROCK SOCKETING SHALL BE CONSIDERED AS BORING IN SOIL.

NOTES FOR ROCK SOCKETING :

1. DEFINATION OF ROCK CORING SHALL FULFILL ALL THREE (3) CRITERIA BELOW :
   - CHANGE OF TOLLS TO ROCK CORING TOOLS AND
   - THE ROCK MATERIALS SHALL BE VERIFIED BY CARRYING OUT POINT LOAD TEST ON AT LEAST THREE (3) ROCK SAMPLES TO ACHIEVE MINIMUM INDEX STRENGTH OF 2.0 MPA SUBJECT TO SITE CONFIRMATION OF TYPICAL ROCK LUMP SIZES BASE ON THE SIZE CORRECTION FACTOR, $F = (D_E/50)^{0.45}$ WHERE OF IS EQUIVALENT CORE DIAMETER IN MM AND
   - RECOVERED ROCK MATERIAL (CRR) OF MORE THAN 70% SUBJECT TO SITE CALIBRATION UPON START WORK UNLESS OTHERWISE AGREED BY THE ENGINEER.
2. ANY OTHER MATERIAL THAT DO NOT FULFILL THE DEFINATION OF THE ROCK CORING METHOD ABOVE SHALL BE CONSIDERED BORING IN SOIL.
3. CORING INTO INCLINED ROCK SURFACE, LIMESTONE PINNACLES, CAVITIES AND SOIL BELOW BOULDER/FLOATER SHALL BE CONSIDERED AS BORING IN SOIL.
4. ROCK CORING LENGTH SHALL BE MEASURED FROM THE FLATTENED HORIZONTAL BEDROCK SURFACE. THIS FLAT HORIZONTAL SURFACE SHALL BE PROVED USING KELLY BAR OR STEEL BAR AT MINIMUM OF FIVE POSITION OVER THE BOREHOLE TO CONFIRM ROCK CORING DEFINATION.

LEGEND

⊕ – DENOTES 250mm DIA MICROPILE.

DRAWING REFERENCE

1. RB6305/BR3/ST/32.
   – 250mm DIA. MICROPILES DETAILS.
2. RB6305/BR3/ST/03A AND RB6305/BR3/ST/03B
   – PILE SCHEDULE FOR BRIDGE

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15 MAR 2019

SPACE RESERVED FOR PE CHOP

01

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN MANTA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN RAWABENTUK DAN PRESTASI PROJEK INI.

TARIKH	PINDAAN	RUJUKAN	SKALA
15/03/2019	PILE TYPE CHANGE FROM 600mm BORED PILE TO 250mm MICRO PILE	01	

PINDAAN

ranhill consulting sdn. bhd. (394869-A)

DIREKA OLEH : MMM/KAK
DISEMAK OLEH : DS/NAS
DILUKISKAN OLEH : ANM/SBT
DISEMAK OLEH : ARS/ARR

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. S.JEYAPALAN
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK : DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA : CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN : BRIDGE OVER SG. KELANG
PILING LAYOUT PLAN

TARIKH APRIL 2018 | NO. LUKISAN RB 6305/BR3/ST/03 | REV. 01

DRAWING REFERENCE

1. RB 6305/BR3/ST/03.
   – PILING LAYOUT PLAN.
2. RB6305/BR3/ST/15.
   – 250mm DIA. MICROPILES DETAILS.

PILE SCHEDULE FOR NEW BRIDGE

PILE ID.	PILE DIA.	PILE TYPE	WORKING LOAD ON SINGLE PILE	ESTIMATED PILE LENGTH BELOW CUT-OFF WITH ROCK SOCKET (m)	ROCK SOCKET LENGTH (m)
ABUTMENT A					
P1	250 mm	MICROPILE	900 kN	49.5	3.0
P2	250 mm	MICROPILE	900 kN	49.5	3.0
P3	250 mm	MICROPILE	900 kN	49.5	3.0
P4	250 mm	MICROPILE	900 kN	49.5	3.0
P5	250 mm	MICROPILE	900 kN	49.5	3.0
P6	250 mm	MICROPILE	900 kN	49.5	3.0
P7	250 mm	MICROPILE	900 kN	49.5	3.0
P8	250 mm	MICROPILE	900 kN	49.5	3.0
P9	250 mm	MICROPILE	900 kN	49.5	3.0
P10	250 mm	MICROPILE	900 kN	49.5	3.0
P11	250 mm	MICROPILE	900 kN	49.5	3.0
P12	250 mm	MICROPILE	900 kN	49.5	3.0
P13	250 mm	MICROPILE	900 kN	49.5	3.0
P13a	250 mm	MICROPILE	900 kN	49.5	3.0
P13b	250 mm	MICROPILE	900 kN	49.5	3.0
P14	250 mm	MICROPILE	900 kN	49.5	3.0
P15	250 mm	MICROPILE	900 kN	49.5	3.0
P16	250 mm	MICROPILE	900 kN	49.5	3.0
P17	250 mm	MICROPILE	900 kN	49.5	3.0
P18	250 mm	MICROPILE	900 kN	49.5	3.0
P19	250 mm	MICROPILE	900 kN	49.5	3.0
P20	250 mm	MICROPILE	900 kN	49.5	3.0
P21	250 mm	MICROPILE	900 kN	49.5	3.0
P22	250 mm	MICROPILE	900 kN	49.5	3.0
P23	250 mm	MICROPILE	900 kN	49.5	3.0
P24	250 mm	MICROPILE	900 kN	49.5	3.0
P25	250 mm	MICROPILE	900 kN	49.5	3.0
P26	250 mm	MICROPILE	900 kN	49.5	3.0
P27	250 mm	MICROPILE	900 kN	49.5	3.0
P28	250 mm	MICROPILE	900 kN	49.5	3.0
P29	250 mm	MICROPILE	900 kN	49.5	3.0
P30	250 mm	MICROPILE	900 kN	49.5	3.0
P31	250 mm	MICROPILE	900 kN	49.5	3.0
P32	250 mm	MICROPILE	900 kN	49.5	3.0
P33	250 mm	MICROPILE	900 kN	49.5	3.0
P34	250 mm	MICROPILE	900 kN	49.5	3.0
P35	250 mm	MICROPILE	900 kN	49.5	3.0
P36	250 mm	MICROPILE	900 kN	49.5	3.0
P37	250 mm	MICROPILE	900 kN	49.5	3.0
P38	250 mm	MICROPILE	900 kN	49.5	3.0
P39	250 mm	MICROPILE	900 kN	49.5	3.0
P40	250 mm	MICROPILE	900 kN	49.5	3.0
P41	250 mm	MICROPILE	900 kN	49.5	3.0
P42	250 mm	MICROPILE	900 kN	49.5	3.0

PILE SCHEDULE FOR NEW BRIDGE

PILE ID.	PILE DIA.	PILE TYPE	WORKING LOAD ON SINGLE PILE	ESTIMATED PILE LENGTH BELOW CUT-OFF WITH ROCK SOCKET (m)	ROCK SOCKET LENGTH (m)
ABUTMENT A					
P43	250 mm	MICROPILE	900 kN	49.5	3.0
P44	250 mm	MICROPILE	900 kN	49.5	3.0
P45	250 mm	MICROPILE	900 kN	49.5	3.0
P46	250 mm	MICROPILE	900 kN	49.5	3.0
P47	250 mm	MICROPILE	900 kN	49.5	3.0
P48	250 mm	MICROPILE	900 kN	49.5	3.0
P49	250 mm	MICROPILE	900 kN	49.5	3.0
P50	250 mm	MICROPILE	900 kN	49.5	3.0
P51	250 mm	MICROPILE	900 kN	49.5	3.0
P52	250 mm	MICROPILE	900 kN	49.5	3.0
P53	250 mm	MICROPILE	900 kN	49.5	3.0
P54	250 mm	MICROPILE	900 kN	49.5	3.0
P55	250 mm	MICROPILE	900 kN	36.5	9.5
P56	250 mm	MICROPILE	900 kN	36.5	9.5
P57	250 mm	MICROPILE	900 kN	36.5	9.5
P58	250 mm	MICROPILE	900 kN	36.5	9.5
P59	250 mm	MICROPILE	900 kN	36.5	9.5
P60	250 mm	MICROPILE	900 kN	36.5	9.5
P61	250 mm	MICROPILE	900 kN	36.5	9.5
P62	250 mm	MICROPILE	900 kN	36.5	9.5
P63	250 mm	MICROPILE	900 kN	36.5	9.5
P64	250 mm	MICROPILE	900 kN	36.5	9.5
P65	250 mm	MICROPILE	900 kN	36.5	9.5
P66	250 mm	MICROPILE	900 kN	36.5	9.5
P67	250 mm	MICROPILE	900 kN	33.0	8.0
P68	250 mm	MICROPILE	900 kN	33.0	8.0
P69	250 mm	MICROPILE	900 kN	33.0	8.0
P70	250 mm	MICROPILE	900 kN	33.0	8.0
P71	250 mm	MICROPILE	900 kN	33.0	8.0
P72	250 mm	MICROPILE	900 kN	30.5	8.0
P73	250 mm	MICROPILE	900 kN	30.5	8.0
P74	250 mm	MICROPILE	900 kN	30.5	8.0
P75	250 mm	MICROPILE	900 kN	30.5	8.0
P76	250 mm	MICROPILE	900 kN	30.5	8.0
P77	250 mm	MICROPILE	900 kN	28.0	8.0
P78	250 mm	MICROPILE	900 kN	28.0	8.0
P79	250 mm	MICROPILE	900 kN	28.0	8.0
P80	250 mm	MICROPILE	900 kN	28.0	8.0
P81	250 mm	MICROPILE	900 kN	28.0	8.0
P82	250 mm	MICROPILE	900 kN	28.0	7.5
P83	250 mm	MICROPILE	900 kN	28.0	7.5
P84	250 mm	MICROPILE	900 kN	28.0	7.5

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15 MAR 2019

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN RAWABENTUK DAN PRESTASI PROJEK INI.

SPACE RESERVED FOR PC STAMP:

TARIKH	BUTIRAN	KUASAKAN
	PINDAAN	

SKALA:

ranhill consulting sdn. bhd. [364699-A]

DIREKA OLEH :

DILUKIS OLEH : DISEMAK OLEH :

DILULUSKAN OLEH :

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. S.JEYAPALAN
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. CHE MAT NAWI BIN MAT DAUD
JURUTERA PAKAR
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
PILE SCHEDULE FOR NEW BRIDGE (ABUTMENT A)

TARIKH: | NO. LUKISAN: RB 6305/BR3/ST/03A | REV. 00

PILE SCHEDULE FOR NEW BRIDGE

PILE ID.	PILE DIA.	PILE TYPE	WORKING LOAD ON SINGLE PILE	ESTIMATED PILE LENGTH BELOW CUT-OFF WITH ROCK SOCKET (m)	ROCK SOCKET LENGTH (m)
ABUTMENT A					
P1	250 mm	MICROPILE	900 kN	49.5	3.0
P2	250 mm	MICROPILE	900 kN	49.5	3.0
P3	250 mm	MICROPILE	900 kN	49.5	3.0
P4	250 mm	MICROPILE	900 kN	49.5	3.0
P5	250 mm	MICROPILE	900 kN	49.5	3.0
P6	250 mm	MICROPILE	900 kN	49.5	3.0
P7	250 mm	MICROPILE	900 kN	49.5	3.0
P8	250 mm	MICROPILE	900 kN	49.5	3.0
P9	250 mm	MICROPILE	900 kN	49.5	3.0
P10	250 mm	MICROPILE	900 kN	49.5	3.0
P11	250 mm	MICROPILE	900 kN	49.5	3.0
P12	250 mm	MICROPILE	900 kN	49.5	3.0
P13	250 mm	MICROPILE	900 kN	49.5	3.0
P13a	250 mm	MICROPILE	900 kN	49.5	3.0
P13b	250 mm	MICROPILE	900 kN	49.5	3.0
P14	250 mm	MICROPILE	900 kN	49.5	3.0
P15	250 mm	MICROPILE	900 kN	49.5	3.0
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P32	250 mm	MICROPILE	900 kN	49.5	3.0
P33	250 mm	MICROPILE	900 kN	49.5	3.0
P34	250 mm	MICROPILE	900 kN	49.5	3.0
P35	250 mm	MICROPILE	900 kN	49.5	3.0
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P39	250 mm	MICROPILE	900 kN	49.5	3.0
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PILE SCHEDULE FOR NEW BRIDGE

PILE ID.	PILE DIA.	PILE TYPE	WORKING LOAD ON SINGLE PILE	ESTIMATED PILE LENGTH BELOW CUT-OFF WITH ROCK SOCKET (m)	ROCK SOCKET LENGTH (m)
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P49	250 mm	MICROPILE	900 kN	49.5	3.0
P50	250 mm	MICROPILE	900 kN	49.5	3.0
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P63	250 mm	MICROPILE	900 kN	36.5	9.5
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P82	250 mm	MICROPILE	900 kN	26.0	7.5
P83	250 mm	MICROPILE	900 kN	26.0	7.5
P84	250 mm	MICROPILE	900 kN	26.0	7.5

DRAWING REFERENCE

1. RB 6305/BR3/ST/03.
   – PILING LAYOUT PLAN.
2. RB6305/BR3/ST/15.
   – 250mm DIA. MICROPILES DETAILS.

RECEIVED 16/3/19

15 MAR 2019

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA MEMATUHI KEHENDAK PIAWAI KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

SPACE RESERVED FOR PE STAMP

TARIKH	BUTIR-BUTIR	KUASAN	SKALA
	PINDAAN		

ranhill consulting sdn. bhd. (394669-A)

DIREKA OLEH :

DILUKIS OLEH : | DISEMAK OLEH :

DILULUSKAN OLEH :

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. S.JEYAPALAN
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

