

# **Environmental and Social Consideration**

## **Quarterly Progress Report**

**Period of January - March 2019**





**Directorate of Sea Transportation**


**Ministry of Transportation**



**Republic of Indonesia**



## Responses / Actions to Comments and Guidance from Government Authorities and the Public


### A. Pre-Construction Phase




No	Potential Environmental Impact			Descriptions of RKL/RPL		Implemented Management Measures / Monitoring Results (Data and photos are attach)
	Type of Impact	Indicator of success of Environmental Management	Impact source	Method of Environmental Management Plan (RKL)	Method of Analysis and Data Collection (RPL)	
<b>Managed Significant Impacts (referred to EIA)</b>						
<b>PRE-CONSTRUCTION PHASE</b>						
<b>1. Land Acquisition</b>						
1A	Loss of land productivity	Rate of land productivity is relatively similar around Patimban port	Land acquisition	<p>a. Coordinating with fishery and farming sector institution in regency and provincial level for land productivity intensification.</p> <p>b. Replacing land that freed according to regulation, and recommendation of related institution.</p>	<p>a. Regarding to the information and data that need to be explored deeper, shall conducted in-depth interview with key informants, such as with local elderly representatives.</p> <p>b. Survey / monitoring to the recommended replacement land.</p>	 <p>Coorditation DGST with Subang Regency</p> <p>Coordination with the Subang Government regarding the land treasury relocation, also for farm and pond productivity data record in order to estimates the compensation for the owners and farmers for villager in Patimban, Gempol, Pusakaratu, Kalentambo;</p>  <p>The <i>Ruislag</i> process</p> <p>The <i>ruislag</i> has been implemented in January 14<sup>th</sup> 2019 for waqaf land for Jamie Nurul Hidayah Mosque. The result is compensation made in money term, the relocation position and certification process will be facilitated by Patimban Port Construction working unit.</p>

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						<p>This agreement outlined in Waqaf memorandum between commitment maker (Pejabat Pembuat Komitmen) for land acquisition with Nazdir;</p> <p>Progress of compensation payment and land vacation updated by March 19<sup>th</sup> 2019.</p> <ul style="list-style-type: none"> <li>• Number of households with payment completion in total is 221 households;</li> <li>• Percentage of completion range from 0% to 90%;</li> <li>• Number of affected household to be paid is 331 of affected households;</li> <li>• Number of vacated plots is 221 plots;</li> <li>• Number of plots to be vacated is 630 plots.</li> </ul> <p>(details about progress of compensation shown on attachment)</p>  <p>Faciliatate for local government due to <i>Ruislag</i></p> <p>DGST facilitate the coordination to the local government (Gempol, Pusakaratu, and Patimban Village) due to <i>Ruislag</i> permit process in West Java administratives. The permit is required as compensation guideline before DGST find the appropriate replacement location. Meanwhile the compensation process will be conducted by conference (musyawarah) with Village Consultative Agency (BPD) and related parties.</p>
1B	Loss of livelihood and income	Recovery of affected people livelihoods	Land acquisition	a. Including the contract clause with implementer contractor to prioritize local workers from the people affected as	a. Evaluating the number of workers from local people affected by land acquisition impact;	<p>The coordination with related instituion was held on July 23th 2018, at Fave Hotel Subang attended by;</p> <ul style="list-style-type: none"> <li>• Livestock office of Subang Regency,</li> </ul>


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				<p>required, educational background, and qualification needed.</p> <p>b.Coordinating with related institution in conduct livelihood recovery program of people affected, as stated in the LARAP document as follow:</p> <ol style="list-style-type: none"> <li>i. Conducting training program;</li> <li>ii. Conducting venture capital aid program;</li> <li>iii. Conducting new business activity program;</li> <li>iv. Conducting marketing assistance program;</li> <li>v. Conducting equipment aid program.</li> </ol>	<p>b.Evaluating livelihood recovery program (LRP) and explain LRP clearly and transparently;</p> <p>c.Regarding to the information and data that need to be explored deeper, shall conducted in-depth interview with key informants, such as with local elderly representatives;</p> <p>d.Sample number is determined by purposive sampling, which the determination of sample is based on the research needs and taken from community characteristic.</p>	<ul style="list-style-type: none"> <li>• Agricultural office of Subang Regency,</li> <li>• Manpower and Transmigration office of Subang Regency</li> <li>• Cooperative, Small and Medium Enterprises office (SMEs) of Subang Regency,</li> <li>• Industry and Trade office of Subang Regency.</li> </ul> <p>Result: "Pilot projects" Livelihood Restoration Program built in 3 (three) trainings; Sheep health management training, Urban agriculture and Fisheries product processing. And also entrepreneurship training on each LRP trainings.</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Sheep Health Management Training</p> <p>i) Sheep health management training held on August 8 to 9<sup>th</sup> 2018. The training conducted in the Patimban Village office. The participants attended on day 1: 33 people, and 34 people in day two. In other hand, monitoring and mentoring conducted from August 25<sup>th</sup> to September 9<sup>th</sup> 2018. The major issued raised such as livestock capital assistance and livestock health assistance.</p> <p>ii) Marine product management training was held on August 8 to 11<sup>th</sup> 2018. The training was held in the Kalentambo Village office.</p>

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						 <p>Fisheries product processing training</p> <p>Number of participants and agenda consist;</p> <ul style="list-style-type: none"> <li>• Training on processing fisheries products day 1: 12 attendances,</li> <li>• Training on fishery product processing on day 2: 24 attendances;</li> <li>• Training on fisheries product processing day 3: 22 attendances,</li> <li>• Training on fisheries product processing day 4: 23 attendances,</li> <li>• DKUPP-2 entrepreneurship training: 16 attendances,</li> <li>• DKUPP-3: 18 attendances,</li> <li>• DKUPP-4: 18 attendances,</li> <li>• DKUPP-5: 19 attendances,</li> <li>• DKUPP-6: 20 attendances.</li> </ul> <p>iii) The urban farming training was held at the Patimban Village office LPM on August from 8 to 11<sup>th</sup> 2018. The training participants is about 25 people.</p>  <p>Urban farming training</p>

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						<p>In addition, to empower community who has fisheries background activities, DGST carried out <i>Basic Safety Training</i> held on March 14 to 16<sup>th</sup>, 2019. The aim of the program is to;</p> <ul style="list-style-type: none"> <li>• Encourage safe offshore activities, including fishery activities;</li> <li>• Improve fisherman safety protocol in offshore activities by certificate for exam passed participant;</li> <li>• Secure the training participants againts offshore accidents by provide legal term requirement for insurance.</li> </ul> <p>The training attended by 400 participants with fishery activities background. The training session consist of :</p> <ul style="list-style-type: none"> <li>• General concept towards offshore safety activity, including fisheries activity;</li> <li>• Basic medical check up;</li> <li>• Sea survival training;</li> <li>• Fire fighting training.</li> </ul>
						 <p>General Basic Safety Training</p>

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						 <p>Medical check up</p>  <p>Sea survival training</p>  <p>Fire fighting training</p>



No	Potential Environmental Impact			Descriptions of RKL/RPL		Implemented Management Measures / Monitoring Results (Data and photos are attach)
	Type of Impact	Indicator of success of Environmental Management	Impact source	Method of Environmental Management Plan (RKL)	Method of Analysis and Data Collection (RPL)	
1C	Public unrest	Reducing of negative perceptions and increasing of positive perceptions of people to the activity plans.	Land acquisition	<p>a. Land acquisition mechanism refers to the statutes No.2 Year 2012 about Land acquisition of Public interest and Presidential decree Republic of Indonesia No.71 year 2012 about Land acquisition for development of Public interest;</p> <p>b. Coordinating with related institutions in conduct livelihood restoration program for people affected;</p> <p>c. Establishing Grievance Redress Center/Fast Response Team to accommodate and respond to public unrest related to the Patimban Seaport Development Project;</p> <p>d. Making community discussion forum with local government to solve the problem that arouse when development activity;</p> <p>e. Replace the land in accordance to the agreement, regulation, and related institution recommendation.</p>	<p>a. Collecting the minutes of meeting and evaluating land acquisition activities;</p> <p>b. Survey and interview to the affected communities which is related to livelihood restoration program implementation;</p> <p>c. Monitoring community anxiety, retention, and conflict due to land acquisition phase.</p>	 <p>FGD with Pusakanagara sub district head and the Tani Berkah Community</p> <p>The FGD conducted on January 8<sup>th</sup> and 14<sup>th</sup> 2018 for the equitable value for land acquisition affected. The result is to establish <i>Ombudsman</i> letter were confirming that land acquisition procedure for Patimban Port Development met the administrative standards. In addition, the head of Pusakanagara Sub district facilitated the community to Village cooperatives (Koperasi Unit Desa) establishment. The purposes of this village cooperatives are to support Patimban Port Development.</p> <p>In January 17<sup>th</sup> 2018, the record problems submitted due to data errors in land area. The solution resolved on August 28<sup>th</sup> 2018 the solution for correcting land area data. In the same day, record problems submitted due to households protest and the solution made for correcting the household identity the protest.</p> <p>The grievance procedures shown on attachment.</p>



## B. Construction Phase

No	Potential Environmental Impact			Descriptions of RKL/RPL		Implemented Mitigation Measures / Monitoring Results (Data and Photos are attach)
	Type of Impact	Indicator of success of Environmental Management	Impact source	Method of Environmental Management Plan(RKL)	Method of Analysis and Data Collection (RPL)	
<b>Managed Significant Impacts (referred to EIA)</b>						
<b>CONSTRUCTION PHASE</b>						
<b>2. Procurement of Labor and Basecamp Operation</b>						
2A	Opening job and business opportunity	People affected/local people that recruited as workers > 20%)	Procurement of Labor and Basecamp operation	<p>a. Prioritize local workers from affected area as required, educational background, qualification needed, and inclusion of workers social assurance, and referred to Regional Minimum Wage (Upah Minimum Regional);</p> <p>b. Coordinating with related institution in order to livelihood restoration program of affected people, as stated in the LARAP document as follow:</p> <ul style="list-style-type: none"> <li>• Conducting training program;</li> <li>• Conducting venture capital aid program;</li> <li>• Conducting new business activity program</li> <li>• Conducting; marketing assistance program</li> <li>• Conducting equipment aid program;</li> </ul> <p>c. Coordinating with Pusakanagara and Pusakajaya sub-district due to job vacancy information</p> <p>[a: DGST, CP1, CP2, CP3, CP4, b,c:DGST]</p>	<p>a. Identifying the number of local workers;</p> <p>b. Identifying the number and type of business opportunity that evolve nearby;</p> <p>c. Evaluating livelihood recovery program for affected people;</p> <p>d. Regarding to the information and data that need to be explored deeper, shall conducted in-depth interview with key informants, such as with local elderly representatives;</p> <p>e. Monitoring workers recruitment relevant with qualifications;</p> <p>f. Monitoring of safety work implementation especially in construction phase;</p> <p>[c, d: DGST] [a, b, e, f: CP1, CP2, CP3, CP4]</p>	<p>Implementation Package 1 Data gathered by Feb, 8<sup>th</sup> 2019</p> <ul style="list-style-type: none"> <li>• The Project for terminal construction under Package 1 was started on October 29<sup>th</sup>, 2018 CP 1 Contractor has hired local Coordinators who are residence from around the project area and have strong relationship to the local community leaders, this advantage to strength communication and coordination with the local communities. In addition to hear and mitigate potential social issues.</li> </ul> <p>Total number of local workers employed by CP 1 from Subang as of Desember 2018 : 98 persons which represent 11% of the total workers. In January 2019, no recruitment conducted, meanwhile in February and March still work in progress.</p> <ul style="list-style-type: none"> <li>• Total local workers for access road construction under Package 4 is about 88 workers represent 18,97% of the total workers.</li> </ul> <p>Detail data shown on attachment</p>
<b>3. Heavy equipment and materials mobilization</b>						

3A	Deterioration of air quality (TSP and emission)	Concentration of SO <sub>2</sub> , CO, NO <sub>2</sub> and TSP not to exceed air quality standard based on Government regulation No. 41 years 1999 on Air pollutions control.	Heavy equipment and materials mobilization.	<p>a. Heavy equipment and materials mobilization use construction access road of Patimban seaport which is relatively quiet and away from settlements (non-asphalt pavement);</p> <p>b. Closing the tanks of transporting material vehicle with tarps;</p> <p>c. Transporting the materials to the location using operation proper vehicle that passed the KIR test (in testing to see if the vehicles are well maintenance);</p> <p>d. Developing of washhouse to clean transporting vehicle wheels before out from project site location;</p> <p>e. If there are materials spills on the passing road from construction materials mobilization, it will be cleaned as soon as possible;</p> <p>f. Watering the road periodically.</p> <p><b>[CP1, CP2, CP3, CP4]</b></p>	<p>Conducting air quality laboratory analysis, the results are compared with air quality standard refer to PP No. 41 of year 1999. Furthermore, monitoring results are converted into average values and compared from time to time (data trend) to see the tendency of environment quality change and critical level.</p> <p><b>[CP4]</b></p>	<p>CP 1 Implementation: No data record yet</p> <p>CP 2 Implementation: Work is yet to start</p> <p>CP 3 Implementation: Work is yet to start</p> <p>CP 4 Implementation: 1. Air quality measurement are carried out every 6 months, next measurement will be conducted on April 2019; 2. Roads are flushed to reduce dust pollution. Rain was fell in most of January 2019, so dust pollution tends to be under control and limits.</p>  <p>3. Build a washing place for vehicle wheel cleaning. Every vehicle in which are going to go out to the public roads will undergo vehicle wheel wash first.</p>
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4. Vehicle feasibility check



5. Require material transport trucks to be given a tub cover.



						<p>6. Build special access road for transporting trucks.</p> 
3B	Land traffic disruption	No occurrence of traffic jam as the effect of heavy equipment and materials mobilization	Heavy equipment and materials mobilization	<p>a.Coordinating with transportation institution to install traffic sign around the development of Patimban seaport location in accordance with ministerial regulation No.13 year 2014 about the traffic sign;</p> <p>b.Coordinating with police agencies to organize traffic around the Patimban seaport development location;</p> <p>c.Installing sign of construction warning signs in the entry and exit access of patimban seaport development location;</p> <p>d.Arranging schedule of heavy equipment and materials mobilization not in the vehicle peak hours;</p> <p>e.Placement of officer to arrange traffic in the entry and exit access of patimban seaport development location;</p> <p>f.Implementing ANDALLALIN (Assessment Impact of Traffic) recommendation. [DGST, CP1, CP2, CP3, CP4]</p>	<p>a. Monitoring traffic condition;</p> <p>b. Identifying accident number that occurred.</p>	<p>Implementation Package 1.</p> <ul style="list-style-type: none"> <li>•No recorded occurrence of traffic jam at Puskanagara road going to Jobsite because construction equipment and materials are being transported during night time (as requirements). Also th type/weight of equipment and speed are redistricted.</li> </ul>    <p>See the attachment of land traffic conditions and accident numbers.</p>

