HUNG KIU (MYANMAR) GARMENT MANUFACTURING LIMITED (INNDAKAW)

Environmental Management Plan

Manufacturing of Garment on (CMP) Basic

Prepared by

MYANWEI ENVIRONMENTAL SOLUTIONS

Myanwei Environmental Solutions Company Limited

20-Jun-22

MYANWEI
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Date: 20. 6. 2022

Attention: Dear Director

Environmental Conservation Department

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of Garment by Hung Kiu (Myanmar) Garment Manufacturing Limited. (Inndakaw).

EMP report describes the environmental condition of a project, including significant impact, formulation of mitigation measures and preparation of institutional requirements and environmental monitoring.

Myanwei Environmental Solutions Company Limited has prepared this report with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking into account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

We strongly commit that this report was prepared in compliance with Myanmar Environmental Laws and Regulations.

MYANWEI ENVIRONMENTAL SOLUTIONS COMPANY LIMITED
No.....
Date.....

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Hung Kiu (Myanmar) Garment Manufacturing Ltd.

Factory2: No.35/9, Yangon-Mandalay Road, Inndakaw Bago Township, Bago Region.

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Date: 20, 6, 2022

Dear: Director

Environmental Conservation Department

Subject: Environmental Management Plan (EMP) Report in respect of the Manufacturing of Garment

We refer to the captioned EMP report, which has been prepared by Myanwei Environmental Solutions Co., Ltd. (Third Party Consultant) in compliance with EIA procedure (2015) and other related laws/rules.

We believe, to the best of our knowledge at the time of writing, that;

- The EMP report is accurate and complete
- The EMP report has been prepared in strict compliance with all applicable laws, rules, regulations and procedures in force.

Hung Kiu (Myanmar) Garment Manufacturing Limited (Inndakaw) will at all times comply fully with all commitment and obligations in the EMP report.

We acknowledge and understand that

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Abbreviation

1. CEMP = Construction Environmental Management Plan
2. CSR = Corporate Social Responsibility
3. EMP = Environmental Management Plan
4. EIA = Environmental Impact Assessment
5. ECD = Environmental Conservation Department
6. ECC = Environmental Compliance Certificate
7. EMoP = Environmental Monitoring Plan
8. GIIP = Good International Industry Practices
9. HSE = Health, Safety and Environment
10. IEE = Initial Environmental Examination
11. IFC = International Finance Corporation
12. NEQG = National Environmental Quality (Emission) Guidelines
13. MIC = Myanmar Investment Commission
14. MOECAF = Ministry of Environmental Conservation and Forestry
15. MONREC = Ministry of Natural Resources and Environmental Conservation
16. OEMP = Operation Environmental Management Plan
17. OSHA = Occupational Safety and Health Administration
18. PPE = Personal Protective Equipment
19. WHO = Word Health Organization
20. BESB = Bago City Electricity Supply Board

အစီရင်ခံစာအကျဉ်းချုပ်

နိဒါန်း

Hungkiu (Myanmar) Garment Manufacturing Limited (Hung Kiu) သည် အဝတ်အထည်အမျိုးမျိုး ချုပ်လုပ်ခြင်း လုပ်ငန်းအတွက် ရင်နှီးမြှုပ်နှံသော ကုမ္ပဏီအသစ်ဖြစ်ပါသည်။ မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုလိုင်စင်ကို ၂၀၁၃ခုခုနှစ်၊ ဩဂုတ်လ၊ ၂၃ ရက်နေ့တွင် (ခွင့်ပြုမိန့်အမှတ်-၆၀၄/၂၀၁၃)ဖြင့် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်မှ ရရှိပြီးဖြစ်ပါသည်။ လုပ်ငန်းလည်ပတ်ရန်အတွက် မြန်မာနိုင်ငံသယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဝန်ကြီးဌာန (MONREC) ၏ အတည်ပြုချက်ရယူရန် လိုအပ်ကြောင်း ကော်မရှင်မှ မှာကြားခဲ့ပါသည်။ ထို့ကြောင့် မြန်မာနိုင်ငံပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဥပဒေ (၂၀၁၂)အရ၊ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (EMP) ပြုလုပ်ရန် လိုအပ်ကြောင်း ၂၀၁၆ ခုနှစ်၊ ဇန်ဇဝါရီလ၊ ၁၄ ရက်နေ့တွင် (စာအမှတ်၊ ပဲခူး/သယံဇာတ (၂၆/၂၀၁၆)ဖြင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန ပဲခူးတိုင်းဒေသကြီးမှ သဘောထားမှတ်ချက် ရရှိပြီးဖြစ်ပါသည်။

အဆိုပြုထားသော စီမံကိန်း	အဝတ်အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း
ရင်းနှီးမြှုပ်နှံမှုပုံစံ	၁၀၀ % နိုင်ငံခြားသားရင်းနှီးမြှုပ်နှံမှု
ကုမ္ပဏီအမည်	Hung Kiu (Myanmar) Garment Manufacturing Limited
အဆိုပြုရင်းနှီးမြှုပ်နှံမှုကာလ	နှစ် ၃၀
စုစုပေါင်းမြေကွက်ဧရိယာ	၉.၇၃ ဧက (၃၉၃၆၈ စတုရန်းမီတာ)
အဆောက်အဦး ဧရိယာ	အဆောင် A ကုန်ထုတ်လုပ်မှုအဆောင် (၁၂၀ မီတာ × ၆၅.၈ မီတာ) အဆောင် B ကုန်ထုတ်လုပ်မှုအဆောင် (၁၀၀ မီတာ × ၆၅.၈ မီတာ) အဆောင် C ကုန်ထုတ်လုပ်မှုနှင့် ကုန်ချောအဆောင် (၈၀ မီတာ × ၆၀ မီတာ) အဆောင် D ကုန်ကြမ်းဂိုထောင် (၅၀ မီတာ × ၇၇ မီတာ) အဆောင် E လူနေသုံးထပ်အဆောင် (၄၂ မီတာ × ၁၈ မီတာ)
ဆက်သွယ်ရန်	Sai Paing Soe Lwin @Johnny 09 768374006, 09960623300 lily@hungkiu.com.mm, No.35/9, Yangon-Mandalay Road, Inndakaw, Bago Township, Bago Region, Myanmar

ထို့ကြောင့် သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန (MONREC) ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဦးစီးဌာန (ECD)၏ ထုတ်ပြန်ထားသော ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်ခြင်း လုပ်ထုံးလုပ်နည်း (EIA Procedure) ၂၀၁၅ အတိုင်း Hung Kiu သည် စက်ရုံအတွက် (EMP) အစီအရင်ခံစာ ရေးဆွဲခဲ့ပါသည်။ EMP

အစီအရင်ခံစာရေးဆွဲရန် တတိယအဖွဲ့အစည်းဖြစ်သော Myanwei Environmental Solutions Company Limited (Myanwei)မှ တာဝန်ယူရေးဆွဲခဲ့ပါသည်။ EMP အစီအစဉ်တွင် စက်ရုံတွင်ဖြစ်ပေါ်စေနိုင်သော ပတ်ဝန်းကျင်နှင့်လူမှုဘဝအပေါ် ဆိုကျိုးသက်ရောက်မှု များကို လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် စောင့်ကြပ်ကြည့်ရှုရေး အစရှိသည့် အစီအစဉ်များပါဝင်ပါသည်။ ၎င်း EMP အစီအစဉ်များကို အကောင်အထည်ဖော်ရန်အတွက် Hung Kiu သည် စက်ရုံတွင် ကျန်းမာရေး၊ ဘေးအန္တရာယ်ကင်းရှင်းရေးနှင့် ပတ်ဝန်းကျင်ဆိုင်ရာ အဖွဲ့အစည်းတစ်ခုထားရှိပြီး လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် စောင့်ကြပ်ကြည့်ရှုရေး အစီအစဉ်များကို အကောင်အထည်ဖော်သွားမည်ဖြစ်သည်။

ဥပဒေနှင့် မူဝါဒဆိုင်ရာ အချက်အလက်များ

EMP ရေးဆွဲရခြင်း၏ရည်ရွယ်ချက်မှာ နိုင်ငံတော်နှင့် နိုင်ငံတကာမှ ချမှတ်ထားသော ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးအစီအစဉ်များ၊ စည်းမျဉ်းစည်းကမ်းများ၊ ဥပဒေနှင့် နည်းဥပဒေများကို လိုက်နာပြီး ပတ်ဝန်းကျင်နှင့် လိုက်ရောညီထွေမှုရှိသော ထိခိုက်မှု လျော့ချရေး အစီအစဉ်များ ပြုလုပ်ရန်ဖြစ်ပါသည်။ ပတ်ဂန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာ ရေးသားပြုစုသူများ၏ ကျွမ်းကျင်မှု နယ်ပယ်ဆိုင်ရာ ဖော်ပြချက်များကို ရေးသားဖော်ပြထားပါသည်။ ဥပဒေနှင့် နည်းဥပဒေ အခန်းတွင် MONREC မှ ထုတ်ပြန်ထားသည့် ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်းများ၊ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များအပြင်စက်ရုံနှင့် ဆက်စပ်သက်ဆိုင်နေပြီး လိုက်နာရမည့် ဥပဒေနှင့် နည်းဥပဒေများ၊ ဒေသတွင်း သို့မဟုတ် အပြည်ပြည်ဆိုင်ရာ သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုပတ်ဝန်းကျင်ဆိုင်ရာ မူဝါဒများ၊ ဆက်စပ်နေသည့် နိုင်ငံတကာသဘောတူချက်များကို အကျဉ်းချုပ်ရေးသားဖော်ပြထားပါသည်။ စက်ရုံအတွင်းလိုက်နာ ဆောင်ရွက်ရမည့် စည်းမျဉ်းစည်းကမ်းများ၊ လုပ်ငန်းခွင် အန္တရာယ်ကင်းရှင်းရေးနှင့် ကျန်းမာရေးဆိုင်ရာ အခြေခံစည်းမျဉ်းစည်း ကမ်းများလည်း ထည့်သွင်းဖော်ပြထားပါသည်။ Hung Kiu ၏ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဆိုင်ရာ ကတိကဝတ်များအပြင် ပတ်ဝန်းကျင်ထိခိုက်မှုလျော့ချရေး မူဝါဒများကိုလဲ ထည့်သွင်းဖော်ပြထားပါသည်။

1. The Constitution Law, 2008
2. The Environmental Conversation Law, 2012
3. The Environmental Conversation Rule, 2014
4. Environmental Impact Assessment Procedure, 2015
5. National Environmental Quality (Emission) Guideline, 2015
6. National Myanmar Environmental Policy, 2019
7. Foreign Investment Law, 2012
8. Foreign Investment Rule, 2013

9. Myanmar Investment Rule, 2017
10. Myanmar Insurance Law, 1993
11. Payment of Wages Law, 2016
12. The Payment of Wages Act, 1936
13. Yangon City Development Committee Law, 2018
14. The Amended Law for Factories Act, 1951 (2016)
15. The Private Industrial Enterprise Law
16. The Export and Import Law, 2012
17. The Prevention of Hazard from Chemical and Related Substances Law, 2013
18. The Underground Water Act
19. Myanmar Fire Brigade Law, 2015
20. Fire Safety Procedure
21. The Electricity Law, 2014
22. Boiler Law, 2015
23. Labor Dispute Settlement Law, 2012
24. The Law Amending the Settlement of Labor Dispute Law, 2019
25. The Social Security Law, 2012
26. The Employment and Skill Development, 2013
27. The Worker's Compensation Act, 1923
28. The Leave and Holidays Act (1951, partially reused in 2014)
29. The Minimum Wage Law, 2013
30. Public Health Law, 1972
31. Prevention and Control of Communicable Disease Law (1995 Amendment in 2011)
32. Occupational Safety and Health Law, 2019
33. The Law on Standardization

34. လုပ်ငန်းခွင်သုံးပေါက်ကွဲစေတတ်သော ဝတ္ထုပစ္စည်းများဆိုင်ရာ ဥပဒေ၊ (2018)

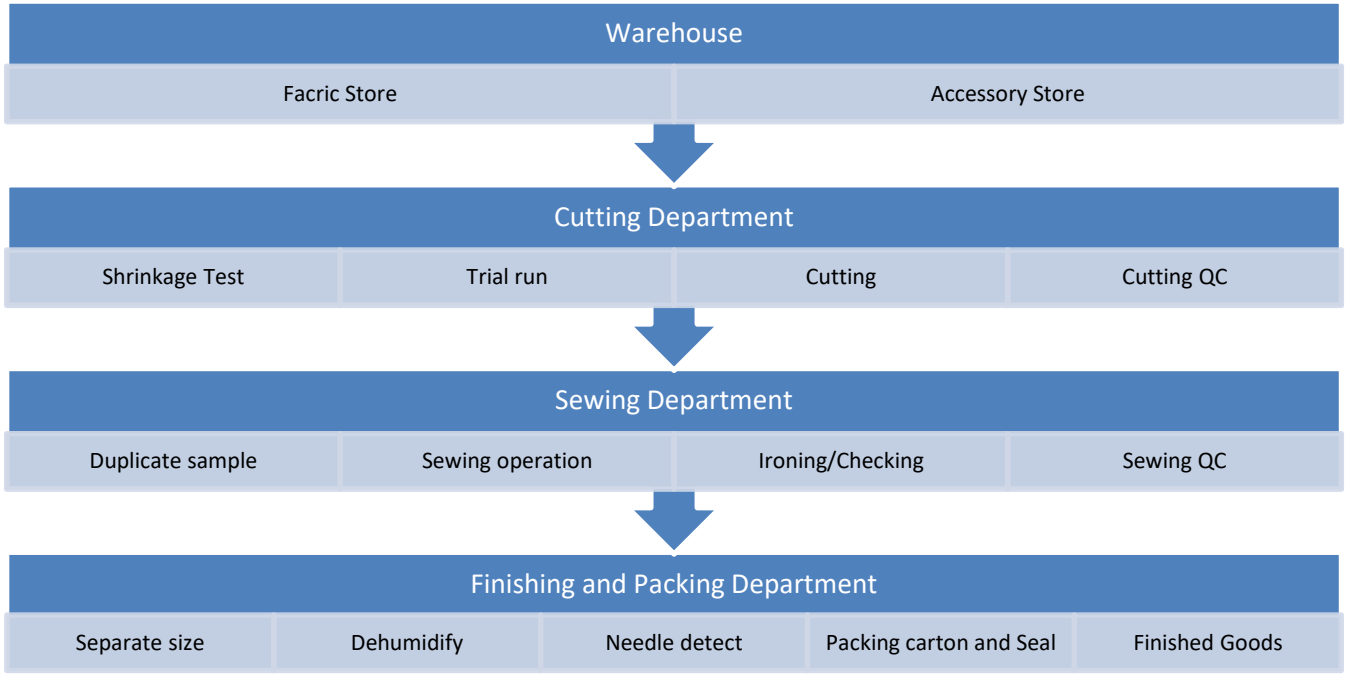
35. The Motor Vehicles Law, 2015

36. The Conversation of Water Resources and River Law, 2006

37. The Commercial Tax Law (1990 Amended 2014)

<u>စီမံကိန်းအကြောင်းအရာဖော်ပြချက်</u>

Hung Kiu ၏ အထည်ချုပ်စက်ရုံသည် အမှတ် (၃၅/၉)၊ ရန်ကုန်မန္တလေးလမ်းမ၊ အင်းတကော်ကျေးရွာ၊ ပဲခူးမြို့နယ်၊ ပဲခူးတိုင်းဒေသကြီးတွင် တည်ရှိပါသည်။ စက်ရုံ၏အကျယ်အဝန်းမှာ ၉ ဒသမ ၇၃ ဧက ရှိပြီး ဝန်းအတွင်းတွင် အဆောက်အဦး ၅ လုံးရှိပါသည်။ အဓိကအထည်ချုပ်လုပ်ငန်းအတွက် အဆောက်အဦး ၂ လုံးရှိပြီး (Building A နှင့် Building B) တို့ဖြစ်ပြီး Building C တွင်ကုန်ထုတ်လုပ်မှုနှင့် ကုန်ချောပစ္စည်းများသိုလှောင်၍ Building D တွင် ကုန်ကြမ်းပစ္စည်းသိုလှောင်ရန်ဖြစ်ပြီး၊ Building Eတွင် လူနေသုံးထပ်အဆောင်ဖြစ်ပါသည်။ လုပ်သားစားသောက်ခန်း၊ မီးစက်ခန်းနှင့် ဘွိုင်လာခန်းကို သီးခြားစီ ဖွဲ့စည်းတည်ဆောက်ထားပါသည်။ စက်ရုံ၏ အဓိကထုတ်လုပ်သော ကုန်ပစ္စည်းများမှာ ကလေးဝတ်၊ အမျိုးသားဝတ်၊ အမျိုးသမီးဝတ်အဝတ်အစားတို့ဖြစ်ပါသည်။ စက်ရုံအတွက် လိုအပ်သော အသုံးပြုမှုများမှာ လျှပ်စစ်စွမ်းအင်၊ အရေးပေါ်အသုံးပြုသည့် မီးစက်၊ ဝန်ထမ်းများသုံးရန် ရေ အစရှိသည်တို့ဖြစ်ပါသည်။ စက်ရုံ၏ကုန်ထုတ်လုပ်မှုကြောင့် သဘာဝပတ်ဝန်းကျင်အပေါ် ဆိုးဆိုးဝါးဝါးထိခိုက်မှု မရှိကြောင်းလေ့လာတွေ့ ရှိခဲ့ပါသည်။ အထည်ချုပ်လုပ်ငန်းဖြစ်ပါသည်။ စက်ရုံတွင် လျှပ်စစ်စွမ်းအင်၊ ဒီဇယ်သုံး မီးစက်များ၊ စက်ရုံအတွင်းရေအသုံးပြုမှု စသည်တို့လိုအပ်ပါသည်။ လျှပ်စစ်ကို အထည်ချုပ်လုပ်ငန်းများတွင် မီးအလင်းရောင်အသုံးပြုခြင်းအတွက်လည်း အဓိကသုံးပါသည်။ နှစ်စဉ်ကုန်ထုတ်လုပ်မှုမှာ ပထမနှစ်မှ (၁၀) နှစ်အတွင်း အထည်ရေ ၆၃၀၀၀၀၀ မှ ၇၉၀၀၀၀၀ ဖြစ်ပါသည်။ ပထမနှစ်မှ (၁၀) နှစ်အတွင်း နိုင်ငံခြားသားလုပ်သား (၂၀) ဦး နှင့် နိုင်ငံသား (ပြည်တွင်း) လုပ်သား (၂၂၄၅) ဦးဖြင့် ဆောင်ရွက်သွားမည်ဖြစ်သည်။ ကုန်ကြမ်းပစ္စည်းများကို တရုတ်နိုင်ငံမှတင်သွင်းပါသည်။ မီးစက်အတွက် ဒီဇယ်လောင်စာအသုံးပြုမှုမှာ တစ်လလျှင် ၃,၀၀၀ ဂါလံ ဖြစ်ပါသည်။ ပိတ်ဖြတ်စအပါအဝင် အခြားသော စက်ရုံထွက်အမှိုက်များကို ပဲခူးမြို့တော် စည်ပင်သာယာရေးကော်မတီနှင့် ချိတ်ဆက်၍ စွန့်ပစ်ပါသည်။



ကုန်ထုတ်လုပ်ပုံအဆင့်ဆင့်

ပတ်ဝန်းကျင်အခြေအနေ အကျဉ်းချုပ်ဖော်ပြချက်

လက်ရှိပတ်ဝန်းကျင်၏ ပတ်ဝန်းကျင်ဆိုင်ရာအချက်အလက်နှင့်အခြေခံလေ့လာမှုများဖြစ်သည့် ပတ်ဝန်းကျင်အရည်အသွေးတိုင်းတာခြင်းများကို ၂၀၁၈ ခုနှစ်၊ စက်တင်ဘာလ၊ ၆ ရက်နေ့တွင် ပြုလုပ်ခဲ့ပါသည်။ စက်ရုံအတွင်းအပူချိန်နှင့် စိုထိုင်းမှုတိုင်းတာတာခြင်း၊ ဆူညံသံတိုင်းတာခြင်းနှင့် လုပ်ငန်းခွင် အလင်းအခြေအနေ တိုင်းတာခြင်းများကို ပြုလုပ်ခဲ့ပြီး ရလဒ်များကို နောက်ဆက်တွဲတွင် အသေးစိတ် ဖော်ပြထားပါသည်။ ထို့အပြင် စက်ရုံတည်နေရာနှင့် သက်ဆိုင်သည့် အချက်အလက်များဖြစ်သော လူမှုစီးပွားအခြေအနေ၊ ရှုပပတ်ဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ဇီဝပတ်ဝန်းကျင်ဆိုင်ရာ အချက်အလက်များ၊ ရာသီဥတုဆိုင်ရာ အချက်အလက်များ အစရှိသည့်များကို ပဲခူးတိုင်းဒေသကြီး၊ ပဲခူးမြို့နယ်ရှိတရားဝင်ပြဋ္ဌာန်းထားသော မြို့နယ်ဆိုင်ရာအချက်အလက်များမှ ကိုးကား ဖော်ပြထားပါသည်။

ပတ်ဝန်းကျင်ထိခိုက်မှုနှင့် လျော့ချရေး အစီအစဉ်

စက်ရုံအကောင်အထည်ဖော်မှုကြောင့် ပတ်ဝန်းကျင်နှင့်လူမှုဘဝအပေါ် ပြောင်းလဲစေနိုင်သော ကောင်းကျိုးနှင့် ဆိုးကျိုးများကိုသိရှိစေရန် စက်ရုံအတွင်း ကွင်းဆင်းလေ့လာခြင်း၊ သက်ဆိုင်ရာစက်ရုံတာဝန်ခံများနှင့် ဆွေးနွေးတိုင်ပင်ခြင်းများအပြင် EMP အတွက်လေ့လာရေးအဖွဲ့မှ ပတ်ဝန်းကျင်အခြေအနေများကို စစ်တမ်းကောက်ယူခြင်းများ ပြုလုပ်ပြီး ပတ်ဝန်းကျင်အခြေအနေများအပေါ် ဆိုးကျိုးထိခိုက်မှုများကို လျှော့ချနိုင်ရန် လေ့လာခဲ့ပါသည်။ ပတ်ဝန်းကျင်ထိခိုက်မှုကို လေ့လာဆန်းစစ်ရာတွင် စီမံကိန်းကာလအတွင်း ထိခိုက်မှုတစ်ခုချင်းစီ၏ ပမာဏ၊ ကြာမြင့်ချိန်၊ ကျယ်ပြန့်မှုနှင့် ဖြစ်နိုင်ခြေတို့အား ဖော်ပြထားပါသည်။ စီမံကိန်းကာလအတွင်း ထိခိုက်မှုပမာဏ အသင့်အတင့်ရှိ (၁)ခု၊

အနည်းငယ် (၄)ခု နှင့် အလွန်နည်းသောပမာဏ (၂)ခု တို့ဖြင့် လေ့လာတွေ့ရှိခဲ့ပါသည်။ ပတ်ဝန်းကျင်နှင့် လူထုအပေါ် ထိခိုက်မှုနှင့် လျော့ချရမည့်အစီအစဉ်ကို အောက်ဖော်ပြပါဇယားတွင်ဖော်ပြထားပါသည်။

ပတ်ဝန်းကျင်လက္ခဏာ	ထိခိုက်မှု	ထိခိုက်မှုအကြောင်းအရာ	အရေးပါမှု	ပမာဏ	ကြာမြင့်ချိန်	ဖြစ်နိုင်ခြေ	သက်ရောက်ပုံ	ထိခိုက်မှုအမျိုးအစား	လျော့ချရေးနှင့် ထိန်းချုပ်မှု
လေထု	လေထုညစ်ညမ်းမှု	ဘွိုင်လာ၊ မီးစက်နှင့် မော်တော်ယာဉ်တို့မှ ဖုန်မှုန့်နှင့် အခိုးအငွေ့ CO, SO_2, NO_x and PM	၄	၃	၂	၃	၂၇	အနည်းငယ်	ဘွိုင်လာနှင့်မီးစက်တို့တွင် မီခိုးခေါင်းတိုင်တပ်ဆင်ခြင်းဖြင့် အခိုးအငွေ့ကြောင့် ပတ်ဝန်းကျင်ထိခိုက်မှုကို လျော့ချခြင်း၊ စက်ရုံအတွင်းနှင့် အနီးအနားတွင် သစ်ပင်ပန်းမံစိုက်ပျိုးခြင်းဖြင့် carbon ထွက်ရှိမှုကို လျော့ချပေးခြင်း၊ NOx ထွက်ရှိမှုနည်းသော နည်းပညာမြင့် စက်ပစ္စည်း များသုံးခြင်း၊ စက်ပစ္စည်းများကို ပံမှန်ပြုပြင်ထိန်းသိမ်းပေးခြင်း။
ရေ	ရေထုညစ်ညမ်းမှု	လုပ်သားများစွန့်ထုတ်ရေနှင့် ဘွိုင်လာ blow down ရေ	၄	၃	၂	၃	၂၇	အနည်းငယ်	လက်ရှိရေဆိုးစွန့်ပစ်မှုပုံစံဖြစ်သော မိလ္လာစနစ်ကို ပုံမှန်စစ်ဆေးပေးခြင်း၊ မိလ္လာကန်နှင့် မိလ္လာစနစ်ကို လူဦးရေနှင့် သင့်တင့်သည့် ပမာဏရှိရန် စီစဉ်ထားခြင်း၊ ပုံမှန်သန့်ရှင်းရေးပြုလုပ်ပေးခြင်း
ဆူညံသံ	ဆူညံသံကြောင့် ထိခိုက်မှု	ဘွိုင်လာ၊ မီးစက်၊ လေမှုတ်စက်နှင့် မော်တော်ယာဉ် အသုံးပြုမှုကြောင့်	၄	၂	၁	၃	၂၁	အနည်းငယ်	ဆူညံသံထွက်သောနေရာများကို အကာအကွယ်ဖြင့်ထားရှိခြင်း စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ပေးခြင်း

ပတ်ဝန်းကျင်လက္ခဏာ	ထိခိုက်မှု	ထိခိုက်မှုအကြောင်းအရာ	ပြင်းအား	ကြာချိန်	ကြိမ်နှုန်း	ဖြစ်နိုင်ခြေ	ထိခိုက်နိုင်သူဦးရေ	လျော့ချရေးနှင့်ထိန်းချုပ်မှု
		ပတ်ဝန်းကျင်ဆူညံမှု						
အမှိုက်	ပတ်ဝန်းကျင်ညစ်ညမ်းခြင်းနှင့် မြေဆီလွှာထိခိုက်မှု	စွန့်ပစ်မှုနှင့် နည်းစနစ်မကျစုပုံခြင်း	၄	၄	၂	၃	၃၀	အသင့်အတင့်	စက်ရုံတွင်ယာယီအမှိုက်များကို စနစ်တကျခွဲခြားထိန်းသိမ်းခြင်း သက်ဆိုင်ရာ အမှိုက်သိမ်းဆည်းသောအဖွဲ့အစည်းများအား ခေါ်ယူသိမ်းဆည်းစေခြင်း
သက်ရှိသတ္တဝါ (အပင်နှင့် တိရိစ္ဆာန်)	အပင်နှင့် တိရိစ္ဆာန်များ မျိုးသုံးပျောက်ကွယ်ခြင်း	ထိန်းသိမ်းမှုမကောင်းခြင်း	၄	၁	၂	၂	၁၅	အလွန်နည်း	စက်ရုံအနီးနားတွင် သစ်ပင်ပန်းမံနှင့် ရေမြေသဘာဝကို ထိန်းသိမ်းစောင့်ရှောက်ခြင်း
လမ်းပန်းဆက်သွယ်မှု	ယာဉ်အွန်ရာယ်နှင့် ယာဉ်ကြောပိတ်ဆို့မှု	လုပ်ငန်းသုံးယာဉ်များတိုးလာခြင်း	၄	၃	၂	၃	၂၇	အနည်းငယ်	ယာဉ်စည်းကမ်း၊ လမ်းစည်းကမ်းအသိပညာပေးခြင်း

သတ်မှတ်ထားသော အဆင့်သတ်မှတ်ချက်များအလိုက် ဖြေလျော့ရေးနည်းလမ်းများဖြင့် ရှောင်လွှဲရန်နည်းလမ်းများကို အစီရင်ခံစာတွင် ဖော်ပြထားပါသည်။

အများပြည်သူထံသို့ ထုတ်ဖော်ချက်

အများပြည်သူထံသို့ ထုတ်ဖော်ခြင်းအစီအစဉ်အား ၂၇ ရက်၊ မေလ၊ ၂၀၂၂ ခုနှစ်တွင် Myanwei Environmental Solutions Company Limited ၏ Facebook Page တွင် တင်ပြခဲ့ပါသည်။ ပြုလုပ်ခဲ့သည့် အစီအစဉ်အကျဉ်းကို ***အခန်း ၆*** တွင် ဖော်ပြထားပါသည်။

ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်

အဆိုပါစက်ရုံ၏ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ကို ရေရှည်ဖွံ့ဖြိုးတိုးတက်ကောင်းမွန်သော ပတ်ဝန်းကျင်အဖြစ် အကောင်အထည်ဖော်ဆောင်ရွက်ရန် ပတ်ဝန်းကျင်ဆိုင်ရာ ဆိုးကျိုးသက်ရောက်မှုများကို လျော့နည်းစေရန် စီမံခန့်ခွဲမှုအစီအစဉ်များနှင့် စောင့်ကြပ်ကြည့်ရှုရမည့်အစီအစဉ်များကို အောက်ပါအတိုင်းပတ်ဝန်းကျင်ဆိုင်ရာ အကြောင်းအရာတစ်ခုချင်းစီအလိုက် ခွဲခြားပြုလုပ်ထားပါသည်။

၁။ လေထုညစ်ညမ်းမှုနှင့် ဖုန်မှုန့်ဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၂။ ဆူညံမှုထိန်းခြင်းဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၃။ အမှိုက်စွန့်ပစ်မှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၄။ ရေဆိုးစွန့်ပစ်မှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၅။ စွမ်းအင်အသုံးပြုမှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၆။ ရေအသုံးပြုမှုဆိုင်ရာ စီမံခန့်ခွဲမှု အစီအစဉ်

၇။ အရေးပေါ်တုန့်ပြန်ရေး အစီအစဉ်

၈။ စောင့်ကြပ်ကြည့်ရှုရေး အစီအစဉ်

၉။ လူမှုအကျိုးတူ ပူးပေါင်းပါဝင်မှု အစီအစဉ် CSR Plan

၁၀။ ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အတွက် ငွေကြေးလျာထားမှုအခြေအနေ

အကျဉ်းချုပ်အားဖြင့် ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ နည်းဥပဒေ စည်းမျဉ်းစည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု အလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက်ကျင့်သုံးရန်တာဝန်များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်တွင် ဖော်ပြရှင်းလင်းတင်ပြထားပါသည်။ စီမံကိန်းနှင့် သက်ဆိုင်သူများအား စီမံကိန်းဆိုင်ရာ အကြောင်းအရာများ ရှင်းလင်းတင်ပြခြင်း၊ အကြံပြုချက်များနှင့် ဆွေးနွေးတင်ပြလာသည့် သဘောထား အကြံဉာဏ်များကိုရယူပြီး အစီအရင်ခံစာတွင် ဖော်ပြထားပါသည်။

နိဂုံး

အကျဉ်းချုပ်အားဖြင့် ပြည်ထောင်စုသမ္မတ မြန်မာနိုင်ငံတော်၏ လမ်းညွှန်ချက်များ၊ ပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ နည်းဥပဒေ၊ စည်းမျဉ်း စည်းကမ်းများနှင့် ချမှတ်ထားသော မူဝါဒလမ်းညွှန်ချက်များအတိုင်း ပတ်ဝန်းကျင်ဆိုင်ရာ စီမံခန့်ခွဲမှု အလေ့အကျင့်များ၊ လုပ်ငန်းစဉ်များနှင့် လိုက်နာဆောင်ရွက် ကျင့်သုံးရန်တာဝန်များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်တွင် ဖော်ပြရှင်းလင်း တင်ပြထားပါသည်။ စီမံကိန်းနှင့် သက်ဆိုင်သူများအား စီမံကိန်းဆိုင်ရာ အကြောင်းအရာများ ရှင်းလင်းတင်ပြခြင်း၊ အကြံပြုချက်များနှင့်ဆွေးနွေးတင်ပြလာသည့် သဘောထား အကြံဉာဏ်များကိုရယူပြီး အစီအရင်ခံစာတွင် ဖော်ပြထားပါသည်။ အဆိုပြုစီမံကိန်းသည် ဒေသခံများ အလုပ်အကိုင် အခွင့်အလမ်းများ ဖန်တီးရန်နှင့် ဝန်ထမ်းများ၏ လုပ်ငန်းခွင်စွမ်းဆောင်ရည်တို့ကို မြှင့်တင်သွားမည် ဖြစ်ပါသည်။ အလားတူစွာ ဒေသခံများ၏ လူနေမှုဘဝသည်လည်း မြှင့်တက်လာစေရန် ညွှန်ကြားထားသော လူမှုအကျိုးတူ ပူးပေါင်းပါဝင်မှု အစီအစဉ်များကို ဆောင်ရွက်သွားမည် ဖြစ်ပါသည်။ ထို့ကြောင့် ဒေသခံပြည်သူများ၏ တိုးတက်မှုအတွက် များစွာ အထောက်အကူပြုမည်ဟု ဆိုနိုင်ပါသည်။

EXECUTIVE SUMMARY

Introduction

Hung Kiu (Myanmar) Garment Manufacturing Limited. (Hung Kiu) is a new investment for manufacturing of garments. The Myanmar Investment Commission (MIC) has endorsed the project for the investment on 23 August 2013 (Permit No. 604/2013). MIC ask for the environmental approval and comments of the Ministry of the Natural Resources and Environmental Conservation (MONREC) on the proposed project and had approved the proposal for investment in manufacturing of Garment under the name of Hung Kiu as a solely owned foreign investment from the China.

Type of Proposed Business	Manufacturing of Garments
Type of investment	100% foreign investment
Investment year	30 years investment permit
Total land area	9.73 acre (39,368 square meter)
Total building area	• Block A: Production area (120 m × 65.8 m) • Block B: Production area (100 m × 65.8 m) • Block C: Production and Finished Goods (80 m × 60 m) • Block D: Warehouse (50 m × 77 m) • Block E Three Storey Dormitory (42 m × 18 m)
Contact address	Sai Paing Soe Lwin @Johnny 09 768374006, 09960623300 lily@hungkiu.com.mm, No.35/9, Yangon-Mandalay Road, Inndakaw, Bago Township, Bago Region, Myanmar.

According to the Myanmar Environmental Conservation Law (2012), it requires that the proponents of every development project in the country submit either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) to Ministry of Natural Resources and Environmental Conservation (MONREC). As per the comments of Environmental Conservation Department (ECD), said project requires an Environmental Management Plan (EMP) to meet the environmental assessment requirements of Notification No. (Bago/MONREC) (26/2016) on 14 January 2016. Therefore, Hung Kiu commissioned Myanwei Environmental Solutions Company Limited (Myanwei) for EMP report study.

The Environmental Management Plan (EMP) is prepared for the proposed project that covers the anticipated impacts of the said project, mitigation measures, management and monitoring plans during each of the phases. The development of the proposed project will be managed Hung Kiu. The project proponent should appoint Health, Safety and Environment (HSE) issues throughout the duration of the project phases. HSE team is responsible for implementation of EMP and Environmental Monitoring Plan (EMoP).

In the next Chapter, provides the brief summary of relevant national environmental legislations such as Environmental Impact Assessment Procedure (2015) and National Environmental Quality (emission) Guidelines, established by the Ministry of Natural Resources and Environmental

Conservation (MONREC) and overview of current local and international environmental and social policies including related international or regional convention for the proposed project.

Policy, Legal and Institutional Framework

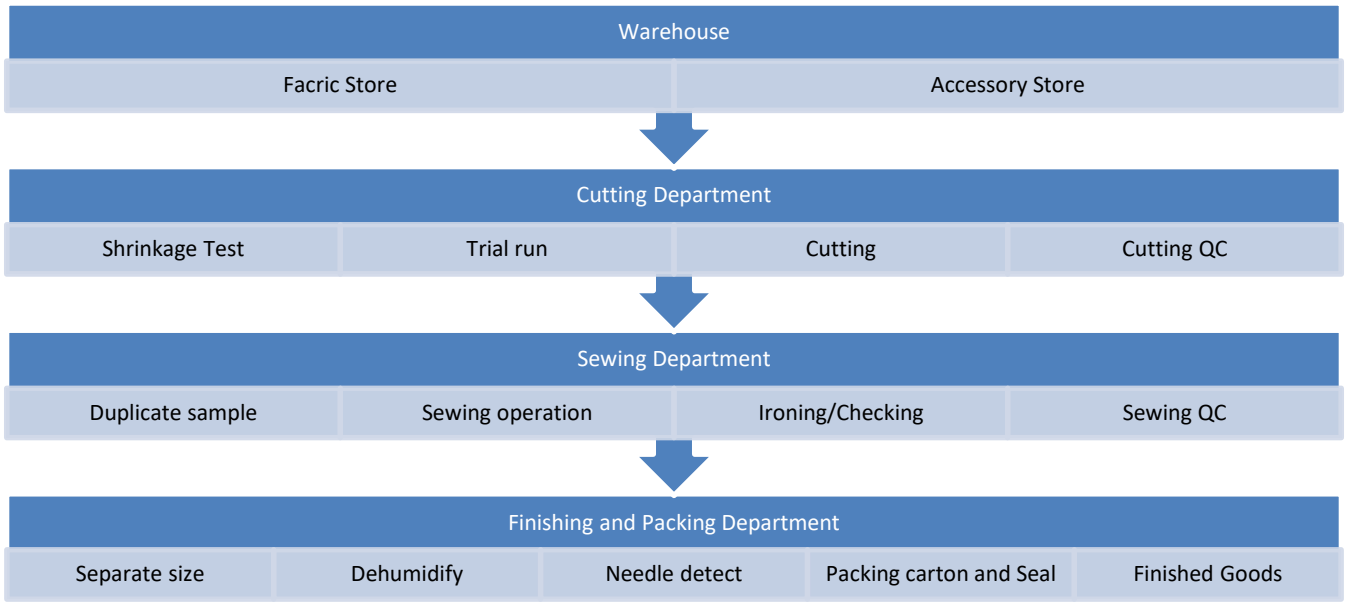
National Laws and Regulations, international guidelines are referred for Environmental Management Plan of the proposed project.

1. The Constitution Law, 2008
2. The Environmental Conversation Law, 2012
3. The Environmental Conversation Rule, 2014
4. Environmental Impact Assessment Procedure, 2015
5. National Environmental Quality (Emission) Guideline, 2015
6. National Myanmar Environmental Policy, 2019
7. Foreign Investment Law, 2012
8. Foreign Investment Rule, 2013
9. Myanmar Investment Rule, 2017
10. Myanmar Insurance Law, 1993
11. Payment of Wages Law, 2016
12. The Payment of Wages Act, 1936
13. Yangon City Development Committee Law, 2018
14. The Amended Law for Factories Act, 1951 (2016)
15. The Private Industrial Enterprise Law
16. The Export and Import Law, 2012
17. The Prevention of Hazard from Chemical and Related Substances Law, 2013
18. The Underground Water Act
19. Myanmar Fire Brigade Law, 2015
20. Fire Safety Procedure
21. The Electricity Law, 2014
22. Boiler Law, 2015
23. Labor Dispute Settlement Law, 2012
24. The Law Amending the Settlement of Labor Dispute Law, 2019
25. The Social Security Law, 2012
26. The Employment and Skill Development, 2013
27. The Worker’s Compensation Act, 1923
28. The Leave and Holidays Act (1951, partially reused in 2014)

29. The Minimum Wage Law, 2013
30. Public Health Law, 1972
31. Prevention and Control of Communicable Disease Law (1995 Amendment in 2011)
32. Occupational Safety and Health Law, 2019
33. The Law on Standardization
34. လုပ္ငန္းခြင္ဆုိင္ရာေပါက္ကြဲေစတက္ေသာ ဝတၳဳပစၥည္းမ်ားဆုိင္ရာ ဥပေဒ၊ (2018)
35. The Motor Vehicles Law, 2015
36. The Conversation of Water Resources and River Law, 2006
37. The Commercial Tax Law (1990 Amended 2014)

Project Description

Hungkiu Garment manufacturing factory is located at No. (35/9), Yangon - Mandalay Road, Inndakaw, Bago Township, Bago Region, Myanmar. The total area of project site is 9.73 acres (393698 square meters) and designed into 5 buildings. There are designed three operations building and two facilities building. Block A and B are production building, Block C is production and finished goods building, Block D is warehouse and Block E is staff dormitory. These production building is designed into cutting section, sewing section, finishing section & inspection section and packing section, etc. Transformer room, generator room and boiler room are separated by expressly building structure. The Utilities for proposed factory include electrical power, fuel oil for emergency used generator, electronic steam boilers and water for general purpose. Electrical power will be used for the purpose of to run the production machinery and to provide lighting. Water will be required for general purpose which generates to the factory drainage channel and septic tank. Production rate of Hungkiu (Myanmar) Garment Company Limited is produced between first year of operation and ten years operation as 630,000 to 790,000 pieces annually. It is required of work force (20) foreign technicians and (2245) local employees for first year operation to 10 years operation. Raw materials are imported from China. The proposed project will use monthly 3,000 gallons of diesel for generator. Industrial waste such as fabrics scraps are hand over to Bago Municipal.



Production flow diagram

Surrounding Environment

For environmental baseline, data were collected by onsite measurements analysis during operation phase. On-site measurement was taken by indoor temperature, humidity, noise level and operation light condition at the factory. Moreover, secondary data collection of proposed project site area such as socio-economic condition, physical/ biological environment, weather data were collected from official township data was obtained from Regional Data of Bago Township, Bago Region.

Impact Assessment

The assessment of each impact is based on consideration of the magnitude, duration, extent and probability of activities, which are going to be carried out during operation phases. In operation phase, there are 1 moderate significance impact on environment and human such as impact of electricity consumption. 4 low significant impacts on environment and human such as impact of wastewater effluents and occupational health and safety of employees, workers and 2 very low significant impact on environment and human such as impact on aquatic lives, air pollution and noise. Significance impacts on environmental and human and detail impact assessment for operation phases can be seen in Table. All of the impacts during operation phases can be minimized by using mitigation measures and implementing Environmental Management Plan.

The development of infrastructure for the proposed project likely to happen changes in the local environment in terms of physical, biological and socio-economic aspects along with the perspective on both positive and negative impacts. The potential environmental impacts brought by various activities of proposed factory project will be identified and judged by site surveying with checklist, meeting with client team, including plant manager and supervisor, representatives from the factory operators and assessing the environmental baseline information for operation and decommissioning phases along with its mitigation measure.

