



WaterMatch Maker University Project Plan - Draft

The purpose of this document is to equip University students with the understanding, skills and tools needed to become “WaterMatch Makers” and promote awareness on water conservation and the beneficial reuse of municipal effluent in their local communities.

This plan includes the following sections:

1. WaterMatch Program

1.1 What is WaterMatch?

1.2 Why is a University Program Needed?

1.3 What are the Elements of the WaterMatch Maker Project Plan for Individual Universities?

2. Steps of the WaterMatch Maker Project for Each University

Step 1: Register - on the WaterMatch website and adopt a zone of engagement

Step 2: Site Locations - Identify municipal WWTPs in area and add to WaterMatch Map

Step 3: Facility Profiles - Contact municipalities/WWTPs to help them fill in their Facility Profiles

Step 4: Progress Reporting – Provide updates on the University Profile on the WaterMatch Maker webpage and through social media

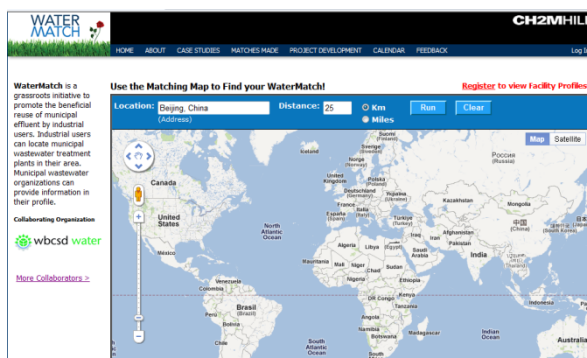
Optional Step 5: Hold a WaterMatch Meet-Up Event on Campus – suggestions and materials for a campus event to raise awareness on water conservation

1. WaterMatch Program

1.1 What is WaterMatch?

The purpose of the CH2M HILL WaterMatch Initiative is to promote the beneficial reuse of municipal effluent for industrial and agricultural use on a global basis starting at the **grassroots** level. This is a non-commercial initiative in which no fees will be required for participation by users, organizational partners or collaborating companies. A [video description](#) is available on YouTube.

WaterMatch Website and Linking “Matching Map”: An online map application allows industrial and agricultural water users to locate nearby municipal wastewater treatment plants (WWTPs) as a potential solution for site-specific water resource needs. WaterMatch is housed on CH2M HILL’s external website at www.ch2mhill.com/WaterMatch. The map application includes locations of WWTPs worldwide. Users can search the map for nearby WWTPs, as a consumer might search an area for a bookstore, by entering their location and choosing a search radius:



WaterMatch Social Network Connections: The Matching Map enables personnel who work in municipalities, industries and agriculture to find, connect, and collaborate with each other on a local basis.

1.2 Why is a University Network Program needed?

WaterMatch seeks to leverage the tremendous power of social networking and the internet. We recognize that much creative thinking in this space is led by university students.

University networks can provide effective and efficient global geographical reach to spread awareness of WaterMatch to universities around the world. Individual universities can provide local connection to municipalities in their areas.

1.3 What are the Elements of the WaterMatch Maker Project Plan for Individual Universities?

There are four steps in the WaterMatch Maker Project Plan for individual Universities:

Step 1: Register - on the WaterMatch website and adopt a zone of engagement

Step 2: Site Locations - Identify municipal WWTPs in area and add to WaterMatch Map

Step 3: Facility Profiles - Contact municipalities/WWTPs to help them fill in their Facility Profiles

Step 4: Progress Reporting – Provide updates on your University Profile on the WaterMatch Maker webpage and through social media

Optional Step 5: Hold a WaterMatch Meet-Up Event on Campus – hold a campus event to raise awareness on water conservation are provided

Future phases of collaboration could include hosting WaterMatch Meet-Ups between municipalities and industries/agriculture in an area or contacting industries/agriculture to promote the potential of water reuse in their operations.