3C	Sea traffic disruption	No occurrence of ship collision on the Patimban area	Heavy equipment and materials mobilization	<p>a.Coordinating with UPP (Port Operator Unit) Pamanukan about material transporting route on the sea;</p> <p>b.Coordinating with Tanjung Priok Navigation District about materials transporting sailing line;</p> <p>c.Socializing materials transporting route to the fishermen;</p> <p>d.Organizing material transporting time;</p> <p>e.Implementer contractor open the communication with the ships around materials transporting route.</p> <p><b>[DGST, CP1, CP2, CP3, CP4]</b></p>	<p>a.Monitoring sea traffic condition;</p> <p>b.Identifying accident number that occurred.</p> <p><b>[CP1, CP2, CP3, CP4]</b></p>	<p>Implementation Package 1</p> <p>1. Sea traffic condition affecting by the project is being monitored periodically</p> <p>2. From November 2018 until February 2019 (Week 2), no occurrence of ship collision at Patimban Waters</p> <p>No recorded occurrence of ship collision at patimban waters. Offshore activities are being coordinated with patimban harbor master and necessary permits have been secured before start of works.</p> <p>See the attachment of sea traffic disruption.</p>
3D	Public unrest	No public unrest occurrence.	Heavy equipment and materials mobilization.	<p>a. Socializing transporting route of heavy equipment and materials mobilization to the nearest community;</p> <p>b. Socializing the materials transporting route to the fishermen;</p> <p>c. Establishing a Grievance Redress Center /Fast Response Team to accommodate and responds to public unrest related to the Patimban Seaport;</p> <p>d. Making community discussion forum with local government to find solution the problem arouse by the development activity.</p> <p><b>[DGST, CP1, CP2, CP3, CP4]</b></p>	<p>a. Measurement the amount of grievances raised of heavy equipment and materials mobilization activity. Its identification shall be acquired by interview survey.</p> <p>b. Measurement the amount of protest and demonstration raised to the representative office. The data shall be collected by evidences of related reports to the local government, or to project implementing representatives (secondary data)</p> <p>c. Regarding to the information and data that need to be explored deeper, shall conducted in-depth interview with key informants, such as with local elderly representatives;</p> <p>d. Sampling population is calculated purposively.</p>	<p>Implementation Package 1</p> <p>Interview to the people around the project was carried out and there were no complains recorded due to public unrest and no occurrences of protest or demonstration from this period.</p> 

					[DGST, CP1, CP2, CP3, CP4]	<p>Interview with the headman of Patimban village regarding the demonstration that took place on February 15-16 around the project. There are several complaints that are recorded and a solution is immediately sought.</p> <p>See the attachment of Public Unrest.</p> <p>Collecting community complaints data related to heavy equipment mobilization, from the form filled by Ms. Siti Hasanah stated limited road access port development were resulted in a decreased daily income.</p> <p>Detail data shown on attachment.</p>
<b>4. Reclamation and off-shores facility development</b>						
4A	Decreasing of sea water quality (TSS).	TSS concentration below environment quality standard based on Kepmen LH No 51 year 2004 Sea water quality standard Appendix I (80 mg/L).	Reclamation activity and off-shore facility development.	<p>a. Reclamation activity is conducted in the waters area which has been bordered by seawall;</p> <p>b. Minimizing dumping volume as many as possible by using it with the newest technology such as Cement Pipe Mixing.</p> <p>[CP1, CP2]</p>	<p>Conducting sea water quality laboratory analysis, then the results are compared with air quality standard quality Kepmen LH no. 51 year 2004. Furthermore, monitoring results are made the average and compared from time to time (data trend) to see the tendency of environment quality change and critical level.</p> <p>[CP1]</p>	The activity started yet.
4B	Fishing ground change.	No report of fishing area disruption and/or decreasing of fishermen production/income .	Reclamation activity and off-shore facility development.	<p>a. Communicating and socializing with fishermen community about reclamation and off-shores facility development.</p> <p>b. Making basic rumpon (artificial fish shelter) according to the Regulation of Marine and fisheries ministry Republic of Indonesia No. 26/Permen-KP/2014 around Patimban waters out of DLKP (Regional Sphere of Interest)</p> <p>[CP1]</p>	<p>a. Collecting data of number of grievances raised, by analyzing the results of consultations taken during the survey;</p> <p>b. Monitoring fisheries production and its condition by interview with fishermen.</p> <p>[CP1]</p>	<p>Implementation Package 1</p> <p>The activity started yet.</p>

				and DLKR (working area) Patimban seaport. [DGST]		
4C	Public unrest.	No public unrest occurrence.	Reclamation activity and off-shore facility development.	<p>a. Socializing to the fishermen about rumpon (artificial fish shelter) installation plan according to the Regulation of Marine and fisheries ministry Republic of Indonesia No. 26/Permen-KP/2014 around Patimban waters out of DLKP (Regional Sphere of Interest) and DLKR (Area Work) Patimban seaport;</p> <p>b. Making Grievance Redress Center/Fast Response team to accommodate and respond to public unrest related to the Patimban Seaport development project;</p> <p>c. Organizing community discussion forums with local governments to solve problems that rise during the development activity.</p> <p>[DGST, CP1, CP2]</p>	<p>a. Identification of number of grievances risen due to reclamation activity</p> <p>b. Identification by interview using questionnaire (primary data);</p> <p>c. Identification of number of people protesting and demonstrating against the project implementing representative office shall be gained from such cases reported to the local government or to the project implementing representative office (secondary data);</p> <p>d. Regarding to the information and data that need to be explored deeper, shall conducted in-depth interview with key informants, such as with local elderly representatives;</p> <p>e. Sampling population is calculated purposively.</p> <p>[DGST, CP1, CP2, CP3, CP4]</p>	Implementation Package 1 The activity started yet.
<b>5</b>	<b>Dredging and dumping</b>					
5A	Deterioration of sea water quality (TSS).	TSS concentration below environment quality standard based on Kepmen LH No 51 year 2004 Sea water quality standard Appendix I (80 mg/L).	Dredging and dumping.	<p>a. Constructing seawall in the early phase;</p> <p>b. Installing silt protector around dredging area by grab dredging;</p> <p>c. Disposing dumping materials not at one spot but to disperse them in dumping area disperse in dumping area;</p> <p>d. Using proper equipment for dredging and dumping.</p>	Conducting TSS measurement, then the results are compared with sea water quality standard based on Kepmen LH no. 51 year 2004. Furthermore, monitoring results shall be converted into average values and compared from time to time (data trend) to see the tendency of environment quality change and critical level.	<p>CP1 Implementation:</p> <p>During quarter 2 construction period (January – March 2019), TSS concentrations and turbidity levels were relatively consistent across the study area, with TSS ranging from 0.20 to 8,32 mg/L across all sites. In general, TSS Concentrations met the Indonesian standard according to Ministry of Environment Decree No. 51/2004</p> <p>CP 2 Implementation: The activity started yet.</p>



				[CP1, CP2]	[CP1]	
<b>6. On-shore facility development</b>						
6A	Increasing of water run-off rate.	No flooding.	On-shore facility development.	<ul style="list-style-type: none"> <li>a. Make drainage that can drain water run-off;</li> <li>b. Optimizing of RTH (Green Open Space) on the unused land;</li> <li>c. Coordinating with Bina Marga and Irrigation Agency, related on drainage construction in the seaport location.</li> </ul> <p>[DGST]</p>	<p>Direct monitoring on the state and function of drainage channel and RTH (Green Opened Space).</p> <p>[DGST]</p>	DGST Implementation: The activity started yet.
6B	Public unrest	No public unrest occurrence	On-shore facility development	<ul style="list-style-type: none"> <li>a. Develop a new irrigation channel to replace disconnected irrigation channels affected by On-shore facility development;</li> <li>b. Develop underpass/fly over or moving the road on the public access road which is crossed with Patimban seaport access road;</li> <li>c. Develop complaint center/fast response team to accommodate and response public unrest to the Patimban Seaport development;</li> <li>d. Develop community discussion forum with local government to solve the problem that arouse when development activity.</li> </ul> <p>[DGST]</p>	<ul style="list-style-type: none"> <li>a. Monitoring of new irrigation channel as replacement of disconnected irrigation channel;</li> <li>b. Monitoring underpass/fly over on the public access road which is crossed with Patimban seaport access road</li> <li>c. Measure of number of anxiety due to On-shore facility development activity;</li> <li>d. Measurement conducted by interview with questionnaire toolkit (primary data);</li> <li>e. Measure the amount of people protest and demonstration to the initiator representative office taken from local government or office representative (secondary data);</li> <li>f. Regarding to the information and data that need to be explored deeper, shall conducted in-depth interview with key informants, such as with local elderly representatives;</li> <li>g. Sampling population is calculated purposively.</li> </ul>	Implementation Package 1 The activity started yet.

					[DGST]	
<b>Managed other environmental impact</b>						
<b>CONSTRUCTION PHASE</b>						
<b>2. Procurement of Labor and Basecamp operation</b>						
2A	Deterioration of sea water quality.	Sea water is not polluted by workers domestic waste.	Procurement of labor and Basecamp operation.	Installation of portable toilet and water waste processing facility such as septic tank and its maintenance.  [CP1, CP2, CP3, CP4]	Confirmation and maintenance of sanitary facility, water waste management facility.  [CP1, CP2, CP3, CP4]	<p>CP 1 Implementation: Latest data was on Quarterly Report 1 (Nov 2018 – Jan 2019)</p> <p>CP 2 Implementation: The activity started yet.</p> <p>CP 3 Implementation: The activity started yet.</p> <p>CP 4 Implementation: Base on coordination with CP4, their Basecamp are located far from sea, so domestic workers waste will not pollute sea water.</p>
2B	Appearance of infectious diseases.	The number of patients and infectious diseases are not increased related with workers in construction phase.	Procurement of labor and Basecamp operation.	<p>a. Coordination with related institution and NGO due to HIV/AIDS prevention program, including socialization about sexual infectious diseases prevention;</p> <p>b. Coordination with related institution due to the treatment for sexual infectious diseases patients, gonorrhea, and syphilis by injection and oral method in the Puskesmas public health center (Puskesmas). Routine examination (every 3 months) by VCT (Voluntary Counseling and Testing) method;</p> <p>c. Cooperating with Warga Peduli AIDS (WPA) at the village level to conduct ODHA positive activity (People with HIV / AIDS),</p>	<p>a. Collecting report about implementation of HIV / AIDS prevention program;</p> <p>b. Collecting report on maintenance of sanitary facility, water waste management facility, and garbage dump;</p> <p>c. Identifying the number of patients comparing with data before construction.</p> <p>[CP1, CP2, CP3, CP4]</p>	<p>Implementation Package 1 Data gathered by January 31th 2019</p> <p>• Mr. Wahyu (Package 1 HSE/ PTRPW) coordinated to Mr. Suwata W (Project Manager HIV-AIDS public health service, Subang Regency) regarding HIV-AIDS Prevention program Patimban Project Package 1.</p>



such as gathering activity.  
d. Developing sanitary facility, temporary garbage collection place (TPS), and processing facility

[CP1, CP2, CP3, CP4]

• Mr. Wahyu explained the HIV/AIDS Prevention Program planned as a part of implementer responsibility. Also inform that PTRPW equipped by medical service provider at site for 24 hours services. Socialisation HIV-AIDS Prevention already conducted by onsite paramedic. The socialization made by tool box meeting. Banner, poster, hand out regarding HIV-AIDS posted.





• Mr. Suwata (Health Institution) explain that Subang Regency listed as top 4 HIV-AIDS prevalence around West Java, and Patimban Project Area is listed as top 4 HIV-AIDS prevalence around Subang Regency, especially at Gonyong, Kelapa-kelapa, Genteng and truntung area.





• Mr. Suwata as PM HIV-AIDS Public health service suggested that PTRPW and Public health service Subang Regency shall have intensive coordination to make strategic prevention plan and shall in-line

						<p>with:</p> <p>A. Subang Regency Decree No 05 years of 2013 with respect to HIV / AIDS Prevention and Mitigation in Subang Regency;</p> <p>B. Ministry of Health of Republic of Indonesia Decree No 21 years of 2013 with respect to HIV and AIDS Prevention;</p> <p>C. Ministry of Health of Republic of Indonesia Decree No 74 years of 2014 with respect to Counseling Implementation Guideline and HIV Test.</p> <ul style="list-style-type: none"> <li>• PTRPW and Public health service Subang Regency shall have coordination to make strategic prevention plan <ul style="list-style-type: none"> <li>A. Regarding Information, Education and Communication, Mr. Suwata informed that Public health service Subang Regency offered hand;</li> <li>B. Condom Distribution will provide by Public health service Subang Regency: TBI PTRPW provide box and record the usage, located on the clinic site supervised by paramedic, the treatment is strictly confidential;</li> <li>C. Screening, diagnosis, counselling and further treatment, Mr. Suwata will provide professional team consist of: doctor, analysis, paramedic and counselor. PTRPW will be charged per visit based on local government regulation.</li> <li>D. Mr. Suwata informed standard diagnosis examination method divide by 3 (three) screening: <ul style="list-style-type: none"> <li>i. R1 : General examination : syphilis, Gonorrhea, TBC, Hepatitis, Candy Loma, HIV</li> <li>ii. R2 : HIV</li> <li>iii. R3 : HIV</li> </ul> </li> </ul> </li> </ul>
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						<p>Implementation Package 2 Data gathered by February 11<sup>th</sup> 2019 and prepared the material.</p> <p>Implementation Package 4 Data data gathered by February 6<sup>th</sup> 2019 and prepared for the material</p> <ul style="list-style-type: none"> <li>periodically conducting the employee health checks and campaigns.</li> </ul> 
<b>3. Heavy equipment and materials mobilization</b>						
3A	Road damage	Minimized road damage	Equipment and materials mobilization	<p>a. Choosing the as minimum as possible for transporting equipment and material that exceed road capacity;</p> <p>b. Material transportation for construction shall be based on road class and driving license;</p> <p>c. Heavy equipment shall met the requirement of directorate general of land transportation regarding Technical guidelines for the heavy vehicle operation on the road (Ministry of Transportation Regulation Number PM 32 Years 2016;</p> <p>d. Rehabilitation of road if there is damage caused by project activity;</p> <p>e. Vehicle using tarpaulin</p>	<p>Monitoring directly of road condition</p> <p>Analysis based on consultant survey</p> <p>[CP1, CP2, CP3, CP4]</p>	<p>CP 1 Implementation: Latest data was on Quarterly Report 1 (Nov 2018 – Jan 2019)</p> <p>CP 2 Implementation: The activity is started yet</p> <p>CP 3 Implementation: The activity is started yet</p> <p>CP 4 Implementation: Roads Reparation</p>

				<p>f. Coordination with Bina Marga and Irrigation Agency of Subang Regency in managing (repairing) if there is Road damage.</p> <p>[CP1, CP2, CP3, CP4]</p>		
3B	Increasing of noise.	Noise intensity according to Ministerial decree of environment ministry No. Kep. 48/MENLH/II/1996 .	Equipment and materials mobilization.	<p>a. Heavy equipment and materials mobilization using Patimban seaport construction access road which is relatively quiet and away from settlements;</p> <p>b. Heavy equipment and materials mobilization are not conducted in convoy;</p> <p>c. Vehicle speed setting;</p> <p>d. Using proper vehicle.</p> <p>[CP1, CP2, CP3, CP4]</p>	<p>Conducting noise laboratory analysis, the results shall be compared with the noise standard refer to Kepmen LH No. 48 year 1996. Furthermore, monitoring results shall be converted into average values and compared from time to time (data trend) to see the tendency of environment quality change and critical level.</p> <p>[CP4]</p>	<p>CP 1 Implementation: No Data Record</p> <p>CP 2 Implementation: The activity is started yet</p> <p>CP 3 Implementation: The activity is started yet</p> <p>CP 4 Implementation: 1.Trucks and tools are maintained periodically; 2.Noise measurements are carried out on 3 points during the construction process every 6 months. Next noise measurements scheduled for April 2019.</p>
<b>4 Reclamation and Marine Facility Construction (Supplementary Note on Approved AMDAL/EIA)</b>						
4A	Disturbance of fishing ground.	No disturbances on marine biota (necton and benthos)	Reclamation and Marine Facility Construction.	N/A	<p>a.Monitoring regarding to the complaint received and analyze based on consultant survey;</p> <p>b.Monitoring the fishery condition and productivity by interview the fishermen.</p>	<p>CP1 Implementation:</p> <p>Refer the baseline survey results, a total of 182 individual fish, crustaceans, and Mollusca comprising 16 taxa were recorded during the baseline survey: Amusium pleuronectes, Arothron sp., Engraulidae sp., Eleutheronema tetradactylum, Gerres filamentosus, Harpiosquilla raphidea, Johnius</p>

