Addendum 3D to Water Conservation Participation Agreement FY 21-22
Dedicated Irrigation Meters Measurement Program
Participant Agency Election and Authorization (as of July 2021)

Program Overview. State legislation signed by the Governor in 2018 – Assembly Bill (AB) 1668 and Senate Bill (SB) 606, also known as known as The Conservation Framework requires each Urban Water Supplier to calculate and report their Urban Water Use Objective by January 1, 2024, and to stay within their calculated annual water budget.

The Urban Water Use Objective is an estimate of aggregate efficient water use based on:

- Indoor Residential Use (population x gpcd standard);
- Outdoor Residential Use (based on measurements of irrigated and irrigable area and local weather data);
- Outdoor Use with Dedicated Irrigation Meters (based on irrigated and irrigable area and local weather data);
- Distribution System Water Losses;
- Approved Variances; and
- Potable Reuse Bonus.

Although the Department of Water Resources (DWR) will provide residential outdoor landscape measurements, Urban Water Suppliers are responsible for measuring landscape that is irrigated and irrigable by dedicated irrigation meters. As a way to provide assistance to MWDOC member Urban Water Suppliers (hereafter Participant Agency or Participant Agencies), MWDOC has entered into an Agreement with Quantum Spatial, Inc., (Quantum) and arranged for Metropolitan funding and Santa Ana Watershed Project Authority (SAWPA) funding, where applicable, to provide landscape area measurements associated with dedicated irrigation meters (the Program), which may include the creation of water efficiency budgets for dedicated landscape meter customers.

There are two main methods for capturing landscape areas: (1) remote measurement; and (2) in-field measurement. The remote method includes Quantum using 3", 4-band aerial imagery to map and measure irrigated and irrigable areas. The in-field method involves sending field crews to the site to obtain information necessary to measure the landscape area. A third option may be available, which includes utilizing statistical methods to create estimated area measurements. This could be utilized in a situation where customer contact is imperative, yet the site is unresponsive. All methodologies will result in irrigated and irrigable area measurements, following DWR's classification methodology as closely as possible. The area analysis (corrected for slope at slopes steeper than 15 degrees) will occur using GIS software once the irrigation areas, as mapped in the final database, are confirmed as final. A summary of Quantum's approach to mapping irrigated and irrigable areas for a meter service area using remotely sensed data, field verification, or statistical methodologies (Services) is set forth below.

Remotely Sensed Mapping Approach: The imagery source used for this project will be MWDOC-provided 3", 4-band imagery flown in Summer/Fall of 2020. If for any reason this imagery is unable to be used, MWDOC will direct Quantum which source to use in its place.

Quantum will define the meter service area and meter location, if the Participant Agency does not already have current data available. Quantum will run Quantum proprietary landscape area

mapping models across each customer's meter service area. With this as the starting point for the irrigated and irrigable areas, Quantum will then 'heads-up' digitize to correct for any anomalies in the modeled output. Once a draft of the irrigation areas is complete, Quantum will schedule an online review session with each dedicated irrigation meter customer. Prior to the meeting, Quantum will send a series of maps to the customer (or GIS files if the customer can utilize them) to allow for review of the data prior to the collaborative meeting. During the web meeting, Quantum mapping technicians will share their screens and interactively walk through any requested and required edits with the customer. Once finalized, Quantum will receive formal sign off that the working session has concluded in an acceptable final product. Quantum will log the date, time, and customer name in the database records so there is a metadata trail showing that the review meeting occurred, and that the data were approved. It is possible that the end customer will not respond to the project requests and, under those circumstances, the Participant Agency or MWDOC (if directed by Participant Agency) can sign off on the classification and delineation.

In-Field Mapping Approach: If field mapping of irrigated and irrigable areas is deemed necessary for any customer, Quantum will employ the use of the **WaterviewCII™** field mapping application to capture key features and georeferenced locations of the meter, service area boundary, and areas of irrigated and irrigable areas. The **WaterViewCII™ Field App** developed by Eagle Aerial Solutions gives the user the ability to work in the field to accurately identify CII water meters, geolocate the meters, classify the meter type, and help measure the irrigated area that the individual meters serve by drawing a polygon corresponding to the observed coverage area served by that meter. The data can be seamless integrated into the **WaterViewCII™** software solution, described below, or exported for use in other GIS environments.

Working closely with the customer, Quantum field staff will walk the property with the GPS-enabled tablet and mark the boundaries using the field mapping application. After the extent of the irrigated and irrigable area has been defined in the field and marked on the application, the field crew will upload the file to Quantum's internally shared database location. Once loaded, Quantum in-office mapping technicians will finalize the mapping of the irrigated and irrigable areas with the field-collected information. This will be achieved by the dedicated irrigation customer via the same screen sharing conference call process outlined in the above. When appropriate, the Participant Agency or MWDOC (if directed by Participant Agency) can approve for the customer.

