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Title: UPDATE ON BLUE ECONOMY INCUBATOR
A) AQUACULTURE OPPORTUNITIES ON TIDELANDS
B) PRESENTATION AND DIRECTION TO BEGIN NEGOTIATING AGREEMENTS FOR THE SECOND ROUND OF INCUBATOR PROPOSALS CONTINGENT UPON ADDITIONAL DUE DILIGENCE:
1. ZEPHYR DEBRIS REMOVAL LLC. FOR A PILOT PROJECT TO DEMONSTRATE A MARINE DEBRIS REMOVAL SYSTEM; AND
2. BLUE GUARD INNOVATIONS INC. FOR A PILOT PROJECT TO DEMONSTRATE AN OIL DETECTION SENSOR TO PREVENT OIL SPILLS FROM VESSELS; AND
3. SPOONDRIFT TECHNOLOGIES INC. FOR A PILOT PROJECT TO DEMONSTRATE RECREATIONAL APPLICATIONS FOR A SOLAR POWERED OCEAN DATA TRACKING DEVICE; AND
4. ROSE CANYON FISHERIES INC. FOR PERMITTING A PILOT PROJECT TO DEMONSTRATE SUSTAINABLE OFFSHORE AQUACULTURE
C) RESOLUTION APPROVING AMENDMENT NO. 1 TO PURCHASE ORDER WITH SNOW & COMPANY, INC. FOR A CUSTOM MADE FLOATING UPWELLER SYSTEM (FLUPSY) INCREASING AMOUNT BY \$22,879.18 TO \$374,479.18 TO ACCOMMODATE THE CUSTOM FABRICATION AND INSTALLATION OF TRUSSES/HANDRAILS TO IMPROVE STRUCTURAL INTEGRITY

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DATE: October 10, 2017

SUBJECT:

UPDATE ON BLUE ECONOMY INCUBATOR

- A) AQUACULTURE OPPORTUNITIES ON TIDELANDS
B) PRESENTATION AND DIRECTION TO BEGIN NEGOTIATING AGREEMENTS FOR THE SECOND ROUND OF INCUBATOR PROPOSALS CONTINGENT UPON ADDITIONAL DUE DILIGENCE:
1. ZEPHYR DEBRIS REMOVAL LLC. FOR A PILOT PROJECT TO DEMONSTRATE A MARINE DEBRIS REMOVAL SYSTEM; AND
2. BLUE GUARD INNOVATIONS INC. FOR A PILOT PROJECT TO DEMONSTRATE AN OIL DETECTION SENSOR TO PREVENT OIL SPILLS FROM VESSELS; AND
3. SPOONDRIFT TECHNOLOGIES INC. FOR A PILOT PROJECT TO DEMONSTRATE RECREATIONAL APPLICATIONS FOR A SOLAR POWERED OCEAN DATA TRACKING DEVICE; AND

4. **ROSE CANYON FISHERIES INC. FOR PERMITTING A PILOT PROJECT TO DEMONSTRATE SUSTAINABLE OFFSHORE AQUACULTURE**
- C) **RESOLUTION APPROVING AMENDMENT NO. 1 TO PURCHASE ORDER WITH SNOW & COMPANY, INC. FOR A CUSTOM MADE FLOATING UPWELLER SYSTEM (FLUPSY) INCREASING AMOUNT BY \$22,879.18 TO \$374,479.18 TO ACCOMMODATE THE CUSTOM FABRICATION AND INSTALLATION OF TRUSSES/HANDRAILS TO IMPROVE STRUCTURAL INTEGRITY**

EXECUTIVE SUMMARY:

At the December 8, 2015 Board meeting, staff provided an overview of aquaculture; its potential benefits and opportunities for the District and the San Diego region; and provided a preview of next steps to advance development of aquaculture. Since 2015, the District has been conducting studies, planning, and completing pre-development work to support and inform aquaculture opportunities in and around San Diego Bay. The District is now taking an active leadership role in the expanding domestic aquaculture industry by facilitating early development of regional marine aquaculture projects.