Environmental Aspects	Potential Impacts	Identified Risk	Risk Evaluation						Mitigation/Control Measure
			Duration	Magnitude	Extent	Probability	Significance point	Significance Impact	
Air quality	Air Pollution	Dust and other exhaust gas emission i.e. CO, SO_2, NO_x and PM Boiler operation	4	3	2	3	27	Low	The factory uses chimney through which the flue gas are emitted for reducing the impact of stack air emission on environment. The factory has planted trees in its premises to reduce carbon emission and thus minimize air pollution Stack gas emission level can be controlled by using gas generator with low NOx technology Ensuring vehicles, generators, compressors and boiler are well maintained Masks are provided to workers to ensure that workers wear mask during working in dusty condition.
Water Quality	Water Contamination	Discharge from boiler blow down and Sewage discharge	4	3	2	3	27	Low	An effective wastewater treatment system for production sector that reduced for BOD, COD, total nitrogen and other organic compound shall be used to reduce the impact on aquatic lives and odor. Currently, practice of the wastewater effluents discharge facilities of sewage for sanitation and septic system
Noise	Noise Pollution	Noise can generate	4	2	1	3	21	Low	Use personal protective equipment

Environmental Aspects	Potential Impacts	Identified Risk	Risk Evaluation						Mitigation/Control Measure
			Duration	Magnitude	Extent	Probability	Significance point	Significance Impact	
		from vehicle movement & especially from generator, compressor and boiler							(PPE) like ear plug/ear muffs in the noisy workplace like generator, compressor and boiler area. The factory already has buffer area to reducing noise from operation o generator, compressor and boiler.
Waste Management Disposal	Surrounding environment pollution and soil contamination	Incorrect disposal of waste	4	4	2	3	30	Moderate	Disposal of solid sewage in own septic following the waste management plan Industrial solid waste collect in storage and handed over to registered local waste collector or Bago Municipal The factory already disposes the municipal waste to Bago Municipal dumping site twice a week.
Ecological Environment (Flora & Fauna)	Loss of habitat of some flora & fauna and biodiversity reduction	Inappropriate control of weeds	4	1	2	2	15	Very Low	Maintain maximum vegetation
Traffic Pattern	Increase of vehicular traffic as well as gaseous emission and risk of increasing road accident	Vehicle increase at the factory surrounding area	4	3	2	3	27	Low	Vehicular movement would be restricted at day time

Negative impacts and mitigation measures of the proposed factory were taken into consideration during the study.

Public Disclosure

Public disclosure process was posted at Myanwei Environmental Solutions Company Limited's facebook page on 27th May, 2022.

Environmental Management Plan

The EMP for Hungkiu has been prepared to address potential issues based upon discussion with factory management, workers, local community's view, stakeholder consultation and from the site visit of experts. The EMP is additional to and compliments the factory's safety management system. The following environmental issues that require environmental management plans based upon the potential impacts of activities by for Hungkiu factory are as follows:

1. Air pollution/Dust Management plan
2. Noise Management
3. Solid Waste Management plan
4. Wastewater Management Plan
5. Energy Consumption Management Plan
6. Water Consumption Management Plan
7. Emergency Response plan
8. Environmental Monitoring and Reporting
9. Corporate Social Responsible (CSR) Plan

Conclusion

The environmental management practices, procedures and responsibilities are defined here in to get full compliance with the existing environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar. All the feed backs, desired and needs of local public recorded in public consultation meetings are well addressed and incorporated in formulation of EMP. It has been figured out that, the proposed garment factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

This is recommended that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should be implemented throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to Bago Municipal rules and regulation.
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.
- Daily, monthly and annual action plan shall be formulated based on this EMP and practiced at operation level.

- Keep full records of environmental management activities and present to annual independent third-party environment audit.
- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this EMP report. Once concerned authorities approve EMP, effective implementation of EMP by the project proponent is essential. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar

1. INTRODUCTION

Environment Management Plan is required for ensuring sustainable development. It should not affect the surrounding environment adversely. The management plan presented in this chapter needs to be implemented by the proposed expansion of Paragon Printing Manufacturing. The Environment Management Plan (EMP) aims at controlling pollution at source with available and affordable technology followed by treatment measures. Waste minimization and waste recycling measures are emphasized. In addition to the industry specific control measures, the proposed industry should adopt following guidelines.

1.1. AIM OF ENVIRONMENTAL MANAGEMENT PLAN

- Provide environmental management plan that minimize the environmental impact of the works and identify those responsible for its implementation.
- Define the monitoring program, which assess the implementation.

1.2. OBJECTIVE OF ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management System (EMS) is a framework that helps an organization achieves its environmental goals through consistent review, evaluation, and improvement of its environmental performance. The assumption is that this consistent review and evaluation will identify opportunities for improving and implementing the environmental performance of the organization. The EMS itself does not dictate a level of environmental performance that must be achieved; each organization's EMS is tailored to its own individual objectives and targets.

An EMS encourages an organization to continuously improve its environmental performance. The system follows a repeating cycle the organization first commits to an environmental policy, then uses its policy as a basis for establishing a plan, which sets objectives and targets for improving environmental performance. The next step is implementation. After that, the organization evaluates its environmental performance to see whether the objectives and targets are being met. If targets are not being met, corrective action is taken. The results of this evaluation are then reviewed by top management to see if the EMS is working. Management revisits the environmental policy and sets new targets in a revised plan. The company then implements the revised plan. The cycle repeats, and continuous improvement occurs.

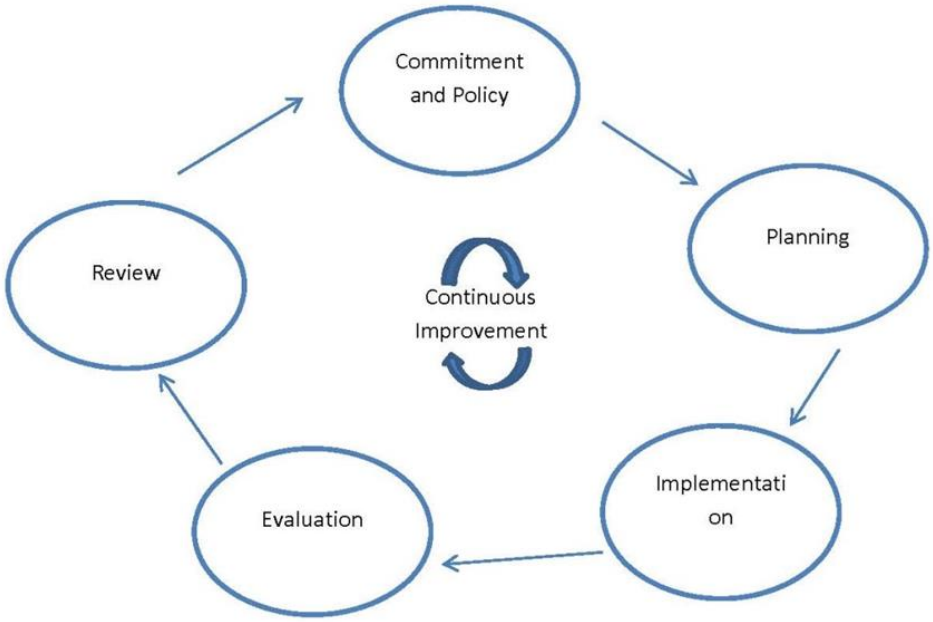


Figure 1-1 Continuous Improvement Circle

- **Commitment and Policy** – Top management commits to environmental improvement and establishes the organization's environmental policy. The policy is the foundation of the EMS.
- **Planning** – An organization first identifies environmental aspects of its operations. Environmental aspects are those items, such as air pollutants or hazardous waste that can have negative impacts on people and the environment. An organization then determines which aspects are significant by choosing criteria considered most important by the organization. For example, an organization may choose worker health and safety, environmental compliance, and cost as its criteria. Once significant environmental aspects are determined, an organization sets objectives and targets. An objective is an overall environmental goal (e.g., minimize use of chemical X). A target is a detailed, quantified requirement that arises from the objectives (e.g., reduce use of chemical X by 25% by September 1998). The final part of the planning stage is devising an action plan for meeting the targets. This includes designating responsibilities, establishing a schedule, and outlining clearly defined steps to meet the targets.
- **Implementation** – An organization follows through with the action plan using the necessary resources (human, financial, etc.). An important component is employee training and awareness for all employees. Other steps in the implementation stage include documentation, following operating procedures, and setting up internal and external communication lines.
- **Evaluation** – A company monitors its operations to evaluate whether targets are being met. If not, the company takes corrective action.
- **Review** – Top management reviews the results of the evaluation to see if the EMS is working. Management determines whether the original environmental policy is consistent with the organization's values. The plan is then revised to optimize the effectiveness of the EMS. The review stage creates a loop of continuous improvement for a company.

1.2.1. **Institutional Requirement**

Hung Kiu (Myanmar) Garment Manufacturing Limited (Hung Kiu) will manage the development of the proposed project. The project proponent should appoint Health, Safety and Environment (HSE) issues throughout the duration of the project phases. HSE team is responsible for implementation and monitoring of EMP and Environmental Monitoring Plan (EMP) as well as coordination with local authorities and the nearby communities. The HSE Team also makes regular review of EMP to cover all potential impacts, amendments and modifications.

1.2.2. **Responsibilities of the EMP**

In order to ensure the sound development and effective implementation of the EMP, it will be necessary to identify and define the responsibilities. The environmental management practices, procedures, and responsibilities are defined herein to get full compliance with the existing environmental policy, laws, rules and regulations of the Republic of the Union of Myanmar. The following entities should be involved in the implementation of this EMP:

Hung Kiu (Myanmar) Garment Manufacturing Limited: The proponent will be charged with the responsibility for ensuring that the proposed development has been accomplished in an environmentally sound manner. This can be achieved by inclusion of environmental specifications in the tender specifications, selection of environmentally conscious contractors, and supervision to ensure that the objectives of this EMP are met. The implementation of Environmental Management Plan (EMP) process will prepare and follow up by appointed persons for health, safety, and environmental management under the instruction of management team of Hung Kiu for EMP implementation facilities.

ECD (Bago Region): The responsibility of ECD is to exercise general supervision and coordinating over all matters relating to the environment and to be instrumental in providing guidance for recognized regulatory frameworks.

Third-Party Environmental Consultant: The environmental consultant will have to ensure that the proposed EMP is up to date and is being followed properly by the proponent. Periodic audits of the EMP will have to be done to ensure that its performance is as expected, by comparing with operating standards so that any corrective actions can be taken.

1.2.3. Structure and Responsibilities for the EMP Development and Implementation

The HSE officer is responsible to the HSE components of the project and on matters relating to the implementation of the EMP throughout operation life. The S&E officer will have responsibilities that include:

- Ensure a monitoring system is in place to track and report all health, safety and environmental incidents;
- Carry out a thorough initial site inspection of environmental controls prior to work commencement;
- Record and provide a written report to the General Manager and production team of non-conformances with the EMP and require the HR supervisor to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.

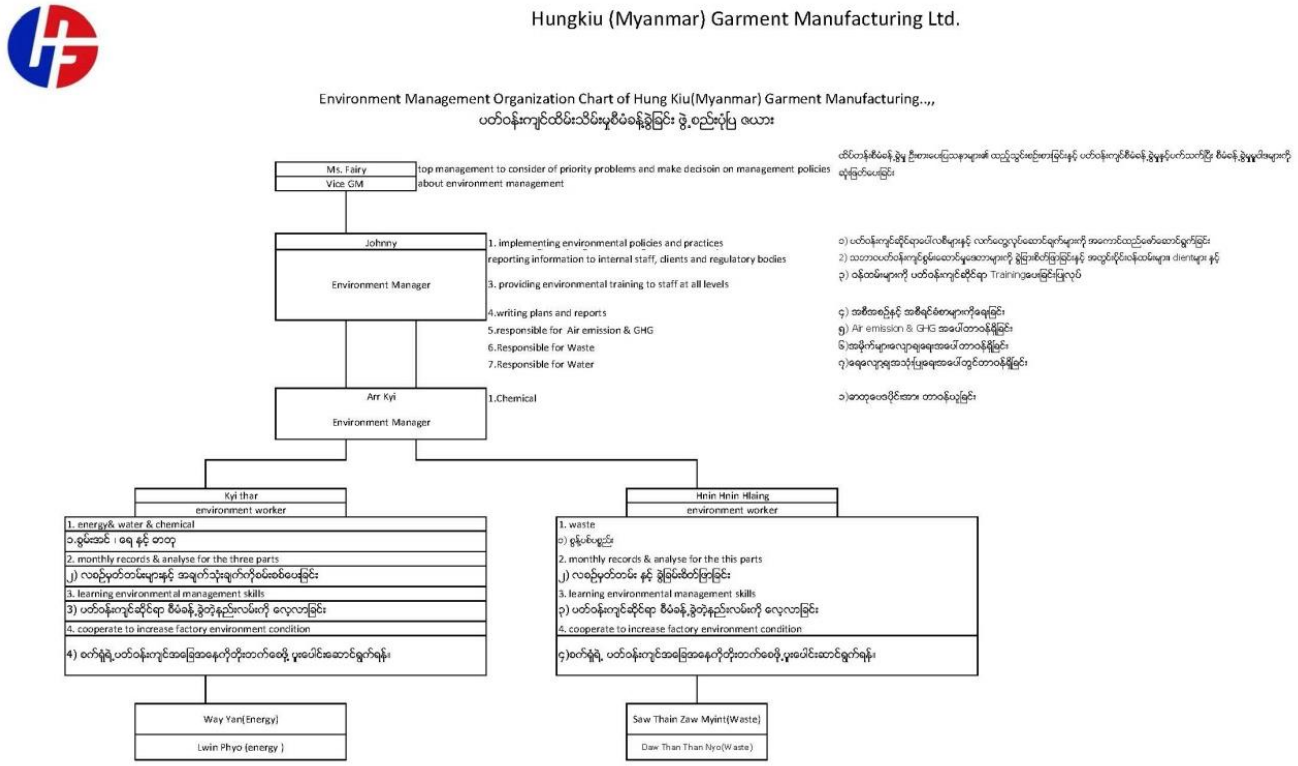


Figure 1-2 Organization Structure of Environmental Management Plan

Table 1-1 Responsibilities of HSE Members

Roles	Responsibilities
General Manager	The General Manager will be assisted by the Operations Manager and also the HR and HSE Officer. In terms of environmental protection commitments, the Operation Manager will be the key driving force and will be responsible for: • Establishing overall environmental direction and policy • Ensuring the implementation of the EMP • Ensuring investigation of all environmental incidents are reviewed and that reports are submitted on time • Ensuring an effective system of internal and external communication is in place • Providing advice regarding the environmental program
Operation Manager	The Operation Manager will assist the General Manager in looking into the overall environmental matters during the operational phase of the Project. The Operation Engineer will also be responsible for: • Adherence to the overall environmental direction and policy • Ensuring the implementation of the recommended actions in the investigation of all environmental incidents • Managing resources for operation wastes
HR Manager	The HR Manager will carry out the day-to-day management of workers and social issues in the factory. The HR Manager will be responsible for:

Roles	Responsibilities
	• Assisting the management in publicising and implementing corporate and local policies, objectives and programs • Maintaining key environmental-related documents and information • Communicating/ liaising with the local authorities on environmental issues
HSE Officer	The HSE Officer will be the key person in charge of all environmental matters pertaining to the site. The HSE Officer will be responsible for: • Coordinating the implementation of environmental programs, including monitoring of the project site environmental performance • Performing periodic internal environmental audits and inspections to ensure compliance with the legal environmental requirements • Ensure a monitoring system is in place to track and report all health, safety and environmental incidents; • Carry out a thorough initial site inspection of environmental controls prior to work commencement; • Record and provide a written report to the General Manager and production team of non-conformances with the EMP and require the HR Manager to undertake mitigation measures to avoid or minimize any adverse impacts on environment or report required changes to the EMP.

1.3. PROJECT BACKGROUND

Hung Kiu (Myanmar) Garment Manufacturing Limited. (Hung Kiu) is a new investment for manufacturing of garments. The Myanmar Investment Commission (MIC) has permitted the project for the investment on 23 August, 2013 (Permit No. 604/2013). According to the MIC permit, which confidential was issued in Section 19, Hung Kiu shall responsible for the preservation of the environment and around the area of the project site. In addition to this, it shall carry out as per instructions made by Ministry of the Natural Resources and Environmental Conservation (MONREC) under Environmental Conservation Department (ECD) in which to conduct an Environmental Management Plan (EMP). It has to prepare, submit, perform activities in accordance with this EMP, and abide by the environmental policy, Environmental Conservation Law and other environmental related rules and procedures. Therefore, Hung Kiu commissioned Myanwei Environmental Solutions Company Limited (Myanwei) for EMP report study.

1.3.1. Project Proponent Profile

This is the information of endorsement of proponent from the registration, which is described in below Table 1-2 and summary of project information is presented in Table 1-3.

Table 1-2 Information of Hung Kiu

Investor Name:	Mr. Ng Hung Yau
ID No.:	PP. No- KJ-0366863
Citizenship:	Chinese

Address of Registration office:	Flat(A-B), (22/F), Ford Glory Plaza, 37 Wing Hong St, Cheung Sha Wan, Kowloon, Hong Kong

Table 1-3 Salient features of the project

Type of Proposed Business	Manufacturing of Garments
Type of investment	100% foreign investment
Total land area	9.73 acre (39,368 square meter)
Total building area	• Block A: Production area (120 m × 65.8 m) • Block B: Production area (100 m × 65.8 m) • Block C: Production and Finished Goods (80 m × 60 m) • Block D: Warehouse (50 m × 77 m) • Block E Three Storey Dormitory (42 m × 18 m)
Investment Year	30 years investment permit
Contact address	Sai Paing Soe Lwin @Johnny 09 768374006, lily@hungkiu.com.mm No.35/9, Yangon-Mandalay Road, Inndakaw, Bago Township, Bago Region, Myanmar

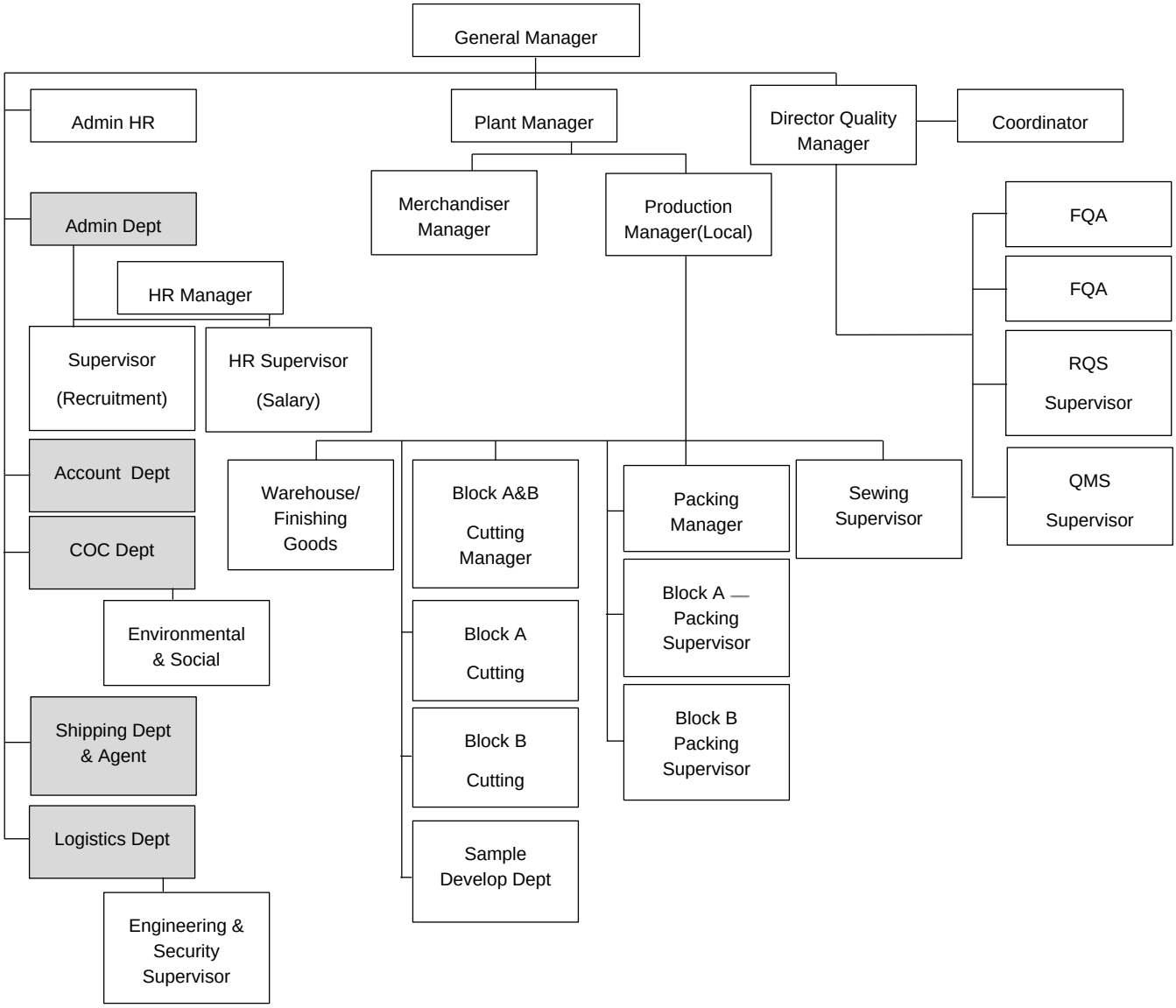


Figure 1-3 Organization chart of Hung Kiu

1.3.2. **Environmental Consultant Profile**

Myanwei Environmental Solutions Company Limited prepares the EMP for the proposed project. The environmental study was carried out by the study team and the following is a summary of team member's responsibilities during the study period.

Table 1-4 Member of EMP study team

Member List	Responsibility
Dr. Hein Lynn Aung (Director) M.B, B.S (Yangon), Master of Management from Australia	Health Impact Assessment, Mitigation and Monitoring Report Reviewing
Mr. Lin Htet Sein (Director & Environmental Consultant)	Base Line Data Collecting Management, Project Description, Legal Assessment, Impact Assessment,

Member List	Responsibility
MSc (Regional Geology) BSc (Hons) Geology	Mitigation Measure, Monitoring plan, Report Preparation and Reviewing
Mr. Saw Yan Naung (Member) B.E. Chemical Engineering B. Tech Chemical Engineering	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Mr. Myat Ko Ko (Member) B. Sc (Hons) Geology M. Sc (Economic & Mining Geology)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Mr. Si Yan Hein (Member) B. Sc (Geology)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Ms. Khin Thuzar Myint (Member) B.E. Materials and Metallurgy Engineering Diploma in Environmental Planning and Management	Report Writing, Secondary Data Study
Ms. Su Myat Hlaing (Member) B.E. Civil Engineering B. Tech Civil Engineering	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Mr. Kaung Satt Lwin (Member) B. Sc (Hons) Geology	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area
Mr. Htoo Nanda Aung (Member) B. Sc (Forestry)	Baseline Data Monitoring, Site Surveying, Communication with Stakeholder in Project Area

2. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

This section provides a brief summary of relevant national environmental legislations established by the MONREC and overview of current local and international environmental and social policies including related international or regional convention for the proposed project.

2.1. MYANMAR REGULATORY FRAMWORK

Myanmar has 24 ministries under the Office of the President as of May 2016. The leading ministries in-charge of environmental and social considerations are the Environmental Conservation Department (ECD) of the MONREC, that was reorganized Ministry of Environmental Conservation and Forestry (MOECAF) in April 2016.

2.1.1. Laws and Regulations Related to Environmental and Social Considerations

Requirements related to environmental (and social) impact management for development projects are described in Table 2-1.

Table 2-1 List of Myanmar's Law relating to environmental management

Law and Regulation	Description
National Environmental Policy of Myanmar, (Notification No. 26/94 dated 5 December 1994)	To achieve harmony and balance between socioeconomic, natural resources and environment through the integration of environmental considerations into the development process enhancing the quality of the life of all its citizens.
Constitution 2008	
Sec.45	The Union shall protect and conserve natural environment.
Sec.390 (b)	Every citizen has the duty to assist the Union carrying out the environmental conservation
Environmental Conservation Law, 30 March 2012	
Objectives: Section 3	(c) to enable to emerge a healthy and clean environment and to enable to conserve natural and cultural heritage for the benefit of present and future generations; (d) to reclaim ecosystems as may be possible which are starting to degenerate and disappear; (e) to enable to manage and implement for decrease and loss of natural resources and for enabling the sustainable use beneficially;
Provisions of Duties and Powers relating to the Environmental Conservation of the Ministry: Section 7	(a) To specify categories and classes of hazardous wastes generated from the production and use of chemicals or other hazardous substances in carrying out industry, agriculture, mineral production, sanitation and other activities; (b) To prescribe categories of hazardous substances that may affect significantly at present or in the long run on the environment; (c) To promote and carry out the establishment of necessary factories and stations for the treatment of solid wastes, effluents and emissions which contain toxic and hazardous substances; (j) To prescribe the terms and conditions relating to effluent treatment in industrial estates and other necessary places and buildings and emissions of machines, vehicles and mechanisms;

Law and Regulation	Description
	(m) To lay down and carry out a system of EIA and SIA as to whether or not a project or activity to be undertaken by any Government department, organization or person may cause a significant impact on the environment; (o) To manage to cause the polluter to compensate for environmental impact, cause to contribute fund by the organizations which obtain benefit from the natural environmental service system, cause to contribute a part of the benefit from the businesses which explore, trade and use the natural resources in environmental conservation works.
Chapter VI Environmental Quality Standards: Section10	The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards: (a) suitable surface water quality standards in the usage in rivers, streams, canals, springs, marshes, swamps, lakes, reservoirs and other inland water sources of the public; (b) water quality standards for coastal and estuarine areas; (c) underground water quality standards; (d) atmospheric quality standards; (e) noise and vibration standards; (f) emissions standards; (g) effluent standards; (h) solid wastes standards; (i) other environmental quality standards stipulated by the Union Government.
Section 14	A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment in accord with stipulated environmental quality standards.
Section 15	The owner or occupier of any business, material or place which causes a point source of pollution shall install or use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution. If it is impracticable, it shall be arranged to dispose the wastes in accord with environmentally sound methods.
Section 16	A person or organization operating business in the industrial estate or business in the SEZ or category of business stipulated by the Ministry: (a) is responsible to carry out by contributing the stipulated cash or kind in the relevant combined scheme for the environmental conservation including the management and treatment of waste; (b) shall contribute the stipulated users charge s or management fees for the environmental conservation according to the relevant industrial estate, SEZ and business organization; (c) shall comply with the directives issued for environmental conservation according to the relevant industrial estate, SEZ or business.
Environmental Conservation Rules, 2014	
Rules 58	The Ministry shall form the EIA Report Review Body with the experts from the relevant Government departments, organizations.
Rules 59	The Ministry may assign duty to the Department to scrutinize the report of EIA prepared and submitted by any organization or person relating to EIA and report through the EIA Report Review Body.
Rules 61	The Ministry may approve and reply on the EIA report o IEE or EMP with the guidance of the Committee.
Environmental Impact Assessment Procedure (December 2015)	

Law and Regulation	Description
Screening: Section 23	a) The project proponent shall submit the Project Proposal to the Ministry for Screening. b) The Ministry will send the Project Proposal to the Environmental Conservation Department to determine the need for environmental assessment. c) Following the preliminary Screening and verification that the Project Proposal contains all required documents and related materials, subject to Articles 8, 9, 10, 11, 26 and 27 the Department shall make a determination in accordance with Annex 1 _ Categorization of Economic Activities for Assessment Purposes', taking into account Article 25 and the additional factors listed in Article 28 in order to designate the Project as one of the following, and then submit it to the Ministry: i) An EIA Type Project, or ii) An IEE Type Project, or iii) A Non IEE or EIA Type, and therefore not required to
National Environmental Quality (Emission) Guidelines (NEQG) (December 2015)	
Objectives	To provide the basis for regulation and control of noise and vibration, air emissions, and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health.
Foreign Investment Law, 2012	
Section 8	(a) To support the primary objectives of the national economic development plan, and for businesses that cannot yet be run by the State and citizens or businesses that have insufficient funds and technology. (b) Development of employment activities (l) Protection and conservation of the environment. (q) Appearing the required modern services for the Union and citizens.
Section 17	(a) To abide by the existing laws of the Republic of the Union of Myanmar. (b) To carry out the business by forming a company under the existing laws of Myanmar by the investor. (h) To carry out not to cause environmental pollution or damage in accord with existing laws in respect of investment business. (k) To carry out the systematic transfer of high technology relating to the business which are carried out by the investor to the relevant enterprises, departments or organizations in accord with the contract.
Foreign Investment Rule, 2013	
Rule 54	The promoter or investor shall: (a) comply with Environmental Protection Law in dealing with environmental protection matters related to the business; (b) shall carry out socially responsible investment in the interest of the Union and its people; (c) shall co-operate with authorities for occasional or mandatory inspection; (d) shall exercise due diligence to be in conformity and harmony with norms and standards prescribed by relevant Union Ministry in conducting construction of factories, workshops, buildings, and other activities; (e) shall enforce Safety and Health
The Amended Law for Factories Act, 1951 (2016)	
Hygiene in Working Environment: Section 3	Mentions responsibilities of employer and manager regarding waste disposal, ventilation, extreme temperature, dust and gas generation, minimum space for each worker, lighting, portable drinking water and toilets for employees.

Law and Regulation	Description
Safety in Working Environment: Section 4	States responsibilities of employer and manager concerning with machine guarding, personal protective equipment, housekeeping, aisles and exits, chemical storage and fire protection system to avoid accident.
The Private Industrial Enterprise Law, 1990	
Basic Principles: Section 3	Private Industrial Enterprises shall be conducted in accordance with the following basic principles:- (a) to enhance the higher proportion of the manufacturing value added in the gross national product and value of services, and to increase the production of the respective economic enterprises which are related to the industrial enterprise; (b) to acquire modern technical know-how for raising the efficiency of industrial enterprises and to establish the sale of finished goods produced by the industrial enterprise not only in the local market, but also in the foreign market; (d) to cause narrowing down of the gap between rural development and urban development by causing the development and improvement of industrial enterprises; (e) to cause opening up of more employment opportunities; (f) to cause avoidance of or reduction of the use of technical know-how which cause environmental pollution; (g) to cause the use of energy in the most economical manner.
The Export and Import Law (2012)	
Objectives	The objectives of this law are as follows: a) To enable to implement the economic principles of the State successfully. b) To enable to lay down the policies relating to export and import that supports the development of the State. c) To cause the policies relating to export and import of the State and activities are to be in conformity with the international trade standards. d) To cause to be streamlined and speedy in carrying out the matters relating to export and import.
Prohibitions: Section 5	No persons shall export or import restricted, prohibited and banned goods.
Prohibitions: Section 6	Without obtaining license, no person shall export or import the specified goods which are to obtain permission.
Prohibitions: Section 5	A person who obtained any license shall not violate the conditions contained in the license.
The Prevention of Hazard from Chemical and Related Substances Law, 2013	
This law was enacted with the objectives of : a. To protect from being damaged the natural environment resources and being hazardous any living beings by chemical and related substances; b. To supervise systematically in performing the chemical and related substances business with permission for being safety; c. To perform the system of obtaining information and to perform widely educative and research for using the chemical and related substance systematically; d. To perform the sustainable development for the occupational safety, health and environmental conservation. Regarding the chemical management and storage, currently, regulations governing chemicals management are divided between various Acts, mostly dating from colonial times; hence the legislation is in many respects related	

Law and Regulation	Description
to the British framework. The Factory Act and the Public Health Act contain the provisions for chemicals management and storage. Some chemicals are likely to require permits.	
Underground Water Act	
The underground water act enacted on the date of 21st June in 1930 whereas it is expedient to conserve and protect underground sources of water supply in the Union of Burma. This act prohibits sinking of a tube for the purpose of obtaining underground water except under and in accordance with the terms of a license granted by the water officer. Township Officer or sub-divisional officer had power to close a license tube after exercising jurisdiction over the local area concerned and the expense of such closure shall be recoverable from the owner of the tube as if it were an arrear of land-revenue.	
Myanmar Fire Brigade Law (2015)	
The Pyidaungsu Hluttaw enacted this law by Law No.11/2015 on the date of 17th March, 2015 with the following objectives: (a) to take precautionary and preventive measures and loss of state own property, private property, cultural heritage and the live and property of public due to fire and other natural disasters (b) to organize fire brigade systemically and to train the fire brigade (c) to prevent from fire and to conduct release work when fire disaster, natural disaster, epidemic disease or any kind of certain danger occurs (d) to educate, organize and inside extensively so as to achieve public corporation (e) to participate if in need for national security, peace for the citizens and law and order	
Section-8 Fire Safety Procedures	
Rule17	The relevant Government Department or organization shall, for the purpose of precaution and prevention obtain the approval of the Fire force Department before granting permission for the following cases: a. Constructing three-storied and above buildings market and condominium buildings, b. Operating hotel, motel, guest house enterprise c. Constructing factory, workshop, storage facilities and warehouse d. Operating business expose to fire hazard by using in inflammable materials or explosive materials e. Producing and selling fire-extinguishing apparatuses f. Doing transport business, public utility vehicles train, airplane, helicopter, vessel, ship, tonkin tug
Rule18	The relevant government department or organization shall obtain the opinion of the Fire Services Department for the purpose of fire precaution and prevention, when laying down plans for construction for town, village and downtown or village development plans
The Electricity Law (2014)	
In 2014, the new Electricity Law, a comprehensive piece of legislation covering licensing, a new regulatory commission, standards, inspection, tariff, and restrictions, replaced the Electricity Law of 1984. The Electricity Law divides projects into “small” (up to 10 MW), “medium” (between 10 MW to 30 MW) and large (upwards of 30 MW); the states and regions can issue permits for small and medium power plants. In case these plants are not connected to the national grid, the Union Government Ministry is not the primary authority involved. The authorities have a legal right to use land for the purpose of power plants under the Electricity Law, and have the right to expand and maintain their facilities. The law also provides that the authorities can build transmission lines in accordance with existing laws.	
Boiler Law (2015)	
Chapter (2) Objective	The objectives of this law are as follows:

Law and Regulation	Description
	(a) To obtain boilers in compliance with Myanmar Standards or International Standards (b) To prevent the country and citizens from hazards caused by boiler accidents (c) To use boilers in compliance with Myanmar Standards or International Standards within the country (d) To develop boiler technology and to produce experts capable of manufacturing, handling, repair, and maintenance of boilers (e) To optimize the use of boilers through effective utilization of fuel energy (f) To reduce the environmental, social and health impacts through long-lasting use of boilers.
Chapter (3) 4. With the permission of the Ministry, the inspector general can:	(a) Notify the inspection methods and instructions according to the national or international standards for safe operations of boilers in line with this law, procedures and instructions (b) Only the results obtained from the prescribed boiler standards and inspection methods will be approved.
Chapter (4). Boiler Registration	5. Anybody who would like to use a boiler in any kind of business should be registered. 6. Boiler should be manufactured according to Myanmar Standards or International Standards. 7. Those who would like to apply for boiler registration according to Section 5 should apply to the inspector with the application, documents and vouchers related to boiler 8. If the application regarding registration of boiler according to Section 7, the Registration Officer should conduct necessary inspection and submit results of the findings to the Inspector General. 9. The Inspector General should assess and inspect the submission of the Registration Officer according to Section 8 and could allow or reject for registration of the boiler. 10. The Inspector General shall define boiler size according to heated surface area in accordance with adopted procedures.
Chapter (13) Prohibitions	59. According to Section 21, nobody must alter, change, deface, deform or make embossed registration unnoticeable illegitimately. 60. Nobody is allowed to repair a boiler without boiler repair certificate. 61. Nobody is allowed to maintain a boiler without boiler maintenance certificate. 62. Nobody must alter safety relief valve in order to exceed the allowable pressure due to his consent or direction given by the owner. 63. Nobody must manufacture boilers against Section 25, Subsection 25 (a) and (b) enacted.
Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)	
The Pyidaungsu Hluttaw hereby enacts this Law for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly.	
The Social Security Law (2012)	
The Social Security Law, enacted in 2012, was amended the Social Security Act in 1954. It stipulates the formation and implementation of social security systems.	
Section 53(a)	The employers and workers shall co-ordinate with the Social Security Board or insurance agency in respect of keeping plans for safety and health in order to prevent employment injury, contracting disease and decease owing to

Law and Regulation	Description
	occupation and in addition to safety and educational work of the workers and accident at the establishment;
Labor Dispute Settlement Law (28 Mar 2012 replacing 1929 version)	
This law was enacted for safeguarding the right of workers or having good relationship between employer and workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly. It stipulates that employer in which more than 30 workers are employed shall form the workplace coordinating committee consisting of the representatives of workers and the representatives of employer.	
Section 23	A party, employer or worker, may complain individual dispute relating to his grievance to the Conciliation Body and if he is not satisfied with the conciliation of such body in accord with stipulated manners, may apply to the competent court in person or by the legal representative.
Section 24	The relevant Conciliation Body shall, in respect of the collective dispute known or received by the complaint of either party, employer or worker, in respect of the dispute; information sent by the Minister or the Region or State Government or any other means, carry out as follows: (a) conciliating so as to be settled within three days, not including the official holidays, from the day of knowing or receipt of such dispute; (b) concluding mutual agreement if the settlement is reached in conciliating under sub-section (a), before the Conciliation Body.
Section 25	The Conciliation Body shall refer the collective dispute which does not reach settlement to the relevant Arbitration Body and inform the persons relating to the dispute.
Section 38	No employer shall fail to negotiate and coordinate in respect of the complaint within the prescribed period without sufficient cause.
Section 39	No employer shall alter the conditions of service relating to workers concerned in such dispute at the consecutive period before commencing the dispute within the period under investigation of the dispute before the Arbitration Body or Tribunal, to affect the interest of such workers immediately.
Section 46	Any employer who violates any prohibition contained in sections 38 and 39 shall, on conviction, be punished with a fine for a minimum of one-lakh kyats.
The employment and skill development (2013)	
This law was enacted for safeguarding the right of workers or having skillful of workers and making peaceful workplace or obtaining the rights fairly, rightfully and quickly by settling the dispute of employer and worker justly. Employer shall conduct occupational training to enhance the skills of workers.	
Section 14	Employer shall conduct occupational training to enhance the skills of workers who are to be employed as well as workers who are presently employed in accordance with the requirements of the enterprise and the policy of the Skills Development Agency.
The Worker's Compensation Act, 1923	It stipulates that employer is required to make payments to employees who become injured or who die in any accidents arising during and in consequence of their employment. Such compensation also must be made for diseases which arise as a direct consequence of employment, such as carpal tunnel syndrome.
The Payment of Wages Act, 1936	The Payment of Wage Act defines the payment obligation to the workers employed in the factories or railway administration. It stipulates the method of payment stating that the payment should be made in cash on a regular payday, and allows legal action against delayed payment or un-agreeable deduction.
The Leave and Holidays Act (1951, partially revised in 2014)	This act has been used as the basic framework for leaves and holidays for workers with minor amendment in 2006 and 2014. This defines the public holidays that every employee shall be granted with full payment. It also defines

Law and Regulation	Description
	the rules of leaves for workers including medical leave, earned leave and maternity leave.
The Minimum Wage Law (2013)	The minimum wage law, passed in March 2013, was replaced the 1949 Minimum Wage Act. The law provides a framework for minimum wage determination: the presidential office establishing a tripartite minimum wage committee shall decide minimum wage with industrial variation based on a survey on living costs of workers possibly every two years. This also stipulates equal payment.
Public Health Law (1972)	**Chapter 2 Prevention of Public Health**
Prevention and Control of Communicable Disease Law 1995 (Amendment in 2011)	
Chapter 2 Prevention	4. When a Principal Epidemic Disease of a Notifiable Disease occurs; (a) Immunization and other necessary measures shall be undertaken by the Department of Health, in order to control the spread thereof; (b) The public shall abide by measures undertaken by the Department of Health under sub-section (a).
Chapter 4 Environmental Sanitation	For prevention of the outbreak of Communicable Disease and effective control of Communicable Disease when it occurs, the public shall under the supervision and guidance of the Health Officer of the relevant area, undertake the responsibility of carrying out the following environmental sanitation measures;- (a) Indoor, outdoor sanitation or inside the fence outside the fence sanitation; (b) Well, ponds and drainage sanitation; (c) Proper disposal o refuse and destruction thereof by fire; (d) Construction and use of sanitary latrines; (e) Other necessary environmental sanitation measures.

2.2. NATIONAL AND INTERNAL GUIDELINES FOR GARMENT MANUFACTURING

National Guidelines and Internal standard guidelines are referred for Environmental Management Plan of the proposed Garment Factory.

2.2.1. National Environmental Quality (Emission) Guidelines

According to the Environmental Conservation Law, MOECAF shall set standards of environmental qualities as agreed by the Union Government and the Environmental Conservation Committee to provide the basis for regulation and control of noise and vibration, air emissions and liquid discharges from various sources in order to prevent pollution for purposes of protection of human and ecosystem health. In section 13 of NEQG, Air emissions, noise, odor, and liquid/effluent discharges will be sampled and measured at points of compliance as specified in the project EMP and ECC.

2.2.2. General Guidelines

2.2.2.1. Air Emission

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: (i) emissions do not result in concentrations that reach or exceed national ambient quality guidelines and standards, or in their absence current World Health Organization (WHO) Air Quality Guidelines1 for the most common pollutants as summarized below; and (ii) emissions do not contribute a significant portion to the

attainment of relevant ambient air quality guidelines or standards (i.e. not exceeding 25 percent of the applicable air quality standards) to allow additional, future sustainable development in the same air shed. Industry-specific guidelines summarized hereinafter shall be applied by all projects to ensure that air emissions conform to good industry practice. Reference should be made to WHO's Air Quality Guidelines for Europe2 for air pollutants not included in the following Table 2-2.

Table 2-2 WHO's air quality guideline

Parameter	Averaging Period	Guideline Value
Nitrogen Dioxide	1-year	40
	1-hour	200
Ozone	8-hour	100
Particulate Matter PM10[a]	1-year	10
	24-hour	50
Particulate Matter PM2.5[b]	1-year	10
	24-hour	25
Sulfur dioxide	24-hour	20
	10-minute	500

[a] Particulate matter 10 micrometers or less in diameter

[b] Particulate matter 2.5 micrometers or less in diameter

2.2.2.2. Wastewater

Industry-specific guidelines apply during the operations phase of projects and cover direct or indirect discharge of wastewater to the environment. They are also applicable to industrial discharges to sanitary (domestic) sewers that discharge to the environment without any treatment. Wastewater generated from project operations includes process wastewater, wastewater from utility operations, runoff from process and storage areas, and miscellaneous activities including wastewater from laboratories, and equipment maintenance shops. Projects with the potential to generate process wastewater, sanitary sewage, or storm water should incorporate the necessary precautions to avoid, minimize, and control adverse impacts to human health, safety or the environment. Industry-specific guidelines summarized hereinafter shall be applied by all projects, where applicable, to ensure that effluent emissions conform to good industry practice.

For project types where industry-specific guidelines are not set out in these Guidelines, the following general guideline values, or as stipulated on a case-by-case basis, apply during project operations.

