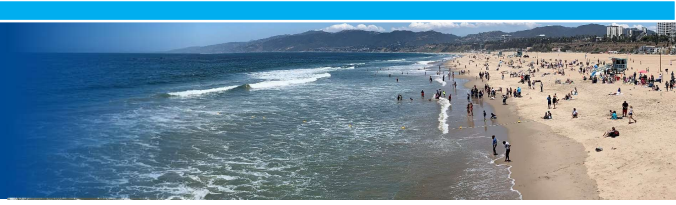

MEMO

TO: Gateway Water Management Authority

FROM: Craftwater Engineering, Inc.

SUBJECT: Gateway Area Pathfinding Phase 1 Summary Technical Memorandum

This memo presents the results of Phase 1 of the Gateway Area Pathfinding Study, conducted on behalf of the Gateway Groups (Lower LA River, Lower San Gabriel River, and Los Cerritos Channel Watershed Groups). Since the adoption of the Groups' Watershed Management Programs (WMPs), member agencies have made significant progress identifying, designing, and implementing some of the most successful stormwater management projects in the region. However, as more of these stormwater capture projects come online, there is a need to better understand their overall water quality performance, where additional projects may be needed, what options may exist, and how these options might interact with and complement the existing projects in the Groups' watershed areas. ***The results presented herein (1) document the progress made by the existing projects and those funded for implementation through the Safe Clean Water (SCW) Program, (2) help to contextualize and compare the most recent SCW Program submissions, and (3) present a range of additional watershed-wide opportunities available to pursue***. These data will help decision makers better understand their options for regional stormwater capture and point to locations where distributed practices might fill in coverage gaps and offer valuable multi-benefits to the community. Further, a robust accounting of project options will help managers and communities identify preferences that can then be further assessed in future phases of this study.

1.0 INITIAL INVENTORY OF WATERSHED-WIDE OPPORTUNITIES

An initial inventory of existing regional projects and those that have been funded for design as well as those that have been submitted in the most recent round of the SCW Program was conducted as a baseline for analysis of stormwater management activities in the Gateway Groups' watershed areas. This served not only to catalog what has been done in these areas but also to help screen out overlapping or conflicting projects during further identification of watershed-wide opportunities. Additionally, this inventory serves as a baseline accounting of watershed-wide activities that will evolve over time as more projects are identified and developed. These projects are presented in the following sections as well as methods the methods to use engineering-realistic analysis to identify and parameterize additional regional and distributed opportunities throughout the Groups' jurisdiction.

1.1 Existing (or In-Construction) Projects

The first step in the analysis was to take inventory of existing or nearly operational stormwater projects across the study region. Existing project locations and attributes were compiled from SCW applications and the RAA project database. These projects (shown in **Figure 1-1** below) served as the baseline conditions for the modeling and analysis.

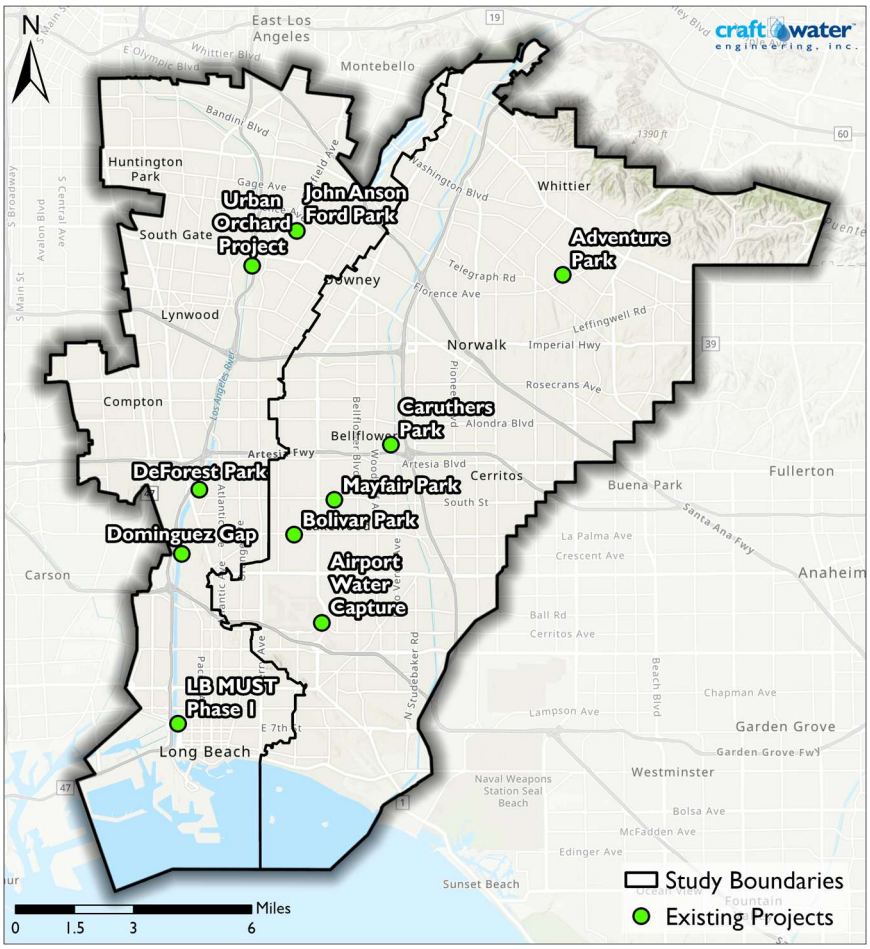

Figure 1-1. Existing Projects compiled within the Gateway Watershed Areas.

1.2 Newly Identified Regional Opportunities

To augment the database of previously identified regional capture projects, new potential project opportunities were identified across the Gateway watersheds using high-resolution GIS datasets and novel analytical techniques.

1.2.1 Identifying Project Polygon Opportunities

Publicly-owned parcel polygons served as the starting place for feasible project space. These polygons were further modified to have more realistic potential footprints using high resolution landcover classification data from LARIAC (Los Angeles Region Imagery Acquisition Consortium). Polygon modification was carried out by removing 20-foot buffers around existing buildings and 10-foot buffers around existing tree canopy. An example of the resulting project space polygon is shown in **Figure 1-2** below.

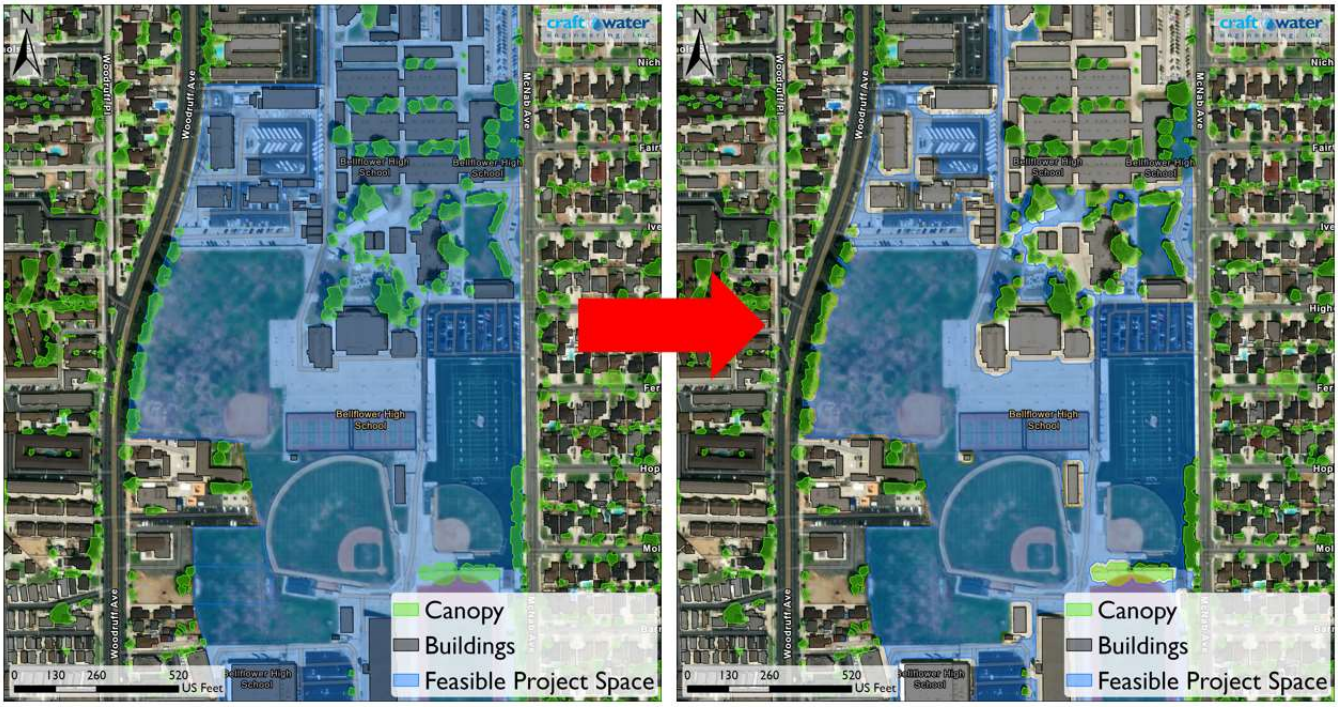

Figure 1-2. Initial project opportunities before (left) and after (right) the initial screening and modification process.

1.2.2 Identifying Optimal Diversion Points and BMP Footprints

The next step in screening the projects was to identify the best point along adjacent storm drains to divert runoff to each potential project. To accomplish this task, 1,000-foot divertible service areas polygons were developed around each of the potential project polygons using the LA County Street Network as a guide. An example of one such polygons is displayed on the left side of **Figure 1-3** below.

Next, the drainage area for each storm drain segment that intersected the 1,000-foot service area was calculated. Using the storm drain drainage area estimates and feasible project space polygons, potential diversion points, diversion pipe alignments, and project fooprints were created (**Figure 1-3**). These data were used to estimate potential project drainage area, cost, and therefore, performance.