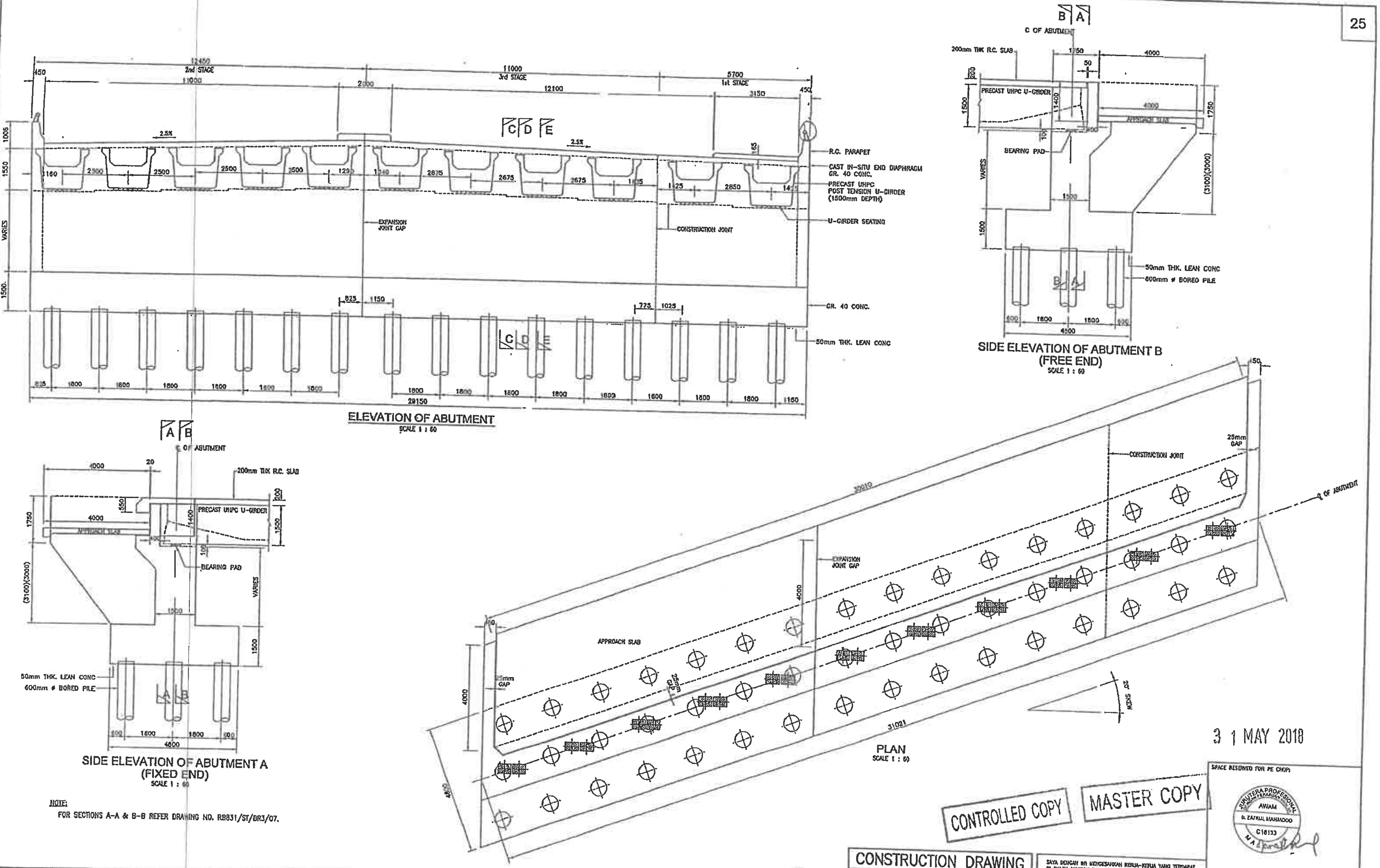
TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
PILE SCHEDULE FOR NEW BRIDGE (ABUTMENT A)

TARIKH: | NO. LUKISAN: RB 6305/BR3/ST/03A | REV. 00


ELEVATION OF ABUTMENT
SCALE 1 : 60
12450
2nd STAGE
11000
3rd STAGE
5700
1st STAGE
12100
3150
2000
450
2.5%
R.C. PARAPET
CAST IN-SITU END DIAPHRAGM GR. 40 CONC.
PRECAST UHPC POST TENSION U-GIRDER (1500mm DEPTH)
U-GIRDER SEATING
CONSTRUCTION JOINT
EXPANSION JOINT GAP
GR. 40 CONC.
50mm THK. LEAN CONC
29150
SIDE ELEVATION OF ABUTMENT B
(FREE END)
SCALE 1 : 60
C OF ABUTMENT
200mm THK R.C. SLAB
PRECAST UHPC U-GIRDER
BEARING PAD
APPROACH SLAB
VARIES
50mm THK. LEAN CONC
600mm ø BORED PILE
4800
SIDE ELEVATION OF ABUTMENT A
(FIXED END)
SCALE 1 : 60
PLAN
SCALE 1 : 60
APPROACH SLAB
CONSTRUCTION JOINT
EXPANSION JOINT GAP
25mm GAP
C OF ABUTMENT
20° SKEW
30010
31021

NOTE:

FOR SECTIONS A-A & B-B REFER DRAWING NO. RB831/ST/BR3/07.

3 1 MAY 2018

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CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP:

JURUTERA PROFESIONAL AWAM Ir. ZAFRUL ... C18133

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN
	PINDAAN	

SKALA: AS SHOWN

sanhill consulting sdn. bhd. (394669-A)

DIREKA OLEH: MMM
DILUKIS OLEH: DS
DISEMAK OLEH: ARS
DILULUSKAN OLEH: ANM

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH ... JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ... HAMID BIN SURIP
PENGARAH JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PELANGGAN: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

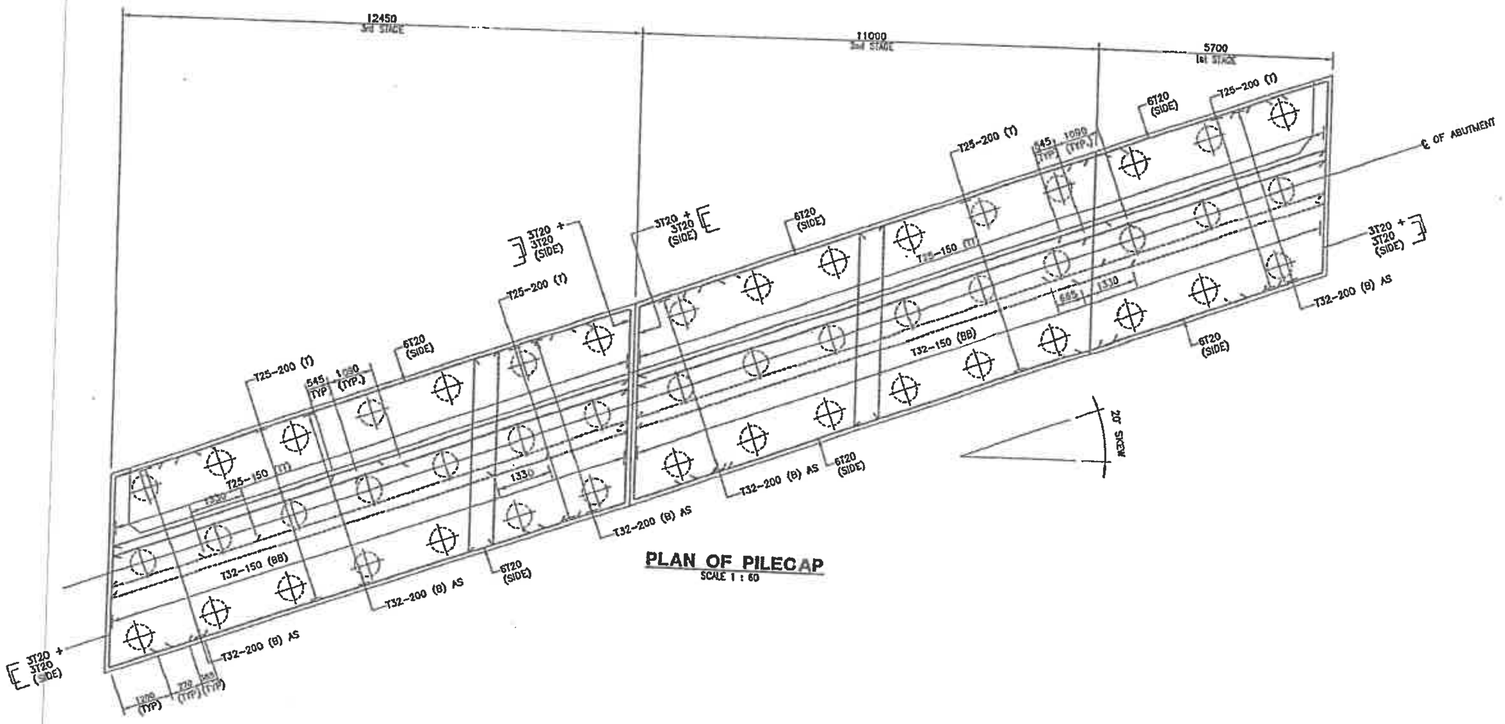
TAJUK LUKISAN: BRIDGE OVER SG. KELANG DETAILS OF ABUTMENT – CONCRETE

TARIKH: APRIL 2018

NO. LUKISAN: RB 6305/BR3/ST/04

REV. –

FILENAME: E:\TRANSPORTATION\RB-TC\STEEL\CAD\RB 831 - JELATEK\TENDER DRAWINGS-MARCH 2016 (BR3)\ TS-RB831-ST-BR3-04.dwg 03/16/18 10:50



PLAN OF PILECAP
SCALE 1 : 60

13 1 MAY 2018

CONTROLLED COPY

MASTER COPY

CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP:

AWAM
C18133

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA MEMATUHI KEHENDAK PIAWAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	SEMAKAN
	PINDAAN	

SKALA: AS SHOWN

ranhill consulting sdn. bhd. (394869-A)

DIREKA OLEH: MMM
DILUKIS OLEH: DS
DISEMAK OLEH: ARS
DILULUSKAN OLEH: ANJ

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI MOHD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

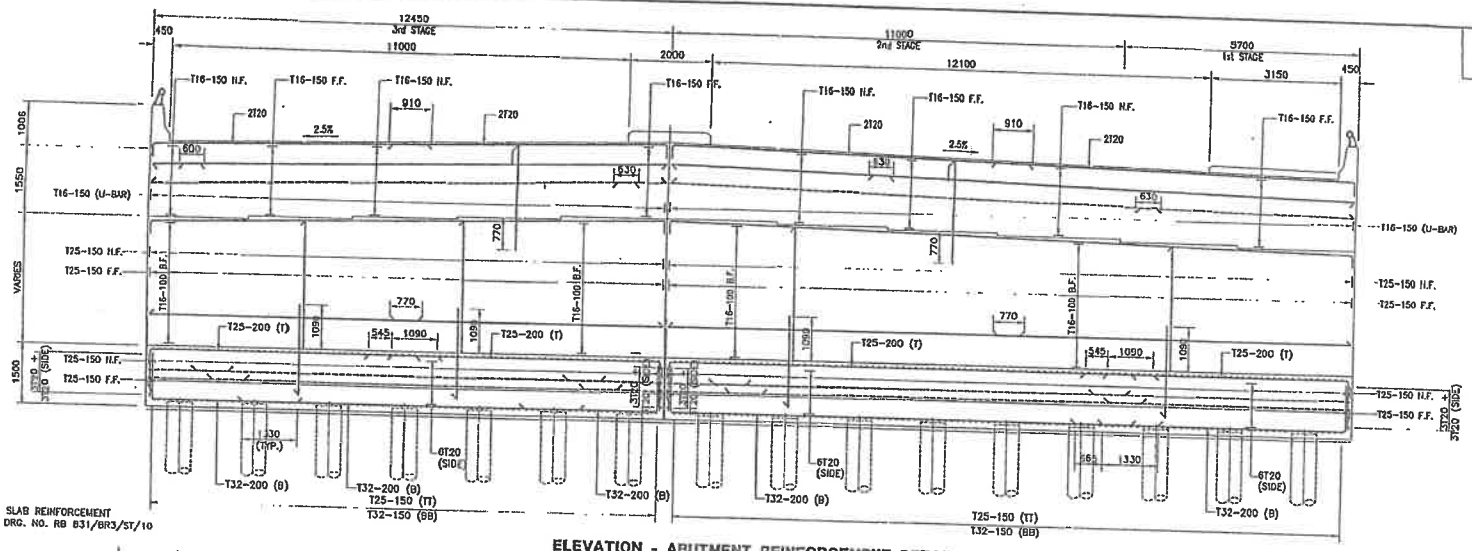
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
DETAILS OF ABUTMENT - REINFORCEMENT OF PILECAP

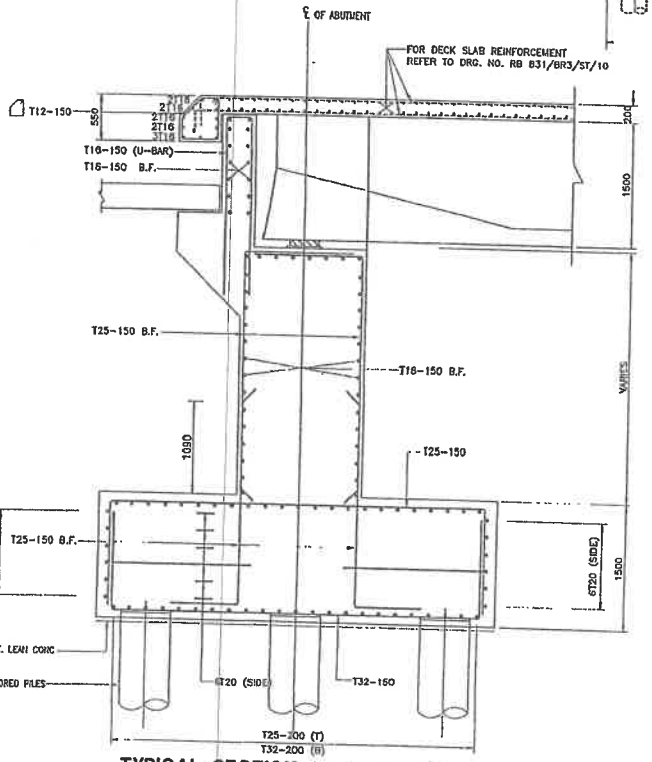
TARIKH: APRIL 2018

NO. LUKISAN: RB 6305/BR3/ST/05

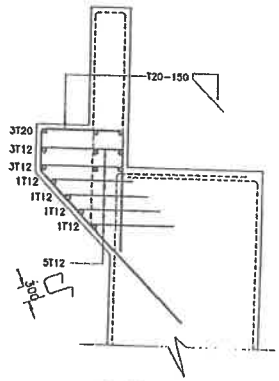
FILENAME: E:\TRANSPORTATION\RB-TRUSTEE\CAD\RB 831 - JELATEK\TENDER DRAWINGS-MARCH 2016 (BR3)\ TS-RB831-ST-BR3-05.dwg 03/16/16 10:51



ELEVATION - ABUTMENT REINFORCEMENT DETAIL
SCALE 1 : 60



TYPICAL SECTION OF ABUTMENT A
(REINFORCEMENT DETAILS)
SCALE 1 : 30



CORBEL DETAILS
SCALE : 1 : 25

13 9 MAY 2018

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CONSTRUCTION DRAWING

SAYA ODZIAN BIN BERGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN 66 JADUAL HASIL REKABENTUK SAYA DAN UNTUK MEMATUHI KEHENDAK PIHAKBERKUASA. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN RAKABENTUK DAN PRESTASI PROJEK INI.