In 2016, the District established a Blue Economy incubator and strategic investment fund to assist in the creation, development, and scaling of new business ventures on San Diego Bay, focusing on aquaculture and blue technology. The Blue Economy incubator was launched on May 9, 2016, inviting early stage and market-ready ventures that align with the incubator objectives to submit business and pilot project proposals as the first stage of a four step competitive review process. On June 20, 2017, the Board adopted Resolution 2017-085 authorizing four agreements for pilot projects as part of the incubator first round of investment and 5-year plan to establish a Blue Economy portfolio of companies that could deliver multiple social, environmental, and economic benefits to the region. The second round of investments for the Blue Economy Incubator includes pilot projects for marine debris removal, sensor technology to prevent oil spills from vessels, real-time ocean monitoring technology for recreational maritime applications, and sustainable offshore aquaculture. Staff will be requesting direction to begin negotiating agreements with the second round of proposers contingent upon additional due diligence as suggested by the Blue Economy Ad-hoc Committee. Subsequently, staff will then return to the Board with recommendations and request authorization to begin negotiating the agreements.

As part of the June 20, 2017 approval of the Blue Economy Incubator agreement with San Diego Bay Aquaculture, the Board also approved a purchase order with Snow & Company, Inc., for a custom made floating upweller system (FLUPSY) in the amount of \$351,600. In order to improve the structural integrity of the FLUPSY, staff recommends approval of an amendment to the purchase order in the amount of \$22,879.18, for a new total of \$374,479.18.

RECOMMENDATION:

- A) Receive an update on staff's exploration of aquaculture opportunities around the San Diego Bay;
- B) Receive presentation on the District's Blue Economy Incubator and provide direction to Staff to begin negotiating agreements for the Second Round of Incubator Proposals contingent upon additional due diligence:
 1. Zephyr Debris Removal LLC. for a pilot project to demonstrate a marine debris removal system; and

2. Blue Guard Innovations Inc. for a pilot project to demonstrate an oil detection sensor to prevent oil spills from vessels; and
 3. Spoodrift Technologies Inc. for a pilot project to demonstrate recreational applications for a solar powered ocean data tracking device; and
 4. Rose Canyon Fisheries Inc. for permitting a pilot project to demonstrate sustainable offshore aquaculture
- C) Adopt a resolution approving Amendment No. 1 to purchase order with Snow & Company, Inc. for a custom made floating upweller system (FLUPSY) increasing amount by \$22,879.18 to \$374,479.18 to accommodate the custom fabrication and installation of trusses/handrails to improve structural integrity

FISCAL IMPACT:

This presentation and direction to staff has no fiscal impact. Funds for the second year of the strategic investment in the Blue Economy portfolio are included in the Aquaculture and Blue Technology approved FY 18 Budget. The proposed amendment increases the amount by \$22,879.18 to \$374,479.18. The additional funds are available in the FY17-18 Aquaculture and Blue Economy Budget.

COMPASS STRATEGIC GOALS:

Exploring aquaculture opportunities and advancing the Blue Economy incubator directly aligns with the District's core mission and with the Public Trust Doctrine and Port Act for the promotion of commerce, navigation, fisheries, and recreation. This agenda item supports the following Strategic Goal(s).

- A Port with a healthy and sustainable bay and its environment.
- A Port with a comprehensive vision for Port land and water uses integrated to regional plans.
- A Port that is a safe place to visit, work and play.
- A financially sustainable Port that drives job creation and regional economic vitality.

DISCUSSION:

A) UPDATE ON AQUACULTURE OPPORTUNITIES

Aquaculture is a growing opportunity for new business development in Southern California. The aquaculture opportunity is being driven by the need to support development of sustainable domestic marine aquaculture industry. The U.S. currently imports over 91 percent of the seafood it consumes. In economic terms, these imports consistently contribute to a nearly \$14 billion domestic seafood trade deficit each year. Globally, 50 percent of seafood produced comes from aquaculture. Domestically only three percent of seafood produced is from aquaculture. While there is a clear food production component to this demand, aquaculture offers multiple co-benefits, such as fisheries enhancement, ecosystem restoration, mitigation banking, bio-fuel/medical purposes, bioremediation, and education and outreach.

