EXECUTIVE SUMMARY

The following executive summary has, as a main purpose, to show to the international community the requirement that Piura Regional Government, through the Special Irrigation and Hydroenergetic Project Alto Piura (PEIHAP), has for hiring the consulting service for develop the “INTEGRATED BASIN-BASED PLAN FOR FLOOD CONTROL AND MUDFLOW; AND MASTER PLAN FOR URBAN PLUVIAL DRAINAGE SYSTEM IN PIURA, CASTILICA AND VEINTISEIS DE OCTUBRE DISTRICTS”. For that, we are currently calling for proposals from companies who has experience in this field of study and can come up with solutions for the plan, within the framework of prevention within Peruvian law N° 30556 and its amendments, law of Reconstruction with Changes.

1.1. OFFICIAL PROJECT DENOMINATION

“INTEGRATED BASIN-BASED PLAN FOR FLOOD CONTROL AND MUDFLOW; AND MASTER PLAN FOR URBAN PLUVIAL DRAINAGE SYSTEM IN PIURA, CASTILICA AND VEINTISEIS DE OCTUBRE DISTRICTS”

1.2. PROJECT LOCATION

The geographical location for this study is Piura department, in Peru, South America. Given the scope of the project, we can divide the geographical area of the study into two areas, which, even so, they correspond to the same basin: the Piura river basin and the metropolitan area.

Piura river basin geographic location

The Piura river basin is located in the extreme north of Peru, geographically located between parallels 4 ° 42’ and 5 ° 45’ south latitude, and between meridians 79 ° 29’ and 81 ° 00’ west longitude. It has a total area of 4720 square miles, and is crossed by the Piura River with 175 miles length.

The Piura river basin corresponds to the basin system of the Pacific slope, it is bounded on the east by the mountainous flank of the Western Cordillera, which runs from south to north, dividing the basins of the Huancabamba, Quiroz and Chipillico rivers; to the south with the Cascajal river basin; to the north with the basins of the Chipillico and Chira rivers; and to the west with the mountainous flank of the coast that runs parallel to the sea from south to north, separating part of the Cascajal Basin and the creeks of endorheic basins up to the Tambogrande city, where the flank disappears and the river is oriented towards the south-west to the Estuary of Virrilá, where it empties into the Pacific Ocean.

Politically, the Piura River Basin includes 5 provinces from Piura Department, divided in 29 districts distributed as follows: Province of Huancabamba with the districts of Huarmaca, San Miguel del Faigue, Canchaque and Lalaquiz; province of Morropón with the districts of San Juan de Bigote, Salitral, Buenos Aires, Chalaco, Santo Domingo, Yamango, Santa Catalina de Mossa, Morropón, La Matanza and Chulucanas; province of Ayabaca with the district of Frías; province of Piura with the districts of Tambogrande, Piura, Castilla, Catacaos, Cura Mori, La Arena, La Unión and El Tallán; province of Sechura with the districts of Bernal, Vice, Rinconada Llicuar, Bellavista, Cristo Nos Valga and Sechura (map 1).
Geographical location for metropolitan area

Piura city, Capital of Piura Region, for the present study, it is constituted by three Districts: Castilla, Piura, Veintiseis de Octubre (map 2). About 484,475 inhabitants live there and it is the logistic and economic center of the region\(^1\). Through the urban area crosses the Piura river, which becomes the main natural drain where theoretically the runoff waters should be evacuated. However, Piura is flat and its topography ranges between 42 and 30 meters above sea level, with limited drainage capacity, which makes necessary develop a comprehensive urban drainage plan.

In 2017, due to the phenomenon of the coastal child, on March 27, the Piura River overflowed into the urban area, affecting 427,693 people and causing economic losses for almost US $1,200 million\(^2\), justifying in this way the need to develop a master plan for storm drainage urban system.

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\(^1\) INEI 2017
https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1530/libro.pdf

\(^2\) INDECI, 2017
1.3. MAIN OBJECTIVE

The main goal for this project is to contract a consultant company for develop the “INTEGRATED BASIN-BASED PLAN FOR FLOOD CONTROL AND MUDFLOW; AND MASTER PLAN FOR URBAN PLUVIAL DRAINAGE SYSTEM IN PIURA, CASTILLA AND VEINTISEIS DE OCTUBRE DISTRICTS”, from now on known as PLAN. This PLAN must be comprehensive and inclusive for any possible scenario and develop a portfolio of structural, non-structural, economic, cultural, social, environmental, technological, regulatory and institutional interventions and measures, of short, medium and long term, that allow to reach the desired levels of protection and security, by reducing the risk of disasters caused by floods and mass movements in the Piura River basin and by precipitation in the City.