Table 2-3 Wastewater, Storm Water Runoff, Effluent and Sanitary Discharges (general application)[1]

Parameter	Unit	Guideline Values
5-day Biochemical oxygen demand	mg/l	50
Ammonia	mg/l	10
Arsenic	mg/l	0.1
Cadmium	mg/l	0.1
Chemical oxygen demand	mg/l	250
Chlorine (total residual)	mg/l	0.2
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Copper	mg/l	0.5
Cyanide (free)	mg/l	0.1
Cyanide (total)	mg/l	1
Fluoride	mg/l	20
Heavy metals (total)	mg/l	10
Iron	mg/l	3.5
Lead	mg/l	0.1
Mercury	mg/l	0.01
Nickel	mg/l	0.5
Oil and grease	mg/l	10
pH	S.U.[a]	6-9
Phenols	mg/l	0.5
Selenium	mg/l	0.1
Silver	mg/l	0.5
Sulphide	mg/l	1
Temperature increase	°C	<3[b]
Total coliform bacteria	100 ml	400
Total phosphorus	mg/l	2

[1] Pollution prevention and abatement handbook. 1998. Toward cleaner production. World Bank Group in collaboration with United Nations Environment Programme and the United Nations Industrial Development Organization.

Parameter	Unit	Guideline Values
Total suspended solids	mg/l	50
Zinc	mg/l	2

a Standard Unit

b At the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

2.2.2.3. Textiles Manufacturing

A. Effluent Levels

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/l	25
Absorbable organic halogens	mg/l	1
Ammonia	mg/l	10
Cadmium	mg/l	0.02
Chemical oxygen demand	mg/l	160
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Cobalt		0.5
Color		7 (436 nm[a], yellow) 5 (525 nm, red) 3 (620 nm, blue)
Copper	mg/l	0.5
Nickel	mg/l	0.5
Oil and grease	mg/l	10
Pesticides		0.05-010[b]
pH	S.U. [c]	6-9
Phenol	mg/l	0.5
Sulfide	mg/l	1
Temperature increase	°C	<3 [d]
Total coliform bacteria	100 ml	400
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

a Nanometers
b 0-05 mg/l for total pesticides (organ phosphorus pesticides excluded); 0.10 mg/l for organo phosphorus pesticides
c Standard Unit
b at the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity; when the zone is not defined, use 100 meters from the point of discharge

B. Air Emission Levels

Parameter	Unit	Guideline Value
Ammonia	mg/Nm^{3a}	30
Carbon disulfide	mg/Nm^3	150
Chlorine	mg/Nm^3	5
Formaldehyde	mg/Nm^3	20
Hydrogen sulfide	mg/Nm^3	5
Particulates	mg/Nm^3	50^b
Volatile organic compounds	mg/Nm^3	2/20/50/75/100/1 150 $^{c, d}$

a Milligrams per normal cubic meter at specified temperature and pressure
b as the 30-minute mean for stack emissions
c Calculate as Total carbon
d As the 30-minute mean for stack emissions; 2 mg/Nm^3 for volatile organic compounds classified as carcinogenic or mutagenic with mass flow greater than or equal to 10 g/hr; 20 mg/Nm^3 for discharges of halogenated volatile organic compounds with a mass flow equal or greater than 100 g/hr; 50 mg/ Nm^3 for waste gases from drying of large installations (solvent consumption > 15 tons/year); 75 mg/Nm^3 for coating application processes for large installations (solvent consumption > 15 tons/year); 100 mg/Nm^3 for small installations (solvent consumption < 15 tons/year); if solvent is recovered from emissions and reused, the guideline value is 150 mg/Nm^3

2.2.3. **IFC EHS Guidelines**

The EHS Guidelines[1] by International Finance Cooperation (IFC) are technical reference documents with general and industry–specific examples of Good International Industry practice (GIIP), as defined in IFC's Performance Standard 3: Resources Efficiency and Pollution Prevention. The EHS Guidelines contain the performance levels and measures that are normally acceptable to IFC and that are generally considered to be achievable in new facilities at reasonable costs by existing technology.

There are two kinds of guidelines, General EHS Guidelines and Industry Sector Guidelines. The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors in the following section: (1) Environment, (2) Occupational Health and Safety, (3) Community Health and Safety and (4) Construction and Decommissioning. Table 2-4shows the contents of the section of Community Health and Safety.

Table 2-4 Community health and safety contents

Contents	Brief Description
Water Quality and Availability	Drinking water sources should at all times be protected so that they meet or exceed applicable national acceptability standards or in their absence the current edition of WHO Guidelines for Drinking-Water Quality. Project activities should not compromise the availability of water for personal hygiene needs and should take account of potential future increases in demand. The overall target should be the availability of 100 liters per person per day.
Structural Safety of Project Infrastructure	Reduction of potential hazards is best accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a project (1) inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure (2) incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire, and (3) application of locally regulated or internationally recognized building codes, standards and regulations, and mitigation measures.
Traffic Safety	Traffic safety should be promoted by all project personnel during displacement to and from the workplace, and during operation of project equipment on private or public roads.

Contents	Brief Description
	Prevention and control of traffic related injuries and fatalities should include the adoption of safety measures that are protective of project workers and of road users, including those who are most vulnerable to road traffic accidents.
Transport of Hazardous Materials	Projects should have procedures in place that ensure compliance with local laws and international requirements applicable to the transport of hazardous materials.
Disease Prevention	Recommended interventions against the communicable diseases at the project level include (1) providing surveillance and active screening and treatment of workers, (2) preventing illness among workers in local communities by undertaking health awareness and education initiatives, training health workers in disease treatment and conducting immunization programs for workers, and (3) providing treatment through standard case management in on-site or community health care facilities.
Emergency preparedness and Response	All projects should have an Emergency preparedness and Response Plan that is commensurate with the risks of the facility and that includes the following basic elements: (1) Administration (policy, purpose, distribution, definitions, etc.) (2) Organization of emergency areas (command centers, medical stations, etc. (3) Roles and responsibilities, (4) Communication systems, (5) Emergency response procedures, (6) Emergency resources, (7) Training and updating, (8) Checklists (role and action list and equipment checklist), and (9) Business Continuity and Contingency.

Source: IFC, Environmental, Health, and Safety (EHS) Guidelines, General EHS Guidelines: Community Health and Safety (April 30.20070)

2.3. INSTITUTIONAL ARRANGEMENT

The Ministry of Environmental Conservation and Forestry (MOECAF) was reformed as the Ministry of Natural Resources and Environmental Conservation (MONREC) on 30th March, 2016 in order to undertake both environmental and natural resources conservation and management more effectively. Under Section 3 of the Environmental Impact Assessment Procedure (2015), pursuant to section 21 of the law and Articles 52, 53 and 55 of the Environmental Conservation Rules, all projects and project expansions undertaken by any organization, which may cause impact on environmental quality that, are required to obtain prior permission. This is to be in accordance with section 21 of the Environmental Conservation Law, and Article 62 of the Environmental Conservation Rules, having the potential to cause adverse impacts, that are required to undertake IEE or EIA or to develop an EMP, and to obtain an Environmental Compliance Certificate (ECC) in accordance with this EIA procedure.

2.4. COMMITMENT OF HUNGKIU (MYANMAR) GARMENT MANUFACTURING LIMITED

Hungkiu (Myanmar) Garment manufacturing Limited shall be responsible for the preservation of the environment at and around the area of project site. In addition to this, it shall carry out as per instructions made by Ministry of Natural Resources and Environmental Conservation (MONREC) in which to conduct an EMP which describe the measure to be taken for preventing, mitigation and monitoring significant environment impacts resulting from the implementation and operation of proposed project or business or activity has to be prepared and submitted and to perform activities in accordance with this EMP and be abided by the environment policy, Environmental Conservation Law and other environmental related rules and procedures.

a) The accuracy and completeness of the EMP,

b) That the EMP has been prepared in strict compliance with applicable laws including this Procedure

c) That the Project will at all times comply fully with the commitments, mitigation measures, and plans in the EMP Report.

Hungkiu Factory shall be responsible for the environmental assessment of factory development as follows:

- Monitoring the factory area operations according to EMP and Environmental Monitoring Plan (EMoP)
- Submitting environmental monitoring reports to ECD
- Planning and implementation of CSR activities
- To set up welfare plan such as staff medical checkup, training program and Public talk for getting knowledge, risk prevention, bonus and social security services
- To carry out fire safety assessment and ensure adequate and appropriate fire safety measures for employees

3. PROJECT DESCRIPTION

3.1. LOCATION

Hungkiu (Myanmar) Garment manufacturing Ltd. factory is located at No.35/9, Yangon-Mandalay Road, Inndakaw, Bago Township, Bago Region, Myanmar. Location map is shown in Figure 3-1.

3.2. SITE DESCRIPTION

The total area of project site is 39,368 square meters. There are designed three operations building and two facilities building. These are designed three operations building and two facilities building. Block A and B are production building, Block C is production and finished goods building, Block D is warehouse and Block E is staff dormitory. The project layout plan can be seen in Figure 3-3. These production building is designed into cutting section, sewing section, finishing section & inspection section and packing section, etc. Transformer room, generator room and boiler room are separated by expressly building structure.

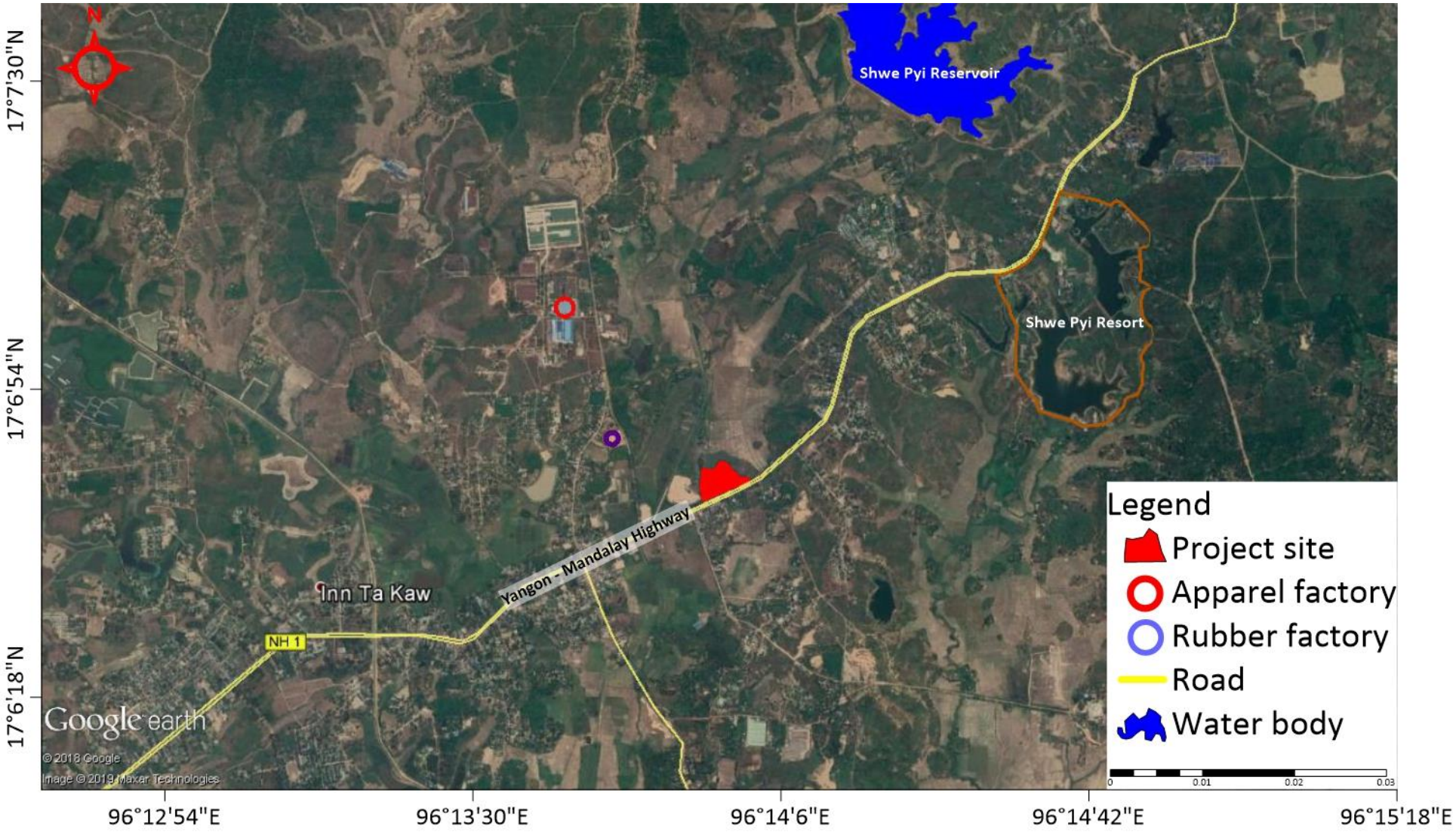


Figure 3-1 Location map

Figure 3-2 Aerial View of Project Area

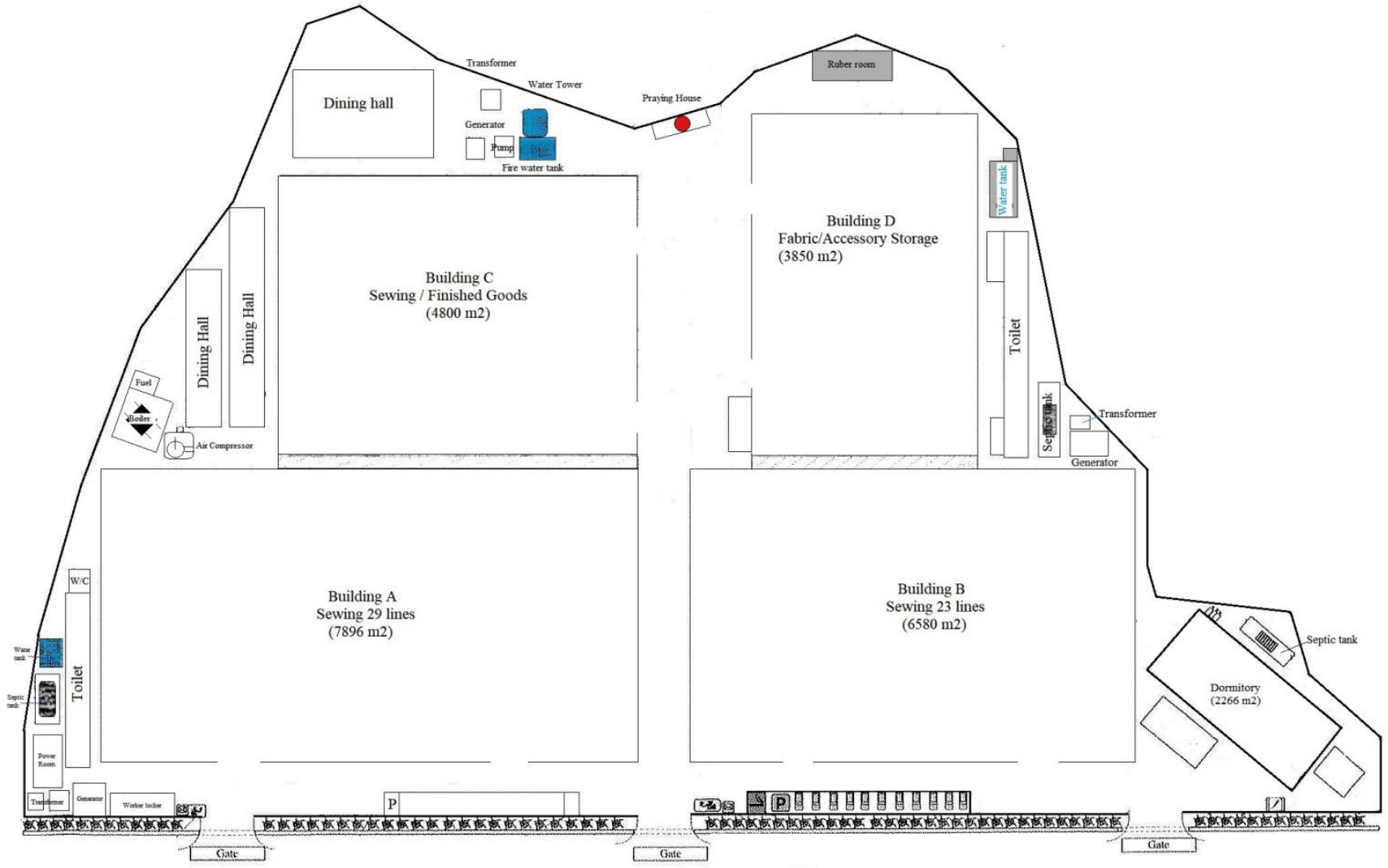


Figure 3-3 Factory layout drawing

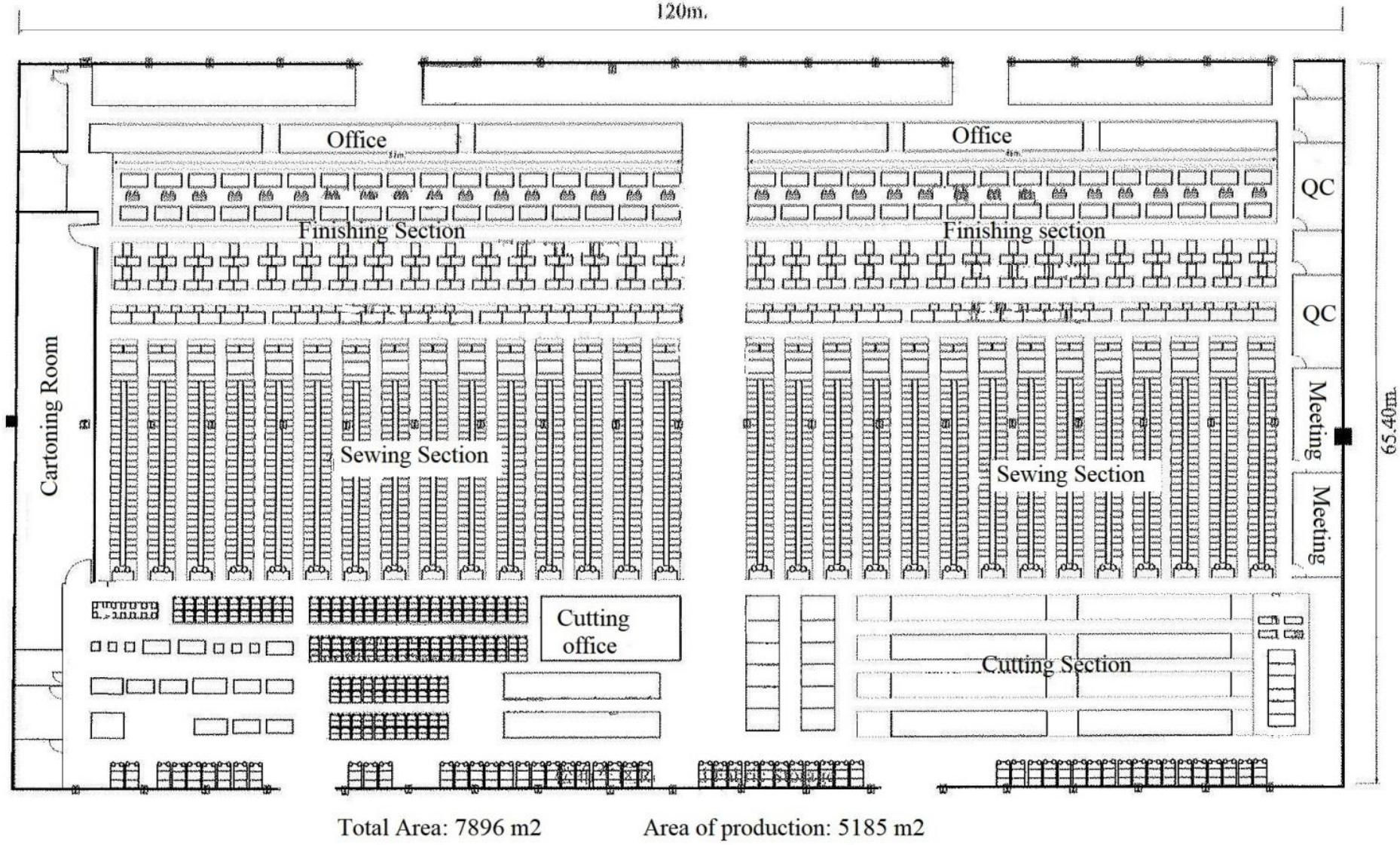


Figure 3-4 Building A layout plan

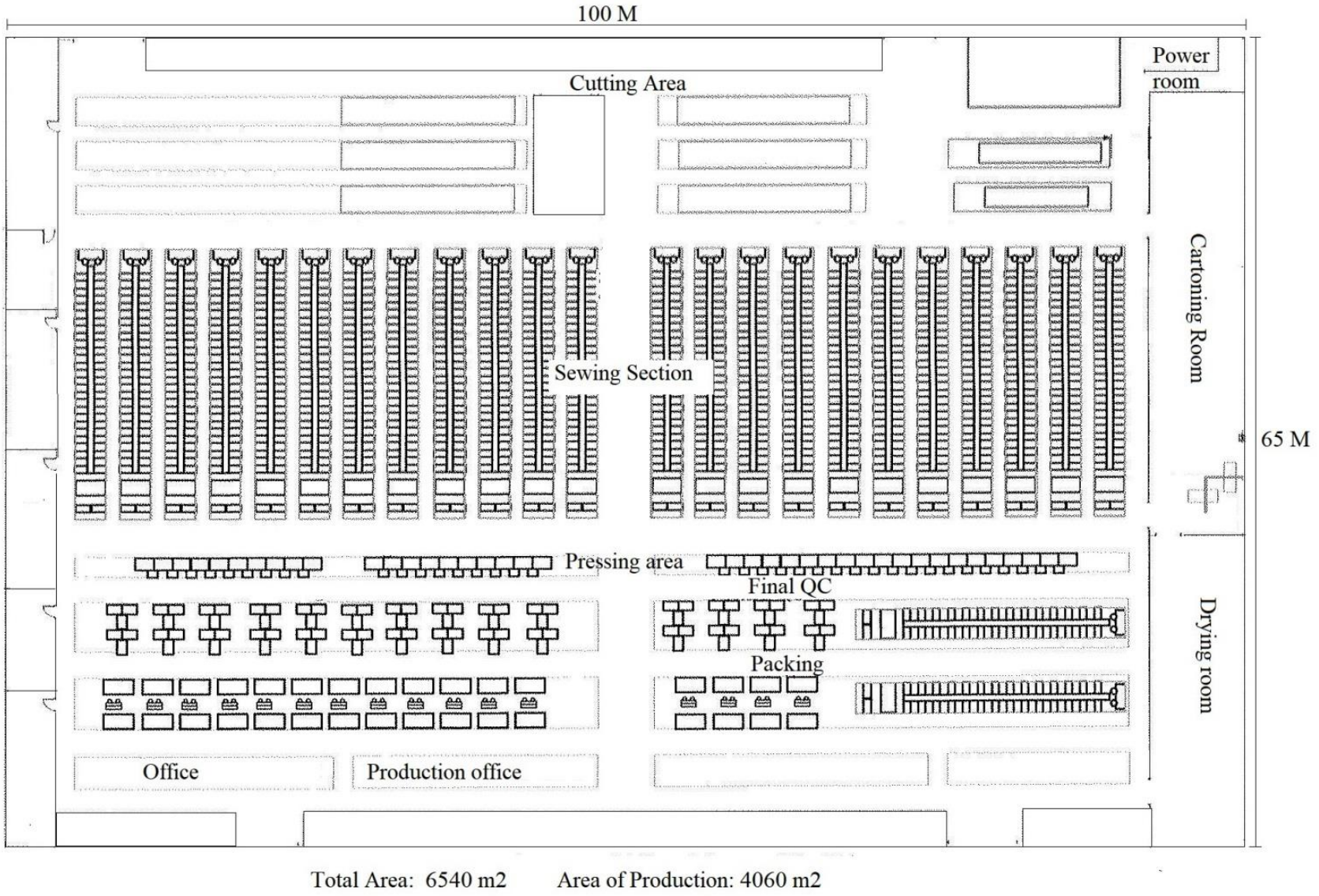


Figure 3-5 Building B layout plan

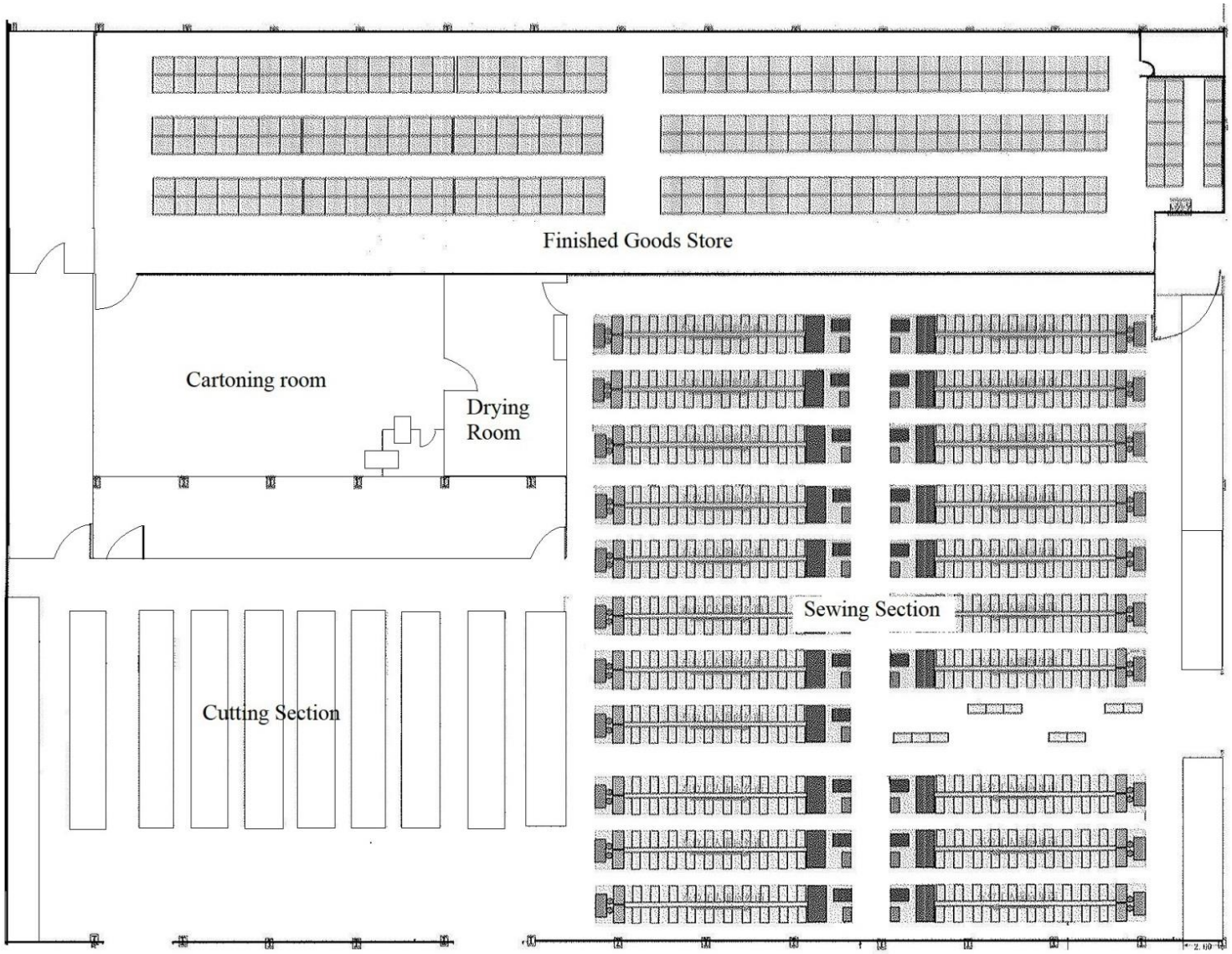


Figure 3-6 Building C layout plan

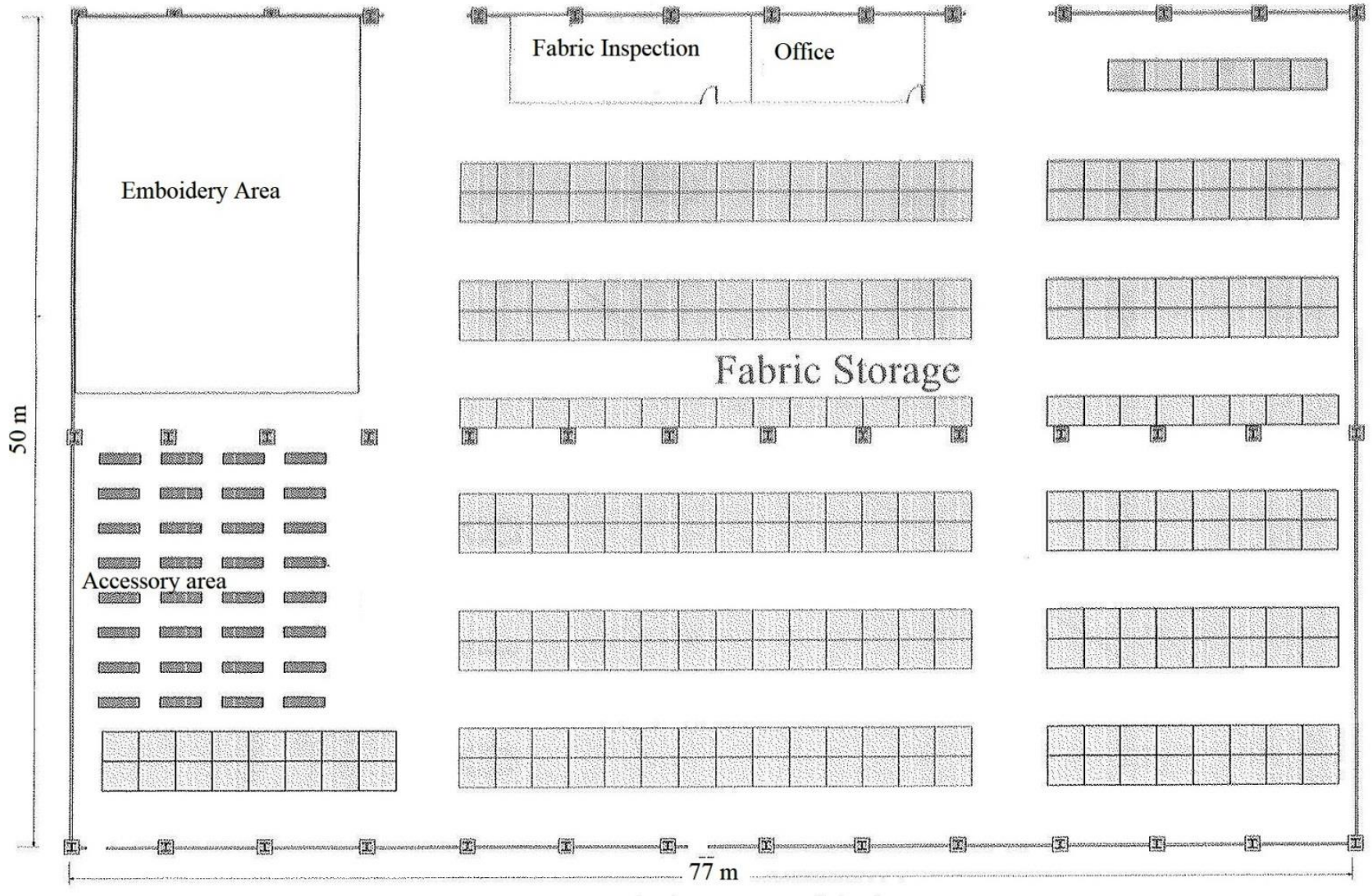


Figure 3-7 Building D layout plan

3.3. PRODUCTION PROCESS

The main operation of the factory is sewing. The sewing was operated one and two needle sewing machine and checked by quality control supervisor on each sewing line. The ironing process is completed after QC process. Then garment packing is completed and prior to shipping to its destinations. Production flow diagram is presented in Figure 3-8. Detail description is provided as following.

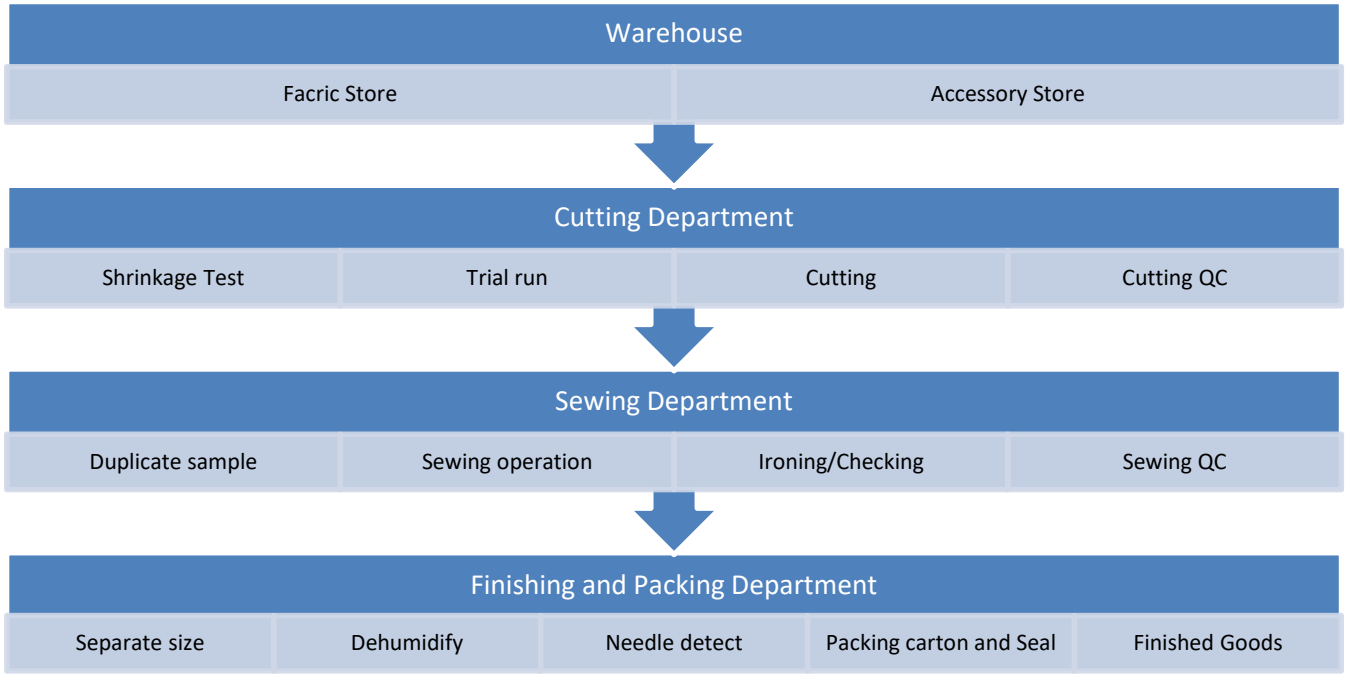


Figure 3-8 Production flow diagram

3.3.1. Description of Garment manufacturing

- **Design:** the buyer provides Design. After placing an order buyer send the technical sheet and art-work of an order to the merchandiser. Both do this process manually or by using computer.
- **Pattern Making:** By following technical sheet and art-work, pattern of each garment style should be made. It's done by both manually and by using computerized method.
- **Fit Sample Making:** The main target of making a fit sample is to follow the details instruction about that garments style. After making it's sent to the buyer to rectify. It's done by manually.
- **Production Pattern Making:** For bulk production, allowance added here with net dimension. Both do production Pattern Making manually and by using computer.
- **Grading:** During an order confirmation, the buyer suggests about the size ratio of that order. So that order should be graded according to the buyer's instruction. Grading is done by manually or by using computer.
- **Marker Making:** Marker is a very thin paper which contains all the parts of a particular garment. To make the cutting process easy, it's must be needed. Both can do marker making process manually and by using computer.

- **Fabric Spreading:** To cut the fabric properly fabric is spread in lay form. Fabric Spreading is done by manually or by using computerized method.
- **Fabric Cutting:** Fabrics have to cut here according to marker of garments. Fabric Cutting process is done by using manual method or computerized method.
- **Cutting Parts Sorting or Bundling:** Here, cutting parts have to sort out or make bundling to send these easily into the next process. This process is done by manually.
- **Sewing:** All the parts of a garment are joined here to make a complete garment. Sewing process is done by manually.
- **Garments Inspection:** After completing sewing, inspection should be done here to make fault free garments. Garments Inspection is done by using manual method.
- **Garments Ironing and Finishing:** Here, garments are treated by steam; also required finishing should be completed here. This process is done by using manual method.
- **Final Inspection:** Finally, the complete garments are inspected here according to the buyer's specification. Final Inspection is done by manual method.
- **Garments Packing:** Complete garments are packed here by using buyers instructed poly bag. Garments packing are done by using manual method.
- **Cartooning:** To minimize the damages of garments, all the garments have to cartoon by maintaining buyers' instruction. This process is done by manually.
- **Shipment:** After completing all the required processes it's finally send to the buyer.


Warehouse


Cutting Department




Sewing Department

Finishing and Packing Department

Figure 3-9 Operation process photo

3.3.2. **Products**

The products of the factory are knitted short, knitted pant, tee shirt, skirt, jacket and sleeping wear. Annual production rate is presented in Table 3-1.

Table 3-1 Annual production rate

Description	A/U	Year 1	Year 2	Year 3	Year4	Year 5	Year 6-30
Knitted Short	Doz	100,000	105,000	110,000	115,000	120,000	125,000
Knitted pant	Doz	85,000	89,250	93,500	97,750	102,000	106,250
Tee Shirt	Doz	120,000	126,000	132,000	138,000	144,000	150,000
Skirt	Doz	100,000	105,000	110,000	115,000	120,000	125,000
Jacket	Doz	123,000	129,150	135,300	141,450	147,600	153,750
Sleeping Wear/ Night Wear	Doz	110,000	115,500	121,000	126,500	132,000	137,500

Description	A/U	Year 1	Year 2	Year 3	Year4	Year 5	Year 6-30
Total	**Doz**	**638,000**	**669,900**	**701,800**	**733,700**	**765,600**	**797,500**

3.4. UTILITIES

The Utilities for proposed factory include electrical power, fuel oil for emergency used generator, electronic steam boilers and water for production and general purpose. Electric power will be used for the purpose of to run the production machinery and to provide lighting. Water will be required for general purpose and for the boiler, which generates hot water to supply to the molasses tank.

3.4.1. Raw Materials

The main Raw Materials Are woven fabric, cotton fabric, inter lining, pocket zipper, etc., are imported from Japan and China. List of Raw materials are described in Table 3-2.

Table 3-2 List of Raw Materials Requirement

No	Particular	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-30
1.	Woven Fabric	Yds	3,690,000	3,874,500	4,059,000	4,243,500	4,428,000	4,612,500
2.	Cotton Fabric	Yds	9,090,000	9,544,500	9,999,000	10,453,500	10,908,000	11,362,500
3.	Trims (Button/Thread/ Zipper)	Pc	3,696,000	3,880,800	4,065,600	4,250,400	4,435,200	4,620,000
4.	Inter Lining	Pc	6,837,000	7,178,850	7,178,850	7,862,550	8,204,400	8,546,250
5.	Pocket Zipper	Pcs	14,772,000	15,510,600	15,510,600	16,987,800	17,726,400	18,465,000
6.	Leg Zipper	Pcs	4,440,000	4,662,000	4,662,000	5,106,000	5,328,000	5,550,000
7.	Woven Badge	Pcs	7,656,000	8,038,800	8,421,600	8,804,400	9,187,200	9,570,000
8.	Velcro Tape (Hooh & Loop)	Yds	3,574,800	3,753,540	3,932,280	4,111,020	4,289,760	4,468,500
9.	Bungee Cord	Yds	10,212,000	10,722,600	11,233,200	11,743,800	12,254,400	12,765,000
10.	Lable	Pcs	15,048,000	15,800,400	16,552,800	17,305,200	18,057,600	18,810,000
11.	Elastic Band	Gross	4,609,200	4,839,660	5,070,120	5,300,580	5,531,040	5,761,500
12.	Poly Drawcord	Pcs	9,132,000	9,588,600	10,045,200	10,501,800	10,958,400	11,415,000
13.	Stopper	Pcs	10,344,000	10,861,200	11,378,400	11,895,600	12,412,800	12,930,000
14.	Snap	Pcs	37,680,000	39,564,000	41,448,000	43,332,000	45,216,000	47,100,000
15	Eyelet	Pcs	66,840,000	70,182,000	73,524,000	76,866,000	80,208,000	83,550,000

No	Particular	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-30
16	SP Thread	Mtr	1,413,600,000	1,484,280,000	1,554,960,000	1,625,640,000	1,696,320,000	1,767,000,000
17	Nylon Thread	Mtr	498,720,000	523,656,000	548,592,000	573,528,000	598,464,000	623,400,000
18	Enbroidery Thread	Mtr	328,080,000	344,484,000	360,888,000	377,292,000	393,696,000	410,100,000
19	Woven Tape	Yds	48,456,000	50,878,800	53,301,600	55,724,400	58,147,200	60,570,000
20	Seam Seal Tape	Yds	53,988,000	56,687,400	59,386,800	62,086,200	64,785,600	67,485,000
21	Poly Bag	Pcs	7,656,000	8,038,800	8,421,600	8,804,400	9,187,200	9,570,000
22	Hangtag	Pcs	7,656,000	8,038,800	8,421,600	8,804,400	9,187,200	9,570,000
23	Sticker	Pcs	7,656,000	8,038,800	8,421,600	8,804,400	9,187,200	9,570,000

3.4.2. **Machinery and equipment**

The machinery running date is 262 days in a year. Lists of machinery and equipment required for the Hung Kiu is listed in Table 3-3.

Table 3-3 List of machinery

No	Machine name	Brand	Model	Total machine
1	Singer needle machine	Brother	s-7200c-433	663 set
			S-7200B-433	
			s-7000DD-403	
			s-7000DD-403	
			s-7200A-333	
2	Cutting Machine	Brother	A777	1
3	Double Needle (Chainstitch) machine	ZOJE	ZJ 3800-BD	15
4	Zigzag lock machine	LIJA	L2280-D L2284-D	36
5	Overlock machine	Pegasus	M852	390
			M952	
6	Overlock machine	SIRUBAR	747FS-514M2-24	30
7	Over lock Machine	Pegasus M700	M732-38	7
	9 small needle sewing machine	kingte	UF9303	49

No	Machine name	Brand	Model	Total machine
8	Over lock Machine	Pegasus	M752-13H	255
		Pegasus M800	M852-13	
		Pegasus M700	M752-13H	
		Pegasus M700 M800	M752-13H M852-13	
9	Three needle machine	Pegasus	W-664	322
			W-1662-01GB	
			W66401CB, HB	
			W66401CB, HBC W664/W1662	
		Pegasus YAMATO	W664 CC2700-156M	
10	Interlocking Machine	Pegasus CW600	CW664-01CB	31
			W1662-01G	
11	Interlocking Machine	YAMATO	CC2700-156M	3
			CC2703-156M	
12	Button hole machine	Brother	HE-800B	22
13	Flat Locking Machine	Pegasus		58
		sinGHinH	VC-888	
14	Kansai vien	Pegasus	W562-02	15
15	Button attching machine	Brother	BE-438F	24
			438 D	
16	Bar tacking machine	Brother	KE-430F	32
			LK3-B430E-1-KE-430F	
17	Waistband (Garterring machine)	Bai Hui	BH-4412P	30
		KANSAI	DFB-1412P	
18	Cylinder-Bed Inter Lock Stiching Machine	Pegasus		71
19	Flat locking machine	Pegasus	W1562P-05B	33
20	Snap machine	Hong An	HS-1098A	41
21	Automatic button machine	DASUS		34

No	Machine name	Brand	Model	Total machine
		Hong An		
		Pulimin		
		Datang		
22	Double Needle (Chainstitch) machine	Brother	T-8420B-003	1
			LT2-B842-3	
		sicama	LT2-B842-3	
23	Scallop lockstitch	YOKO	DCL8500-Q	4
24	Waistband Sewing Machine	Golden Wheel	CSL-1238P-N	
25	Ribbon Sewing Machine	KANSAI	1302-4	16
26	Cylinder-Bed Inter Lock Stitching Machine	kingtex	NTD6701-M5	125
		Pegasus		
		Yamantao		
27	lectronic Pattern Sewing Machine	brothers	436	1
28	Cylinder-Bed Chainsteth Sewing Machine	Pegasus	W664-35B	45
		kingtex		
29	maythuungtudong	keki	BAS311H	9
30	waist band mechine	银箭	VC008-1332-032P	11
		kansai	1412P	
			1404P	
		kansaibaihuy	4408P	
		kenspecial	VC008	

3.4.3. **Human Resource**

Human resource required by foreign experts/technicians and local persons for administrative and production process (Table 3-4). Currently 2,200 employees are at day shift workers (8:00 am to 5:00 pm).