					[CP1]	sp., Leiognathus equulus, Moolgarda sp., Nemipterus japonicas, Penaeus merguensis, Saurida tumbil, Selaroides leptolepis, Siganus sp., Solea solea, and Terapon puta. The most abundant fish species found within the area are Leiognathus equulus (125 individuals) and Engraulidae sp. (18 individuals), while the most abundant crustacean species are Harpiosquilla raphidea (seven individuals) and Penaeus merguensis (six individuals). Species richness ranged from three species at sites N1 (west study area) and N3 (east study area) to 10 species at site N4 (north study area, near the spoil ground).
<b>6.</b>	<b>On-shore facility development</b>					
6A	Deterioration of air quality (TSP and emission)	Concentration of SO <sub>2</sub> , CO, NO <sub>2</sub> and TSP not exceed air quality standard based on Government regulation No. 41 year of 1999 on Air pollutions control	On-shore facility development	<p>a. Maintenance of trucks and equipment in order to keep in good condition;</p> <p>b. Using cover whenever transported construction materials (if necessary);</p> <p>c. Provide guardrail from iron sheeting with minimal height 2.5 meter (if necessary).</p> <p>[DGST, CP3, CP4]</p>	<p>Conducting air quality laboratory analysis, the results shall be compared with the air standard quality based on PP No. 41 year of 1999. Furthermore, monitoring results shall be converted into average values and compared from time to time (data trend) to see the tendency of environment quality change and critical level.</p> <p>[CP4]</p>	<p>DGST Implementation: No Data Record</p> <p>CP 3 Implementation: The activity is started yet</p> <p>CP 4 Implementation:</p> <ol style="list-style-type: none"> <li>Air Quality measurements are carried out on 3 points during the construction process every 6 months. Next noise measurements scheduled for April 2019.</li> <li>Roads are flushed to reduce dust pollution. Rain was fell in most of January 2019, so dust pollution tends to be under control and limits.</li> </ol> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: center;">Sign of speed control      Watering of access road</p> <ol style="list-style-type: none"> <li>Build a washing place for vehicle wheel cleaning. Every vehicle in which are going to go out to the public roads will undergo vehicle wheel wash first.</li> </ol>






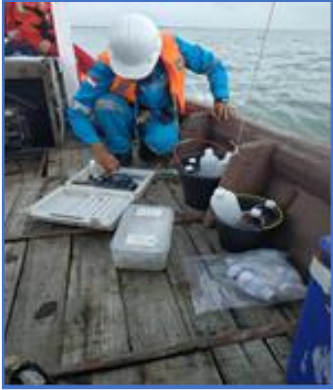
4. Vehicle feasibility check







5. Require material transport trucks to be given a tub cover.







						<p>6. Build special access road for truck mobilization.</p> 
6B	Increasing of noise.	Noise level is below environment quality standard based on Kepmen LH No 48 Year 1996 about Noise level standard.	On-shore facility development.	<p>a. Regularly treatment of trucks and equipment in order to maintain fit for operating;</p> <p>b. Avoiding construction activity that cause noise to conducted at night, such as mounting pile.</p> <p><b>[DGST, CP3, CP4]</b></p>	<p>Conducting noise parameter laboratory analysis, the results shall be compared with the noise standard quality based on Kepmen LH No. 48 year 1996. Furthermore, monitoring results shall be converted into average values and compared from time to time (data trend) to see the tendency of environment quality change and critical level.</p> <p><b>[CP4]</b></p>	<p>Noise measurements are carried out on 3 points during the construction process every 6 months. Next noise measurements scheduled for April 2019.</p>
6C	Decreasing of sea water change.	Sea water quality does not decrease drastically because of project activity.	On-shore facility construction	<p>Reducing or regulating waste water discharge volume produced by former fishpond location when landfill process.</p> <p><b>[DGST, CP3, CP4]</b></p>	<p>Conducted sampling of sea water and then the results are compared with Kepmen LH No. 51 year of 2004. Furthermore, monitoring results are made the average and compared from time to time (data trend) to see the tendency of environment quality change and critical level.</p> <p><b>[CP1]</b></p>	<p>CP1 Implementation:</p> <p>1. During Quarter 2 construction period, the seawater quality taken during the baseline survey met the Indonesian and Japanese standards except for pH and clarity. The pH was above the Japanese guideline range (6.5–8.3) for at least one depth (surface and/or bottom layers) at sites W3, W4, W6, W8, W9, W9, W10 and W12. However, the pH was within the Indonesian guideline range (6.5–8.5) at all sites with exception of site W8. Water clarity ranged from lower than 0.5 to 8 m across all sites. The lower water clarity were at the onshore sites (W1, W2,</p>

						W4 and W11) where turbidity and TSS values were high. 
6D	Disruption of terrestrial fauna (bird)	presence of habitats for terrestrial fauna	On-shore facility development	a. provide new habitat (such as plant mangrove) for terrestrial fauna and maintain that habitat; b. Workers are not allowed to disturb terrestrial fauna around activity location. <b>[a; DGST, b; CP1, CP2, CP3, CP4]</b>	a. Reporting of the new created habitat; b. Direct monitoring in the fields.  <b>[DGST]</b>	The activity started yet
6E	Disruption of terrestrial flora	presence of habitats for terrestrial flora	On-shore facility development	a. provide new habitat (such as planting mangroves) for terrestrial flora and maintain that habitat b. Workers are not allowed to disturb terrestrial flora around activity location. <b>[a; DGST, b; CP1, CP2, CP3, CP4]</b>	Reporting of the new created habitat.  <b>[DGST]</b>	The activity is started yet
<b>7.</b>	<b>Access road development</b>					
7A	Deterioration of air quality (TSP and emission)	Concentration of SO <sub>2</sub> , CO, NO <sub>2</sub> and TSP not to exceed air quality standard based on	Access road development activity	a. Maintenance of trucks and equipment to keep maintain and fit for operate. b. Using cover on truck that bring	Conducting air quality laboratory analysis, in which the results shall be compared with the air standard quality based on PP No. 41 years	CP 3 Implementation: The activity is started yet




		<p>Government regulations No. 41 years 1999 on Air pollutions control</p>		<p>construction materials (if necessary);</p> <p>c. Develop guardrail made of iron sheeting with minimal height 2.5 meter (if necessary).</p> <p><b>[CP3, CP4]</b></p>	<p>1999. Furthermore, monitoring results shall be converted into average values and compared from time to time (data trend) to see the tendency of environment quality change and critical level.</p> <p><b>[CP4]</b></p>	<p>CP 4 Implementation:</p> <ol style="list-style-type: none"> <li>1. Air Quality measurements are carried out on 3 points during the construction process every 6 months. Next noise measurements will be scheduled for April 2019.</li> <li>2. Roads are flushed to reduce dust pollution. Rain was fell in most of January 2019, so dust pollution tends to be under control and limits</li> <li>3. Build a washing place for vehicle wheel cleaning. Every vehicle operate to the public roads will through wheel wash first.</li> <li>4. Vehicle feasibility check</li> </ol>  <ol style="list-style-type: none"> <li>5. Roads cleaning from scattered material truck activity.</li> </ol> 
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						<p>6.Cover tub for material transport.</p>  <p>7.Build special access road for truck operate.</p> 
7B	Increasing of noise	To maintain noise level below environment quality standard based on Kepmen LH No 48 year of 1996 about Noise level standard	Access road development activity	<p>a. Maintenance of trucks and equipment to keep them in good condition;</p> <p>b. Avoiding construction activity that cause noise at night.</p> <p><b>[CP3, CP4]</b></p>	<p>Conducting noise parameter laboratory analysis, the results shall be compared with the noise standard quality based on Kepmen LH No. 48 year 1996. Furthermore, monitoring results shall be converted into average values and compared from time to time (data trend) to see the tendency of environment quality change and critical level.</p> <p><b>[CP4]</b></p>	<p>CP 3 Implementation: The activity is started yet</p> <p>CP 4 Implementation: 1.Trucks and tools are maintaining periodically 2.Noise measurements are carried out on 3 points during the construction process every 6 months. Next noise measurements scheduled for April 2019.</p>

7C	Deterioration of surface water quality	Maintain surface water quality below environment quality standard based on PP No. 82 year 2001 on Water quality management and Water pollution control	Access road development	Prevention to reduce turbidity to water body such as installation of drainage channel or emergency retention pond during construction process.  [CP3, CP4]	Monitoring TSS using turbidity meter.  [CP4]	<p>CP 3 Implementation: The activity is started yet</p> <p>CP 4 Implementation:</p> <ol style="list-style-type: none"> <li>1. Drainage channel were built during construction process.</li> </ol>  <ol style="list-style-type: none"> <li>2. Surface Water quality monitoring is carried out every week.</li> </ol>  <ul style="list-style-type: none"> <li>• TSS Value at some monitoring points exceed the threshold due to high rainfall throughout the month. Run-off water originating from outside the project area adds and affects the quality of surface water throughout the project, especially the level of Total Suspended Solid (TSS). Monitoring points at STA 0+000 and STA 7+000 tend to increase TSS values which are high because other run-off water sources are obtained from outside the area throughout the project.</li> <li>• Whereas the monitoring point of STA 2+700 which is located very close to project activities has a TSS value that is far below the specified quality standard. This indicates that project activities have a small erosion effect on existing surface water.</li> </ul>
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7D	Increasing of water run-off rate	Excessive run-off does not occur	Access road development	<p>Installation of drainage channel or emergency retention pond during construction process</p> <p>[CP3, CP4]</p>	<p>Direct monitoring in the fields</p> <p>[CP4]</p>	<p>CP 3 Implementation: The activity is started yet</p> <p>CP 4 Implementation: 1. Creating drainage channel during the construction process</p>  <p>2. Repairs after the rain has subsided to improve drainage and drain water.</p> 
7E	Public unrest	No public unrest occurrence	Access road development	<p>a. Installing bridge or other facilities to be able to cross to the access road;</p> <p>b. Installing fences along access road to secure safety and to prevent accidents of people or livestock;</p> <p>c. Establishment of Grievance Redress Center /Fast</p>	<p>a. Identification of number of grievances raised due to access road operation activity;</p> <p>b. Identification by interview process using questionnaire (primary data)</p> <p>c. Identification of number people protest and</p>	<p>Implementation by DGST</p> <p>Based on the complaint form filled in by the residents. Residents complained about compensation for houses being cracked due to installation of piles, and relocation of residents and treatment to hospitals that must be funded by related parties. The data is in the grievance form obtained from DGST on February 15, 2019.</p>



				<p>Response Team to accommodate and respond to public unrest related to the Patimban Seaport Development Project;</p> <p>[CP3, CP4]</p>	<p>demonstrating against the project implementing representative office shall be achieved from related reports to local governments or to project implementing representative office (secondary data).</p> <p>d. Regarding to the information and data that need to be explored deeper, shall conducted in-depth interview with key informants, such as with local elderly representatives;</p> <p>e. Sample amount determined by purposive, based on research purposes and taken by characteristics known community.</p> <p>[DGST, CP4]</p>	<p>Implementation Package 4 Data gathered by February 6<sup>th</sup>2019</p> <ul style="list-style-type: none"> <li>● Installation of fence along road access.</li> </ul>  <ul style="list-style-type: none"> <li>● Accommodate citizen complaints</li> </ul>  <ul style="list-style-type: none"> <li>● Carry out remedial actions regarding citizen complaints</li> </ul> 
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Note: DGST ;Directorate General of Sea Transportation, Ministry of Transportation Republic of Indonesia

- CP1; Contractor of Package-1
- CP2; Contractor of Package-2
- CP3; Contractor of Package-3
- CP4; Contractor of Package-4

## Mitigation Measures

### Turbidity

Sampling Date 01 Jan 2019 - 31 Jan 2019

Parameter	Monitoring Points	Observed Value (Avg)	Observed		Standard	Number of times above std.	Number of observation
			Min	Max			
TSS (mg/L)	W12 (BG)	1,0	0,5	1,5	-	-	27
		1,2	0,6	4,1	-	-	27
	W1	1,5	0,6	3,7	BG +10	0	30
		1,9	0,7	4,7	BG +10	0	30
	W3	1,3	0,6	2,5	BG +10	0	31
		1,4	0,8	2,9	BG +10	0	31
	W5	1,0	0,5	2,9	BG +10	0	27
		1,1	0,6	2,9	BG +10	0	27
	W2	2,7	2,2	3,9	BG +10	0	5
		3,0	2,1	4,8	BG +10	0	5
	W4	2,1	1,9	2,3	BG +10	0	5
		2,1	1,6	2,6	BG +10	0	5
	W6	0,9	0,6	1,2	BG +10	0	5
		1,2	0,6	2,0	BG +10	0	4
	W7	0,5	0,5	0,5	BG +10	0	1
		0,8	0,8	0,8	BG +10	0	1
	W8	0,5	0,5	0,5	BG +10	0	1
		0,5	0,5	0,5	BG +10	0	1
	W9	0,8	0,7	0,8	BG +10	0	2
		0,8	0,6	1,0	BG +10	0	2
	W10	0,5	0,4	0,5	BG +10	0	2
		0,7	0,6	0,7	BG +10	0	2
	W11	4,2	2,6	7,0	BG +10	0	5
		4,5	3,1	6,6	BG +10	0	5

Note : Detail Monitoring Result is attached to annex

## Turbidity

Sampling Date 01 Feb 2019 - 27 Feb 2019

Parameter	Monitoring Points	Observed Value (Avg)	Observed		Standard	Number of times above std.	Number of observation
			Min	Max			
SS (mg/L)	W12 (BG)	0,8	0,37	1,67	-	-	25
		0,9	0,51	1,57	-	-	25
	W1	1,6	0,63	6,1	BG +10	0	25
		1,7	0,59	6,6	BG +10	0	25
	W3	0,8	0,46	1,48	BG +10	0	25
		1,0	0,51	1,9	BG +10	0	25
	W5	0,7	0,36	1,57	BG +10	0	25
		0,8	0,42	1,71	BG +10	0	25
	W2	3,6	2,78	5,04	BG +10	0	4
		3,3	2,0	5,51	BG +10	0	4
	W4	3,5	1,37	7,48	BG +10	0	4
		3,6	1,16	8,32	BG +10	0	4
	W6	0,7	0,47	0,95	BG +10	0	4
		0,9	0,49	1,13	BG +10	0	4
	W7	0,5	0,41	0,75	BG +10	0	4
		0,7	0,45	0,97	BG +10	0	4
	W8	0,5	0,39	0,62	BG +10	0	4
		0,8	0,53	1,07	BG +10	0	4
	W9	0,7	0,43	0,99	BG +10	0	4
		0,6	0,37	0,89	BG +10	0	4
	W10	0,5	0,20	0,70	BG +10	0	4
		0,8	0,59	1,23	BG +10	0	4
	W11	2,5	0,98	5,06	BG +10	0	4
		2,7	1,17	5,15	BG +10	0	4