Selection of this portfolio is prepared on the basis of an integral analysis of the conditions and the problem to be solved and incorporates the approaches of disaster risk management and sustainable development. Likewise, the Integral Plan for Flood Control and mudflow should identify and develop profiles with primary and / or basic information and define predesigns in those short, medium and long term measures, through structural and non-structural solutions, being a particularly case those reforestation projects that may exist, whose leverage may occur in the first months, as long as they have a viable profile or approved technical file, and whose development is part of the vulnerability mitigation component, the main purpose of these studies.
Likewise, in order to ensure interventions related to the short term, these should be exclusively in structural measures, for which they must identify and develop up to four (04) profiles that reduce or mitigate significantly the maximum risk level defined in the basin; and in the medium and long term corresponds to elaborate profiles that mitigate or reduce the risk missing. That means, it should be understood that the entire basin will have the Integral Plan as a planning document and the short, medium and long-term profiles respectively. With regard to the Pluvial Drainage Master Plan for the districts of Piura, Castilla and Veintiseis de Octubre, profiles must be developed that reduce or mitigate significantly the risk.

All projects in general, both structural and non-structural to be formulated, should be designed primarily to reduce or mitigate the risk and thus the resilience at the level of the basin and the area of the districts of Piura, Castilla y Veintiseis de Octubre, developed integrally (taking into account all development sectors in the region), under the “bottom-up” approach, which means, lower levels ideas influence the decisions taken at higher levels.

For that, the contracting entity will select a consultant specialized in water resources projects with experience in watershed management, governance, risk management, flood control formulation of investment projects and urban plans for the evacuation of rainwater.

1.4. PUBLIC PURPOSE

The “integrated basin-based plan for flood control and mudflow; and master plan for urban pluvial drainage system in Piura, Castilla and Veintiseis de Octubre districts” constitutes an immediate public necessity, for mainly two fundamental reasons:

- Plan has an Integral and Inclusive nature and will select a portfolio of structural, non-structural, economic, cultural, social, environmental, technological, regulatory and institutional interventions and measures of short, medium and long term that will allow achieve the desired levels of protection and security, by reducing the risk of disasters caused by floods and mass movements in the Piura river basin and by precipitation in metropolitan area of Piura. The selection of said portfolio is prepared on the basis of an integral analysis of the conditions and the problem to be solved and incorporates the approaches of disaster risk management and sustainable development. Likewise, the Integral Plan for the Control of Floods and Mass Movements must indicate and develop profiles with primary or basic information and define predesigns in those measures of short, medium and long term, by structural and non-structural measures.

- Regard to the Pluvial Drainage Master Plan for the districts of Piura, Castilla y Veintiséís de Octubre, pre-investment studies should be developed for all proposed interventions that reduce or mitigate flood risk.
1.5. COMPONENTS AND PHASES OF THE INTEGRAL PLAN AND MASTER PLAN

1.5.1 PRODUCT 1: INTEGRAL PLAN

1.5.1.1. COMPONENTS FOR PRODUCT 1

The interventions, that as a result of the analysis and modeling are identified and developed by the Consultant during the formulation of the Integral Plan, are grouped into three (03) following components:

Component A: It corresponds to the planning and formulation of pre-investment studies for at least four (04) high-impact projects at profile level that represent no less than sixty percent (60%) of risk reduction in the basin or area of intervention. Projects that can be considered in this component, without being limiting are: afforestation and reforestation; river defenses; breakwaters; transversal dams; dynamic barriers; containment dikes; construction, habilitation and improvement of drains; catchment; derivation, storage structures; regulation and lamination dams; small and medium reservoirs among other similar interventions.

Component B: It corresponds to the planning and formulation of pre-investment studies at profile level with interventions that include a greater degree of complexity which will cover 35% of the risk reduction of the basin or area of intervention. The projects that can be considered in this component, without being limited, are: temporary storage in areas of natural depression, terraces; river defenses; breakwaters transversal dams; dynamic barriers; containment dikes; construction, habilitation and improvement of drains; platforms, among other similar interventions.

Component C: It corresponds to medium and long-term interventions in the area of the basin that covers the remaining 5% of the risk reduction of the basin or area of intervention. The projects that can be considered in this component, without being restrictive are: creeks treatment; land use ordering; early warning systems; relocation of populations and activities located in risk areas; training and training programs for community leaders supporting them to face extreme events; terraces; river defenses; breakwaters transversal dams; dynamic barriers; containment dikes; construction, habilitation and improvement of drains; terraces of hillsides, platforms, among other similar interventions.