Table 3-4 Annual human resource requirement

Employee	Local	Foreign
Management Personal	8	
Technician Specialist	10	
Supervisor Staff	80	
Office and Clerical Staff	47	
Skilled and Semiskilled Workers	1750	

Unskilled Workers	350	
General Manager		1
Production Manager		1
Factory Engineer		5
Technician		13
Total	**2245**	**20**
	2265	

3.4.1. **Water Supply System and Water Use**

The project was use groundwater for domestic use and firefighting. The groundwater stores in the three storage tanks on one-ground tanks with capacity of 45,000 gallons for fire-fighting and two overhead tanks with capacity of 60,000 gallons for domestic use. (see in Figure 3-10). Based on world average, the average daily domestic demands in commercial/industrial settings range between shift person and living persons. Since the factory has a maximum of 2200 workers, factory water needs ranged from 100,000 gallons per day.The factory also use rainwater and stored in overhead tank.

The factory has 3 separated water distribution systems comprising domestic use system, fire water system and boiler useage. Groundwater contains in ground storage tank with capacity of 45,000 gallons for fire-fighting and boiler. Fire water distribute via main type to distribute water for fire-fighting equipment such as, sprinkler system, fire hose within the factory by firewater pump with capacity of 833 gallon per minute. Drinking water is provided by Supernal purified drinking water and daily demand is 50 numbers of 20-liter bottles. **(Drinking water laboratory test result is presented in Appendix)**. Ground water pumps to be stored in the overhead tank with 60,000 gallons on the water tower and ground tank then water distribute to the factory operation area via pipes by gravity.

Figure 3-10 Water storage Tank and Overhead Tank

3.4.2. **Electricity system**

The proposed project is intended to get required electricity supply form Bago City Electricity Supply Board (BESB) and distributed by 1000 kVA transformer (3 sets). Another source of energy 1250 kVA generator (7 sets) will also be kept as the emergency generator if normal electricity supply could not provide for the proposed project. The diesel usage of the factory is 3000 gallons per month. Electricity distribution room and generator room are shown in Figure 3-11.

Figure 3-11 Electricity distribution Room and Generator Room

3.4.1. Stream boiler

The boiler uses in ironing process for daily and used of fuel for steam boiler is fired wood. General information of proposed boiler information is mentioned in below Table 3-5. Figure 3-12 is photo of boiler operation in the factory. Monthly energy record table is presented in Table 3-6.

Table 3-5 Utilities of fired wood steam boiler

Description	Process
General operation process	Fluidizing > Igniting > Fuel Feeding
Water consumption per hour	1 m^3/hr
Boiler effluent in drainage	Blow down valve > Underground water pipe > nearest drainage
Amount of wastewater discharge	0.12 m^3/hr
Bottom ash release per day	14.5 kg/hr (10% of fuel usage)

Figure 3-12 Steam boiler and firewood fuel

Table 3-6 Monthly energy record table

Diesel (200 ltr tank)		Wood (Ton)	
Jan 2019	22	Jan 2018	150
Feb 2019	6	Feb 2018	240
Mar 2019	18	Mar 2018	180
Apl 2019	36	Apl 2018	0
May 2019	95	May 2018	210
-	-	Jun 2018	240
-	-	Jul 2018	90
-	-	Aug 2018	60
-	-	Sep 2018	150
-	-	Nov 2018	150
-	-	Dec 2018	150

3.5. FACILITIES

3.5.1. Air pollution control facility

Hung Kiu (Myanmar) Garments factory has also implemented canteen facilities, kitchen ventilation system has already installed and operated in order to remove smoke, heat, odors, and steam from cooking. In addition, the factory has already installed a chimney for boiler stack at 150 ft high.

Figure 3-13 Chimney photo of boiler

3.5.1. First Aid and Health Facility

The proposed project has a clinic and a nurse. Medicines and first aid kits are provided in this clinic. Moreover, these medicines and first aid kits are provided for emergency cases of workers. First aid training, safety training, firefighting training or other essential training for machinery handling must be provided for workers. According to the observed light intensity values, the proponent provides sufficient lighting for workers for safe working and reducing optical problems of the workers. Personal

Protective Equipment (PPEs) like earmuffs, safety gloves, helmets and goggles are provided for each department.

The project proponent has provided fire extinguishers, fire hose reels and fire hydrants on the walls of the factory for fire emergency cases. The emergency contact numbers of township and district fire services department must be printed and tagged at easily visible places for fire emergency cases. The emergency fire alarms are installed at the factory for alerting the workers in case of fire. The main entrances and route for emergency cases of the factory must not be blocked with materials or machines for fire emergency cases. The plan to install fire alarm system and fire-frightening system are mentioned in Figure 3-3.

Figure 3-3 Fire Safety facilities

3.5.2. **Wastewater and sewage collection facility**

All type of sewage drained from toilet, bathroom and other areas in which there is water usage was collected into underground septic tank. Wastewater pipes from kitchen, dish washing sink and office area to drain into factory drainage channel for further draining into oil and grease trap prior to sending to the silt trap then discharge to the storm water channel.

Currently toilet facilities have hygienic toilets already provided and categorized by gender, marked distinctly for men and women by signs and symbols. In addition, toilet areas will also be provided with water sinks, necessary toiletries, and hand washing soaps, hand drying facilities, and waste bins.

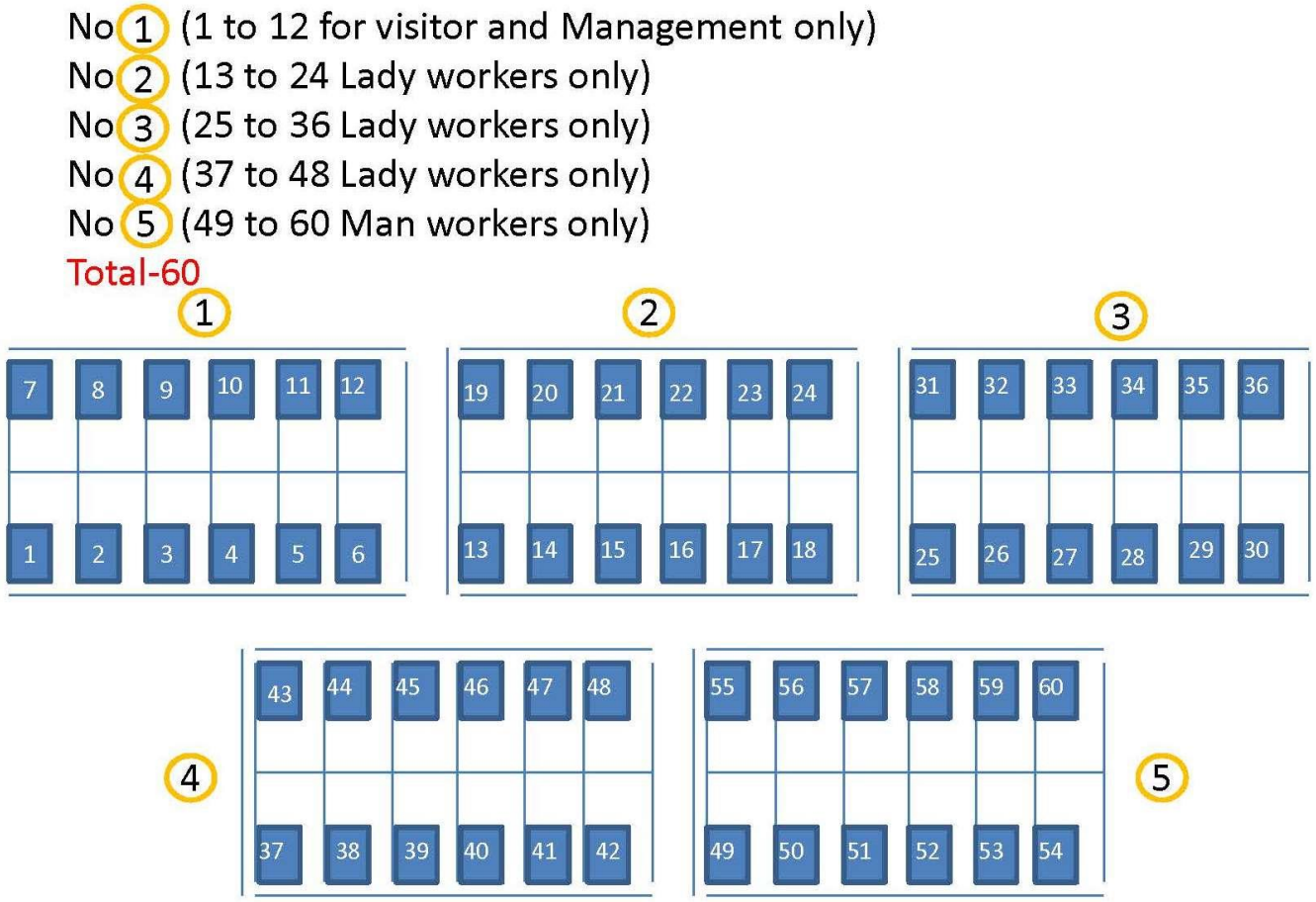


Figure 3-14 Toilet service plan for Block A

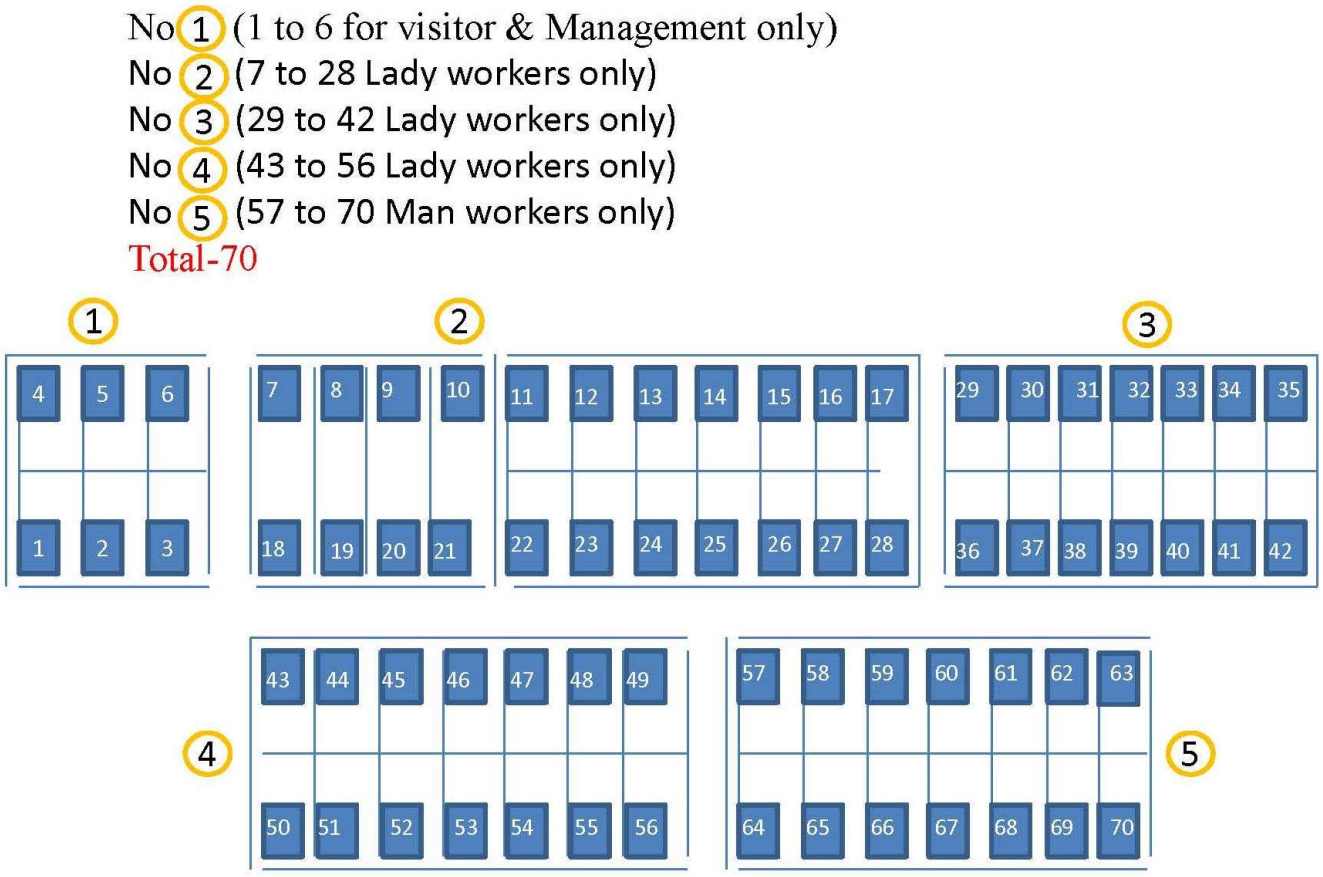


Figure 3-15 Toilet service plan for Block B

Table 3-7 Toilet facilities

Categories	Area of location	Kind	Quantities
Visitor & Management	Block A	Male	6
		Female	6
	Block B	Male	3
		Female	3
Workers	Block A	Male	12
		Female	36
	Block B	Male	14
		Female	50

Figure 3-16 Photo of facilities for water effluent

3.5.3. **Water Drainage and flood protection**

Kitchen and dishwashing sink were drainage pipe with 4-inch diameter PVC to drain wastewater from washing area into the concrete channel. Within the factory compound, there was drainage channel with concrete to collect rainwater in the factory area. The factory is located in Inndakaw village. The factory has already provided internal rainwater drainage system in connection with local drainage system outside the factory to drain into public drainage in front of factory.

Figure 3-17 Rainwater drainage in factory compound

3.5.4. Solid Waste Facility

At Hung Kiu Garments factory, waste categorization has been developed into at least five types of waste that includes iron, compost waste, lubricant waste, recycle waste (such as poly propylene bags (PP) and cardboards etc. All of production waste such as fabric scraps, fabric paper tube, plastic bags, cardboard, wood, plastic string and other non-hazardous waste will be collected by designated garbage bins and then sent to the temporary storage areas of solid waste in the project site area, which include 5 compartments for different kinds of waste categories. In addition, pest control program has also implemented at the entrance of rodents and insects. Hung Kiu also has an agreement service with Bago Municipal for waste disposal facilities to collect the all-production waste, office waste and domestic waste. According to the waste management practice, Hung Kiu has provided the dedicated dustbins for paper waste, plastic waste, production waste and food waste for the proper disposal of waste. Solid Waste Management System in the Proposed Project Site is presenting in Figure 3-18.

Figure 3-18 Waste collection practices

3.6. STATUS OF THE FACTORY

Hung Kiu is using ground water for both industrial and household (sanitation) purpose, which is supplied by deep tube well. The factory also has generators for electricity generation. The fuel used in

the industry is Diesel and Purchased electricity. The sanitary liquid waste of the factory is stored in septic tank.

The major pollution caused by the factory's operation are water pollution by discharging liquid waste generated from domestic (kitchen,dormitory) i.e., air pollution by boiler/ generator's effluent gas emission, noise pollution created during the operation of boiler, generator and other machines.

Solid waste such as broken machine parts, paper box is hand over to Bago Municipal. Although the factory causes some pollution but also has a positive side and that is the factory has created employment for many people, due to this factory local community has built up daily.

3.6.1. **Industrial wastes**

Solid wastes are generated form the factory include fabric scraps, fabric paper tube and packing materials of plastic sheet and carton box in the operation section. Total amount of waste about maximum 6 tons per day are generated from operation process.

There is no wastewater generated from garments manufacturing process.

3.6.2. **Human wastes**

The number of staff and workers required in the day shift for the factory is maximum 2,200 persons during operation. Solid waste generated from maximum number of operators and office staffs with assumption of waste generation rate at 858 kg/day was calculated based on solid waste generation rate of 0.39 kg/person/day[2].

Domestic wastewater generated by maximum amount of 2,200 persons with assumption rate at 220 m^3/day was calculated based on domestic wastewater generated rate of 0.1 m^3/person/day[3]. This water will be released in operation hour discharge to septic tank or factory drainage.

3.6.3. **Waste Balance**

A mass balance Hung Kiu (Myanmar) Garment factory is illustrated in below Figure 3-19, which presents water and energy inputs and the outputs with respect to residue and sub-products, liquid effluents and air emissions.

[2] The Yangon City solid waste generation rate as of 2012 is 0.39 kg per person per day (Pollution Control and Cleansing Department, Yangon City Development Committee, 2014).

[3] The domestic wastewater generation was based on typical wastewater generation rate of 0.1 m3 per person per day (Metcalf & Eddy, 2004)

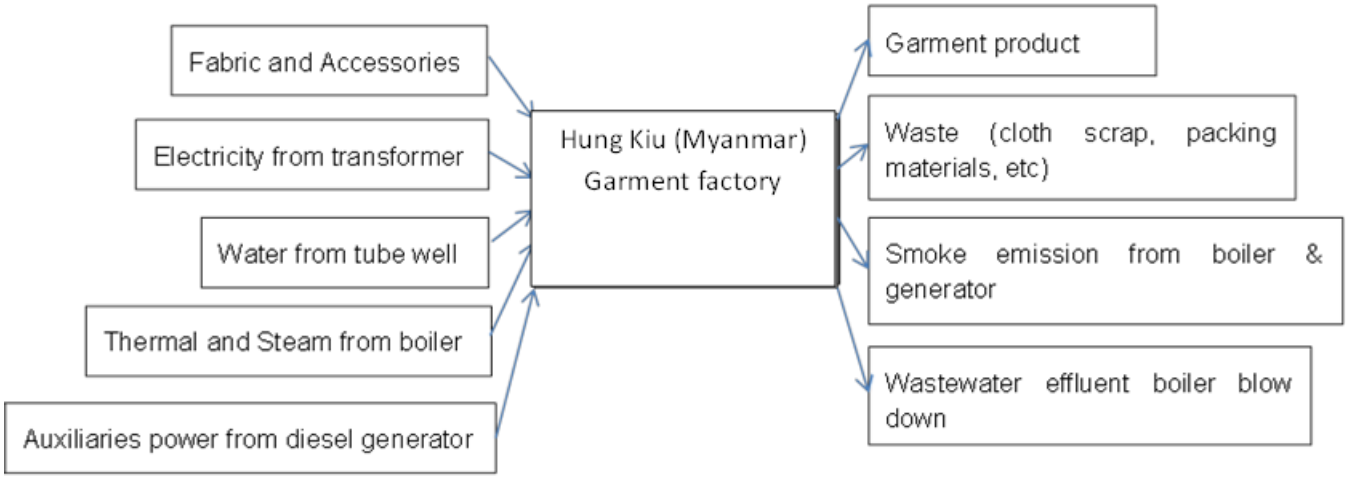


Figure 3-19 Typical mass balance

4. BRIEF DESCRIPTION OF SURROUNDING ENVIRONMENT

The purpose of this Chapter is to predict how environmental and socio-economic conditions will affect because of the implementation of the proposed Project. This requires a sound understanding of the baseline conditions at the Project Site, which established through desktop study research, site surveys, primary data collection and projections for future developments. Findings provide the current and future characteristics of the Project Site and the value and vulnerability of the key environmental and socio-economic resources and receptors. The following sections provide a description of the environmental and socio-economic aspects of the Project.

4.1. METHODOLOGY FOR DATA COLLECTION AND ANALYSIS

The followings are methodologies used for Environmental Management Plan (EMP) for this report preparation;

- Onsite Measurements and Analysis – Baseline parameters such as air quality, water quality, indoor temperature, humidity, noise and light condition are measure in the project area. The analyzed results are mentioned in this chapter.
- Secondary data collection of proposed project site area – Socio economic condition, physical/biological environment, and weather data are collected from official township data of Bago Township, Bago Region.

4.2. ENVIRONMENTAL BASELINE STUDY

The field observation for determining the environmental baseline of the proposed project area was undertaken during construction period. The survey team consists of the senior consultant and environmental quality team. The baseline data collected regarding the environmental condition of the project area was conducted in the following section.

4.2.1. Air Quality

To determine the existing baseline ambient air quality status within the project site on 21, June 2019, which include dust (PM_{10} and $PM_{2.5}$) were measured at the selected site using the HCHO air monitoring station. It was observed that the air quality of particulate matter (PM_{10}, $PM_{2.5}$) are within the National Environmental Quality (Emission) Guideline. Atmospheric particulate matters such as PM10 and PM2.5 have their ability to reach the deepest part of lungs and so affect respiratory process. Air quality result is compared with NEQ guideline to present in following Table 4-1.

Table 4-1 Observed air quality results for project site

Location	GPS value	Parameters	Observed value	Guideline value	Unit
Building B (Sewing Area)	17°11'23.17"N 96°23'38.01"E	PM_{10} $PM_{2.5}$	39.1 26.9 (There is no major impact on operation process)	50 25	µg/m^3
Building B (Ironing & QC Area)	17°11'22.67"N 96°23'38.02"E	PM_{10} $PM_{2.5}$	36.8 21.6	50 25	µg/m^3

Building B (Cutting)	17°11'23.56"N 96°23'37.50"E	PM_{10} $PM_{2.5}$	33.0 22.7	50 25	µg/m³
Building C (Sewing Area)	17°11'23.86"N 96°23'34.30"E	PM_{10} $PM_{2.5}$	21.3 14.1	50 25	µg/m³
Building C (Cutting)	17°11'23.51"N 96°23'33.33"E	PM_{10} $PM_{2.5}$	24.1 15.3	50 25	µg/m³
Building C (QC & Finish Area)	17°11'24.24"N 96°23'33.05"E	PM_{10} $PM_{2.5}$	35.4 15.0	50 25	µg/m³
Building C (Dry room)	17°11'24.64"N 96°23'33.70"E	PM_{10} $PM_{2.5}$	7.6 11.8	50 25	µg/m³
Building A (Cutting Area)	17°11'21.92"N 96°23'33.29"E	PM_{10} $PM_{2.5}$	2.5 20.2	50 25	µg/m³
Building A (Packing Area)	17°11'22.19"N 96°23'35.30"E	PM_{10} $PM_{2.5}$	46.0 15.3	50 25	µg/m³
Building A (Sewing Area)	17°11'21.34"N 96°23'33.95"E	PM_{10} $PM_{2.5}$	21.3 14.1	50 25	µg/m³
Building A (Ironing & QC Area)	17°11'21.01"N 96°23'34.09"E	PM_{10} $PM_{2.5}$	36.8 21.6	50 25	µg/m³
Building D (Store Area)	17°11'25.61"N 96°23'36.44"E	PM_{10} $PM_{2.5}$	23.0 16.3	50 25	µg/m³
Building D (QC Area)	17°11'24.21"N 96°23'36.69"E	PM_{10} $PM_{2.5}$	30.4 16.1	50 25	µg/m³
Building D (Lab room)	17°11'24.85"N 96°23'35.94"E	PM_{10} $PM_{2.5}$	13.7 17.6	50 25	µg/m³

NEQ = National Environmental Quality (Emission) Guideline

Figure 4-1 Air quality measurement at the project site

4.2.2. Boiler down Water Quality

Wastewater effluent results of the whole factory water are compared with NEQ (emission) Guidelines for Poultry Production (industries specific guideline). In this Hung Kiu Factory project, water from boiler down final drainage before discharge into public drainage were collected on 21 June, 2019.

Figure 4-2 Wastewater sampling

4.2.2.1. Water laboratory result

According to the wastewater analysis results see in Table 4-2, all of the list's parameter are good and within the limit of NEQ (emission) guideline. However, physic-chemical properties of wastewater effluent parameter of turbidity, Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD) and TSS are exceeding the National Environmental Quality (emission) Guidelines. This effluent water is not direct discharge to natural waterway, therefore there is not potential impact in environmental issues.

Table 4-2 Water quality laboratory results

No	Parameter	Unit	Result	Drinking Standard	Effluent Standard	Remark
1	pH	pH	7	6.5-8.5	6.0-9.0	Normal
2	Colour	HU	1890	-	-	-
3	Turbidity	FAU	221	≤10 FAU	NG	Turbid
4	Temperature	°C	24	-	±3°C	-
5	Total dissolved solids	mg/L	903	NG	≤2000 mg/L	Normal
6	TSS	mg/L	210	NG	≤50mg/L	Above the limits
7	Total Solids	mg/L	1113	-	-	
8	Dissolved oxygen	mg/L	2.65	≥3 mg/L	NG	Normal
9	5 days BOD	mg/L	351	≤3 mg/L	≤50mg/L	Above the Limits
10	COD	mg/L	873	NG	≤250mg/L	Above the Limits
11	Arsenic	mg/L	0	≤0.01mg/L	≤0.1mg/L	Normal
12	Chlorine total residual	mg/L	<0.02	NG	≤0.2 mg/L	Normal

National Emission Guideline NG= No guideline

4.2.3. Indoor Temperature and Humidity

The indoor all buildings temperature and humidity condition during 21, June 2019 shows the average temperature of 33.14°C while the average humidity is 72.8 %.

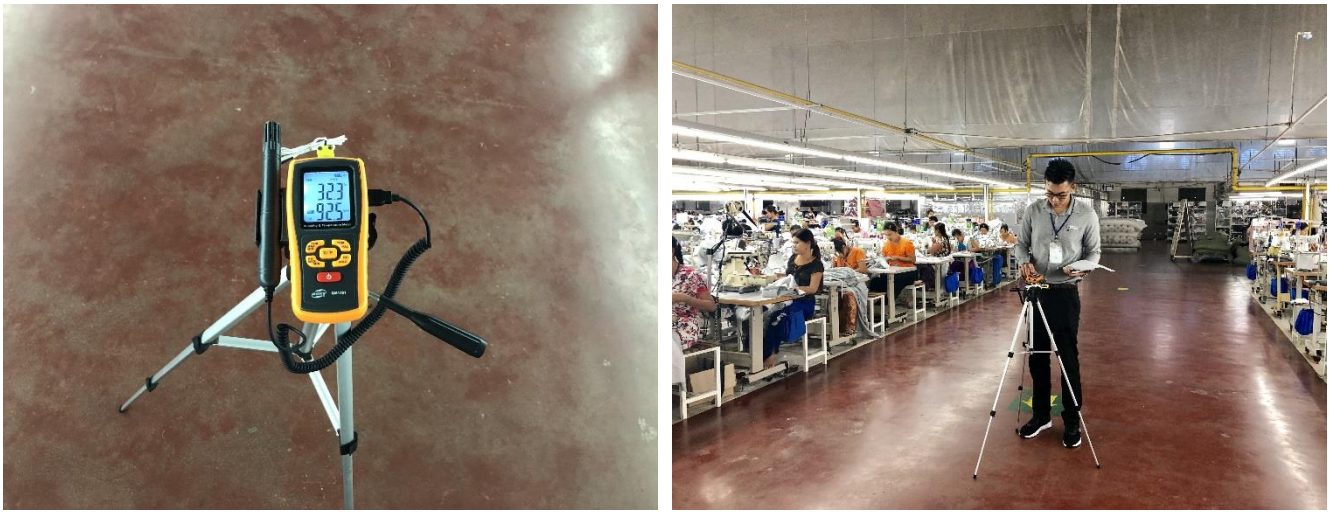


Figure 4-3 Temperature and Humidity measurement in operation area of the factory

4.2.4. Light

Activities of the workers in the garment factory are highly dependent on the quality of light. Therefore, the consultant conducted the light measurement in the garment factory is presented in Table 4-3. The illustrates the recommended illumination and limiting glare index applicable to typical works (fairly severe to very severe tasks) in Garment factory is provided in Table 4-4. Appropriate lighting is the need for every department, irrespective to the task being handled. Although, there are some areas

where focus on maintaining proper illumination is very crucial in a Garment factory, like the inspection points (on-floor and in stores), sampling, and the finishing section, as these areas are crucial to the quality of the production. The tasks involved in these areas require high levels of worker focus and accurate lighting ensures lower errors and defects passing on to the next stage. However, according to the result of light measurement at operation area (inside the production sector) is normal condition to the acceptable level of standard.

Accurate and quantifiable measurement of light is essential in creating desired outcomes in practical day to day applications as well as unique applications. From measuring the amount of light in a work space surface to ensuring emergency exits have proper illumination, light measurement and analysis is an important step in ensuring efficiency and safety. To perform these measurements, technicians often make use of lux meters which are specialized devices that measure the intensity of light falling on a surface, or "lux".

From the workers' perspective, poor lighting at work can lead to eye strain, fatigue, headaches, stress and accidents. On the other hand, too much light can also cause health and safety problems such as "glare" headaches and stress. Both can lead to mistakes at work, poor quality and low productivity. Various studies suggest that good lighting at the workplace pays dividends in terms of improved productivity, and a reduction. Improvements in lighting do not necessarily mean that you need more lights and therefore use more electricity – it is often a case of making better use of existing lights; making sure that all lights are clean and in good condition; and those lights are positioned correctly for each task. It is also a case of making the best use of natural light. Most garment factories have a combination of natural and artificial lighting. However, little attention appears to be paid on the nature of the work – it is as though all work in the factory requires the same degree of lighting.

Although no detailed standards for lighting exist in Myanmar and international, there are a number of general guidelines which can be used for reference. International Labour Organization (ILO) gives recommendations for the amount of light that should be available for the type of work – for example:

Table 4-3 Recommended illumination and limiting glare index based on IES Code, 1968

Visual test	Illumination (lux)	Glare index
Casual seeing	100	28
Rough task with large detail	200	25-28
Ordinary task medium detail	400	25
Fairly severe task, small detail (e.g. drawing office, sewing)	600	19-22
Severe, prolonged task, very small detail (e.g. fine assembly, hand tailoring)	900	16-22
Very severe, prolonged task, very small detail (e.g. gem cutting, hosiery mending, gauging very small parts)	1,300-2,000	13-16

Source: Koenigsberger, et al. 1975

Light measure at sewing line

Light measure at cutting line

Figure 4-4 Light quality measurement

Table 4-4 Light Measurement in Garment factory

No	Location	Measure value (Lux)	Standard*
	Building A		
1	Sewing Line 5	609	400
2	Sewing Line 10	511	400
3	Sewing Line 15	517	400
4	Sewing Line 20	508	400
5	Cutting Line 1	558	600
6	Cutting Line 2	580	600
7	Ironing Line 1	543	600
8	Ironing Line 2	498	600
9	QC Line 1	811	900-1200
10	QC Line 2	743	900-1200
11	Packing Line 1	563	600
12	Packing Line 2	510	600
	Building B		
13	Sewing Line 5	615	400
14	Sewing Line 10	643	400
15	Sewing Line 15	432	400
16	Sewing Line 20	499	400
17	Cutting Line 1	530	600
18	Cutting Line 2	524	600
19	Ironing Line 1	561	600
20	Ironing Line 2	506	600

No	Location	Measure value (Lux)	Standard*
21	Ironing Line 3	476	600
22	QC Line 1	630	900-1200
23	QC Line 2	427	900-1200
24	Packing Line 1	543	600
25	Packing Line 2	626	600
	Building C		
26	Sewing Line 5	587	400
27	Sewing Line 10	568	400
28	Sewing Line 15	539	400
29	Sewing Line 20	581	400
30	Cutting Line 1	580	600
31	Cutting Line 2	537	600
32	Cutting Line 3	641	600
33	QC Line 1	1145	900-1200
34	QC Line 2	927	900-1200
35	QC Line 3	1105	900-1200
36	Packing Line 1	567	600
37	Packing Line 2	543	600

* Lighting standards and codes usually provide recommended illuminance ratios between the task area and its surroundings (EN 12464-1 2002) (CIBSE 1997) (IESNA 2000, 676708).

4.2.5. **Noise**

The Noise level was measured by using Digital Sound Level Meter for working hours on 16, November 2018 (Table 4-5). The average noise level in the project site area is 75.62 dB. Receptor (outside of production area at project site) noise level measurement is dB and within the comfortable range of 40-60 decibel. However, found to be the Noise source monitoring at operation area (inside the production sector) noise level a little bit of exceeding the level of National Environmental Quality (Emission) Guideline and outside of production area at the project site is acceptable when compared with National Environmental Quality (Emission) Guideline. Therefore, no obvious influence can be caused occupational health and safety of employees during operation. Moreover, Personal Protective Equipment (PPE) to decrease adverse impact of noise will be provided for employees when necessary.

Table 4-5 Comparison of Noise level measurement

Area	Average Noise Level (dB)	NEQ Guideline
Project Site (Building A)	75.22dB	70 dB
Project site (Building B)	76.63dB	70 dB
Project Site (Building C)	75.02dB	70 dB

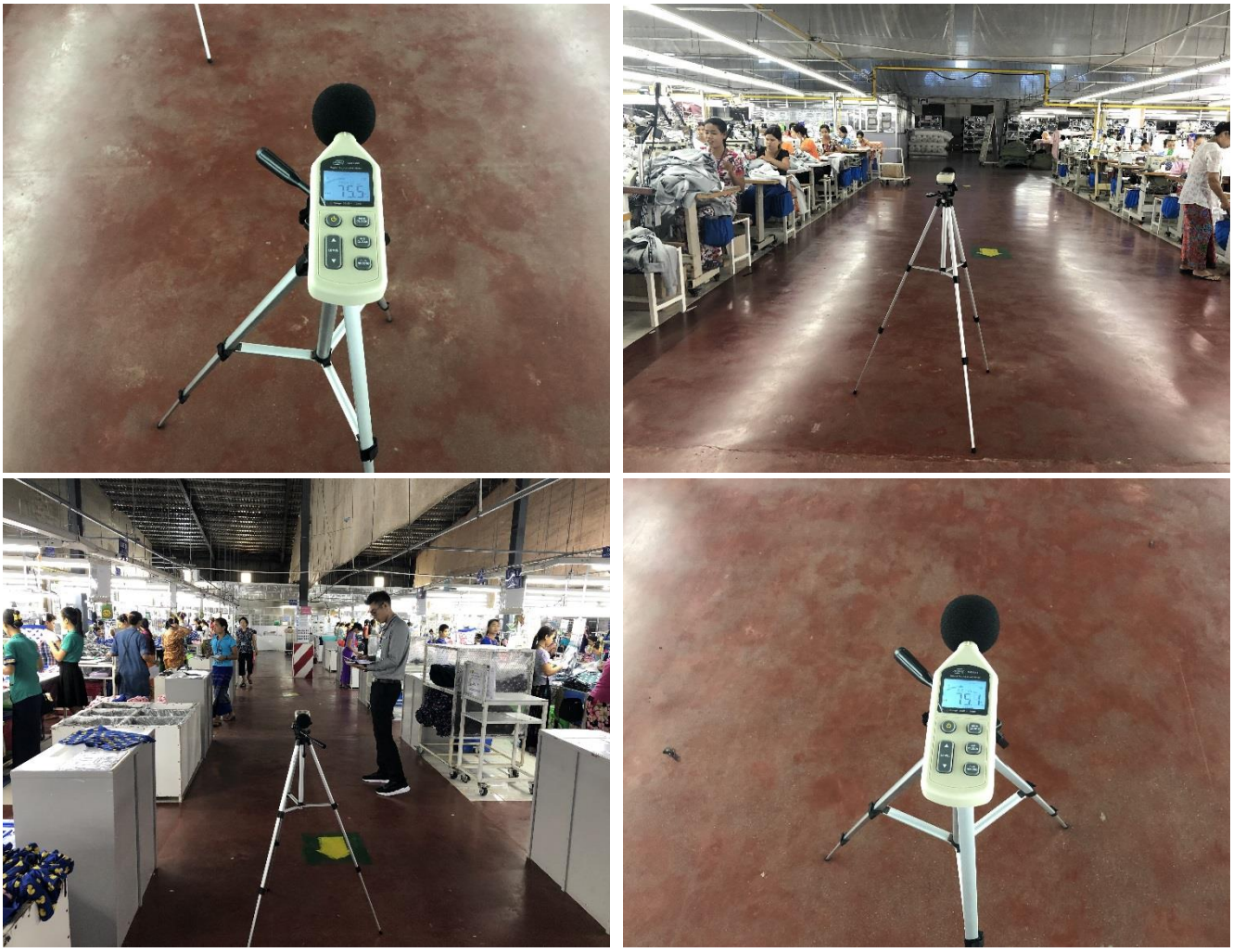


Figure 4-5 Noise level measurement in the factory

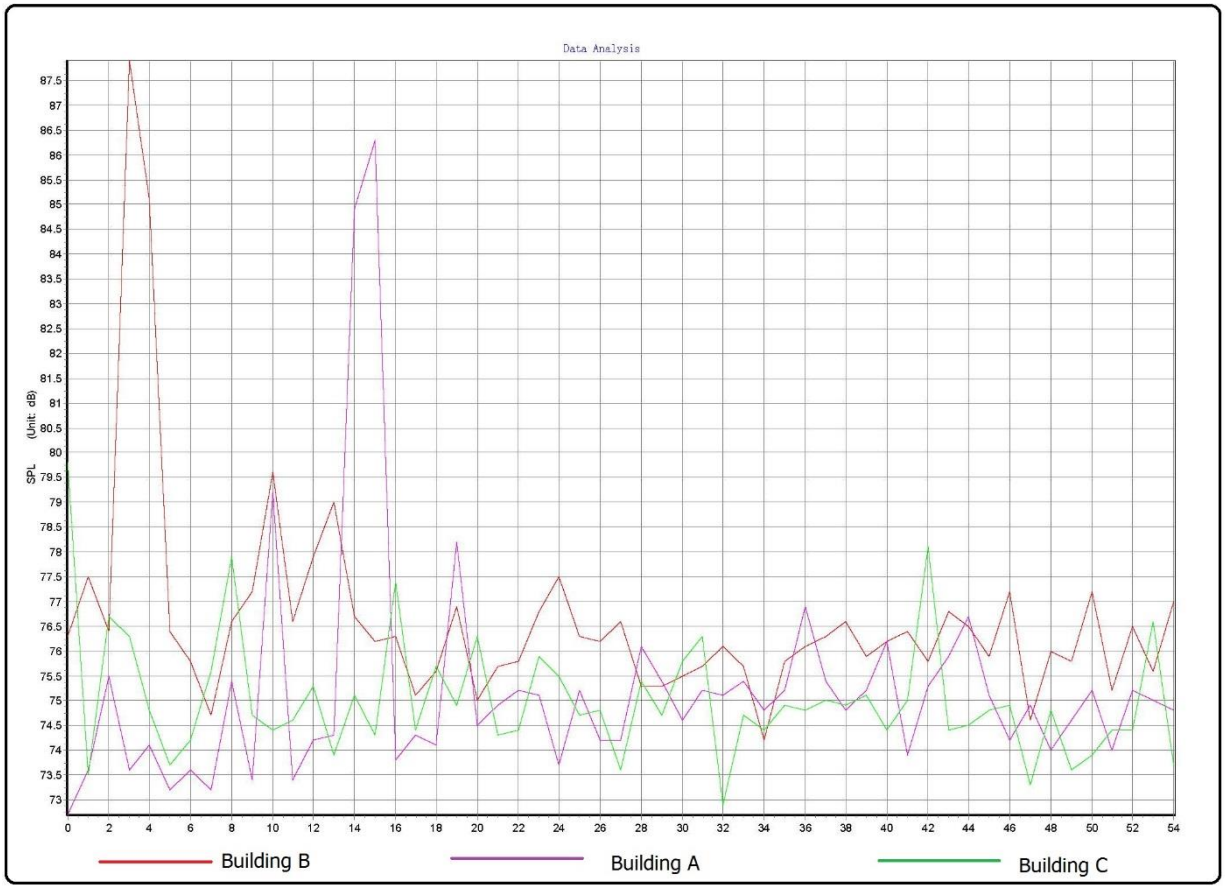


Figure 4-6 Sound analysis graph

4.3. PHYSICAL COMPONENT

4.3.1. Topography

The proposed project area is situated in Inndakaw Village, Bago Township and its topographic condition is flat. Physiographical, the study area is located on Central Lowland, which is underlain by fluvial and deltaic deposition. The area is originally a regional slope with a gentle inclination to the east and in some places has scarp slopes. Flood plains are mostly situated at the east of Bago City and in the west, there are hilly terrains. The trend of the hill rocks encountered in this region is generally NNS. Based on Google Earth data, elevation of the Indagaw Industrial zone ranged from 15 to 28m above mean sea level.

4.3.2. Geology

The Bago area is mainly composed of bluish gray silts and clay of Younger alluvium (recent). The alluvial soil occurred in the eastern part of the study area. Younger alluvium consists of stream deposits, gravel deposits, silty clay and light color sandy soils. Younger alluvium overlies the older alluvium of Quaternary, followed by Irrawaddy Formation of Pliocene age. Older alluvium is composed of silty clay, silty sand, sand and lateritic clay. Irrawaddy Formation is mainly exposed at the north western part of the project area. This Formation is characterized by alteration of mudstone and sandstone, sandy mudstone. The sandstone is underlying the mudstone and medium to coarse grain,

highly loose and friable, grit and conglomerate with the subordinate bluish grey shale. Mudstone is of bluish grey color, moderately jointed, stiff and compact. Geological map of Yangon-Bago Regional area is shown in Figure 4-7.