Ports can and are increasingly playing a critical role in the development of aquaculture, given their expertise, as well as the availability of land and water at ports. As the state-legislated trustee of tidelands and submerged waters of San Diego Bay, developing sustainable domestic aquaculture helps fulfill the District's public trust responsibility to promote fisheries and commerce, as well as aligning with its mission to enhance and protect the environment.

At the December 8, 2015 Board meeting, staff provided an overview of aquaculture; its potential benefits and opportunities for the District and the San Diego region; and provided a preview of next steps to advance development of aquaculture. Since 2015, the District has been conducting studies, planning and completing pre-development work to support and inform aquaculture opportunities including:

- Coastal marine spatial planning to inform future development for aquaculture
- Baywide feasibility study to assess infrastructure capable of supporting aquaculture
- Research to support the development of permit ready infrastructure
- Stakeholder outreach for the San Diego Ocean Planning Partnership
- Research to support development of an Aquaculture Technology Park

Staff is conducting a baywide feasibility study to assess critical infrastructure needs necessary to support a land based aquaculture facility and to identify suitable high-potential areas at various locations on District tidelands for such a facility. Aquaculture businesses require dock side facilities, seawater intake, discharge, and filtration systems, hatchery, nursery and grow out operations, and manufacturing facilities. This landside aquaculture facility is being explored notwithstanding any particular Blue Economy Incubator project.

Independent of the landside aquaculture opportunities, as a part of the Blue Economy, District staff is also exploring opportunities to advance other emerging aquaculture businesses. A recent example is the year-round shellfish nursery operation in the San Diego Bay, using Floating Upweller Nursery System (FLUPSY) technology. On June 20, 2017, the Board adopted Resolution 2017-085 authorizing the Executive Director to enter into an agreement with San Diego Bay Aquaculture LLC., to demonstrate shellfish aquaculture nursery operations and operate the District FLUPSY for five years (\$351,600).

B) BLUE ECONOMY INCUBATOR

The District is a long-time champion and catalyst of the region's Blue Economy with its shipbuilding, commercial fishing, marine research, cruise, and cargo business lines. Since 2016, the District has been exploring new Blue Economy opportunities as a way to diversify its portfolio of business lines and strengthen its collective economic impact. To support this effort, the District established a Blue Economy incubator and strategic investment fund to assist in the creation, development, and scaling of new business ventures on San Diego Bay, focusing on Aquaculture and Blue Technology. The formation of a Blue Economy incubator directly aligns with the District's core mission; the Public Trust Doctrine, and the Port Act for the promotion of commerce, navigation, fisheries, and recreation.

The District's Blue Economy incubator represents a launching pad for innovative projects by

providing aquaculture and blue tech entrepreneurs with key assets and services such as pilot project facilitation, permit-ready infrastructure, entitlements, market access, and strategic funding. The Blue Economy incubator is leveraging the commitment from a strategic investment fund of \$1M per year, over 5 years, to build a sustainable portfolio of new businesses and partners who can deliver multiple benefits to the whole Port community such as fisheries enhancement, ecosystem restoration, water quality improvement, environmental monitoring, education and outreach, and economic development.

The Aquaculture and Blue Tech team is implementing a five-year Strategic Business Plan for developing new business partnerships and establishing permit-ready infrastructure to foster sustainable aquaculture and pilot innovative blue technologies. The five-year plan will establish a sustainable Blue Economy portfolio to generate short-term revenue streams, to support the development of permit ready infrastructure to prepare for future opportunities of the Blue Economy.