Statistical Mapping Approach: The statistical mapping approach will be used, with Participant Agency permission, under the conditions where there is no response from the customer and an inability to verify the meter boundary, either in the field or remotely. Under these conditions, Quantum will use the MWDOC-provided 3", 4-band imagery flown in Summer/Fall of 2020 as described above to derive the landscape area of the customer's parcel. Utilizing the best available boundary information, Quantum will create a map of the irrigated landscape area. Then using water use information provided by the Participant Agency via MWDOC, Quantum will assign water use rates to each landscape unit based on information gathered from adjacent mapped parcels. The meter area boundary will be incrementally

adjusted using a series of logical steps until the actual water use recorded for the meter matches within 5% of the landscape area multiplied by the derived water use rates. These estimated areas and boundaries will be provided to MWDOC for sign off prior to completion. This approach will not be utilized unless agreed to by the Participant Agency or MWDOC (if directed by Participant Agency). It should be noted that the meter service point for this estimate will be approximate and will be based on information provided by the Participant Agency and not the customer.

Optional Service: Calculating Water Budgets Quantum will provide water efficiency budget calculations for the customers included in this project when specified by MWDOC for a specific Participant Agency or Participant Agency customer(s). The water budget will be calculated using the formula below and updated periodically with data from local CIMIS stations. Quantum's intent for the water budget is to mimic the aggregate outdoor water use budget recommended by DWR/SWRCB and adopted by the legislature. The formula set forth below (Water Budget Equation) is the current recommendation, but may be subject to change at MWDOC's request, to best fit with Conservation Framework methodology. This Water Budget Equation may also be adjusted per MWDOC approval and/or request by the Participant Agency.

$$(II + B) \times ETAF_{ii} \times (0.62) \times (ETo - Peff) = Water\ Budget$$

Where:

II = Irrigated Area
$ETAF_{ii}$ = Evapotranspiration adjustment factor for Irrigated Area (TBD; note, areas irrigated with recycled water may be assigned a different ETAF)
INI = irrigable area (not currently irrigated)
ET_o = Reference evapotranspiration
Peff = Effective precipitation
B = Buffer
Step 1: B= 0
Step 2: B= p x INI
P= .20

There are two potential options for calculating water budgets: (1) the fee-based WaterView Portal - Eagle Aerial's designed application to manage this data and estimate water budgets, as well as provide analytical tools that districts can use to compare actual water use against estimated budgets; or (2) a no-cost Excel Model based approach, which involves the export of the landscape area for each parcel into an excel sheet and the modeling of the water budget using CIMIS data and the Water Budget Equation. This deliverable will include the data points needed for budget calculation such as CIMIS station, landscape area. The estimate will be based on a snapshot of daily ETo (as opposed to updated ETo data over time included in the WaterView Portal), summarized into monthly summaries.

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In order to access Quantum's Services through MWDOC, Participant agency must complete and sign this Addendum 4B, sign and return the attached Non-Disclosure Agreement, and provide upfront co-funding as set forth below.

Election to Participate in Dedicated Irrigation Meters Measurement Program.

By checking the box below, _____ hereby
Name of Participant Agency

elects to participate in the Program.

Election to Participate in Dedicated Irrigation Meter Measurement Program ☐

Participant Agency Obligations. As a condition of participation, Participant Agency understands and agrees to the following:

- Participant Agency will use reasonable efforts to assist MWDOC and Quantum with customer outreach within the Participant Agency's service area.
- Participant Agency will provide Quantum with an executed copy of Quantum's Non-Disclosure Agreement, customer billing service data for Participant Agency's selected dedicated irrigation meter accounts and, if available, other customer information such as assessor parcel numbers, GIS files, and/or NAIC codes.
- Based on the number of customers selected by Participant Agency for inclusion in the Program and the methods of measurement, providing MWDOC with upfront co-funding prior to the Program commencing in Participant Agency's service area.

Participant Agency Co-Funding. Participant Agency agrees to provide co-funding for the Program in the amounts specified in the Tables below. Co-funding will be provided on a per Customer basis up to the Not to Exceed funding limit. Participant Agency understands that cost calculations are based on the best available information and are subject to change:

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Table 1

		MWDOC Cost Share				
Methodology	**Cost per Customer***	**MET Funding**	**SAWPA Funding PER METER****	**Quantity of Agency Customers**	**Quantity of Agency Meters**	**Not to Exceed Funding Limit For Fiscal Year 2021-2022**
Remote Measurement	$258.33	$85.00	$10.50	286	425	$ 45,109.88
Field Measurement	$465.52	$85.00	$10.50	72	97	$ 26,378.94
Statistical Measurement	$131.49	$65.75	$10.50	19	28	$ 955.06

*Customer is defined as one billing customer with one or more meter(s) that may irrigate one or more parcels, which are adjacent or within a spatially related area or premise (e.g. Master Association) **SAWPA funding is available only to those agencies located within the Santa Ana River watershed.