SPACE RESERVED FOR PE CHOP:

BORANG PROFESIONAL
AWAM
ir ZAFRUL MAHMOOD
C18133

TARIKH	PINDAAN	DILUKAR
	PADAM	

SKALA: AS SHOWN

ranhill consulting sdn. bhd. [334669-A]

DIREKA OLEH : MMM
DILUKIS OLEH : DS
DISEMAK OLEH : ARS
DILULUSKAN OLEH : ANM

IR. SABUDIN BIN MOHD. SALLEH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT HAWI BIN MAT DAUD
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

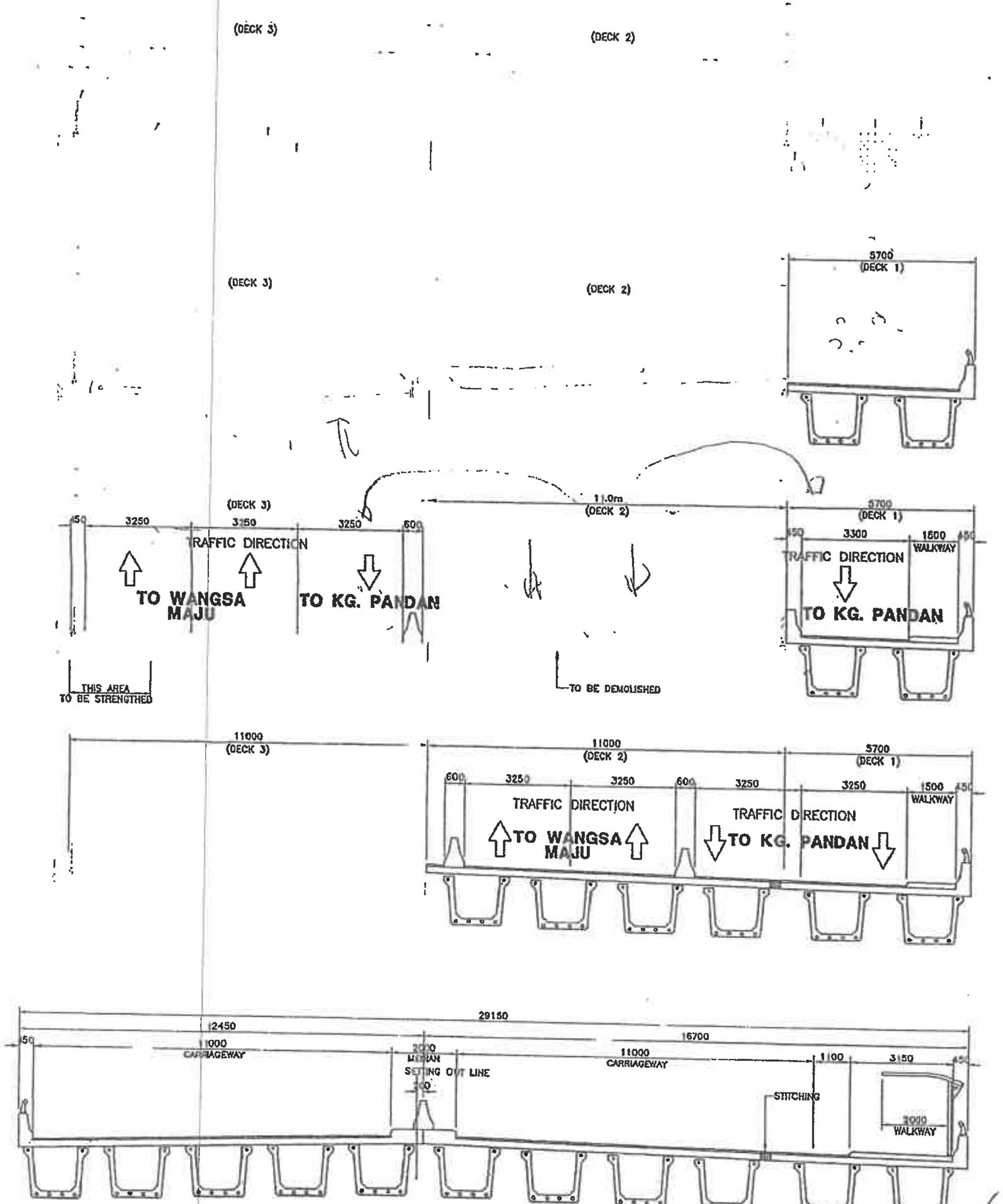
TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PELAN UNTUK: DEWAN BANDARAYA KUALA LUMPUR

NAMA PERJALANAN: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
DETAILS OF ABUTMENT - REINFORCEMENT OF ELEVATION & SECTION

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/ST/06 | REV. -



NOTES:

1. ALL TEMPORARY WORKS SHALL BE DESIGNED BY THE CONTRACTOR AND TO BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
2. THE CONTRACTOR HAS TO REVIEW THE PROPOSED STAGES OF CONSTRUCTION SEQUENCE TO ENSURE MINIMUM DISTURBANCES OF TRAFFIC DURING CONSTRUCTION.

STAGE 1

1) RELOCATE EXISTING UTILITIES.

STAGE 2

1) CONSTRUCT NEW 5.7m WIDTH OF DECK NO. 1.

STAGE 3

1) REMOVE EXISTING KERB FOR MEDIAN AND WALKWAY AT DECK NO. 3.
2) PART OF THE DECK AND COLUMN AT THE EXISTING WALKWAY TO BE STRENGTHED.
3) DIVERT TRAFFIC TO DECK NO. 1 & 3, DIVERT WALKWAY TO DECK NO. 1.
4) RELOCATE EXISTING UTILITIES AT DECK NO. 2.
5) DEMOLISH DECK NO. 2

STAGE 4

1) CONSTRUCT DECK NO. 2
2) DIVERT TRAFFIC FROM DECK NO. 3 TO DECK NO. 2.
3) DEMOLISH DECK NO. 3.

STAGE 5

1) CONSTRUCT DECK NO. 3 AND STITCH WITH DECK NO 1.

3 1 MAY 2018

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CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP:

JURUTERA PROFESSIONAL AWAM Ir. ZAFAUL MAHMOOD C18133 MALAYSIA

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN HANYA MEMATUHI KEHENDAK PIAWAI KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	SUBJEK	RUJUKAN	SKALA
	PINDAAN		

ranhill consulting sdn. bhd. (394589-A)

DIREKA OLEH: MMM — DILUKIS OLEH: DS — DISEMAK OLEH: ARS — DILULUSKAN OLEH: ANM

... MOHD. SALLEH — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH — JURUTERA PENGAWAI AWAM — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ... BIN SURIP — JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

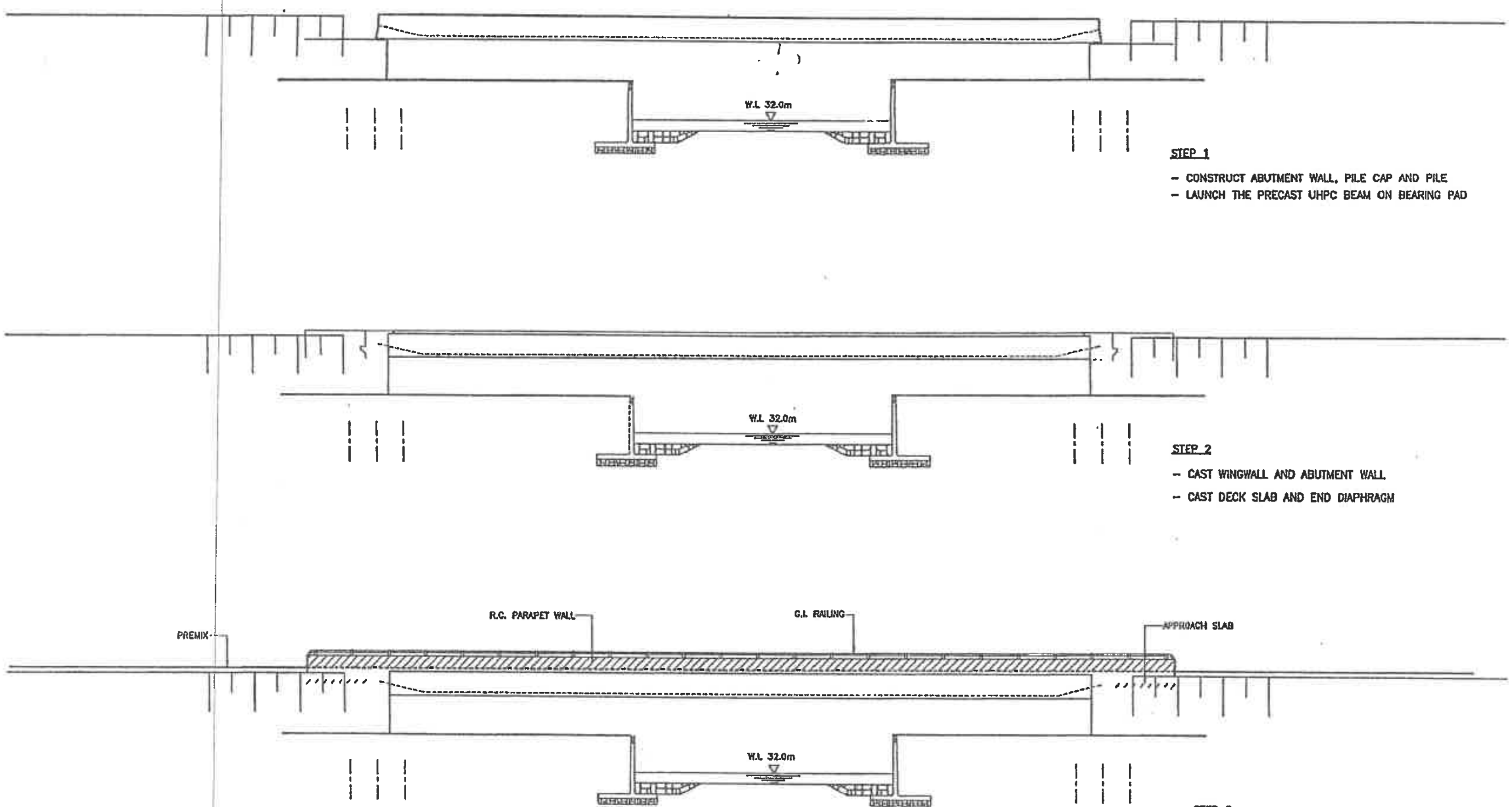
TAJUK LUKISAN: BRIDGE OVER SG. KELANG SEQUENCE OF CONSTRUCTION (1 OF 3)

TARIKH: APRIL 2018 — NO. LUKISAN: RB 6305/BR3/ST/11 — REV. —

FILENAME: E:\TRANSPORTATION\RB-TRUSTEE\CAD\RB 831 - JELATEK\TENDER DRAWINGS-MARCH 2016 (BR3)\ TS-RB831-ST-BR3-11.dwg 03/16/16 11:03

CONSTRUCTION

THE SEQUENCE OF CONSTRUCTION ARE SHOWN BELOW :



STEP 1

- CONSTRUCT ABUTMENT WALL, PILE CAP AND PILE
- LAUNCH THE PRECAST UHPC BEAM ON BEARING PAD

STEP 2

- CAST WINGWALL AND ABUTMENT WALL
- CAST DECK SLAB AND END DIAPHRAGM

STEP 3

- CAST APPROACH SLAB
- BACKFILL SUITABLE MATERIAL
- INSTALL OTHER BRIDGE ACCESSORIES SHOWN IN THE DRAWING
- LAY PREMIX

NOTES:

1. ALL TEMPORARY WORKS SHALL BE DESIGNED BY THE CONTRACTOR AND TO BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
2. THE CONTRACTOR HAS TO REVIEW THE PROPOSED STAGES OF CONSTRUCTION SEQUENCE TO ENSURE MINIMUM DISTURBANCES OF TRAFFIC DURING CONSTRUCTION.