Since the launch of the Blue Economy incubator, staff has received and reviewed multiple proposals. Proposals are reviewed following a four step cross-departmental due diligence process culminating in a staff recommendation to the Board:

Step 1 consists of a cross-departmental review of proposals involving District subject matter experts. The review and due diligence process includes evaluating the risks, as well as the potential financial, social, and environmental benefits of the proposals.

Step 2 consists of a deep dive review and face-to-face meeting with the Incubator Committee, which is comprised of the District's Chief Financial Officer, Chief Operations Officer, a representative from the General Counsel's Office, Business Director, and Subject Matter Experts. The Incubator Committee recommends if a proposal should be advanced to the next step.

Step 3 consists of a presentation of proposals advanced by the Incubator Committee to the Board's Blue Economy Investment Ad hoc Committee. The Ad hoc Committee provides staff direction and feedback regarding proposals that should be considered by the full Board.

Step 4 consists of a staff recommendation to the Board of Port Commissioners to begin negotiating agreements and a request for final Board consideration of the agreements.

To be selected for review the proposals need to provide the required business plan information for staff to analyze the market feasibility, operational/financial viability of the proposal, and alignment with the incubator objectives. The selection process balances each proposal's potential social and environmental benefit; alignment with the District's core mission and Public Trust obligation; as well as the project feasibility and potential financial return on investment. All companies that apply to the Incubator are extensively vetted through the formal four-step competitive review process and any of the selected proposals are required to undergo California Environmental Quality Act review, where applicable, and obtain all necessary permits.

Proposed Pilot Opportunities (Second Round of Investment)

The following proposals represent the second cohort of business and pilot project proposals, which

were selected for review, and vetted under the District's Blue Economy incubator competitive review process. These proposals have been vetted through Steps 1-3 of the competitive process previously described. The Ad hoc Committee has recommended presenting the proposals to the full Board for discussion.

1. Zephyr Debris Removal LLC. / Submitted on 02/25/17

Zephyr Debris Removal (Zephyr) designed and operates a custom-made vessel to conduct marine debris removal. Zephyr's proposal is to conduct a demonstration project in San Diego Bay using skimming technology designed for marine debris removal in a harbor environment for determining the effectiveness and potential scalability. The Zephyr vessel features unique custom skimming technology designed to solve a variety of logistical hurdles for efficient marine debris removal including removal of small debris, and access to shallow and rough water.

The duration of the pilot project is expected to be one year. The pilot project will collect validation data based on key variables influencing marine debris accumulation and removal (e.g. weather events, tidal swings). Zephyr's principal has over 20 years of experience in the maritime industry as a small business owner and commercial fishing captain.

The Incubator Committee offered comments in support of the proposal including:

- Provided strategic mission alignment and multiple co-benefits opportunities;
- Proposal offering innovative technology that is complementary to Environmental Programs;
- Proposer is well-qualified and experienced.

Staff recommends negotiating an agreement with Zephyr for this pilot project which may include District funding investment, District providing certain permit rights, and use of District-owned property and/or equipment in exchange for royalties on future revenue of Zephyr's technology and other considerations.

2. Blue Guard Innovations Inc. / Submitted on 05/08/17

Blue Guard Innovations (BGI) is a new division of Z-Communications Inc., a worldwide leading wireless technology provider. BGI has recently developed a patent-pending oil/fuel detection sensor, which is unique in the market due to its reliability of detection, its small size, notification system and affordability. BGI's proposal is to conduct a demonstration of its sensor technology to detect and prevent oil spills from the bilge of vessels -from detection to alert notification. BGI has been conducting laboratory testing of the sensor oil detection capacity for the vessel bilge application and logged more than 100,000 successful simulations.

The duration of the pilot project is expected to be two years. This pilot project involves validating BGI's sensor technology in a real-world environment in San Diego Bay through collaboration with multiple government agencies. The company principals have over 30 years of experience in developing and delivering innovative product to the market place.