Note : Detail Monitoring Result is attached to annex

**Water Quality**

**Sampling Date**

Nov 2018 - Jan 2019

Parameter	Layer	Unit	Baseline (Avg)	Observed Value (Avg)	Observed Value		Indonesian Std. (Harbor Water)	Japan Std. (reference)	Number of station above standard
					Min	Max			
Transparency	Surface	m	4,25	3,88	0,5	8	>3	-	Transparency on W1,W2,W4, and W11 are bellow Indonesian Std.
Temperature	Surface	°C	27,77	31,28	30,6	32,9	-	-	
	Bottom	°C	27,48	30,89	29,6	32,8	-	-	
Salinity	Surface	PSU	33	29,50	26	35	-	-	
	Bottom	PSU	33	29,08	25	31	-	-	
DO	Surface	mg/L	7,75	8,31	6,6	10,8	-	-	
	Bottom	mg/L	8	7,99	7,1	10,9	-	-	
Turbidity	Surface	NTU	22,12	6,59	2	29,5	-	-	
	Bottom	NTU	22,9	8,14	2,5	30,6	-	-	
pH	Surface	-	8,41	8,41	8,2	9,3	6.5 - 8.5	7.0 - 8.3	pH on W3,W6,W10, and W12 are above Japanese Std. pH on W8 is above Indonesian and Japanese Std.
	Bottom	-	8,42	8,34	8,3	8,4	6.5 - 8.5	7.0 - 8.3	pH on W4,W8,W9,W10 and W12 are above Japanese Std.
SS	Surface	mg/L	2,93	1,04	0,5	3,9	80	-	
	Bottom	mg/L	3,33	1,23	0,5	4	80	-	
Ammonia	Surface	mg/L	<0.02	<0.02	<0.02	<0.02	0,3	-	
Hydrogen Sulfide (H2S)	Surface	mg/L	<0.01	<0.01	<0.01	<0.01	0,03	-	
Total Hydrocarbon	Surface	mg/L	<1	<1	<1	<1	1	-	
Total Phenol Compound	Surface	mg/L	<0.01	<0.001	<0.001	<0.001	0,002	-	
MBAS	Surface	mg/L	<0.01	<0.01	<0.01	<0.01	1	-	
Oil & Fat	Surface	mg/L	<1	<1	<1	<1	5	-	
PCBs	Surface	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	0,01	Not Detected	
TBT	Surface	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	0,01	-	
Mercury (Hg)	Surface	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	0,003	0,0005	
Cadmium (Cd)	Surface	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0,01	0,003	
Copper (Cu)	Surface	mg/L	<0.005	<0.005	<0.005	<0.005	0,05	-	
Lead (Pb)	Surface	mg/L	<0.001	<0.001	<0.001	<0.001	0,05	0,01	
Zinc (Zn)	Surface	mg/L	<0.005	<0.005	<0.005	<0.005	0,1	-	
Total Coliform	Surface	MPN/100ml	6,67	2,58	<2	7	1	1	

Note: Water Quality (Physical, Chemical, Nutrients, Microbiology, Metals, & Organic) monitoring sampling by CP 1 has been conducted (scheduled on 1<sup>st</sup> week of March 2019). Laboratory data results are still under process.

## Sediment Quality

Sampling date: August-September 2018

Parameter	Unit	Baseline	Observed value	Observed value		Standard			Number of station above standard
		(Avg.)	(Avg.)	Min	Max	1 (ref)	2 (ref)	3 (Std)	
Moisture Content	%	56.8				-	-	-	
Density	g/cc	119.2				-	-	-	
Volatile	mg/l.	119.2				-	-	-	
Ash Content	%	91.4				-	-	-	
<b>Particle Size</b>						-	-	-	
Sand (1000-100µ)	%	4.8				-	-	-	
Fine Sand (50-100µ)	%	19.3				-	-	-	
Dust (2-50µ)	%	50.3				-	-	-	
Clay (0-2µ)	%	25.7				-	-	-	
TOC	%	3.2				-	-	-	
Mercury (Hg)	mg/Kg	<0.05				0.15	0.13	0.7	
Arsenic (As)	mg/Kg	1.5				20	7.24	41.6	
Cadmium (Cd)	mg/Kg	1.9				1.5	0.7	4.2	
Chromium (Cr)	mg/Kg	18.8				80	52.3	160	
Copper (Cu)	mg/Kg	3.0				65	18.7	108	
Nickel (Ni)	mg/Kg	11.8				21	-	-	
Zinc (Zn)	mg/Kg	54.8				200	124	271	
Lead (Pb)	mg/Kg	64.9				50	30.2	112	

1.National Assessment Guidelines for Dredging 2009. Australian Government. Screening Level

2.Canadian Sediment Quality Guidelines (SQG) for the Protection of Aquatic Li fe (Can adian Council o fMinister o fthe Environment/ CCME). ISQG: Interim marine sediment quality guideline,

3.Canadian Sediment Quality Guidelines (SQG) for the Protection of Aquatic Li fe (Can adian Council o fMinister o fthe Environment/ CCME) PEL: Probable Effect Level.

Note: Detail monitoring result is attached in Annex

Note: Next Sediment Quality monitoring sampling by CP 1 scheduled on 1<sup>st</sup> week of September 2019

**Total fish and crustacean captures, species richness, and catch-per-unit-effort at each site, February 2019.**

Species	Local Name	Total Abundance						Catch-Per-Unit-Effort (CPUE)							
		N1	N2	N3	N4	N5	N6	Total	N1	N2	N3	N4	N5	N6	Total
<b>Fish</b>															
<i>Leiognathus equulus</i>	Petek	-	3	-	-	-	7	10	0.00	0.20	0.00	0.00	0.00	0.00	0.67
<i>Saurida tumbil</i>	Balak	-	-	1	-	-	-	1	0.00	0.00	0.07	0.00	0.00	0.00	0.07
<b>Crustacean</b>															
<i>Portunus pelagicus</i>	Rajungan	1	1	1	-	-	-	3	0.07	0.07	0.07	0.00	0.00	0.00	0.20
<b>Total</b>		1	4	2	0	0	7	14	0.07	0.27	0.13	0.00	0.00	0.47	0.93
<b>Species Richness</b>		1	2	2	0	0	1	3	-	-	-	-	-	-	-
<b>Soak time (hour)</b>		0.50	0.50	0.50	0.50	0.50	0.50	0.50	-	-	-	-	-	-	-
<b>Net Length (m)</b>		30	30	30	30	30	30	30	-	-	-	-	-	-	-
<b>Baseline</b>		12	13	10	35	10	102	182	0.63	1.00	0.65	2.27	0.51	3.22	8.28

<sup>1</sup> CPUE = abundance / soak time / net length

**Turbidity monitoring at each site, February 2019.**

Site	Turbidity
N1	10.6
N2	1.41
N3	2.24
N4	20.5
N5	9.77
N6	3.09



Interview with the Fishermen around TPI



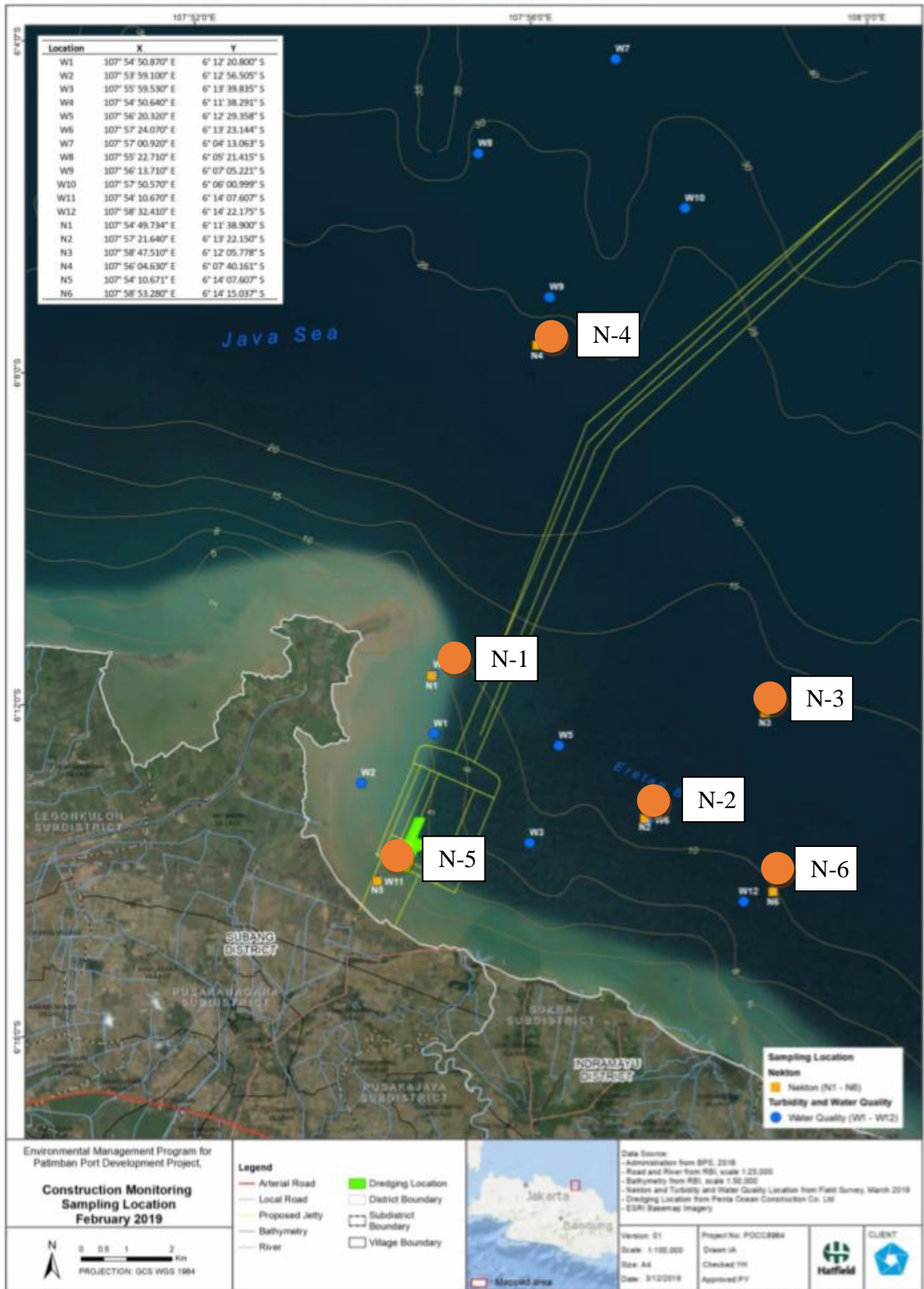
Vessel Condition



Condition in TPI



Figure Survey area for the Patimban Port construction monitoring.



**Selection of fish and crustacean species captured during the nekton surveys.**



*Leionathus equulus*



*Saurida tumbil*



*Portunus pelagicus*



*Portunus pelagicus*

Figure : Selection of fish, crustacean and mollusk species captured during the nekton surveys.

**Fishery Production**

Sampling date: August 2018

Species Scientific name/English name	Local Name	Average Fish Catch (kg/day)						
		Baseline			Monitoring			
		TPI Truntun & Kali Genleng	Galian Area	Total	T PI	T PI	T PI	Total
Aceles sp.	Rebon	87	0	87				
Atherina forskalii	Rucah	125	0	125				
Caesio cuning	Ekor kuning	3	0	3				
Chama striata	Gabus	0	7.5	7.5				
Dasyatis sp.	Pari	3	0	3				
Engraulidae sp.	Bilis	11	0	11				
Engraulis sp.	Teri	10	0	10				
Euthynnus affinis	Tongkol	3	0	3				
Filimachus hexanema	Kurau	3	10.5	13.5				
Lates calcarifer	Kakap putih	3	0	3				
Leiognathus equulus	Pelek	131	0	131				
Lilopenaeus vannamei	Udang vannamei	5	17.5	22.5				
Loligo sp.	Cumi-cumi	54	0	54				
Lutjanus campechanus	Kakap Merah	3	23.5	26.5				
Metapenaeus monoceros	Udang Api	0	803	803				
Monopterus albus	Belut	0	4.5	4.5				
Moolgarda sebelli	Blamak	7	100	107				
Nemipterus japonicus	Kurisi	3	0	3				
Otolithes ruber	Tiga waja	32	0	32				
Penaeus merguensis	Udang rempah	6	60	66				
Penaeus monodon	Udang windu	0	7	7				
Scomberomorus sp.	Tenggiri	6	2	8				
Upeneus moluccensis	Kumiran	8	0	8				
Rastrelliger sp.	Kembung	8	0	8				
<b>Total</b>		<b>511</b>	<b>1035.5</b>	<b>1546.5</b>				

Note: Detail monitoring result is attached in Annex

Note: Nekton monitoring sampling by CP 1 scheduled on 1<sup>st</sup> week of February 2019, but due to poor weather the sampling will be carry out in (15-18 Feb)

**Air Quality**

Sampling date: 10/29/2018

Parameter	Unit	Baseline (Avg)			Observed value			Indonesian Std.	Japan Std. (reference)	Number of station above standard
		STA0	STA2700	STA7000	STA0	STA2700	STA7000			
Air Temperature	°C	33	37	34				-	-	
Humidity	%	84	49	40				-	-	
SPM	µg/Nm3	26.3	13	51.3				230	200	
PM10	µg/Nm3	0.52	0.91	3.57				150	-	
NO2	µg/Nm3	8.75	4.48	15.8				150	82	
SO2	µg/Nm3	<0.7581	4.48	<0.7581				365	114	
CO	µg/Nm3	3867.2	2922.3	478.2				10,000	12,500	
Wind Direction	degree	West	West	West				-	-	
Wind Speed	m/s	1.22-2.2	0.1-1.1	2.7-3.2				-	-	

Note: Detail monitoring result is attached in Annex

**Noise**

Sampling date: 10/29/2018

Parameter	Unit	Baseline (Avg)			Observed value			Indonesian Std.	Japan Std. (reference)	Number of station above standard
		STA0	STA2700	STA7000	STA0	STA2700	STA7000			
Noise Level	dBA	79.2	60.1	50.0				70	Day: 60 Night: 50 Construction Work: 80	

Note: Detail monitoring result is attached in Annex

Note: Next Noise and Air Quality measurements scheduled for April 2019.