3 1 MAY 2018

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CONSTRUCTION DRAWING

SPACE RESERVED FOR PE CHOP:

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN HANYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	BUAKAN	SKALA:
	PINDAAN		

ranhill consulting sdn. bhd. [394869-A]

DILUKIS OLEH: MMM | DIREKA OLEH: OS | DISEMAK OLEH: ARS | DILULUSKAN OLEH: ANM

IR. SABUDIN BIN MOHD. SALLEH — TIMBALAN PENGARAH (KANAN) AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH — TIMBALAN PENGARAH AWAM, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD — JURUTERA PROJEK, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

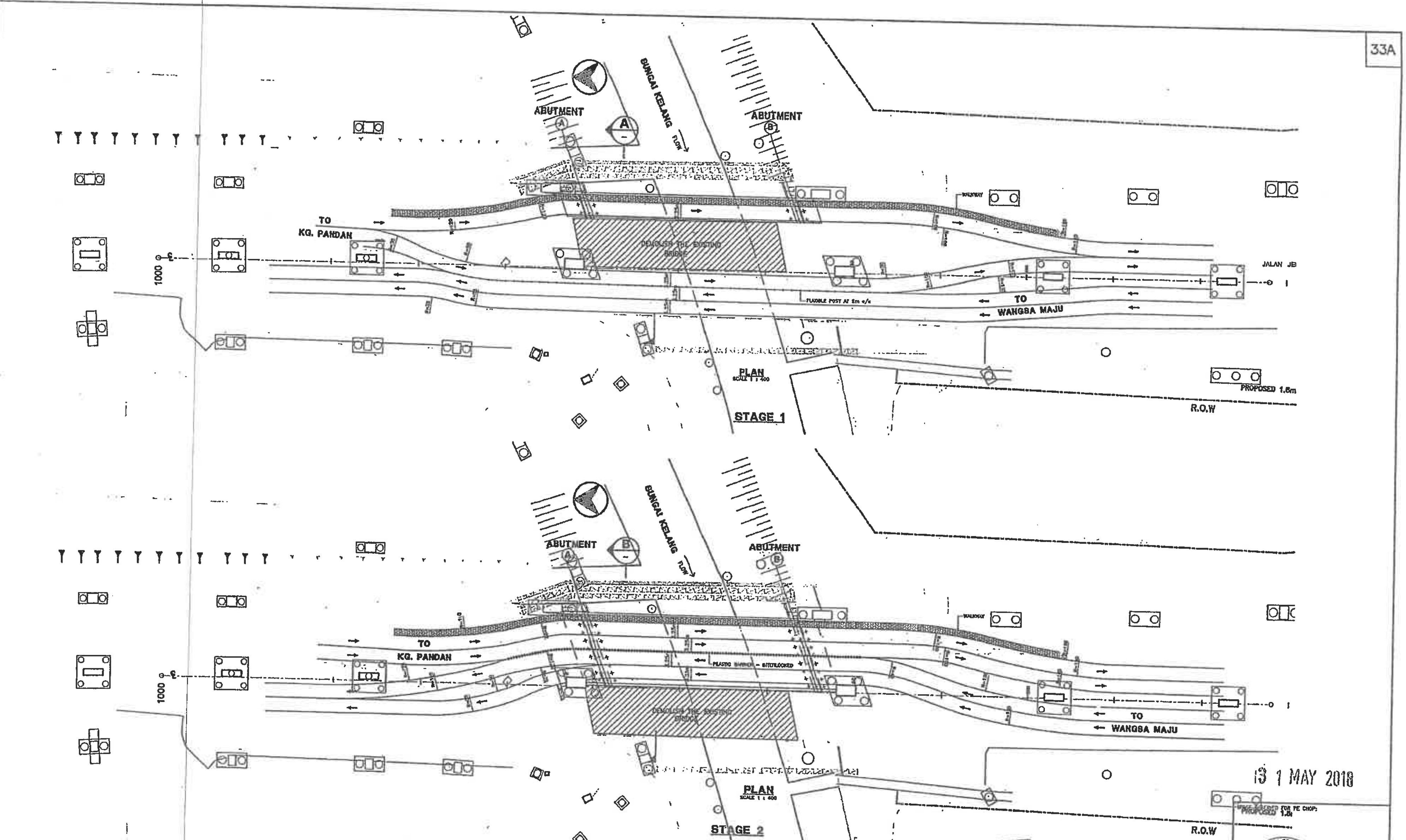
TUAN HAJI ADNAN HAMID BIN SURIP — PENGARAH, JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG — SEQUENCE OF CONSTRUCTION (2 OF 3)

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/ST/12 | REV. —



13 1 MAY 2018

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MASTER COPY

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN ANYA MEMATUHI KEHENDAK PIHAK KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

JURUTERA PROFESIONAL AWAM IR. ZAFRUL MAHMOOD C18133

TARIKH	BUTIRAN	RUJUKAN	SKALA:
			AS SHOWN
	PINDAAN		

ranhill consulting sdn. bhd. (394869-A)

DIREKA OLEH: ARS
DILUKIS OLEH: DS
DISEMAK OLEH: ARS
DILULUSKAN OLEH: ANM

IR. ... MOHD. SALLEH
TIMBALAN PENGARAH ... AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT HAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

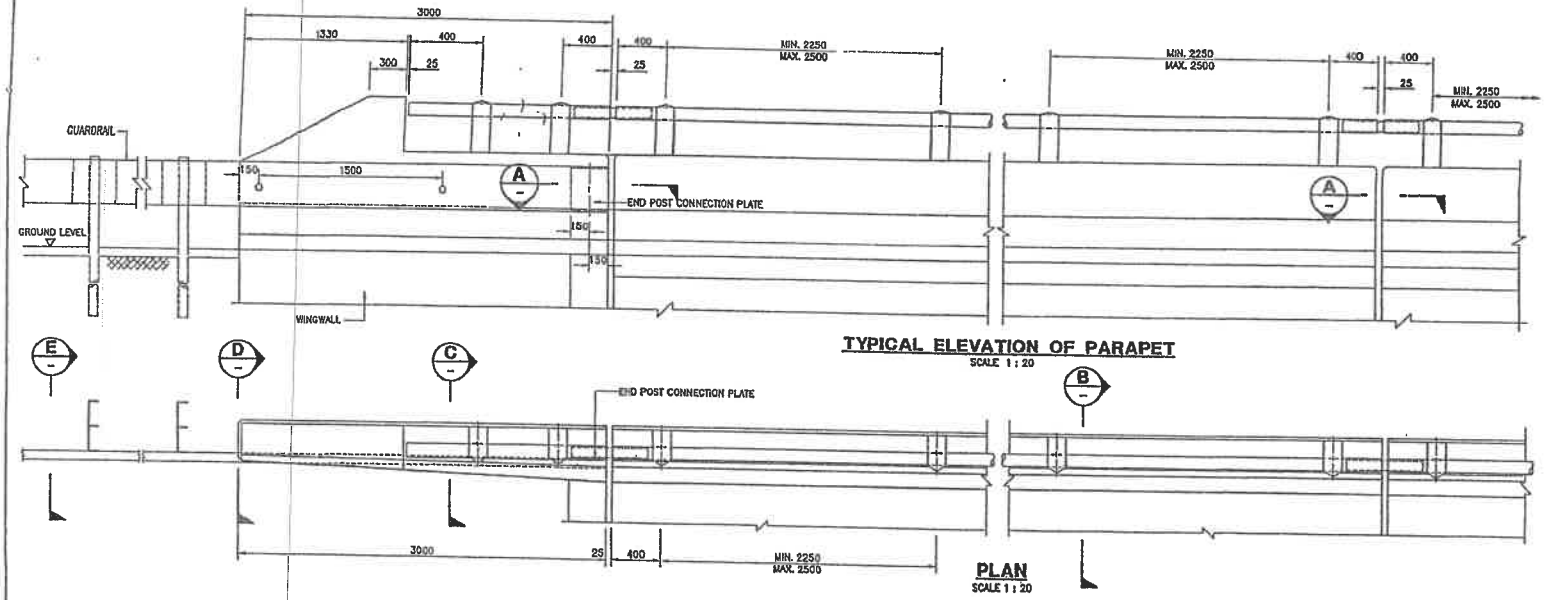
TUAN HAJI MD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

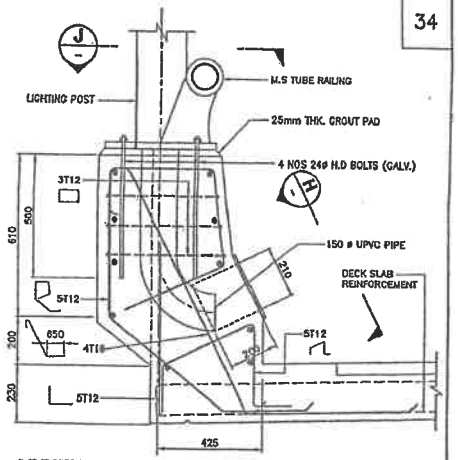
TAJUK LUKISAN: BRIDGE OVER SG. KELANG SEQUENCE OF CONSTRUCTION (3 OF 3)

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/ST/12A | REV. -



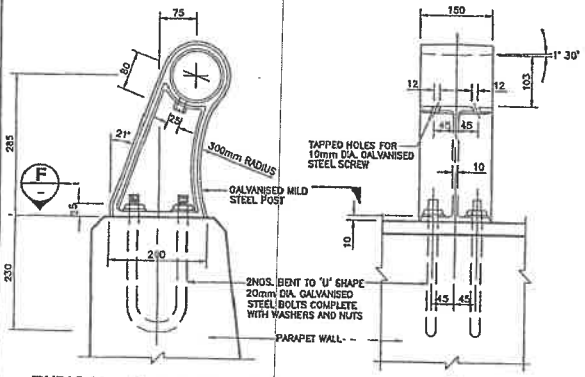
TYPICAL ELEVATION OF PARAPET
SCALE 1 : 20

PLAN
SCALE 1 : 20



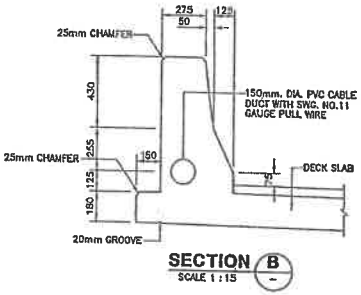
ADDITIONAL REINFORCEMENT AT DETAILS OF STREET LIGHTING POST SUPPORT
SCALE 1 : 10

NOTES:
1) U.P.V.C. CABLE DUCT FOR BRIDGE PARAPET WALL SHALL BE CONFORMED ACCORDING TO THE RELEVANT BRIDGE SECTIONS DETAIL.

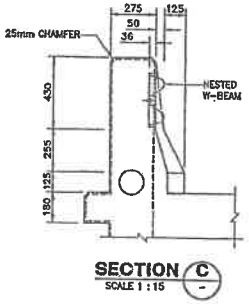


TYPICAL CROSS SECTION
SCALE 1 : 5

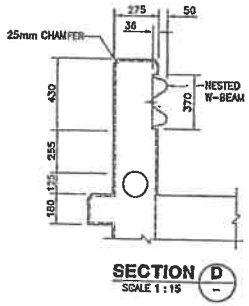
ELEVATION DETAILS OF HANDRAIL
SCALE 1 : 5



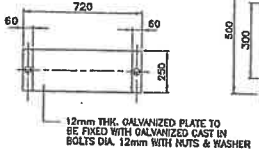
SECTION B
SCALE 1 : 15



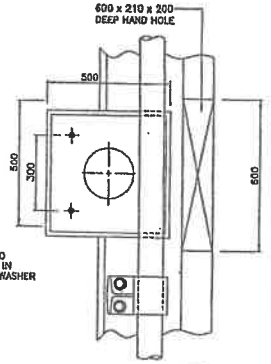
SECTION C
SCALE 1 : 15



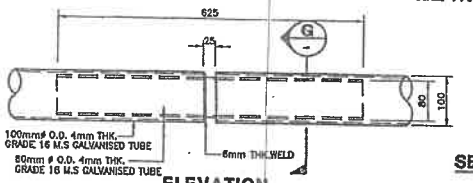
SECTION D
SCALE 1 : 15



VIEW H
SCALE 1 : 10



SECTION J
SCALE 1 : 10

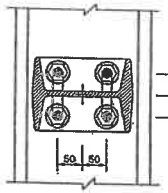


ELEVATION

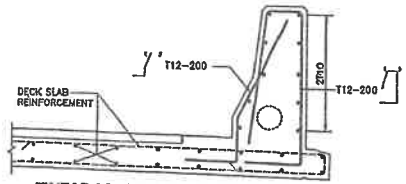
SLIDING JOINT DETAIL
SCALE 1 : 5

SECTION G

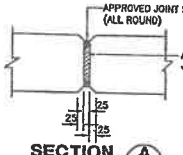
SECTION E
SCALE 1 : 15



PLAN F



TYPICAL REINFORCEMENT DETAILS OF PARAPET
SCALE 1 : 15



SECTION A
SCALE 1 : 10

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31 MAY 2018

SPACE RESERVED FOR PE CHOP:

AIR TERA PROFESSIONAL
AHAM
M. ZAFRUL MAHMOOD
C18133

CONTROLLED COPY

CONSTRUCTION DRAWING

SAYA DENGAN BERTANGGUNGJAWAB MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL RUJUKAN SAYA DAN SAYA MEMATUHI KEHENDAK PIAWAI KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN RANCANGAN DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN

SKALA:

sashill consulting sdn. bhd. (384068-A)

DIREKA OLEH : MMM
DILUKIS OLEH : DS
DISEMAK OLEH : ARS
DILULUSKAN OLEH : ANM

IR. SAUDDI BIN HJ. MOHD. SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PERANCANGAN BANDAR

IR. AZLI SHAN BIN ALI BASHAH
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PERANCANGAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PENUH
JABATAN KEJURUTERAAN AWAM DAN PERANCANGAN BANDAR

TUAN HAJI MOHD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PERANCANGAN BANDAR

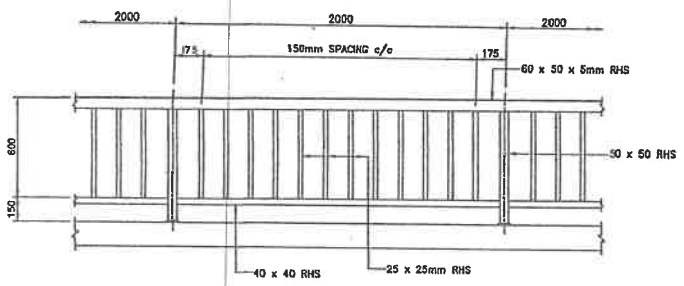
PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