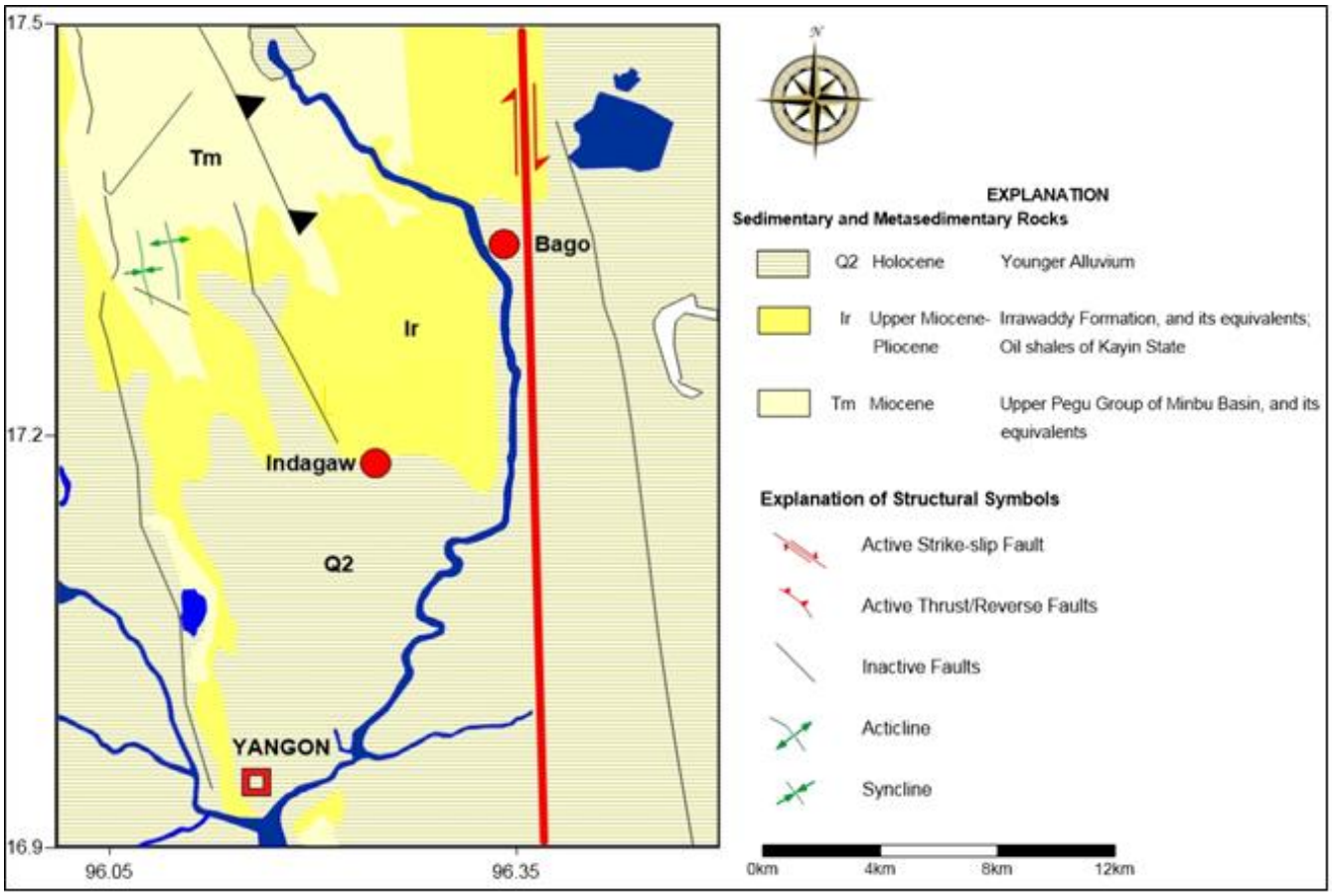


Figure 4-7 Geological Map of the project area

4.3.3. Hydrology

The main river of Bago is organized from Bago Mountain range. It flows within the north-south direction, through Bago-Yangon. There are several tributaries of this river, and generated other water source in the area. Kolukwal Chaung, Latpan Chaung, Aungmya Chaung, Shwelaung Chaung and Salu Chaung are organized from North of Bogo Yoma range. There are tributaries flow in the Bago River.

4.3.4. Climate

The proposed project is located at, Bago Township, Bago Region. The climate condition of Bago Township is the dry season of area in which the project lies starts in December and ends in March. The raining season starts in June and ends in September and the cold season follow with the cooler, drier months of October to January. The highest temperature ranging 39.3°C and low range 20°C reference from Township Meteorology data, Regional Data of Bago Township. 2017 data of rainfall and temperature is presented in Table 4-6.

Table 4-6 Annual rainfall and temperature

2017	Rainfall	Temperature

	Raining day	Rainfall value	Summer season Max (°C)	Winter season Min (°C)
April	3	4.49	39.3	20.0
May	12	18.15	38.5	20.0
June	25	22.36	33.8	21.3
July	29	44.21	31.5	22.4
August	26	25.39	33.4	23.0
September	21	17.80	35.0	23.6
October	8	9.17	-	-

Source: Department of Administrative Bago Townships, Regional data (www.gad.gov.mm.com)

4.4. BIOLOGICAL COMPONENT

The project area is near the Inndakaw area of Bago. Therefore, the proposed project site is not located in or near a sensitive ecosystem in the Bago Region. The proposed project activities are not effect to the changes of ecosystem in the Bago region.

4.5. SOCIO-ECONOMIC COMPONENT

4.5.1. Land Use

Information about land use was collected from secondary sources of Bago Township regional data. Classification of land use area in Bago Township is shown in Table 4-7.

Table 4-7 Land use information of Bago Township

No.	Land Items	Area (Acre)
1	Agricultural Land	205,514
2	Pastureland	5,189
3	Industrial Land	1,775
4	Residential Land	30,100
5	Protected area	395,851
6	Vacant area / Idle Land	945
7	Free land	7,887

4.5.2. Population

Hungkiu (Myanmar) Garment manufacturing factory is located across Bago Township in Bago Region. In 2017, there are about people 434,822 in Bago Township as shown in Table 4-8.

Table 4-8 Population of Males and Females at Bago Township (2017)

Item	Older 18 year			Younger 18 year			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Urban	58,948	71,836	130,784	42,823	44,480	87,303	101,771	116,316	218,087
Rural	65,590	66,959	132,549	39,668	44,518	84,186	105,258	111,477	216,735
Total	124,538	138,795	263,333	82,491	88,998	171,489	207,029	227,793	434,822

Source: Department of Administrative Bago Townships, Regional data (www.gad.gov.mm.com)

4.5.3. **Religion**

The different kinds of religion present in Bago townships are shown in Table 4-9. More than 90% of the people living in the townships is Buddhists.

Table 4-9 Religion in Bago Township (2017)

Township	Buddhist	Christian	Hindu	Muslim	other	Total
Bago	406,580	17,135	6,137	2,925	2,045	434,822

Source: Department of Administrative Bago Townships, Regional data (www.gad.gov.mm.com)

4.5.4. **Local Economy**

Among regional towns, Bago Township has a variety of businesses and services operating in the community with other businesses/services, based in the region. Most of the source of livelihood in the Township is agriculture. Services and facilities available include:

- Store
- Gold Shop
- Electrical Store
- Mobile/Service Store
- Book Shop
- Pharmacy
- Restaurants
- Tea Shop
- Hardware Store
- Agricultural Shop
- Construction Material Shop
- Services
- Rice Shop
- Fashion Shop
- Pagoda & Monastery Donation Accessories Shop

4.5.5. **Public Infrastructure and Access**

4.5.5.1. Communication and Transportation

Major transportation route in Bago Township are railway, port, and car road as presented in Table 4-10.

Table 4-10 Transportation route

Categories	Township		Distance	No
	From	to		
Railway (Pegu-Mandalay railway)	Pegu	Mandalay	40/1.2miles	12
Railway (Pegu-Mawlamyaing railway)	Pegu	Mawlamyaing		3

Categories	Township		Distance	No
	From	to		
Inland Waterway (Pegu-Kin Paing kyong)	Pegu	Kin Paing Kyong	12miles	
Inland Waterway (Pegu-Lat Pan Khone)			7miles	
Inland Waterway (Baw Net Kyi-Zaung Tu)	Baw Net kyi,	Zaung Tu	25miles	
Bus Line (No-1 University)	Yan Kin Thar Hin Thar Kone Yan Kin Thar Malar Kyi	Ka Li University		77
Bus Line (Kyan Tine Aung)	Bago	Yangon		11
Three Wheels Bus Line No-3	Hin Thar kone	University Ba Htu Mahar Pagoda		55
Bus Line (Oke Thar)	Bago	Yangon		12
Bus Line (5)	Nyaung lay Pin-Bago	Yangon-(Dagon Ayar) Yangon Nyaung lay Pin		282
Bus Line (6)	Bago - Yangon	Kyite Hto		291
Bus Line (Phyo)	Bago	Yangon		21
Bus Line (8)	Bago	Khayan Kamar Sae		16
Bus Line (9)	Bago	One Nhae		1
Bus Line (Princess Express)	Bago	Taung Ngoo (Technological University)		13
Bus Line (11)	Bago	Zaung Tu Htan Taw Gyi		5
Three Wheels Bus Line (12)	Shwe Maw Daw Sein Thar Hlyaung So Shae lit 25	University Ba Htu Mahar Pagoda Oke Thar Golf Club Kyite Pa Dain That Nap Pin		213
Bus Line (13)	Bago	Htone Kyi		2
Three Wheels Bus Line (14)	Phat Tan-Pin Si A Way Pyay-Phat Tan	Shwe Thar Hlyaung Phat Tan University		50

Categories	Township		Distance	No
	From	to		
Three Wheels Bus Line (15)	Kama Net-Ki Li	University Mahar Kyi Mahar Pagoda		110
Three Wheels Bus Line (15) (Kyan Tine Aung)	Construction Gate-Phayar Kyi	University Ki Li- A Wine Baw Net kyi		105
Bus Line (17)	Pyin Pone Kyi- Bago	Yangon		1
Three Wheels Bus Line (Phyo)	Shan Ywar Kyi	Bago Market		6
Bus Line (Hein Thit)	Baw Net Kyi Rd Junction-Pharyar Kyi	Pegu Industrial Zone		42
Bus Line (Han Thar Waddy)	Wan Bel Inn (Day Soon Pr)-Bago	Inn Ta Kaw		48
Bus Line (Aye Chan Aung)	Inn Ta kaw-Bago University-Myo Shaung Rd-A Wine Village	Pharyar Kyi		17
Road (Yangon-Taung Ngoo-Mandalay)	32/6	70/0	37 miles 7furlongs	
Road (Yangon-Mawlamyaing-Myeik)	60/5	63/6	3 miles 1farlon	
Road (Pegu Myo Shaung Lan)	0/0	11/3.	11 miles 3farlon	
Road (Pharyar Kyi-Baw Net Kyi-Zaung Tu-Tite Kyi Rd)			42miles 1farlons	
Road (Tite kyi-Phaung Kyi-Pegu Rd)			11miles 4farlons	
Road (Inn Takaw-Htone Kyi-Kawa-Ohn Hnan Rd)			7miles 7farlons	
Road (Pegu-Thatnap Pin-Khayan-Thanlynn Rd)			4miles 4farlons	
Road (Government Ward Rd)			3miles 3farlons	
Bridge (Yangon- Mandalay) (4/50)			360ft	
Bridge (Pegu Myo Shaung Rd)(1/10)			486ft	
Bridge (Pegu Myo Shaung Rd)(8/11)			306ft	
Bridge (Pharyar Kyi-Baw Net Kyi-Zaung Tu-Tite Kyi Rd)				

Categories	Township		Distance	No
	From	to		
Bridge (1/15 Salu Stream)			270ft	
Bridge (6/22 Shwe Laung)			240ft	
Bridge (1/29 Ko lu Kwe)			340ft	
Bridge (1/42 Htawei stream)			360ft	
Bridge (under 180 ft)				9

Source: Department of Administrative Bago Townships, Regional data (www.gad.gov.mm.com)

4.5.5.2. Education

Location of major schools were situated in Bago Region i.e. basic education primary school (B.E.P.S.), monastery teaching school, basic education middle school (B.E.M.S), basic education high school (B.E.H.S) and university, in the Bago Township. The name and located village tract/ ward of schools are described in Table 4-11.

Table 4-11 List of major school in Bago Township

No.	Name of School	Location
1	BAGO University	Oth Thar (8)
2	BEHS (1) BAGO	Office Ward
3	BEHS (2) BAGO	Market Ward
4	BEHS (3) BAGO	Zaine/ North
5	BEHS (4) BAGO	Okethar Myo Thit
6	BEHS (5) BAGO	Nan Taw Yar
7	BEHS (6) BAGO	Kalyar Ni
8	BEHS (7)	Yone Kyi
9	BEHS (8)	Him Thar Kone
10	BEHS (9)	Inn Takaw
11	BEHS (Phayar Kyi)	Pha Yar Kyi
12	BEHS (Pyin Pone Kyi)	Pyin Pone Kyi
13	BEHS (Htone Kyi)	Htone Kyi
14	BEHS (Kyaut Tan)	Kyout Tan
15	BEHS (Baw Net Kyi)	Baw Net Kyi
16	BEHS (Htan Taw Kyi)	Htan Taw Kyi
17	BEHS (Okkan)	Pha Yar Kyi City
18	BEHS (Zaung Tu)	Zaung Tu
19	BEHS (Branch)Wan Bal Inn	Wan Bal Inn Village
20	BEHS (Branch)(5)	Ma Zin Ward
21	BEHS (Branch)(8)	Ward No 7
22	BEHS (Branch)(1)	Kyaut Kyi Su

No.	Name of School	Location
23	BEHS (Branch)Lat Pan Win	Lat Pan Win Village
24	BEHS (Branch)(7)	Ward No 3
25	BEHS (Branch)(4)	Shin Saw Pu
26	BEHS (Branch)Sar lay Kwin)	Sar Lay kwin
27	BEHS (Branch)(Myo A Naut- Kha)	Butterfly Lake
28	BEHS (Branch)(Pan Hlaing)	Pan Hlaing
29	BEHS (Branch)Inn Wa	Shin Saw Pu
30	BEHS (Branch)(Net King)	Phayar Kyi
31	BEHS (Branch) (Ka Twin Cham)	Ka Twin Cham
32	BEHS (Branch) (Kamar Net)	Kamar Net
33	BEMS (Mone Tine)	Mone Tine
34	BEMS (Pone Nar Su)	Pone Nar Su
35	BEMS (Kam Myint)	Kam Myint
36	BEMS (Phayar Thone Sue)	Phayar Thone Sue
37	BEMS (Branch) (Ba Yint Naung)	Hantharwaddy
38	BEMS (Branch) (Sein Tun)	Sein Tun
39	BEMS (Branch) (Han Thar Kone)	Han Thar Kone
40	BEMS (Branch) (Myo Twin kyi)	Myo Twin Kyi
41	BEMS (Branch) (Ba Ho Si)	Ba Ho Si
42	BEMS (Branch) (Mon San Pay)	Him Thar Kone
43	BEMS (Branch) (Oke Thar)	Nan Taw Yar
44	BEMS (Branch) (Hmaw Kan)	Shin Saw Pu
45	BEMS (Branch) (Ywar Thit)	Ywar Thit
46	BEMS (Branch) (Butterfly Lake)	Butterfly Lake
47	BEMS (Branch) (Phaung Taw Oo)	Zaine /South
48	BEMS (Branch) (Oke Thar-3)	Okethar Myo Thit
49	BEMS (Branch) (Phayar Thone Sue)	Phayar Thone Sue
50	BEMS (Branch) (Oke Thar-2)	Okethar Myo Thit
51	BEMS (Branch) (Ma Zin-Ka)	Kalyar Ni
52	BEMS (Branch) (Wall Street)	Phayar Kyi
53	BEMS (Branch) (Inn Takaw)	Sat Pine
54	BEMS (Branch) (Aww Takaw Law Ka)	Phayar Thone Sue
55	BEMS (Branch) (Zaine/South)	Zaine/ South
56	BEMS (Branch) (Oke Thar-4)	Kyout Taing Kan
57	BEMS (Branch) (Tap Ka Lay)	Tap Ka Lay)
58	BEMS (Branch) (Ka Li)	Ka Li)
59	BEMS (Branch) (Shan Ywar Kyi)	Shan Ywar Kyi

No.	Name of School	Location
60	BEMS (Branch) (Ohe Bo)	Ohe Bo
61	BEMS (Branch) (A Wine)	A Wine
62	BEMS (Branch) (Mae Khone)	Mae Khone
63	BEMS (Branch) (Out Si Te-Ya)	Out Si Te
64	BEMS (Branch) (Out Si Te-Na)	Out Si Te
65	BEMS (Branch) (Zae Nyaung Pin)	Zae Nyaung Pin
66	BEMS (Branch) (Kwe Tan Shae)	Kwe Tan Shae
67	BEMS (Branch) (Kin Paing Kyong)	Kin Paing Kyong
68	BEMS (Branch) (Tar Wa Station)	Tar Wa Station
69	BEMS (Branch) (Kwan Pound)	Kwan Pound
70	BEMS (Branch) (Pyin Ma Ngu)	Puin Ma Ngu
71	BEMS (Branch) (Kawt Chae)	Kawt Chae
72	BEMS (Branch) (Htone Kyi)	Htone Kyi
73	BEMS (Branch) (Thar Yar Kone)	Thar Yar Kone
74	BEMS (Branch) (Kone Than Dine)	Kone Than Dine
75	BEMS (Branch) (Ten Mile Knoe)	Ten Mile Kone
76	BEMS (Branch) (Sar Tha Nge)	Sar Tha Nge
77	BEMS (Branch) (Tha Yet Kone)	Tha Yet Kone
78	BEMS (Branch) (Win Ka Baw)	Win Ka Baw)
79	BEMS (Branch) (Baw Net Kyi)	Baw Net Kyi
80	BEMS (Branch) (Pauk Taw-Ae)	Pauk Taw
81	BEMS (Branch) (Shwe Min Gan)	Shwe Min Gan
82	BEMS (Branch) (Yamin Ywar Ma)	(Yamin Ywar ma)
83	BEMS (Branch)	Lat Pan
84	BEMS (Branch) (Zee Taw)	Zee Taw
85	BEMS (Branch)	Chin Su
86	BEMS (Branch) (Khone Tine)	Khone Tine
87	BEMS (Branch) (King Chaung)	King Chaung
88	BEMS (Branch) (Kyite Day Yone)	Kyite Day Yone
89	BEMS (Branch) (Tha Htay Kone)	Tha Htay Kone
90	BEMS (Branch) (Shwe Tan)	Shwe Tan
91	BEMS (Branch) (Kha Ma Ya-8)	Wan Bal Inn
92	BEMS (Branch) (Kan Baei)	Wan Bal Inn
93	BEMS (Branch) (Phayar Kalay)	Phayar Kalay
94	BEMS (Branch) (Pyin Pone Ywar Thit)	Pyin Pone Ywar Thit
95	BEMS (Branch) (Tha Man Kone)	Tha Man Kone
96	BEMS (Branch) (Nyaung Inn)	Nyaung Inn

No.	Name of School	Location
97	BEMS (Branch) (Hlaw Kar)	Hlaw Kar
98	BEMS (Branch) (A Sate Taung)	A Sate Taung
99	BEMS (Branch) (Kan Myint)	Kan Myint
100	BEMS (Branch) (Tamar Pin)	Tamar Pin
101	BEMS (Branch) (Than So Pin)	Than So Pin
102	BEMS (Branch) (Under World)	Under World
103	BEMS (Branch) (War Paing)	War Paing
104	BEPS(Post) (121 nos)	Bago
105	BEPS (5 nos)	Bago
106	Pre School (16 nos)	Bago
107	Monastery Teaching School (Mingalar Yarma)	Nan Taw Yar
108	Monastery Teaching School (Mahar Pa Du Ma)	Kalyar Ni
109	Monastery Teaching School (Kyay Ni Kan-Oke)	Kalyar Ni
110	Monastery Teaching School (Kyay Ni Kan-Kyat)	Kalyar Ni
111	Monastery Teaching School (A Thaw Ka)	Zaine/North
112	Monastery Teaching School (Mahar Gu Ni Kar)	Inn Takaw
113	Monastery Teaching School (Sagaing)	Inn Takaw
114	Monastery Teaching School (Aung Pagoda)	Myo Thit
115	Monastery Teaching School (Gold Mountain)	Zaine/North
116	Monastery Teaching School (Nan Oo Shwe Pagoda)	Oke Thar 8
117	Monastery Teaching School (Dahmma Yadanar)	Zaung Tu
118	Monastery Teaching School (Aung Pyi Thar)	Ma Zine
119	Monastery Teaching School (Shwe Kyoung Kone)	Ma Zine
120	Monastery Teaching School (Dat Khi Na Yarma)	Phayar Kyi
121	Monastery Teaching School (Aye Say Ti)	Phayar Kalay
122	Monastery Teaching School (Pan Chan Kone)	Pan Chan Kone
123	Monastery Teaching School (Wae Lu Won)	Kyout tan
124	Monastery Teaching School (Ma Ni Yarma)	Wan Bae Inn
125	Monastery Teaching School (Aung Bawdi Pin)	Dae Soon Par
126	Monastery Teaching School (Ngar Kyi Inn)	Htone Kyi
127	Monastery Teaching School (Thike Kone)	Okethar Myo Thit
128	Monastery Teaching School (Paw Taw Mu)	Nan Taw Yar
129	Monastery Teaching School (Yadanar Aung)	Zaine/North
130	Monastery Teaching School (Thiri Zayar)	Zaine/South
131	Monastery Teaching School (Nan Oo Pone Nya Shin)	Sin Phyu Kwin
132	Monastery Teaching School (Mahar Bawdi)	A Kyut A Lut
133	Monastery Teaching School (That Da Ma Gone Yi)	Nyaung Inn

Source: Department of Administrative Bago Townships, Regional data (www.gad.gov.mm.com)

4.5.5.3. Health Status

The diseases of high prevalence reported in 2013 are Tuberculosis (TB), followed by Diarrhea, TB and snakebites. With reference to the Township Health Profile 2014 of Bago Township, no accidental work injuries reported to the township hospital in 2013. The common diseases are shown in Table 4-12 and Table 4-13.

Table 4-12 Common Diseases in the project area, 2017

Disease	Bago Township	
	Morbidity	Mortality
Malaria (Per 100000P)	9	1
Dysentery	308	-
Diarrhea (Per 100000P)	942	1
TB (Sputum+)(Per 10000P)	442	-
Hepatitis	-	-

Table 4-13 Lists of hospital in the Bago Township

Hospital	Beds/Services	Responsible
Pegu General Hospital	500	Government
Zaung Tu District Hospital	16	Government
Htan Taw Kyi District Hospital	16	Government
Phayar Kyi District Hospital	16	Government
Pharkalay District Hospital	16	Government
Joe Thein	25	Private

4.6. CULTURAL AND VISUAL COMPONENTS

Bago Township is growing into a busy and vibrant community. The population fluctuates; however, there has been steady growth over the last decade. It tends to be a stopover on a journey rather than a destination. It has a number of sites that are interesting; however, there is no main attraction. Visitors to the town are generally visiting for work, investment or family reasons.

5. IMPACT ASSESMENT

5.1. METHODOLOGY FOR THE ASSESSMENTS

The assessment of each impact is based on consideration of the magnitude, duration, spatial and frequency of activities, which are going to be carried out during three phases and characteristics of the project site. The assessment is qualitative and the significance of each impact is classified into 5 categories in overall.

The following methodology has been applied to assess the environmental impacts of the factory mainly on air, water, land, biodiversity, including human beings. Each source of impact has been assessed by four parameters, magnitude, duration, extent and probability and each assess point have 5 scales as mentioned in Table 5-1:

Table 5-1 Impact assessment parameters and its scale

Assessment	Scale				
	1	2	3	4	5
Magnitude (M)	Insignificant	small and will have no effect on working environment	Moderate and will result in minor changes on working environment	High and will result in significant changes on working environment	Very high and will result in permanent changes on working environment
Duration (D)	0 - 1 year	2 - 5 year	6 - 15 year	Life of operation	Post Closure
Extent (E)	Limited to the site	Limited to the local area	Limited to the region	National	International
Probability (P)	Very improbable	Improbable	Probable	Highly probable	Definite

Then, the Significant Point (SP) is calculated by following formula.

Significant Point (SP) = (Magnitude + Duration + Extent) × Probability

Impact Significance: Based on calculated significant point, impact significance can be categorized as follows:

Significant Point (SP)	Impact Significance
<15	Very Low
15-29	Low
30-44	Moderate
45-59	High
60	Very high

5.2. IMPACT IDENTIFICATIONS

The development of infrastructure for the proposed project likely to happen changes in the local environment in terms of physical, biological and socio-economic aspects along with the perspective on both positive and negative impacts. The potential environmental impacts brought by various activities of proposed factory project will be identified and judged by site surveying with checklist, meeting with client team, including plant manager and supervisor, representatives from the factory operators and assessing the environmental baseline information for operation and decommissioning phases along with its mitigation measure.

5.3. IMPACT ON ENVIRONMENTAL RECOURSE

5.3.1. Impact on Air Quality

In Hung Kiu factory will be used the semi-automatic process control system. In which assigned person from the operation line will operate each processing step. The major sources of air emission in the Hung Kiu Factory will be defined as below Table 5-1.

Table 5-2 Air Quality Impact Sources

Sources	Emission parameters
Electricity consumption and diesel Generator and Vehicle movements for delivering and transporting of the raw materials and final products	CO, SO2 and NOx
Biomass Steam Boiler (Fired Wood steam boiler)	PM, CO, SO_2, NO_X, Fly ash

Air impact source of emergency used of generator and vehicle movements may also generate particulate matters PM_{10}, $PM_{2.5}$, CO, SO_2, NO_2, and CO_2. In addition, major gases emission may generate from combustion of biomass steam boiler (Fired Wood) which include CO, SO_2, NO_X and PM as well as fly ash. However, it can be concluded as the impact is not sufficient because the generator and vehicle movements will run only as short time. According to Environmental Quality baseline results data measured on during 27 November 2018 for 8 hours continuously, ambient level of air parameter results is acceptable with NEQ (emission) Guidelines. However, these anticipated impacts are in manageable limits to control the air pollution with relevant mitigation measures and the proposed factory will be managed by using their HSE guidelines.

5.3.2. Energy Consumption and Related CO_2 (GHGs) emission

Though main electricity source for the factory is the national grid line, sound-proof diesel generators will be set-up in case of electricity shortages. So, 1000 kVA own transformer and 500 kVA of standby generator will be used for both operation and administration appliances. The estimated total amount of electricity consumed is approximately 2,136,860 kWh of annual. Voluntary Reporting of Greenhouse Gases emission (Form EIA-1605, 2007) prepared by U.S Department of Energy expresses that Emission Factors for Purchased Electricity in Myanmar (1999-2002 base data) is 1.023 Metric tons CO_2 e per MW h.

1 MW h = 1.023 Metric tons (1 MW = 1000 kW)

2136860 kW h = 2136.86 MW h (per year)

2136.86 MW h = 2136 Metric tons (1 Metric ton = 1000 Kilotons)

So, the factory will emit about 2.136 Kilotons annually.

According to this Table 5-3, the proposed project will emit about 2.186 Kilotons annually. When compared to EBRD GHG assessments methodology guidance note values, it is quite clear that the emission of CO_2 e is < 20k, and accordingly it can be treated as **Negligible** category.

Table 5-3 Category of GHGs Assessment

Category	Range
Negligible	no GHG assessment necessary
Low	< 20 kt/y CO_2-equivalent per year
Medium-Low	20 – 100 kt CO_2- equivalent per year
Medium-High	100 kt – 1 Mt CO_2- equivalent per year
High	>1 Mt CO_2-e equivalent per year

Source: EBRD GHG Assessment Methodology, 2010

In addition, the proposed project will use annually 37,048 gallons of diesel for vehicles such as transportation vehicle and emergency use of a generator. The following table shows the amount of CO_2 emission coming from the combustion of fuels.

Table 5-4 CO2 Emission by the Uses of Fuel

No.	Type	Amount (gallon/year)	Equivalent CO_2 emission (Kilotons)	Status
1	Diesel for generator	37,048	0.34	Negligible

According to above conversion, the emission of CO_2 relative to the fuel consumed by the proposed project will not harmfully effect to the environment. However, the proposed garment factory will use a lot of electrical energy mainly for lighting, running of equipment, running of pumping systems for pumping water into the storage tank. Since electricity generation involves utilization of natural resources, excessive electricity consumption will strain the resource and negatively impact on their sustainability.

5.3.3. **Impact of Noise**

During the operation phase, noise impact may be a significant impact for Garment production sectors. The significant sources of noise impact activities are the operation of various machinery and equipment listed in Table 3-3 for sewing line, cutting line and the emergency used of generator, vehicles and automobile movements (short term noise) will be noise impacts sources. According to the noise results of 8 hours continuously measurement, at the source of operation area inside the factory and within the factory area are not exceeding the noise level of 70 dB of NEQ (emission) guideline. Therefore, no obvious influence can be caused occupational health and safety of employees during operation.

The Occupational Safety and Health Administration (OSHA) have recommended permissible noise exposure limit for industrial workers, which is based on 90 dB (A) for 8 hours exposure a day with 5dB trading rates. The limits are mentioned in Table 5-5. According to OSHA, the maximum allowable noise level for workers is 90 dB (A) for 8 hours exposure a day. Thus, adequate protective noise impact measures in the form of ear muffs/ear plugs to the workers working in high noise areas, need to provide if actual noise level monitoring results are more than 90 dB (A) at the work site for working time hours for 8 hours.

Table 5-5 Permissible exposure of noise limits

Total Time of Exposure Per Day in Hours	Noise Level dB(A)
8	90
6	92
4	95
3	97
5	100
1	105
½	110
¼	115

5.3.4. **Impact on Water Quality**

5.3.4.1. Water Consumption

In the operation phase of garment manufacturing factory, there is no water use for processing purpose. However, in ironing step will require the steam in which the required steam will be provided by a biomass steam boiler (fired wood). In which, estimated boiler feed water is $1m^3$ per hour. Tube well is the main source of raw water for factory waster use. The raw water will be treated by passing through into (i) the oxidation tower to remove oxidized materials (ii) chlorine dosing system (iii) de-iron filter (iv) carbon filter (v) cartridge filter and then the obtained treated water will be provided for the whole factory use of general office facilities such as canteen, toilets and kitchen. Estimated water consumption for the whole factory is 24 cubic meters per day and 8,760 cubic meters per year.

5.3.5. **Wastewater Effluents**

The effluent wastewater will generate from the cleaning of utensil for operational use, steam boiler wastewater discharge and domestic wastewater. Amount of liquid effluents discharged from the production process is minimal when compared with other industrial sectors. However, water pollution may be caused by the boiler water discharge and domestic wastewater discharge from the canteen, which have high biological oxygen demand/ chemical oxygen demand (BOD/COD), that can seriously also be affected on water quality. The biomass steam boiler (fired wood) will discharge 0.12 cubic meters per hour from blow down valve to underground pipe into the final drainage of proposed factory, which have three drainage outlets connect to the public drainage through the underground concrete pipe.

5.3.6. **Impact on Soil Quality**

During the operational phase, there is no significant impact on soil quality due to garment production activities because concrete road facilities have been implemented at the whole project site area.

5.3.7. **Impact of Waste Disposal**

Most activities of the garment-manufacturing factories will generate the relatively low level of waste. Solid waste from production sector will consists of process waste such as Industrial waste would be generated from operation such as cloth scraps, fabric paper tube, plastic bags, cardboard, paper board, plastic string, etc. and food waste, plastic, paper, glass, metal can, sanitary napkins, tissue paper,

garden waste, etc. However, Hung Kiu factory have been implemented the solid waste disposal system by the segregation of waste type such as paper waste, food waste, production waste and hazardous waste according to their environmental health and safety guideline. The required rubbish bins have been provided and regularly checked and monitored by assigned person of proposed factory. Before send to Bago Municipal, the proper disposal waste facilities and temporary waste disposal site have been provided in the factory site. Moreover, for the purpose of hygienic canteen, kitchen facilities and standard septic type of toilets, well-cleaned and well-maintained already provided for the proposed factory site.

5.4. IMPACT ON HUMAN

5.4.1. Socio-economic Benefit

The proposed project is the long-term investment in the industrial sector. Most of the impacts of the proposed project on socio-economic environment may be positive. Implementation of proposed project may create temporary employment during construction and decommissioning phases and permanent jobs in the operation phase. Subsequently, socio-economic standards of local people will be increased and eventually it may lead to the economic growth at local and regional level.

5.4.2. Occupational Health and Safety

The most significant impact of occupational health and safety hazards will be caused by working at the operation phase of garments production and the main issues are as follows:

- Exposure of noise to employees and workers
- Electrical Hazards

During the operation phase, employees and workers of Hung Kiu factory will be endangered or oppressed particularly by noise from factory operation. The noise level results measured in production area during operation phase are not exceeding the NEQ (emission) guideline. For electrical hazards, technicians and workers may expose to electrical hazards due to the presence of electrical equipment throughout the whole garments production facilities.

Thus, the appropriate personal protective equipment (PPE) for employee and workers will be provided and environmental, health and safety guideline have been prepared in proposed factory. In addition, for health insurance, health care facilities and first aid training have been provided for all employee and workers.

5.5. PROJECT ACTIVITIES AND ITS SIGNIFICANT IMPACTS AND MITIGATION MEASURE

The relative importance of each impact is assessed based on the understanding that general mitigation measures will be integrated into the baseline project. Therefore, when the general mitigation measures reduce impacts to the point of rendering them negligible they are excluded from further analysis. Once the significance of the impact is established as more than negligible, it is described and additional, specific mitigation measures may be proposed to allow optimal integration of the project into the environment.

Table 5-6 Evaluation and Perdition of Significant Impacts for Operation Phase

Environmental Aspects	Potential Impacts	Identified Risk	Risk Evaluation						Mitigation/Control Measure
			Duration	Magnitude	Extent	Probability	Significance point	Significance Impact	
Air quality	Air Pollution	Dust and other exhaust gas emission i.e. CO, SO_2, NO_x and PM Boiler operation	4	3	2	3	27	Low	The factory uses chimney through which the flue gas are emitted for reducing the impact of stack air emission on environment. The factory has planted trees in its premises to reduce carbon emission and thus minimize air pollution Stack gas emission level can be controlled by using gas generator with low NOx technology Ensuring vehicles, generators, compressors and boiler are well maintained Masks are provided to workers to ensure that workers wear mask during working in dusty condition.
Water Quality	Water Contamination	Discharge from boiler blow down and Sewage discharge	4	3	2	3	27	Low	An effective wastewater treatment system for production sector that reduced for BOD, COD, total nitrogen and other organic compound shall be used to reduce the impact on aquatic lives and odor. Currently, practice of the wastewater effluents discharge facilities of sewage for sanitation and septic system

Environmental Aspects	Potential Impacts	Identified Risk	Risk Evaluation						Mitigation/Control Measure
			Duration	Magnitude	Extent	Probability	Significance point	Significance Impact	
Noise	Noise Pollution	Noise can generate from vehicle movement & especially from generator, compressor and boiler	4	2	1	3	21	Low	Use personal protective equipment (PPE) like ear plug/ear muffs in the noisy workplace like generator, compressor and boiler area. The factory already has buffer area to reducing noise from operation o generator, compressor and boiler.
Waste Management Disposal	Surrounding environment pollution and soil contamination	Incorrect disposal of waste	4	4	2	3	30	Moderate	Disposal of solid sewage in own septic following the waste management plan Industrial solid waste collect in storage and handed over to registered local waste collector or Bago Municipal The factory already disposes the municipal waste to Bago Municipal dumping site twice a week.
Ecological Environment (Flora & Fauna)	Loss of habitat of some flora & fauna and biodiversity reduction	Inappropriate control of weeds	4	1	2	2	15	Very Low	Maintain maximum vegetation
Traffic Pattern	Increase of vehicular traffic as well as gaseous emission and risk of increasing	Vehicle increase at the factory surrounding area	4	3	2	3	27	Low	Vehicular movement would be restricted at day time

Environmental Aspects	Potential Impacts	Identified Risk	Risk Evaluation						Mitigation/Control Measure
			Duration	Magnitude	Extent	Probability	Significance point	Significance Impact	
	road accident								
Hazardous material handling	Contaminate of soil surface, water and accident		2	2	1	2	10	Very Low	Proper inspection and Maintain/Storage of hazardous material such as needle, fudge electric bulbs, empty oil, etc.

5.6. ENVIRONMENTAL IMPACTS MITIGATION MEASURES FOR OPERATION PHASE

The proposed Hung Kiu factory has developed the implementing of environmental management plan, appropriate mitigation measures for potential impact occurred in during operation phase, and additional impact mitigation measures shall be seen in following mitigation measures.

5.6.1. Recommended Air Impact Mitigation Measures

The significant sources of gas emission from biomass steam boiler (Fired Wood), emergency generator and transportation vehicles will be mitigated by using maintaining system in the operation process.

- The factory uses chimney through which the flue gas are emitted for reducing the impact of stack emission on environment
- The factory ensures that chimney is in proper condition at all time
- Monitoring and check installed cyclones and ventilation system
- The factory has planted trees in its premises to reduce carbon emission and thus minimize air pollution
- Ensuring vehicles, compressor, generator and boiler are well maintained
- Masks are provided to workers and ensures that wear during working in dusty area

5.6.2. Mitigation Measures for Noise Impact

The following mitigation measures shall be considered to reduce noise levels in the operation phase of the Garment factory.

I. Low noise equipment should be used where possible
II. All preventive measures such as regular operation and maintenance of pump motors, and compressor should be carried out and enclosures will be provided to abate noise levels at source
III. Noisy equipment should not be permitted during night hours as much as possible

5.6.2.1. For Diesel Generator

Used of Generator should be housed in a suitable acoustic enclosure. The acoustic insulation should be designed to meet mandatory standards based on a 25 dB insertion loss.

5.7. MITIGATION MEASURES FOR WATER CONSUMPTION AND CONTAMINATION

5.7.1. **Recommended Wastewater Effluents Impact Mitigation Measures**

In operation phase, according to the estimated water consumption for the whole factory is 24 cubic meters per day and 8,760 cubic meters per annually for the purpose of general office uses. So, the appropriate water conservation plan should be implemented with commensurate with the magnitude and cost of water use. These programs should promote the continuous reduction in water consumption and achieve savings in the water pumping, treatment and disposal costs.

Building Facility Operations

- Regularly maintain plumbing, and identify and repair leaks
- Shut off water to unused areas
- Install self-closing taps, automatic shut-off valves, spray nozzles, pressures reducing valves and water conserving fixtures (e.g., low flow shower heads, faucets, toilets, urinals and spring loader)
- Operate dishwashers and laundries on full loads, and only when needed
- Install water-saving equipment in lavatories, such as low flow toilets

Sufficient quantities of water may be used for steam boiler for production sector, and this can be reduced by the following measures;

- Repair of steam and condensate leaks and repair of all failed steam traps
- Return of condensate to the boiler house, and use of heat exchangers (with condensate return) rather than direct steam injection where process permits
- Flash steam recovery
- Minimize boiler blow down consistent with maintaining acceptably low dissolved solids in boiler water. Use of reverse osmosis boilers feed water treatment substantially reduces the need for boiler blow down
- Minimize de- aerator heating
- Ensure that liquid waste from the proposed site is directed to the appropriate drains
- Maintain the equipment, pipelines in good working conditions and drainage system to avoid clogging
- Currently, practice of the wastewater effluents discharge facilities of sewage for sanitation and septic system.

5.8. MITIGATION MEASURES FOR WASTE DISPOSAL

At Hung Kiu factory, waste categorization has been developed into at least five types of waste that includes iron, compost waste, lubricant waste, recycle waste (such as poly propylene bags (PP) and cardboards etc. All of production waste such as fabric scraps, fabric paper tube, plastic bags, cardboard, wood, plastic string and other non-hazardous waste will be collected by designated garbage bins and then sent to the temporary storage areas of solid waste in the project site area, which include 5 compartments for different kinds of waste categories. In addition, pest control program has also implemented at the entrance of rodents and insects. Hung Kiu also has an agreement service with Bago Municipal for waste disposal facilities to collect the all-production waste, office waste and domestic waste. According to the waste management practice, Hung Kiu has provided the dedicated dustbins for paper waste, plastic waste, production waste and food waste for the proper disposal of waste. Appropriate recycling methods are in practice to dispose of the wastes in the environmental friendly manner.

5.9. MITIGATION MEASURES FOR OCCUPATIONAL HEALTH AND SAFETY

5.9.1. Recommended Mitigation Measures for Occupational Health and Safety

- Consider the provision of personal protective equipment only after all measures for removing or controlling safety hazards have been provided reasonably impractical
- Ensure that sufficient personal protective equipment is provided and that they are readily available for every person who may need to use them.
- The management should ensure that all persons make full and proper use of the personal protective equipment provided
- Provide instruction and training in the proper use and care of any specific protective equipment where necessary
- Ensure that the personal protective equipment is in good condition. Report immediately any damage to the management for replacement. Always keep the personal protective equipment as clean as possible.

Monitoring should be designed and implemented by accredited professionals, as part of an occupational health and safety-monitoring program. Facilities should also maintain a record of occupational accidents and diseases. Projects should try to reduce the number of accidents among project workers (whether directly employed) to a rate of zero, especially accidents that could result in lost work time, different levels of disability, or even fatalities.

5.9.2. First Aid Guidelines and Facilities

A well-organized and proper first aid system is implanted to provide immediate first aid to anyone who is injured in the workplace and had also conducted the first aid training by Myanmar Red Cross Society. Adequate number of first-aid kits are listed and made available at all workplaces and contacts of medical providers; hospitals will be notified. The followings are some of the contents in a sample first aid kit.

- Bandage
- Adhesive Tape
- Antiseptic wipe

- Burn dressing and treatment items
- Cold pack
- CPR barrier
- Sterile wound dressings
- Sterile eye coverings
- Scissors, tweezers, compress

5.10. ENVIRONMENTAL IMPACTS AND ITS SIGNIFICANCE SUMMARY

The assessment of each impact is based on consideration of the magnitude, duration, extent and probability of activities, which are going to be carried out during operation phases. In operation phase, there are 1 moderate significance impact on environment and human such as impact of electricity consumption. 4 low significant impacts on environment and human such as impact of wastewater effluents and occupational health and safety of employees, workers and 2 very low significant impact on environment and human such as impact on aquatic lives, air pollution and noise. Significance impacts on environmental and human and detail impact assessment for operation phases can be seen in Table 5-6. All of the impacts during operation phases can be minimized by using mitigation measures and implementing Environmental Management Plan.

6. PUBLIC DISCLOSURE

6.1. PUBLIC DISCLOSURE PROCESS

This chapter presents results of public disclosure and information disclosure conducted for the project. Public disclosure activities for gathering opinions and suggestions from related stakeholders. It will help improve the implementation of the project, set the scope for the environmental impact assessment and development mitigation measures, which will be reported in the project's EMP report.

Public disclosure conducted as part of the EMP study has three purposes:

1) Information the stakeholders about the Project, environmental and social issues related to project construction and operation, and mitigation measures to minimize environmental and social impacts;
2) Considering the views, concerns, and perceptions of stakeholders, communities and individuals that could be affected by the project or who otherwise have an interest in the project;
3) Participation and partnership where issues and needs are jointly discussed and assessed.

Although the public disclose is the effective way to achieve the information purpose, to seek views of the participation and partnership purpose, it cannot celebrate due to the current condition of Covid-19 diseases which started spreading in Myanmar since April, 2020.

During the preparation of this report, the second wave of Covid-19 disease becomes serious in Yangon. The Ministry of Health and Support declared to avoid gathering more than 5 people to avoid close contact and to prevent spreading of disease.

According to the ECD's comment, the present environmental condition and the management plan are through the social media of Myanwei Environmental Solutions Company Limited Facebook page (https://drive.google.com/file/d/1YBsZPASNSn7ggU2wGU-0WcUTsTMVJZiU/view?usp=drivesdk) declared in 27th May, 2022 due to current situation. The suggestion, complain and comments from the public, organization and stakeholder are warmly welcome and accept via mailing, comment, telephoning and messengers.