1.5.1.2. PHASES FOR PRODUCT 1

For the correct development of the Integral Plan, and the presentation to the contracting entity of the respective partial results that allow to make anticipated decisions, the study must be carried out in four (04) differentiated phases. These phases are:
CONSULTING SERVICE FOR DEVELOP THE “INTEGRATED BASIN-BASED PLAN FOR FLOOD CONTROL MUDFLOW; AND MASTER PLAN FOR URBAN PLUVIAL DRAINAGE SYSTEM IN PIURA, CASTILLA AND VEINTISEIS DE OCTUBRE DISTRICTS”.

<table>
<thead>
<tr>
<th>PHASE 1:</th>
<th>Compilation of information, analysis of basic engineering studies and first tentative selection of solutions.</th>
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<tbody>
<tr>
<td>PHASE 2:</td>
<td>Preliminary diagnosis, basic studies and details of the selected alternatives. Formulation of at least four (04) selected profiles with an advance of 50% for Component A.</td>
</tr>
<tr>
<td>PHASE 3:</td>
<td>Conclusion and presentation of the Integral Plan, which considers the prioritization of interventions and investments in the short, medium and long term, as well as the presentation of profiles for Component A at 100% and the respective terms of reference for its subsequent implementation through the Bid tender execution mechanism according to Peruvian laws. In this Phase the advances of the profiles for Components B and C are also presented in 75%.</td>
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<tr>
<td>PHASE 4:</td>
<td>Conclusions and presentation of the integral Plan, presentation of profiles of Components B and C, and respective terms of reference, for their subsequent implementation according to Peruvian laws.</td>
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1.5.2 PRODUCT 2: MASTER PLAN

1.5.2.1 COMPONENTS FOR PRODUCT 2

Interventions that are identified and developed by the Consultant during the formulation of the Master Plan as a result of the analysis and modeling, are grouped into two (02) following components:

**Component A:** Corresponds to the planning and formulation of pre-investment studies at the profile level for at least four (04) high-impact projects that represent no less than sixty percent (60%) of risk reduction in the District of Piura, Castilla and Veintisiete de Octubre. The projects that can be considered in this component, without being restrictive are: Topographical study of elevations and gradients; the definition and presentation of urban basins (blind basins); construction, habilitation and improvement of drains; catchment; diversion and temporary storage in areas of natural depression, among other similar interventions, green infrastructure aiming at the reduction of urban stormwater runoff, establishment of early warning systems.

**Component B:** Corresponds to medium and long-term interventions in the area of the districts of Piura, Castilla and Twenty-six of October, which covers the other 40% of the risk reduction in the area of intervention.

1.5.2.2 PHASES FOR PRODUCT 2

For the correct development of the Pluvial Drainage Master Plan of the District of Piura, Castilla and Veintisiete de Octubre, and the presentation to the contract entity of the respective partial results that allow to make anticipated decisions, the study should be carried out in four (04) differentiated phases. These phases are:
GOBIERNO REGIONAL PIURA
PROYECTO ESPECIAL DE IRRIGACIÓN E HIDROENERGÉTICO ALTO PIURA

“Alto del Diálogo y la Reconciliación Nacional”

CONSULTING SERVICE FOR DEVELOP THE “INTEGRATED BASIN-BASED PLAN FOR FLOOD CONTROL MUDFLOW; AND MASTER PLAN FOR URBAN PLUVIAL DRAINAGE SYSTEM IN PIURA, CASTILLA AND VEINTISEIS DE OCTUBRE DISTRICTS”.

<table>
<thead>
<tr>
<th>PHASE 1:</th>
<th>Compilation of information, analysis of previous studies and definition of information needs.</th>
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<tr>
<td>PHASE 2:</td>
<td>Preliminary Diagnosis and Basic Studies</td>
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<tr>
<td>PHASE 3:</td>
<td>Hydrological-Hydraulic modeling of the basin, the river and the city</td>
</tr>
<tr>
<td>PHASE 4</td>
<td>Selection of more convenient alternative and profile level projects with primary information / predesigns.</td>
</tr>
<tr>
<td>PHASE 5</td>
<td>Formulation of the Pluvial Drainage Master Plan of Piura, Castilla and Veintiséís de Octubre.</td>
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1.6. REFERENTIAL BUDGET AND HIRING METHOD FOR THE INTEGRAL PLAN AND MASTER PLAN

The referential budget for the execution of the Plan is S / 17 551 898.83 PEN (SEVENTEEN MILLION FIVE HUNDRED FIFTY-ONE THOUSAND EIGHT HUNDRED NINETY AND EIGHT WITH 83/100 PERUVIAN COIN)

Regarding the execution modality, in application of article 16 number 16.3 of the Regulation of the Special Public Procurement Procedure for Reconstruction with Changes approved with Supreme Decree N ° 071-2018-PCM, it will be a mix between all costs in what refers the key staff for the project and unit prices in what refers to studies such as topography, geology, etc. For more detail:

**All costs**, referred to Key Staff, Specialist Staff, Support Staff, Rentals and others of the Budget.

**Unit prices**, for the costs considered referred to the Acquisition of information, procedures and services, whose magnitudes or quantities can’t be known exactly, which before their execution will be previously approved by the Supervision and settled according to the actual amounts executed and verified by the Supervision and accepted by the contracting entity.