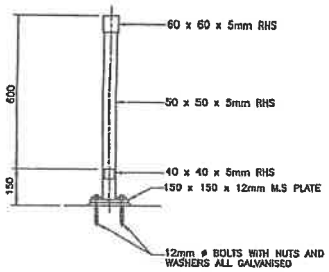
TAJUK LUKISAN: BRIDGE OVER SG. KELANG
NEW JERSEY PARAPET DETAILS

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/ST/13 | HEV. —

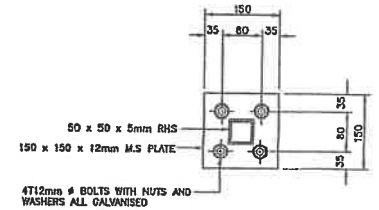
D:\DWG\1\TRANSPORTATION\RB-TRUSTEE\CAD\RB 631 - ADJUSTED\OTHER DRAWINGS-MARCH 2018 (BR3)_TS-RB631-ST-BR3-13.dwg 03/16/18 11:09



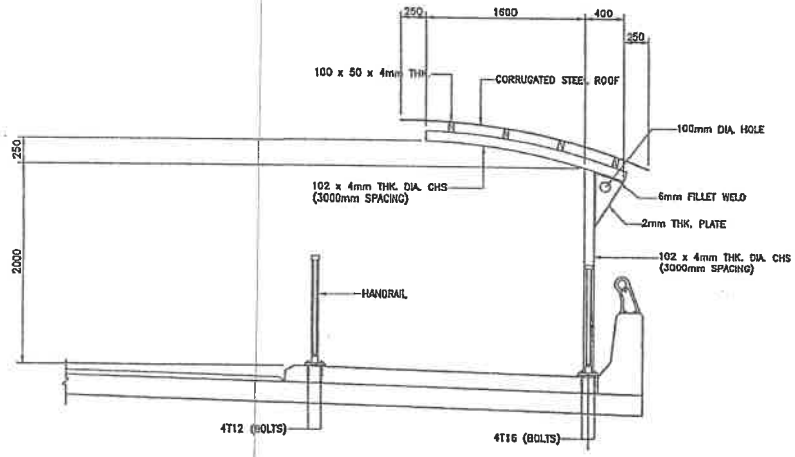
ELEVATION OF HANDRAIL
SCALE 1 : 15



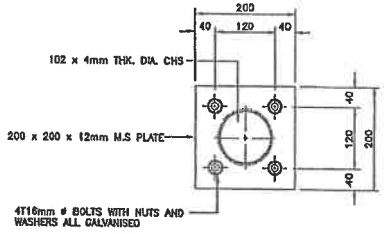
HANDRAIL POST
SCALE 1 : 10



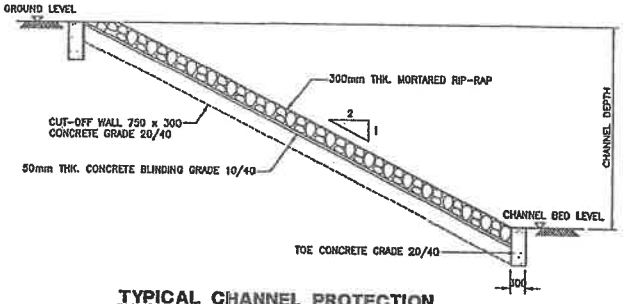
BASE PLATE FOR HANDRAIL
SCALE 1 : 5



DETAIL OF SHELTER FOR WALKWAY
SCALE 1 : 25



BASE PLATE FOR SHELTER WALKWAY
SCALE 1 : 5



TYPICAL CHANNEL PROTECTION
SCALE 1 : 50

31 MAY 2018

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CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH IUSA, REKABENTUK SAYA DAN SAYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN RANGKABENTUK DAN PRESTASI PROJEK INI.

SPACE RESERVED FOR PE ONLY

TARIKH	BUTIRAN	RUJUKAN
	PADAM	

SKALA :

ranhill consulting sdn. bhd. (394869-A)

DIUKUR OLEH : MMM

DILUKIS OLEH : ALZ

DISEMAK OLEH : ARS

DILULUSKAN OLEH : ANM

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PENAKK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK : DEWAN BANDARAYA KUALA LUMPUR

KUASA KERJA : CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

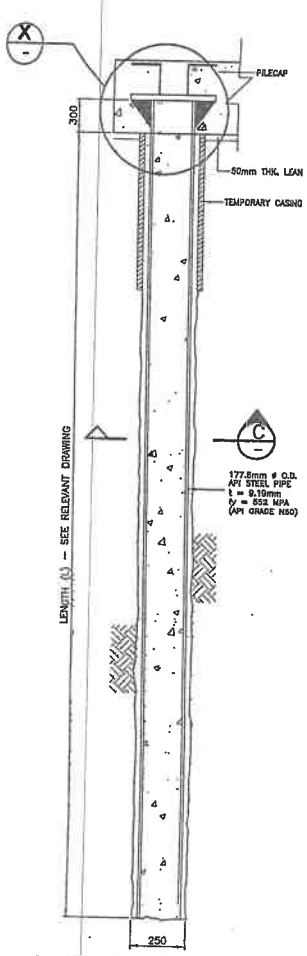
TAJUK LUKISAN : BRIDGE OVER SG. KELANG
HANDRAIL AND WALKWAY SHELTER DETAILS

TARIKH : APRIL 2018

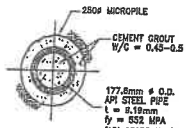
NO. LUKISAN : RB 6305/BR3/ST/14

REV. : —

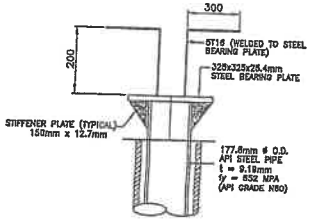
FILENAME : L:\TRANSPORTATION\RB-TRUSTEE\CAD\RB 631 - JELATEK\TENDER DRAWINGS-MARCH 2016 (BR3)\ T5-RB631-ST-BR3-15.dwg 03/16/16 11:37



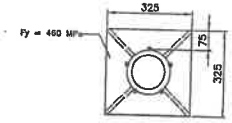
SECTIONAL ELEVATION OF MICROPILE
N.T.S.



SECTION C
SCALE 1 : 10



DETAIL X
N.T.S.



STEEL PLATE
N.T.S.

GENERAL NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUCTION WITH ALL OTHER RELEVANT DRAWINGS AND DISCREPANCIES IF ANY SHALL BE RESOLVED PRIOR TO THEIR EXECUTION.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
3. ALL LEVELS AND ELEVATIONS SHALL BE JOINTLY CONFIRMED AT SITE PRIOR TO COMMENCEMENT OF THE WORKS.
4. CONSTRUCTION SHALL COMPLY FOLLOWING CODES OF PRACTICE :
   - FOUNDATION – BS 8004
   - STRUCTURAL – BS 8400
   - REINFORCEMENT – BS 4449
5. IN THE EVENT OF A DISCREPANCY BETWEEN THE NOTES OF THIS DRAWING AND NOTES IN OTHER RELEVANT DRAWINGS, THE CONTRACTOR SHALL VERIFY AND CONFIRM WITH THE S.O SUCH DISCREPANCY.
6. ALL LEVEL TO BE JOINTLY CONFIRMED AT SITE BEFORE COMMENCEMENT OF WORK.

NOTES FOR MICROPILES:

1. API STEEL PIPE SHALL BE 177.8mm O.D. t = 9.19mm
   fy = 552 N/mm² (API N80).
   fcu GROUT = 30 N/mm² (28 DAYS)
2. IN CASE OF DIFFICULTY IN OBTAINING API PIPE ABOVE. CONTRACTOR MAY SUBMIT ALTERNATIVE PROPOSAL FOR ENGINEER'S REVIEW.
3. BEFORE COMMENCEMENT OF WORK CONTRACTOR SHALL SUBMIT COMPLETE METHOD STATEMENT FOR ENGINEER APPROVAL.
4. TEMPORARY CASING SHALL BE USED TO MAINTAIN STABILITY OF BOREHOLE IF NECESSARY.
5. WHERE PERMANENT CASING ARE REQUIRED, THE CONTRACTOR NEED TO INFORM THE S.O REPRESENTATIVE AT SITE FOR APPROVAL.
6. PILE CUT-OFF LEVEL SHALL BE DECIDED ON SITE.
7. VERTICAL TOLERANCE OF THE PILE SHALL BE 1 : 75 WHILE POSITIONAL TOLERANCE ON PLAN SHALL BE 75mm.

DRAWING REFERENCE

1. RB 6305/BR3/ST/03.
   - PILING LAYOUT PLAN.
2. RB 6305/BR3/ST/03A.
   - PILE SCHEDULE FOR NEW BRIDGE (ABUTMENT A)
3. RB 6305/BR3/ST/03B.
   - PILE SCHEDULE FOR NEW BRIDGE (ABUTMENT B)

01

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15 MAR 2019

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN HANYA MEMATUHI KEHENDAK PIHAK KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

SPACE RESERVED FOR PE ENDR

TARIKH	BUTIRAN	RUJUKAN	SKALA:
15/03/2019	REVISED AS PER CLOUDED	01	
	PINDAAN		

ranhill consulting sdn. bhd. (394669-A)

DIREKA OLEH : KAK
DILUKIS OLEH : NAS
DISEMAK OLEH : ARR
DILULUSKAN OLEH : SBT

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. S.JEYAPALAN
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

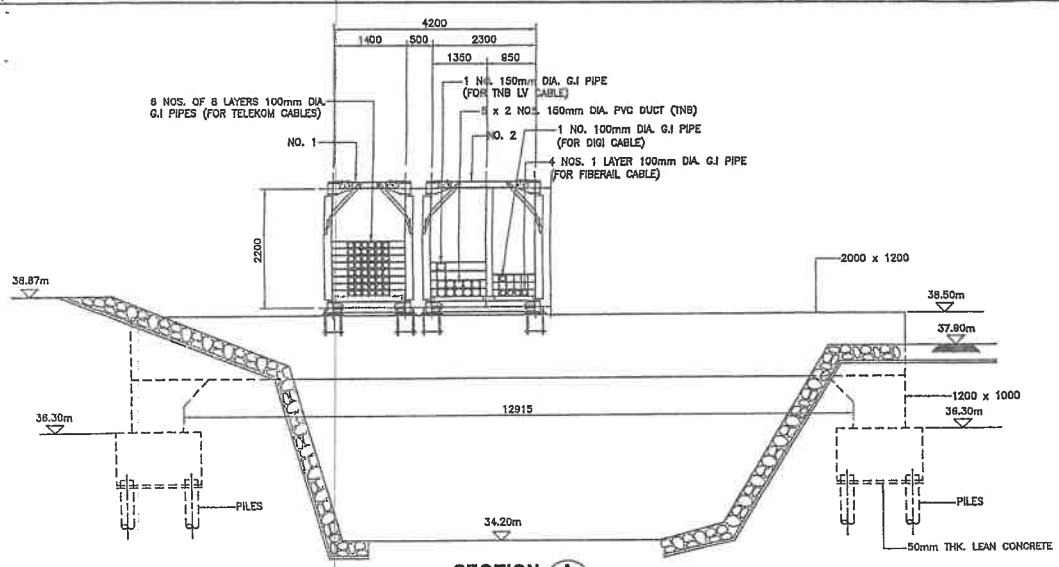
TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG DI JALAN JELATEK, KUALA LUMPUR

TAJUK LUKISAN: BRIDGE OVER SG. KELANG 01
250mm DIA. MICROPILE DETAILS

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/ST/15 | REV. 01



SECTION A (ST/16)
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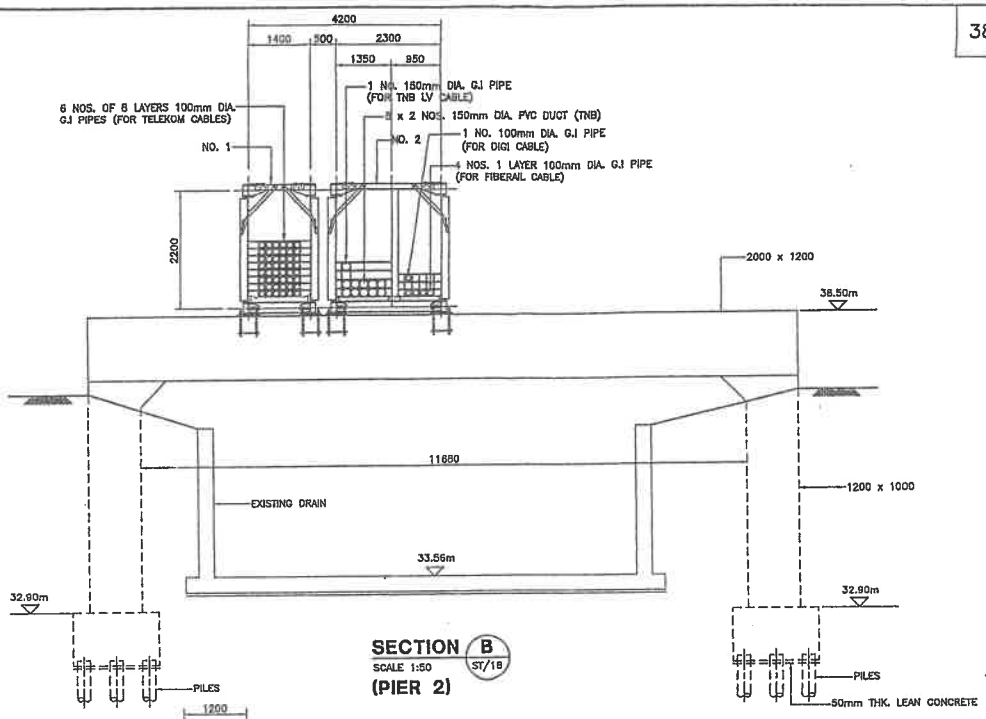
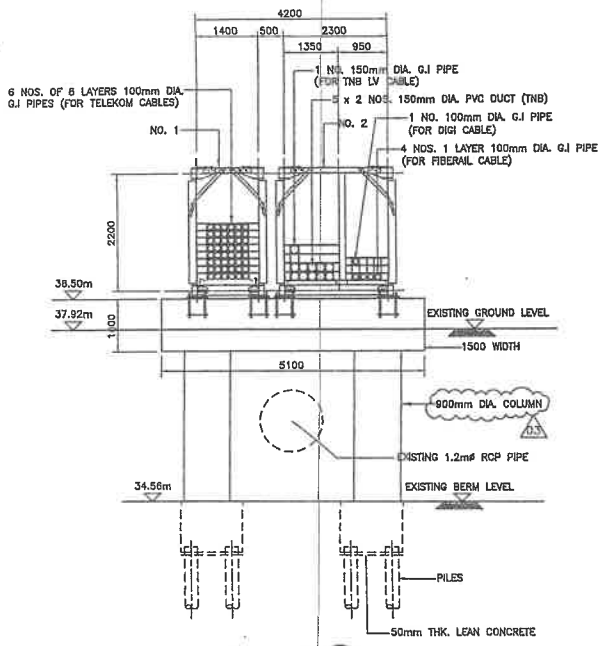
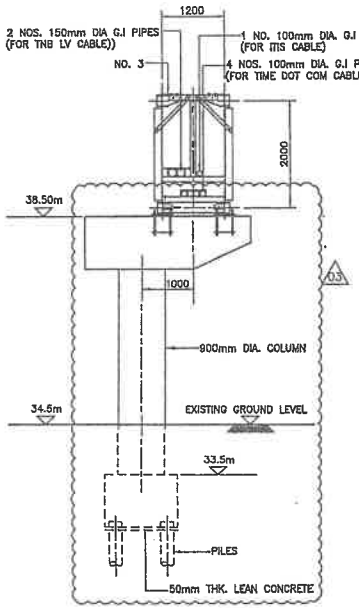
(PIER 1)