**Surface Water Quality****Sampling Date**

05 Nov 2018 - 26 Dec 2018

**TSS (mg/L)**

Date	STA 0	STA 2700	STA 7000	Standard (Class III)	No of station above standard
22/10/2018 (Baseline)	12.2	11.6	385.8	400	-
5/11/2018	7.5	7.6	8	400	0
13/11/2018	11.6	7.1	5.4	400	0
19/11/2018	4.8	8.8	40.9	400	0
26/11/2018	43.6	14.4	12.3	400	0
3/12/2018	23.6	15.5	9.5	400	0
10/12/2018	49.2	8.6	7.7	400	0
17/12/2018	161.6	21.3	57.1	400	0
26/12/2018	300.3	35.2	26.3	400	0
2/1/2019	158.4	28.3	32.5	400	0
7/1/2019	134.5	19.3	198.1	400	0
14/1/2019	252	19.4	40	400	0
21/01/2019	277.9	5	50.9	400	0
28/01/2019	145.1	393.3	18.4	400	0

**Turbidity (NTU)**

Date	STA 0	STA 2700	STA 7000	Standard (Class III)	No of station above standard
22/10/2018 (Baseline)	348	20	715	5	3
5/11/2018	63	25	41	5	3
13/11/2018	188	48	31	5	3
19/11/2018	207	17	48	5	3
26/11/2018	217	11	71	5	3
3/12/2018	474	34	79	5	3
10/12/2018	431	23	49	5	3
17/12/2018	156	54	34	5	3
26/12/2018	476	24	37	5	3
2/1/2019	134	21	26	5	3
7/1/2019	127	9	240	5	3
14/1/2019	282	18	32	5	3
21/01/2019	352	13	79	5	3
28/01/2019	1273	27	195	5	3

**Surface Water Quality****Sampling Date**

05 Nov 2018 - 26 Dec 2018

**TSS (mg/L)**

Date	STA 0	STA 2700	STA 7000	Standard (Class III)	No of station above standard
22/10/2018 (Baseline)	12,2	11,6	385,8	400	-
11/05/2018	7,5	7,6	8	400	0
13/11/2018	11,6	7,1	5,4	400	0
19/11/2018	4,8	8,8	40,9	400	0
26/11/2018	43,6	14,4	12,3	400	0
12/03/2018	23,6	15,5	9,5	400	0
12/10/2018	49,2	8,6	7,7	400	0
17/12/2018	161,6	21,3	57,1	400	0
26/12/2018	300,3	35,2	26,3	400	0
01/02/2019	158,4	28,3	32,5	400	0
01/07/2019	134,5	19,3	198,1	400	0
14/1/2019	252	19,4	40	400	0
21/01/2019	277,9	5	50,9	400	0
28/01/2019	145,1	393,3	18,4	400	0

**Turbidity (NTU)**

Date	STA 0	STA 2700	STA 7000	Standard (Class III)	No of station above standard
22/10/2018 (Baseline)	348	20	715	5	3
11/05/2018	63	25	41	5	3
13/11/2018	188	48	31	5	3
19/11/2018	207	17	48	5	3
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01/07/2019	127	9	240	5	3
14/1/2019	282	18	32	5	3
21/01/2019	352	13	79	5	3
28/01/2019	1273	27	195	5	3

**Surface Water Quality****Sampling Date**

05 Nov 2018 - 26 Dec 2018

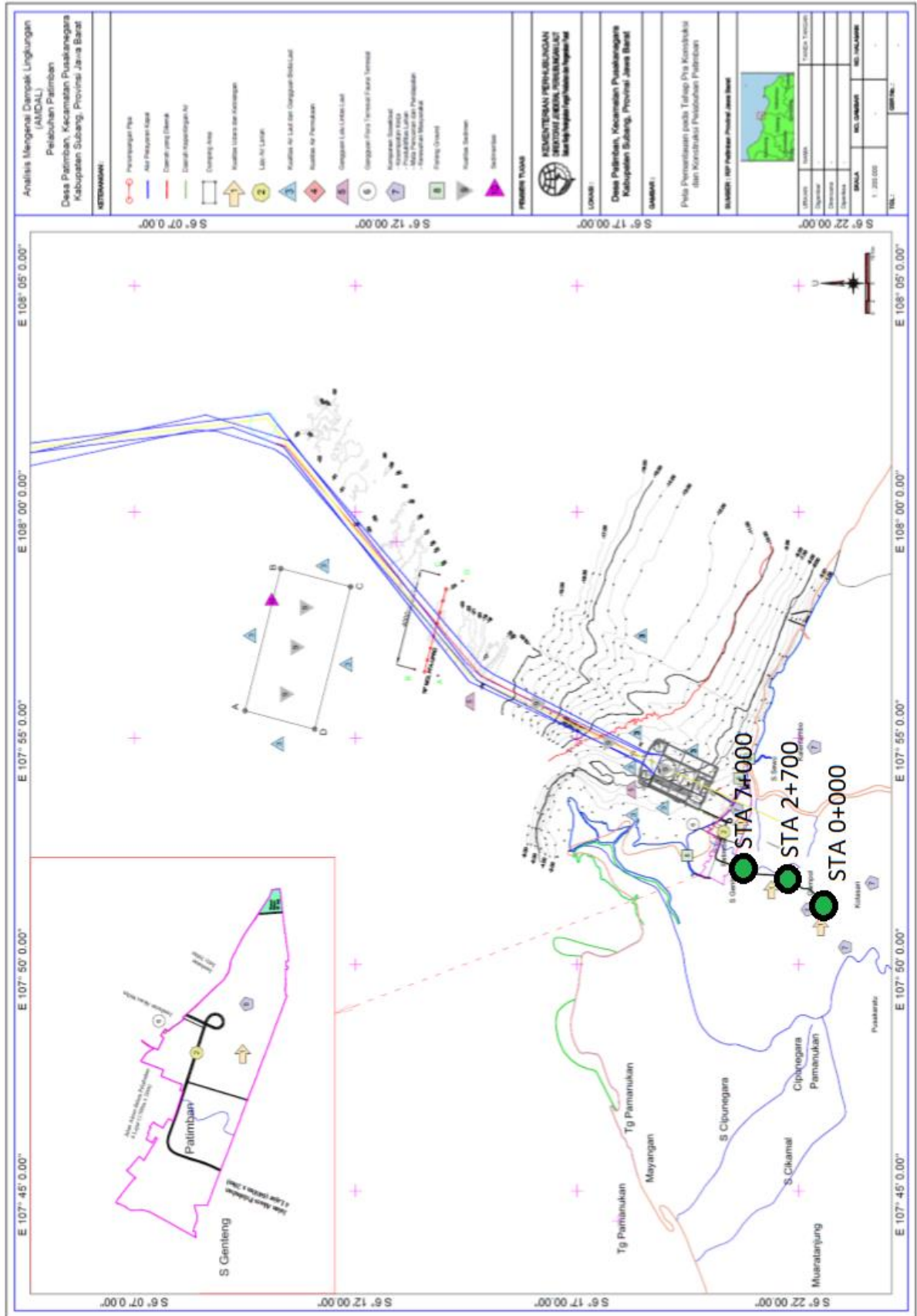
**TSS (mg/L)**

Date	STA 0	STA 2700	STA 7000	Standard (Class III)	No of station above standard
22/10/2018 (Baseline)	12.2	11.6	385.8	400	-
5/11/2018	7.5	7.6	8	400	0
13/11/2018	11.6	7.1	5.4	400	0
19/11/2018	4.8	8.8	40.9	400	0
26/11/2018	43.6	14.4	12.3	400	0
3/12/2018	23.6	15.5	9.5	400	0
10/12/2018	49.2	8.6	7.7	400	0
17/12/2018	161.6	21.3	57.1	400	0
26/12/2018	300.3	35.2	26.3	400	0
2/1/2019	158.4	28.3	32.5	400	0
7/1/2019	134.5	19.3	198.1	400	0
14/1/2019	252	19.4	40	400	0
21/01/2019	277.9	5	50.9	400	0
28/01/2019	145.1	393.3	18.4	400	0

**Turbidity (NTU)**

Date	STA 0	STA 2700	STA 7000	Standard (Class III)	No of station above standard
22/10/2018 (Baseline)	348	20	715	5	3
5/11/2018	63	25	41	5	3
13/11/2018	188	48	31	5	3
19/11/2018	207	17	48	5	3
26/11/2018	217	11	71	5	3
3/12/2018	474	34	79	5	3
10/12/2018	431	23	49	5	3
17/12/2018	156	54	34	5	3
26/12/2018	476	24	37	5	3
2/1/2019	134	21	26	5	3
7/1/2019	127	9	240	5	3
14/1/2019	282	18	32	5	3
21/01/2019	352	13	79	5	3
28/01/2019	1273	27	195	5	3





Peta Pemantauan Tahap Pra Konstruksi dan Konstruksi Pelaluan Patimban

Note : Measurement points of TSS surface water quality

### The Measurements of Total Suspended Solid

No	Date	Parameter	Hasil pada 3 Titik			Standard
			STA 0	STA 2700	STA 7000	
Baseline 1	22/10/2018	TSS	12,2	11,6	385,8	400
1	04/02/2019	TSS	563,4	27,6	99,1	400
2	11/02/2019	TSS	539,7	41,5	447,5	400
3	18/02/2019	TSS	496,2	43,2	39,4	400
4	25/02/2019	TSS	300,4	107,3	63,9	400

### The Measurements of Turbidity

No	Date	Parameter	Hasil pada 3 Titik			Standard
			STA 0	STA 2700	STA 7000	
Baseline 1	22/10/2018	Turbidity	348	20	715	5
1	04/02/2019	Turbidity	1030	57	80	5
2	11/02/2019	Turbidity	1478	43	1180	5
3	18/02/2019	Turbidity	581	30	45	5
4	25/02/2019	Turbidity	353	148	88	5

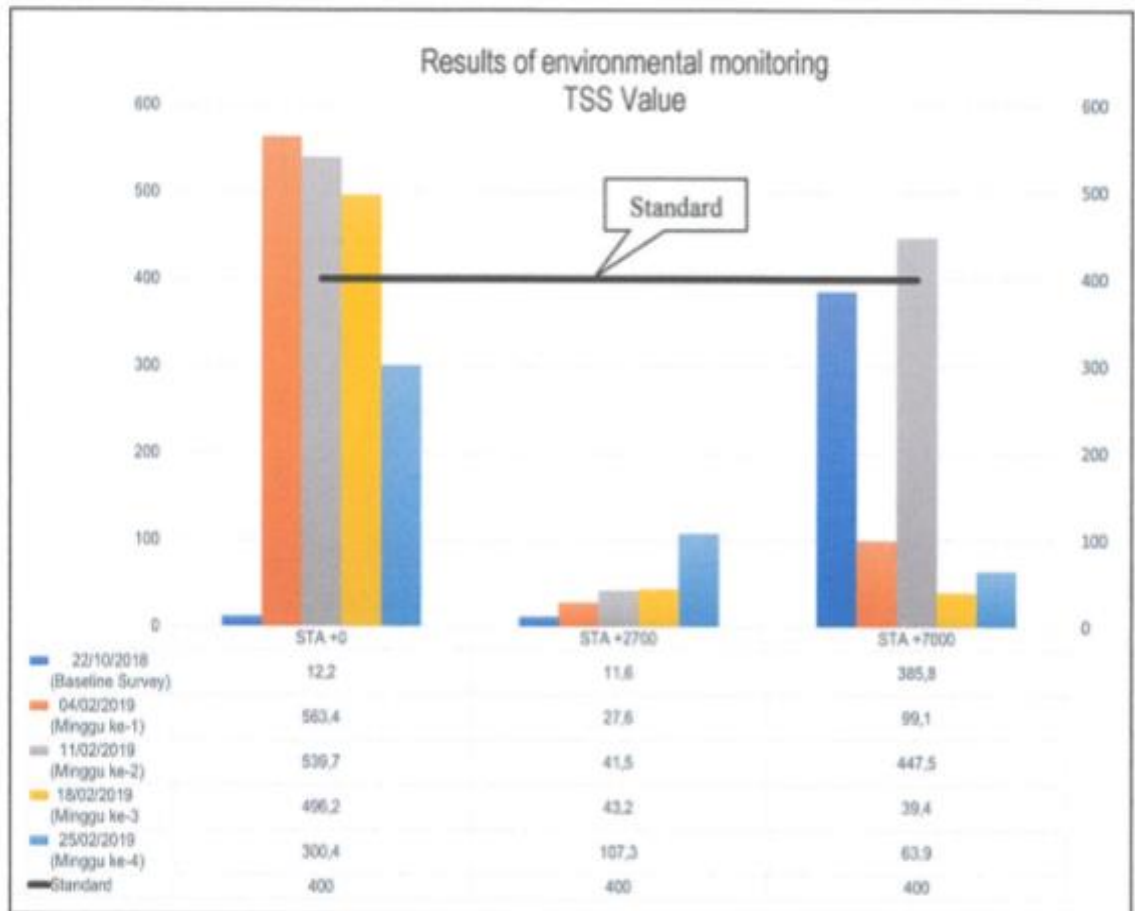


Figure. Result of Measurements of Total Suspended Solid



TSS Value at some monitoring points exceed the threshold due to high rainfall throughout the month. Run-off water originating from outside the project area adds and affects the quality of surface water throughout the project, especially the level of Total Suspended Solid (TSS). Monitoring points at STA 0+000 and STA 7+000 tend to increase TSS values which are high because other run-off water sources are obtained from outside the area throughout the project.

Whereas the monitoring point of STA 2+700 which is located very close to project activities has a TSS value that is far below the specified quality standard. This indicates that project activities have a small erosion effect on existing surface water.

### Progress of Compensation Payment and Land Vacation

Village Items	Patimban	Gempol	Kalentambo	Kotasari	Pusakajaya	Pusakaratu
Number of households with completion of payment	117 Households	58 Households	21 Households	11 Households	0 Households	14 Households
Percentage of completion (%)	27%	79 %	90 %	61 %	0 %	70 %
Number of affected households to be paid	308 of affected household	9 of affected household	1 of affected household	7 of affected household	0 of affected household	6 of affected household
Number of vacated plots	117 Plots	58 Plots	21 Plots	11 Plots	0 Plots	14 Plots
Percentage of completion (%)	24 %	77%	90 %	58 %	0 %	54 %
Number of plots to be vacated	485 Plots	75 Plots	24 plots	19 Plots	1 Plots	26 Plots

### Number of Local worker Terminal Construction

No	Location (Village)	Monitoring Period			Total
		2018		2019	
		Nov	Dec	Jan	
1	Patimban	49	23	-	72
2	Gempol	9	1	-	10
3	Kalentambo	4	1	-	5
4	Kotasari	2	0	-	2
5	Pusakaratu	6	3	-	9
6	Pusakaraya	0	0	-	0
<b>TOTAL</b>		<b>70</b>	<b>28</b>	<b>-</b>	<b>98</b>

### Number of local Workers for Access Road

No	Location (Village)	Monitoring Period				Total
		2018			2019	
		Oct	Nov	Dec	Jan	
1	Patimban	-	-	-	-	-
2	Gempol	2	8	3	10	23
3	Kalentambo	1	8	-	2	11
4	Kotasari	4	13	7	5	29
5	Pusakaratu	1	13	5	6	25
6	Pusakajaya	-	-	-	-	-
<b>Total</b>		<b>8</b>	<b>42</b>	<b>15</b>	<b>23</b>	<b>88</b>

### Land Traffic Condition and Accident Number

No	Location	Monitoring Period						Total	
		Nov 2018		Dec 2018		Jan 2019		TJ	AN
		TJ	AN	TJ	AN	TJ	AN		
1	Pantura road	0	*	0	*	0	*	0	*
2	Patimban seaport access road	0	*	0	*	0	*	0	*
3	Crossing of Pantura road	0	*	0	*	0	*	0	*
4	Crossing of Patimban seaport access road	0	*	0	*	0	*	0	*

Note:

TJ : Traffic Jam      AN : Accident Number      (\*): No Record

### Sea Traffic Condition and Identifying Accident Number

No	Location	Monitoring period			Total
		Nov 2018	Dec 2018	Jan 2019	
1	Pilling barge	1	1	-	2
2	Anchor boat	1	1	-	2
3	CDM Vessel	3	-	-	3
4	Semi-submersible vessel	-	1	-	1
5	Pneumatic conveying barge	-	1	-	1
6	Cement supply vessel	-	1	-	1
7	Improved soil placing barge	-	1	-	1
8	Cement transportation vessel	1	1	-	2
9	Cement feeder carrier	1	1	-	2
10	Grab dredger	1	2	-	3
11	Hopper barge	2	2	-	4
12	Flat barge	1	1	-	2
13	Crane barge	2	-	-	2
14	Tug boat	5	-	-	5
15	Crew boat	4	-	-	4
16	Work boat	2	-	-	2
<b>Total</b>		<b>24</b>	<b>13</b>	<b>-</b>	<b>37</b>

### Sea Traffic Condition and Accident Number

No	Location	Monitoring period						Total	
		Nov 2018		Dec 2018		Jan 2019			
		STC	AN	STC	AN	STC	AN	STC	AN
1	Patimban Beach	Smooth	0	Smooth	0	Smooth	0	Smooth	0

Note:

STC : Sea traffic condition      AN : Accident Number

### Public Unrest

No	Location	Monitoring Period									Total		
		Nov 2018			Dec 2018			Jan 2019					
		KM	P	D	KM	P	D	KM	P	D	KM	P	D
1	Around Patimban port development project	0	0	0	0	0	0	0	0	0	0	0	0

Note:

PUN : Public Unrest      PRO : Protest      DEM : Demonstration

### Grievance Redress

Date of grievance received	Dated of grievance resolved	Solution/unresolved issues	Note (if any)
21 <sup>th</sup> June 2018	14 <sup>th</sup> January 2019	Verification data for clarification and Ombudsman state that process administration land acquisition of Patimban Port is not found maladministration	Demonstration household about no price increase in appraisal report for compensation of payment (Paguyuban Tani Berkah)

### Implementation Problems and Solutions (if any)

Record of problems		Record of solutions	
Date	Problems	Date	Solutions
17 <sup>th</sup> January 2018	Correction of errors in land area protest.	28 <sup>th</sup> August 2018.	Correction of errors in land area.
17 <sup>th</sup> January 2018	Correction of household identity errors protest.	28 <sup>th</sup> August 2018.	Correction of household identity errors protest.
15 to 16 <sup>th</sup> February 2019	<ul style="list-style-type: none"> <li>• Compensation due to fishing activity restricted;</li> <li>• Livelihood restoration program based on current activity;</li> <li>• Supporting for the development in village especially for the road construction and healthy campaign;</li> <li>• Lack of coordination to the local government regarding to workforce.</li> </ul>	18 <sup>th</sup> February 2019.	Mitigation to reduce the public unrest that initiator has planned various program to help improve the households economic activity, include soft skill training.