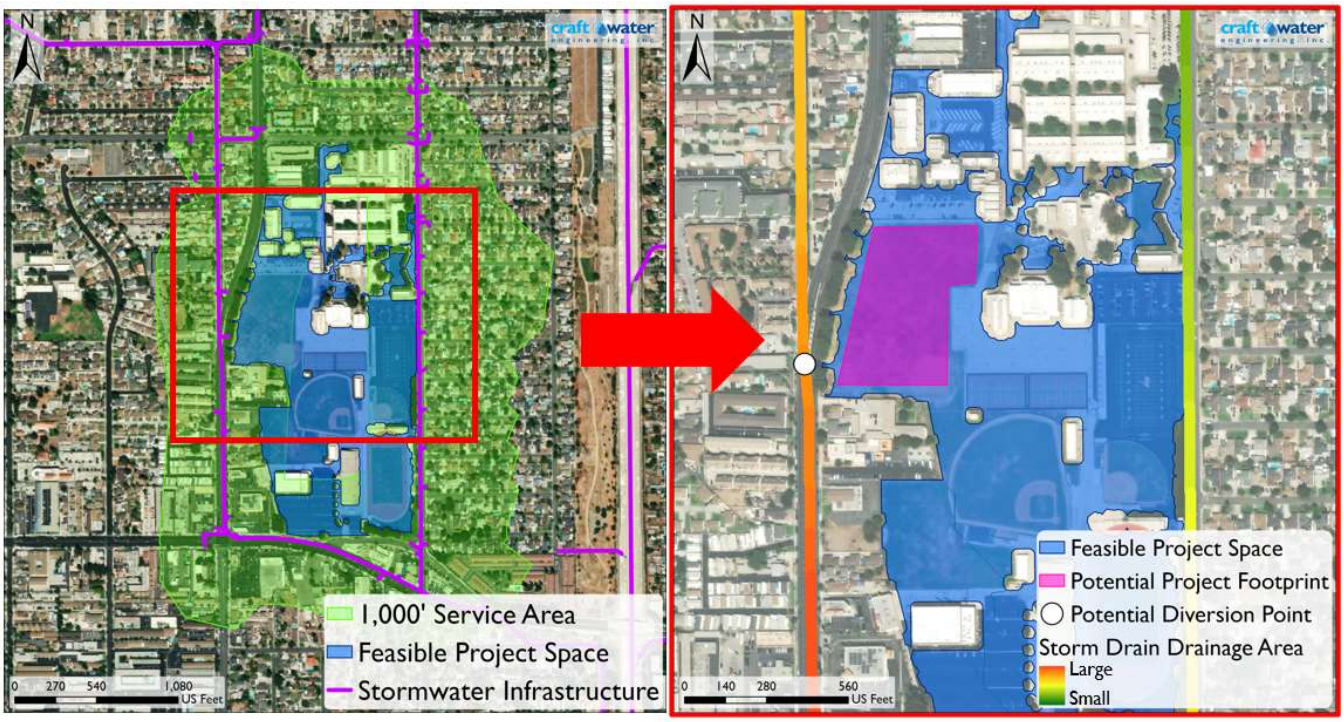

Figure 1-3. 1,000’ service area polygons were used to find the optimal diversion point and refine project opportunity footprints.

Applying this process throughout the entire Gateway watershed area led to the identification of 143 new potential project opportunities. These opportunities were mapped in **Figure 1-4**.

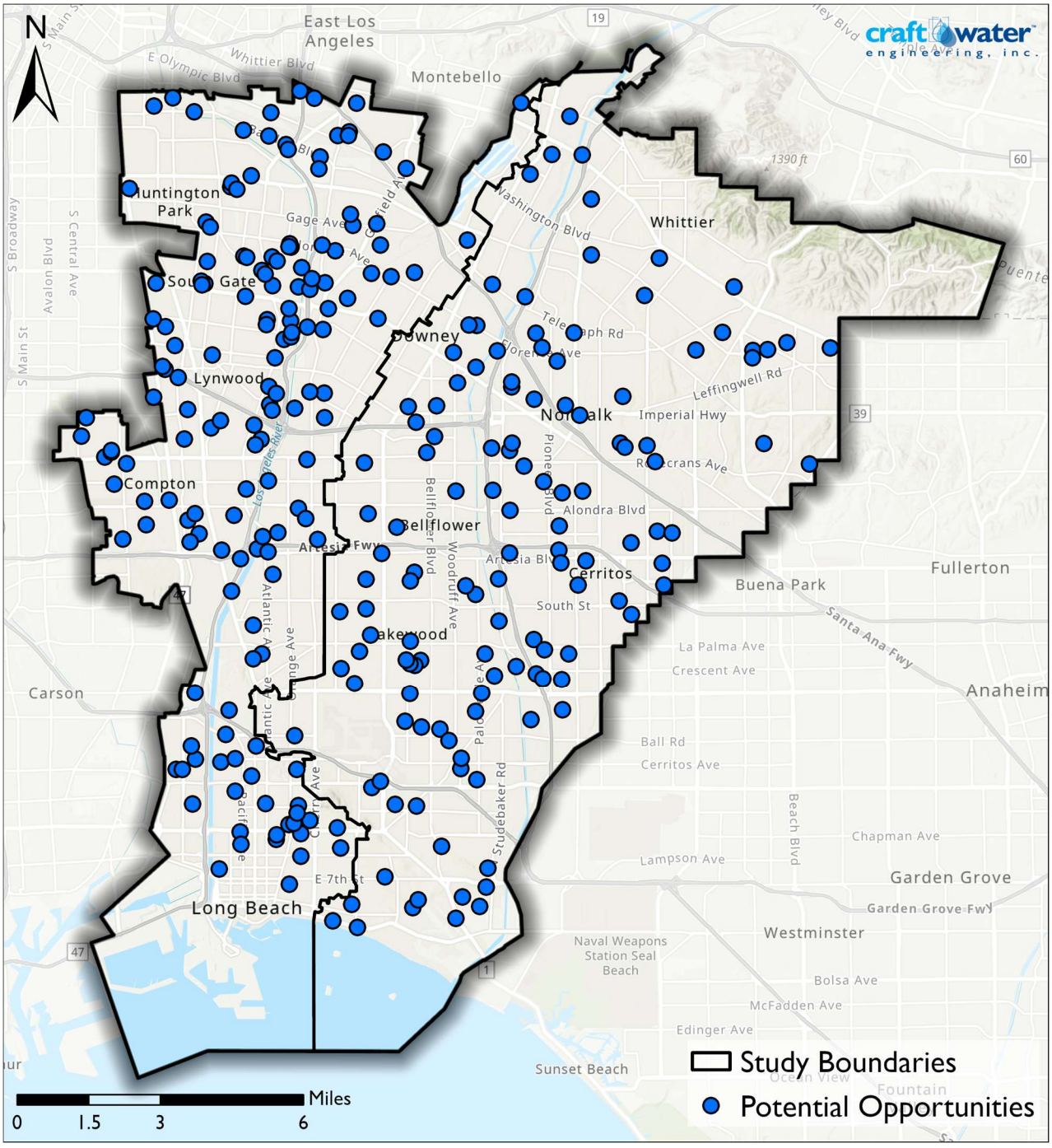

Figure 1-4. Newly identified project opportunities across the LLAR and LSGR Regions.

1.3 Community-Based Local Green Infrastructure (GI) Opportunities

In addition to regional project identification, distributed project opportunities were identified across the study area. Individual bioretention opportunity polygons were derived by identifying areas of grass or bare soil on parcels using high resolution landcover classification data from LARIAC. Building and property line setbacks (15' and 10' respectively) were enforced and active recreational areas (such as sports facilities) were removed to ensure feasibility. An example of the resulting bioretention opportunity polygons is shown in **Figure 1-5** below.

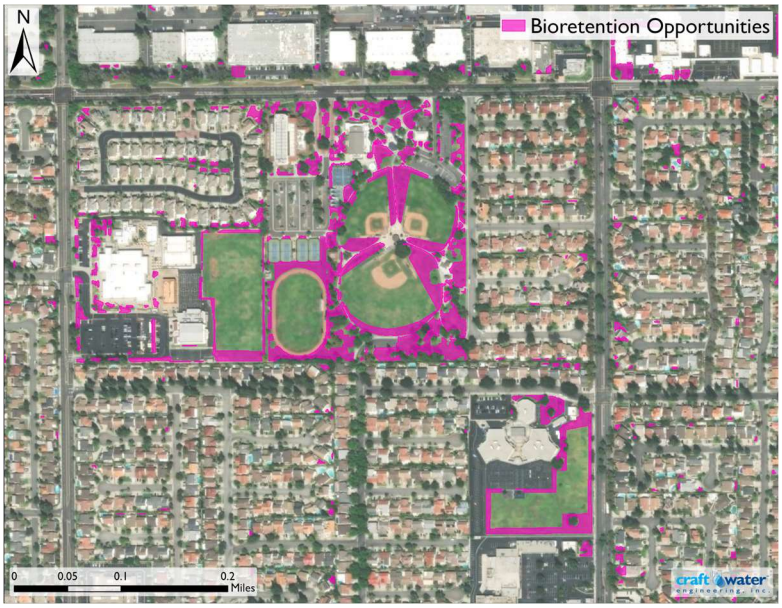

Figure 1-5. Bioretention opportunity polygons.

The density of the bioretention opportunities was calculated for the entire study area to visualize which areas were more conducive to distributed green infrastructure projects. The resulting density layer is shown in **Figure 1-6** below.

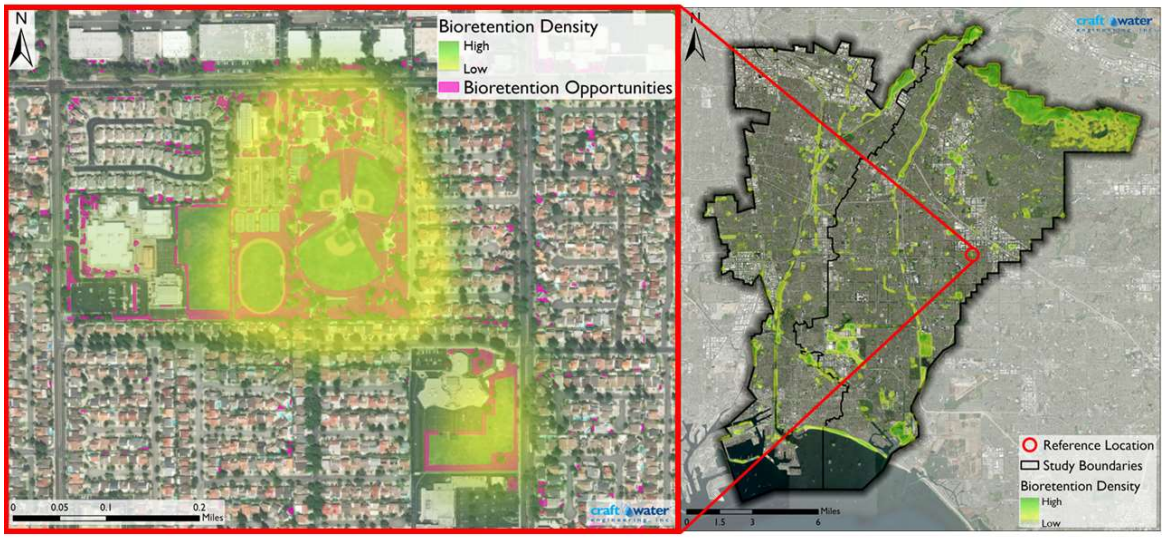

Figure 1-6. Bioretention density layer shown at the neighborhood (left) and watershed (right) scale.