Details of project information disclosure in the public disclosure PowerPoint presentation (**Appendix F**) which is prepared in Myanmar language includes as follows;

- Objective of IEE
- Project Description
- Existing Environment and Monitoring
- Potential Impact and Mitigation measures
- Cooperative Social Responsibility (CSR)

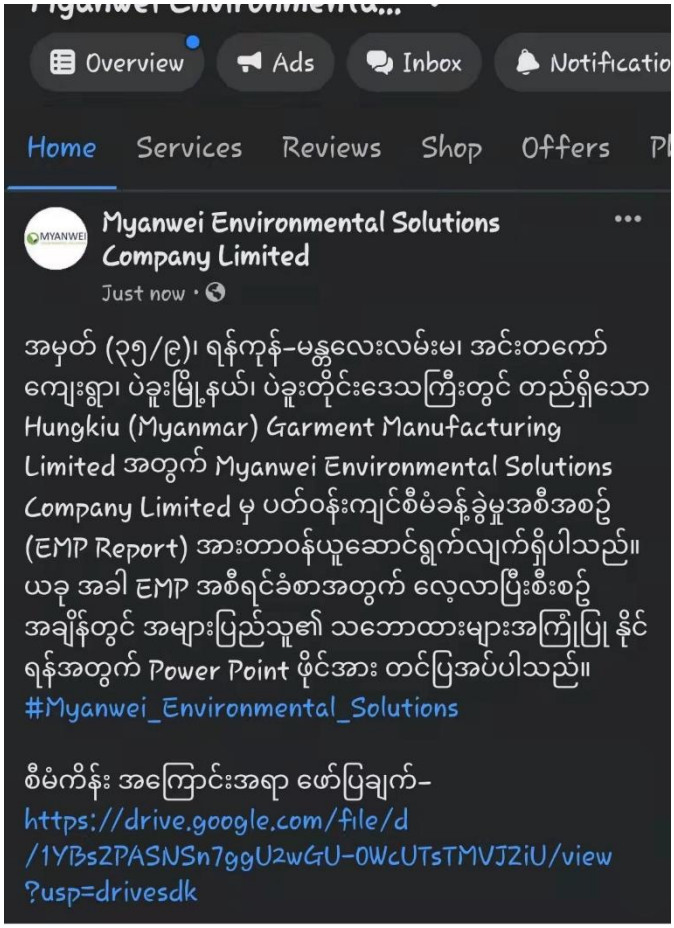


Figure 6-1 Public Consultation Meeting

7. ENVIRONMENTAL MANAGEMENT PLAN

The EMP for Hung Kiu (Myanmar) Garment manufacturing Limited has been prepared to address potential issues based upon discussion with factory management, workers, local community's view, stakeholder consultation and from the site visit of experts. The EMP is additional to and compliments the factory's safety management system. The following environmental issues that require environmental management plans based upon the potential impacts of activities by for Hungkiu MyanmarGarment Manufacturing) factory are as follows:

7.1. AIR POLLUTION/DUST MANAGEMENT PLAN

Objectives:	• To minimize the adverse impact to air quality caused by stack gas emission from boiler, generator and also dust management generated from vehicular movement. • To comply with relevant government rules.
Performance Indicator:	• Nil complaints relating to air quality management • Extraction equipment maintained as per maintenance schedule
Relevant government law and rule	• National Environmental Quality (Emission) Guidelines (2015)
Management Plan	• The factory use chimney with 100 feet stacks height to ensure the proper dispersion of pollutants of boiler for reducing the impact of stack air emission on environment. • The factory ensures that chimney is in proper functional condition at all time. • The factory has planted trees in its premises which reduce the carbon emission by the factory and minimize the air pollution • Periodic maintenance of boiler and generator is conducted • There is no open burning of waste materials at the site • Workers are provided mask during working in any dusty area
Monitoring & Reporting	• Monitor the stack air emission quality biannually • Biannually monitor the ambient air quality including CO, NO2, SO2, PM2.5, PM10
Time Frame	Entire life spans of the factory operation
Estimated cost	Approximately 10 million kyats (annually)
Responsibility	Management of the factory; • Head of maintenance-Total implementation of above of air pollution management plan • Production manager-Air quality in the production area is good enough • Manager (COC)-To hire organization/independent third-party testing air quality • EHS officer-Monitor the hygiene of ambient air quality in surrounding of the factory

7.2. NOISE MANAGEMENT PLAN

Objectives:	• To avoid nuisance noise to nearby residents generated from generator and other machineries. • To comply with noise standard of National Environmental Quality (Emission) Guideline.
Performance Indicator:	Nil complaints relating to noise nuisance
Relevant government law and rule	• National Environmental Quality (Emission) Guidelines (2015)
Management Plan	• Building noise insulated generator room and ensure satisfactory maintenance of relevant equipment • Impose speed limit to track and vehicles at the transportation route. • Provide sufficient personal protective equipment (PPE) at the work place • All the related personnel will be provided proper training about the relevant issues and ensure PPE wear during working in noisy area.
Monitoring & Reporting	Monitor the work place noise level (dB) biannually
Time Frame	Throughout the project life
Estimated cost	Approximately 5 million kyats (annually)
Responsibility	Manager (COC) • To hire organization/independent third-party testing noise level • Ensure that all workers use PPE during operation

7.3. SOLID WASTE MANAGEMENT PLAN

Objectives:	• To minimize waste generation by developing strategies for the management and disposal of all waste in a manner that is sustainable and sensitive to the environment • To comply government waste management policy
Performance Indicator:	Nil complaints relating to noise nuisance
Relevant government law and rule	• National Waste Management Strategy and Action Plan (Draft 2018)
Management Plan	• The factory does not dispose any kind of solid waste on the factory premises or not dump in the surface water like local pond, canal or river, etc. • The solid wastes are stored properly and separately in a certain location in proper manner such as cloth scrap waste need to collect at one place and poly/carton waste should collect at another place. Metal/Hazardous material waste such as fudge electric bulbs, empty chemical container is stored another in separate place of storage area.

	• Recycle wastes like cloth scrap, carton box, plastic sheet, etc. are hand over to local buyer for reuse and waste tracking record shall be kept every day. • The metal or glass waste of electric bulb is taken by the suppliers to recycle them. • The daily domestic waste of workers hands over to Bago Government Municipality agent to collect every day • Daily wastes are stored clearly labeled containers and in such a manner that all related personnel are provided proper training about the relevant issues.
Monitoring & Reporting	• Daily waste has to be collected and hand over to Bago Government Municipality agent • The inventory record of waste disposal will be maintained as proof for proper management as designed
Time Frame	Entire life spans of the factory operation
Estimated cost	Approximately 24 million kyats (annually)
Responsibility	Manager (HR/COC) • Responsible for overall site cleanliness and waste management • Regular waste collection to minimize excessive waste storage

7.4. WASTEWATER MANAGEMENT PLAN

Objectives:	• Prevent pollution underlying groundwater sources
Performance Indicator:	• Implement an environmental friendly sewerage system
Relevant government law and rule	National Environmental Quality (Emission) Guidelines (2015)
Management Plan	• Ensure that drainage lines and sewage system of factory and the nearest public drainage are watertight and sufficient capacity • Regular check and maintain sewerage facility. • Clean the factory ‘s drainage to avoid odor emission and to avoid the block of water flow • Regularly monitor and check the discharge temperature from boiler wastewater before directly discharge into factory‘s final drainage
Monitoring & Reporting	Proper maintenance of drainage and sewerage system will be conducted periodically
Time Frame	Entire life spans of the factory operation
Estimated cost	Approximately 8 million kyats (annually)
Responsibility	• Manager (COC)-To hire organization/independent third-party testing wastewater quality • EHS officer-Monitor the condition of factory’s drainage and sewerage system

7.5. ENERGY MANAGEMENT PLAN

Objectives:	• The energy management is aimed at minimizing electricity use results from site equipment and working lighting • Comply with the standard of energy use
Performance Indicator:	• Annual energy savings for all department facilities • Annual fuel saving for generator and vehicle
Relevant government law and rule	National Energy Management Committee (Myanmar Energy Master Plan 2015)
Management Plan	• Installation of timers and thermostats to control heating and cooling • Energy saving light installed in different area of the factory for saving energy • Used of energy saving devices must be installed • Ensure that good housekeeping measures such as turning off equipment and lights when not in use
Monitoring & Reporting	Conduct annual energy efficiency of adult to find out the scope for energy saving
Time Frame	• Once in a year throughout the factory life
Estimated cost	• Approximately 5 million kyats (annually)
Responsibility	Manager (COC) • To arrange energy audit technical personnel • To monitor and record electricity consumption, other related energy issues and take necessary actions if any problem arises

7.6. WATER CONSUMPTION MANAGEMENT PLAN

Objectives:	• The water consumption management is aimed at minimizing ground water use
Performance Indicator:	• Prohibitions on accessing and using underground water without a license • Water consumption saving of general water use from groundwater
Relevant government law and rule	• The Underground Water Act (1930)
Management Plan	• Install water meter for internal control of water consumption • All staff trains and makes aware conservation practices and proper methods of water use must be place in toilets and other areas of water consumption • The contamination of water is avoided by suitable management of oil and fuel used in machineries and vehicles • Trees plantation surrounding the factory
Monitoring & Reporting	• Daily visual inspections
Time Frame	• Once in a year throughout the factory life
Estimated cost	• Approximately 5 million kyats (annually)

Responsibility	Manager (COC) • Arrange audit on water usage controls environmental officer

7.7. EMERGENCY RESPONSE AND MANAGEMENT PLAN

Objectives:	• Reduce the risk of accidents at the factory area
Performance Indicator:	• Establish a safe working environment
Relevant government law and rule	• The Employment and Skill Development Law (August 2013), ILO guide to Myanmar Labour Law (2017)
Management Plan	• The factory management has taken proper measures to handle any emergency situation like fire, earthquake, flood and storm • Provision and inspection of firefighting equipment and fire hydrant system in all the sections • A detail evaluation plan (fire exist, emergency exit door, etc.) is established and communicated with workers • Periodic inspection of safety relief valve provided with pressure vessels and equipment, preventive maintenance; aware the workers about electric shock by necessary training. • Regular fire drill operation is conducted • Workers are informed about what to do in earthquake like stay in a safe place such as under table of desk, not to try move outside during earthquake, workers who will be outside during earthquake shall remain stay out of the building, trees, lump post, etc. Other relevant safety instruction of emergency situation it informed to workers by training • Workers are aware of dangers from physical hazards such as obstacles covered by flood water (storm debris, drainage opening, ground erosion) and from displaced reptiles (Snake) or other animals. • A medical team has been prepared for primary treatment (First Aid) • Prepare an emergency contact directory consisting contact numbers of nearest fire service, local police station, hospitals, etc. and display it in a place that everybody can see it easy. • Build a safety committee which from firefighting team, rescue team. The committee arrange a meeting every month to discuss about safety management • Ensure proper training of the employees about the disaster management, fire safety as well as occupational health and safety
Monitoring & Reporting	• Weekly check fire extinguishers and water hydrant in position • Daily inspect that all fire exist are open • Servicing fire extinguisher and records accidents,
Time Frame	• Entire life spans of the factory operation
Estimated cost	• Approximately 25 million kyats (annually)
Responsibility	Manager (COC) and EHS officer • Arrange firefighting training after every 3 months • Responsible for fire control and response

	• Monitoring daily danger warning and bans

7.8. ENVIRONMENTAL MONITORING SCHEDULE

The EMoP cell members responsible may conduct daily, weekly or monthly general inspections of the project area and facilities. The objectives are to identify non-compliances to EMoP. Table 7-1 is provided the environmental monitoring schedule for Hung Kiu (Myanmar) Garment Industrial Limited. The factory submits monitoring report to the Ministry not less frequently than every six (6) months, as provided in a schedule in the EMP.

Table 7-1 Environmental Monitoring Schedule

Issues	Parameter	Frequency	Area to be monitored	Coordinates	Responsible Organization
	Operation Phase				
Common	Monitoring of mitigation measures	Yearly (3 years after operation)	The project		Environmental Management Team's Myanmar Sakichi Garment Limited.
Air quality	SO2, NO2, CO, PM2.5, PM10	Biannually monitoring and reporting to ECD (first 3 years after operation)	Outdoor and Indoor of proposed project	17°11'20.96"N 96°23'36.24"E	Environmental Management Team's Myanmar Sakichi Garment Limited.
Waste Generation	Solid waste, Liquid waste and Hazardous waste	weekly	Recycle house and waste house and at the factory office		Environmental Management Team's Myanmar Sakichi Garment Limited.
Fire Hazardous	Visual inspection, firefighting equipment	Monthly	At the factory		Environmental Management Team's Myanmar Sakichi Garment Limited.
Light intensity	Illuminance	Monthly	At the production line (especially cutting and QC)	17°11'23.00"N 96°23'37.79"E	Environmental Management Team's Myanmar Sakichi Garment Limited.
	Decommissioning Phase				
Air quality	SO2, NO2, CO, PM2.5, PM10	One time during this phase	One point in the production area	17°11'23.81"N 96°23'35.66"E	Land Owner
Noise	Noise level in decibel (dBA)	One time during this phase	One points in demolishing area	17°11'20.08"N 96°23'33.98"E	Land Owner

Issues	Parameter	Frequency	Area to be monitored	Coordinates	Responsible Organization
Rehabilitation	Recovering and Revegetation		All decommissioning area		Land Owner

7.9. CORPORATE SOCIAL RESPONSIBILITY (CSR) PLAN

The CSR activities have the objective to uplift quality of life and gain favorable relations from all communities in the operation area. The CSR program for Hung Kiu factory consists of three main sectors; Health, Education and Community Development Sector. CSR activities are conducted in compliance with MIC's guideline for implementation of CSR program.

Hung Kiu (Myanmar) Garment manufacturing Limited. has a plan to implement and donate 2 percent of the profit per year for Corporate Social Responsibility (CSR) and Employee Welfare Arrangement (Table 7-2).

Table 7-2 CSR Plan

Area	Priority item	Contribution	Detail targets
Health	Healthcare for employees and their family	0.8 %	One of our main concerns is the well-being of our employees. We will contribute 0.8 % of our net profit for the healthcare which includes medical checkup for the employees and providing health education to our workers.
Education	Raising awareness education level and human right	0.8 %	We will contribute 0.8 % of our net profit to the public school near the factory to be a part of creating the better community. We will also work together with the school to understand more about the needs and we will also ensure that our contributions will be used in the most effective and efficient way for the society.
Community development	Donation to local community	0.4%	• Donate to local charities with a worthy cause • Actively participate in community events • Encourage staff to participate, and to form a community engagement team to actively support community events • Embedding understanding and consciousness about human rights issues among the employees • Development of sexual harassment and —power harassmentǁ (workplace bullying & harassment) prevention efforts

7.10. CAPACITY BUILDING AND TRAINING

The emergency preparedness is vital, as quick and correct response is necessary in case of emergency to reduce injuries, harm and other damage. Care should be given for during processing activities in order to prevent synthetic errors and accidental cases (e.g., electricity shock and fire hazards).

The emergency response plans should be established for handling all foreseeable emergencies in the workplace and must provide the following;

7.10.1. **Assignment of Responsibilities**

All senior staff such as a line/production manager or safety officer should be assigned to lead the emergency response team and charged with the duties of (1) assessing the emergency and taking necessary actions (2) overseeing the implementation of the emergency response plan (3) organizing regular drill (4) ensuring all emergency equipment is well maintained.

7.10.2. **Emergency Procedures**

Emergency procedures are operating instructions for employees to follow in emergency case

About work safety in the concerned processing, the management team should

a) Identify and list out all possible emergency situations in the workplace
b) Assess the effects and impacts of the emergency situations
c) Establish emergency response plans
d) Provide and maintain emergency equipment and other necessary resources
e) Ensure that staff are familiarized with the arrangements in case of emergencies by providing procedural instructions and employee training and organizing drills

7.10.3. **Training for Emergencies**

The type, amount and frequency of training varies, depending upon the task's employees are expected to perform. Although training must be provided to employees at least annually, safety meetings and drills should be conducted at more frequent intervals.

Regardless of the specific type of facility, training should include, though not be limited to the following;

- Hazard recognition and prevention (fire, explosion, etc.)
- Proper use of fire extinguishers
- Emergency reporting procedures
- Preventive maintenance
- Hazardous materials spill response
- First Aid

7.10.4. **Fire Prevention and Protection**

The fire prevention and protection program must address the following topics:

Prevention; policies, practices and procedures designed to keep the conditions necessary for a fire from coming together

- Hot work permits
- Lockout/tag out policies
- Design specifications for storage of flammable materials

Severity reduction; policies, practices and procedures designed to reduce the spared of fire and end the fire.

- Emergency plans

- Alarm systems
- Portable fire extinguishers
- Fire Protection Equipment

Cleanup; policies, practices and procedures designed to return the affected area to an operational level and reduce other losses created by improper cleanup

- First aid
- Removal of debris to an appropriate waste site
- Equipment and facility repair

7.10.5. **Fire Protection Equipment**

1. Explosion Suppression Systems: Explosion suppression systems should be used in unusually hazardous areas such as elevator legs, boots and head, or in areas such as bins, distributors and tanks.

2. Portable Fire Extinguishers: All buildings within a facility must have fully charged and operable portable fire extinguishers. If employees are expected to use portable extinguishers or other firefighting equipment against incipient fires, they must be trained to use the equipment. Training must include the following:
   - Correct type of extinguisher to use on different classes of fire
   - Proper techniques for use of the equipment to extinguish a fire
3. Standpipes and Hoses: All areas within a facility that are above 75 feet from ground level and in which combustible materials other than grain are stored should have wet or dry standpipes and hoses installed.

4. Automatic Sprinkler Systems: Automatic sprinkler systems are recommended in areas containing combustible materials.

5. Fire Hydrants: All grain and feed mill facilities should have adequate public or private fire hydrants on site. Each fire hydrant should have an adequate water supply.

7.10.6. **Fire Safety and Evacuation Plan**

Fire Evacuation plans should include the following information

- Emergency escape routes must be clearly shown on floor plans and workplace maps
- Employers must know that their employees know the emergency escape routes
- Procedures for employees who must remain to operate critical equipment before evacuating
- Identification and assignment of personnel responsible for rescue or emergency medical aid

Fire Safety Plans should include the following information:

1. Procedure for reporting a fire or other emergency
2. Site plans indicating the following
   - The Occupancy assembly point
   - The locations of fire hydrants
   - The normal routes of fire department vehicles access
3. Floor Plans identifying the locations of the following
   - Exits

- Primary evacuation routes
- Secondary evacuation routes
- Accessible egress routes
- Areas of refuge
- Exterior area for assisted rescue
- Manual fire alarm boxes
- Portable fire extinguishers
- Occupant-use hose stations
- Fire alarm annunciators and controls

The following American National Fire Fighting Association (NFFA) Standards must be following.

Table 7-3 American National Fire Fighting Association (NFFA) Standards

No.	Parameters	Proposed Capacity	Remark
1	Fire water flow	14 bars	
2	Deluging rate	12.0 liters/m2/min	
3	Foam rate	10.0 liters/m2/min	
4	Maximum water pressure	190 liters/min	For storage area

Emergency Evacuation Drill: An exercise performed to train staff and occupants and to evaluate their efficiency and effectiveness in carrying out emergency excavation procedures

Employee Training and Response Procedures: Employee shall be trained in the fire emergency procedure described in their fire evacuation and fire safety plans and training should be based on these plans;

Frequency: Employee shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the fire code official upon request.

Employee Training Program: Employee shall be trained in fire prevention, evacuation and fire safety in accordance with the following sections.

Fire Prevention Training - Employee shall be apprised of the fire hazards of the materials and processes to which they are exposed. Each employee shall be instructed in the proper procedures for preventing fires in the conduct of their assigned duties

Evacuation Training – Employees shall be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas and procedures for evacuation

Fire Safety Training – Employee assigned fire-fighting duties shall be train Toiled to know the locations and proper use of portable fire extinguishers or other manual fire-fighting equipment and the protective clothing or equipment required for its safe and proper use.

7.10.7. **Employee Information and Training**

Employees must be informed about any operations in their work area where hazardous chemicals or materials are present. They must also be informed about the locations and availability of the hazard communication program, list of chemicals and SDSs. Employees must receive training on the following:

- Methods for detecting the presence or release of a hazardous chemical, such as monitoring devices and the visual
- appearance or odor of the chemical
- Physical and health hazards of chemicals in their work area
- How to protect themselves using work practices, emergency procedures and personal protective equipment
- How to interpret the information on the labels and MSDS of chemical materials

7.10.8. **Health and Safety Training Plan for Worker**

Health and Safety Training plan currently used and provided in Hung Kiu (Myanmar) Garment Manufacturing Limited to all employees and workers by trainings internally and externally. Specific trainings are recommended and conducted according to the health and safety guidelines to enhance worker's health and to prevent all potential risks and hazards might occur in the factory. All required trainings related to health and the respective departments propose safety or operational parts, top management makes decision and HR organizes and conducts the trainings.

Table 7-4 Training Plan Used

No.	Health and Safety Guidelines	Training needs
1.	Management	General fire and emergency response plan, evacuation. All training materials and procedures covering health and safety for workers and employees
2.	Machine safety and noise management	Training for machine operations to all operators Use of PPE and proper use of any necessary protection Maintenance and Emergency procedures
3.	Environment safety	Understanding and training on recognition and maintenance not to affect environment
4.	Material storage and safety	Safety use of related devices and machines Use of necessary protections in working areas Sanitation work
5.	Fire Safety	Firefighting and evacuating training and practices Firefighting materials/ devices use
6.	First Aid	first aid / CPR/ AED training from providers (Outsource) training on hazard of pathogens

Figure 7-1 Firefighting training

Figure 7-2 First Aid Training

7.11. BUDGET PLAN FOR ENVIRONMENTAL MANAGEMENT AND MONITORING

This section describes the budget plans for the environmental management and environmental monitoring by the project proponent. On the other hand, Hung Kiu (Myanmar) Garment Manufacturing Industrial Limited. will take necessary environmental mitigation measures and its expenses for the environmental management not only at the construction and operation phases but also at the closing phase in accordance with their responsibility for the studies of recommendation.

The following table shows the expenditures for the implementation of Environmental Management Plan for operation phase annually. Estimation cost for EMP implementation is presented in Table 7-5.

Table 7-5 Cost estimation for EMP implementation

No	Item	Frequency/Times	Cost (USD)
Mitigation Plan			
1	Maintenance of air ventilation system	Once per year	200 per year
2	Grass plantation within the area of factory compound	Once per three mouths	70 per three mouths
3	Solid waste disposal	12	1000 per year
4	Purchase of Personal Protective Equipment (PPE)	Once per half a year	150 per half a year
5	Medical Check-up and Health Insurances	Once per year	500 per year
Emergency Preparedness			
1	Fire extinguisher	Once per month	300 per month
2	Fire alarm system	Once per month	
3	First Aid Fits	Once per month	
Monitoring Plan			
1	Wastewater	2	200 per year
2	Noise level	2	300 per year
3	Environmental compliance auditing	1	1,000 lump sum

7.12. GRIEVANCE REDRESS MECHANISM (GRM)

People who live near the project affected area or stakeholders can complain about the problems and impacts that they suffer; they can complain though Grievance Committee, which includes the responsible persons of Hung Kiu (Myanmar) Garment Manufacturing Limited representative from representative from General Administration Department (Inndakaw, Bago Division). Small issues will be solved at the Grievance Committee stage and other unsolved problems will be submitted to higher responsible authorities and finally the responsible person decided by the court in legal terms. The following diagram show steps of Grievance Redress Mechanism of Proposed Factory Project.

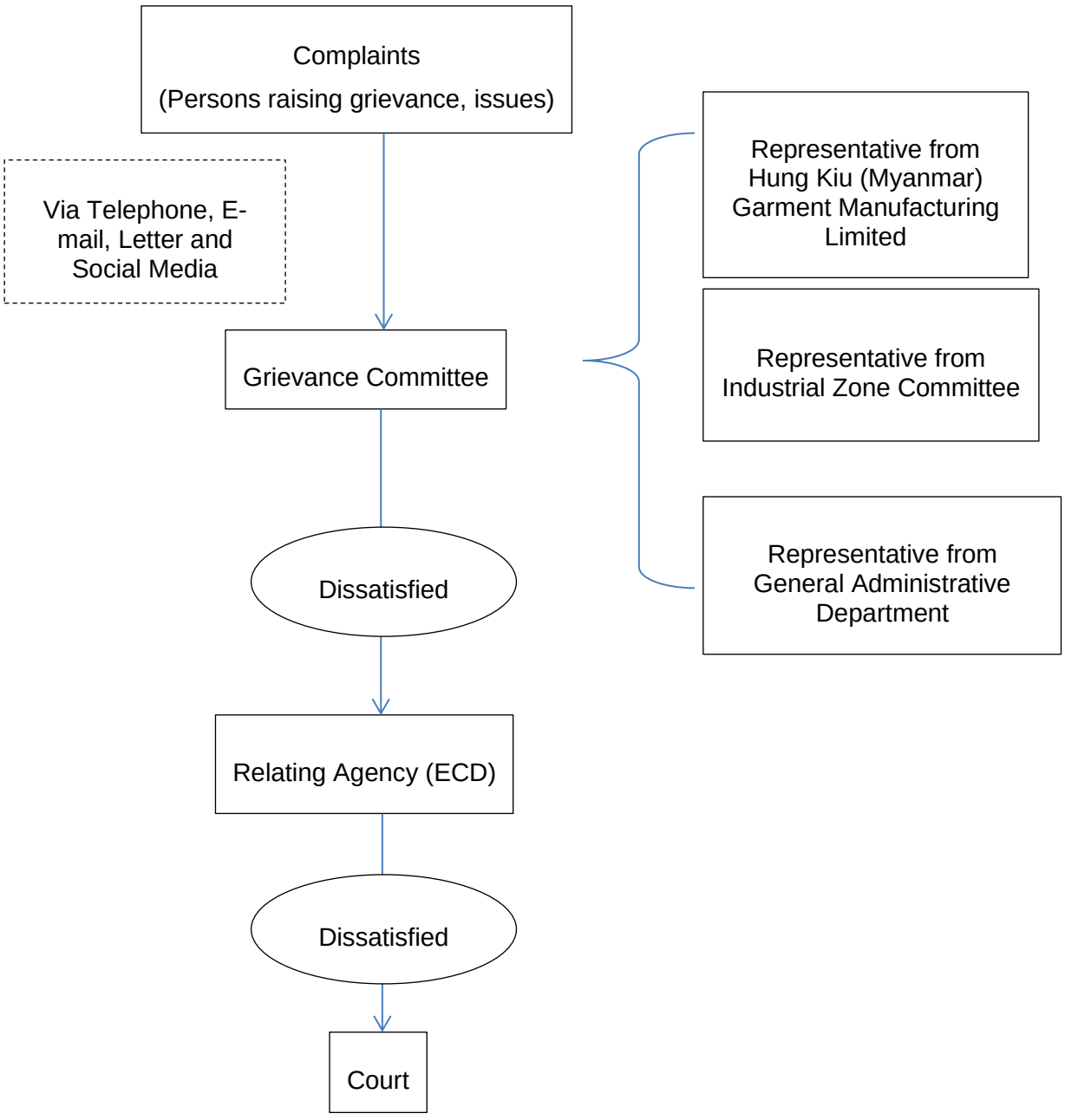


Figure 7-3 Grievance Redress Mechanism Flow Diagram

8. CONCLUSION

Environmental Management Plan (EMP) has been prepared for Hung Kiu (Myanmar) Garment manufacturing factory is located at No.35/9, Yangon-Mandalay Road, Inndakaw, Bago Township, Bago Region, Myanmar. The main objective of the study is focused specially on the required environmental management measures or creating environmentally friendly workplace. An EMP has been carried out for the factory according to the requirement of the proponent as it has been made for garments manufacturing factory.

Thus, the factory management can take proper mitigation steps against adverse environmental impacts by following this EMP. The necessary measure to mitigate impact regarding different environmental parameter such as air, water, waste, noise has been proposed in this EMP.

However, all necessary implementation measures to mitigate adverse environmental, health and safety impacts have already been taken to meet National Environmental Quality (Emission) Guideline (2015). On the other, the factory has positive impacts in terms of environmental in the operation phase. Further, this will indirectly help in boosting up the national economic condition through foreign investment. An outline of EMP has been given in the present report to mitigate/enhance the impacts, which occurs during operation phase of the factory.

The effective implementation of the mitigation measures proposed will ensure towards good environmental management within the proposed project area. Furthermore, the environmental monitoring plan prepared as part of the EMP will provide adequate opportunities to address any residual impacts during the operation phase.

In conclusion, it has been figured out that, the proposed garment factory is going to generate local employment opportunities and enhance capabilities and working skills of employees. Consequently, their socio-economic standard is expected to be improved and undertaking corporate social responsibilities (CSR) as recommended. The study further concluded that positive impacts will be of immense benefit to the local community and national development as well.

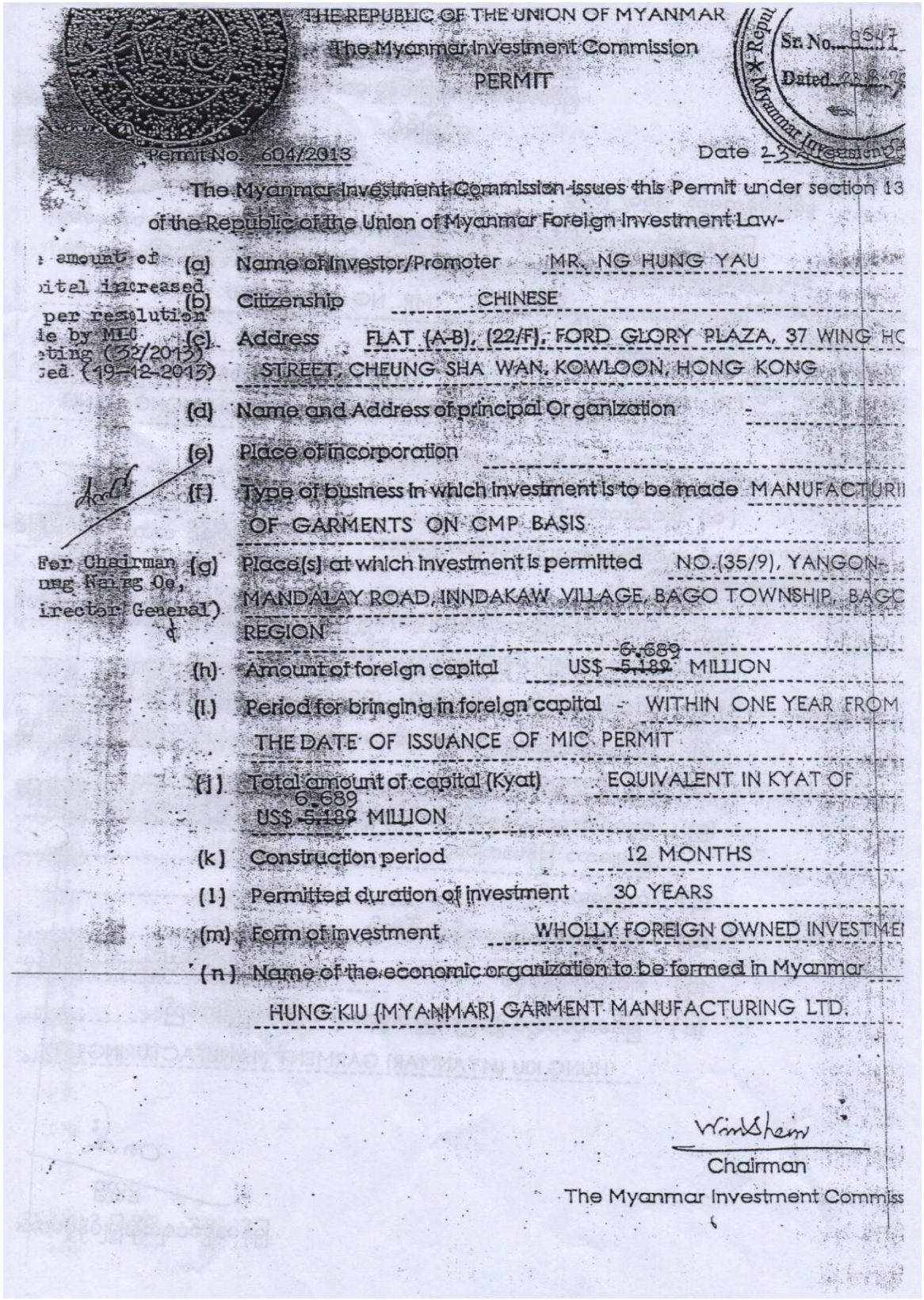
9. RECOMMENDATION

This is recommended that;

- All appropriate environmental management measures detailed in this report, together with any other environmental management commitments should be implemented throughout the entire life of the factory
- Solid wastes and liquid wastes need to dispose according to Bago Municipal rules and regulation
- Workers should be provided proper training and it should be ensured that workers use PPE during factory operation area.
- Daily, monthly and annual action plan shall be formulated based on this EMP and practiced at operation level.
- Keep full records of environmental management activities and present to annual independent third-party environment audit.
- Abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

Finally, the proponent should follow the comments and suggestions made by ECD after reviewing this EMP report. Once concerned authorities approve EMP, effective implementation of EMP by the project proponent is essential. The proponent should abide environmental policy, laws, rules and instructions of the Republic of the Union of Myanmar.

APPENDIX A
Hung Kiu (Myanmar) Garment Manufacturing Ltd.'s MIC Permit



THE REPUBLIC OF THE UNION OF MYANMAR
The Myanmar Investment Commission
PERMIT

Sr. No. 0547
Dated 28.8.20

Permit No. 604/2013 Date 2-3-2014

The Myanmar Investment Commission issues this Permit under section 13 of the Republic of the Union of Myanmar Foreign Investment Law-

amount of pital increased per resolution le by MIC eting (32/2013) ed (19-12-2013)

(a) Name of Investor/Promoter MR. NG HUNG YAU
(b) Citizenship CHINESE
(c) Address FLAT (A-B), (22/F), FORD GLORY PLAZA, 37 WING HC STREET, CHEUNG SHA WAN, KOWLOON, HONG KONG
(d) Name and Address of principal Organization -
(e) Place of incorporation -
(f) Type of business in which investment is to be made MANUFACTURI OF GARMENTS ON CMP BASIS
(g) Place(s) at which investment is permitted NO.(35/9), YANGON-MANDALAY ROAD, INNDAKAW VILLAGE, BAGO TOWNSHIP, BAGC REGION
(h) Amount of foreign capital ~~US$ 5.189~~ 6.689 MILLION
(i) Period for bringing in foreign capital - WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF MIC PERMIT
(j) Total amount of capital (Kyat) EQUIVALENT IN KYAT OF ~~US$ 5.189~~ 6.689 MILLION
(k) Construction period 12 MONTHS
(l) Permitted duration of investment 30 YEARS
(m) Form of investment WHOLLY FOREIGN OWNED INVESTMEI
(n) Name of the economic organization to be formed in Myanmar HUNG KIU (MYANMAR) GARMENT MANUFACTURING LTD.

For Chairman
ung Wai ng Oo,
irector General)

Win Shein
Chairman
The Myanmar Investment Commiss

APPENDIX B
Transitional Consultant Registration Certificate

REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 10048 Date

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the person under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၅၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို လူပုဂ္ဂိုလ်အားထုတ်ပေးလိုက်သည်။)

(a)	Name of Consultant (အကြံပေးပုဂ္ဂိုလ်အမည်)	U Lin Htet Sein
(b)	Citizenship (နိုင်ငံသား)	Myanmar
(c)	Identity Card / Passport Number (မှတ်ပုံတင်/နိုင်ငံကူးလက်မှတ် အမှတ်)	7/ Tha Ka Na (N) 101377
(d)	Address (ဆက်သွယ်ရန်လိပ်စာ)	No.54, Room No.704, Waizayantar Tower, Waizayantar Road, Thingangyun Township, Yangon. lin.tbs@gmail.com , 09 421137569
(e)	Organization (အဖွဲ့အစည်း)	Total Business Solution Co., Ltd.
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Person
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 March 2018

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for one year from (1.4.2018) to (31.3.2019)
ဤလက်မှတ်အား (၁-၄-၂၀၁၈) ရက်နေ့မှ (၃၁.၃.၂၀၁၉) ရက်နေ့အထိ တစ်နှစ်သက်တမ်း တိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

Director General
Environmental Conservation Department
Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Facilitation of meeting,
2. Land use,
3. Legal analysis,
4. Geology and soil,
5. Occupational Safety and Health,
6. Public Health

ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဦးစီးဌာန

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for one year from (1.1.2020) to (31.12.2020)
ဤလက်မှတ်အား(၁-၁-၂၀၂၀) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀) ရက်နေ့အထိ တစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for six month from (1.1.2021) to (30.6.2021)
ဤလက်မှတ်အား(၁-၁-၂၀၂၁) ရက်နေ့မှ (၃၀-၆-၂၀၂၁) ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for six months from (1.7.2021) to (31.12.2021)
ဤလက်မှတ်အား(၁-၇-၂၀၂၁) ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁) ရက်နေ့အထိ (၆)လ သက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

THE REPUBLIC OF THE UNION OF MYANMAR

Ministry of Natural Resources and Environmental Conservation

Environmental Conservation Department

CERTIFICATE FOR TRANSITIONAL CONSULTANT REGISTRATION

(ကြားကာလအကြံပေးလုပ်ကိုင်သူမှတ်ပုံတင်ခြင်းအထောက်အထားလက်မှတ်)

No. 00068 Date 24 MAY 2019

The Ministry of Natural Resources and Environmental Conservation, hereby, issues this certificate to the organization under Environmental Impact Assessment Procedure, Notification No. 616/2015.

(ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း၊ အမိန့်ကြော်ငြာစာအမှတ်၊ ၆၁၆/၂၀၁၅ အရ သယံဇာတနှင့် သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာနသည် ဤအထောက်အထားလက်မှတ်ကို ထုတ်ပေးလိုက်သည်။)

(a)	Name of Organization (အဖွဲ့အစည်းအမည်)	Myanwei Consulting Co., Ltd.
(b)	Name of the representative in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏အမည်)	U Nyan Lynn Aung
(c)	Citizenship of the representative in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏နိုင်ငံသား)	Myanmar
(d)	Identity Card /Passport Number of the representative person in the organization (အဖွဲ့အစည်းကိုယ်စားလှယ်၏ မှတ်ပုံတင်/ နိုင်ငံကူးလက်မှတ် အမှတ်)	12/Sakhana(N)056196
(e)	Address of organization (ဆက်သွယ်ရန်လိပ်စာ)	No. 28, Myay nu street, Sanchaung Township, Yangon, Myanmar. Mobile phone: 09440251888 E mail: ceo@myanweiconsulting.com
(f)	Type of Consultancy (အကြံပေးလုပ်ကိုင်မှုအမျိုးအစား)	Organization
(g)	Duration of validity (သက်တမ်းကုန်ဆုံးရက်)	31 December 2019

Director General

Environmental Conservation Department

Ministry of Natural Resources and Environmental Conservation

Areas of Expertise Permitted
(ခွင့်ပြုသည့် ကျွမ်းကျင်မှုနယ်ပယ်များ)

1. Geology and Soil

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for six month from (1.1.2021) to (30.6.2021)
ဤလက်မှတ်အား(၁-၁-၂၀၂၁)ရက်နေ့မှ(၃၀-၆-၂၀၂၁)
ရက်နေ့အထိ (၆)လသက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for nine months from (1.4.2019) to (31.12.2019)
ဤလက်မှတ်အား(၁-၄-၂၀၁၉) ရက်နေ့မှ (၃၁.၁၂.၂၀၁၉)
ရက်နေ့အထိ (၉)လသက်တမ်း တိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for six months from (1.7.2021) to (31.12.2021)
ဤလက်မှတ်အား(၁-၇-၂၀၂၁)ရက်နေ့မှ (၃၁-၁၂-၂၀၂၁)
ရက်နေ့အထိ (၆)လသက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

EXTENSION
သက်တမ်းတိုးမြှင့်ခြင်း
The VALIDITY of this certificate is extended for one year from (1.1.2020) to (31.12.2020)
ဤလက်မှတ်အား(၁-၁-၂၀၂၀)ရက်နေ့မှ (၃၁-၁၂-၂၀၂၀)
ရက်နေ့အထိတစ်နှစ်သက်တမ်းတိုးမြှင့်သည်။
For Director General
(Soe Naing, Director)
Environmental Conservation Department

APPENDIX C
Environmental Quality Results

HKMG-COC-HQS-027

ISO TECH LABORATORY

Laboratory Technical Consultant: U Saw Christopher Maung
B.Sc Engg. (Civil), Dip S.E (Delft) Lecturer of YIT (Retd), Consultant (Y.C.D.C), LWSE 001
Former Member (UNICEF, Water quality monitoring & Surveillance Myanmar)

WTL-RE-001
Issue Date - 01-12-2012
Effective Date - 01-12-2012
Issue No - 1.0/Page 1 of 1

W1218 569

WATER QUALITY TEST RESULTS FORM

Client	Supernal Purified Drinking Water
Nature of Water	Purified Drinking Water
Location	Inntakaw
Date and Time of collection	4. 3 .2019
Date and Time of arrival at Laboratory	4. 3 .2019
Date and Time of commencing examination	5. 3 .2019
Date and Time of completing	7. 3 .2019

Results of Water Analysis			WHO Drinking Water Guideline (Geneva - 1993)
pH	7.1		6.5 - 8.5
Colour (True)		TCU	15 TCU
Turbidity		NTU	5 NTU
Conductivity	32	micro S/cm	
Total Hardness	2	mg/l as $CaCO_3$	500 mg/l as CaCO
Calcium Hardness		mg/l as $CaCO_3$	
Magnesium Hardness		mg/l as $CaCO_3$	
Total Alkalinity	16	mg/l as $CaCO_3$	
Phenolphthalein Alkalinity		mg/l as $CaCO_3$	
Carbonate ($CaCO_3$)		mg/l as $CaCO_3$	
Bicarbonate (HCO_3)		mg/l as $CaCO_3$	
Iron	0.05	mg/l	0.3 mg/l
Chloride (as CL)		mg/l	250 mg/l
Sodium Chloride (as NaCL)	5	mg/l	
Sulphate (as SO_4)		mg/l	500 mg/l
Total Solids		mg/l	1500 mg/l
Suspended Solids		mg/l	
Dissolved Solids	16	mg/l	1000 mg/l
Manganese		mg/l	0.05 mg/l
Phosphate		mg/l	
Phenolphthalein Acidity		mg/l	
Methyl Orange Acidity		mg/l	
Salinity		ppt	

Remark: This certificate is issued only for the receipt of the test sample.