2. Steps of the WaterMatch Maker Project for Individual Universities

This section describes the specific steps of the WaterMatch Maker Project for individual universities. The following supporting documents are posted on the WaterMatch Maker webpage:

- **WaterMatch Maker University Project Plan** (this document)
- **WaterMatch Maker Brief** – Document that Universities may share with Municipalities to introduce and explain the WaterMatch Initiative
- **WaterMatch Maker Contact Script:** Suggested communication for engaging with municipalities via email or telephone
- **WaterMatch WWTP Add Form** – Excel worksheet for the addition of new wastewater treatment plant locations and Facility Profile information
- **WaterMatch Meet-Up Event Materials** – suggestions and downloadable presentations for holding a campus event to build awareness on water conservation in the community and on the WaterMatch program

Step 1: Register on WaterMatch Website

University Registration: Universities who wish to participate in the WaterMatch Initiative and receive public recognition as “WaterMatch Makers” must first register on the WaterMatch website (on the WaterMatch Makers webpage) and adopt a zone of engagement. Universities are encouraged to do this to promote collaboration with nearby universities and prevent duplication of effort. The following information is required for registration:

- University Name and Group Name (such as Net Impact Chapter)

- University Location (Country, State/Province, City, Lat-Long)
- Local Adoption Zone (preferably a radius from University location to enable other Universities to determine existing area coverage)
- Partner Universities – for Universities that team to help each other add sites. This may be a local University or a University in another country.

Universities are required to confirm that they have read and agree with a short “WaterMatch Maker Participation Agreement” statement that is posted on the WaterMatch Makers webpage. The purpose of this agreement is to provide clarity and assurance to Universities, Municipalities and CH2MHill that the Universities will work in a collaborative manner with local Municipalities and Governments.

University Student Registration: It is assumed that a group of students may be involved from each University. Each student must register on the WaterMatch website as a “Student” user in order to view Facility Profiles.

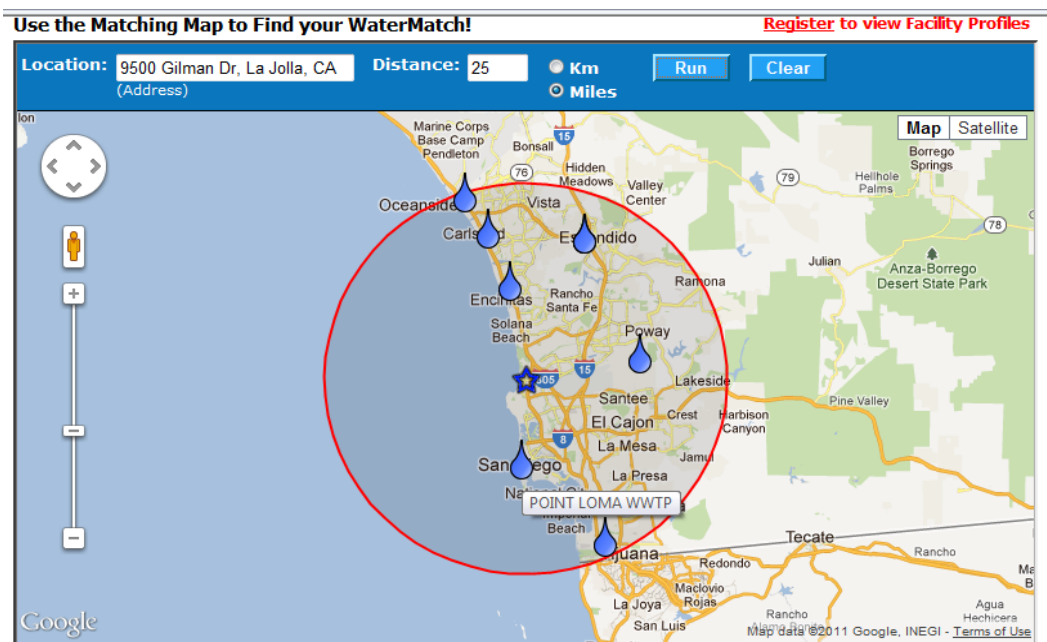
Step 2: Site Locations- Identify municipal WWTPs in area and add to WaterMatch Map

The next step is for Universities to examine the current WaterMatch Map and determine whether additional municipal WWTPs are in the area and add them to the WaterMatch Map.