2.0 MODELING WATERSHED-SCALE IMPACTS OF EXISTING, PLANNED, AND POTENTIAL OPPORTUNITIES

Using the initial regional project inventory and the additional project identification results, groupings of projects were defined to help the Gateway Groups contextualize what they have done, what is in progress, what is under current consideration, and what are future options for funding and implementation. These groupings are as follows, and are shown in **Figure 2-1** for context:

1. ***Existing Projects***: These projects are either built and operating or near operational
2. ***Funded SCW Projects***: These projects have received funding for design and/or construction through the SCW Program but have not yet reached implementation
3. ***Submitted SCW Projects***: Projects submitted most recently for consideration in SCW Program round 4
4. ***Potential Opportunities***: Potential projects identified as part of this study for future consideration

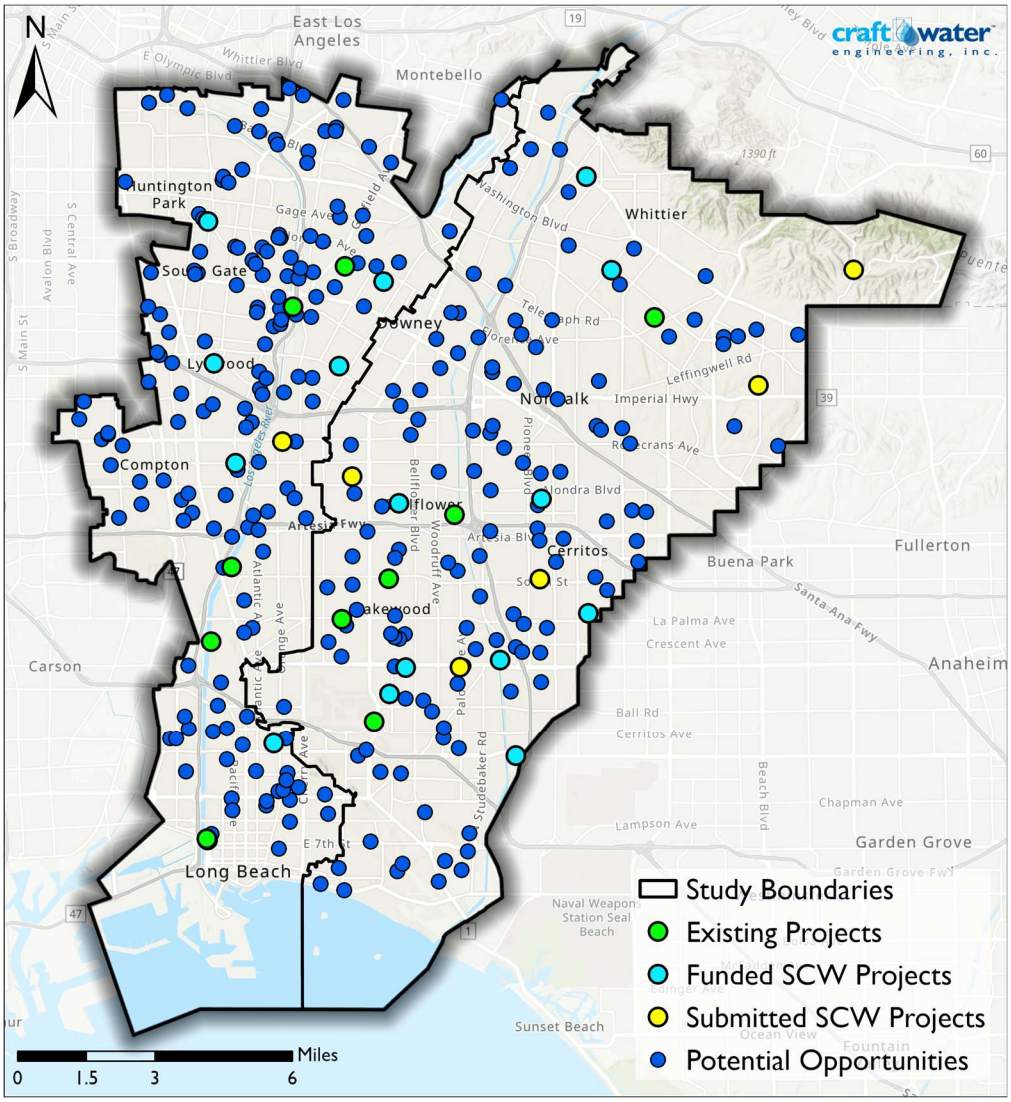

Figure 2-1. Watershed-wide opportunities and classified groupings.

2.1 Existing Projects Performance Summary

From the initial project inventory, the Existing Projects that are constructed--or nearly so--have been summarized below. **Table 2-1** provides a summation of stormwater benefits provided by these projects and **Figure 2-2** demonstrates the watershed coverage and magnitude of water quality benefit for the Gateway Groups' watershed areas.

Table 2-1. Existing projects stormwater benefits.

Total Storage Volume (ac-ft)	Estimated Treated Runoff (ac-ft/yr)	Estimated Zinc Reduction (lbs/yr)
32	2,948	2,195

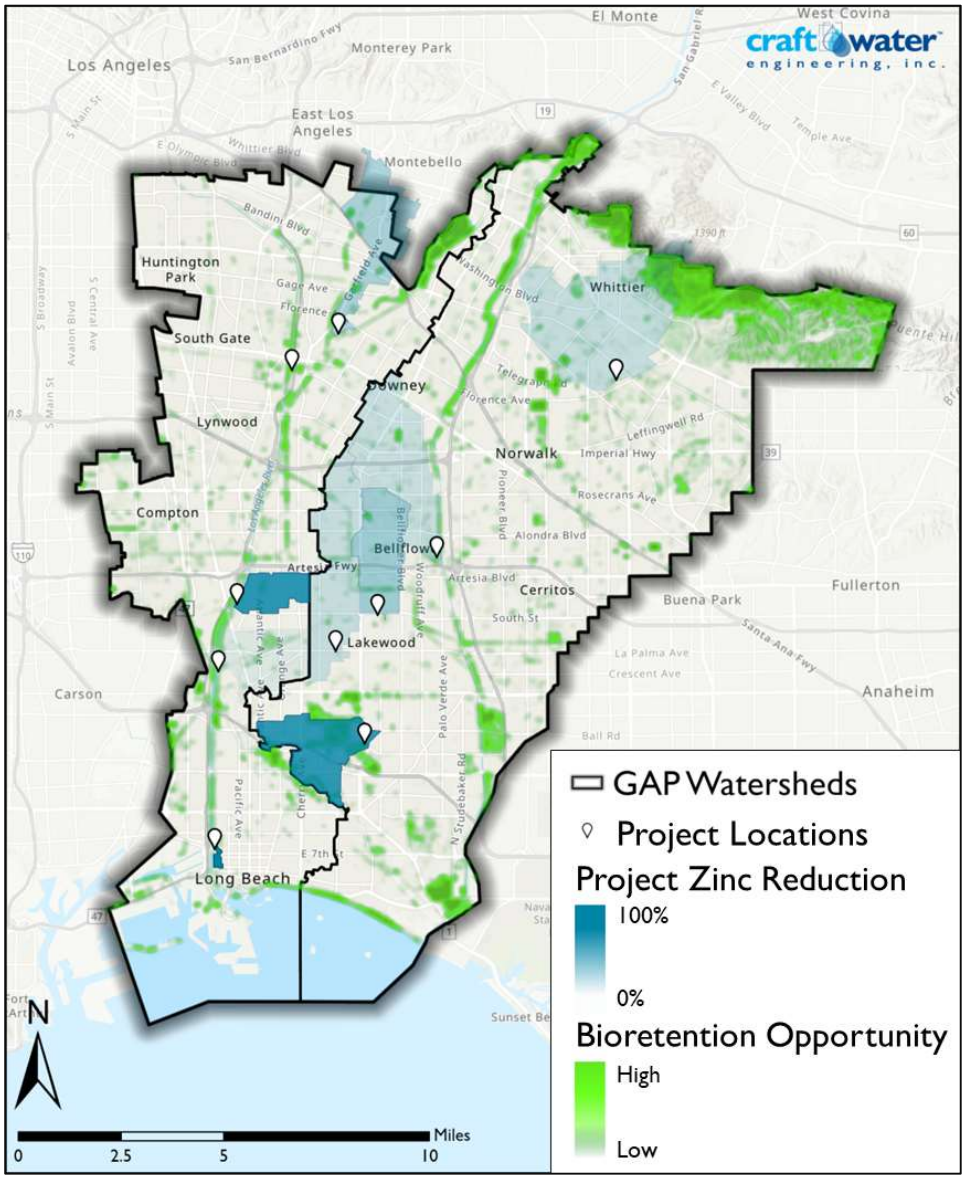

Figure 2-2. Existing projects, drainage areas, and zinc reduction estimates by area.

2.2 Funded SCW Projects

While still mostly in design phases, the Funded SCW Projects represent the next wave of projects that will likely be implemented by the Gateway Groups. **Table 2-2** provides a summation of stormwater benefits provided by these projects and **Figure 2-3** demonstrates the watershed coverage and magnitude of water quality benefit for the Gateway Groups' watershed areas. Note that these results include the reductions attributed by the Existing Projects to measure the overall system benefits of all of the projects together as these Groups progress towards compliance.

Table 2-2. Total cumulative benefits after addition of funded SCW projects.

Total Storage Volume (ac-ft)	Estimated Treated Runoff (ac-ft/yr)	Estimated Zinc Reduction (lbs/yr)
74	7,931	5,214

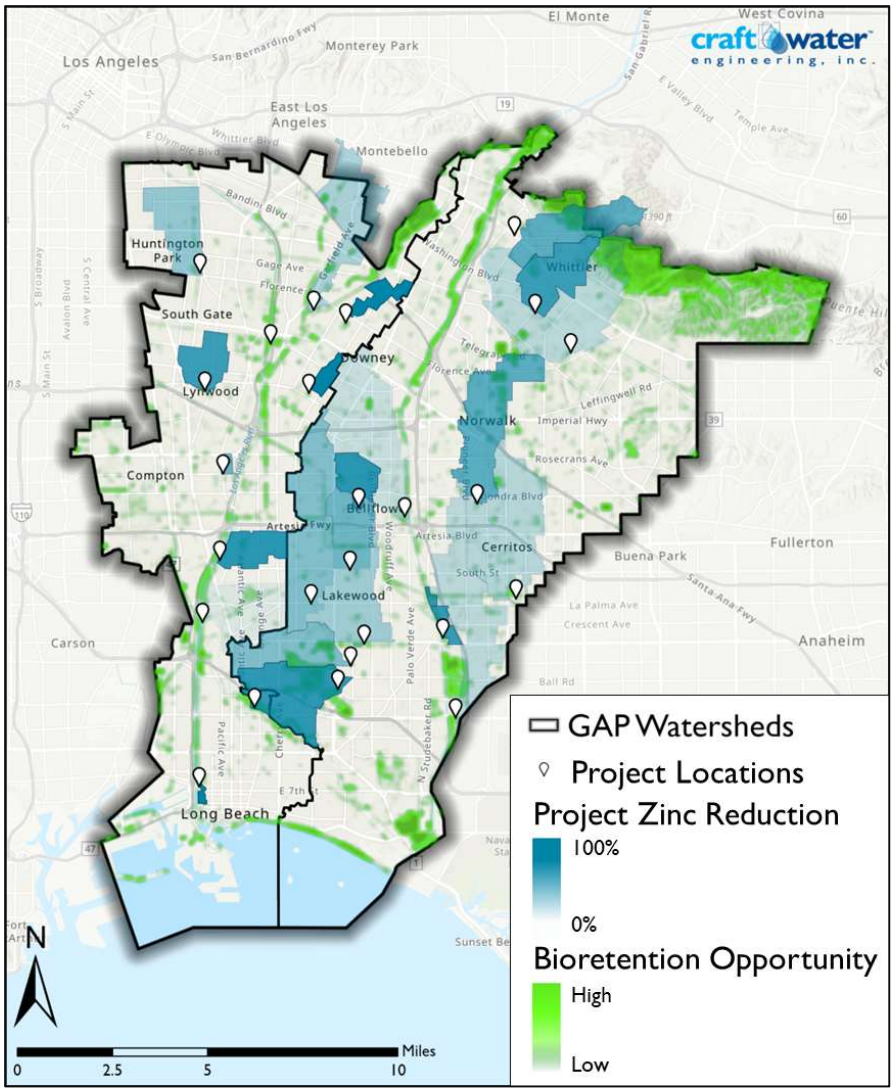

Figure 2-3. Funded SCW projects, drainage areas, and zinc reduction estimates by area.

3.0 CONTEXTUALIZING SCWP YEAR 4 PROJECTS

To understand overall watershed progress and how the most recently developed project concepts would fit in with other Existing or Funded Projects, each project submitted to the SCW Program for Round 4 funding was analyzed to determine both the isolated and combined performance given its design characteristics and location within the watershed in relation to the Existing and Funded Projects. The information below aids in contextualizing the true potential of each proposed project within the study area (**Figure 3-1**). Evaluating each of these projects in relation to other existing or high probability projects provides a better understanding of the net water quality benefits and allows for true-to-implementation comparison of these options.