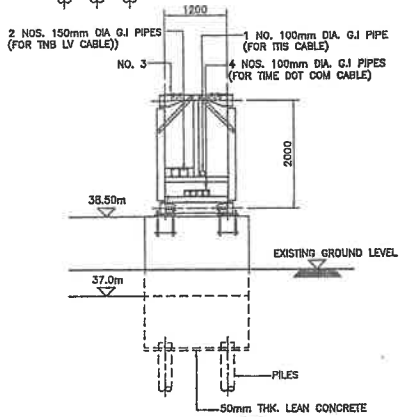
SECTION B (ST/18)
SCALE 1:50
(PIER 2)



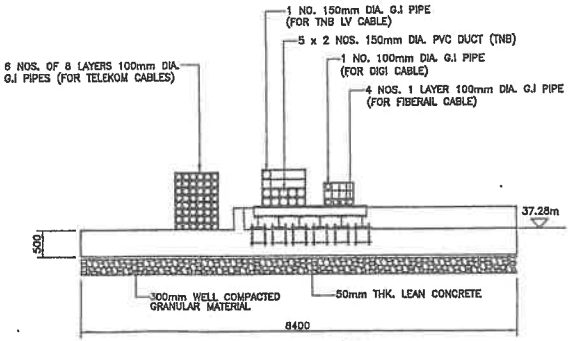
SECTION C (ST/16)
SCALE 1:50
(PIER 3)



SECTION D (ST/16)
SCALE 1:50
(PIER 4)



SECTION E (ST/16)
SCALE 1:50
(PIER 5)



SECTION F (ST/16)
SCALE 1:50
(ABUTMENT A1)

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RECEIVED 18/3/19
27 DEC 2018

SPACE RESERVED FOR PE CHOP:

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CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN MANA MENGIKUTI KEHENDAK PIAWAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN
24-08-18	REVISED AS SHOWN	01
01-11-18	REVISED AS SHOWN	02
26-12-18	REVISED AS SHOWN	03

PINDAAN

SKALA: AS SHOWN

ranhill consulting sdn. bhd. (394869-A)

DIREKA OLEH :	
MMM	
DILUKIS OLEH :	DISEMAK OLEH :
DS/ALZ	ARS
DILULUSKAN OLEH :	
ANM	

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. SJEYAPALAN
TIMBALAN PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

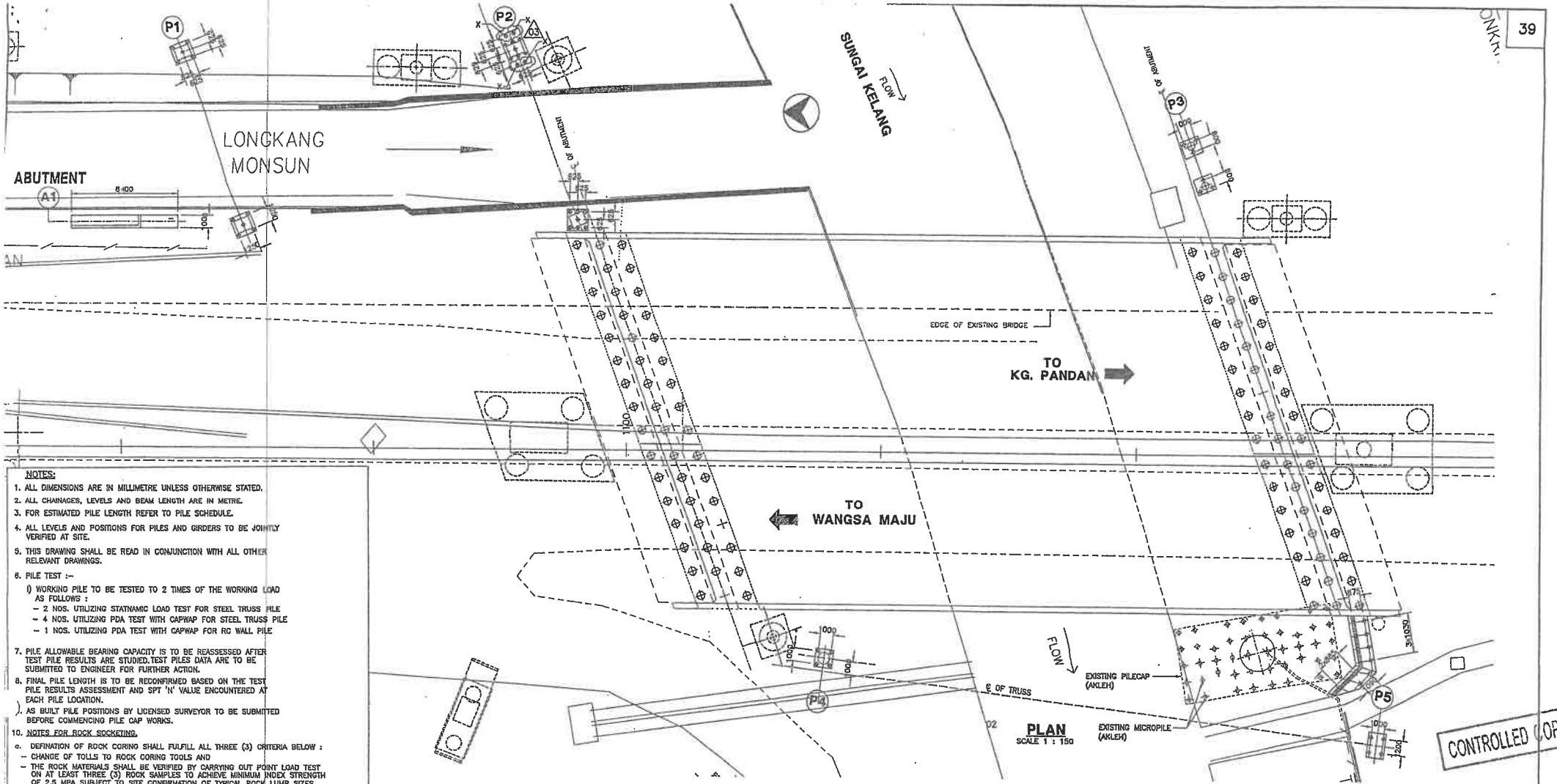
TUAN HAJI ABD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
STEEL TRUSS – SECTION

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/ST/17 | REV. 03



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRE UNLESS OTHERWISE STATED.
2. ALL CHAINAGES, LEVELS AND BEAM LENGTH ARE IN METRE.
3. FOR ESTIMATED PILE LENGTH REFER TO PILE SCHEDULE.
4. ALL LEVELS AND POSITIONS FOR PILES AND GIRDERS TO BE JOINTLY VERIFIED AT SITE.
5. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
6. PILE TEST :-
   i) WORKING PILE TO BE TESTED TO 2 TIMES OF THE WORKING LOAD AS FOLLOWS :
   - 2 NOS. UTILIZING STATNAMIC LOAD TEST FOR STEEL TRUSS PILE
   - 4 NOS. UTILIZING PDA TEST WITH CAPWAP FOR STEEL TRUSS PILE
   - 1 NOS. UTILIZING PDA TEST WITH CAPWAP FOR RC WALL PILE
7. PILE ALLOWABLE BEARING CAPACITY IS TO BE REASSESSED AFTER TEST PILE RESULTS ARE STUDIED.TEST PILES DATA ARE TO BE SUBMITTED TO ENGINEER FOR FURTHER ACTION.
8. FINAL PILE LENGTH IS TO BE RECONFIRMED BASED ON THE TEST PILE RESULTS ASSESSMENT AND SPT 'N' VALUE ENCOUNTERED AT EACH PILE LOCATION.
9. AS BUILT PILE POSITIONS BY LICENSED SURVEYOR TO BE SUBMITTED BEFORE COMMENCING PILE CAP WORKS.
10. NOTES FOR ROCK SOCKETING.

a. DEFINATION OF ROCK CORING SHALL FULFILL ALL THREE (3) CRITERIA BELOW :
   - CHANGE OF TOLLS TO ROCK CORING TOOLS AND
   - THE ROCK MATERIALS SHALL BE VERIFIED BY CARRYING OUT POINT LOAD TEST ON AT LEAST THREE (3) ROCK SAMPLES TO ACHIEVE MINIMUM INDEX STRENGTH OF 2.5 MPA SUBJECT TO SITE CONFIRMATION OF TYPICAL ROCK LUMP SIZES BASE ON THE SIZE CORRECTION FACTOR, $F = (D_E/50)^{0.45}$ WHERE OF IS EQUIVALENT CORE DIAMETER IN MM AND
   - RECOVERED ROCK MATERIAL OF MORE THAN 70% SUBJECT TO SITE CALIBRATION UPON START WORK UNLESS OTHERWISE AGREED BY THE ENGINEER.

b. ANY OTHER MATERIAL THAT DO NOT FULFILL THE DEFINATION OF THE ROCK CORING METHOD ABOVE SHALL BE CONSIDERED BORING IN SOIL.

c. CORING INTO INCLINED ROCK SURFACE, LIMESTONE PINNACLES, CAVITIES AND SOIL BELOW BOULDER/BOULDER SHALL BE CONSIDERED AS BORING IN SOIL.

d. ROCK CORING LENGTH SHALL BE MEASURED FROM THE FLATTENED HORIZONTAL BEDROCK SURFACE. THIS FLAT HORIZONTAL SURFACE SHALL BE PROVED USING KELLY BAR OR STEEL BAR AT MINIMUM OF FIVE POSITION OVER THE BOREHOLE TO CONFIRM ROCK CORING DEFINATION.

LEGEND

⊕ – DENOTES 250mm DIA MICROPILE.

PILE SCHEDULE FOR STEEL TRUSS FOUNDATION

INDEX	PILE DIA.	PILE TYPE	WORKING LOAD ON SINGLE PILE	PILE NOS.	ESTIMATED PILE LENGTH BELOW CUT-OFF WITH ROCK SOCKET (m)	ROCK SOCKET LENGTH (m)
P1	250 mm	MICRO PILE	400 kN	10	18.0	–
P2	250 mm	MICRO PILE	400 kN	14	18.0	–
P3	250 mm	MICRO PILE	400 kN	8	34.5	1.5
P4	250 mm	MICRO PILE	400 kN	4	22.0	–
P5	250 mm	MICRO PILE	400 kN	4	34.5	1.5
P2 ADDITIONAL PILE (X)	250 mm	MICRO PILE	400 kN	4	45.0	–

PILE SCHEDULE FOR RC WALL FOUNDATION

PILE DIA.	PILE TYPE	WORKING LOAD ON SINGLE PILE	PILE NOS.	ESTIMATED PILE LENGTH BELOW CUT-OFF WITH ROCK SOCKET (m)	ROCK SOCKET LENGTH (m)
250 mm	MICRO PILE	200 kN	13	32.0	–

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RECEIVED 15 MAR 2019

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH BAGI KEMBENTUK SAYA DAN UNTUK MEMATUHI KEHENDAK PERATURAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN RAKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN
24-08-18	REVISED AS SHOWN	01
26-12-18	REVISED AS SHOWN	02
15-03-19	REVISED AS SHOWN	03

SKALA:

PINDAAN

tanhill consulting sdn. bhd. [394889-A]