Tested by
Signature: Hein
Name: Zaw Hein Oo
B.Sc (Chemistry)
Sr. Chemist
ISO TECH Laboratory

Approved by
Signature:
Name: Soe Thit
B.E (Civil) 1980,
Technical Officer
ISO TECH Laboratory

(a division of WEG Co.,Ltd.)
No.18, Lanthit Road, Nanthargone Quarter, Insein Township, Yangon, Myanmar.
Ph: 01-640955, 09-73225175, 09-30339681, Fax: 01-644506, E-mail: isotechlaboratory@gmail.com, Website: weg-myanmar.com

MYANWEI ENVIRONMENTAL SOLUTIONS

Plot No. (36, 38), Room No. 9A, 9th floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting .com

Project Name:	Hung Kiu (Myanmar) Garment Manufacturing Limited
Project Location:	No.35/9, Yangon-Mandalay Road, Inndakaw, Bago Township, Bago Region, Myanmar.
Sampling Date:	21 June, 2019
Sampling Time:	10:00 am to 5:00 pm
Sampling Condition:	Normal
Sampling By:	Environmental Team

National Environmental Quality (Emission) Guideline

Parameter	Averaging period	Guideline value	Unit
PM 10b	24-hour	20 50	(µg/M^3)
PM 2.5b	24-hour	10 25	(µg/M^3)

a. Particulate matter 10 micrometer or less in diameter
b. Particulate matter 2.5 micrometer or less in diameter

Monitoring Result

Location	GPS value	Parameters	Observed value	Guideline value	Unit
Building B (Sewing Area)	17°11'23.17"N 96°23'38.01"E	PM_{10} $PM_{2.5}$	39.1 26.9 (There is no major impact on operation process)	50 25	µg/m^3
Building B (Ironing & QC Area)	17°11'22.67"N 96°23'38.02"E	PM_{10} $PM_{2.5}$	36.8 21.6	50 25	µg/m^3
Building B (Cutting)	17°11'23.56"N 96°23'37.50"E	PM_{10} $PM_{2.5}$	33.0 22.7	50 25	µg/m^3
Building C (Sewing Area)	17°11'23.86"N 96°23'34.30"E	PM_{10} $PM_{2.5}$	21.3 14.1	50 25	µg/m^3
Building C (Cutting)	17°11'23.51"N 96°23'33.33"E	PM_{10} $PM_{2.5}$	24.1 15.3	50 25	µg/m^3
Building C (QC & Finish Area)	17°11'24.24"N 96°23'33.05"E	PM_{10} $PM_{2.5}$	35.4 15.0	50 25	µg/m^3
Building C (Dry room)	17°11'24.64"N 96°23'33.70"E	PM_{10} $PM_{2.5}$	7.6 11.8	50 25	µg/m^3
Building A (Cutting Area)	17°11'21.92"N 96°23'33.29"E	PM_{10} $PM_{2.5}$	2.5 20.2	50 25	µg/m^3
Building A (Packing Area)	17°11'22.19"N 96°23'35.30"E	PM_{10} $PM_{2.5}$	46.0 15.3	50 25	µg/m^3

Building A (Sewing Area)	17°11'21.34"N 96°23'33.95"E	PM_{10} $PM_{2.5}$	21.3 14.1	50 25	µg/m³
Building A (Ironing & QC Area)	17°11'21.01"N 96°23'34.09"E	PM_{10} $PM_{2.5}$	36.8 21.6	50 25	µg/m³
Building D (Store Area)	17°11'25.61"N 96°23'36.44"E	PM_{10} $PM_{2.5}$	23.0 16.3	50 25	µg/m³
Building D (QC Area)	17°11'24.21"N 96°23'36.69"E	PM_{10} $PM_{2.5}$	30.4 16.1	50 25	µg/m³
Building D (Lab room)	17°11'24.85"N 96°23'35.94"E	PM_{10} $PM_{2.5}$	13.7 17.6	50 25	µg/m³

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

Project Name:	Hungkiu (Myanmar) Garment Manufacturing Limited
Project Location:	Plot No. 35/9, Yangon-Mandalay Road, Inndakaw Village, Bago Township, Bago Region, Myanmar
Sampling Date:	21 June, 2019
Sampling Time:	11:00 AM to 2:30 PM
Sampling By:	Environmental Team Represented By Myanwei Consulting Group Company Limited

Instrument	Type	Sampling Rate	Location
Uni-T (Luminometer)	UT380 Series	100 times/second	Indoor station

No	Location	Measure value(Lux)	Standard*
	Building A		
1	Sewing Line 5	609	400
2	Sewing Line 10	511	400
3	Sewing Line 15	517	400
4	Sewing Line 20	508	400
5	Cutting Line 1	558	600
6	Cutting Line 2	580	600
7	Ironing Line 1	543	600
8	Ironing Line 2	498	600
9	QC Line 1	811	900-1200
10	QC Line 2	743	900-1200
11	Packing Line 1	563	600
12	Packing Line 2	510	600
	Building B		
13	Sewing Line 5	615	400
14	Sewing Line 10	643	400
15	Sewing Line 15	432	400
16	Sewing Line 20	499	400
17	Cutting Line 1	530	600
18	Cutting Line 2	524	600
19	Ironing Line 1	561	600
20	Ironing Line 2	506	600

21	Ironing Line 3	476	600
22	QC Line 1	630	900-1200
23	QC Line 2	427	900-1200
24	Packing Line 1	543	600
25	Packing Line 2	626	600
	Building C		
26	Sewing Line 5	587	400
27	Sewing Line 10	568	400
28	Sewing Line 15	539	400
29	Sewing Line 20	581	400
30	Cutting Line 1	580	600
31	Cutting Line 2	537	600
32	Cutting Line 3	641	600
33	QC Line 1	1145	900-1200
34	QC Line 2	927	900-1200
35	QC Line 3	1105	900-1200
36	Packing Line 1	567	600
37	Packing Line 2	543	600

IESNA Lighting Handbook

Department	Type of Light	Wattage of Light	Lux Level
Fabric store	Fluorescent tube light	40 W	300
Sewing floor	LED tube light	20 W (T8)	400
Cutting floor	LED tube light	22 W (T8)	1000
Finishing	LED tube light	28 W (T8)	600
Inspection points	LED tube light	28 W (T8)	900 (except 1500 at audit tables)
Sampling	LED tube light	22 W (T8)	500
Office areas	Fluorescent tube light	36 W (T)	300

MYANWEI
ENVIRONMENTAL SOLUTIONS
Plot No. (36, 38), Room No. 9A, 9th floor, Grand Myay Nu Condominium, Myay Nu Street, Sanchaung Township, Yangon Region, The Republic of the Union of Myanmar.
Office: (+95) 1 526574, Mobile: (+95) 9775405118, 9792528677, 9449251888; Website: www.myanweiconsulting .com

Project Name:	Hung Kiu (Myanmar) Garment Manufacturing Limited
Project Location:	No.35/9, Yangon-Mandalay Road, Inndakaw, Bago Township, Bago Region, Myanmar.
Sampling Date:	21 June, 2019
Sampling Time:	10:00 am to 5:00 pm
Sampling Condition:	Normal
Sampling By:	Environmental Team

Instrument	Type	Sampling Rate	Location
Digital Sound Level Meter	GM 1356 USB	30 -130 dB	Operation Area

National Environmental Quality (Emission) Guideline

Receptor	One Hour Laeq (dBA)	Guideline value
	Daytime	Nighttime
	7:00 – 22:00 (10:00 – 22:00 for Public holidays)	22:00 – 07:00 (22:00 – 10:00 for Public holidays)
Residential, Institutional, Educational	55	45
Industrial, Commercial	70	70

Area	Average Noise Level (dB)	NEQ Guideline
Project Site (Building A)	75.22dB	70 dB
Project site (Building B)	76.63dB	70 dB
Project Site (Building C)	75.02dB	70 dB

LIN HTET SEIN
DIRECTOR
MYANWEI ENVIRONMENTAL SOLUTIONS
COMPANY LIMITED.

APPENDIX D
Boiler Certificate

ပုံစံ (၄)

	ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော် စက်မှုဝန်ကြီးဌာန စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန ဘွိုင်လာအသုံးပြုခွင့်လက်မှတ်	ဘွိုင်လာဥပဒေ ပုဒ်မ ၃၃၊ ပုဒ်မခွဲ(ခ)

စာအမှတ်၊ ပခ/၂၀၂၂-၂၃ /[illegible]

ဘွိုင်လာမှတ်ပုံတင်အမှတ်၊ မစ - ၅၁၇၀ ဘွိုင်လာအမျိုးအစား - [illegible]

မီးရှိန်ရမျက်နှာပြင်ဧရိယာ - 42 m^2 ထုတ်လုပ်သည့်နိုင်ငံနှင့်ခုနှစ် - China 2013

ပိုင်ရှင်နှင့်လုပ်ငန်းအမည် - Ng Heng Yau, Heng Kiu (Myanmar) Garment Co., Ltd.

ဘွိုင်လာတည်နေရာ - အင်းတကော်မြို့၊ ပဲခူးမြို့နယ်။

စစ်ဆေးတွေ့ရှိချက်များ (ဖိအားခံအစိတ်အပိုင်းများ)

သံပြားအထူအပါး - ရှဲ/~~ခေါင်း~~ 8 mm ထိပ်ပိတ်ပြား 14 mm ဖလူး/မီးသေတ္တာ ---

ဘွိုင်လာအခြေအနေ - ကောင်းမွန်ပါသည်။ အနည်းဆုံးတွက်ချက်ရဖိအား - 0.96 MPa

ဖိအားပြနာရီချိန်ကိုက်စစ်ဆေးခြင်း - မှန်ပါသည်။

ပြုပြင်မှုများ - –

ရေဖိအား 1.0 MPa ဖြင့် 25.4.2022 နေ့တွင် စစ်ဆေးပြီးဖြစ်သည်။
Spring Loaded အန္တရာယ်ကင်းဖိအားထိန်းအဆို့ရှင်ကို 0.8 MPa ဖိအားထက်မပိုစေရ။
စစ်ဆေးခငွေကျပ် 50000/- ကို 25.4.2022 နေ့တွင် ပေးသွင်းသည်။
ခွင့်ပြုဖိအား 0.8 MPa ဖြင့် 26.4.2022 နေ့မှ 19.2.2023 နေ့အထိ အသုံးပြုရန်ခွင့်ပြုသည်။
၂၀၂၂ ခုနှစ်၊ ဧပြီ လ၊ (၂၅) ရက်နေ့တွင် လက်မှတ်ရေးထိုးသည်။

([illegible])
ပြည်နယ်/တိုင်းဒေသကြီး
ဘွိုင်လာစစ်ဆေးရေးမှူး
ဒုတိယညွှန်ကြားရေးမှူး
(ဘွိုင်လာစစ်ဆေးရေး)
ပဲခူးတိုင်းဒေသကြီး

([illegible])
ဘွိုင်လာစစ်ဆေးရေးမှူး
ဌာနခွဲမှူး
(ဘွိုင်လာစစ်ဆေးရေး)
ပဲခူးတိုင်းဒေသကြီး

([illegible])
ဘွိုင်လာစစ်ဆေးရေးမှူးချုပ်
ညွှန်ကြားရေးမှူး
ဘွိုင်လာစစ်ဆေးရေး

စည်းကမ်းချက်များ

၁။ ဘွိုင်လာဥပဒေပုဒ်မ ၁၄ ပုဒ်မခွဲ(ခ)နှင့်အညီ ဘွိုင်လာ၊ ရေနွေးငွေ့ပိုက်၊ ရေသွင်းပိုက် တစ်ခုခုကိုဖြစ်စေ၊ ယင်းဘွိုင်လာ၊ ရေနွေးငွေ့ပိုက်၊ ရေသွင်းပိုက်တစ်ခုခုတွင် တပ်ဆင်ထားသည့် ဖိအားခံအစိတ်အပိုင်း တစ်ခုခုကိုဖြစ်စေ၊ ပြုပြင်ခြင်း၊ ပြောင်းလဲခြင်း၊ ဖြည့်စွက်ခြင်း အသစ်လဲခြင်းတို့ကို မပြုလုပ်ရ။

၂။ ဘွိုင်လာပေါက်ကွဲမှုများ၊ မတော်တဆထိခိုက်မှုများ မဖြစ်ပွားစေရန်အတွက်-

(က) အသုံးပြုခွင့်လက်မှတ်တွင် ဖော်ပြပါရှိသည့် အများဆုံးခွင့်ပြုဖိအားထက်ကျော်လွန်၍ အသုံးမပြုရ။

(ခ) ဘွိုင်လာသုံးရေအား ထုတ်လုပ်သည့်ကုမ္ပဏီနှင့် နိုင်ငံတကာမှ သတ်မှတ်ထားသော စံချိန်စံညွှန်းများနှင့်ညီညွတ်အောင် ပြုပြင်သုံးစွဲရန်။

၃။ စက်ရုံ၊ အလုပ်ရုံအနီးပတ်ဝန်းကျင်တွင်နေထိုင်သော ပြည်သူများအားမထိခိုက်စေရန်အတွက် တာယာဟောင်း၊ ပလတ်စတစ်၊ ဖိုက်ဘာစနှင့် ပိတ်ဖြတ်စ စသောလောင်စာများအား မီးထိုးသုံးစွဲခြင်း မပြုရ။

၄။ မီးခိုးမဲများမထွက်ရှိစေရန် အစိုဓာတ်နည်းသော ဘေးထွက်လောင်စာများကိုသုံးစွဲရန်။

၅။ မီးဘေးအန္တရာယ်မဖြစ်ပေါ်စေရန် လောင်စာများအား စနစ်တကျသိုလှောင်ထားရန်။

၆။ ပတ်ဝန်းကျင်သို့ ပြာနှင့်အမှုန်အမွှားများ လွှင့်စင်ကျရောက်မှု မရှိစေရန် ဘွိုင်လာနှင့် ခေါင်းတိုင်အကြားတွင် ပြာဖမ်းစနစ်ထားရှိရန်။

၇။ ဒီဇယ်ဆီ၊ မီးထိုးဆီနှင့် သဘာဝဓါတ်ငွေ့သုံးဘွိုင်လာများတွင် လောင်စာဓါတ်ငွေ့ပေါက်ကွဲမှု မဖြစ်ပွားစေရန် ဂရုပြုဆောင်ရွက်ရန်။

၈။ ဘွိုင်လာရေခဲမှု မဖြစ်ပေါ်စေရန်အတွက် ရေချိန်ပြဖန်ချောင်းရေဂိတ်များနှင့် ရေသွင်းစနစ်များအား စဉ်ဆက်မပြတ် စစ်ဆေးဆောင်ရွက်ရန်။

ပုံစံ (၄)

	ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော် စက်မှုဝန်ကြီးဌာန စက်မှုကြီးကြပ်ရေးနှင့်စစ်ဆေးရေးဦးစီးဌာန ဘွိုင်လာအသုံးပြုခွင့်လက်မှတ်	ဘွိုင်လာဥပဒေ ပုဒ်မ ၃၃၊ ပုဒ်မ၃၄ပုဒ်မခွဲ(ခ)

စာအမှတ်၊ ပဒ / ၂၀၂၁-၂၂ / ၉၈၀၈ / ခ-၅၅

ဘွိုင်လာမှတ်ပုံတင်အမှတ်၊ မစ - ၅၁၇၂ ဘွိုင်လာအမျိုးအစား - ဓာတ်ငွေ့ အိုးကြီး

မီးရှိန်ရမျက်နှာပြင်ဧရိယာ - 41.8 m^2 ထုတ်လုပ်သည့်နိုင်ငံနှင့်ခုနှစ် - တရုတ် 2013

ပိုင်ရှင်နှင့်လုပ်ငန်းအမည် - Mr. Ng Hung Yau, Hung Kiu (Myanmar) Garment MFG.Ltd

ဘွိုင်လာတည်နေရာ - ဒဂုံးတာကော်မြို့၊ ပဲခူးမြို့နယ်။

စစ်ဆေးတွေ့ရှိချက်များ (ဖိအားခံအစိတ်အပိုင်းများ)

သံပြားအထူအပါး - ရှဲ/ခေါင်း - 8 mm ထိပ်ပိတ်ပြား 14 mm ဖလူး/မီးသေတ္တာ - -

ဘွိုင်လာအခြေအနေ - ကောင်းမွန်ပါသည်။ အနည်းဆုံးတွက်ချက်ရဖိအား - 0.8 MPa

ဖိအားပြနာရီချိန်ကိုက်စစ်ဆေးခြင်း - မှန်ပါသည်။

ပြုပြင်မှုများ - -

ရေဖိအား 1. MPa ဖြင့် 10.2.2022 နေ့တွင် စစ်ဆေးပြီးဖြစ်သည်။

Spring Loaded အန္တရာယ်ကင်းဖိအားထိန်းအဆို့ရှင်ကို 0.8 MPa ဖိအားထက်မပိုစေရ။

စစ်ဆေးခငွေကျပ် 50000/ ကို 2.2.2022 နေ့တွင် ပေးသွင်းသည်။

ခွင့်ပြုဖိအား 0.8 MPa ဖြင့် 11.2.2022 နေ့မှ 8.2.2023 နေ့အထိ အသုံးပြုရန်ခွင့်ပြုသည်။

၂၀၂၂ ခုနှစ်၊ ဖေဖော်ဝါရီ လ၊ (၁၀) ရက်နေ့တွင် လက်မှတ်ရေးထိုးသည်။

(ကျော်ဝင်း)
ပြည်နယ်/တိုင်းဒေသကြီး
ဘွိုင်လာစစ်ဆေးရေးမှူး
ဒုတိယညွှန်ကြားရေးမှူး
(ဘွိုင်လာစစ်ဆေးရေး)
ပဲခူးတိုင်းဒေသကြီး

(ကျော်ဇင်ဦး)
ဘွိုင်လာစစ်ဆေးရေးမှူးချုပ်
ညွှန်ကြားရေးမှူး
ဘွိုင်လာစစ်ဆေးရေး

(ဇော်မင်းစိုး)
ဘွိုင်လာစစ်ဆေးရေးမှူး
ဌာနခွဲမှူး
(ဘွိုင်လာစစ်ဆေးရေး)
ပဲခူးတိုင်းဒေသကြီး

စည်းကမ်းချက်များ

၁။ ဘွိုင်လာဥပဒေပုဒ်မ ၁၄ ပုဒ်မခွဲ(ခ)နှင့်အညီ ဘွိုင်လာ၊ ရေနွေးငွေ့ပိုက်၊ ရေသွင်းပိုက် တစ်ခုခုကိုဖြစ်စေ၊ ယင်းဘွိုင်လာ၊ ရေနွေးငွေ့ပိုက်၊ ရေသွင်းပိုက်တစ်ခုခုတွင် တပ်ဆင်ထားသည့် ဖိအားခံအစိတ်အပိုင်း တစ်ခုခုကိုဖြစ်စေ၊ ပြုပြင်ခြင်း၊ ပြောင်းလဲခြင်း၊ ဖြည့်စွက်ခြင်း အသစ်လဲခြင်းတို့ကို မပြုလုပ်ရ။

၂။ ဘွိုင်လာပေါက်ကွဲမှုများ၊ မတော်တဆထိခိုက်မှုများ မဖြစ်ပွားစေရန်အတွက်-

(က) အသုံးပြုခွင့်လက်မှတ်တွင် ဖော်ပြပါရှိသည့် အများဆုံးခွင့်ပြုဖိအားထက်ကျော်လွန်၍ အသုံးမပြုရ။

(ခ) ဘွိုင်လာသုံးရေအား ထုတ်လုပ်သည့်ကုမ္ပဏီနှင့် နိုင်ငံတကာမှ သတ်မှတ်ထားသော စံချိန်စံညွှန်းများနှင့်ညီညွတ်အောင် ပြုပြင်သုံးစွဲရန်။

၃။ စက်ရုံ၊ အလုပ်ရုံအနီးပတ်ဝန်းကျင်တွင်နေထိုင်သော ပြည်သူများအားမထိခိုက်စေရန်အတွက် တာယာဟောင်း၊ ပလတ်စတစ်၊ ဖိုက်ဘာစနှင့် ပိတ်ဖြတ်စ စသောလောင်စာများအား မီးထိုးသုံးစွဲခြင်း မပြုရ။

၄။ မီးခိုးမဲများမထွက်ရှိစေရန် အစိုဓာတ်နည်းသော ဘေးထွက်လောင်စာများကိုသုံးစွဲရန်။

၅။ မီးဘေးအန္တရာယ်မဖြစ်ပေါ်စေရန် လောင်စာများအား စနစ်တကျသိုလှောင်ထားရန်။

၆။ ပတ်ဝန်းကျင်သို့ ပြာနှင့်အမှုန်အမွှားများ လွှင့်စင်ကျရောက်မှု မရှိစေရန် ဘွိုင်လာနှင့် ခေါင်းတိုင်အကြားတွင် ပြာဖမ်းစနစ်ထားရှိရန်။

၇။ ဒီဇယ်ဆီ၊ မီးထိုးဆီနှင့် သဘာဝဓါတ်ငွေ့သုံးဘွိုင်လာများတွင် လောင်စာဓါတ်ငွေ့ပေါက်ကွဲမှု မဖြစ်ပွားစေရန် ဂရုပြုဆောင်ရွက်ရန်။

၈။ ဘွိုင်လာရေခဲမှု မဖြစ်ပေါ်စေရန်အတွက် ရေချိန်ပြဖန်ချောင်းရေဂိတ်များနှင့် ရေသွင်းစနစ်များအား စဉ်ဆက်မပြတ် စစ်ဆေးဆောင်ရွက်ရန်။

APPENDIX E
Training and CSR Program

Hung Kiu (Myanmar) Garment Mfg., Ltd.
Factory 2: No. 639, Mya Khaung Kwin, Kamarnet Village Tract, bago T/S, Bago Region

Training Recordသင်တန်းပြုလုပ်ရာနေရာ

Training Place သင်တန်းပြုလုပ်ရာနေရာ	A [illegible]	Date အချိန်	3.8.2018	
Content အကြောင်းအရာ	Fire Fighting Training(External) (မြင်ပမီးသတ်သင်တန်း)			
Help by: ပို့ချသူ	[illegible]	Recorded by: MHKA-	[illegible]	
Participants တက်ရောက်သူများ	Employee Card No. 员工编号 ဝန်ထမ်းကဒ်နံပါတ်	Name 姓名 အမည်	Department/position 部门/职位 ဌာန/ရာထူး	Signature 签名 လက်မှတ်
	115	Ma Thidar	Line -3 (Block-B)	[signature]
	100966	Ma Ei Ei	Line -3A	[signature]
	100371	Ma Shwe Than Oo	Line -5	[signature]
	100429	Ma Ei Ei Aung	Line -6	[signature]
	282	Ma Aye San Win	Line-6A	
	100455	Ma Myat Noe Han	Line -8	[signature]
	100406	Ma Phyu Phyu Naing	Line -9	[signature]
	100538	Ma Thein Hnin Aye	Line-9A	[signature]
	460	Ma Aye Mya Khet	Line -11	[signature]
	100049	Ma Thu Zin	Line -12	[signature]
	100460	Ma Thant Zin	Line -13	[signature]
		Ma Khin Yu Mon	Line -13A	[signature]
	100291	Ma Khin Mar Htwe	Line -15	[signature]
	100339 100345	Ma Aye Thandar Kyaw Hla Khaing	Line -16	[signature]
	502	Mg Kyaw San Lwin	Security	[signature]
	32	Ma Shwe	Cleaning	[signature]
	100330	Ma Pyae Phyo Aung	Cutting	[signature]
	100302	Mg San Lin	Cutting	[signature]
	74	Ma Ei Ei Kyaw	Finishing	[signature]
	358	Ma Cho Wai Lwin	Finishing	[signature]
	100549	Ma Aye Aye Thin	Finishing	[signature]
	100397	Mg Kyaw Soe Lin	Mechanic	[signature]
	100246	Ma Shwe Zin Oo	QC	[signature]
	215	Ma Moe Thuzar	HR	[signature]
	100504	Mg Yan Lin Tun	Engineering	[signature]
	100500	Ma Kay Thi Aung	L - 2	[signature]
	301 9	Ma Thazin	Cutting	Moe

APPENDIX F
Presentation Powerpoint

5/27/2022

Hungkiu (Myanmar) Garment Manufacturing Limited ၏ CMP စနစ်ဖြင့် အပတ်အထည်ချုပ်လုပ်ခြင်းလုပ်ငန်း

ပတ်ဂန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် အစီရင်ခံစာ (မူကြမ်း) အတွက် သက်ဆိုင်သူများနှင့် တွေ့ဆုံဆွေးနွေးပွဲ အခမ်းအနား။

၂၅ရက်၊ မေလ၊ ၂၀၂၂ ခုနှစ်။

Preparaed By

Myanwei Environmental Solutions Co., Ltd.

MYANWEI ENVIRONMENTAL SOLUTIONS

အစည်းအဝေး အကြောင်းအရာ

၁။ Hungkiu (Myanmar) Garment Manufacturing Limited အား မိတ်ဆက်ခြင်း

၂။ ပတ်ဂန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အား မိတ်ဆက်ခြင်း

၃။ သက်ရောက်မှုဆန်းစစ်ခြင်း ရလဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ

၄။ ပတ်ဂန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် ဖြေလျှော့ရေးနည်းလမ်းများ

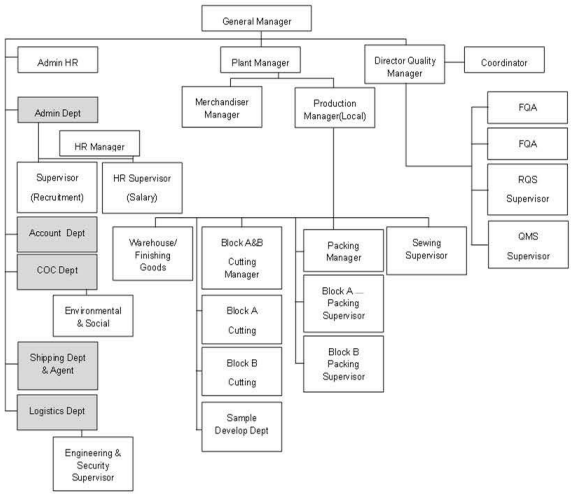
၅။ ပတ်ဂန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ် နှင့်

၆။ စက်ရုံ၏ဆောင်ရွက်ချက်များ

1

Hungkiu (Myanmar) Garment Manufacturing Limited

Hungkiu (Myanmar) Garment Manufacturing Limited ၏ ဖွဲ့စည်းပုံ



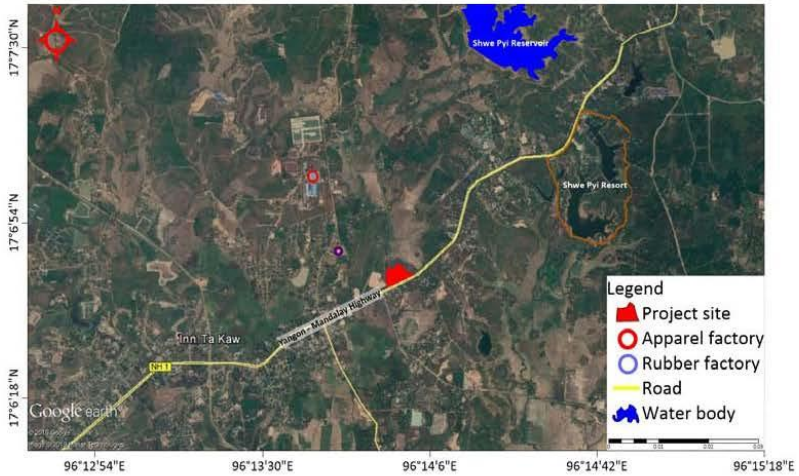
Hungkiu (Myanmar) Garment Manufacturing Limited

လုပ်ငန်းအမျိုးအစား	CMP စနစ်ဖြင့်အဝတ်အထည်အမျိုးမျိုးချုပ်လုပ်ခြင်းလုပ်ငန်း။
ခွင့်ပြုမိန့်အမှတ်	(ခွင့်ပြုမိန့်အမှတ်- ၆၀၄/၂၀၁၃)၂၀၁၃ ခုနှစ်၊ ဩဂုတ်လ ၂၃ ရက်။
ရင်းနှီးမြှုပ်နှံမှု	၁၀၀ ရာခိုင်နှုန်း နိုင်ငံခြားရင်းနှီးမြှုပ်နှံမှု
မြေဧရိယာ	မြေဧရိယာစုစုပေါင်း = ၉.၇၃ ဧက(၃၉,၃၆၈ စတုရန်းမီတာ)
အဆောက်အအုံ	အဆောင် A ကုန်ထုတ်လုပ်မှုအဆောင် (၁၂၀ မီတာ × ၆၅.၈ မီတာ) အဆောင် B ကုန်ထုတ်လုပ်မှုအဆောင် (၁၀၀ မီတာ × ၆၅.၈ မီတာ) အဆောင် C ကုန်ထုတ်လုပ်မှုနှင့် ကုန်ချောအဆောင် (၈၀ မီတာ × ၆၀ မီတာ) အဆောင် D ကုန်ကြမ်းဂိုထောင် (၅၀ မီတာ × ၇၇ မီတာ) အဆောင် E လူနေသုံးထပ်အဆောင် (၄၂ မီတာ × ၁၈ မီတာ)
ရင်းနှီးမြှုပ်နှံသည့်ကာလ	နှစ် ၃၀ ရင်းနှီးမြှုပ်နှံမှု
စက်ရုံလိပ်စာ	အမှတ် (၃၅/၉)၊ ရန်ကုန်-မန္တလေးလမ်းမ၊ အင်းတကော်ကျေးရွာ၊ ပဲခူးမြို့နယ်၊ ပဲခူးတိုင်းဒေသကြီး။

လုပ်ငန်းလည်ပတ်ရန်အခြေခံလိုအပ်ချက်များ

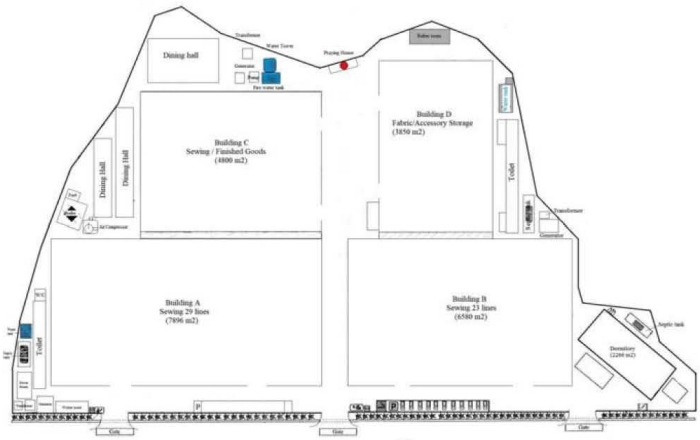
ရေအသုံးပြုမှုအခြေအနေ	
ရေအရင်းအမြစ်	အဝီစိတွင်းရေ (၁ တွင်း)
အဓိကလိုအပ်ချက်	
လက်ရှိလူဦးရေ	၂,၂၆၅ ဦး
အဓိကကုန်ကြမ်း	ချည်ထည်၊ အင်တာလီနင်၊ ဇစ်ကြိုး၊ အပ်ချည်၊ ကြိုးပြား နှင့် ကြယ်သီး။
နှစ်စဉ်ထွက်ကုန်ပစ္စည်းပမာဏ	နှစ်စဉ် ပျမ်းမျှအထည်အရေအတွက် ပထမနှစ်မှ ၁၀နှစ်အတွင်း (၆၃၀,၀၀၀) မှ (၇၉၀,၀၀၀) အထိ။

Hungkiu (Myanmar) Garment Manufacturing Limited ၏ စက်ရုံတည်နေရာ

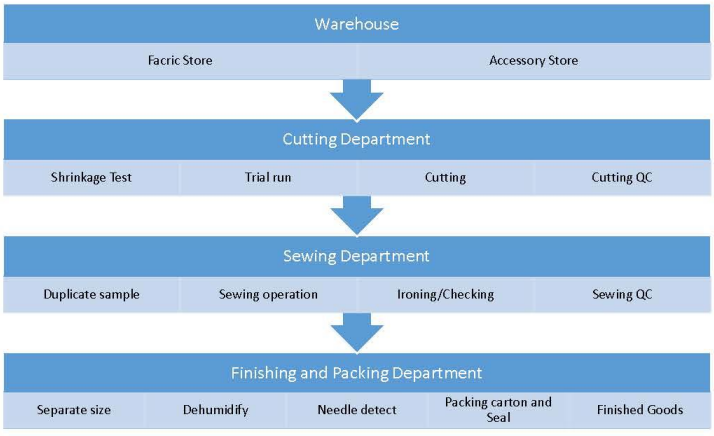


Hungkiu (Myanmar) Garment Manufacturing Limited ၏ထုတ်လုပ်မှုအလိုက် နေရာပြမြေပုံ

Hungkiu (Myanmar) Garment Manufacturing Limited ၏ထုတ်လုပ်မှုအလိုက်နေရာပြမြေပုံ



Hungkiu (Myanmar) Garment Manufacturing Limited ၏ထုတ်လုပ်ပုံအဆင့်ဆင့်



Hungkiu (Myanmar) Garment Manufacturing Limited ၏ထုတ်လုပ်ပုံများ

ပစ္စည်းသိုလှောင်ခြင်း

ပိတ်စဖြတ်ခြင်း

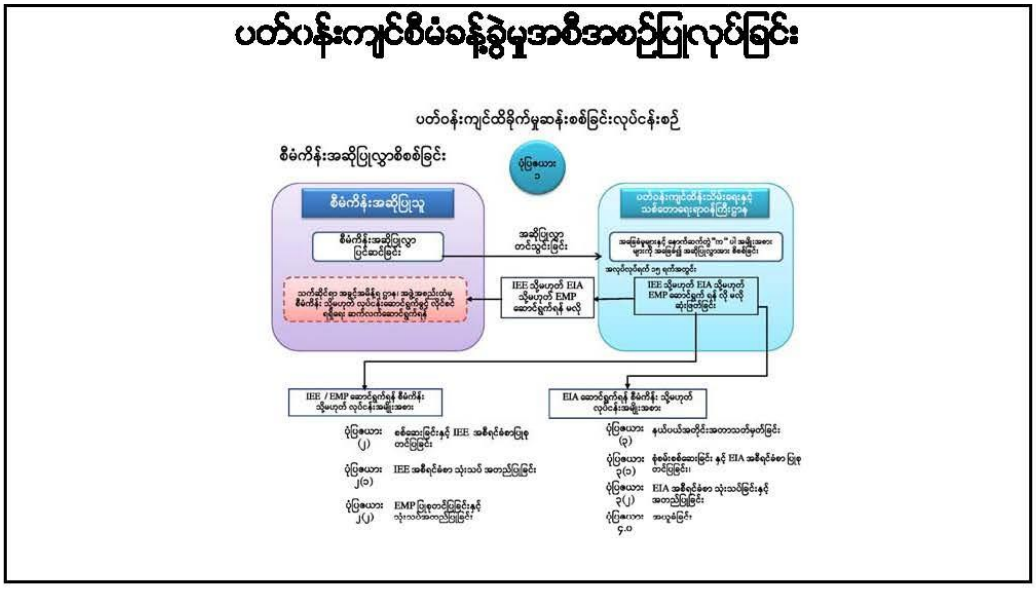
အထည်ချုပ်ခြင်း

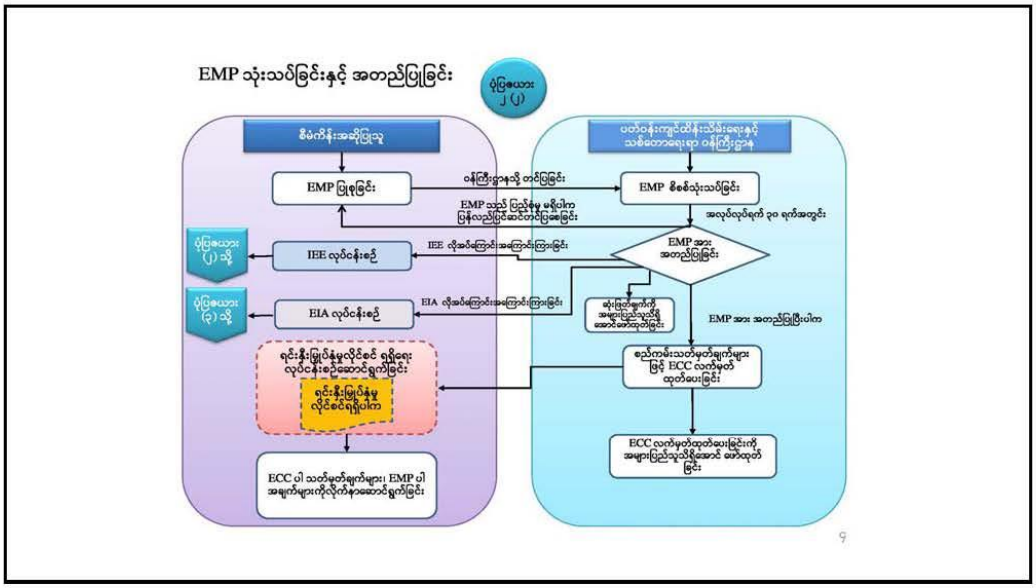
ထုတ်ကုန်စစ်ဆေးခြင်း

ထုတ်ပိုးခြင်း

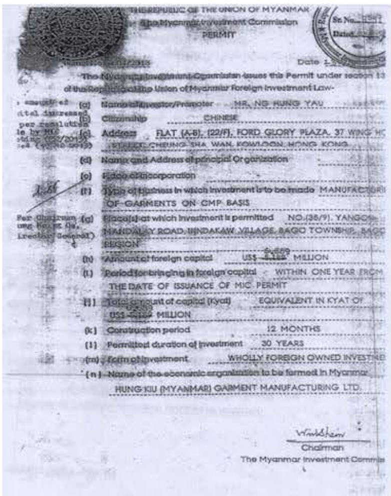
ပတ်ပန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်အား မိတ်ဆက်ခြင်း

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ်ပြုလုပ်ခြင်း





မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်အတည်ပြုအမိန့်


THE REPUBLIC OF THE UNION OF MYANMAR
The Myanmar Investment Commission
PERMIT

Date

The Myanmar Investment Commission issues this Permit under section 13 of the Republic of the Union of Myanmar Foreign Investment Law-

(a) Name of Investor/Promoter MR. NG HUNG YAU
(b) Citizenship CHINESE
(c) Address FLAT (A-B), (22/F), FORD GLORY PLAZA, 37 WING HO STREET, CHEUNG SHA WAN, KOWLOON, HONG KONG
(d) Name and Address of principal Organization
(e) Place of Incorporation
(f) Type of business in which investment is to be made MANUFACTURING OF GARMENTS ON CMP BASIS
(g) Place(s) at which investment is permitted NO.(38/9), YANGON-MANDALAY ROAD, HINDAKAW VILLAGE, BAGO TOWNSHIP, BAGO REGION
(h) Amount of foreign capital US$ MILLION
(i) Period for bringing in foreign capital WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF MIC PERMIT
(j) Total amount of capital (Kyat) EQUIVALENT IN KYAT OF US$ MILLION
(k) Construction period 12 MONTHS
(l) Permitted duration of investment 30 YEARS
(m) Form of investment WHOLLY FOREIGN OWNED INVESTMENT
(n) Name of the economic organization to be formed in Myanmar HUNG KIU (MYANMAR) GARMENT MANUFACTURING LTD.