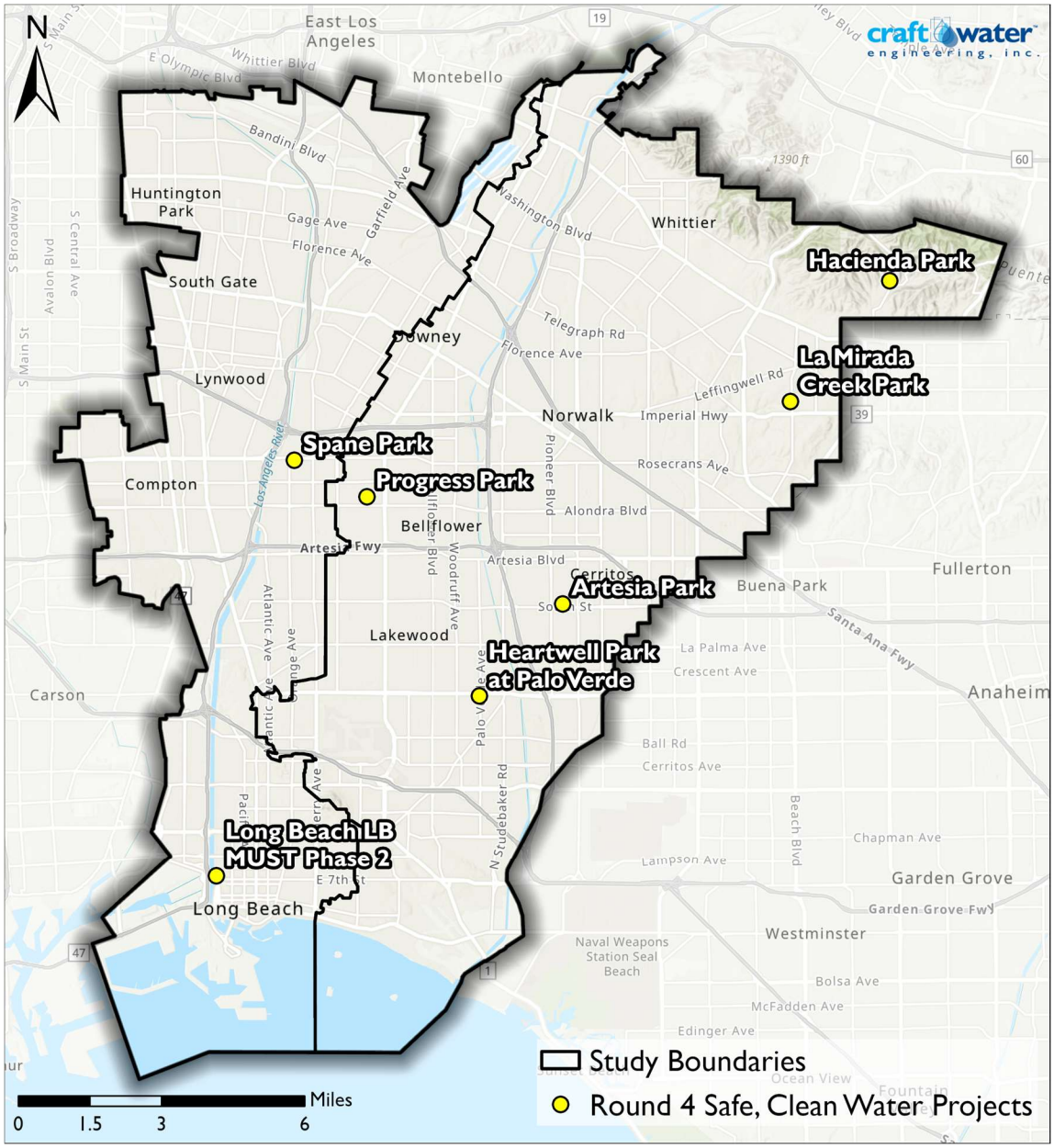

Figure 3-1. Locations of projects submitted in round 4 of the SCW Program.

3.1 Artesia Park

Artesia Park Urban Runoff Capture project is located downstream of Hermosillo Park and Upstream of Cerritos Sports Complex, shown in **Figure 3-2** below. The construction of the Artesia Park BMP would increase total removed pollutant load but would decrease the performance of the BMP at Cerritos Sports Complex (**Table 3-1**).

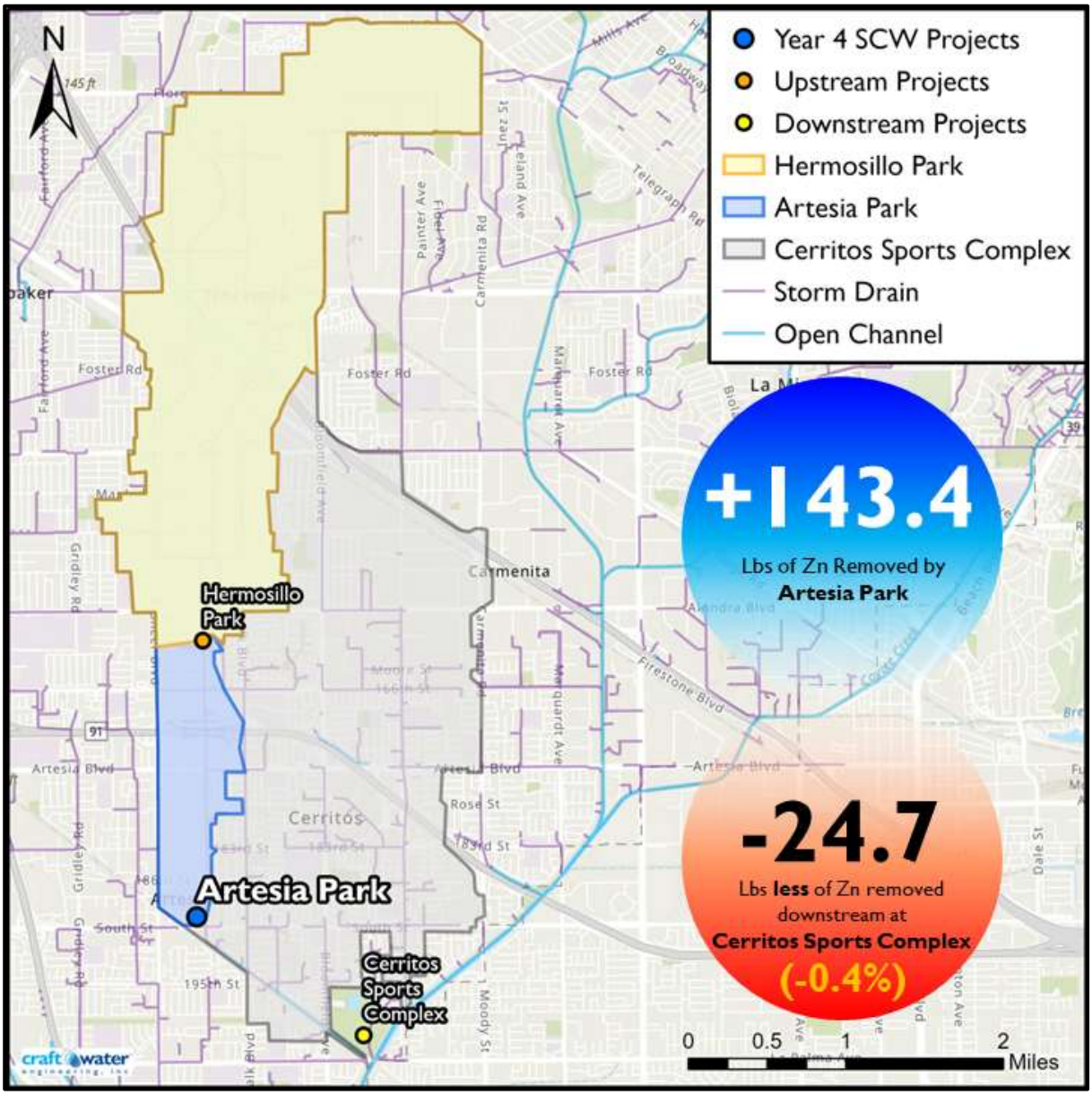

Figure 3-2. Nested drainage areas interacting with Artesia Park.

Table 3-1. Zinc reduction of projects interacting with Artesia Park.

Project	Avg. Annual Water Capture (AF/yr)	Avg. Annual Zinc Reduction (lbs/yr)	Percent Zinc Reduction (%)	Dollars per Zn Reduction ($/lb)
Artesia Park (Isolated)	436	211.5	62.6%	$7,419
Artesia Park (with Hermosillo Park)	192	143.4	81.2%	$10,942
Cerritos Sports Complex (with Hermosillo Park, before Artesia Park)	244	180.9	27.3%	$13,311
Cerritos Sports Complex (with Hermosillo Park, after Artesia Park)	244	156.2	27.6%	$15,415

3.2 La Mirada Creek / Hacienda Park

The proposed Hacienda Park project is nested within the drainage area of the proposed La Mirada Creek Park project, as displayed by **Figure 3-3** below. **Table 3-2** shows that when the two projects are modeled as a system, the downstream La Mirada Creek project's performance is lessened slightly.

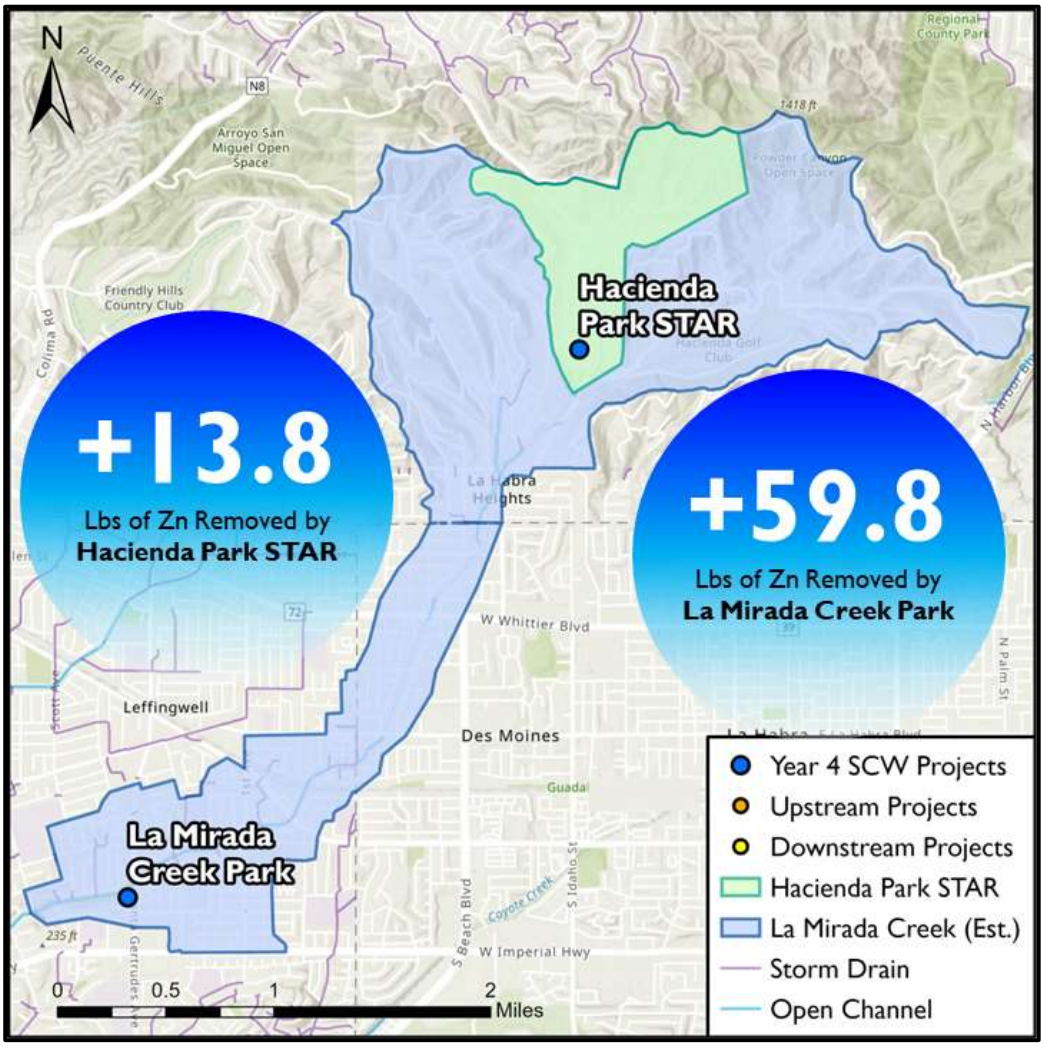

Figure 3-3. Nested drainage areas interacting with La Mirada Creek Park.