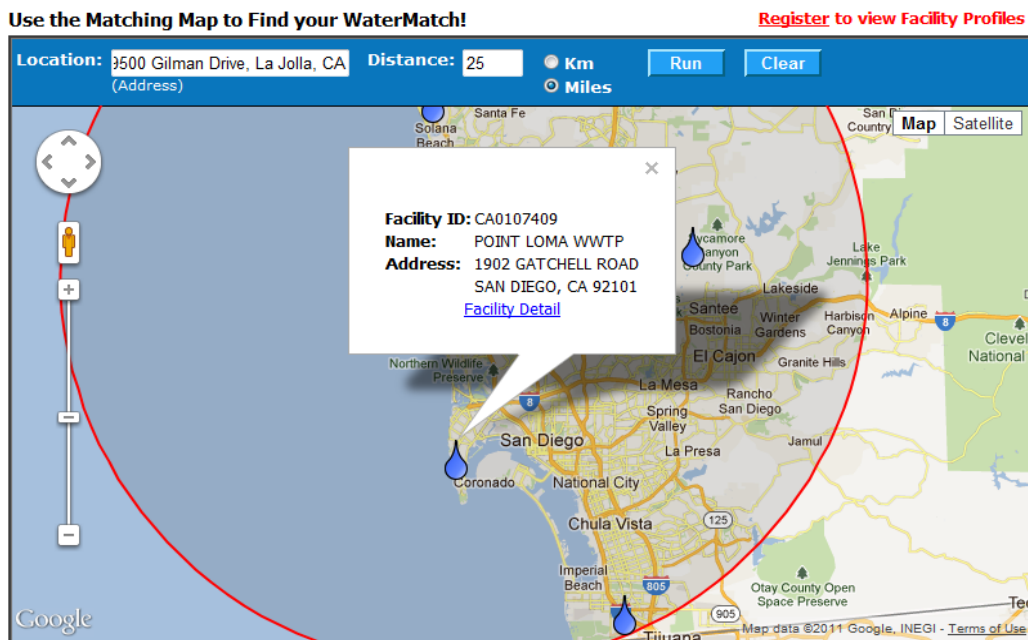
Specific steps:



Step 2.1: Identify current WWTPs on WaterMatch Map (Home Page)

- Enter University address and enter the Adoption Zone radius (25 miles recommended) on the WaterMatch Map (www.ch2mhill.com/watermatch)
- Blue water drops may appear for municipal WWTPs in the area. The current WaterMatch database is not complete. The names of the WWTPs appear when the User’s mouse/cursor is placed on the WWTP. A screenshot of the existing WWTP sites (blue water drops) may be made by pressing “Ctrl F11” on the User’s keyboard. This image can be saved for comparison with public information. An example for the University of California at San Diego is given below:



- Facility Profiles may be viewed by clicking on the blue water drop and click “Facility Detail”. The Facility Profile database is not complete.



 	
WWTP Facility Profile	
Facility Information Facility Name: <input type="text" value="POINT LOMA WWTP"/> Facility/Permit No.: <input type="text" value="CA0107409"/> Facility Address: <input type="text" value="1902 GATCHELL ROAD"/> City: <input type="text" value="SAN DIEGO"/> Country: <input type="text" value="United States"/> State/Province: <input type="text" value="CA"/> ZIP/Postal Code: <input type="text" value="92101"/> *Latitude: <input type="text" value="32.687410000000"/> *Longitude: <input type="text" value="-117.249090000000"/> *Send all update requests for these coordinates from the Feedback page. Does the facility participate in Effluent Reuse? <input type="radio"/> Yes <input type="radio"/> No Availability of Effluent for Industry Reuse? <input type="radio"/> Yes <input type="radio"/> No Facility Capacity (MGD): <input type="text"/> Facility Effluent Discharge (MGD): <input type="text"/>	
Contact Information Name: <input type="text"/> Address: <input type="text"/> City: <input type="text"/> State/Province: <input type="text"/> ZIP/Postal Code: <input type="text"/> Country: <input type="text"/> Email Address: <input type="text"/> Comments: <input type="text"/> <input type="text"/>	

Step 2.2: Determine whether additional WWTPs should be added to the WaterMatch Map. There are two general ways of determining whether WWTP sites are missing and need to be added.