DIREKA OLEH : MMM/KAK

DILUKIS OLEH : DS/NAS

DISEMAK OLEH : ARS/ARR

DILULUSKAN OLEH : ANM/SBT

IR. SABUDIN BIN MOHD. SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

EN. S.JEYAPALAN
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PEMILIK : DEWAN BANDARAYA KUALA LUMPUR

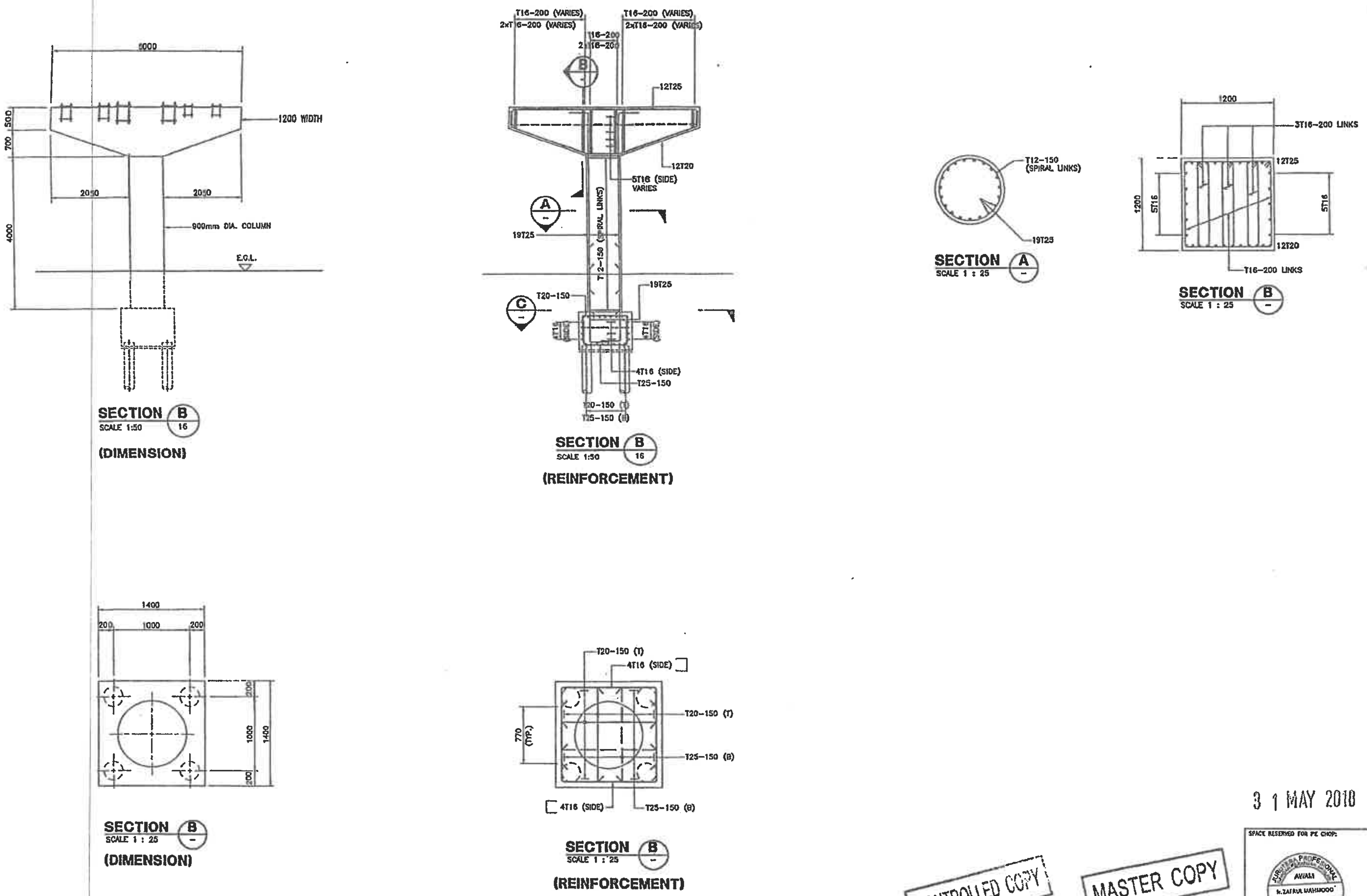
NAMA KERJA : CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN : BRIDGE OVER SG. KELANG
STEEL TRUSS – PILING LAYOUT PLAN

TARIKH : APRIL 2018

NO. LUKISAN : RB 6305/BR3/ST/18

REV. 03



5000
500
700
1200 WIDTH
2050
2050
4000
900mm DIA. COLUMN
E.G.L.
SECTION B 16
SCALE 1:50
(DIMENSION)
T16-200 (VARIES)
2xT16-200 (VARIES)
12T25
12T20
5T16 (SIDE) VARIES
19T25
T12-150 (SPIRAL LINKS)
T20-150
4T16 (SIDE)
T25-150
T20-150 (T)
T25-150 (B)
SECTION B 16
SCALE 1:50
(REINFORCEMENT)
T12-150 (SPIRAL LINKS)
19T25
SECTION A
SCALE 1 : 25
1200
3T16-200 LINKS
12T25
12T20
5T16
T16-200 LINKS
SECTION B
SCALE 1 : 25
1400
200
1000
200
SECTION B
SCALE 1 : 25
(DIMENSION)
T20-150 (T)
4T16 (SIDE)
T25-150 (B)
770 (TYP.)
SECTION B
SCALE 1 : 25
(REINFORCEMENT)

3 1 MAY 2018

SPACE RESERVED FOR PE CHOP:

AWAM
Ir. ZAFRUL MAHMOOD
C15133

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MASTER COPY

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN UNTUK MEMATUHI KEHENDAK PIHAK KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN	SKALA
			AS SHOWN
	PINDAAN		

sanhill consulting sdn. bhd. (394869-A)

DIREKA OLEH: MMM
DILUKIS OLEH: ALZ
DISEMAK OLEH: ARS
DILULUSKAN OLEH: ANM

IR. SABUDIN BIN MOHD SALLEH
TIMBALAN PENGARAH KANAN AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

IR. AZLI SHAH BIN ALI BASHAH
PENGARAH AWAM
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

CHE MAT NAWI BIN MAT DAUD
JURUTERA PROJEK
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

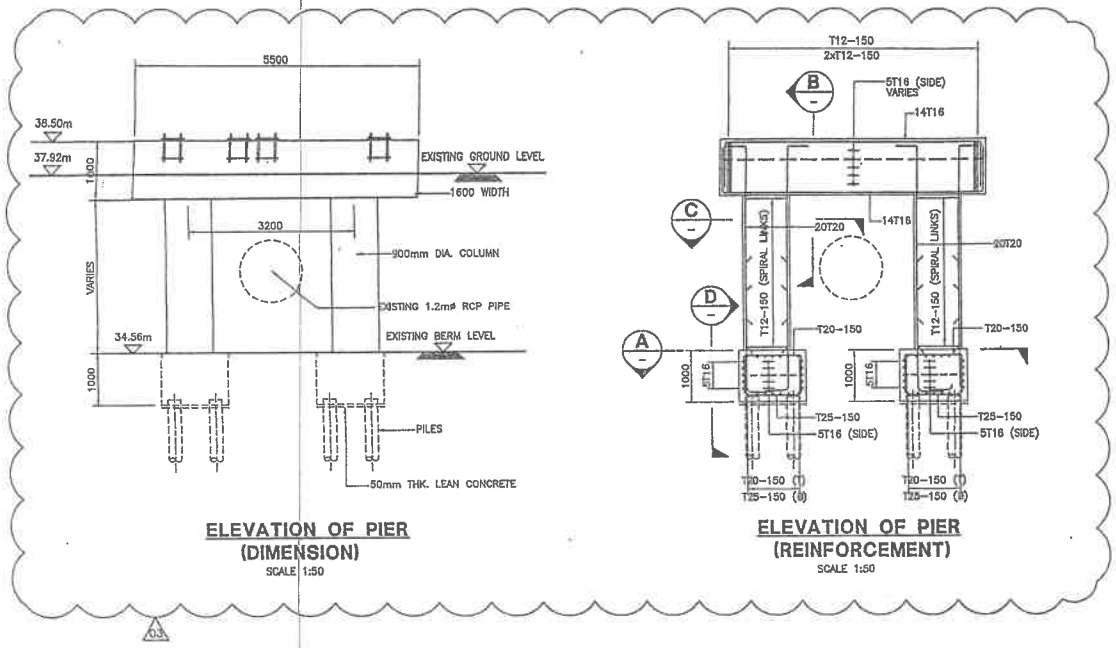
TUAN HJ MOHD. HAMID BIN SURIP
PENGARAH
JABATAN KEJURUTERAAN AWAM DAN PENGANGKUTAN BANDAR

PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

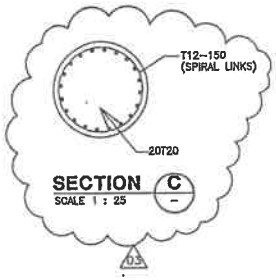
TAJUK LUKISAN: BRIDGE OVER SG. KELANG
STEEL TRUSS – DIMENSION & REINFORCEMENT DETAIL (PIER 1)

TARIKH: APRIL 2018 | NO. LUKISAN: RB 831/BR3/ST/19 | REV. –

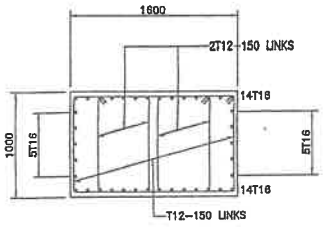


ELEVATION OF PIER
(DIMENSION)
SCALE 1:50

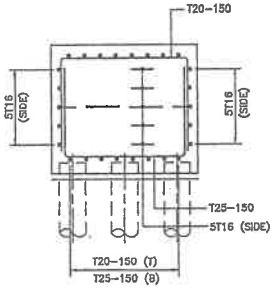
ELEVATION OF PIER
(REINFORCEMENT)
SCALE 1:50



SECTION C
SCALE 1 : 25



SECTION B
SCALE 1 : 25



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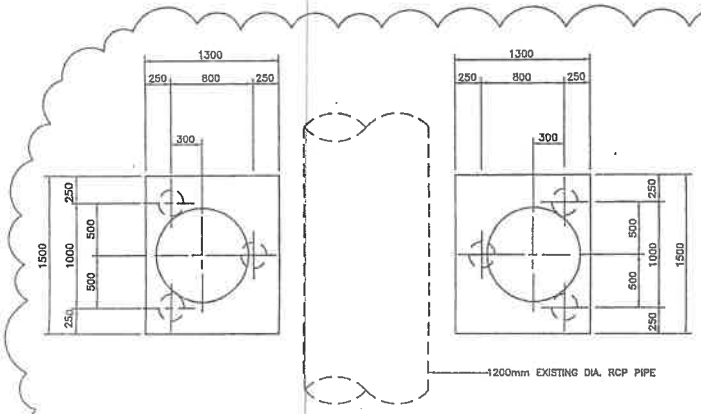
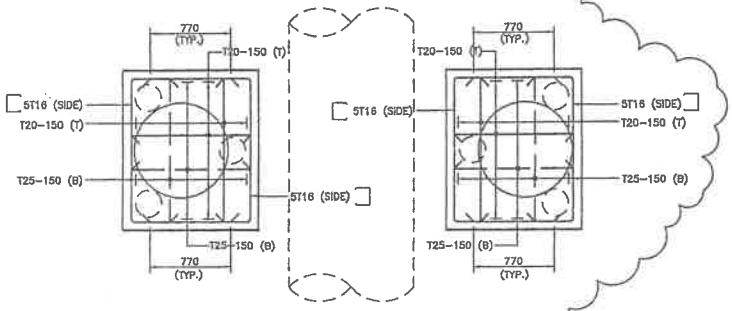
SCALE 1 : 25



SECTION A
SCALE 1 : 25
(DIMENSION)



SECTION A
SCALE 1 : 25
(REINFORCEMENT)

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27 DEC 2018

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2 7 DEC 2018

SPACE RESERVED FOR PE CHOP:

CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN SAYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN BANGUNTUK DAN PRESTASI PROJEK INI.

TARIKH	BUTIRAN	RUJUKAN
24-08-18	REVISED AS SHOWN	01
01-11-18	REVISED AS SHOWN	02
26-12-18	REVISED AS SHOWN	03
	PINDAAN	

SKALA: AS SHOWN

ranhill consulting sdn. bhd. [384869-A]
DIREKA OLEH : MMM
DILUKIS OLEH : ALZ
DISEMAK OLEH : ARS
DILULUSKAN OLEH : ANM

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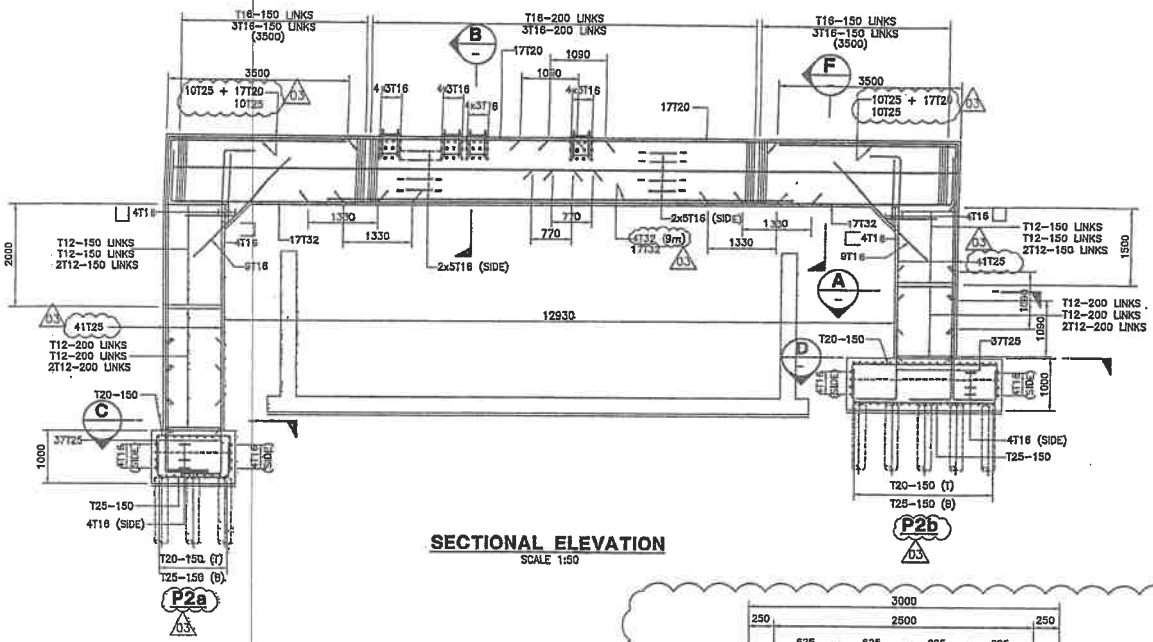
PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