Table 3-2. Zinc reduction performance of Hacienda Park and La Mirada Creek Park.

La Mirada Creek Performance	Avg. Annual Water Capture (AF/yr)	Avg. Annual Zinc Reduction (lbs/yr)	Percent Zinc Reduction (%)	Dollars per Zn Reduction ($/lb)
Hacienda Park STAR	92	13.8	59.3%	$51,076
La Mirada Creek Park (Isolated)	386	61.5	20.5%	$107,617
La Mirada Creek Park (After Hacienda Park)	386	59.8	20.3%	$110,678

3.3 Heartwell Park – Palo Verde

Caruthers Park has two diversions, one of which is within the drainage area of the proposed BMP at Heartwell Park at Palo Verde as displayed by **Figure 3-4**. Much like the Spane/Apollo Park scenario above, the magnitude of the zinc reduction achieved by Heartwell Park is smaller when analyzed as a system and the percent zinc reduction is slightly higher due to the decreased divertible flow that reaches Heartwell Park (**Table 3-3**).

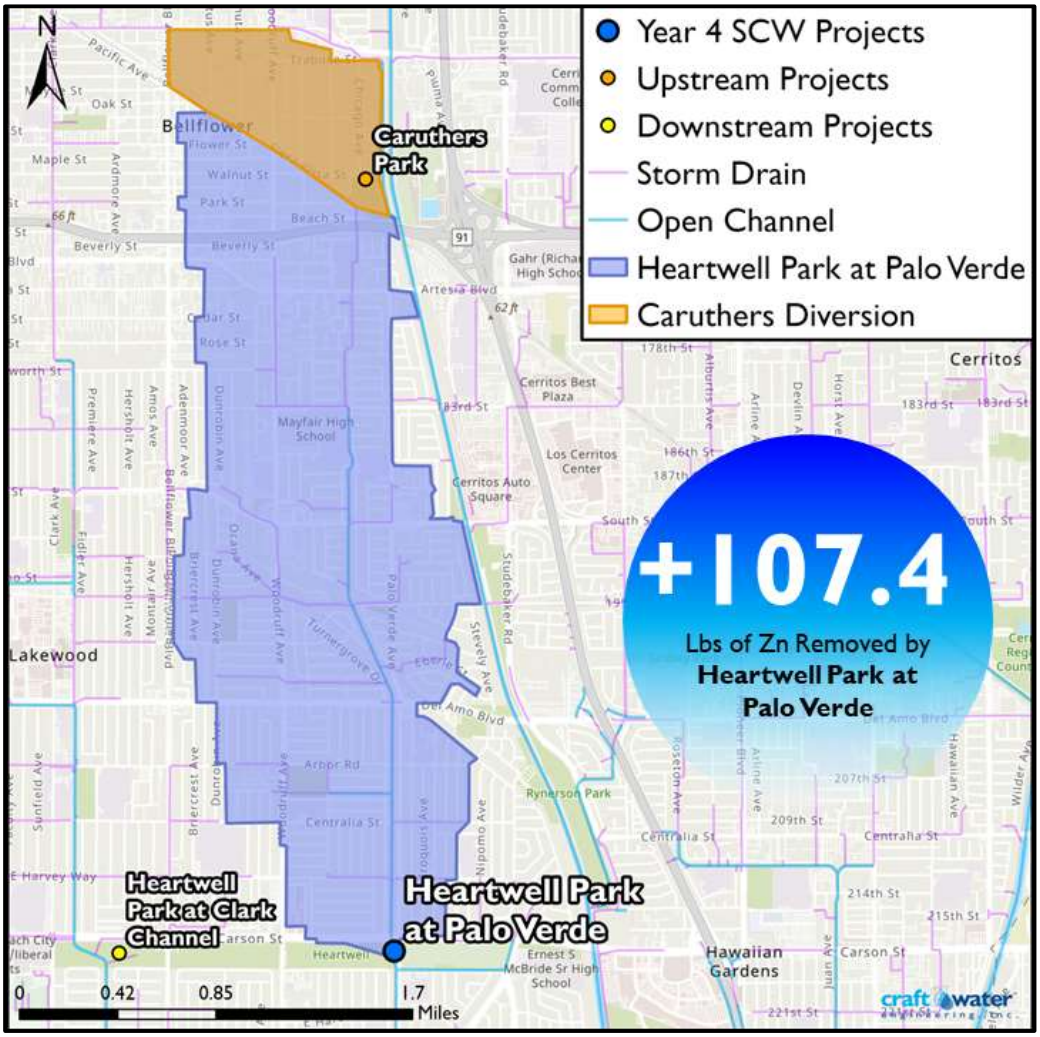

Figure 3-4. Nested drainage areas interacting with Heartwell Park at Palo Verde.

Table 3-3. Zinc reduction performance of Heartwell Park at Palo Verde in conjunction with Caruthers Park.

Project	Avg. Annual Water Capture (AF/yr)	Avg. Annual Zinc Reduction (lbs/yr)	Percent Zinc Reduction (%)	Dollars per Zn Reduction ($/lb)
Heartwell Park (Isolated)	323	115.5	59.9%	$28,679
Heartwell Park (With Caruthers Park Diversion 2)	301	107.4	61.0%	$30,846

3.4 Progress Park

Progress Park is located at the top of a nested drainage area composed of Bolivar Park and Heartwell Park at Clark as seen in **Figure 3-5**. The proposed project at Progress Park lessens the performance of the downstream Bolivar and Heartwell Park, while still maintaining a net increase in zinc reduction (**Figure 3-5** & **Table 3-4**).

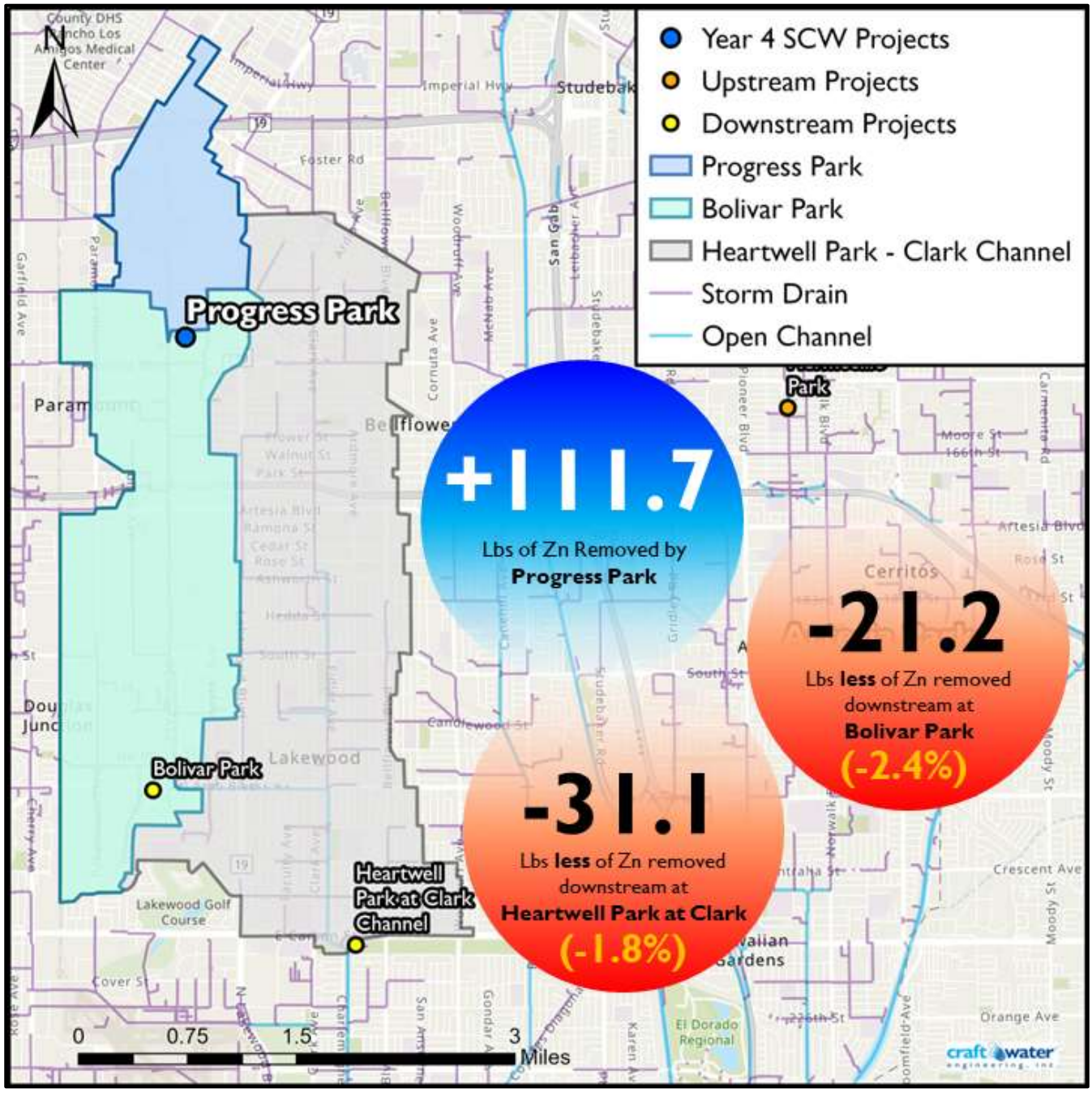

Figure 3-5. Nested drainage areas interacting with Progress Park.

Table 3-4. Zinc reduction performance of Progress Park, Bolivar Park, and Heartwell Park at Clark Channel.

Project	Avg. Annual Water Capture (AF/yr)	Avg. Annual Zinc Reduction (lbs/yr)	Percent Zinc Reduction (%)	Dollars per Zn Reduction ($/lb)
Progress Park (Isolated)	201	111.7	83.0%	$19,346
Bolivar Park (Before Progress Park)	220	120.1	54.4%	$10,531
Heartwell at Clark (Before Progress)	799	399.3	62.7%	$59,784
Bolivar Park (After Progress Park)	220	99.0	52.0%	$12,787
Heartwell at Clark (After Progress Park)	829	368.2	60.9%	$64,831

3.5 Spane Park

The drainage area of Apollo Park is nested within the drainage area of the proposed Spane Park Project shown in **Figure 3-6**. **Table 3-5** demonstrates that when the two projects are analyzed together, Spane Park captures less zinc per year (140.0 to 134.5), but the percent reduction is increased from 80.5% to 83.1% since the divertible runoff is reduced by Apollo Park.