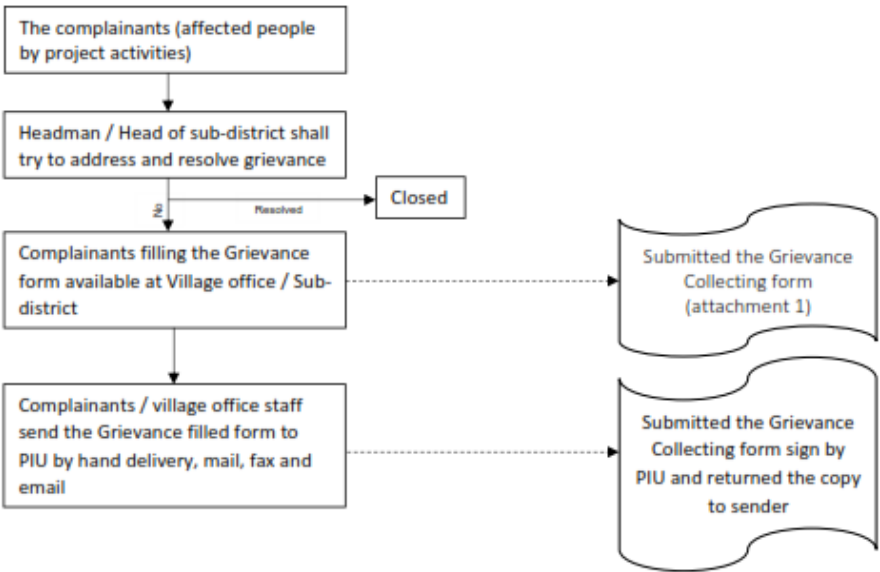
Form of complaint from the public regarding road access.

PROVINSI JAWA BARAT KABUPATEN SUBANG 3213206310660001 H/121 HASANAH HASANAH RT/RW 010/003 DESA KOTASARI KECAMATAN KOTASARI KABUPATEN SUBANG 41361 NISWANGI 23 10 1960 (Grafik)	Lampiran-1
Nomor Seri (Penggunaan Resmi):	
han Proyek Pembangunan Pelabuhan Patimban RJA PEMBANGUNAN PELABUHAN PATIMBAN AT JENDERAL PERHUBUNGAN LAUT, Merdeka Barat No.8 Jakarta - 10110 84963 erpatimban@gmail.com	
Informasi Pemohon:	
Nama: Hj. Sri Hasanah	KTP:
Desa: Kotasari RT/Rw: 010/003	HP: 08121423107
Latar belakang dan masalah	
Persoalan: <input type="checkbox"/> Aset yang Terkena Dampak <input type="checkbox"/> Kompensasi <input type="checkbox"/> Program Pemulihan Mata Pencanharian <input checked="" type="checkbox"/> Pekerjaan Konstruksi <input type="checkbox"/> Lain-lain ( )	
Dengan adanya pembangunan proyek pelabuhan patimban ini, ada beberapa dampak yang kami alami, antara lain, polusi suara, getaran yang terjadi mengakibatkan retakan dibebberapa bagian dirumah kami, retakan yang terjadi selebar ± 0.2 mm - 2.5 cm. Selain itu dengan adanya proyek pembangunan ini membuat ausa le rumah kami sulit karena jalan berisau, serta debu-debu yang betebaran lebih banyak dari pada biasanya.	
Permintaan/Saran/Pertanyaan	
Permintaan kami terkait keluhan dan masalah diatas yaitu berupa ganti rugi berupa material untuk memperbaiki rumah kami, selain itu kami mohon untuk dapat memperbaiki ausa le jalat menage rumah kami, serta penanaman pohon agar udara kembali bersih terkemash.	
Tanggal Penginjan:	Tanggal Pengakuan:
Nama Pemohon: Hj. Sri Hasanah	Saksi*:
Tandatangan:	Tandatangan:
	Nama Penerima:
	Tandatangan:

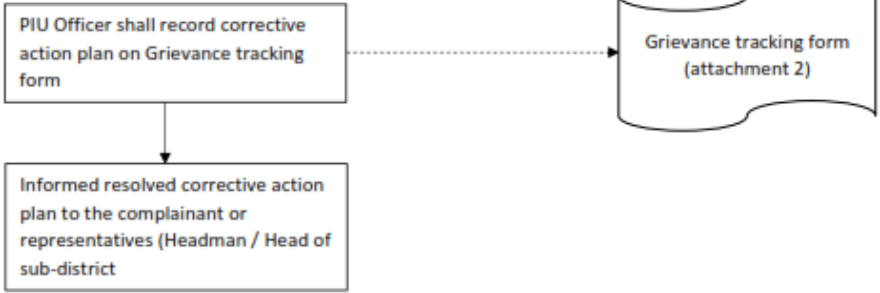
\* Camat atau Kepala Desa sebagai saksi

# Grievance Redress Procedure for Patimban Port Development Project

## Grievance submission by complainants



## Complaint Handling Record



## Corrective Action Publication



Lampiran-1

Nomor Seri (*Penggunaan Resmi*):

**Formulir Pengumpulan Keluhan Proyek Pembangunan Pelabuhan Patimban**



SATUAN KERJA PEMBANGUNAN PELABUHAN PATIMBAN  
DIREKTORAT JENDERAL PERHUBUNGAN LAUT,  
JL. Medan Merdeka Barat No.8 Jakarta - 10110  
FAX: 021 384963  
Email : [pelayananpatimban@yahoo.com](mailto:pelayananpatimban@yahoo.com)

Informasi Pemohon

Nama:	KTP:
Desa:	HP:


Latar belakang dan masalah

Persoalan: Aset yang Terkena Dampak Kompensasi Program Pemulihan Mata Pencaharian  
Pekerjaan Konstruksi Lain-lain ( )

Permintaan/Saran/Pertanyaan

Tanggal Pengiriman: _____		Tanggal Pengakuan: _____
Nama Pemohon: _____	Saksi*: _____	Nama Penerima: _____
Tandatangan: _____	Tandatangan: _____	Tandatangan: _____

\* Camat atau Kepala Desa sebagai saksi

		<b>Formulir Pelacakan Pengaduan Proyek Pembangunan Pelabuhan Patimban</b>		Nomor Seri:	
Informasi Keluhan					
Nama Pengadu:			Desa:		
Ringkasan Pengaduan:					
Catatan Penanganan Pengaduan					
Hari	Tindakan yang diambil untuk menyelesaikan keluhan (investigasi dll)	Hasil /tindakan lebih lanjut yang harus dilakukan	Orang yang bertanggung-jawab		
	Menerima Keluhan melalui _____				
Solusi akhir					
Tanggal	Solusi	Laporan Keluhan	Publikasi dan Solusi		Orang yang bertanggung-jawab
		Tanggal Laporan: _____ Metode: <input type="checkbox"/> Bicara langsung <input type="checkbox"/> Melalui kepala desa / camat <input type="checkbox"/> Lain-lain ( )	Tanggal Publikasi: _____ Metode: <input type="checkbox"/> Papan Desa <input type="checkbox"/> Others ( )		

Nomor Seri:

**Hasil Publikasi Penanganan Keluhan untuk  
Proyek Pembangunan Pelabuhan Patimban**



SATUAN KERJA PEMBANGUNAN PELABUHAN PATIMBAN  
DIREKTORAT JENDERAL PERHUBUNGAN LAUT,  
JL. Medan Merdeka Barat No.8 Jakarta - 10110  
FAX: 021 384963  
Email: [pelayananpatimban@yahoo.com](mailto:pelayananpatimban@yahoo.com)

## Informasi Pemohon

Nama:	Desa:
Tanggal Pengajuan:	

## Ringkasan Keluhan

## Respon/Solusi/Hasil Investigasi

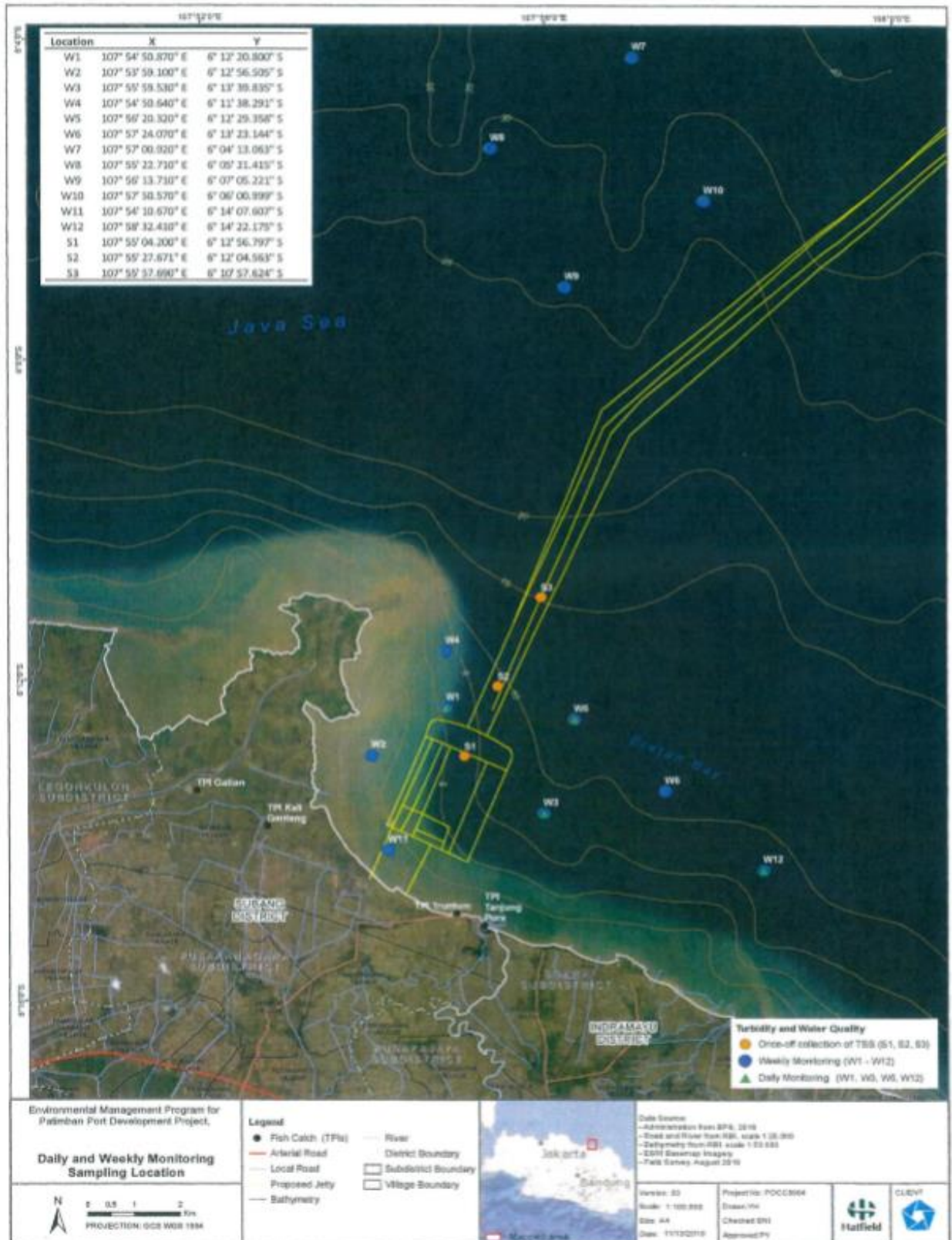
Tanggal Publikasi:

Nama Orang yang Bertanggung-Jawab: \_\_\_\_\_

 Tandatangan: \_\_\_\_\_  
 \_\_\_\_\_



## Turbidity - TSS Points Sampling & Laboratory data results





# HATFIELD CONSULTANTS - WEEK 6 ENVIRONMENTAL MONITORING REPORT

PROJECT NAME	Palmaban Port Construction Monitoring During Dredging Works		REPORT DATE	3-Jan-2019
PERMIT NUMBER	POCC8964	HATFIELD TECHNICIAN/S	TURBIDITY METER NO.	
		Fazri Fadhilah and Adam Hqmatullah	HACH 2100Q Serial Number: 2.11.001	

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG (WEEK 6)

Site ID	Level	Baseline Turbidity (NTU)	In situ Turbidity (NTU)							TSS <sup>1</sup> (mg/L)	Predicted TSS <sup>2</sup> (mg/L)							Comments
			28-Dec	29-Dec	30-Dec	31-Dec	1-Jan	2-Jan	3-Jan		28-Dec	29-Dec	30-Dec	31-Dec	1-Jan	2-Jan	3-Jan	
W12	Surface	3.39	1.85	2.65	5.53	5.53	5.13	5.94	1	0.5	0.6	0.9	0.9	0.9	1.0	Reference site		
	Bottom	2.71	3.68	5.03	6.59	4.92	5.39	1	0.7	0.8	1.0	0.8	0.9	0.9				
W1	Surface	21.7	3.35	6.86	15.10	24.50	18.50	8.46	1.3	0.6	1.1	2.1	3.3	2.5	1.3			
	Bottom	28.3	3.16	8.40	13.80	21.50	16.10	7.86	2	0.6	1.3	1.9	2.9	2.2	1.2			
W3	Surface	5.16	3.54	4.75	6.01	16.60	12.20	7.87	1	0.7	0.9	1.0	2.3	1.7	1.2			
	Bottom	3.54	3.57	6.32	6.82	11.90	12.10	6.72	1	0.7	1.0	1.1	1.7	1.7	1.1			
W5	Surface	1.91	2.51	6.31	9.35	10.80	7.75	7.75	1	0.5	1.0	1.4	-	1.6	1.2			
	Bottom	4.94	2.94	8.40	8.01	10.10	7.45	7.45	1	0.6	1.3	1.2	-	1.5	1.1			
W2	Surface	86	-	-	-	-	17.70	-	9	-	-	-	-	2.1	-			
	Bottom	84.3	-	-	-	-	15.00	-	12	-	-	-	-	2.1	-			
W4	Surface	39.1	-	-	-	-	15.60	-	3.3	-	-	-	-	2.2	-			
	Bottom	43.7	-	-	-	-	13.40	-	3.3	-	-	-	-	1.9	-			
W6	Surface	0.61	-	-	-	-	7.63	-	0.5	-	-	-	-	1.2	-			
	Bottom	1.9	-	-	-	-	6.50	-	0.5	-	-	-	-	1.0	-			
W7	Surface	1.28	-	-	-	-	-	-	0.5	-	-	-	-	-	-			
	Bottom	1.29	-	-	-	-	-	-	0.5	-	-	-	-	-	-			
W8	Surface	2.92	-	-	-	-	-	-	0.5	-	-	-	-	-	-			
	Bottom	2.01	-	-	-	-	-	-	0.5	-	-	-	-	-	-			
W9	Surface	8.36	-	-	-	-	-	-	1.3	-	-	-	-	-	-			
	Bottom	3.01	-	-	-	-	-	-	1.3	-	-	-	-	-	-			
W10	Surface	2.37	-	-	-	-	-	-	1.3	-	-	-	-	-	-			
	Bottom	1.04	-	-	-	-	-	-	1.3	-	-	-	-	-	-			
W11	Surface	92.5	-	-	-	-	55.00	-	1.3	-	-	-	-	7.0	-			
	Bottom	98.1	-	-	-	-	51.50	-	1.4	-	-	-	-	6.6	-			