Chairman
The Myanmar Investment Commission

သက်ရောက်မှုဆန်းစစ်ခြင်းရလဒ်များနှင့် ထိခိုက်မှုအဆင့်သတ်မှတ်ချက်များ

8

စီမံကိန်းပတ်ဝန်းကျင်အနေအထား

စဉ်	အကြောင်းအရာ	ဖော်ပြချက်
၁။	ကိုဩဒိနိတ်အမှတ်	မြောက်လတ္တီကျူ ၁၇°၁၁′၂၂.၉၃"နှင့် အရှေ့လောင်ဂျီကျူ ၉၆° ၂၃′၃၆.၀၁"
၂။	ရာသီဥတုအခြေအနေ	ပဲခူးမြို့နယ် နှစ်စဉ်ပျမ်းမျှအမြင့်ဆုံးအပူချိန် ၃၉.၃°C၊ အနိမ့်ဆုံးအပူအချိန် ၂၀°C စုစုပေါင်း မိုးရေချိန်လက်မ ၁၄၁.၅၇ လက်မ
၃။	စက်ရုံနေရာတွင်မြေအသုံးချမှု	စက်မှုလုပ်ငန်းနှင့်သက်ဆိုင်သောမြေအသုံးချမှုပုံစံ (စက်မှုဇုန်)
၄။	လမ်းပန်းဆက်သွယ်ရေး	ရန်ကုန်-မန္တလေးလမ်းဟောင်း။
၅။	အနီးဆုံးရေအရင်းအမြစ်	မရှိ
၆။	သစ်တောဇရိယာ	မရှိ
၇။	ကန့်သတ်ကာကွယ်ထားသော ဇရိယာ	မရှိ
၈။	တိုင်းတာမှုရလဒ်	❑ ဆူညံသံ တိုင်းတာခြင်း ❑ အလင်းရောင် တိုင်တာခြင်း ❑ လေထုအရည်အသွေး တိုင်းတာခြင်း ❑ အပူချိန် နှင့် စိုထိုင်းမှု အရည်အသွေး တိုင်းတာခြင်း

ဆူညံသံတိုင်းတာမှု

Date/ Time	Measurement Area	Measurement Result	NEQ Guildline
21 June 2019 (10:00 to 4:00 pm)	Project Site (Building A) Project Site (Building B) Project Site (Building C)	75.22 dBA 76.63 dBA 75.02 dBA	70 dBA 70 dBA 70 dBA

အထက်ဖော်ပြပါ ဆူညံသံတိုင်းတာမှုရလဒ်များအရ
Hung Kiu (Myanmar) Garment Manufacturing Limited ၏ဆူညံသံများမှာ National Emission Quality Guideline ထက်ကျော်လွန်မှုအနည်းငယ်ရှိနေသည်ကို လေ့လာတွေ့ရှိရပါသည်

MYANWEI ENVIRONMENTAL SOLUTIONS

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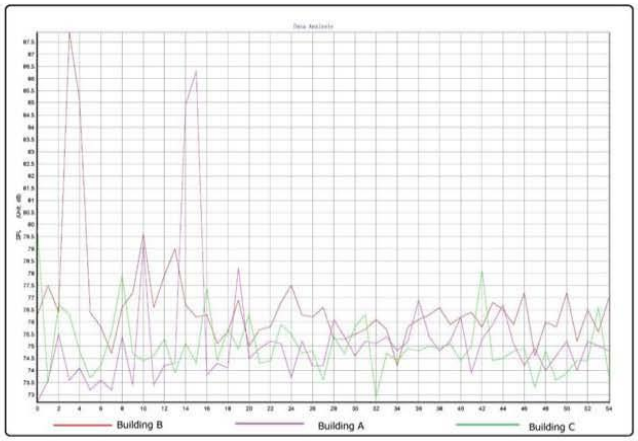
စက်ရုံတွင်းဆူညံသံတိုင်းတာမှု

MYANWEI
ENVIRONMENTAL SOLUTIONS

Hungkiu (Myanmar) Garment Manufacturing Co., Ltd. ၏ဆူညံသံတိုင်းတာမှုပြု ဂရပ်



MYANWEI
ENVIRONMENTAL SOLUTIONS

10

လုပ်ငန်းခွင်အလင်းရောင်တိုင်းတာမှု

No	Location	Measure value (Lux)	Standard^
	Building A		
1	Sewing Line 5	609	400
2	Sewing Line 10	511	400
3	Sewing Line 15	517	400
4	Sewing Line 20	502	400
5	Cutting Line 1	568	600
6	Cutting Line 2	580	600
7	Ironing Line 1	543	600
8	Ironing Line 2	466	600
9	Q.C Line 1	811	500-1200
10	Q.C Line 2	743	500-1200
11	Packing Line 1	563	600
12	Packing Line 2	510	600
	Building B		
13	Sewing Line 5	615	400
14	Sewing Line 10	643	400
15	Sewing Line 15	432	400
16	Sewing Line 20	459	400
17	Cutting Line 1	530	600
18	Cutting Line 2	524	600
19	Ironing Line 1	561	600
20	Ironing Line 2	506	600
21	Ironing Line 3	476	600
22	Q.C Line 1	630	500-1200
23	Q.C Line 2	427	500-1200
24	Packing Line 1	543	600
25	Packing Line 2	626	600
	Building C		
26	Sewing Line 5	687	400
27	Sewing Line 10	568	400
28	Sewing Line 15	539	400
29	Sewing Line 20	581	400
30	Cutting Line 1	580	600
31	Cutting Line 2	537	600
32	Cutting Line 3	641	600
33	Q.C Line 1	1145	500-1200
34	Q.C Line 2	527	500-1200
35	Q.C Line 3	1105	500-1200
36	Packing Line 1	567	600
37	Packing Line 2	543	600

MYANWEI ENVIRONMENTAL SOLUTIONS

လုပ်ငန်းခွင်အတွင်းအလင်းရောင်တိုင်းတာမှု

MYANWEI ENVIRONMENTAL SOLUTIONS

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လေထုတိုင်းတာမှု

Location	GPS value	Parameters	Observed value	Guideline value	Unit
Building B (Sewing Area)	17°11'23.17"N 96°23'38.01"E	PM_{10} $PM_{2.5}$	39.1 26.9 (There is no major impact on operation process)	50 25	$\mu g/m^3$
Building B (Ironing & QC Area)	17°11'22.67"N 96°23'38.02"E	PM_{10} $PM_{2.5}$	36.8 21.6	50 25	$\mu g/m^3$
Building B (Cutting)	17°11'23.56"N 96°23'37.50"E	PM_{10} $PM_{2.5}$	33.0 22.7	50 25	$\mu g/m^3$
Building C (Sewing Area)	17°11'23.86"N 96°23'34.30"E	PM_{10} $PM_{2.5}$	21.3 14.1	50 25	$\mu g/m^3$
Building C (Cutting)	17°11'23.51"N 96°23'33.33"E	PM_{10} $PM_{2.5}$	24.1 15.3	50 25	$\mu g/m^3$
Building C (QC & Finish Area)	17°11'24.24"N 96°23'33.05"E	PM_{10} $PM_{2.5}$	35.4 15.0	50 25	$\mu g/m^3$
Building C (Dry room)	17°11'24.64"N 96°23'33.70"E	PM_{10} $PM_{2.5}$	7.6 11.8	50 25	$\mu g/m^3$
Building A (Cutting Area)	17°11'21.92"N 96°23'33.29"E	PM_{10} $PM_{2.5}$	2.5 20.2	50 25	$\mu g/m^3$
Building A (Packing Area)	17°11'22.19"N 96°23'35.30"E	PM_{10} $PM_{2.5}$	46.0 15.3	50 25	$\mu g/m^3$
Building A (Sewing Area)	17°11'21.34"N 96°23'33.95"E	PM_{10} $PM_{2.5}$	21.3 14.1	50 25	$\mu g/m^3$
Building A (Ironing & QC Area)	17°11'21.01"N 96°23'34.09"E	PM_{10} $PM_{2.5}$	36.8 21.6	50 25	$\mu g/m^3$
Building D (Store Area)	17°11'25.61"N 96°23'36.44"E	PM_{10} $PM_{2.5}$	23.0 16.3	50 25	$\mu g/m^3$
Building D (QC Area)	17°11'24.21"N 96°23'36.69"E	PM_{10} $PM_{2.5}$	30.4 16.1	50 25	$\mu g/m^3$

စက်ရုံတွင်း လေထုတိုင်းတာခြင်း

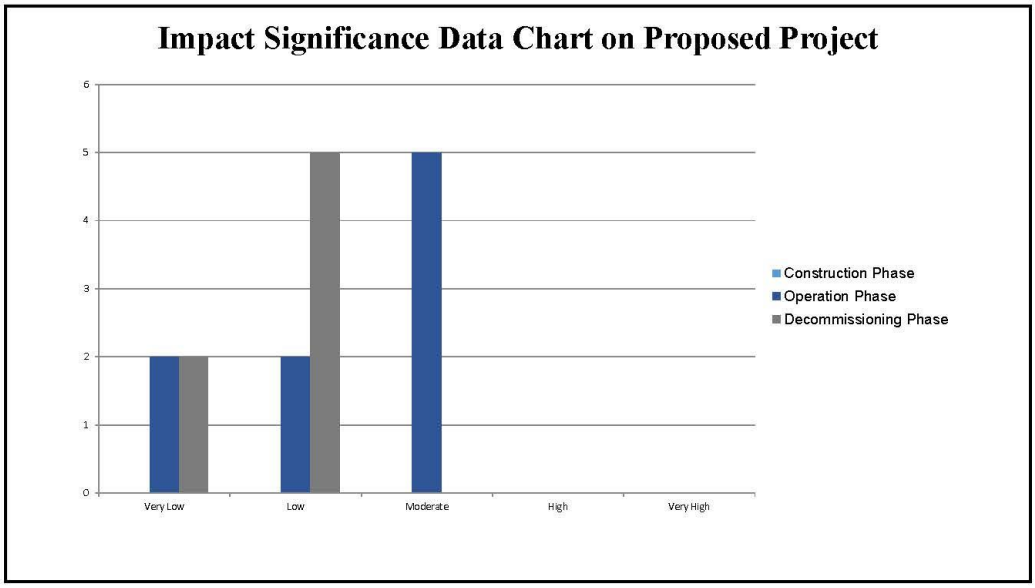
MYANWEI
ENVIRONMENTAL SOLUTIONS

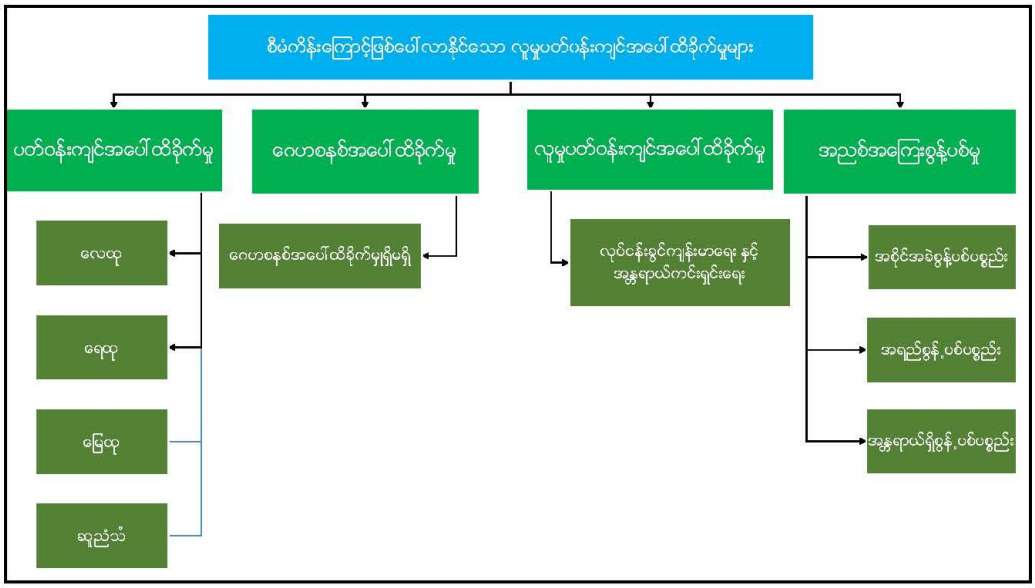
အပူချိန်တိုင်းတာမှု

Hungkiu (Myanmar) Garment Manufacturing Limited ၏ လုပ်ငန်းခွင်ပျမ်းမျှစိုထိုင်းမှုမှာ ၇၂.၈% နှင့် အပူချိန်တိုင်းတာမှုမှာ ၃၃.၁၄ ° C ရှိပါသည်။

MYANWEI ENVIRONMENTAL SOLUTIONS

ပတ်ဝန်းကျင်အပေါ် သက်ရောက်မှုများနှင့် ဖြေလျှော့ရေးနည်းလမ်းများ


Impact Significance Data Chart on Proposed Project
6
5
4
3
2
1
0
Very Low
Low
Moderate
High
Very High
Construction Phase
Operation Phase
Decommissioning Phase


စီမံကိန်းကြောင့်ဖြစ်ပေါ်လာနိုင်သော လူမှုပတ်ဝန်းကျင်အပေါ် ထိခိုက်မှုများ
ပတ်ဝန်းကျင်အပေါ် ထိခိုက်မှု
ဂေဟစနစ်အပေါ် ထိခိုက်မှု
လူမှုပတ်ဝန်းကျင်အပေါ် ထိခိုက်မှု
အညစ်အကြေးစွန့်ပစ်မှု
လေထု
ရေထု
မြေထု
ဆူညံသံ
ဂေဟစနစ်အပေါ်ထိခိုက်မှုရှိမရှိ
လုပ်ငန်းခွင်ကျန်းမာရေး နှင့် အန္တရာယ်ကင်းရှင်းရေး
အဓိုင်အခဲစွန့်ပစ်ပစ္စည်း
အရည်စွန့်ပစ်ပစ္စည်း
အန္တရာယ်ရှိစွန့်ပစ်ပစ္စည်း

သက်ရောက်မှု	စီမံကိန်းဆောင်ရွက်ချက်	လျော့နည်းစေရန် အရေးယူဆောင်ရွက်မှု
ဆူညံသံ	▪ မီးစက်၊ လေမှုတ်စက် နှင့် မော်တော် ယာဉ် အသုံးပြု မှုကြောင့် ပတ်ဝန်းကျင် ဆူညံမှု	▪ ဆူညံသံထွက်သောနေရာများကို အကာအကွယ် ဖြင့်ထားရှိခြင်း ▪ စက်ပစ္စည်းများကို ပုံမှန်ပြုပြင်ပေးခြင်း
မီးဘေးအန္တရာယ်	▪ ကုန်ကြမ်းသိုလှောင်မှု နှင့် လျှပ်စစ်သုံးစွဲ ပေါ်လျော့မှု	▪ ကုန်ကြမ်းများအား သီးသန့်ထားရှိခြင်း ▪ လျှပ်စစ်သုံးစွဲမှုများအား စနစ်တကျ အသုံးပြုစေခြင်း
စွန့်ပစ်အမှိုက်	▪ ထုတ်လုပ်ရာတွင် ကျန်ရှိသော ပိတ်စ အပိုင်းအစများ။ မီးဖိုချောင်နှင့် ရုံးတွင်းစွန့်ပစ်ပစ္စည်းများ	▪ စွန့်ပစ်အမှိုက်များအား ပြန်လည်သုံးစွဲရန် နှင့် စွန့်ပစ်ရန် အဖြစ်သတ်မှတ်မီး သီးခြားစွန့်ပစ်စေခြင်း
စွန့်ပစ်အရည်	▪ နေ့အိမ်၊ စားသောက်ဆောင် တို့မှစွန့်ထုပ်ရေ။ မိလ္လာကန်စနစ်	▪ စွန့်ပစ်အရည်များအားသီးခြားရေနုတ်မြောင်းတွေဖြင့် စွန့်ပစ်ခြင်း။
အန္တရာယ်ရှိအမှိုက်	▪ စက်များမှဆီယိုစိမ့်မှုများ၊ နိုင်လွန်ပိတ်စများ၊ တစ်ခြားမီးလောင်လွယ်သောအမှိုက်များ	▪ စက်သုံးဆီများအားစနစ်တကျ အသုံးပြုစေခြင်း၊ စနစ်တကျသိုလှောင်ခြင်း နှင့် အန္တရာယ်ရှိပစ္စည်းများအား စနစ်တကျထားရှိစေခြင်း

ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အစီအစဉ်

လေထုညစ်ညမ်းမှုလျော့ချရေး

ရည်ရွယ်ချက်	စီမံကိန်းကြောင့် စက်ရုံမှ ထွက်သော ဓာတ်ငွေ့များနှင့် မီးစက်များမှ ထွက်ရှိသော ဓာတ်ငွေ့များကြောင့် လေထုညစ်ညမ်းမှုကို လျော့ချရန်
လိုက်နာရမည့် စည်းကမ်း	**အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)**
စီမံခန့်ခွဲမှု အစီအစဉ်	▪ စက်ရုံအတွင်းနှင့် အနားဝန်းကျင်တွင် သစ်ပင်ပန်းမန်စိုက်ပျိုးခြင်း ▪ စက်ရုံအတွင်း မည်သည့်စွန့်ပစ်ပစ္စည်းများအား မီးရှို့ဖျက်စီးခြင်း မပြုလုပ်ခြင်း ▪ လုပ်သားများအား Personal Protective Equipment (PPE) ဟုခေါ်သော အကာအကွယ်ပစ္စည်းများဖြစ်သည့် လေကာ/နေကာမျက်မှန်များ၊ နှာခေါင်းစည်း၊ Helmets စသည်တို့အားထောက်ပံ့ခြင်း၊ အသိပညာပေး သင်တန်းများ ပေးခြင်း
တာဝန်ယူရမည့် ပုဂ္ဂိုလ်	▪ ပြုပြင်ထိန်းသိမ်းရေးအရာရှိ - လေထုညစ်ညမ်းမှုလျော့ချရေးနည်းလမ်းများ ▪ ထုတ်လုပ်ရေးမန်နေဂျာ- လုပ်ငန်းခွင်လေထုသန့်ရှင်းရေး ▪ မန်နေဂျာ - ပတ်ဝန်းကျင်လေအရည်အသွေးတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

ဆူညံသံလျော့ချရေး

ရည်ရွယ်ချက်	ဘေးပတ်ဝန်းကျင်ဆူညံမှုမဖြစ်ပေါ်စေရန် နှင့် စက်ရုံရှိ မီးစက်နှင့် အခြားစက်ပစ္စည်းများ ကြောင့် လုပ်သားများအပေါ် ထိခိုက်မှု လျော့ချရန်
လိုက်နာရမည့် စည်းကမ်း	▪ **ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅)** ▪ **အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)**
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ မီးစက်၊လေမှုတ်စက်တို့ကို ဆူညံသံထိန်းချုပ်နိုင်သော ခန်းဖွဲ့စည်းမှုပုံစံ တည်ဆောက်ထားခြင်း ▪ လုပ်ငန်းသုံးယာဉ်များကိုဆူညံသံလျော့ချရန်သတ်မှတ်အရှိန်ထက်ကျော်လွန်မောင်းစေခြင်း ▪ လုပ်သားများအား Personal Protective Equipment (PPE) ဟုခေါ်သော အကာအကွယ်ပစ္စည်းများဖြစ်သည့် လေကာ/နေကာမျက်မှန်များ၊ နှာခေါင်းစည်း၊ Helmets စသည်တို့အား ထောက်ပံ့ခြင်း၊ အသိပညာပေး သင်တန်းများ ပေးခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ - ဆူညံသံတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

အစိုင်အခဲစွန့်ပစ်မှု ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	စွန့်ပစ်အမှိုက်ထွက်ရှိမှုလျှော့ချရေးနှင့် စွန့်ပစ်အမှိုက်ကြောင့် ပတ်ဝန်းကျင်ညစ်ညမ်းမှုကို လျှော့ချရန်
လိုက်နာရမည့်စည်းကမ်း	▪ **ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅)** ▪ **National Waste Management Strategy and Action Plan (Draft 2018)**
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံမှ မည်သည်စွန့်ပစ်ပစ္စည်းမှ မြစ်၊ ချောင်း၊ အင်း၊ အိုင် အတွင်းသို့ မစွန့်ပစ်ရ ▪ စက်ရုံတွင် စွန့်ပစ်ပစ္စည်းများကို ပြန်လည်အသုံးပြုနိုင်သောပစ္စည်း(ဆိုးဆေး၊ စက္ကူဖာ၊ ပလက်စတစ်၊ စသည်ဖြင့်) များကို ပြည်တွင်းဝယ်ယူသူများထံ ပြန်လည်ရောင်းချခြင်း ▪ စွန့်ပစ်ရန်ပစ္စည်း(လုပ်သားများမှစွန့်ပစ်ပစ္စည်းနှင့်မီးဖိုချောင်ထွက်ပစ္စည်းများ)ကို မြို့တော်စည်ပင်သာယာရေးအဖွဲ့အစည်း ကို နေ့စဉ်ခေါ်ယူပြီး သိမ်းဆည်းစေခြင်း ▪ အန္တရာယ်ရှိပစ္စည်း (စက်ဆီအဟောင်းများ၊ လျှပ်စစ်ပစ္စည်းအပျက်များ၊ သံထည်ပစ္စည်း) များကို ဝယ်ယူသူထံမှပြန်လည် သိမ်းဆည်းစေခြင်း ▪ စက်ရုံတွင် အမှိုက်စွန့်ပစ်ရန် အတွက် အမှိုက်ပုံးများကို စီမံထားခြင်း ▪ စက်ရုံဝန်းထမ်းအားလုံးကို စနစ်တကျ အမှိုက်စွန့်ပစ်ရန် တိုက်တွန်းနှိုးဆော်ထားခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	▪ မန်နေဂျာ - စက်ရုံအတွင်းသန့်ရှင်းရေးအတွက်စီမံခန့်ခွဲရန်တာဝန်ရှိသည် ▪ အမှိုက်စွန့်ပစ်မှု ပုံမှန်ပြုလုပ်ရန်နှင့် စွန့်ပစ်ပစ္စည်းသယ်ယူသူများကို ပုံမှန်ပြုလုပ်ရန် တာဝန်ယူဆောက်ရွက်ရန်

စွန့်ပစ်အရည် ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	မြေပေါ်ရေနှင့် မြေအောက်ရေ ညစ်ညမ်းမှုမဖြစ်စေရေး
လိုက်နာရမည့်စည်းကမ်း	▪ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာလုပ်ထုံးလုပ်နည်း (၂၀၁၅) ▪ အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာအရည်အသွေး(ထုတ်လွှတ်မှု) လမ်းညွှန်ချက်များ (၂၀၁၅)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံရေမြောင်းများနှင့်မိလ္လာစနစ်ကို စနစ်တကျ သန့်ရှင်းအောင်ထားရှိခြင်း လုံလောက်သည့်အတိုင်းအတာ ပမာဏရှိခြင်း ▪ မိလ္လာစနစ်ကို ပုံမှန်စစ်ဆေးပြီး လိုအပ်သကဲ့သို့ ထိန်းသိမ်းပြုပြင်ခြင်း ▪ စက်ရုံရေမြောင်းအတွင်းတွင် ပိတ်ဆို့မှုမရှိစေရန်နှင့် အနှံ့ဆိုးများမထွက်စေရန်စီမံခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ - စွန့်ထုတ်ရေအရည်အသွေးတိုင်းတာရန် (ThirdParty) ဖြင့်ညှိနှိုင်းဆောင်ရွက်ရန်

စွမ်းအင်သုံးစွဲမှု ထိန်းသိမ်းရေး

ရည်ရွယ်ချက်	လျှပ်စစ်သုံးစွဲမှုလျော့ချစေရန်နှင့် လုပ်ငန်းခွင်အတွင်း လျှပ်စစ်သုံးစွဲမှုကြောင့် အန္တရာယ်မရှိစေရန်
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ စက်ရုံတွင်း လျှပ်စစ်သုံးစွဲမှုများအတွက် စွမ်းအင်လျော့ချနိုင်သည့် စက်ကရိယာများတပ်ဆင်ခြင်း ▪ အသုံးမပြုလျှင် စက်ကရိယာများပိတ်ဆင်ထားခြင်း ▪ စွမ်းအင်အသုံးနည်းသော Lighting စနစ်တပ်ဆင်ခြင်း ▪ စက်ပစ္စည်းနှင့် Lighting အသုံးပြုမှုကို စောင့်ကြည့်ထိန်သိမ်းရေးစနစ်ထားရှိခြင်း (ဥပမာ-အသုံးမပြုပဲမီးဖွင့်ထားခြင်း၊ စက်ဖွင့်ထားခြင်းမျိုး မရှိစေရန်)
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	မန်နေဂျာ

မြေအောက်ရေသုံးစွဲမှု

ရည်ရွယ်ချက်	စွမ်းအင်နှင့် ရေ သုံးစွဲမှုလျော့ချရေး
လိုက်နာရမည့်စည်းကမ်း	The Underground Water Act (1930)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ ရေအသုံးပြုမှု သိရှိနိုင်သော မီတာတပ်ဆင်ခြင်း ▪ ဝန်ထမ်းများအားအသိပညာပေးခြင်းနှင့် လိုက်နာဆောင်ရွက်ရန် တိုက်တွန်းခြင်း ▪ စက်ရုံရှိတာဝန်ရှိပုဂ္ဂိုလ်များအား (Third Party) နေဖြင့်မြေအောက်ရေအကျိုးရှိရှိအသုံးချရန်စည်းကမ်းချက်နဲ့အညီ လမ်းညွှန်ထားခြင်း။
တာဝန်ယူရမည့် ပုဂ္ဂိုလ်	မန်နေဂျာ ▪ ရေ အသုံးပြုမှုစာရင်း စစ်ဆေးခြင်း ▪ ဝန်ထမ်းများလိုက်နာဆောင်ရွက်မှု စစ်ဆေးခြင်း

အရေးပေါ်အခြေအနေတုန့်ပြန်မှု

ရည်ရွယ်ချက်	စက်ရုံတွင်းမတော်တဆထိခိုက်မှု လျော့ချရေး
လိုက်နာရမည့်စည်းကမ်း	အလုပ်အကိုင်နှင့် ကျွမ်းကျင်မှုဖွံ့ဖြိုးတိုးတက်ရေးဥပဒေ (၂၀၁၃), ILO guide to Myanmar Labour Law (2017)
စီမံခန့်ခွဲမှုအစီအစဉ်	▪ အရေးပေါ်အခြေအနေဖြစ်သော (မီး၊ ငလျင်၊ ရေကြီးရေလျှံမှု) တို့အတွက် စက်ရုံတွင် စီမံခန့်ခွဲမှုရှိခြင်း ▪ စက်ရုံ၏မီးသတ်စနစ်များကို ပုံမှန်စစ်ဆေးခြင်း ▪ ရေးဆွဲထားသော အရေးပေါ်တုန့်ပြန်ရေး အစီအစဉ်များကို ဝန်ထမ်းများ အကျွမ်းတဝင်ဖြစ်စေရန် စီမံထားခြင်း ▪ လောင်စာသိုလှောင်နေရာများ၊ လျှပ်စစ်ဖြန့်ဖြူးရေးနေရာများကို အဓိကထားပြီး စောင့်ကြည့်စစ်ဆေးခြင်း၊ ပြုပြင်မွန်းမံခြင်း ▪ ပုံမှန်မီးဘေးကာကွယ်ရေး၊ လျှပ်စစ်ခတ်လျှင် ပြုလုပ်ရမည့်ပုံစံများ၊ ရေကြီးရေလျှံမှု အခြေအနေထိန်းသိမ်းရေး အစီအစဉ်များ၊ ရေးဦးပြုစုခြင်းသင်တန်းများကို ပုံမှန်လေ့ကျင့်မှုများ သင်ကြားမှုများ ပြုလုပ်ခြင်း ▪ အရေးပေါ်ဆက်သွယ်ရန် ဖုန်းနံပါတ်၊ လိပ်စာများ၊ အများသူငါမြင်သာစေသောနေရာများတွင် ကပ်ထားခြင်း ▪ စက်ရုံတွင်း မီးသတ်အဖွဲ့ငယ်၊ အန္တရာယ်ကင်းရှင်းရေး စောင့်ကြည့်ရေးအဖွဲငယ်များထားရှိပြီး လစဉ် ဆွေးနွေးတိုင်ပင်ခြင်း လေ့ကျင့်ခြင်းများ ပြုလုပ်ခြင်း
တာဝန်ယူရမည့်ပုဂ္ဂိုလ်	▪ Manager and EHS officer ▪ မီးသတ်သင်တန်းများ ၃ လတစ်ကြိမ်ပြုလုပ်ရန်စီမံပေးခြင်း ▪ အရေးပေါ်အခြေအနေနှင့် မတော်တဆထိခိုက်မှုမရှိစေရေး စောင့်ကြည့်စစ်ဆေးခြင်း

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု

ကဏ္ဍ	အချိန်အစား	ကြိမ်နှုန်း	နေရာ	တာဝန်ရှိသူ
လုပ်ငန်းလည်ပတ်ချိန်				
လေထု	$PM_{2.5}$, PM_{10}	တစ်နှစ် ၂ကြိမ်	ထုပ်လုပ်မှု ဇရိယာအတွင်း	Hungkiu (Myanmar) Garment Manufacturing Limited
ရေ	pH, DO, BOD, COD,TDS, Temp, Oil and Grease, Chlorine, Arsenic	တစ်နှစ် ၂ကြိမ်	ရေဆိုးသန့်စင်ဆင်္ကမ သန့်စင်ပြီးရေ	Hungkiu (Myanmar) Garment Manufacturing Limited
ဆူညံသံ	ဆူညံသံ ပမာဏ	တစ်နှစ် ၂ကြိမ်	၂ နေရာ (ထုပ်လုပ်မှု ဇရိယာ အတွင်း)	Hungkiu (Myanmar) Garment Manufacturing Limited
အမှိုက်စွန့်ပစ်မှု	အစိုင်အခဲ၊ အရည် နှင့် အန္တရာယ်ရှိပစ္စည်း	ပုံမှန်	စက်ရုံအတွင်း ပြန်လည်အသုံးပြုရန်နှင့် စွန့်ပစ်ရန်ဟူ၍ အမှိုက်ပုံများအား ခွဲခြားခြင်း	Hungkiu (Myanmar) Garment Manufacturing Limited
မီးသေးအန္တရာယ်	မီးသတ်ဆေးဘူးပစ္စည်းများနှင့်အရေးပေါ်ဖုန်းနံပါတ်များ	လစဉ်	စက်ရုံဇရိယာ အတွင်း	Hungkiu (Myanmar) Garment Manufacturing Limited
အလင်းရောင်ပြင်းပြမှု	အလင်းရောင်စေခြင်း	တစ်နှစ် ၂ကြိမ်	ထုတ်လုပ်မှု ဇရိယာအတွင်း (ပိတ်ဖတ်ခြင်း နှင့် အရည်အသွေး စစ်ဆေးခြင်း)	Hungkiu (Myanmar) Garment Manufacturing Limited
လုပ်ငန်းဖြတ်သိမ်းခြင်းကာလ				
လေထု	PM2.5, PM10	ဖြတ်သိမ်းမှု ကာလအတွင်း ၁ကြိမ်	ထုပ်လုပ်မှု ဇရိယာအတွင်း	Hungkiu (Myanmar) Garment Manufacturing Limited
ရေ	pH, DO, BOD, COD,TDS, Temp, Oil and Grease, Chlorine, Arsenic	ထိုကာလအတွင်း ၁ကြိမ်	ရေဆိုးသန့်စင်ဆင်္ကမ သန့်စင်ပြီးရေ	Hungkiu (Myanmar) Garment Manufacturing Limited
ဆူညံသံ	ဆူညံသံ ပမာဏ	ထိုကာလအတွင်း ၁ကြိမ်	ဖြတ်သိမ်းမှု ဇရိယာ	Hungkiu (Myanmar) Garment Manufacturing Limited
ပြန်လည်မွမ်းမံခြင်း	သစ်ပင်များပြန်လည်စိုက်ပျိုးခြင်း		ဖြတ်သိမ်းမှု ဇရိယာအားလုံး	Hungkiu (Myanmar) Garment

ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်မှု ခန့်မှန်းကုန်ကျစရိတ်

စဉ်	အကြောင်းအရာ	အကြိမ်အရေအတွက်	ကုန်ကျစရိတ် (အမေရိကန် ဒေါ်လာ)
လျော့ချခြင်းအစီအစဉ်			
၁.	စက်ရုံအတွင်းလေအဝင်အထွက်အစီအစဉ်	၁နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၂၀၀
၂.	စက်ရုံဧရိယာအတွင်း သစ်ပင်များစိုက်ပျိုးခြင်း	၃လ တကြိမ်	၃လခြား ဒေါ်လာ ၇၀
၃.	အစိုင်အခဲအမှိုက်ပစ်ခြင်း	၁၂ ကြိမ်	နှစ်စဉ် ဒေါ်လာ ၁၀၀၀
၄.	တစ်ကိုယ်ရည်သုံး ကာကွယ်ရေးပစ္စည်းများ၀ယ်ယူခြင်း	၆ လ တကြိမ်	၆ လခြား ဒေါ်လာ ၁၅၀
၅.	ဆေးပစ္စည်များနှင့် ကျန်းမာရေးစစ်ဆေးခြင်း	၁ နှစ် တကြိမ်	နှစ်စဉ် ဒေါ်လာ ၅၀၀
အရေးပေါ် အစီအစဉ်			
၁.	မီးသတ်ဆေးဘူး	၁လ တကြိမ်	လစဉ် ဒေါ်လာ ၃၀၀
၂.	မီးသတ်အချက်ပြ စနစ်	၁လ တကြိမ်	
၃.	ရေးဦးသုနာပြု ပစ္စည်းများ	၁လ တကြိမ်	
စောင့်ကြပ်ကြည့်ရှုရေးအစီအစဉ်			
၁.	ရေဆိုးရေသစ်	၂ ကြိမ်	၁နှစ် ဒေါ်လာ ၂၀၀
၂.	ဆူညံသံ	၂ ကြိမ်	၁နှစ် ဒေါ်လာ ၃၀၀
၃.	စောင့်ကြပ်ကြည့်ရှုမှု အစီရင်ခံစာ	၁ ကြိမ်	ဒေါ်လာ ၁၀၀၀

လူမှုအကျိုးတူပူးပေါင်း ပါဝင်မှု

Hungkiu (Myanmar) Garment Manufacturing Limited တွင် CSR အတွက် အမြတ်ငွေ၏ ၂% ကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးတို့ အတွက် အသုံးပြုသွားမည် ဖြစ်ပါသည်။

ကျန်းမာရေး	ဝန်ထမ်းများ ကျန်းမာရေး စောင့်ရှောက်မှု	၀.၅ %
ပညာရေး	ပညာရေးကဏ္ဍ မြှင့်တင်ရေးနှင့် လူ့အခွင့်အရေး အသိပညာပေးခြင်း	၀.၅ %
နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေး	ဒေသတွင်း လိုအပ်သကဲ့သို့ လှူဒါန်းခြင်း	၁ %

စက်ရုံ၏ဆောင်ရွက်ချက်များ

Hungkiu (Myanmar) Garment Manufacturing Limited
ဟန်ထမ်းများအတွက်သုံးရေပြင်ဆင်ထားရှိမှု

MYANWEI
ENVIRONMENTAL SOLUTIONS

Hungkiu (Myanmar) Garment Manufacturing Limited ၏
လျှပ်စစ်သုံးစွဲမှု

MYANWEI
ENVIRONMENTAL SOLUTIONS

Hungkiu (Myanmar) Garment Manufacturing Limited ၏ ဘွိုင်လာသုံးစွဲမှု

MYANWEI
ENVIRONMENTAL SOLUTIONS

Hungkiu (Myanmar) Garment Manufacturing Limited ၏
မီးဘေးအန္တရာယ်အတွက် ထားရှိမှုများ

MYANWEI
ENVIRONMENTAL SOLUTIONS

ဝန်ထမ်းများအတွက် ဆေးပစ္စည်းများထားရှိမှုများ

MYANWEI
ENVIRONMENTAL SOLUTIONS

❖ Solid Waste (YCDC service)




Hungkiu (Myanmar) Garment Manufacturing Limited ၏
အမှိုက်စွန့်ပစ်မှုအခြေနေများ

MYANWEI ENVIRONMENTAL SOLUTIONS


Hungkiu (Myanmar) Garment Manufacturing Limited ၏
ပန်ထမ်းများအတွက်အိမ်သာထားရှိမှုများ

MYANWEI ENVIRONMENTAL SOLUTIONS


Thank You for Your Patient Attention!

APPENDIX G

List of Commitments

Hung Kiu (Myanmar) Garment Manufacturing Limited ၏ လုပ်ငန်းလည်ပတ်ဆောင်ရွက်ခြင်းကြောင့် ဖြစ်ပေါ်လာနိုင်သော သဘာဝပတ်ဝန်းကျင်၊ လူမှုဘဝ နှင့် ကျန်းမာရေး ထိခိုက်မှုများရှိခဲ့ပါက လျော့ချရေး၊ စီမံခန့်ခွဲရေးနှင့် တားဆီးရေး အစီအစဉ် များကို ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှုအစီအစဉ် (Environmental Management Plan – EMP) တွင် ပါဝင်ရမည့် အချက်များကို အကောင်အထည်ဖော် စီမံဆောင်ရွက်သွားမည် ဖြစ်ကြောင်း။ အောက်ဖော်ပြပါ ဇယားဖြင့် အကျဉ်းချုပ် စာရင်းပြုစု ဖော်ပြထားပါသည်။

ကတိကဝတ်၏ အတိုချုပ် အမည်	စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
နိဒါန်း	၁	စီမံကိန်း နောက်ခံအကြောင်းနှင့် ရင်းနှီးမြှုပ်နှံမှု အစီအစဉ် EMP တွင်ပါဝင်ရေးစွဲသည့် လူပုဂ္ဂိုလ်နှင့် တာဝန်ယူမှုအပိုင်းများ	အခန်း (၁)
မူဝါဒ၊ ဥပဒေနှင့် အဖွဲ့အစည်းဆိုင်ရာမူဘောင်များ	၂	ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး ဥပဒေ (၂၀၁၂) ပတ်ဝန်းကျင် ထိန်းသိမ်းရေး နည်းဥပဒေ (၂၀၁၄) ပတ်ဝန်းကျင် ထိခိုက်မှုဆန်းစစ်ခြင်းဆိုင်ရာ လုပ်ထုံးလုပ်နည်း (၂၀၁၅) မြန်မာနိုင်ငံမှ ချမှတ်ထားသော စက်ရုံနှင့် သက်ဆိုင်သည့် တခြား လိုက်နာဆောင်ရွက်ရမည့် လုပ်ထုံးလုပ်နည်း၊ ဥပဒေ၊ နည်းဥပဒေ နှင့် မူဝါဒများ အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံသက်မှတ်ချက်များနှင့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များ	အခန်း (၂)
စီမံကိန်း အကြောင်းအရာ	၃	စီမံကိန်း တည်နေရာ၊ ဖွဲ့စည်းတည်ဆောက်မှု၊ စီမံကိန်းလည်ပတ်မှု အစီအစဉ် နှင့် စက်ရုံအတွက် လိုအပ်ချက်များ	အခန်း (၃)
ပတ်ဝန်းကျင် အရည်အသွေးတိုင်းတာမှု	၄	အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) နှင့် နိုင်ငံတကာ ပတ်ဝန်းကျင်ဆိုင်ရာ စံသက်မှတ်ချက်များနှင့် ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုဆိုင်ရာ လမ်းညွှန်ချက်များကို အခြေခံ၍လေ့လာ တိုင်းတာထားပါသည်။	အခန်း (၄)

ကတိကဝတ်၏ အတိုချုပ် အမည်	စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
လေအရည်အသွေး	၄.၁	အဆိုပြုစီမံကိန်း၏ ပတ်ဝန်းကျင်ဆိုင်ရာ လေအရည်အသွေး (ထုတ်လွှတ်မှု) ထုတ်လွှတ်အခိုးအငွေ့ (Air emissions) ကို အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) တို့ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အခန်း၌ (၄.၂.၁)
ဘွိုလာထွက်သောရေ	၄.၂	အဆိုပြုစီမံကိန်း၏ ဘွိုလာထွက်သောရေ အရည်အသွေးကို အမျိုးသား ပတ်ဝန်းကျင်ဆိုင်ရာ အရည်အသွေး (ထုတ်လွှတ်မှု) လမ်းညွှန်ချက် (၂၀၁၅) တို့ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အခန်း၌ (၄.၂.၂)
စက်ရုံတွင်း အလင်းရောင် ရရှိမှု	၄.၃	စက်ရုံ၏နေ့ခင်းဘက်တွင် ဆောင်ရွက်လျက်ရှိသော အလင်းရရှိမှုနှင့်ပတ်သက်၍ Illumination and Limiting Glare Index based on IES Code, 1968 ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်	အခန်း၌ (၄.၂.၃)
ဆူညံသံ	၄.၅	အဆိုပြုစီမံကိန်း၏ ပတ်ဝန်းကျင်ဆိုင်ရာ အသံအရည်အသွေး အမြင့်ဆုံးလက်ခံနိုင်သည့် ဆူညံသံအဆင့် (Noise level) (ထုတ်လွှတ်မှု) ကို အမျိုးသားပတ်ဝန်းကျင်ဆိုင်ရာ (၂၀၁၅) လမ်းညွှန်သက်မှတ်ချက် စက်မှုဇုန် ဧရိယာတွင် (70 One-hour LAeq (dBA)) ဖြင့် နှိုင်းယှဉ် ဖော်ပြထားပါသည်။	အခန်း၌ (၄.၂.၄)
ဒေသဆိုင်ရာအချက်အလက်များ	၄.၆	အင်းတကော်၊ ပဲခူးမြို့နယ် အထွေထွေ အုပ်ချုပ်ရေးမှုရုံးမှ အချက်အလက်များကို ဖော်ပြထားပါသည်။ (www.gad.gov.mm.com)	အခန်း၌ (၄.၅)
ပတ်ဝန်းကျင် ထိခိုက်မှုစမ်းစစ်ခြင်းနှင့် ရှောခြရေး	၅	ပတ်ဝန်းကျင်ထိခိုက်မှုကို ကောင်းခြင်းနှင့် ဆိုးခြင်း ခွဲခြားပြီး။ ဖြစ်လာနိုင်သော ထိခိုက်မှုများကို ရှောခြရေးအစီအစဉ်များ ရေးစွဲထားပါသည်	အခန်း (၅)
လူထုတွေ့ဆုံပွဲ အစီအစဉ်	၆	၂၀၁၉ ခုနှစ် ဇန်နဝါရီလ ၂၂ ရက်နေ့တွင် စက်ရုံတွင် ပြုလုပ်ခဲ့ပါသည်	အခန်း (၆)
ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်များ	၇	ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှု အစီအစဉ်အတွက် အဖွဲ့အစည်းဖွဲ့ခြင်း၊ တာဝန်ယူမှုပြုလုပ်ခြင်းနှင့် လုပ်ဆောင်မှုပုံစံများ ဖော်ပြထားပါသည်။ • လေထုညစ်ညမ်းမှု စီမံခန့်ခွဲရေး • ဆူညံသံ ထိန်းချုပ်မှု စီမံခန့်ခွဲရေး	အခန်း (၇)

ကတိကဝတ်၏ အတိုချုပ် အမည်	စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
		• စွန့်ပစ်ပစ္စည်း စီမံခန့်ခွဲရေး • စွန့်ထုတ်ရေ စီမံခန့်ခွဲရေး • စွမ်းအင်စီမံခန့်ခွဲရေး • ရေအသုံးပြုမှု စီမံခန့်ခွဲရေး • အရေးပေါ် အခြေအနေ ပြင်စင်ရေး စီမံခန့်ခွဲရေး	
စောင့်ကြပ်ကြည့်ရှုမှု	၇.၁	အဆိုပြုစီမံကိန်းသည် ပတ်ဝန်းကျင်စောင့်ကြပ်ကြည့်ရှုမှုအစီရင်ခံစာအား ၆လ တစ်ကြိမ် ဝန်ကြီးဌာနများသို့ တင်ပြရမည်	အခန်းခွဲ (၇.၈)
လူထုအကျိုးအတွက် ပူးပေါင်းပါဝင်မှု	၇.၂	အဆိုပြုလုပ်ငန်းသည် လူထုအကျိုးပြုပူပေါင်းပါဝင်မှုကို ကျန်းမာရေး၊ ပညာရေးနှင့် နယ်မြေဖွံ့ဖြိုးတိုးတက်ရေးအတွက် မြန်မာနိုင်ငံရင်းနှီးမြှုပ်နှံမှုကော်မရှင်က ချမှတ်သည့် အတိုင်း ကုမ္ပဏီ၏ အကျိုးအမြတ် ၂ ရာခိုင်နှုန်းအား နှစ်စဉ် ထည့်ဝင်သွားမည်ဖြစ်သည်။	အခန်းခွဲ (၇.၉)
သင်တန်းပို့ချခြင်းနှင့် အသိပညာတိုးတက်ရေး အစီအစဉ်	၇.၃	အဆိုပြုစီမံကိန်းအတွင်းဖြစ်ပေါ်လာနိုင်သော မတော်တဆနှင့် ရည်ရွယ်ချက်ရှိ အရေးပေါ်ကိစ္စရပ်များအတွက် သင်တန်းများပေးခြင်း အရေးပေါ်ကိစ္စရပ်များအတွက်သင်တန်းပေးခြင်း မီးဘေးအန္တရာယ်ကြိုတင်ပြင်ဆင်ခြင်းနှင့် ကာကွယ်ခြင်း မီးသတ်ပစ္စည်းများထားရှိပေးခြင်း မီးဘေးလုံခြုံရေးနှင့် လွတ်မြောက်လမ်းဆောင်ရွက်ပေးထားခြင်း အလုပ်သမားများအတွက် ကျန်းမာရေးစောင့်ရှောက်မှုဆိုင်ရာ သင်တန်းပေးခြင်း	အခန်းခွဲ (၇.၁၀)
ပတ်ဝန်းကျင်စီမံခန့်ခွဲမှု အတွက် လျှာထားငွေကြေး	၇.၄	ပတ်ဝန်းကျင် စီမံခန့်ခွဲမှုအတွက် လျှာထားမှု ပတ်ဝန်းကျင် စောင့်ကြပ်ကြည့်ရှုမှုအတွက် လျှာထားမှု အရေးပေါ်အခြေအနေ စီမံခန့်ခွဲမှုအတွက် လျှာထားမှု	အခန်းခွဲ (၇.၁၁)

ကတိကဝတ်၏ အတိုချုပ် အမည်	စဉ်	ကတိကဝတ်အား ရှင်းလင်းဖော်ပြချက်	အစီရင်ခံစာပါ ရည်ညွှန်းချက် (အခန်း)
မကျေနပ်မှုများနှင့် ပြဿနာများဖြေရှင်းခြင်း	၇.၅	စီမံကိန်းအနီးပတ်ဝန်းကျင်အနီးတွင်နေထိုင်သောသူများ (သို့) သက်ဆိုင်သူများသည် သူတို့ခံစားနေရသော ပြဿနာများနှင့် သက်ရောက်မှုများနှင့် ပတ်သတ်၍ ဖြေရှင်းမှုများပြုလုပ်ရန် စက်ရုံ၏ တာဝန်ရှိသူများ၊ စက်မှုဇုန် စီမံခန့်ခွဲရေး ကော်မတီ၊ အုပ်ချုပ်ရေးဦးစီးဌာနတို့ဖြင့် ပူးပေါင်း ချိတ်ဆက် လုပ်ဆောင်ခြင်း။ ကော်မတီအဆင့်တွင် အခြားမဖြေရှင်းနိုင်သော ပြဿနာများကို တာဝန်ရှိအာဏာပိုင်များသို့ တင်ပြပြီး ပြဌာန်းထားသော ဥပဒေအရ အဆုံးအဖြတ်ပြုလုပ်မည် ဖြစ်သည်။	အခန်း၌ (၇.၁၂)