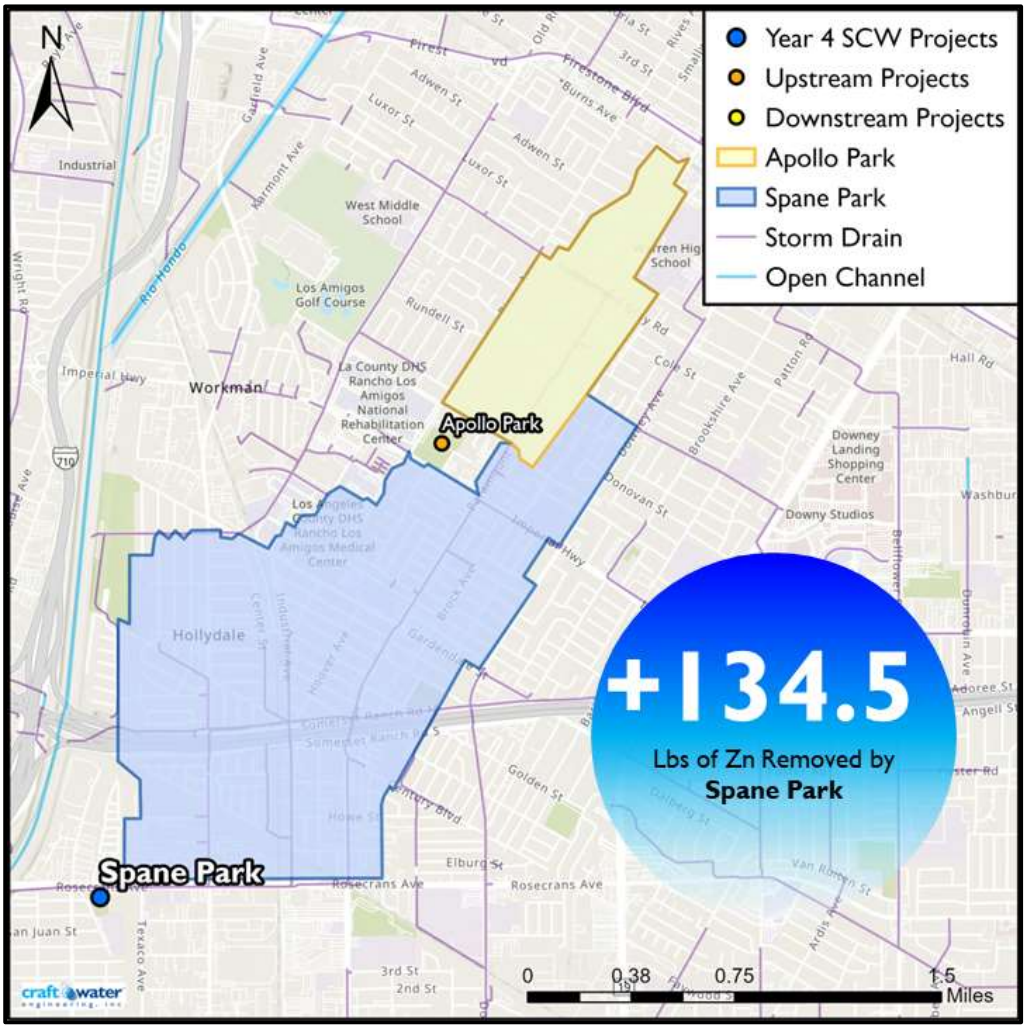

Figure 3-6. Nested drainage areas interacting with Spane Park.

Table 3-5. Zinc reduction performance of Spane Park in conjunction with Apollo Park.

Project	Avg. Annual Water Capture (AF/yr)	Avg. Annual Zinc Reduction (lbs/yr)	Percent Zinc Reduction (%)	Dollars per Zn Reduction ($/lb)
Spane Park (Isolated)	217	140.0	80.5%	$135,103
Spane Park (With Apollo Park)	188	134.5	83.0%	$140,624

3.6 Long Beach MUST Phase 2

The proposed Long Beach MUST Phase 2 Project has several diversions. The LA03 diversion's drainage area includes the Willow Springs Park Drainage area as shown in **Figure 3-7** below. The BMP at Willow Springs Park reduces the potential zinc capture at the LA03 diversion, and as such reduces the performance of LB MUST Phase 2 (LA03 Diversion) slightly due to upstream capture of a small portion of dry-weather flows.

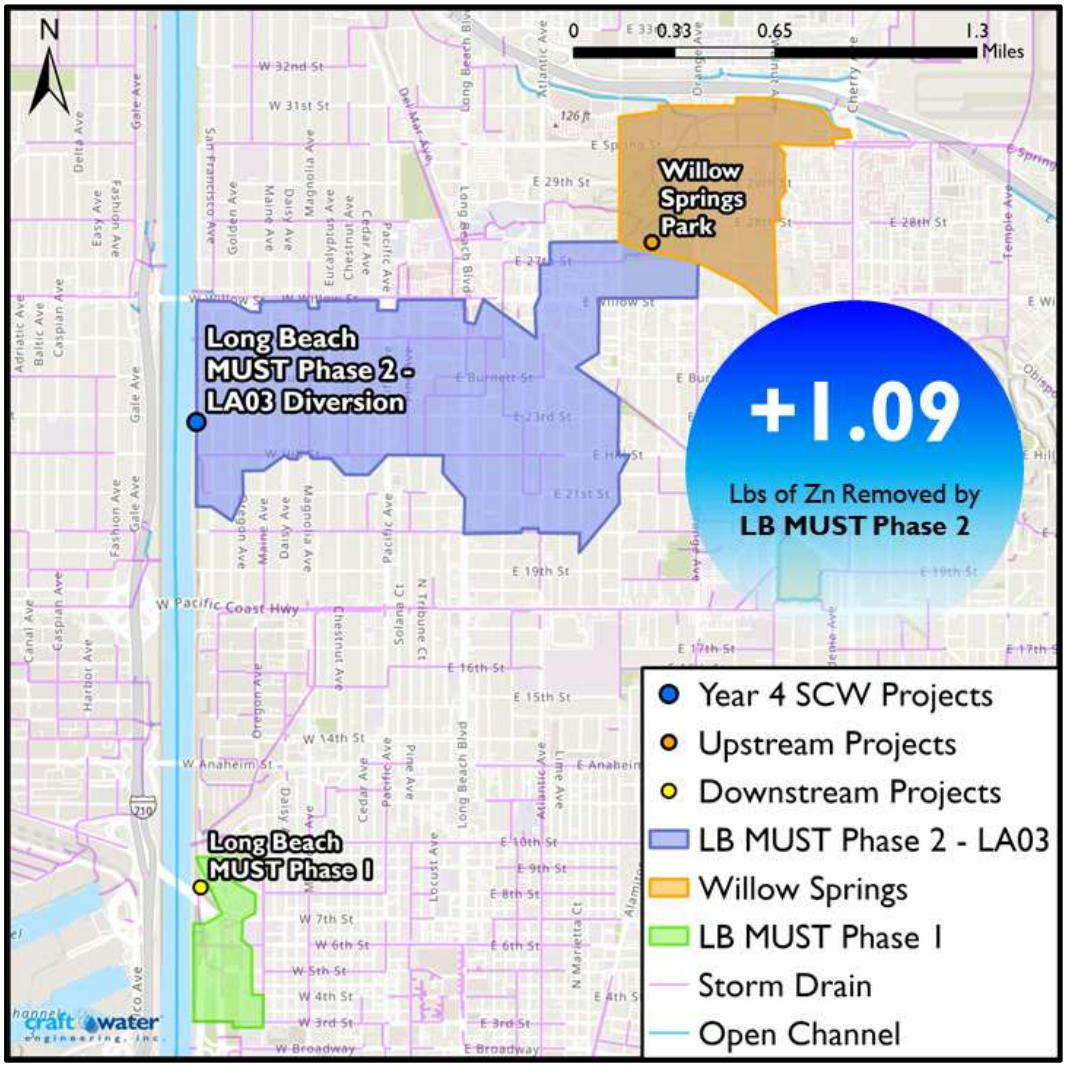

Figure 3-7. Nested drainage areas interacting with Long Beach MUST Phase 2.

Table 3-6. Zinc reduction performance of LB MUST Phase 2 and Willow Springs Park.

Project	Avg. Annual Water Capture (AF/yr)	Avg. Annual Zinc Reduction (lbs/yr)	Percent Zinc Reduction (%)	Dollars per Zn Reduction ($/lb)
LB MUST Phase 2 LA03 (Isolated)	20	1.33	41.8%	$7,800,458
LB MUST Phase 2 LA03 (with Willow Springs Park)	20	1.09	36.9%	$9,501,073

3.7 Summary

Table 3-7 below summarizes the range of water quality performance for the Year 4 projects submitted both isolated (Maximum) and within the context of other high probability or existing projects (Minimum). **Table 3-8** displays the total net water quality benefits should all Year 4 projects be added to the overall Gateway watershed area's stormwater management infrastructure. ***Note that, even though some projects my interact with upstream or downstream projects, all projects beneficially contribute towards meeting watershed goals. The analyses were conducted based on data provided via the SCW Program portal and the methods presented herein, and only evaluated runoff volume and pollutant capture; the results should be considered in the context of all other information provided by project developers, such as Community Investment Benefits and other SCW Program Goals that were not assessed during this study.***

Table 3-7. Summary of performance range for recently submitted SCW projects.

		Analyzed in Isolation Maximum Performance			Analyzed in Context of Other Projects Minimum Performance		
Watershed Area	Project	Avg. Annual Water Capture (AF/yr)	Potential Zinc Reduction (lbs/yr)	Dollars per Potential Zn Reduction ($/lb)	Avg. Annual Net Water Capture (AF/yr)	Potential Net Zinc Reduction (lbs/yr)	Dollars per Potential Zn Reduction ($/lb)
LSGR	Artesia Park	436	211.5	$7,419	192	118.7	$13,217
LSGR	Hacienda Park STAR	92	13.8	$51,076	92	13.8	$51,076
LSGR	Heartwell Park – Palo Verde	323	115.5	$28,679	301	107.4	$30,846
LSGR	La Mirada Creek	386	61.5	$107,617	386	59.8	$110,678
LSGR	Progress Park	201	111.7	$19,346	231	59.5	$36,332
LLAR	Long Beach MUST Phase 2 – LA03	20	1.33	$7,800,458	20	1.09	$9,501,073
LLAR	Spane Park	217	140	$135,103	188	134.5	$140,624

Table 3-8. Total benefits after addition of round 4 SCW Projects.