The Incubator Committee offered comments in support of the proposal including:

- Provided strategic mission alignment and multiple co-benefits opportunities;

- Proposal offering innovative technology that is complementary to Environmental Programs
- Proposer team is well-qualified and experienced;
- Proposer involving multiple stakeholders' participation

Staff recommends negotiating an agreement with BGI for this pilot project, which may include District providing certain permit rights, pilot coordination, and use of District-owned equipment in exchange for royalties on the future revenue of BGI's technology and other considerations.

3. Spoodrift Technologies Inc. / Submitted on 08/11/17

Spoondrift Technologies (Spoondrift) is a technology start-up based in San Francisco, composed of a multidisciplinary team focused on ocean science, innovation and technology. Spoondrift developed 'Spotter', a low-cost ocean wave-current sensor (buoy) that enables use by a broad base of ocean professionals and recreational users to collect and share ocean data and improve forecasts. Spoondrift's proposal is to pilot a new revenue model for their ocean wave-current sensor and data monitoring platform for coastal tourism and recreation applications. Spoondrift technology is designed around simplicity and scalability to provide solutions for a more connected ocean and to open ocean data and provide shared access amongst many users.

The duration of the pilot project is expected to be 1 year. The pilot project involves the launch of a network of Spoondrift's ocean wave-current sensor (buoy) to demonstrate a subscription model to provide access to real-time ocean data to tourism and recreational users.

The Incubator Committee offered comments in support of the proposal including:

- Provided strategic mission alignment and multiple co-benefits opportunities;
- Proposal offering innovative technology that is complementary to Environmental Programs;
- Proposer team is well-qualified and experienced;

Staff recommends to continue conducting due diligence before negotiating an agreement with Spoondrift for this pilot project, which may include District funding investment in exchange for royalties on the future revenue of Spoondrift technology and other consideration.

4. Rose Canyon Fisheries Inc. / Submitted on 01/08/17

The Blue Economy incubator is evaluating a proposal from Rose Canyon Fisheries Inc. (RCF), a locally based, aquaculture company proposing to locate an aquaculture operation offshore of San Diego. This project, with its proximity to a major U.S. city and an extensive seafood market, has the potential to be a regional-based model and an early proving ground that can provide an invaluable data base of information that could advance the aquaculture industry nationwide.

RCF is led by Hubbs SeaWorld Research Institute (HSWRI) that is dedicated to pioneering sustainable, offshore aquaculture in the United States. The RCF team combines over 30 years of unique experience and expertise as a scientific marine conservation organization.

RCF's proposal is for the District to assist with permitting a project to develop commercial-scale, sustainable offshore aquaculture. The District's participation in permitting the pilot project would involve supporting, and potential cost sharing, of the federal environmental review for offshore

aquaculture.

The Incubator Committee offered comments in support of the proposal including:

- Provided strategic mission alignment and multiple co-benefits;
- Proposal offering new, scalable line of business that is complementary to fisheries mission; and
- Proposer team is well-qualified and experienced.

Staff recommends entering into an exclusive negotiating agreement with RCF to develop a process and cost sharing allocation for the federal permitting of the project, which may include District funding investment and staff contribution to support federal environmental review and other considerations.

Next Steps

Based on Board direction, staff anticipates returning to a future Board meeting to request approval of agreements to implement four new pilot projects under the Blue Economy incubator.

C) AMENDMENT TO FLUPSY PURCHASE ORDER

As part of the June 20, 2017 approval of the Blue Economy Incubator agreement with San Diego Bay Aquaculture, the Board approved a purchase order with Snow & Company, Inc., for a custom made floating upweller system (FLUPSY) in the amount of \$351,600. In order to improve the structural integrity of the FLUPSY, staff recommends approval of an amendment to the purchase order in the amount of \$22,879.18, for a new total of \$374,479.18. Attachment A is the proposed amendment.

General Counsel's Comments:

The Office of the General Counsel has reviewed and approved this agenda and the proposed amendment as to form and legality.