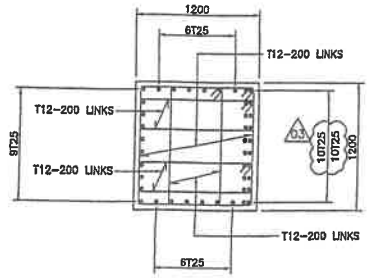
NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG
STEEL TRUSS – DIMENSION & REINFORCEMENT DETAIL (PIER 3)

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/ST/19A | REV. 03



SECTIONAL ELEVATION
SCALE 1:50



SECTION A
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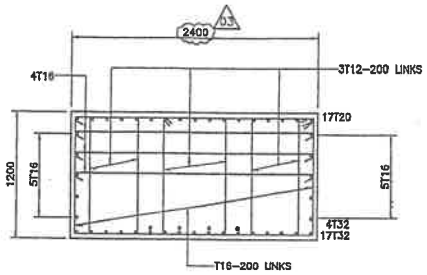
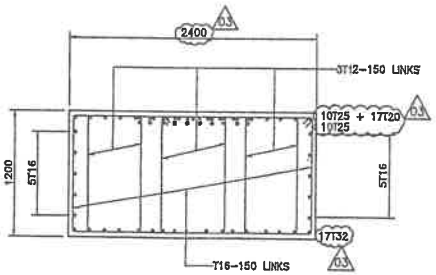
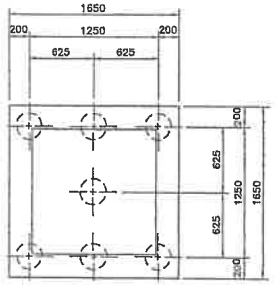


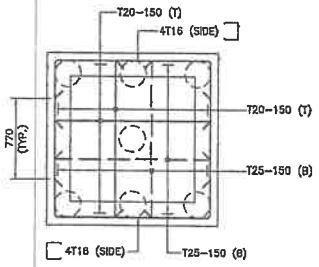
SECTION B
SCALE 1 : 25



SECTION F
SCALE 1 : 25

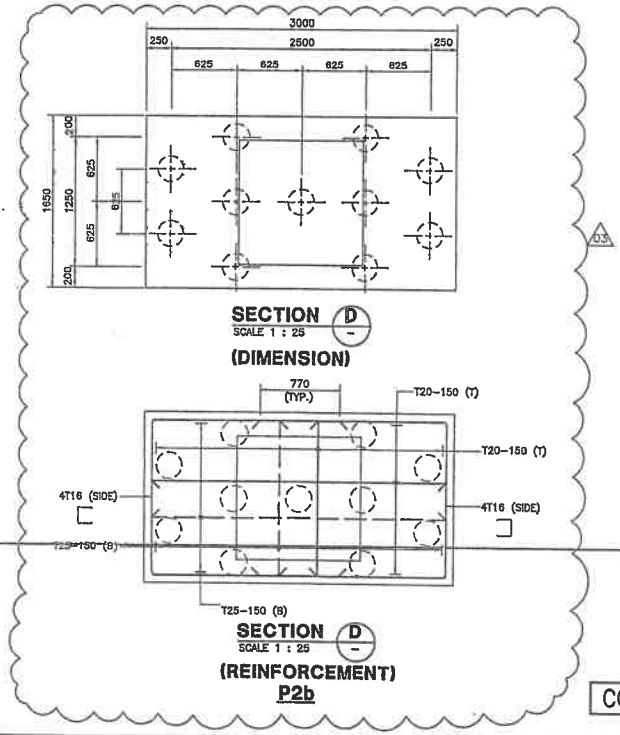


SECTION C
SCALE 1 : 25
(DIMENSION)



SECTION C
SCALE 1 : 25
(REINFORCEMENT)

P2a



SECTION D
SCALE 1 : 25
(DIMENSION)

SECTION D
SCALE 1 : 25
(REINFORCEMENT)

P2b

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16/3/19
15 MAR 2019

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CONSTRUCTION DRAWING

SAYA DENGAN INI MENGESAHKAN KERJA-KERJA YANG TERDAPAT DI DALAM LUKISAN INI ADALAH HASIL REKABENTUK SAYA DAN DAYA MEMATUHI KEHENDAK PIAWAIAN KEJURUTERAAN. SAYA BERTANGGUNGJAWAB SEPENUHNYA KE ATAS KESELURUHAN REKABENTUK DAN PRESTASI PADUK INI.

TARIKH	BUTIRAN	RUJUKAN
24-08-18	REBARS AMENDED AND PILES ADDED	01
04-12-18	REVISED AS SHOWN	02
15-03-19	REVISED AS SHOWN	03
	PERUBAHAN	

SKALA: AS SHOWN

ranhill consulting sdn. bhd. (394669-A)

DIREKA OLEH : MMM
DILUKIS OLEH : DS/ALZ
DISEMAK OLEH : ARS
DILUKUSAN OLEH : ANM

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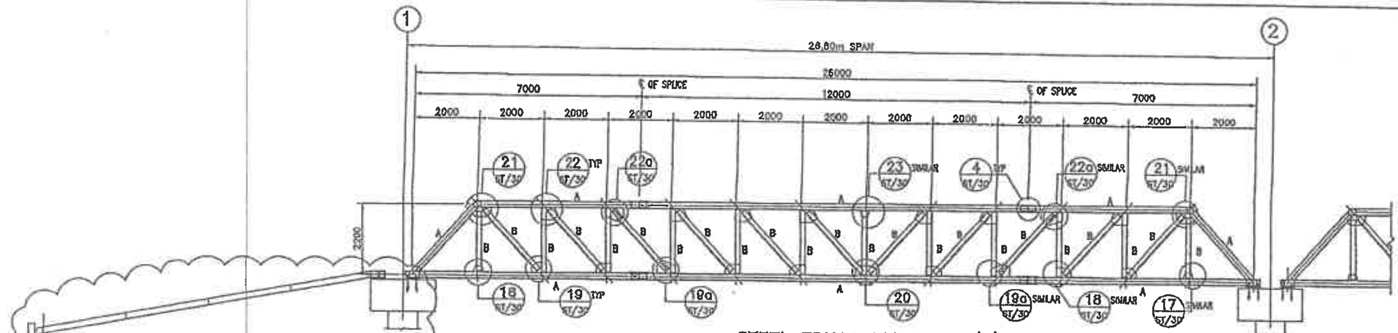
PEMILIK: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

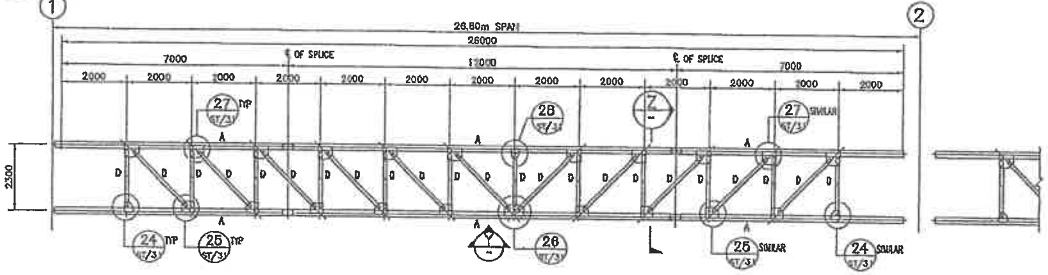
TAJUK LUKISAN: BRIDGE OVER SG. KELANG
STEEL TRUSS – DIMENSION & REINFORCEMENT DETAIL (PIER 2)

TARIKH: APRIL 2018 | NO. LUKISAN: RB 6305/BR3/ST/20 | REV. 03

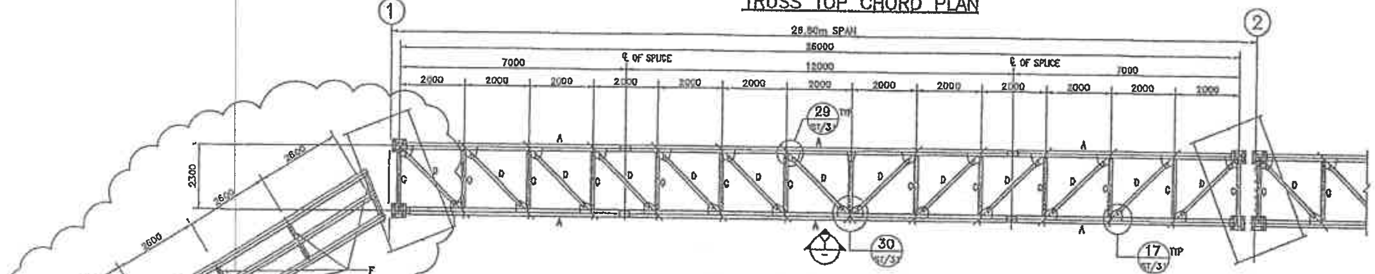
43A



STEEL TRUSS ELEVATION 'Y'

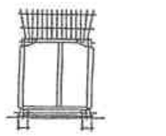


TRUSS TOP CHORD PLAN



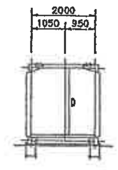
TRUSS BOTTOM CHORD PLAN

SCALE 1 : 75



SPIKE GUARD DETAIL AT ENTRANCE

SCALE 1 : 75



SECTION Z

SCALE 1 : 75

LOAD FOR UTILITIES

TRUSS SIZE (mm)	SPAN (m)	UTILITIES	WEIGHT kN/m
2300	28 AND 50	TIB, DIGI AND FIBERAIL	5

LEGEND:

1. H.S.F.G. – DENOTES HIGH STRENGTH FRICTION GRIP BOLT
2. H.S. – DENOTES HIGH STRENGTH BOLT (GRADE 8.8)
3. [FC] – DENOTES FIXED CONNECTION
4. [SC] – DENOTES SLIDING CONNECTION

STEEL MEMBERS SCHEDULE

SECTION MARK	SECTION SIZE IN mm
A	152 x 152 x 30 kg/m UC
B	120 x 120 x 12 THK. ANGLE
C	152 x 89 x 16 kg/m UB
D	100 x 100 x 10 THK. ANGLE
E	203 x 203 x 86 kg/m UC
F	203 x 203 x 23 kg/m UC

NOTES

1. FABRICATION & ERECTION OF STRUCTURAL STEEL SHALL CONFORM WITH THE PROVISIONS OF BS5950. CONTRACTOR SHALL SUBMIT TO ENGINEER FOR APPROVAL A DETAILED METHOD STATEMENT OF ERECTION OF THIS STRUCTURE TOGETHER WITH ALL NECESSARY CALCULATIONS DULY ENDORSED BY A REGISTERED PROFESSIONAL ENGINEER BEFORE PROCEEDING WITH ACTUAL ERECTION WORK.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH OTHER RELEVANT ARCHITECTURAL, STRUCTURAL AND SERVICES DRAWINGS. IN CASE OF ANY DISCREPANCY BEING NOTICED, ENGINEER-IN-CHARGE MUST BE INFORMED PRIOR TO COMMENCEMENT OF WORK.
3. ALL THE STRUCTURAL STEEL (ROLLED SECTIONS, PLATES, ANGLES) SHALL BE OF GRADE 43A HAVING A MINIMUM YIELD STRENGTH OF 275 MPa.
4. FOR BOLTS ,USE B.S. GRADE 8.8 UNLESS OTHERWISE STATED (DIAMETER OF HOLES TO BE BOLTS DIAMETER +2mm)
5. ONE SET OF APPROPRIATE NUT & WASHER SHALL BE USED WITH EVERY BOLT.
6. WELDING ELECTRODES E7018 (LOW HYDROGEN TYPE) MUST BE USED.
7. SURFACE PREPARATION OF ALL STRUCTURAL STEEL MEMBERS SHALL BE BY BLAST-CLEANING BEFORE APPLICATION OF PAINT. BLAST-CLEANED SURFACES SHALL MEET SURFACE CLEANLINESS OF GRADE Sa 2.5 OF ISO 8501-1 : 1988 (BS 7079 : PART A1 : 1989).
8. THE PAINTING SHALL CONFORM TO THE FOLLOWING SCHEME:
   1st. COAT – ZINC RICH EPOXY PRIMER (NOT LESS THAN 50 MICRONS DFT)
   2nd. COAT – EPOXY MICACEOUS IRON OXIDE
   3rd. COAT – POLYURETHANE FINISH
   TOTAL MINIMUM DRY FILM THICKNESS = NOT LESS THAN 200 MICRONS
9. CONTRACTOR TO CONFIRM AND SUBMIT TO ENGINEER AS BUILT DIMENSION OF PILE CAP PRIOR TO FABRICATION OF TRUSSES.
10. APPLY PRECAMBER OF 30mm AT MIDSPAN.

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CONSTRUCTION DRAWING

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TARIKH	BUTIRAN	BILANGAN	SKALA
18-10-18	REVISED AS SHOWN	01	AS SHOWN
18-04-19	REVISED AS SHOWN	02	
	PINDAAN		

ranhill consulting sdn. bhd. (384669-A)

DIREKA OLEH: MMM
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PENULIS: DEWAN BANDARAYA KUALA LUMPUR

NAMA KERJA: CADANGAN MENGGANTIKAN JAMBATAN KONKRIT SEDIAADA KEPADA JAMBATAN KONKRIT BARU MERENTANGI SUNGAI KELANG, DI JALAN JELATEK, KUALA LUMPUR.

TAJUK LUKISAN: BRIDGE OVER SG. KELANG STEEL TRUSS ELEVATION 28.80m – (NO. 3)

TARIKH: APRIL 2018 | BIL. LUKISAN: RB 6305/BR3/ST/22A | REV. 02

FILENAME: E:\TRANSPORTATION\RB-TRUSTEE\CAD\BRIDGE DIVISION\RB 631 – Ampang Jelatek\3) DRGS AFTER JAN 2018\BR3-BRIDGE OVER SG KELANG\7) STEEL TRUSS DTLS 24-02-2017\ RB631-UTILITES-ELEV-1.dwg 02/24/17 11:05