Total Storage Volume (ac-ft)	Estimated Treated Runoff (ac-ft/yr)	Estimated Zinc Reduction (lbs/yr)
85.6	9,167	5,709

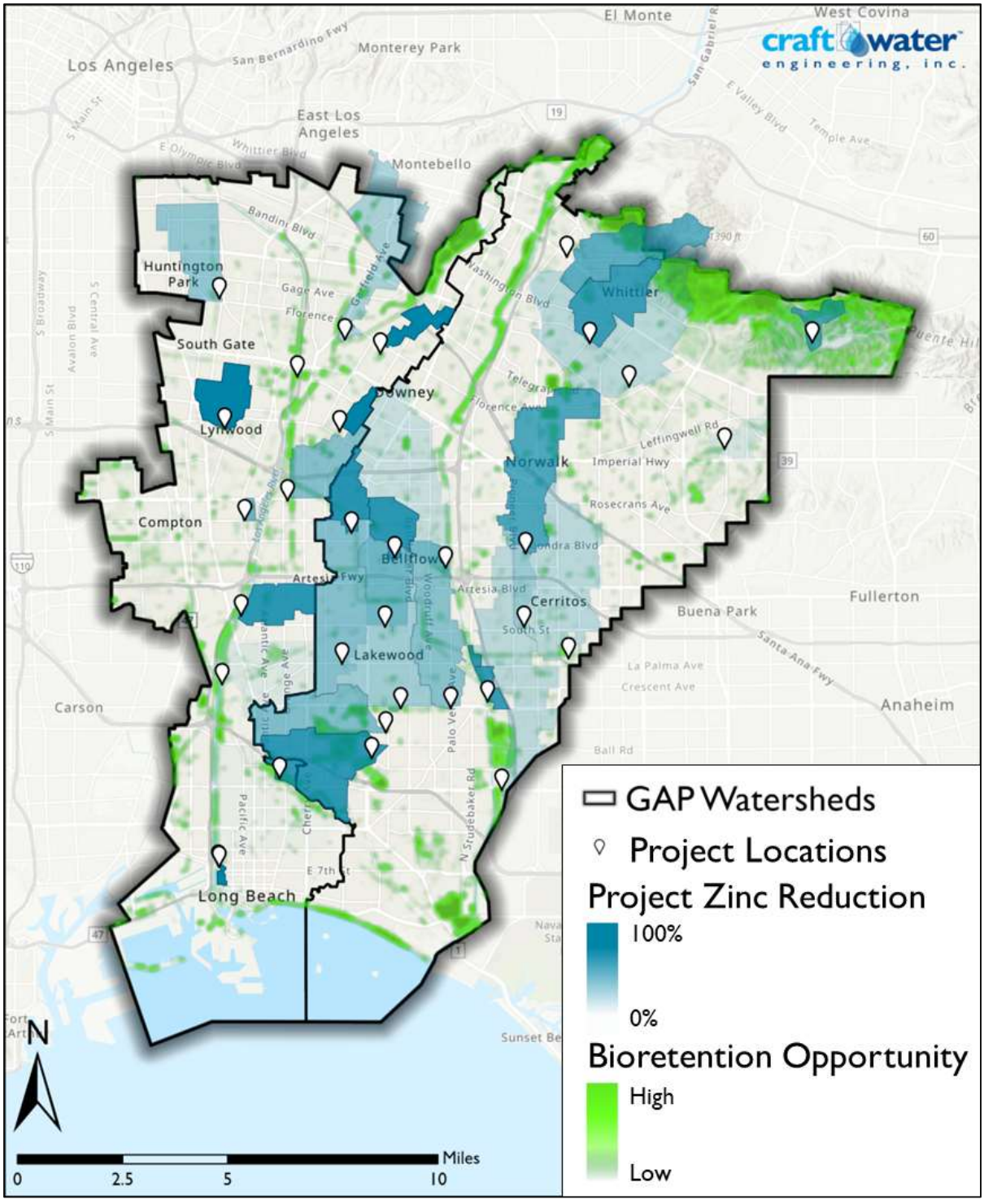

Figure 3-8. Submitted SCW projects, drainage area coverage, and zinc load reduction estimates by area.

4.0 FILLING IN THE GAPS

The final product of this study is an accounting of the upper potential for stormwater capture in the Gateway Groups watershed areas. The following sections summarize the potential for the identified watershed-wide opportunities to advance these groups toward water quality compliance. The entirety of these projects is not likely needed to meet the requirements of pertinent water quality permits, so this data can best be viewed as assurance that options exist throughout the watershed to meet clean water objectives and fill in the gaps of areas needing additional projects.

4.1 Regional Opportunities: The Next Round

Table 4-1 summarizes the identified watershed-wide regional opportunities and their maximum total performance by watershed area and jurisdiction. These are summarized overall in **Table 4-2** and the coverage and magnitude of water quality benefit are shown in **Figure 4-1**.

Table 4-1. Summary of watershed-wide regional project stormwater capture potential.

Los Cerritos Channel			
Jurisdiction	***Total Storage Volume (ac-ft)***	***Runoff Treatment (ac-ft/yr)***	***Zinc Reduction (lbs/yr)***
Downey	13	910	351
Lakewood	0	0	0
Long Beach	0	0	0
Lynwood	43	5,957	520
Paramount	63	15,007	998
Pico Rivera	6	666	186
Signal Hill	5	61	56
South Gate	0	0	0
Lower L.A. River			
Jurisdiction	***Total Storage Volume (ac-ft)***	***Runoff Treatment (ac-ft/yr)***	***Zinc Reduction (lbs/yr)***
Bell	14	1,186	423
Bell Gardens	32	6,021	1,976
Carson	0	0	0
Commerce	33	3,427	2,501
Compton	67	8,291	2,971
Cudahy	19	2,253	330
Downey	45	1,884	492
Huntington Park	15	1,355	1,092
Lakewood	0	0	0
Long Beach	169	6,212	1,852
Lynwood	47	3,016	1,005
Maywood	1	69	46

Montebello	0	0	0
Paramount	13	994	495
Pico Rivera	8	168	109
Signal Hill	17	333	175
South Gate	93	4,510	1,279
Unincorporated	1	149	81
Vernon	35	3,214	2,236
Lower San Gabriel River			
Jurisdiction	***Total Storage Volume (ac-ft)***	***Runoff Treatment (ac-ft/yr)***	***Zinc Reduction (lbs/yr)***
Artesia	8	1,390	312
Bellflower	9	1,112	229
Cerritos	55	4,252	1,735
Downey	46	1,836	636
Hawaiian Gardens	10	1,580	253
La Habra Heights	5	92	14
La Mirada	12	588	183
Lakewood	20	1,102	464
Long Beach	84	3,878	1,806
Norwalk	88	6,372	2,057
Pico Rivera	20	549	222
Santa Fe Springs	40	2,313	1,302
Unincorporated	34	5,864	1,193
Whittier	26	2,573	1,253

Table 4-2. Total water quality benefits with all projects included.

Watershed Area	Total Storage Volume (ac-ft)	Estimated Runoff Capture (ac-ft/yr)	Estimated Zinc Reduction (lbs/yr)
Lower LA River	611	43,083	17,063
Los Cerritos Channel	130	22,601	2,112
Lower San Gabriel River	457	33,500	11,657

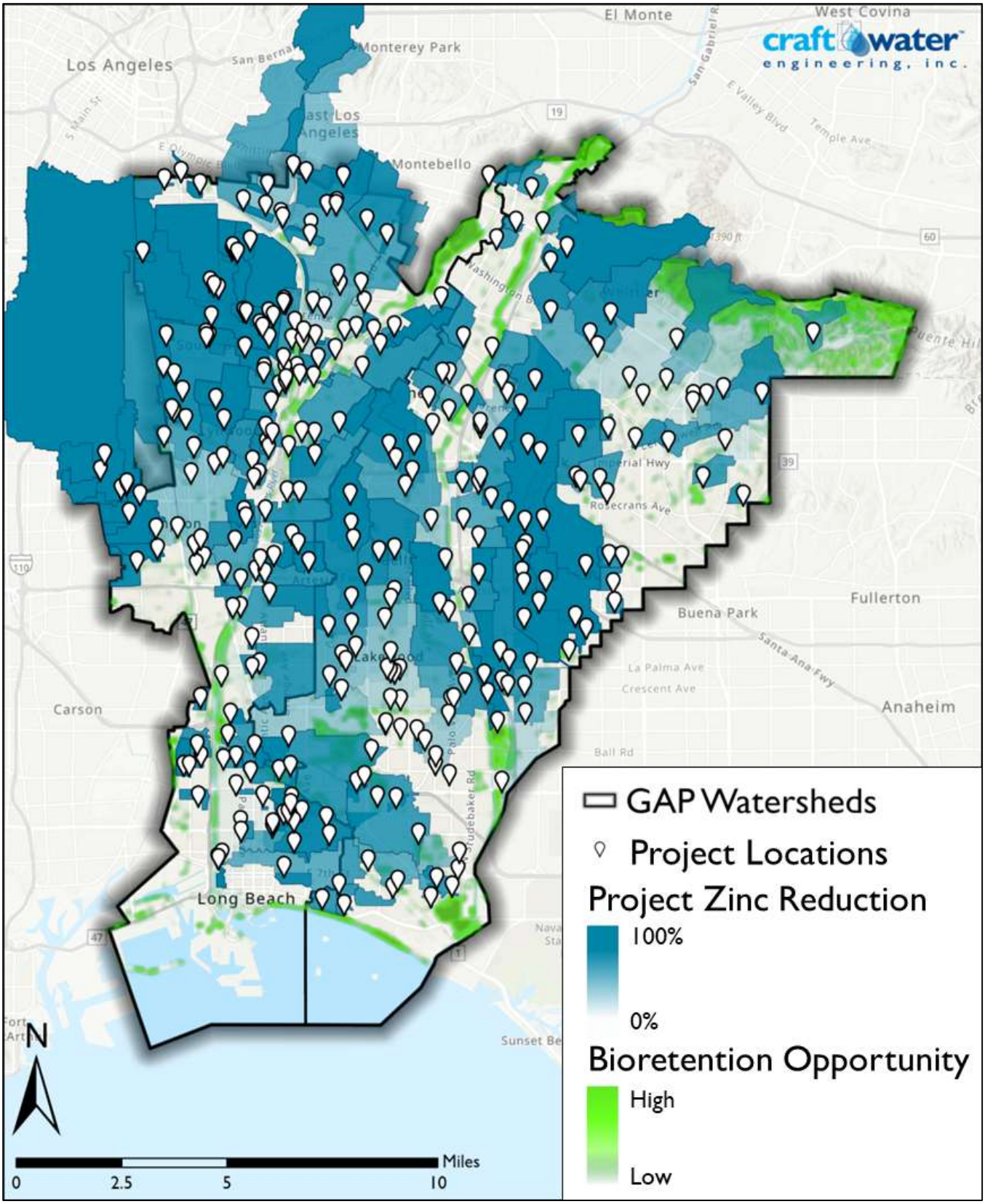

Figure 4-1. All projects and their drainage areas (symbolized by % reduction from baseline zinc load).

4.2 Prime Areas for Local GI Practices

One of the challenges of employing regional BMPs for stormwater management in all areas of the Gateway Groups' watershed areas is that there are certain gaps in the region that are not suitable or present difficult-to-overcome engineering constraints for regional BMP implementation. In these areas, it may be advantageous to utilize bundles of distributed projects to meet stormwater capture goals and water quality requirements. These smaller, street-scale projects are often valuable community assets that offer a wide array of multi-benefits.

Gaps in regional project coverage can be identified using the project dashboard detailed in 4.4. Distributed GI. Opportunities identified in this dashboard can be explored for future project pursuit where they may be most densely available or desired in the community. **Figure 4-2** below highlights one area in the Gateway Groups' watershed areas where this might be pursued to fill in gaps in regional project drainage area coverage.

As **Figure 4-2** shows, there are several green infrastructure "hot spots" located throughout the region. By changing the basemap to satellite view and clicking parcels, the user can find potential parcel clusters that would be conducive to distributed projects. Other gaps in regional project coverage exist across the study area. These gaps can be discerned by utilizing the dashboard tool in future planning and decision-making to help guide additional project pursuits.