1: Note, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.  
 2: Highlighted TSS values: Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L

# HATFIELD CONSULTANTS - WEEK 7 ENVIRONMENTAL MONITORING REPORT



PROJECT NAME	Patimban Port Construction Monitoring During Dredging Works	REPORT DATE	10-Jan-2019
PERMIT NUMBER	POCC8964	HATFIELD TECHNICIANS	Adam Hqmatullah
		TURBIDITY METER NO.	HACH 2100Q Serial Number: 2.11.001

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG

Site ID	Level	Baseline Turbidity (NTU)	In situ Turbidity (NTU)							Baseline TSS <sup>1</sup> (mg/L)	Predicted TSS <sup>2</sup> (mg/L)							Comments
			4-Jan	5-Jan	6-Jan	7-Jan	8-Jan	9-Jan	10-Jan		4-Jan	5-Jan	6-Jan	7-Jan	8-Jan	9-Jan	10-Jan	
W12	Surface	3.39	4.46	6.67	10.30	3.33	5.45	2.99	3.48	1	0.8	1.0	1.5	0.6	0.9	0.6	0.7	Reference site
	Bottom	2.71	3.90	7.04	5.53	3.63	5.93	2.99	4.24	1	0.7	1.1	0.9	0.7	1.0	0.6	0.7	
W1	Surface	21.7	6.51	3.40	2.75	4.21	3.02	10.30	3.90	1.3	1.0	0.6	0.6	0.7	0.6	1.5	0.7	
	Bottom	28.3	5.14	4.00	4.45	7.31	4.93	10.50	5.08	2	0.9	0.7	0.6	1.1	0.8	1.5	0.9	
W3	Surface	5.16	9.60	3.35	4.62	5.91	5.20	3.64	5.98	1	1.4	0.6	0.6	1.0	0.9	0.7	1.0	
	Bottom	3.54	7.80	8.43	4.86	5.44	4.39	4.76	7.03	1	1.2	1.3	0.8	0.9	0.8	0.8	1.1	
W5	Surface	1.91	5.06	3.29	4.15	2.41	3.15	3.82	3.26	1	0.8	0.6	0.7	0.5	0.6	0.7	0.6	
	Bottom	4.94	3.85	3.83	3.57	3.37	4.76	3.95	3.39	1	0.7	0.7	0.7	0.6	0.8	0.7	0.6	
W2	Surface	86	-	-	-	-	-	16.20	-	9	-	-	-	-	-	2.2	-	
	Bottom	84.3	-	-	-	-	-	17.00	-	12	-	-	-	-	-	2.3	-	
W4	Surface	39.1	-	-	-	-	-	14.20	-	3.3	-	-	-	-	-	2.0	-	
	Bottom	43.7	-	-	-	-	-	14.50	-	3.3	-	-	-	-	-	2.0	-	
W6	Surface	0.61	-	-	-	-	-	3.15	-	0.5	-	-	-	-	-	0.6	-	
	Bottom	4.19	-	-	-	-	-	3.05	-	0.5	-	-	-	-	-	0.6	-	
W7	Surface	1.28	-	-	-	-	-	2.23	-	0.5	-	-	-	-	-	0.5	-	
	Bottom	1.29	-	-	-	-	-	4.92	-	0.5	-	-	-	-	-	0.8	-	
W8	Surface	2.92	-	-	-	-	-	2.15	-	0.5	-	-	-	-	-	0.5	-	
	Bottom	2.01	-	-	-	-	-	2.50	-	0.5	-	-	-	-	-	0.5	-	
W9	Surface	8.36	-	-	-	-	-	4.94	-	1.3	-	-	-	-	-	0.8	-	
	Bottom	3.01	-	-	-	-	-	3.24	-	1.3	-	-	-	-	-	0.6	-	
W10	Surface	2.37	-	-	-	-	-	2.06	-	1.3	-	-	-	-	-	0.5	-	
	Bottom	1.04	-	-	-	-	-	3.40	-	1.3	-	-	-	-	-	0.6	-	
W11	Surface	92.5	-	-	-	-	-	24.80	-	13	-	-	-	-	-	3.3	-	
	Bottom	98.10	-	-	-	-	-	28.10	-	14	-	-	-	-	-	3.7	-	

1: Note, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.  
 2: Highlighted TSS values: Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L



# HATFIELD CONSULTANTS - WEEK 8 ENVIRONMENTAL MONITORING REPORT

PROJECT NAME	Patimban Port Construction Monitoring During Dredging Works	REPORT DATE	18-Jan-2019
PERMIT NUMBER	POCC8964	HATFIELD TECHNICIAN	Adam Hqmatullah
		TURBIDITY METER NO.	HACH 2100Q Serial Number: 2.11.001

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG

Site ID	Level	Baseline Turbidity (NTU)	In situ Turbidity (NTU)									TSS <sup>1</sup> (mg/L)	Predicted TSS <sup>2</sup> (mg/L)							Comments
			11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	11-Jan	12-Jan		13-Jan	14-Jan	15-Jan	16-Jan	17-Jan			
			3.78	2.57	5.65	5.43	2.69	3.66	8.78	0.7	0.5		0.9	0.9	0.6	0.7	1.3			
W12	Surface	3.39	3.78	2.57	5.65	5.43	2.69	3.66	8.78	1	0.7	0.5	0.9	0.9	0.6	0.7	1.3	Reference site		
	Bottom	2.71	5.21	4.49	6.78	5.93	4.12	10.30	13.60	1	0.9	0.8	1.1	1.0	0.7	1.5	1.9			
W1	Surface	21.7	9.99	5.32	4.81	17.70	9.14	14.20	11.00	1.3	1.5	0.9	0.8	2.4	1.4	2.0	1.5			
	Bottom	28.3	14.40	10.20	5.05	22.20	12.50	24.00	12.10	2	2.0	1.5	0.8	3.0	1.8	3.2	1.7			
W3	Surface	5.16	6.28	4.75	5.82	7.85	5.96	5.99	12.50	1	1.0	0.8	0.9	1.2	1.0	1.0	1.3			
	Bottom	3.54	8.74	9.76	7.33	11.10	7.21	7.32	11.90	1	1.3	1.4	1.1	1.6	1.1	1.1	1.7			
W5	Surface	1.91	3.41	2.77	2.04	3.22	4.09	-	5.82	1	0.6	0.6	0.5	0.6	0.7	-	0.9			
	Bottom	4.94	5.35	5.62	3.28	6.09	5.21	-	6.41	1	0.9	0.9	0.6	1.0	0.9	-	1.0			
W2	Surface	86	-	-	-	-	-	30.10	-	9	-	-	-	-	-	39	-			
	Bottom	84.3	-	-	-	-	-	36.90	-	12	-	-	-	-	-	48	-			
W4	Surface	39.1	-	-	-	-	-	16.70	-	3.3	-	-	-	-	-	23	-			
	Bottom	43.7	-	-	-	-	-	19.60	-	3.3	-	-	-	-	-	26	-			
W6	Surface	0.61	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-			
	Bottom	1.3	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-			
W7	Surface	1.28	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-			
	Bottom	1.29	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-			
W8	Surface	2.92	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-			
	Bottom	2.01	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-			
W9	Surface	8.36	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-			
	Bottom	3.01	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-			
W10	Surface	2.37	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-			
	Bottom	1.04	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-			
W11	Surface	92.6	-	-	-	-	-	37.40	-	13	-	-	-	-	-	48	-			
	Bottom	98.1	-	-	-	-	-	42.20	-	14	-	-	-	-	-	54	-			

1: Note, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.  
 2: Highlighted TSS values: Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L



# HATFIELD CONSULTANTS - WEEK 9 ENVIRONMENTAL MONITORING REPORT

PROJECT NAME	Patimban Port Construction Monitoring During Dredging Works	REPORT DATE	25-Jan-2019
PERMIT NUMBER	HATFIELD TECHNICIANS/ Fazri Fadillah	TURBIDITY METER NO.	HACH 2100Q Serial Number: 2.11.001

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG

Site ID	Level	Baseline Turbidity (NTU)							In situ Turbidity (NTU)							Predicted TSS <sup>1</sup> (mg/L)							Comments	
		18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan		
W12	Surface	3.39	6.70	7.94	5.33	7.15	8.19	6.52	6.70	6.45	7.02	6.42	8.60	14.50	8.95	1	1.1	1.0	1.2	0.9	1.1	1.2	1.0	Reference site
	Bottom	2.71	6.19	14.70	6.52	8.60	14.50	8.95	6.19	7.02	14.70	6.42	8.60	14.50	8.95	1	1.0	1.1	2.0	1.0	1.3	2.0	1.3	
W1	Surface	21.7	7.99	5.42	6.89	13.70	13.00	10.40	7.99	5.42	6.89	6.52	13.70	13.00	10.40	1.3	0.9	1.1	1.1	1.0	1.9	1.8	1.5	
	Bottom	28.3	35.90	6.64	11.50	14.80	15.10	10.80	35.90	6.64	11.50	8.81	14.80	15.10	10.80	2	4.7	1.0	1.6	1.3	2.1	2.1	1.6	
W3	Surface	5.16	6.30	4.30	5.90	7.91	8.47	9.05	6.30	4.30	5.90	7.91	8.47	12.50	9.05	1	1.0	0.8	1.0	1.2	1.3	1.3	1.3	
	Bottom	3.54	7.84	8.34	7.62	7.15	11.40	9.65	7.84	8.34	7.62	7.15	11.40	20.10	9.65	1	1.2	1.3	1.2	1.1	1.6	2.7	1.4	
W5	Surface	1.91	4.42	3.67	7.47	6.23	12.50	7.87	4.42	3.67	7.47	6.23	12.50	7.67	7.87	1	0.8	0.7	1.1	1.0	1.9	1.2	1.2	
	Bottom	4.94	12.70	4.99	7.81	9.14	15.80	9.32	12.70	4.99	7.81	9.14	15.80	9.32	9.60	1	1.8	0.8	1.2	1.4	2.2	1.4	1.4	
W2	Surface	86	-	-	-	-	18.80	-	-	-	-	-	-	18.80	-	9	-	-	-	-	-	2.5	-	
	Bottom	84.3	-	-	-	-	21.60	-	-	-	-	-	-	21.60	-	12	-	-	-	-	-	2.9	-	
W4	Surface	39.1	-	-	-	-	13.70	-	-	-	-	-	-	13.70	-	3.3	-	-	-	-	-	1.9	-	
	Bottom	43.7	-	-	-	-	15.90	-	-	-	-	-	-	15.90	-	3.3	-	-	-	-	-	2.2	-	
W6	Surface	0.61	4.94	-	-	-	8.28	-	4.94	-	-	-	-	8.28	-	0.5	0.8	-	-	-	-	1.2	-	
	Bottom	1.9	4.85	-	-	-	14.40	-	4.85	-	-	-	-	14.40	-	0.5	0.8	-	-	-	-	2.0	-	
W7	Surface	1.28	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	
	Bottom	1.29	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	
W8	Surface	2.92	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	
	Bottom	2.01	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	
W9	Surface	6.36	3.71	-	-	-	-	-	3.71	-	-	-	-	-	-	1.3	0.7	-	-	-	-	-	-	
	Bottom	3.01	6.10	-	-	-	-	-	6.10	-	-	-	-	-	-	1.3	1.0	-	-	-	-	-	-	
W10	Surface	2.37	1.70	-	-	-	-	-	1.70	-	-	-	-	-	-	1.3	0.4	-	-	-	-	-	-	
	Bottom	1.04	3.79	-	-	-	-	-	3.79	-	-	-	-	-	-	1.3	0.7	-	-	-	-	-	-	
W11	Surface	92.6	-	-	-	-	26.00	-	-	-	-	-	-	26.00	-	13	-	-	-	-	-	3.4	-	
	Bottom	98.1	-	-	-	-	27.20	-	-	-	-	-	-	27.20	-	14	-	-	-	-	-	3.6	-	

1: Note, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.  
 2: Highlighted TSS values: Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L



# HATFIELD CONSULTANTS - WEEK 10 ENVIRONMENTAL MONITORING REPORT

PROJECT NAME	Patimban Port Construction Monitoring During Dredging Works		REPORT DATE	1-Feb-2019	
PERMIT NUMBER	-	HATFIELD TECHNICIAN/S	Fazri Fadillah		TURBIDITY METER NO.
					HACH 2100Q Serial Number: 2.11.001

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG

Site ID	Level	Baseline Turbidity (NTU)	In situ Turbidity (NTU)							Predicted TSS <sup>1</sup> (mg/L)							Comments
			25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan	TSS <sup>1</sup> (mg/L)	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	
W12	Surface	3.39	-	-	10.10	8.90	8.24	6.12	1	-	-	-	1.5	1.3	1.2	1.0	Reference site
	Bottom	2.71	-	-	31.00	9.14	7.04	4.10	1	-	-	-	4.1	1.4	1.1	0.7	
W1	Surface	21.7	17.90	12.20	27.90	-	18.20	13.30	7.52	1.3	2.4	1.7	3.7	-	2.5	1.9	1.2
	Bottom	28.3	18.80	12.50	30.40	-	21.20	14.60	11.60	2	2.5	1.8	4.0	-	2.3	2.0	1.7
W3	Surface	5.16	9.88	9.49	18.40	12.20	17.50	4.90	5.08	1	1.4	1.4	2.5	1.7	2.4	0.3	0.9
	Bottom	3.54	14.30	11.60	21.50	13.10	21.00	5.59	6.01	1	2.0	1.7	2.9	1.3	2.3	0.9	1.0
W5	Surface	1.91	22.00	7.61	-	-	9.63	5.84	5.05	1	2.9	1.2	-	-	1.4	0.9	0.3
	Bottom	4.94	21.90	8.44	-	-	10.10	5.44	5.81	1	2.9	1.3	-	-	1.5	0.9	0.9
W2	Surface	86	-	-	-	-	-	18.50	-	9	-	-	-	-	-	2.5	-
	Bottom	84.3	-	-	-	-	-	21.60	-	12	-	-	-	-	-	2.9	-
W4	Surface	39.1	-	-	-	-	-	16.50	-	3.3	-	-	-	-	-	2.3	-
	Bottom	43.7	-	-	-	-	-	11.50	-	3.3	-	-	-	-	-	1.6	-
W6	Surface	10.61	-	-	-	-	-	3.92	-	10.5	-	-	-	-	-	0.7	-
	Bottom	1.9	-	-	-	-	-	6.20	-	0.5	-	-	-	-	-	1.0	-
W7	Surface	1.28	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-
	Bottom	1.29	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-
W8	Surface	2.92	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-
	Bottom	2.01	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-
W9	Surface	8.36	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-
	Bottom	3.01	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-
W10	Surface	2.37	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-
	Bottom	1.04	-	-	-	-	-	-	-	1.3	-	-	-	-	-	-	-
W11	Surface	92.6	-	-	-	-	-	18.90	-	13	-	-	-	-	-	2.6	-
	Bottom	98.1	-	-	-	-	-	23.20	-	14	-	-	-	-	-	3.1	-

1: Note, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.  
 2: Highlighted TSS values: Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L



# HATFIELD CONSULTANTS - WEEK 11 ENVIRONMENTAL MONITORING REPORT

PROJECT NAME	Patimban Port Construction Monitoring During Dredging Works	REPORT DATE	8-Feb-2019
PERMIT NUMBER	HATFIELD TECHNICIAN/S Adam Hqmatullah	TURBIDITY METER NO.	HACH 2100Q Serial Number: 2.11.001