Table 2
Optional Waterview CII Database Viewer Platform

Category	**Cost**	**Participant Agency Enrolling in Optional Platform (x)**	**Number of Customers**	**Not to Exceed Funding Limit For Fiscal Year 2021-2022**
Flat Fee Per Retail Water Agency	$10,560	☒ Yes ☐ No		$ 23,001.00
Cost per customer (per water agency)	$33/customer		377	**Flat Fee + ($33x No. of Customers)**

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By signing below, Participant Agency understands that this is an addendum to the Water Conservation Participation Agreement between MWDOC and Participating Agency and that Participating Agency is bound by the terms and conditions of that Agreement. Addendum 3D is a MWDOC Administered Program as described in the Agreement. Participant Agency also understands and agrees that it is obligated to pay any co-funding amounts and/or optional Platform or Calculation fees, for any Services initiated during the term of this Addendum 3D, regardless of when the Service is completed.

This Addendum and funding authorization is effective as of the date signed below and continues through June 30, 2022 or until a replacement Addendum is approved and implemented by MWDOC, whichever comes first. All Program conditions and invoicing shall be pursuant to the terms of the Water Conservation Participation Agreement. Each form submitted shall include the total authorization of the Agency for the specified time period.

By signing, Participant Agency agrees to these terms.

Participant Agency City of Orange

_____ _____
Authorizing Signature General Manager /Designee ***Date***

Date received: _____ Approved by _____

Comments:

ORANGE COUNTY DATA ACQUISITION PARTNERSHIP (OCDAP) AUTHORIZED USER CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT

This ORANGE COUNTY DATA ACQUISITION PARTNERSHIP ("OCDAP") AUTHORIZED USER CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT ("NDA") is effective as of _____, 2021 by _____ ("Authorized User").

1. Pictometry International Corp., a Delaware company with offices at 100 Town Centre Drive, Suite A, Rochester, HY 14623 ("Pictometry"), and the Southern California Association of Governments ("SCAG") have entered into that certain agreement dated June 25, 2020 ("Agreement") for the delivery of licensed digital mapping data and software ("Licensed Products") to SCAG. Under the Agreement, certain governmental entities, including SCAG departments and non-SCAG Authorized Participants, which participate in OCDAP ("OCDAP Member Agencies") shall be granted copies of or otherwise provided access to the Licensed Products through a Participation Agreement ("Participation Agreement") with SCAG. SCAG, OCDAP, and MWDOC entered into a joint Participation Agreement dated July 9, 2020.
2. Pursuant to that Participation Agreement and for purposes of this NDA, the OCDAP Member Agency includes Municipal Water District of Orange County.
3. Pursuant to Section 5 of the Participation Agreement, Licensed Products may only be accessed or otherwise used by other entities besides SCAG, such as OCDAP Member Agencies. OCDAP Member Agencies, which includes MWDOC, in turn may choose to share Licensed Products with other partners, contractors or consultants that use the Licensed Products either at their facilities or for any Project (as defined below), provided that such partners, contractors or consultants execute this NDA.
4. The undersigned ("Authorized User") desires to use the Licensed Products solely for noncommercial use and for purposes no greater than reasonably needed to achieve the objectives of an actual project ("Project").
5. The undersigned Authorized User understands and agrees that the Licensed Products contain trade secret and/or confidential information ("Confidential Information") of Pictometry. Therefore, by signing this NDA, the Authorized User agrees that it will use, and require any of its authorized employees, agents or consultants to use, the Licensed Products solely for the Project, which is a nonexclusive, nontransferable and non-assignable right, from the effective date of this NDA in perpetuity. The Authorized User understands and hereby acknowledges that it shall be solely responsible for assuring its authorized employees, agents, and consultants comply with the terms of this NDA and shall implement whatever methods it deems necessary to assure such compliance.

IN WITNESS WHEREOF, the undersigned Authorized User, by his/her authorized signature, agrees to all terms and conditions of this NDA as of the date set forth below.

AUTHORIZED USER:

Signature: _____ Address: _____

Name: _____ _____

Organization: _____ City/Zip: _____

Date: _____ Phone: _____

Email: _____