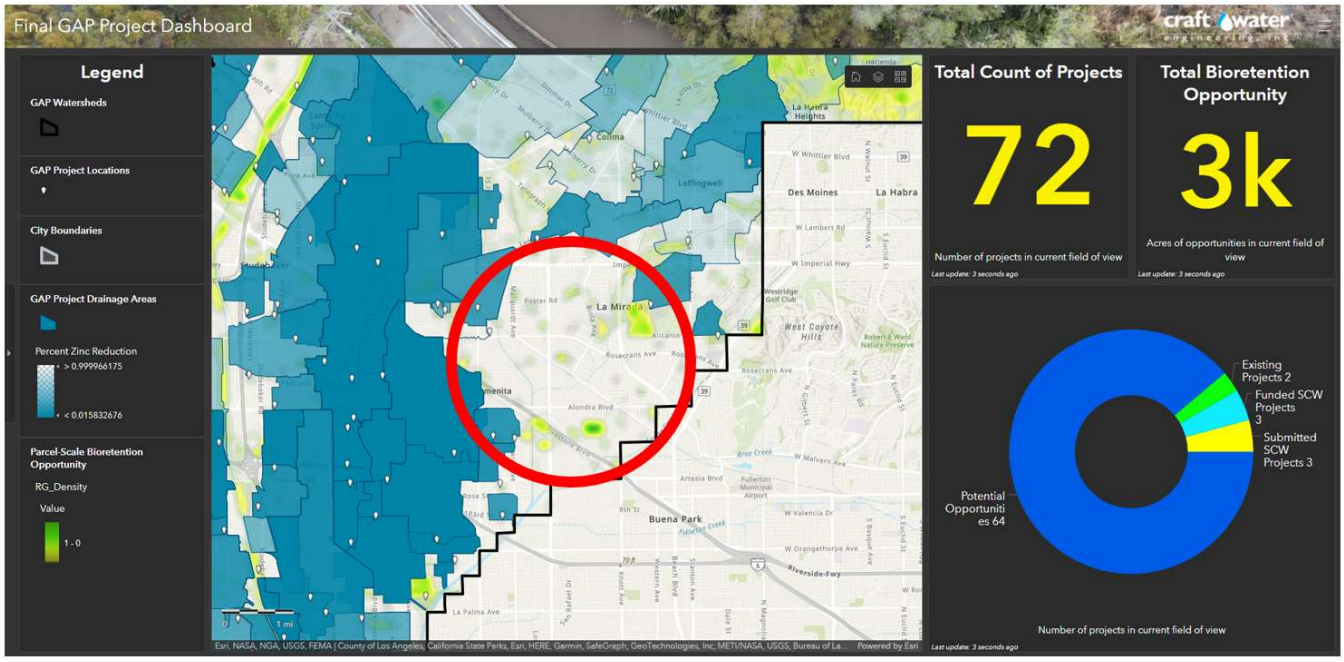

Figure 4-2. Example of a gap in regional project coverage.

4.3 Distributed GI Identification Summary

Table 4-3 below summarizes the estimated volumes of potential distributed GI projects in the region by jurisdiction. Storage volume estimates are based on the identified footprints and a standard depth based on Los Angeles County street-scale biofiltration design recommendations and guidance.

Table 4-3. Summary of watershed-wide GI opportunities.

Lower L.A. River			
Jurisdiction	***Total Storage Volume (ac-ft)***	***Jurisdiction***	***Total Storage Volume (ac-ft)***
Bell	126	Long Beach	2,363
Bell Gardens	220	Lynwood	182
Carson	41	Maywood	23
Commerce	355	Paramount	283
Compton	722	Pico Rivera	970
Cudahy	119	Signal Hill	238
Downey	395	South Gate	615
Huntington Park	68	Unincorporated	195
Lakewood	4	Vernon	120
Los Cerritos Channel			
Jurisdiction	***Total Storage Volume (ac-ft)***	***Jurisdiction***	***Total Storage Volume (ac-ft)***
Bellflower	255	Long Beach	1,343
Cerritos	2	Paramount	78
Downey	11	Signal Hill	135
Lakewood	363	Unincorporated	1
Lower San Gabriel River			
Jurisdiction	***Total Storage Volume (ac-ft)***	***Jurisdiction***	***Total Storage Volume (ac-ft)***
Artesia	81	Lakewood	164
Bellflower	135	Long Beach	2,449
Cerritos	584	Norwalk	611
Downey	463	Pico Rivera	1,339
Hawaiian Gardens	39	Santa Fe Springs	808
La Habra Heights	3,143	Unincorporated	639
La Mirada	594	Whittier	4,265

4.4 Project Opportunity Dashboard

To present the findings of this study in a more tangible and evaluative way, all regional projects and GI opportunities were uploaded to an online interactive dashboard. This dashboard allows the user to filter the map view and statistical summaries by project status and location (**Figure 4-3**). Additionally, the dashboard allows the user to zoom to any region of interest and receive project statistics such as regional count and bioretention opportunities on the fly. Each layer in the dashboard can be clicked to show key attributes. For example, upon clicking a parcel of interest, potential GI area in acres will be displayed on the screen.

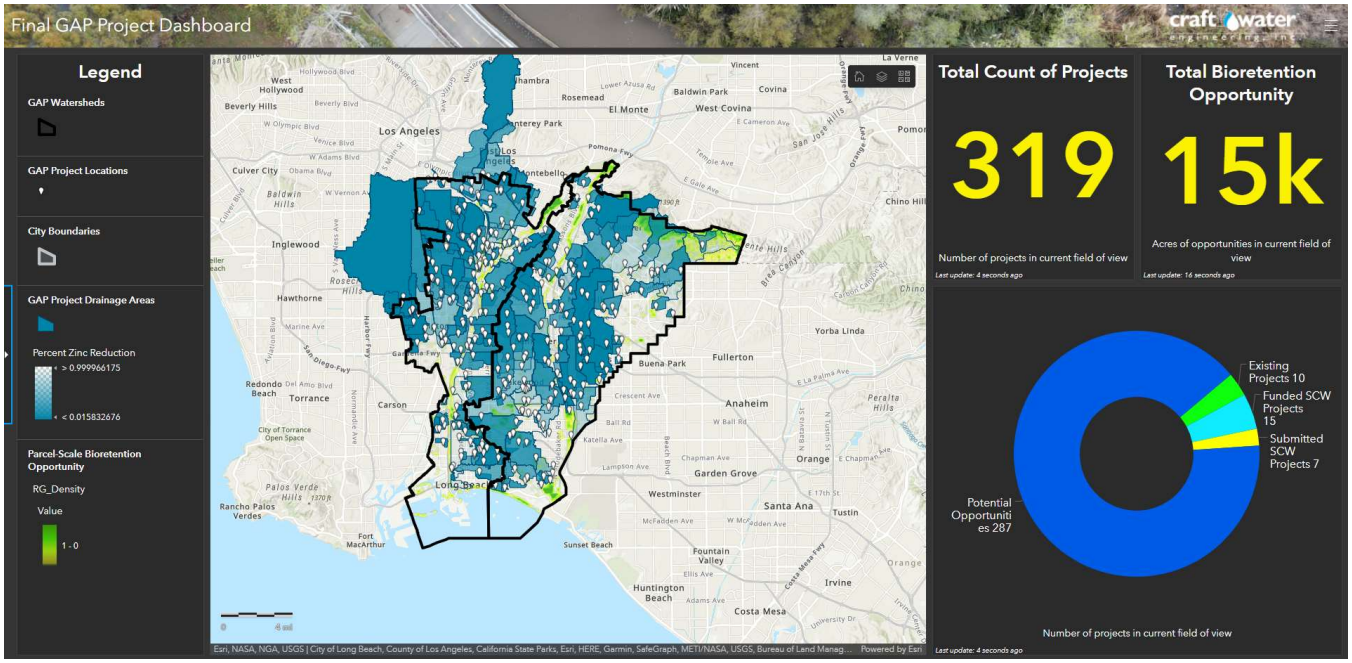

Figure 4-3. GAP Project Dashboard.

5.0 NEXT STEPS

With the inventorying of existing, funded, planned, and potential opportunities, the next steps for the GAP Study are to further contextualize potential project options, pathways, choices, and decision-making with comparative modeling analyses and compliance assessment. Potential regional project opportunities and select distributed GI bundles can be analyzed in detail and with an eye on compliance targets to provide decision-making details to help guide the Gateway Groups with the future projects most worth pursuing. Modeling analysis during the current phase of the Study demonstrated some of the best potential projects in terms of isolated performance as well as those that exhibited very high performance in the context of other projects being implemented. These indicate some of the most impactful and resilient project options in the Group watershed areas and are listed below to begin exploring the next best options for funding pursuit for the Gateway Groups in the coming years (**Table 5-1**). Phase 2 of the Gap Study will provide even further clarity as to which projects should be pursued next and will demonstrate multiple pathways that may be taken to reach compliance and what tradeoffs might be associated with each.

Table 5-1. Top ranking impactful and resilient projects from modeling.

MOST IMPACTFUL PROJECTS		MOST RESILIENT PROJECTS	
Location	***Storage Volume/ Planning Level Cost***	***Location***	***Storage Volume/ Planning Level Cost***
Bell Gardens MS	45.0 / $55.7	E Washington & Telegraph Rd OS	30.0 / $45.1
Laguna Nueva ES	40.0 / $63.3	Bell Gardens MS	45.0 / $55.7
710 & S Atlantic Blvd ROW	45.0 / $55.7	Laguna Nueva ES	40.0 / $63.3
E Washington & Telegraph Rd OS	30.0 / $45.1	Davis MS	45.0 / $59.8
Shull & Jaboneria Rd OS	25.0 / $32.5	Fedex Parking Lot	33.8 / $42.2
Fedex Parking Lot	33.8 / $42.2	Charles F Kettering ES	40.0 / $49.4
McCallum & Salt Lake Ave Yard	34.0 / $43.7	710 & S Atlantic Blvd ROW	45.0 / $55.7
Charles F Kettering ES	40.0 / $49.4	Whittier Union HS	29.5 / $36.8
Davis MS	45.0 / $59.8	Bandini Blvd Rail ROW	30.0 / $37.5
Whittier Union HS	29.5 / $36.8	Bunche MS	29.3 / $36.8
Lake Center Athletic Park	33.0 / $46.0	Shull St & Jaboneria Rd OS	25.0 / $32.5
Rosecrans Ave Green Street	27.3 / $35.5	McCallum & Salt Lake Ave Yard	34.0 / $43.7
Bell Gardens ES	16.0 / $20.5	Little Lake Park	27.5 / $38.6
Little Lake Park	27.5 / $38.6	Bell Gardens HS	11.8 / $15.8
Tetzlaff MS	37.8 / $49.8	Kennedy ES	18.8 / $24.0
Bandini Blvd Rail ROW	30.0 / $37.5	Santa Ana St Green Street	33.5 / $41.5
Elmcroft Ave Green Street	28.3 / $36.8	S Tamarind & E Cypress St OS	28.0 / $34.9
Bunche MS	29.3 / $36.8	Gretchen Whitney HS	16.5 / $21.3
S Tamarind & E Cypress St OS	28.0 / $34.9	State Street Corridor	27.5 / $34.6

NOTE: ES = Elementary School, MS = Middle School, HS = High School, OS = Open Space, ROW = Right-of-Way; Storage Volume in acre-feet, Planning Level Cost in $MM