- Approach 1: Investigation of Public Information on Internet: in some areas, there is information on the names and locations of municipal WWTPs available to the public on a variety of websites. Universities may search for this public information through internet search engines, local municipality websites and regulatory agencies:
 - Internet Search Engines (such as Yahoo.com or Google.com): search on keywords including the city name and sewage, wastewater, etc.
 - Municipality websites: Public departments are typically established for the collection and treatment of public wastewater. There may be one large municipality in an area or several small ones. Information on the names and locations of WWTPs may be found on these

websites. An example is West Basin Municipal Water District’s website found at www.westbasin.org.

- Regulatory Agencies: Government departments which regulate water or environmental issues may have lists of municipal wastewater treatment plants. Country-level lists were researched and employed by CH2M HILL in 2011 to create the original WaterMatch database and Map. Additional country, local or state-level lists may also be publicly available.
- **Approach 2: Contact Local Municipalities.** Universities may identify and contact local municipality departments and engage them in a review of the WWTPs on the WaterMatch Map. This approach is described further in Step 3 – Facility Profiles.

Step 2.3: Submit additional WWTP site locations to WaterMatch for addition to database and map. New WWTP sites should be documented by entering WWTP name and location on the **WaterMatch WWTP Add Form** (Excel Worksheet). The Form should be completed and submitted to WaterMatch@ch2m.com. The Form describes the information needed and the required decimal format of lat/long coordinates:

Part 1: WWTP Site Location - Information may be sourced from public records without contacting Municipal WWTP.		
Facility Name:	<input type="text"/>	Instructions: Required field.
Facility/Permit No.	<input type="text"/>	Optional.
Facility Address:	<input type="text"/>	Optional.
City:	<input type="text"/>	Optional.
Country:	<input type="text"/>	Optional.
State/Province:	<input type="text"/>	Optional.
ZIP/Postal Code:	<input type="text"/>	Optional.
Latitude:	<input type="text"/>	Required field in decimal format.
Longitude:	<input type="text"/>	Required field in decimal format.

Latitude and Longitude data is required in decimal format (XX.XXXXX, YY.YYYYYY)

As shown in the figure, longitudes to the west of the Greenwich Meridian should have a negative sign. Latitudes to the south of the Equator should have a negative sign.

Please check the lat/long coordinates on Google Maps before submitting the info.

1. Go to www.googlemaps.com. Click on the satellite view.
2. Find the WWTP on the map by typing in the address or lat/long coordinates if you have them. Visually identify the WWTP by looking for round
3. Place your mouse on the WWTP site, right click on the spot and choose "What's Here?" from the dropdown. The decimal lat/long is shown at the top of the screen. Please enter these coordinates in the form. Remember the "-" signs for West Longitude and South Latitudes.

Step 3: Facility Profiles - Contact Municipalities/WWTPs to help them fill in their Facility Profiles

The next step is for Universities to contact local municipal wastewater/sewage departments to gain their cooperation in confirming site locations (Step 2) and providing Facility Profile information. Facility Profile Information is needed to allow potential water users (industry and agriculture) to contact the municipality. This information must be secured with the cooperation of the municipality because contact information is required.

Specific steps:

Step 3.1: Identify the Municipal Wastewater/Sewage Department(s) in the Area. This information may be found through a search of the internet:

- Municipality websites: Public departments are typically established for the collection and treatment of public wastewater. There may be one large municipality in an area or several small ones. Information on the names and locations of WWTPs may be found on these websites. An example is West Basin Municipal Water District's website found at www.westbasin.org.

Step 3.2: Contact Municipal Wastewater/Sewage Department in the Area and Request Information.