1.7. REQUIREMENTS AND PERSONAL PROFILE REQUIRED FOR THE PROJECT

The Consultant will be responsible for the adequate planning, programming, conduction of basic studies, designs and, in general, for the technical quality of the entire study.

The Consultant will be directly responsible for the quality of the services provided and the suitability of the staff under his charge, as well as compliance with the schedule, timely achievement of the planned goals and adoption of the necessary provisions for faithful compliance with the Contract.

For purposes of the service, the consultant's formulator team will be composed of a team of professionals, who must have the necessary means to efficiently fulfill their obligations.

The formulation of the integral Plan and the Master Plan requires the coordination and articulation of professionals from different specialties related to the nature of the project.

The key staff to prepare the studies will be, at least:
Additionally, the consultant will have to get the following support staff:

1.01 Project manager
1.02 Specialist in fluvial hydraulic modeling
1.03 Specialist in hydrology and sediments
1.04 Specialist in geology- geotechnics
1.05 Specialist in Environment
1.06 Specialist in disaster risk management
1.07 Dam design specialist
1.08 Specialist in design in hydraulic structures
1.09 Specialist in structural design
1.10 Specialist in river hydraulics (river defenses)
1.11 Urban Pluvial Drainage / Sanitary Drainage Specialist

1.8. DEVELOPING DEADLINE FOR INTEGRAL PLAN AND MASTER PLAN

Developing deadline for Integral Plan and Master Plan is of FOUR HUNDRED EIGHTY (480) calendar days, time that will contemplate the mobilization and installation of the technical team, the diverse activities to be carried out and the writing, presentation and validation of all the documents.

1.9. LOCAL NORMATIVE FOR APPLICANTS

The call will be carried out within the framework of reconstruction with changes **DS N ° 071-2018-EF (06-July-2018)** “Approve Regulation for the Special Public Procurement Procedure for Reconstruction with Changes” incorporating expressions of interest stage to the process. 

3 [https://busquedas.elperuano.pe/normaslegales/aprueban-el-reglamento-del-procedimiento-de-contratacion-pub-decreto-supremo-n-071-2018-pcm-1666952-1/]
Consulting Service for Develop the “Integrated Basin-Based Plan for Flood Control Mudflow; and Master Plan for Urban Pluvial Drainage System in Piura, Castilla and Veintiseis de Octubre Districts”.

Interest Expressions Stage

Supervisor Entity of the Contracting of the Peruvian State (OSCE) defines “Through the interest expressions stage the Entity disseminates its contracting needs to suppliers, in order to determine the requirement. The expression of interest contains the technical characteristics with the objective and precise description of the functional requirements of the object to be contracted, as well as the conditions under which the contract must be executed. The contracting entity determines the expression of interest, which also indicates the relationship of staff and equipment that is required for the performance of benefits”.4

It is understood by technical characteristics:

- For general and consulting services, terms of reference.

**Interest expression stage opening: Tuesday, October 8th, 2018.**

**Requirements for formulation and presentation of technical queries in interest expression stage:**

To formulate and submit technical queries, providers must be enrolled in the National Registry of Suppliers of the Peruvian State (RNP). Only technical inquiries from suppliers whose business field, according to the RNP, is linked to the object of the request are admitted.

Foreign companies not domiciled in the country that are not registered in the RNP must request a user of authorization5 in coordination with the persons mentioned below

For the interested companies, guided field visits will be made on Monday 1st, Tuesday 2nd and Wednesday 3rd in October, pre-registration with the contacts mention in point 1.10.

1.10. CONTACT FOR SUPPLIERS

For further detailed information for potential suppliers, communicate via email with engineer Jesus Humberto Moreno Mantilla, Studies and Projects Manager for Contract Entity Special Irrigation and Hydro-energetic Project “Alto Piura” or PhD. Lourdes Valdizoe Chiroque, Adviser for Piura Regional Government.

**E-mail:** imoreno@peihap.gob.pe

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**Phone Number:** +00-5173379657 / Anexo: 18 or +51969076424

**PEIHAP:** [https://peihap.gob.pe/](https://peihap.gob.pe)

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4 Chapter III, Article 26: [http://portal.osce.gob.pe/osce/sites/default/files/Documentos/ley/Reglamento%20de%20la%20Ley%20N%C2%BA%2030225_0.pdf](http://portal.osce.gob.pe/osce/sites/default/files/Documentos/ley/Reglamento%20de%20la%20Ley%20N%C2%BA%2030225_0.pdf)