Environmental Review:

- A) Update on Aquaculture Opportunities**
- B) Blue Economy Incubator**

This portion of this Board item would receive a presentation and update on the District's Blue Economy Incubator and provide direction to staff. These items do not constitute an "approval" or a "project" under the definitions set forth in the CEQA Guidelines Sections 15352 and 15378 because no direct or indirect changes to the physical environment would occur. CEQA requires that the District adequately assess the environmental impacts of its projects. Further, while the Board may request certain project components be included, alternatives studied or other direction, such direction to staff will not bind the District to a definite course of action prior to CEQA review. Full CEQA analysis will be completed prior to the approval of any entitlements, concept approval, or agreements necessary for the project. Moreover, the Board reserves its discretion to adopt any and all feasible mitigation measures, alternatives to the projects, including a no project alternative, a statement of overriding consideration, if applicable, and approve or disapprove the projects and any permits or entitlements necessary for the same. Those decisions may be exercised in the sole and absolute discretion of the Board. Based on the totality of the circumstances and the entire record, the Board's direction solely

commits the District to discussions, and does not commit the District to a definite course of action prior to CEQA review being conducted. Therefore, no further CEQA review is required.

In addition, these items allow for the District to implement its obligations under the Port Act and/or other laws. The Port Act was enacted by the California Legislature and is consistent with the Public Trust Doctrine. Consequently, these items are consistent with the Public Trust Doctrine.

Finally, these items do not allow for “development,” as defined in Section 30106 of the California Coastal Act, or “new development,” pursuant to Section 1.a. of the District’s Coastal Development Permit (CDP) Regulations because it will not result in, without limitation, a physical change, change in use or increase the intensity of uses. Therefore, issuance of a CDP or exclusion is not required. However, the District’s projects require processing under the District’s CDP Regulations. If a project is formulated as a result of these items, the Board will consider approval of the project after the appropriate documentation under District’s CDP Regulations has been completed and authorized by the Board, if necessary. The Board’s direction in no way limits the exercise of the District’s discretion under the District’s CDP Regulations.

C) Amendment to FLUPSY Purchase Order

This portion of the Board item was categorically exempt by the District on June 22, 2017 pursuant to California Environmental Quality Act (CEQA) Guidelines Sections 15301 (Existing Facilities), 15303 (New Construction or Conversion of Small Structures), and 15306 (Information Collection) because the project would involve the minor alteration of existing public or private structures, would involve the installation of small new equipment and facilities in small structures, and would not result in a serious or major disturbance to an environmental resource. The proposed additional funds for the purchase order and structural improvements to stabilize the FLUPSY fall within the scope of that CEQA approval. No further action under CEQA is required. Neither of the proposed Board actions is considered a “separate” project for CEQA purposes but are subsequent discretionary approvals related to a previously approved project. (CEQA Guidelines § 15378(c); Van de Kamps Coalition v. Board of Trustees of Los Angeles Comm. College Dist. (2012) 206 Cal.App.4th 1036.) Accordingly, this Board action is merely a step in furtherance of the project that was found to be Categorical Exempt pursuant to CEQA and no further environmental review is required.

Further, the amendment to the purchase order with Snow & Company Inc., to increase the total amount in order to improve structural integrity of the FLUPSY is within the scope of the previously approved categorical determination which was considered “excluded development” by the District on June 22, 2017 pursuant to Section 8.a. (Existing Facilities), 8.c. (New Construction or Conversion of Small Structures), and 8.e. (Information Collection) of the District’s Coastal Development Permit (CDP) Regulations. No further Coastal Act approvals are required.

In addition, these items allow for the District to implement its obligations under the Port Act and/or other laws. The Port Act was enacted by the California Legislature and is consistent with the Public Trust Doctrine. Consequently, these items are consistent with the Public Trust Doctrine.

Equal Opportunity Program:

Not applicable.

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Attachment(s)

Attachment A: Amendment No. 1 to Purchase Order with Snow & Company, Inc.