- Universities may make contact by email or phone. A suggested script is attached. This script may be customized by Universities for the local situation. The key elements of the initial contact are:
 - Introduction of University name and group
 - Introduction of WaterMatch Initiative – a **WaterMatch Maker Brief** is provided for this purpose
 - Specific Requests:
 - Confirmation of WWTP Site Locations
 - Facility Profile Information for each WWTP Site – this information can be supplied to Universities to add or the Municipality may register and add the information themselves.

Step 3.3: Submit additional Facility Profiles to WaterMatch for addition to database and map. New Facility Profile Information may be added by the Municipality themselves (after registering) or by the Universities through the **WaterMatch WWTP Add Form** (Excel Worksheet). The Form should be completed and submitted to WaterMatch@ch2m.com. The Form describes the information needed for the Facility Profile:

Part 2: WWTP Facility Profile - Information must be entered or provided by the Municipal WWTP with their consent.		Instructions:
Does the facility participate in Effluent Reuse?		Yes or no.
Availability of Effluent for Industry Reuse?		Yes or no.
Facility Capacity (MGD):		Million gallons per day
Facility Effluent Discharge (MGD):		Million gallons per day
Contact Information		
Name:		Needed for contact by municipalities
Address:		Optional.
City:		Optional.
State/Province:		Optional.
ZIP/Postal Code:		Optional.
Country:		Optional.
Email Address:		Needed for contact by municipalities
Comments		Optional. Links to Municipality websites may be included here.
Photos may be added via the website.		

Step 4: Progress Reporting: Provide updates on the WaterMatch Maker webpage and through social media

The final step is for Universities to provide progress reporting on adding WWTP site location and Facility Profile information. This progress will be reported through updates on the University's Profile and will be available for the public to see. Universities may also employ the WaterMatch Makers Facebook or Twitter Accounts to provide instant news on successful contacts with municipalities.

WaterMatch Makers Webpage Progress Reporting: The following information is requested:

The screenshot shows the 'University Profile' page with two main sections:

- University Information:**
 - University Name: UC San Diego
 - Group Name: Hydro Group
 - Contact Name: Steve
 - Contact Email: skennedy@critigen.com
 - Country: United States
 - University Address: 9500 Gilman Drive
 - City: La Jolla
 - State/Province: CA
 - ZIP/Postal Code: 92093
 - Map Coordinates of Your University:
 - Latitude: 32.874780000000
 - Longitude: -117.236910000000
- Progress Reporting:**
 - Local Adoption Zone: San Diego County
 - Partner Universities: none
 - Status: Finding WWTPs
 - Number of WWTPs Added to Map: 2
 - Number of Facility Profiles Added to Map: 2
 - Success Stories and Lessons Learned: testing
 - WaterMatch Meet-Ups or Other Events Planned: none yet

Social Media: Universities may also employ WaterMatch Makers social media accounts:

- Facebook
- Twitter

The details of the Social Media functions will be developed in the first quarter of 2012.

Optional Step 5: Hold a WaterMatch Meet-Up Event on Campus

Some University groups may wish to hold a campus networking event to raise awareness on water conservation and share the WaterMatch Maker project with faculty and students. Downloadable materials will be provided to help students organize, promote and lead events:

- **WaterMatch Meet-Up Guide:** suggestions for holding an on-campus networking meeting to promote awareness on water issues in general and the WaterMatch Makers initiative.
- **Water Awareness and WaterMatch Project PowerPoint Presentation:** this presentation will be suitable for customization by Universities for their local area
- **Water Awareness and WaterMatch Handouts**
- **WaterMatch Maker Outreach Cards**

These materials are also suitable for participation in other Campus events such as Earth Day or World Water Day.

Wastewater Treatment Glossary

<http://wecleanwater.com/html/glossary-of-wastewater-treatment-terms.htm>

<http://www.lenntech.com/water-glossary.htm>

http://www.athirstyplanet.com/did_you_know/glossary/a-f

<http://ga.water.usgs.gov/edu/dictionary.html>