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG

Site ID	Level	Baseline Turbidity (NTU)											Predicted TSS <sup>2</sup> (mg/L)							Comments				
		In situ Turbidity (NTU)											TSS <sup>1</sup> (mg/L)											
		1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb	7-Feb	1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb	7-Feb	1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb	7-Feb		
W12	Surface	3.39	7.02	5.47	6.56	3.78	4.47	6.59	-	1	1.09	0.90	1.03	0.89	0.78	1.04	-	-	-	-	0.78	1.04	-	Reference site
	Bottom	2.71	7.31	7.89	7.69	5.04	7.72	10.90	-	1	1.13	1.20	1.17	0.85	1.18	1.57	-	-	-	-	1.18	1.57	-	
W1	Surface	21.7	11.60	6.53	9.58	8.93	6.72	10.10	14.70	1.3	1.66	1.03	1.41	1.33	1.05	1.47	2.04	-	-	-	-	1.47	2.04	
	Bottom	28.3	14.60	8.45	9.66	9.54	7.88	12.10	15.40	2	2.03	1.27	1.42	1.40	1.20	1.72	2.13	-	-	-	-	1.72	2.13	
W3	Surface	5.16	10.20	7.06	5.64	4.35	3.65	5.51	5.10	1	1.48	1.10	0.92	0.76	0.67	0.90	0.85	-	-	-	-	0.90	0.85	
	Bottom	3.54	9.90	8.12	6.55	6.56	5.95	6.32	6.43	1	1.45	1.23	1.03	1.03	0.96	1.00	1.02	-	-	-	-	1.00	1.02	
W5	Surface	1.91	10.90	5.01	4.60	4.33	3.02	5.01	5.98	1	1.57	0.84	0.79	0.78	0.60	0.84	0.96	-	-	-	-	0.84	0.96	
	Bottom	4.94	12.00	6.24	5.08	6.35	3.62	6.57	5.93	1	1.71	0.99	0.85	1.01	0.67	1.03	0.96	-	-	-	-	1.03	0.96	
W2	Surface	86	-	-	-	-	-	39.00	-	9	-	-	-	-	-	5.04	-	-	-	-	-	5.04	-	
	Bottom	84.3	-	-	-	-	-	42.80	-	12	-	-	-	-	-	5.51	-	-	-	-	-	5.51	-	
W4	Surface	39.1	-	-	-	-	-	14.30	-	3.3	-	-	-	-	-	1.99	-	-	-	-	-	1.99	-	
	Bottom	43.7	-	-	-	-	-	14.90	-	3.3	-	-	-	-	-	2.06	-	-	-	-	-	2.06	-	
W6	Surface	0.61	-	-	-	-	-	4.78	-	0.5	-	-	-	-	-	0.81	-	-	-	-	-	0.81	-	
	Bottom	1.9	-	-	-	-	-	7.36	-	0.5	-	-	-	-	-	1.13	-	-	-	-	-	1.13	-	
W7	Surface	1.28	-	-	-	-	-	-	2.87	0.5	-	-	-	-	-	-	0.58	-	-	-	-	-	0.58	
	Bottom	1.29	-	-	-	-	-	-	4.13	0.5	-	-	-	-	-	-	0.73	-	-	-	-	-	0.73	
W8	Surface	2.92	-	-	-	-	-	-	1.94	0.5	-	-	-	-	-	-	0.46	-	-	-	-	-	0.46	
	Bottom	2.01	-	-	-	-	-	-	6.84	0.5	-	-	-	-	-	-	1.07	-	-	-	-	-	1.07	
W9	Surface	8.36	-	-	-	-	-	-	4.44	1.3	-	-	-	-	-	-	0.77	-	-	-	-	-	0.77	
	Bottom	3.01	-	-	-	-	-	-	5.37	1.3	-	-	-	-	-	-	0.89	-	-	-	-	-	0.89	
W10	Surface	2.37	-	-	-	-	-	-	2.06	1.3	-	-	-	-	-	-	0.48	-	-	-	-	-	0.48	
	Bottom	1.04	-	-	-	-	-	-	4.22	1.3	-	-	-	-	-	-	0.74	-	-	-	-	-	0.74	
W11	Surface	92.6	-	-	-	-	-	39.10	-	13	-	-	-	-	-	5.06	-	-	-	-	-	5.06	-	
	Bottom	98.1	-	-	-	-	-	39.90	-	14	-	-	-	-	-	5.15	-	-	-	-	-	5.15	-	

1: Note, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.  
 2: Highlighted TSS values: Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L



# HATFIELD CONSULTANTS - WEEK 12 ENVIRONMENTAL MONITORING REPORT

PROJECT NAME	Palmban Port Construction Monitoring During Dredging Works	REPORT DATE	15-Feb-2019
PERMIT NUMBER	HATFIELD TECHNICIANS Fazli Fadillah	TURBIDITY METER NO.	HACH Z100Q Serial Number: 2.11.001

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG

Site ID	Level	Baseline Turbidity (NTU)	In situ Turbidity (NTU)							Baseline TSS <sup>1</sup> (mg/L)	Predicted TSS <sup>2</sup> (mg/L)							Comments
			8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb		8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	
W12	Surface	3.30	2.62	11.70	5.37	5.82	3.50	3.02	7.55	1.0	0.55	1.07	0.87	0.94	0.68	0.71	1.16	Reference site
	Bottom	2.71	4.49	7.37	6.46	8.87	4.48	6.50	8.25	1.0	0.78	1.13	1.02	1.32	0.78	1.38	1.24	
W1	Surface	21.7	9.79	11.70	12.40	10.00	21.30	47.50	11.50	1.5	0.78	0.78	0.78	0.78	0.78	0.78	0.78	Reference site
	Bottom	28.3	13.10	15.10	13.90	18.90	21.10	81.70	14.00	2.0	0.78	0.78	0.78	0.78	0.78	0.78	0.78	
W3	Surface	5.16	5.00	3.83	2.93	7.50	7.27	7.32	8.45	1.0	0.78	0.78	0.78	0.78	0.78	0.78	0.78	Reference site
	Bottom	3.54	13.30	5.61	3.71	11.00	7.84	8.54	8.72	1.0	0.78	0.78	0.78	0.78	0.78	0.78	0.78	
W5	Surface	1.91	3.91	3.90	3.67	6.18	3.00	5.76	2.92	1.0	0.78	0.78	0.78	0.78	0.78	0.78	0.78	Reference site
	Bottom	4.94	0.23	0.79	5.43	7.36	4.77	9.16	3.18	1.0	0.78	0.78	0.78	0.78	0.78	0.78	0.78	
W2	Surface	00						26.10		0.0								Reference site
	Bottom	84.3						26.60		12.0								
W4	Surface	30.1						58.70		3.3								Reference site
	Bottom	43.7						65.50		3.3								
W6	Surface	0.61						5.91		0.5								Reference site
	Bottom	1.9						7.13		0.5								
W7	Surface	1.28						4.25		0.5								Reference site
	Bottom	1.29						6.05		0.5								
W8	Surface	2.92						3.20		0.5								Reference site
	Bottom	2.91						5.75		0.5								
W9	Surface	8.36						6.21		1.3								Reference site
	Bottom	3.91						9.26		1.3								
W10	Surface	2.37						4.85		1.3								Reference site
	Bottom	1.84						8.17		1.3								
W11	Surface	92.6						21.10		13.0								Reference site
	Bottom	98.1						23.40		14.0								

1: N/A, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.

2: Highlighted TSS values: Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L.





# HATFIELD CONSULTANTS - WEEK 13 ENVIRONMENTAL MONITORING REPORT

PROJECT NAME	Palimban Port Construction Monitoring During Dredging Works	REPORT DATE	22-Feb-2019
PERMIT NUMBER	HATFIELD TECHNICIANS Fazri Fadillah	TURBIDITY METER NO.	HACH 2100Q Serial Number: 2.11.001

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG

Site ID	Level	Baseline Turbidity (NTU)	In situ Turbidity (NTU)							Baseline TSS <sup>1</sup> (mg/L)	Predicted TSS <sup>2</sup> (mg/L)							Comments
			15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb		15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	
W12	Surface	3.39	3.02	1.20	3.09	3.66	4.80	4.11	4.38	1.00	0.60	0.37	0.60	0.68	0.82	0.73	0.76	Reference site
	Bottom	2.71	4.53	2.57	7.24	2.56	5.17	3.66	4.60	1.00	0.78	0.54	1.12	0.54	0.86	0.68	0.79	
W1	Surface	21.70	11.90	-	10.80	5.38	3.64	13.80	3.28	1.30	-	-	-	-	-	-	-	
	Bottom	28.30	13.50	-	13.30	4.69	5.75	11.00	5.41	2.00	-	-	-	-	-	-	-	
W3	Surface	5.16	6.39	-	3.01	5.08	2.92	2.64	3.12	1.00	-	-	-	-	-	-	-	
	Bottom	3.54	7.30	-	3.95	3.64	2.30	4.18	4.77	1.00	-	-	-	-	-	-	-	
W5	Surface	1.91	2.41	-	2.08	2.35	1.73	2.32	1.12	1.00	-	-	-	-	-	-	-	
	Bottom	4.94	4.60	-	3.40	3.43	2.79	2.56	4.40	1.00	-	-	-	-	-	-	-	
W2	Surface	86.00	-	-	-	-	-	20.70	-	9.00	-	-	-	-	-	-	-	
	Bottom	84.30	-	-	-	-	16.30	-	12.00	-	-	-	-	-	-	-	-	
W4	Surface	39.10	-	-	-	-	24.80	-	3.30	-	-	-	-	-	-	-	-	
	Bottom	43.70	-	-	-	-	22.80	-	3.30	-	-	-	-	-	-	-	-	
W6	Surface	0.61	-	-	-	-	1.98	-	0.50	-	-	-	-	-	-	-	-	
	Bottom	1.90	-	-	-	-	2.18	-	0.50	-	-	-	-	-	-	-	-	
W7	Surface	1.28	-	-	-	-	1.70	-	0.50	-	-	-	-	-	-	-	-	
	Bottom	1.29	-	-	-	-	2.75	-	0.50	-	-	-	-	-	-	-	-	
W8	Surface	2.92	-	-	-	-	1.39	-	0.50	-	-	-	-	-	-	-	-	
	Bottom	2.01	-	-	-	-	2.79	-	0.50	-	-	-	-	-	-	-	-	
W9	Surface	8.36	-	-	-	-	3.09	-	1.30	-	-	-	-	-	-	-	-	
	Bottom	3.01	-	-	-	-	2.85	-	1.30	-	-	-	-	-	-	-	-	
W10	Surface	2.37	-	-	-	-	3.84	-	1.30	-	-	-	-	-	-	-	-	
	Bottom	1.04	-	-	-	-	3.16	-	1.30	-	-	-	-	-	-	-	-	
W11	Surface	92.60	-	-	-	-	7.05	-	13.00	-	-	-	-	-	-	-	-	
	Bottom	98.10	-	-	-	-	7.65	-	14.00	-	-	-	-	-	-	-	-	

1: Note, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.  
 2: Highlighted TSS values: Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L.



# HATFIELD CONSULTANTS - WEEK 14 ENVIRONMENTAL MONITORING REPORT

PROJECT NAME	Patimban Port Construction Monitoring During Dredging Works	REPORT DATE	1-Mar-2019
PERMIT NUMBER	HATFIELD TECHNICIANS Fazri Fadillah	TURBIDITY METER NO.	HACH 2100Q Serial Number: 2.11.001

## WEEKLY CONSTRUCTION MONITORING WATER QUALITY LOG

Site ID	Level	Baseline Turbidity (NTU)	In situ Turbidity (NTU)										Baseline TSS <sup>1</sup> (mg/L)	Predicted TSS <sup>2</sup> (mg/L)							Comments
			22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	22-Feb	23-Feb	24-Feb		25-Feb	26-Feb	27-Feb	28-Feb				
W12	Surface	3.39	9.41	4.03	5.00	2.77	2.78	1.96	2.90	1	1.4	0.7	0.8	0.6	0.6	0.6	0.6	0.6	0.6	Reference site	
	Bottom	2.71	5.47	3.35	3.86	3.81	3.15	3.81	1	0.9	0.6	0.7	0.5	0.7	0.6	0.7	0.6	0.7			
W1	Surface	21.7	11.00	5.46	9.81	3.70	3.30	3.43	4.93	1.3											
	Bottom	28.3	5.02	5.23	7.00	3.99	4.35	2.98	6.15	2	0.8			0.7				0.6			
W3	Surface	5.16	3.06	5.13	2.71	2.13	4.23	1.93	4.57	1	0.6		0.6	0.5				0.5			
	Bottom	3.54	3.65	3.31	3.21	6.68	3.61	2.30	4.65	1	0.7	0.6	0.6		0.7			0.5			
W5	Surface	1.91	2.63	2.94	2.66	2.02	2.94	3.09	4.71	1	0.5	0.6	0.6	0.5							
	Bottom	4.94	3.27	2.46	1.62	1.68	1.86	2.26	4.88	1	0.6	0.5	0.4	0.4	0.5			0.5			
W2	Surface	86	-	-	-	-	-	25.10	-	9	-	-	-	-	-	-	-	-			
	Bottom	84.3	-	-	-	-	-	14.00	-	12	-	-	-	-	-	-	-	-			
W4	Surface	39.1	-	-	-	-	-	9.28	-	3.3	-	-	-	-	-	-	-	-			
	Bottom	43.7	-	-	-	-	-	7.62	-	3.3	-	-	-	-	-	-	-	-			
W6	Surface	0.61	-	-	-	-	-	2.29	-	0.5	-	-	-	-	-	-	-	-			
	Bottom	1.9	-	-	-	-	-	3.74	-	0.5	-	-	-	-	-	-	-	-			
W7	Surface	1.28	-	-	-	-	-	1.48	-	0.5	-	-	-	-	-	-	-	0.4			
	Bottom	1.29	-	-	-	-	-	1.83	-	0.5	-	-	-	-	-	-	-	0.4			
W8	Surface	2.92	-	-	-	-	-	2.10	-	0.5	-	-	-	-	-	-	-	-			
	Bottom	2.01	-	-	-	-	-	2.47	-	0.5	-	-	-	-	-	-	-	0.5			
W9	Surface	8.38	-	-	-	-	-	1.64	-	1.3	-	-	-	-	-	-	-	0.4			
	Bottom	3.01	-	-	-	-	-	3.66	-	1.3	-	-	-	-	-	-	-	-			
W10	Surface	2.37	-	-	-	-	-	1.78	-	1.3	-	-	-	-	-	-	-	0.4			
	Bottom	1.04	-	-	-	-	-	1.98	-	1.3	-	-	-	-	-	-	-	0.5			
W11	Surface	92.6	-	-	-	-	-	6.12	-	13	-	-	-	-	-	-	-	-			
	Bottom	98.1	-	-	-	-	-	10.10	-	14	-	-	-	-	-	-	-	-			

1: Note, the laboratory detection limit for TSS is 1 mg/L. Baseline values were entered as half the detection limit for calculation purposes.  
 2: Highlighted TSS values: White <= reference site or no turbidity in reference site recorded, Green <= 10 mg/L above reference site, Yellow >10 and <= 20 mg/L above reference site, Orange > 20 above reference site and < 80 mg/L, Red >= 80 mg/L

Note:

In general, TSS concentrations were relatively consistent across the study area, with TSS ranging from 0.20 to 8,32 mg/L. TSS and Turbidity were similar in the bottom and surface layers. As expected, TSS and turbidity were generally higher at the impact site than reference site (W12), particularly at the shallower sites closer to shore (e.g. sites W1, W2, W4 and W11), which are influenced by a turbid plume that extends from the shoreline (this plume is particularly prevalent after rain events).